

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement																	
[1.pre] A signal processor comprising:	<p>To the extent the preamble is construed as a limitation, each of the Accused Samsung '950 Products¹ incorporates a signal processr. For example, the Samsung Galaxy S25 is an apparatus that functions as the claimed signal processor. It is configured to process signals, such as images and/or video captured by its front and back cameras, and comprises one or more processors (e.g., a CPU, ISP, and/or DSP) to perform this processing:</p> <table><tr><td rowspan="4">MAIN CAMERA</td><td rowspan="3">Triple</td><td>50 MP, f/1.8, 24mm (wide), 1/1.56", 1.0µm, dual pixel PDAF, OIS</td></tr><tr><td>10 MP, f/2.4, 67mm (telephoto), 1/3.94", 1.0µm, PDAF, OIS, 3x optical zoom</td></tr><tr><td>12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55" 1.4µm, Super Steady video</td></tr><tr><td>Features</td><td>Best Face, LED flash, auto-HDR, panorama</td></tr><tr><td></td><td>Video</td><td>8K@24/30fps, 4K@30/60fps, 1080p@30/60/120/240fps, 10-bit HDR, HDR10+, stereo sound rec., gyro-EIS</td></tr><tr><td rowspan="3">SELFIE CAMERA</td><td>Single</td><td>12 MP, f/2.2, 26mm (wide), 1/3.2", 1.12µm, dual pixel PDAF</td></tr><tr><td>Features</td><td>HDR, HDR10+</td></tr><tr><td>Video</td><td>4K@30/60fps, 1080p@30fps</td></tr></table>	MAIN CAMERA	Triple	50 MP, f/1.8, 24mm (wide), 1/1.56", 1.0µm, dual pixel PDAF, OIS	10 MP, f/2.4, 67mm (telephoto), 1/3.94", 1.0µm, PDAF, OIS, 3x optical zoom	12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55" 1.4µm, Super Steady video	Features	Best Face, LED flash, auto-HDR, panorama		Video	8K@24/30fps, 4K@30/60fps, 1080p@30/60/120/240fps, 10-bit HDR, HDR10+, stereo sound rec., gyro-EIS	SELFIE CAMERA	Single	12 MP, f/2.2, 26mm (wide), 1/3.2", 1.12µm, dual pixel PDAF	Features	HDR, HDR10+	Video	4K@30/60fps, 1080p@30fps
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	Features	HDR, HDR10+																
	Video	4K@30/60fps, 1080p@30fps																

¹ The Accused Samsung '950 Products include the Galaxy A Quantum, Galaxy A03s, Galaxy A04s, Galaxy A10s, Galaxy A11, Galaxy A12, Galaxy A12s (aka Nacho), Galaxy A13, Galaxy A13 5G, Galaxy A14, Galaxy A14 5G, Galaxy A20, Galaxy A20e, Galaxy A20s, Galaxy A21, Galaxy A21s, Galaxy A22, Galaxy A22s 5G, Galaxy A23, Galaxy A23 5G, Galaxy A24 4G, Galaxy A30, Galaxy A30s, Galaxy A32, Galaxy A32 5G, Galaxy A33 5G, Galaxy A34, Galaxy A36 5G, Galaxy A40, Galaxy A42 5G, Galaxy A50, Galaxy A50s, Galaxy A51, Galaxy A51 5G, Galaxy A51 5G UW, Galaxy A52, Galaxy A52 5G, Galaxy A53 5G, Galaxy A54 5G, Galaxy A60, Galaxy A70, Galaxy A70s, Galaxy A71, Galaxy A71 5G, Galaxy A71 5G UW, Galaxy A72, Galaxy A73 5G, Galaxy A8, Galaxy A8+, Galaxy A80, Galaxy A90 5G, Galaxy Fold, Galaxy Fold 5G, Galaxy Note10, Galaxy Note10 5G, Galaxy Note10 Lite, Galaxy Note10+, Galaxy Note10+ 5G, Galaxy Note20, Galaxy Note20 5G, Galaxy Note20 Ultra, Galaxy Note20 Ultra 5G, Galaxy Note9, Galaxy S10, Galaxy S10 5G, Galaxy S10 Lite, Galaxy S10+, Galaxy S10e, Galaxy S20, Galaxy S20 5G, Galaxy S205G UW, Galaxy S20 FE, Galaxy S20 FE 5G, Galaxy S20 Ultra, Galaxy S20 Ultra 5G, Galaxy S20+, Galaxy S20+ 5G, Galaxy S21 5G, Galaxy S21 FE 5G, Galaxy S21 Ultra 5G, Galaxy S21+ 5G, Galaxy S22 5G, Galaxy S22 Ultra 5G, Galaxy S22+ 5G, Galaxy S23, Galaxy S23 FE, Galaxy S23 Ultra, Galaxy S23+, Galaxy S24, Galaxy S24+, Galaxy S24 Ultra, Galaxy S25, Galaxy S25+, Galaxy S25 Ultra, Galaxy S9, Galaxy S9+, Galaxy Xcover FieldPro, Galaxy Xcover Pro, Galaxy Xcover6 Pro, Galaxy Z Flip, Galaxy Z Flip 5G, Galaxy Z Flip3 5G, Galaxy Z Flip4, Galaxy Z Flip5, Galaxy Z Flip6, Galaxy Z Fold2 5G, Galaxy Z Fold3 5G, Galaxy Z Fold4, Galaxy Z Fold5, Galaxy Z Fold6, Galaxy A15 5G, Galaxy A25 5G, Galaxy A35 5G, Galaxy Z Fold7, Galaxy Z Flip7, Galaxy Z Flip7 FE;; Galaxy Tab Active Pro, Galaxy Tab Active3, Galaxy Tab Active4 Pro, Galaxy Tab S5e, Galaxy Tab S6, Galaxy Tab S6 5G, Galaxy Tab S7, Galaxy Tab S7+, Galaxy Tab S8, Galaxy Tab S8 Ultra, Galaxy Tab S8+, Galaxy Tab S9, Galaxy Tab S9 FE, Galaxy Tab S9 FE+, Galaxy Tab S9 Ultra, Galaxy Tab S9+, Galaxy Tab A9+ 5G, Galaxy Tab Active5 5G, Galaxy Tab S10 Ultra, Galaxy Tab S10+, Galaxy Tab S10 FE+, Galaxy Tab S10 FE.. Each of these products infringe for the reasons and theories as set forth herein as they operate the same way by including the Camera application, CMOS image sensors, and/or ISPs that function in the same way as it pertains to the infringement theories shown herein. *See* Appendix 11.

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement																					
	<p>https://www.gsmarena.com/samsung_galaxy_s25-13610.php</p> <table><tr><td rowspan="4">DISPLAY</td><td>Type</td><td>Dynamic LTPO AMOLED 2X, 120Hz, HDR10+, 2600 nits (peak)</td></tr><tr><td>Size</td><td>6.2 inches, 94.4 cm² (~91.1% screen-to-body ratio)</td></tr><tr><td>Resolution</td><td>1080 x 2340 pixels, 19.5:9 ratio (~416 ppi density)</td></tr><tr><td>Protection</td><td>Corning Gorilla Glass Victus 2</td></tr><tr><td colspan="3">Always-on display</td></tr><tr><td rowspan="4">PLATFORM</td><td>OS</td><td>Android 15, up to 7 major Android upgrades, One UI 7</td></tr><tr><td>Chipset</td><td>Qualcomm SM8750-AB Snapdragon 8 Elite (3 nm)</td></tr><tr><td>CPU</td><td>Octa-core (2x4.47 GHz Oryon V2 Phoenix L + 6x3.53 GHz Oryon V2 Phoenix M)</td></tr><tr><td>GPU</td><td>Adreno 830</td></tr></table> <p><i>Id.</i></p>	DISPLAY	Type	Dynamic LTPO AMOLED 2X, 120Hz, HDR10+, 2600 nits (peak)	Size	6.2 inches, 94.4 cm ² (~91.1% screen-to-body ratio)	Resolution	1080 x 2340 pixels, 19.5:9 ratio (~416 ppi density)	Protection	Corning Gorilla Glass Victus 2	Always-on display			PLATFORM	OS	Android 15, up to 7 major Android upgrades, One UI 7	Chipset	Qualcomm SM8750-AB Snapdragon 8 Elite (3 nm)	CPU	Octa-core (2x4.47 GHz Oryon V2 Phoenix L + 6x3.53 GHz Oryon V2 Phoenix M)	GPU	Adreno 830
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Specifications</p> <p>Qualcomm® Artificial Intelligence (AI) Engine GPU Name: Qualcomm® Adreno™ CPU Name: Qualcomm® Oryon™</p> <p>Qualcomm® Hexagon™ Processor Features: Qualcomm® Hexagon™ Scalar Accelerator, Qualcomm® Hexagon™ Tensor Accelerator, Qualcomm® Hexagon™ Vector eXtensions (HVX), Dedicated power delivery system, Micro Tile Inferencing, Hexagon Direct Link, Fused AI Accelerator architecture</p> <p>Qualcomm® Sensing Hub Features: Dual-core AI processor, Dual always-sensing cameras</p> <p>CPU Name: Qualcomm® Oryon™ Architecture: 64-bit Clock Speed: 4.47 GHz¹</p> <p>GPU Name: Qualcomm® Adreno™ APIs: OpenGL® ES 3.2, Vulkan® 1.3, OpenCL™ 3.0 FP</p> <p>Cellular Modem-RF Modem Name: Snapdragon® X80 5G Modem-RF System Peak Download Speed: 10 Gbps Peak Upload Speed: 3.5 Gbps Cellular Modem-RF Specs: 8 carriers (mmWave), 2x2 MIMO (mmWave), 4x6 MIMO (Sub-6) Performance Enhancement Technologies: Qualcomm® Wideband Envelope Tracking, Qualcomm® 5G Ultra-Low Latency Suite, Qualcomm® 5G AI Processor Gen 2 with dedicated tensor accelerator, Qualcomm® Power RF Efficiency Suite, Qualcomm® 5G AI Suite Gen 3, Qualcomm® RF Uplink Optimization, Qualcomm® Smart Transmit™ Gen 5 technology, Qualcomm® 5G PowerSave Gen 5 Cellular Technology: 5G NR, Dynamic Spectrum Sharing (DSS), LTE, WCDMA, LAA, GSM/EDGE, EN-DC, CBRS, NR DC Multi SIM: Global 5G Multi-SIM, Dual SIM support Qualcomm® DSDA Gen 2 (Dual Data)</p> <ul style="list-style-type: none"> • https://www.qualcomm.com/products/mobile/snapdragon/smartphones/snapdragon-8-series-mobile-platforms/snapdragon-8-elite-mobile-platform • In addition, the AIDA64 Reports show that each of the Accused Samsung '950 Products contains a front-facing and rear-facing camera for recording video, and associated software, which in conjunction with one or more processors (e.g., CPU, ISP, or DSP) processes video.

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> </div> <div> </div> <p>(Screenshot of AIDA 64 Report – Camera)</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> </div> <p>(Screenshot of AIDA 64 Report – Android)</p> <p>The AIDA64 Reports and tech specs show that the Accused Samsung '950 Products contain one or more processors.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> </div> <p>(Screenshot of AIDA 64 Report – Processor)</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><h1>Top features</h1></div> <div><p>Camera</p><p>Our most advanced AI ProVisual Engine ⁴</p><p>12MP Front Camera 50MP Wide-angle Camera</p></div>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div></div> <p>ProVisual Engine is now boosted by our powerful processor. Experience our advanced creative system for video and photo capturing, viewing and editing that you have to see to believe.²⁰</p> <p>Shoot in improved 10-bit HDR for a stunning videography experience. Our advanced processor also delivers more precise noise removal meaning you won't have to worry about grainy night footage again.^{3,4}</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Further, as an example, the Qualcomm Snapdragon 8 Elite Mobile Platform in the Samsung Galaxy S25 includes a processor for processing image signals:</p> <div><p>The most powerful processor, customized for Galaxy</p></div> <p>Powered by</p> <div><p>Snapdragon</p><p>8 Elite</p><p>FOR GALAXY</p></div>

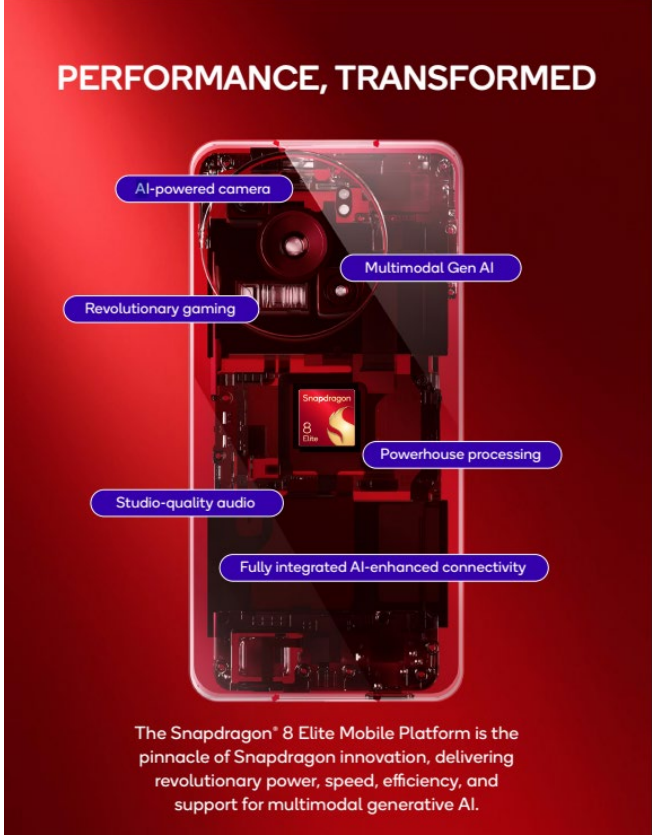
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p align="center">Introducing our most powerful processor, customized for Galaxy. With improved real-time ray tracing and Vulkan optimization, dive deep into the action with ultra-smooth gameplay thanks to Snapdragon® 8 Elite Mobile Platform for Galaxy.^{21,22,23,24}</p> <div> <div> <p align="center">CPU</p> <p align="center">45 %</p> <p align="center">faster processing</p> </div> <div> <p align="center">GPU</p> <p align="center">48 %</p> <p align="center">improved graphics performance</p> </div> <div> <p align="center">NPU</p> <p align="center">68 %</p> <p align="center">faster AI performance</p> </div> </div> <p align="center">https://www.samsung.com/us/smartphones/galaxy-s25/</p> <div> <div>  <p>Powerhouse Qualcomm Oryon CPU defines a new mobile era</p> <p>The first-in-mobile Qualcomm Oryon CPU delivers a 45% performance boost, 44% greater power efficiency, and the mobile industry's largest shared data cache. Our Qualcomm® Adreno GPU with newly sliced architecture achieves 40% enhanced performance and 40% improved efficiency. System-wide, experience an overall power savings of 27%.</p> </div> <div>  <p>Multimodal Gen AI at your fingertips</p> <p>The Qualcomm® AI Engine boasts the fastest Qualcomm® Hexagon NPU, delivering a 45% AI performance improvement and 45% better performance per watt. Plus, multimodal Gen AI support and longer token inputs will help you become an expert on any topic.</p> </div> <div>  <p>AI-powered camera redefines photography</p> <p>Our AI ISP is directly fused with the Qualcomm® Hexagon™ NPU to offer industry-leading camera features, like limitless Semantic Segmentation at 4K resolution. Plus, our on-device video object eraser, can remove unwanted elements from videos, while Insight AI provides real-time skin and sky adjustments to create more natural color and lighting in uncertain conditions.</p> </div> <div>  <p>Power and efficiency for revolutionary gaming</p> <p>Mobile-first support for Unreal Engine 5's Nanite solution enables astonishing film-quality 3D environments in smartphone gaming —while maximizing efficiency. Plus, support for Unreal's Chaos Physics Engine delivers lifelike object interactions and simulations, even in complex scenes.</p> </div> <div>  <p>Studio-quality audio</p> <p>Our Snapdragon Sound™ Technology Suite with Qualcomm® aptX™ Lossless Technology delivers up to 24-bit 48kHz bluetooth music streaming and up to 24-bit 96kHz Wi-Fi music streaming. Qualcomm® Expanded Personal Area Network (XPAN) technology enables whole-building untethered audio coverage — aided by ultra-low power Wi-Fi 7.</p> </div> <div>  <p>Fully integrated, AI-enhanced connectivity</p> <p>The Snapdragon X80 5G Modem-RF System with a dedicated AI tensor accelerator achieves multi-gigabit 5G speeds in more places with the first 4x6 MIMO solution, and 30% more accurate location positioning. And, our 40% more efficient Qualcomm® FastConnect™ 7900 Mobile Connectivity System is the first to integrate Wi-Fi ranging, Bluetooth® wireless technology, and UWB proximity technologies for object tracking, building access control, and more.</p> </div> </div>

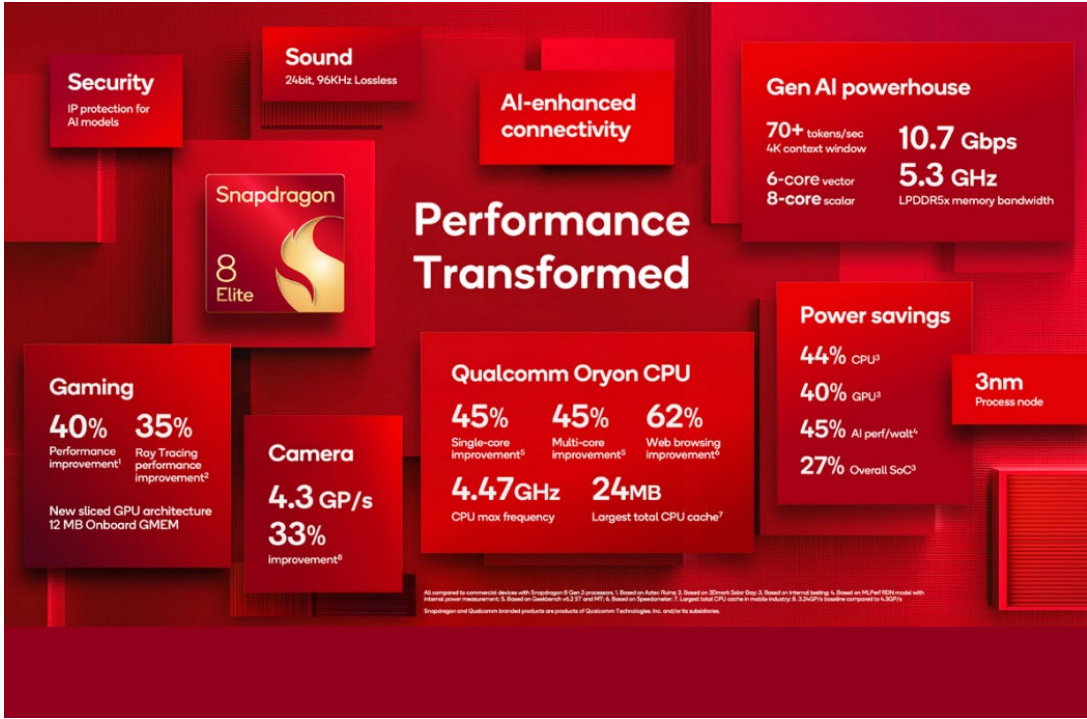
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<ul style="list-style-type: none">• Our Qualcomm Spectra™ AI ISP features:<ul style="list-style-type: none">• Limitless Real-time Semantic Segmentation for photo/video frame• Insight AI provides real-time skin and sky adjustments to create more natural color and lighting in uncertain conditions.• Ultra-low Light video capture• Video Object Eraser can remove unwanted elements from videos• Real-time AI Relighting make you appear professional wherever you are• Truepic photo capture with C2PA standard support lets you snap a photo with Truepic's cryptographic seal to prove the photo is real and not Gen AI <p>(https://www.qualcomm.com/products/mobile/snapdragon/smartphones/snapdragon-8-series-mobile-platforms/snapdragon-8-elite-mobile-platform)</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	 <p>PERFORMANCE, TRANSFORMED</p> <p>AI-powered camera</p> <p>Multimodal Gen AI</p> <p>Revolutionary gaming</p> <p>Powerhouse processing</p> <p>Studio-quality audio</p> <p>Fully integrated AI-enhanced connectivity</p> <p>The Snapdragon® 8 Elite Mobile Platform is the pinnacle of Snapdragon innovation, delivering revolutionary power, speed, efficiency, and support for multimodal generative AI.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> <h2 align="center">AI-powered camera</h2> <p>Our AI ISP enhances everything from selfies to crystal-clear video chats, thanks to an overhauled Hexagon Direct Link and Limitless Segmentation able to optimize over 250 layers in an image.</p>  <ul style="list-style-type: none"> • Perfect AI-Based Pet Capture—no matter how fast the zoomies. • Authenticate your photos as real and not AI-generated via Truepic with C2PA seals. • Video Object Eraser removes unwanted elements. • Capture vivid videos at 4K60 FPS, even in near darkness. </div> <div>  <p>Performance Transformed</p> <p>Snapdragon 8 Elite</p> <ul style="list-style-type: none"> Security: IP protection for AI models Sound: 24bit, 96kHz Lossless AI-enhanced connectivity Gen AI powerhouse: 70+ tokens/sec 4K context window, 10.7 Gbps, 6-core vector, 8-core scalar, 5.3 GHz LPDDR5x memory bandwidth Power savings: 44% CPU¹, 40% GPU², 45% AI perf/watt⁴, 27% Overall SoC³, 3nm Process node Qualcomm Oryon CPU: 45% Single-core improvement⁵, 45% Multi-core improvement⁵, 62% Web browsing improvement⁶, 4.47GHz CPU max frequency, 24MB Largest total CPU cache⁷ Camera: 4.3 GP/s, 33% improvement⁸ Gaming: 40% Performance improvement¹, 35% Ray Tracing performance improvement², New sliced GPU architecture 12 MB Onboard GMEM <p><small>All compared to commercial devices with Snapdragon 8 Gen 2 processors. 1. Based on Antutu. 2. Based on 3DMark Wild Life. 3. Based on internal testing. 4. Based on MLPerf INT8 model with nearest-neighbor implementation. 5. Based on Geekbench 6.6. 6. Based on Speedometer. 7. Largest total CPU cache in mobile industry. 8. 3DMark Wild Life compared to Snapdragon 8 Gen 2. Snapdragon and Qualcomm branded products are products of Qualcomm Technologies, Inc. and/or its subsidiaries.</small></p> </div>

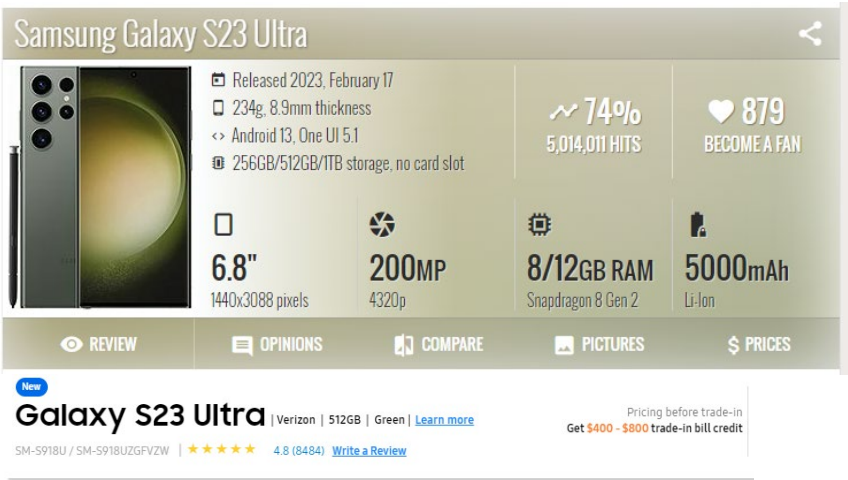
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Camera</p> <hr/> <p>Qualcomm Spectra™ Image Signal Processor</p> <ul style="list-style-type: none"> • AI-ISP, Triple 18-bit ISPs <hr/> <p>Limitless real-time Semantic Segmentation photo and video processing</p> <hr/> <p>Engine for Visual Analytics 4.0, including hardware acceleration for iToF depth sensors up to 4K 60 FPS</p> <hr/> <p>Support for the latest HDR, DCG+VS, DCG, Staggered, QDOL, Less Blanking, and Multiframe HDR image sensors</p> <hr/> <p>Support for triple video capture from HDR image sensors, with seamless switching between any HDR mode</p> <ul style="list-style-type: none"> • Up to 48 MP triple camera @ 30 FPS with Zero Shutter Lag • Up to 108 MP single camera @ 30 FPS with Zero Shutter Lag • Up to 320-megapixel photo capture <hr/> <p>AI-based face detection, AI for 3A (auto-focus, autoexposure, and auto-white balance)</p> <hr/> <p>Rec. 2020 color gamut photo and video capture</p> <hr/> <p>Up to 10-bit color depth photo and video capture</p> <hr/> <p>10-bit HEIF: HEIC photo capture, HEVC video capture</p> <hr/> <p>Google Ultra HDR photo capture</p> <hr/> <p>Video capture HDR formats: HDR10+, HDR10, HLG, Dolby Vision</p> <hr/> <p>8K HDR video playback @ 60 FPS</p> <hr/> <p>4K video capture @ 120 FPS</p> <hr/> <p>Slow-mo video capture at 1080p @ 480 FPS</p> <hr/> <p>Hardware Bokeh Engine 2 for video capture</p> <hr/> <p>https://docs.qualcomm.com/bundle/publicresource/87-83196-1_REV_D_Snapdragon_8_Elite_Mobile_Platform_Product_Brief.pdf)</p>

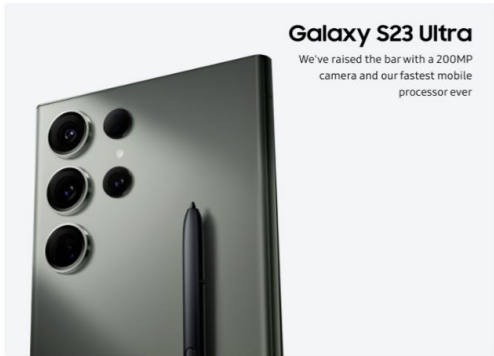
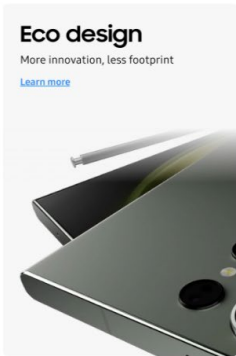
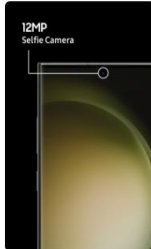
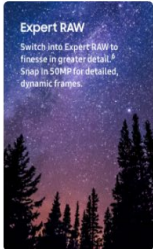
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Further, the Samsung Galaxy S25 includes a signal processor configured to execute an operating system:</p> <p>Galaxy S25 Unlocked 128GB Blueblack</p> <p>SM-S931U1 / SM-S931UZZKAXAA ★★★★★ 4.7 (528)</p> <hr/> <p>Compare Specs Key Features</p> <p>OS, Storage, Battery, Camera</p> <p>Wi-Fi Direct</p> <p>Yes</p> <p>USB Interface</p> <p>USB Type-C</p> <p>OS</p> <p>OS</p> <p>Android</p> <p>https://www.samsung.com/us/smartphones/galaxy-s25</p>

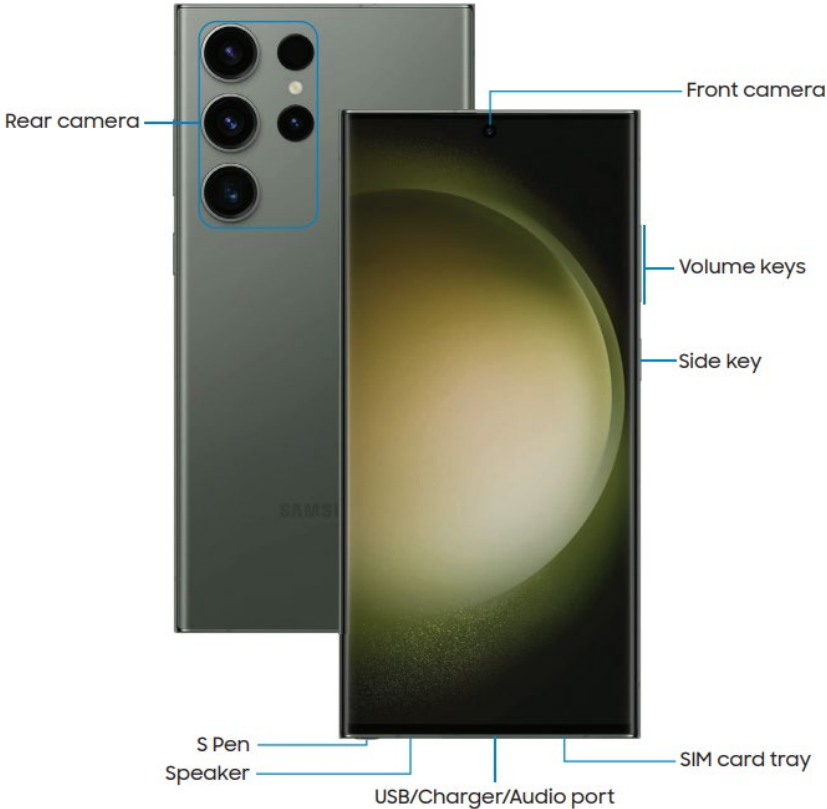
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Further, each of the Accused Samsung '950 Products includes a signal processor and cameras and is configured to run Camera2.java, which provides evidence of a signal processor:</p> <div><p>The screenshot shows the product page for the Samsung Galaxy S23 Ultra. It includes a list of specifications: Released 2023, February 17; 234g, 8.9mm thickness; Android 13, One UI 5.1; 256GB/512GB/1TB storage, no card slot; 6.8" 1440x3088 pixels display; 200MP 4320p camera; 8/12GB RAM Snapdragon 8 Gen 2; and 5000mAh Li-Ion battery. It also shows a 74% rating with 5,014,011 hits and 879 fans. Navigation tabs for REVIEW, OPINIONS, COMPARE, PICTURES, and PRICES are visible. Below the specs, it says 'Now Galaxy S23 Ultra' with a 'Learn more' link. At the bottom, it lists model numbers SM-S918U / SM-S918UZGFVZW, a 4.8 star rating from 8484 reviews, and a trade-in offer of \$400-\$800.</p></div> <div><p>The image shows four Samsung Galaxy S23 Ultra smartphones standing upright in a row. From left to right, the colors are black, cream, lavender, and dark grey. The dark grey phone on the right is slightly offset and has its S Pen stylus resting against it. Green confetti is scattered in the air above the phones.</p></div>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement																
	<p>Galaxy S23 Ultra technical specifications; https://www.samsung.com/us/smartphones/galaxy-s23-ultra/buy/galaxy-s23-ultra-512gb-verizon-sm-s918uzgfvzw/?modelCode=SM-S918UZGFXAU; https://www.gsmarena.com/samsung_galaxy_s23_ultra-12024.php.</p> <div><div><p>Galaxy S23 Ultra We've raised the bar with a 200MP camera and our fastest mobile processor ever</p></div><div><p>Can you send me that? Get ready to become your group's go-to photographer. We've packed Galaxy's biggest sensor, light-absorbing pixels and video stabilization technology into one epic camera for life's most share-worthy moments.</p></div><div><p>Eco design More innovation, less footprint Learn more</p></div><div><p>12MP Selfie Camera</p></div><div><p>12MP Ultra-Wide Camera</p><p>10MP 10x Optical Zoom Telephoto Camera 1</p></div><div><p>200MP Wide-Angle Camera</p><p>10MP 3x Optical Zoom Telephoto Camera 2</p></div><div><p>High resolution We nearly doubled the resolution on the Wide-Angle Camera,5 delivering images so clear you can zoom way in to find hidden masterpieces.</p></div><div><p>Expert RAW Switch into Expert RAW to finesse in greater detail.6 Snap in 50MP for detailed, dynamic frames.</p></div><div><p>Multi exposure Capture up to nine frames and see them automatically layered together to create a multiple exposure work of art.</p></div></div> <table><tr><td rowspan="4">MAIN CAMERA</td><td>Quad</td><td>200 MP, f/1.7, 24mm (wide), 1/1.3", 0.6µm, multi-directional PDAF, Laser AF, OIS 10 MP, f/4.9, 230mm (periscope telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 10x optical zoom 10 MP, f/2.4, 70mm (telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55", 1.4µm, Dual Pixel PDAF, Super Steady video</td></tr><tr><td>Features</td><td>LED flash, auto-HDR, panorama</td></tr><tr><td>Video</td><td>8K@24/30fps, 4K@30/60fps, 1080p@30/60/240fps, 1080p@960fps, HDR10+, stereo sound rec., gyro-EIS</td></tr><tr><td>SELFIE CAMERA</td><td>Single</td><td>12 MP, f/2.2, 26mm (wide), Dual Pixel PDAF</td></tr><tr><td></td><td>Features</td><td>Dual video call, Auto-HDR, HDR10+</td></tr><tr><td></td><td>Video</td><td>4K@30/60fps, 1080p@30fps</td></tr></table>	MAIN CAMERA	Quad	200 MP, f/1.7, 24mm (wide), 1/1.3", 0.6µm, multi-directional PDAF, Laser AF, OIS 10 MP, f/4.9, 230mm (periscope telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 10x optical zoom 10 MP, f/2.4, 70mm (telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55", 1.4µm, Dual Pixel PDAF, Super Steady video	Features	LED flash, auto-HDR, panorama	Video	8K@24/30fps, 4K@30/60fps, 1080p@30/60/240fps, 1080p@960fps, HDR10+, stereo sound rec., gyro-EIS	SELFIE CAMERA	Single	12 MP, f/2.2, 26mm (wide), Dual Pixel PDAF		Features	Dual video call, Auto-HDR, HDR10+		Video	4K@30/60fps, 1080p@30fps
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	Features		LED flash, auto-HDR, panorama														
	Video		8K@24/30fps, 4K@30/60fps, 1080p@30/60/240fps, 1080p@960fps, HDR10+, stereo sound rec., gyro-EIS														
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**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Galaxy S23 Ultra technical specifications; https://www.samsung.com/us/smartphones/galaxy-s23-ultra/buy/galaxy-s23-ultra-512gb-verizon-sm-s918uzgfvzw/?modelCode=SM-S918UZGFXAU; https://www.gsmarena.com/samsung_galaxy_s23_ultra-12024.php.</p> <p>Galaxy S23 Ultra</p>  <p>The diagram shows the Samsung Galaxy S23 Ultra from both front and back perspectives. The back view on the left highlights the 'Rear camera' system, which includes four lenses and a flash. The front view on the right shows the 'Front camera' at the top, 'Volume keys' and 'Side key' on the right edge, and the 'S Pen', 'Speaker', 'USB/Charger/Audio port', and 'SIM card tray' at the bottom. The phone is shown in a dark grey color with a large, curved display.</p>

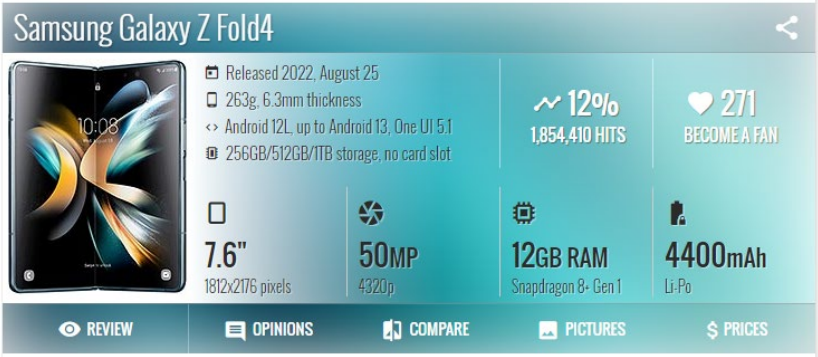
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Galaxy S23 Ultra technical specifications; https://downloadcenter.samsung.com/content/UM/202302/20230228053129621/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL_AC_022023.pdf at 5.</p> <div> </div> <p>Galaxy S23 Ultra technical specifications; https://www.samsung.com/us/smartphones/galaxy-s23-ultra/buy/galaxy-s23-ultra-512gb-verizon-sm-s918uzgfvzw/?modelCode=SM-S918UZGFXAU.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div>  Camera </div> <p>Enjoy a full kit of pro lenses and pro-grade video modes and settings.</p> <ul style="list-style-type: none"> ○ From Apps, tap  Camera. <p> TIP Quickly press the Side key twice to open the Camera app.</p> <div>  </div> <p>Galaxy S23 Ultra technical specification; https://downloadcenter.samsung.com/content/UM/202302/20230228053129621/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL_AC_022023.pdf at 58.</p>

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div>  <p>Samsung Galaxy Z Fold4</p> <ul style="list-style-type: none"> Released 2022, August 25 263g, 6.3mm thickness Android 12L, up to Android 13, One UI 5.1 256GB/512GB/1TB storage, no card slot 7.6" 1812x2176 pixels 50MP 4320p 12GB RAM Snapdragon 8+ Gen 1 4400mAh Li-Po <p>REVIEW OPINIONS COMPARE PICTURES PRICES</p> <p>Galaxy Z Fold4 Verizon 512GB Beige Learn more</p> <p>SM-F936U / SM-F936UZEUVZW ★★★★★ 4.7 (2624) Write a Review</p> <p>Pricing before trade-in Get \$400 - \$800 trade-in bill credit</p> </div> <div>  </div> <div> <p>Galaxy Z Fold4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzeeatt/; https://www.gsmarena.com/samsung_galaxy_z_fold4-11737.php.</p> </div>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement																				
	<div><div><div><div><div>Immersive View</div><div>Get in the Zone.</div><div>Learn more</div><div></div></div></div><div><div><div>Built to last</div><div>Unbelievable tech.</div><div>Learn more</div><div></div></div></div><div><div><div>Smile-worthy improvements</div><div>With the upgraded Rear Camera, Space Zoom and Nightography, we're bringing a pro-level kit to the foldable form for the first time. Use the massive Main Screen as a viewfinder to flex your photo skills with new tech.</div><div></div></div></div><div><div><div>Galaxy Excellence</div><div>The brilliance is built in</div><div>Learn more</div><div></div></div></div><div><div><div><div><div>10MP</div><div>3x Optical Zoom</div><div>Telephoto Camera</div><div></div></div></div><div><div><div>12MP</div><div>Ultra-wide camera</div><div></div></div></div><div><div><div>50MP</div><div>Wide-angle camera</div><div></div></div></div><div><div><div>4MP</div><div>Under display camera</div><div></div></div></div><div><div><div>10MP</div><div>Cover camera</div><div></div></div></div><div><div><div>Stay nimble</div><div>Stay night</div><div>Innovative technology delivers vivid and bright portraits in the low-light.</div><div></div></div></div></div></div><table><tr><td rowspan="4">MAIN CAMERA</td><td>Triple</td><td>50 MP, f/1.8, 23mm (wide), 1.0µm, Dual Pixel PDAF, OIS 10 MP, f/2.4, 66mm (telephoto), 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 123°, 12mm (ultrawide), 1.12µm</td></tr><tr><td>Features</td><td>LED flash, HDR, panorama</td></tr><tr><td>Video</td><td>8K@24fps, 4K@60fps, 1080p@60/240fps (gyro-EIS), 720p@960fps (gyro-EIS), HDR10+</td></tr><tr><td></td><td></td><td></td></tr><tr><td rowspan="4">SELFIE CAMERA</td><td>Single</td><td>4 MP, f/1.8, 26mm (wide), 2.0µm, under display Cover camera: 10 MP, f/2.2, 24mm (wide), 1/3", 1.22µm</td></tr><tr><td>Features</td><td>HDR</td></tr><tr><td>Video</td><td>4K@30/60fps, 1080p@30/60fps, gyro-EIS</td></tr><tr><td></td><td></td><td></td></tr></table><div>Galaxy Z Fold4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzeeatt/; https://www.gsmarena.com/samsung_galaxy_z_fold4-11737.php.</div></div></div>	MAIN CAMERA	Triple	50 MP, f/1.8, 23mm (wide), 1.0µm, Dual Pixel PDAF, OIS 10 MP, f/2.4, 66mm (telephoto), 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 123°, 12mm (ultrawide), 1.12µm	Features	LED flash, HDR, panorama	Video	8K@24fps, 4K@60fps, 1080p@60/240fps (gyro-EIS), 720p@960fps (gyro-EIS), HDR10+				SELFIE CAMERA	Single	4 MP, f/1.8, 26mm (wide), 2.0µm, under display Cover camera: 10 MP, f/2.2, 24mm (wide), 1/3", 1.22µm	Features	HDR	Video	4K@30/60fps, 1080p@30/60fps, gyro-EIS			
MAIN CAMERA	Triple		50 MP, f/1.8, 23mm (wide), 1.0µm, Dual Pixel PDAF, OIS 10 MP, f/2.4, 66mm (telephoto), 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 123°, 12mm (ultrawide), 1.12µm																		
	Features		LED flash, HDR, panorama																		
	Video		8K@24fps, 4K@60fps, 1080p@60/240fps (gyro-EIS), 720p@960fps (gyro-EIS), HDR10+																		
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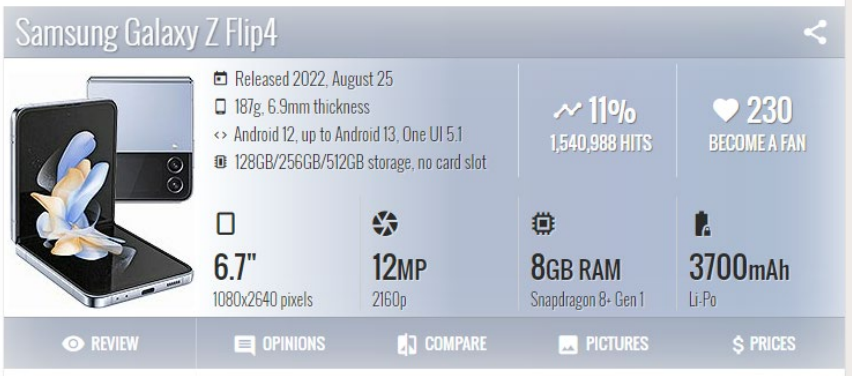
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><h2>Galaxy Z Fold4</h2></div> <div><p>The diagram illustrates the Samsung Galaxy Z Fold4 in both its folded and unfolded configurations. The folded phone is shown in the background, while the unfolded phone is in the foreground, displaying a vibrant, abstract pattern. Labels with leader lines point to various components: 'Rear camera' and 'Flash' point to the camera module on the back of the folded phone; 'Cover camera' points to the front-facing camera on the outer cover; 'Speaker' points to the speaker grille on the top edge of the cover; 'Under display camera' points to the camera located beneath the main display; 'Volume keys' and 'Side key/ Fingerprint sensor' point to the controls on the right edge; and another 'Speaker' and 'USB/charging/ audio port' point to the bottom edge of the unfolded phone.</p></div> <p>Galaxy Z Fold4 technical specification; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_fold4_d1e605.html.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><p>Image simulated for illustrative purpose. Galaxy Z Fold4, Galaxy Watch5, Galaxy Buds2 Pro are sold separately.</p></div> <p>Galaxy Z Fold4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzeeatt/.</p>

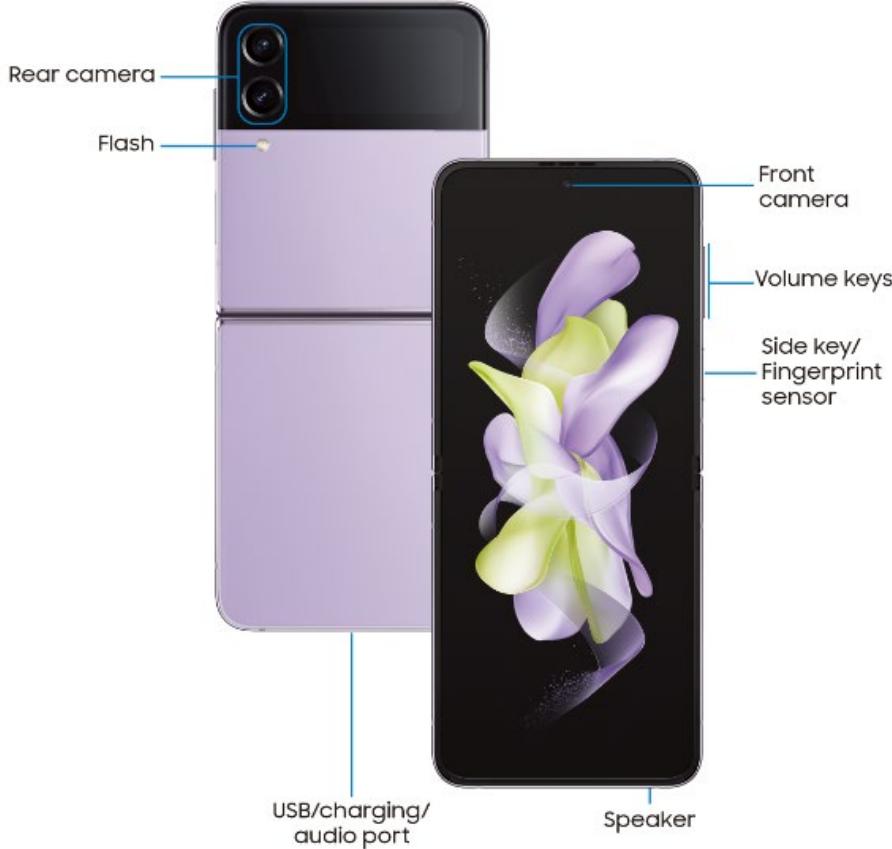
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement														
	<table><tr><td rowspan="4">MAIN CAMERA</td><td>Dual</td><td>12 MP, f/1.8, 24mm (wide), 1/1.76", 1.8µm, Dual Pixel PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm</td></tr><tr><td>Features</td><td>LED flash, HDR, panorama</td></tr><tr><td>Video</td><td>4K@30/60fps, 1080p@60/240fps, 720p@960fps, HDR10+</td></tr><tr><td rowspan="3">SELFIE CAMERA</td><td>Single</td><td>10 MP, f/2.4, 26mm (wide), 1.22µm</td></tr><tr><td>Features</td><td>HDR</td></tr><tr><td>Video</td><td>4K@30fps</td></tr></table> <p>Galaxy Z Flip4 technical specifications; https://www.gsmarena.com/samsung_galaxy_z_flip4-11538.php.</p>	MAIN CAMERA	Dual	12 MP, f/1.8, 24mm (wide), 1/1.76", 1.8µm, Dual Pixel PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm	Features	LED flash, HDR, panorama	Video	4K@30/60fps, 1080p@60/240fps, 720p@960fps, HDR10+	SELFIE CAMERA	Single	10 MP, f/2.4, 26mm (wide), 1.22µm	Features	HDR	Video	4K@30fps
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><h2>Galaxy Z Flip4</h2></div> <div><p>The diagram illustrates the Galaxy Z Flip4 in two orientations. The rear view (left) shows a purple back cover with a black camera module at the top left containing two lenses and a flash. The front view (right) shows the phone unfolded, displaying a black screen with a purple and yellow flower wallpaper. Labels with leader lines point to the following components: Rear camera, Flash, Front camera, Volume keys, Side key/Fingerprint sensor, USB/charging/audio port, and Speaker.</p></div> <div><p>Galaxy Z Flip4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_flip4_d1e661.html.</p></div>

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U.S. Patent No. 8,471,950

Exemplary Evidence of Infringement

The screenshot displays the Samsung Galaxy A54 product page. At the top, the phone is shown in a blue color. Below the image, technical specifications are listed: Released 2023, March 24; 202g, 8.2mm thickness; Android 13, One UI 5.1; 128GB/256GB storage, microSDXC. A grid of icons shows the phone's size (6.4" 1080x2340 pixels), camera (50MP 2160p), RAM (6/8GB RAM Exynos 1380), and battery (5000mAh Li-Po). Navigation tabs for REVIEW, OPINIONS, COMPARE, PICTURES, and PRICES are visible. Below the phone image, the text 'New Arrival' is shown, followed by 'Galaxy A54 5G | Verizon | 128GB | Awesome Graphite | Learn more'. A promotional banner states 'Save up to an extra \$25.00 with Samsung Offer Programs' and 'Samsung.com Advantage Highest online'. Another banner below says 'Save up to \$250 with Instant trade-in'. At the bottom, a larger image of the phone in 'Awesome Graphite' color is shown, with a 'now' label and a dropdown arrow.

Galaxy A54 5G technical specifications; <https://www.samsung.com/us/mobile/phones/galaxy-a54/buy/>; https://www.gsmarena.com/samsung_galaxy_a54-12070.php.

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div>Galaxy A54 5G</div> <div><p>The diagram shows the Samsung Galaxy A54 5G from both rear and front perspectives. The rear view highlights the camera system and flash, while the front view shows the display, front camera, and side controls. Labels with leader lines point to the following features:</p><ul style="list-style-type: none">FlashRear cameraFront cameraVolume keysSide keyFingerprint scannerUSB/Charging/Audio port</div> <div><p>Galaxy A54 5G technical specifications; https://downloadcenter.samsung.com/content/UM/202304/20230407022332214/SAM_A546_EN_UM_OS13_040523_FINAL.pdf at 5.</p></div>

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><h2>Camera2 overview </h2><div><p>★ Note: This page refers to the Camera2 package. Unless your app requires specific, low-level features from Camera2, we recommend using CameraX. Both CameraX and Camera2 support Android 5.0 (API level 21) and higher.</p></div><p>Camera2 is the low-level Android camera package that replaces the deprecated Camera class. Camera2 provides in-depth controls for complex use cases, but requires you to manage device-specific configurations. For more information, see the Camera2 reference documentation.</p><p>For most developers, we recommend the CameraX Jetpack library. To help you decide which camera library to use, see Choose a camera library.</p><h3>Additional resources</h3><p>See the following additional resources to learn more about Camera2.</p><h3>Camera2 sample projects</h3><ul style="list-style-type: none">• Camera2 basics• Camera2 extensions• Camera2 slow motion• Camera2 video<p style="text-align: center;">... ..</p><p>(https://developer.android.com/media/camera/camera2)</p></div>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> <div> Android Developers > Develop > API reference Was this helpful? </div> <div> <div> <div>android.hardware.camera2</div> <div> Added in API level 21 </div> <div> Kotlin Java </div> </div> <p>The android.hardware.camera2 package provides an interface to individual camera devices connected to an Android device. It replaces the deprecated <code>Camera</code> class.</p> <p>This package models a camera device as a pipeline, which takes in input requests for capturing a single frame, captures the single image per the request, and then outputs one capture result metadata packet, plus a set of output image buffers for the request. The requests are processed in-order, and multiple requests can be in flight at once. Since the camera device is a pipeline with multiple stages, having multiple requests in flight is required to maintain full framerate on most Android devices.</p> <p>To enumerate, query, and open available camera devices, obtain a <code>CameraManager</code> instance.</p> <p>Individual <code>CameraDevices</code> provide a set of static property information that describes the hardware device and the available settings and output parameters for the device. This information is provided through the <code>CameraCharacteristics</code> object, and is available through <code>getCameraCharacteristics(String)</code>.</p> <p>To capture or stream images from a camera device, the application must first create a <code>camera capture session</code> with a set of output Surfaces for use with the camera device, with <code>createCaptureSession(SessionConfiguration)</code>. Each Surface has to be pre-configured with an <code>appropriate size and format</code> (if applicable) to match the sizes and formats available from the camera device. A target Surface can be obtained from a variety of classes, including <code>SurfaceView</code>, <code>SurfaceTexture</code> via <code>Surface(SurfaceTexture)</code>, <code>MediaCodec</code>, <code>MediaRecorder</code>, <code>Allocation</code>, and <code>ImageReader</code>.</p> <p>Generally, camera preview images are sent to <code>SurfaceView</code> or <code>TextureView</code> (via its <code>SurfaceTexture</code>). Capture of JPEG images or RAW buffers for <code>DngCreator</code> can be done with <code>ImageReader</code> with the <code>JPEG</code> and <code>RAW_SENSOR</code> formats. Application-driven processing of camera data in OpenGL ES, or directly in managed or native code is best done through <code>SurfaceTexture</code>, or <code>ImageReader</code> with a <code>YUV_420_888</code> format, respectively.</p> </div> </div>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>By default, YUV-format buffers provided by the camera are using the JFIF YUV<->RGB transform matrix (equivalent to Rec.601 full-range encoding), and after conversion to RGB with this matrix, the resulting RGB data is in the sRGB colorspace. Captured JPEG images may contain an ICC profile to specify their color space information; if not, they should be assumed to be in the sRGB space as well. On some devices, the output colorspace can be changed via <code>setColorSpace(Named)</code>.</p> <p>Note that although the YUV->RGB transform is the JFIF matrix (Rec.601 full-range), due to legacy and compatibility reasons, the output is in the sRGB colorspace, which uses the Rec.709 color primaries. Image processing code can safely treat the output RGB as being in the sRGB colorspace.</p> <p>The application then needs to construct a <code>CaptureRequest</code>, which defines all the capture parameters needed by a camera device to capture a single image. The request also lists which of the configured output Surfaces should be used as targets for this capture. The CameraDevice has a <code>factory method</code> for creating a <code>request builder</code> for a given use case, which is optimized for the Android device the application is running on.</p> <p>Once the request has been set up, it can be handed to the active capture session either for a one-shot <code>capture</code> or for an endlessly <code>repeating</code> use. Both methods also have a variant that accepts a list of requests to use as a burst capture / repeating burst. Repeating requests have a lower priority than captures, so a request submitted through <code>capture()</code> while there's a repeating request configured will be captured before any new instances of the currently repeating (burst) capture will begin capture.</p> <p>After processing a request, the camera device will produce a <code>TotalCaptureResult</code> object, which contains information about the state of the camera device at time of capture, and the final settings used. These may vary somewhat from the request, if rounding or resolving contradictory parameters was necessary. The camera device will also send a frame of image data into each of the output <code>Surfaces</code> included in the request. These are produced asynchronously relative to the output CaptureResult, sometimes substantially later.</p>

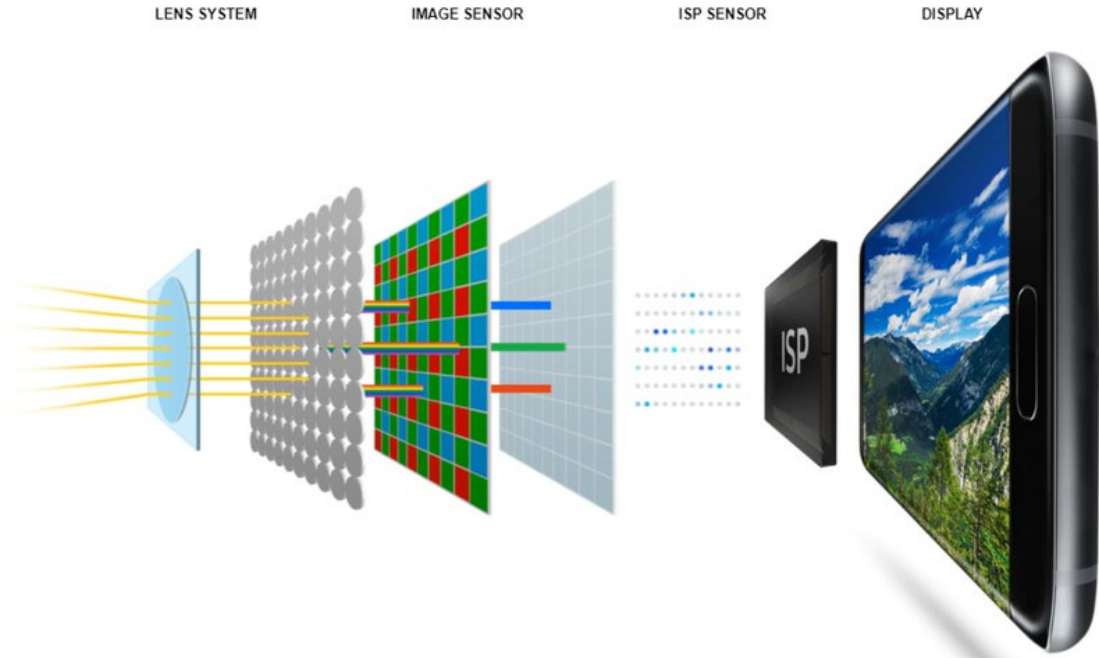
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement																										
	<p>Classes</p> <table border="1"> <tr> <td>CameraCaptureSession</td><td>A configured capture session for a CameraDevice, used for capturing images from the camera or reprocessing images captured from the camera in the same session previously.</td></tr> <tr> <td>CameraCaptureSession.CaptureCallback</td><td>A callback object for tracking the progress of a CaptureRequest submitted to the camera device.</td></tr> <tr> <td>CameraCaptureSession.StateCallback</td><td>A callback object for receiving updates about the state of a camera capture session.</td></tr> <tr> <td>CameraCharacteristics</td><td>The properties describing a CameraDevice.</td></tr> <tr> <td>CameraCharacteristics.Key<T></td><td>A Key is used to do camera characteristics field lookups with CameraCharacteristics.get.</td></tr> <tr> <td>CameraConstrainedHighSpeedCaptureSession</td><td>A constrained high speed capture session for a CameraDevice, used for capturing high speed images from the CameraDevice for high speed video recording use case.</td></tr> <tr> <td>CameraDevice</td><td>The CameraDevice class is a representation of a single camera connected to an Android device, allowing for fine-grain control of image capture and post-processing at high frame rates.</td></tr> <tr> <td>CameraDevice.CameraDeviceSetup</td><td>CameraDeviceSetup is a limited representation of CameraDevice that can be used to query device specific information which would otherwise need a CameraDevice instance.</td></tr> <tr> <td>CameraDevice.StateCallback</td><td>A callback objects for receiving updates about the state of a camera device.</td></tr> <tr> <td>CameraExtensionCharacteristics</td><td>Allows clients to query availability and supported resolutions of camera extensions.</td></tr> <tr> <td>CameraExtensionSession</td><td>A camera capture session that enables access to device-specific camera extensions, which often use multi-frame bursts and sophisticated post-process algorithms for image capture.</td></tr> <tr> <td>CameraExtensionSession.ExtensionCaptureCallback</td><td>A callback object for tracking the progress of a CaptureRequest submitted to the camera device.</td></tr> <tr> <td>CameraExtensionSession.StateCallback</td><td>A callback object for receiving updates about the state of a camera extension session.</td></tr> </table> <p>See https://developer.android.com/reference/android/hardware/camera2/package-summary</p>	CameraCaptureSession	A configured capture session for a CameraDevice , used for capturing images from the camera or reprocessing images captured from the camera in the same session previously.	CameraCaptureSession.CaptureCallback	A callback object for tracking the progress of a CaptureRequest submitted to the camera device.	CameraCaptureSession.StateCallback	A callback object for receiving updates about the state of a camera capture session.	CameraCharacteristics	The properties describing a CameraDevice .	CameraCharacteristics.Key<T>	A Key is used to do camera characteristics field lookups with CameraCharacteristics.get .	CameraConstrainedHighSpeedCaptureSession	A constrained high speed capture session for a CameraDevice , used for capturing high speed images from the CameraDevice for high speed video recording use case.	CameraDevice	The CameraDevice class is a representation of a single camera connected to an Android device, allowing for fine-grain control of image capture and post-processing at high frame rates.	CameraDevice.CameraDeviceSetup	CameraDeviceSetup is a limited representation of CameraDevice that can be used to query device specific information which would otherwise need a CameraDevice instance.	CameraDevice.StateCallback	A callback objects for receiving updates about the state of a camera device.	CameraExtensionCharacteristics	Allows clients to query availability and supported resolutions of camera extensions.	CameraExtensionSession	A camera capture session that enables access to device-specific camera extensions, which often use multi-frame bursts and sophisticated post-process algorithms for image capture.	CameraExtensionSession.ExtensionCaptureCallback	A callback object for tracking the progress of a CaptureRequest submitted to the camera device.	CameraExtensionSession.StateCallback	A callback object for receiving updates about the state of a camera extension session.
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
<p>[1.a] a feature detection unit which detects a position where features of each pixel of an input picture signal have changed;</p>	<p>In each of the Accused Samsung '950 Products, the feature detection unit is comprised of one or more processors (e.g., a CPU, ISP, and/or DSP) , which are configured to detect a position where features of each pixel of an input picture signal have changed.</p> <p>As a nonlimiting example, each of the Accused Samsung '950 Products includes one or more image sensors associated with the plurality of cameras as front-facing and/or rear-facing cameras, which alone or in conjunction with other features and/or components discussed in this claim chart, allows each of the Accused Samsung '950 Products to convert light associated with an image into a digital signal representing the image as pixels. For example, each of the Accused Samsung '950 Products includes one or more image sensors that convert light received through optical lens into an electronic signal, which is sent to one or more image signal processors (ISP) where the electronic signal is rebuilt as a picture or a preview on a display. <i>See e.g.</i>, https://semiconductor.samsung.com/us/solutions/technology/image-processing/.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p align="center">Background</p> <p align="center">Processor for converting light information into an image</p> <p align="center">The image sensor converts the light received through the optical lens into an electric form. And this data is sent to an ISP where it is rebuilt as a picture or a preview on a display. Even when the lighting isn't at best for photo taking, ISP does the magical wonders to improve image quality.</p> <div><p align="center">LENS SYSTEM IMAGE SENSOR ISP SENSOR DISPLAY</p></div> <p>Accused Samsung '0 Products provide evidence of one or more image sensors converting light into a digital signal, https://semiconductor.samsung.com/us/solutions/technology/image-processing/.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>As an example of feature detection incorporated in or performed by the signal processor, the signal processor is configured to detect skin tones and textures in various lighting environments.</p> <p>Look your best in every light</p> <p>Our camera with enhanced Object-Aware Engine adapts to various lighting environments to capture skin tones and textures exactly as your eyes see them.</p> <p>https://www.samsung.com/us/smartphones/galaxy-s25/</p> <p>As another example of feature detection incorporated in or performed by the signal processor, the signal processor, in combination with one or more sensors, is configured to detect moving objects or subjects.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><h2>Shots captured at lightning speed</h2></div> <div><p>ProVisual Engine and advanced sensors join forces to create high-quality images even at fast shutter speeds so you can capture moving subjects with more clarity.³</p></div> <div>A photograph of a tabby cat in mid-air, jumping towards a yellow toy hanging from a string. The cat is positioned on a yellow platform, and the background shows a cat tree and a window with blinds.</div> <div>A close-up photograph of a tabby cat's face, showing its green eyes and white whiskers. The cat is looking directly at the camera.</div> <div><p>https://www.samsung.com/us/smartphones/galaxy-s25/</p></div> <div><p>As another example of feature detection incorporated in or performed by the signal processor, the signal processor is configured to detect different regions in an image by performing segmentation of a photo or video frame. For example, the signal processor performs segmentation to detect one or more features including faces, natural skin, hair, clothing, objects, and backgrounds.</p></div>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<ul style="list-style-type: none">• Our Qualcomm Spectra™ AI ISP features:<ul style="list-style-type: none">• Limitless Real-time Semantic Segmentation for photo/video frame• Insight AI provides real-time skin and sky adjustments to create more natural color and lighting in uncertain conditions.• Ultra-low Light video capture• Video Object Eraser can remove unwanted elements from videos• Real-time AI Relighting make you appear professional wherever you are• Truepic photo capture with C2PA standard support lets you snap a photo with Truepic's cryptographic seal to prove the photo is real and not Gen AI <p>(https://www.qualcomm.com/products/mobile/snapdragon/smartphones/snapdragon-8-series-mobile-platforms/snapdragon-8-elite-mobile-platform)</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>AI-powered camera redefines photography</p> <p>Infuse brilliance into mobile capture with our AI ISP, enhancing everything from selfies to crystal-clear video chats thanks to an overhauled Hexagon Direct Link. The first AI-powered Limitless Segmentation recognizes and enhances virtually anything in the frame, including faces, hair, clothing, objects, backgrounds, and beyond. Even furry friends appear crisp and cute—no matter how fast the zoomies—thanks to AI-Based Pet Capture.</p> <ul style="list-style-type: none"> • Our powerful AI ISP is deeply integrated with the Hexagon NPU for enhanced, intuitive capture. • Limitless Segmentation can segment an image in over 250 layers, each optimized to perfection. • Real-time Insight AI captures and enhances natural skin and sky tones even in the most challenging conditions. • Truepic with C2PA adds cryptographic seals so you can authenticate your photos as real and not AI-generated—now including videos and audio recordings. • Video Object Eraser can remove unwanted elements from video footage—on-device. • Capture vivid videos at 4K60 FPS, even in near darkness. <p>(https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/Snapdragon-8-Elite-Platform-Product-Brief.pdf)</p> <p>Let's dive deeper into why Snapdragon 8 Elite is a game-changer:</p> <ul style="list-style-type: none"> • Incredible power: Experience a 45% boost in performance with the Qualcomm Oryon CPU, giving you lightning-fast apps and incredible multitasking.¹ • AI at your fingertips: The Qualcomm® Hexagon™ NPU increases AI performance by 45%, handling everything from voice commands to image prompts. Your device is ready to adapt to your every move. • Photography, reimagined: With features like 4K Semantic Segmentation, Video Object Eraser, and real-time AI lighting adjustments, the Snapdragon 8 Elite camera tech turns your mobile photos into pro-level masterpieces. <p>https://www.qualcomm.com/snapdragon/news/snapdragon-8-elite--the-power-behind-the-name</p> <p>As additional examples of feature detection, the Accused Samsung '950 Products include AI camera detection/AI Optimizer for detecting features such as text, foliage, fireworks, faces, food, moon etc</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>to optimize the photograph and/or to “fill in the photo’s missing part.”</p> <p>If you're unsure how to edit a photo or video in the Gallery app, let AI Edit Suggestion help you out. This feature lets you move and delete unwanted objects in order to create an entirely new image. You can also use additional options such as remastering, colorizing, removing reflections, and adding portrait effects to transform and elevate your photos and videos. You can learn more about AI Edit suggestions using our guide.</p> <p>Generative edit is an AI editing tool that lets you customize your images. Just find your desired image in the Gallery app, tap the Photo Assist icon (the three stars), and then tap or draw around an object in the photo you'd like to adjust. You can move the object around to another part of the photo. When you tap Generate, AI will fill in the photo's missing parts.</p> <p>Note: Generative edit requires an internet connection and will resize photos to 12MP.</p> <p>Drawing Assist lets you bring your drawings to life. You can create AI sketches using Air command, Samsung Notes, Gallery, and the AI Select feature in the Edge panel.</p> <p>Portrait Studio on the Z Fold6 and Z Flip6 lets you add extra flair to your selfies. Select your desired selfie in the Gallery app, then tap the Photo Assist icon (the stars), and then tap Generative portrait on the image. You can select from the available styles at the bottom of the screen, and then tap Generate to create a new image.</p> <p>Live Effects will bring your photos to life with animations on the Z Fold6 and Z Flip6. Select a photo in the Gallery app, then swipe up to view more details, and then tap 3D photo. AI will generate the photo's effects. You may see a zooming motion, a panning motion, or a swivel motion.</p> <p>https://www.samsung.com/us/support/answer/ANS10000753/</p> <div><h2>Use AI editing tools in Gallery on your Galaxy phone or tablet</h2><p>The new editing features on select Galaxy phones and tablets will transform your favorite photos into masterpieces! Thanks to Galaxy AI, you can use features like Generative edit and Edit suggestions to move objects within your photos and automatically receive enhancement recommendations. You can also use the Galaxy Enhance-X app to take things further with more editing options that include blur removal and brightness adjustment.</p></div>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>https://www.samsung.com/us/support/answer/ANS10000753/</p> <p>Further, the Accused Samsung '950 Products include a detector to detect pattern portions to perform “Generative edit,” provide “Edit suggestions,” implement Portrait Studio, and/or generate photo effects.</p> <div><p>Use Generative edit</p><p>^</p></div> <div><p>★ Note</p><p>Generative edit is available on the Galaxy S25 Ultra, S25 Edge, S25+, S25, S24 Ultra, S24+, S24, S24 FE, S23 Ultra, S23+, S23, S23 FE, S22 Ultra, S22+, S22, Z Fold6, Z Fold5, Z Fold4, Z Flip6, Z Flip5, Z Flip4, Tab S10, Tab S9 Ultra, Tab S9+, Tab S9, Tab S8+, Tab S8, and Tab S8.</p></div> <div></div> <p>Generative edit allows you to move or delete objects from your pictures in order to create an entirely new image. Galaxy AI will then fill in the background and any missing portions.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Generative edit allows you to move or delete objects from your pictures in order to create an entirely new image. Galaxy AI will then fill in the background and any missing portions.</p> <ol style="list-style-type: none">1 Navigate to and open the Gallery app, and then select a picture you'd like to edit.2 Tap the Edit icon (the pencil), and then tap the Generative edit icon (the blue circle with three stars). Note: You may be required to tap OK on the prompt.3 Using your finger, outline your desired object. Tap Deselect to start over if needed.4 Next, touch and hold the outlined object, and then drag it into a different part of the image. Tap Return (the back arrow) to move the object back to its original position, or tap Remove (the eraser icon) to erase the object. Repeat this process to move or remove additional objects.5 If needed, adjust the slider at the bottom of the screen to straighten the picture.6 When you're finished, tap Generate. Galaxy AI will fill in the image's background and adjust the objects that have been moved.7 Touch and hold View original to compare the original image with the newly generated image.8 When you're finished, tap Done, and then tap Save as copy to save the image. <p>https://www.samsung.com/us/support/answer/ANS10000934/</p>

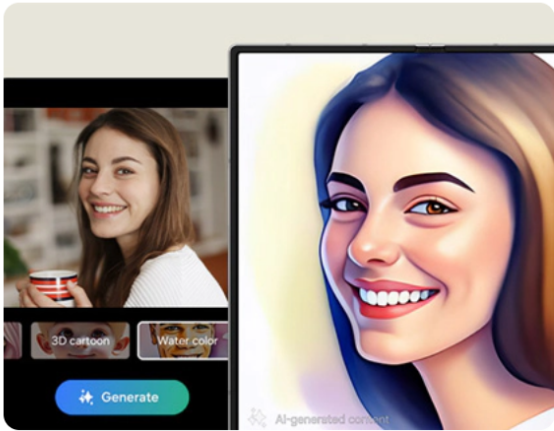
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> <p>Use Edit suggestions</p> </div> <div> <p> Note</p> <p>Edit suggestions are available on the Galaxy S25 Ultra, S25 Edge, S25+, S25, S24 Ultra, S24+, S24, S24 FE, S23 Ultra, S23+, S23, S23 FE, S22 Ultra, S22+, S22, Z Fold6, Z Fold5, Z Fold4, Z Flip6, Z Flip5, Z Flip4, A16 5G, A26 5G, A35 5G, A36 5G, A54 5G, Tab S9 Ultra, Tab S9+, Tab S9, Tab S8+, Tab S8, and Tab S8.</p> </div> <div>  </div> <p>Galaxy AI will analyze your pictures and provide editing suggestions to enhance them! The individual suggestion will vary depending on the image, or there may not be any suggestions at all.</p> <p>1 Navigate to and open the Gallery app, and then select a picture you'd like to edit.</p>

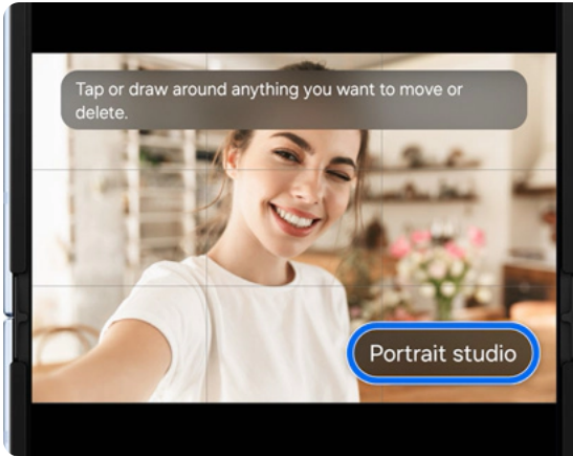
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<ul style="list-style-type: none">- Pro: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while taking pictures.- Pro video: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while recording videos. <p>Samsung Galaxy S25 User Manual at 43. (https://downloadcenter.samsung.com/content/UM/202502/20250222040501249/SAM_S931_S936_S938_EN_UG_OS15_012425_FINAL_AC_02072025.pdf)</p>

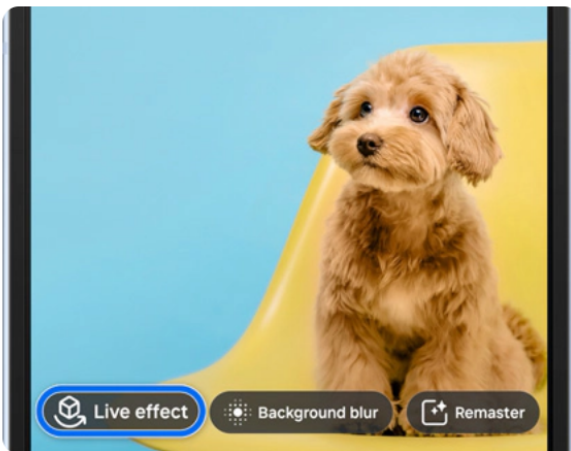
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> <div>Use Portrait Studio</div> <div>^</div> </div> <div> <div> <div>☆</div> <div>Note</div> </div> <p>Portrait Studio is available on the Galaxy S25 Ultra, S25 Edge, S25+, S25, S24 Ultra, S24+, S24, S24 FE, S23 Ultra, S23+, S23, S23 FE, S22 Ultra, S22+, S22, Z Fold6, Z Fold5, Z Fold4, Z Flip6, Z Flip5, Z Flip4, Tab S10, Tab S9 Ultra, Tab S9+, Tab S9, Tab S8+, Tab S8, and Tab S8.</p> </div> <div>  </div> <div> <p>After you've taken a selfie, you can add some extra flair to it with Portrait Studio.</p> </div> <div> <p>◀ ◯ ◻ ◼ ◽ ◾ ◿ ◸ ◹ ◺ ◻ ◼ ◽ ◾ ◿ ◸ ◹ ◺ ◻ ◼ ◽ ◾ ◿ ◸ ◹ ◺</p> </div>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>After you've taken a selfie, you can add some extra flair to it with Portrait Studio.</p> <ol style="list-style-type: none">1 Open the Gallery app, and then find and select your desired selfie.2 Tap the Photo Assist icon (the stars), and then tap Generative portrait on the image. <div></div> <ol style="list-style-type: none">3 Select from the available styles at the bottom of the screen, such as Comic, 3D cartoon, or Watercolor.4 Then, tap Generate. <p>https://www.samsung.com/us/support/answer/ANS10000934/</p>

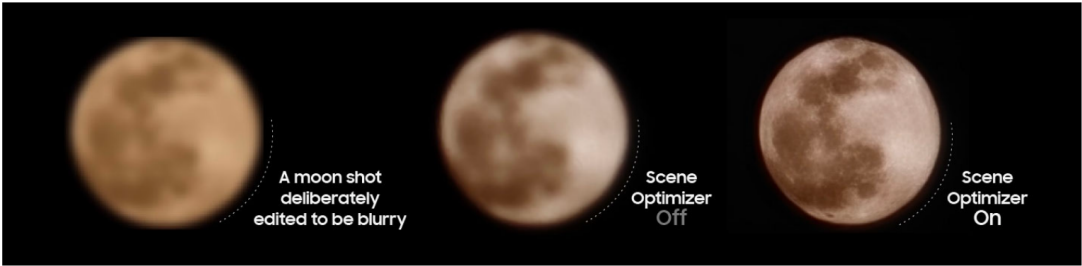
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Live Effect will bring your photos to life with animations. The effect may differ depending on the photo.</p> <ol style="list-style-type: none"><li>1 Open the Gallery app, and then find and select a photo.<li>2 Swipe up to view more details, and then tap 3D photo on the image. <div></div> <ol style="list-style-type: none"><li>3 AI will generate the photo's effects. You may see a zooming motion, a panning motion, or a swivel motion.<li>4 You can share the generated photo by tapping Share at the bottom of the screen. <p>https://www.samsung.com/us/support/answer/ANS10000753/</p> <p>Further, the Accused Samsung '950 Products include a Scene Optimizer to perform feature detection and corrections.</p>

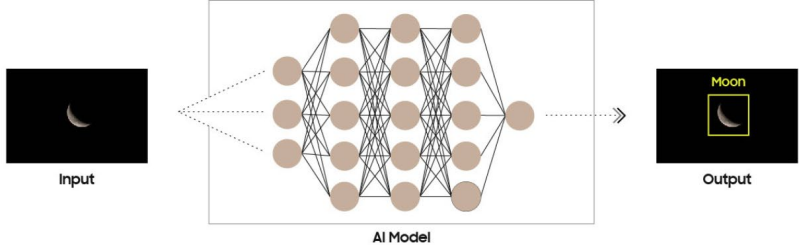
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>How Samsung Galaxy Cameras Combine Super Resolution Technologies With AI Technology to Produce High-Quality Images of the Moon</p> <p>Samsung is committed to delivering best-in-class camera experiences in all conditions. Since the introduction of the Galaxy S10, the Samsung Galaxy series has harnessed artificial intelligence (AI) technologies in its cameras to help users capture every epic moment anytime, anywhere.</p> <p>As part of this, Samsung developed the Scene Optimizer feature, a camera functionality which uses advanced AI to recognize objects and thus deliver the best results to users. Since the introduction of the Galaxy S21 series, Scene Optimizer has been able to recognize the moon as a specific object during the photo-taking process, and applies the feature's detail enhancement engine to the shot.</p> <p>When you're taking a photo of the moon, your Galaxy device's¹ camera system will harness this deep learning-based AI technology, as well as multi-frame processing in order to further enhance details. Read on to learn more about the multiple steps, processes and technologies that go in to delivering high-quality images of the moon.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div>Understanding Super Resolution and Scene Optimizer</div> <div><p>In order to take a clear photo of the moon, Galaxy cameras harness Super Resolution to synthesize more than 10 images taken at 25x zoom or higher. The image taken at 25x zoom or above needs to eliminate noise and enhance clarity and other details.</p><p>Super Resolution technology helps produce images through multi-frame composition. When Scene Optimizer is turned on and the moon has been recognized as an object, the camera will deliver users a bright and clear image through the detail enhancement engine of Scene Optimizer on top of the Super Resolution technology.</p></div> <div></div> <div>AI Deep Learning for Moon Object Recognition</div> <div><p>The engine for recognizing the moon was built based on a variety of moon shapes and details, from full through to crescent moons, and is based on images taken from our view from the Earth.</p><p>It uses an AI deep learning model to detect the presence of the moon and identify the area it occupies – as denoted by the square box - in the relevant image. Once the AI model has completed its learning, it can detect the area occupied by the moon even in images that were not used in training.</p></div>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div></div> <p>However, the moon will not be properly recognized by the camera and Scene Optimizer technology if it is obscured by clouds, or if the moon object itself is the side that is not visible from the Earth.</p> <div><p>Types of the moon that are difficult to be recognized</p></div> <p>https://www.samsungmobilepress.com/feature-stories/how-samsung-galaxy-cameras-combine-super-resolution-technologies-with-ai-technology-to-produce-high-quality-images-of-the-moon/</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>The Brightness Control Process</p> <p>Once the device has recognized the moon after zooming in, it will control the brightness of the display in order to present the moon more clearly while maintaining optimal brightness.</p> <p>Accordingly, when users take photos of the moon at early evening time, the sky around the moon will appear darker than the actual sky color because the device will darken the object background brightness in order to help make the moon appear more clearly. Once your device recognizes the moon, it will continuously adjust focus to stay directly on the moon.</p> <div></div> <p>Capturing the Most Stable Images Possible</p> <p>Samsung introduced the Zoom Lock feature, which automatically reduces the effects of a shaking device without the need for a tripod. Combining OIS and VDIS technologies, Zoom Lock is able to minimize the image blur that can be caused by shaking hands and helps users take truly epic moon shots.</p> <p>While zooming in and touching the display or maintaining a focus on the moon for longer than 1.5 seconds, the Zoom Lock feature will be automatically activated. The border line of the zoom map on the upper right side of the screen will change from white to yellow, and the moon will be fixed on the display.</p>

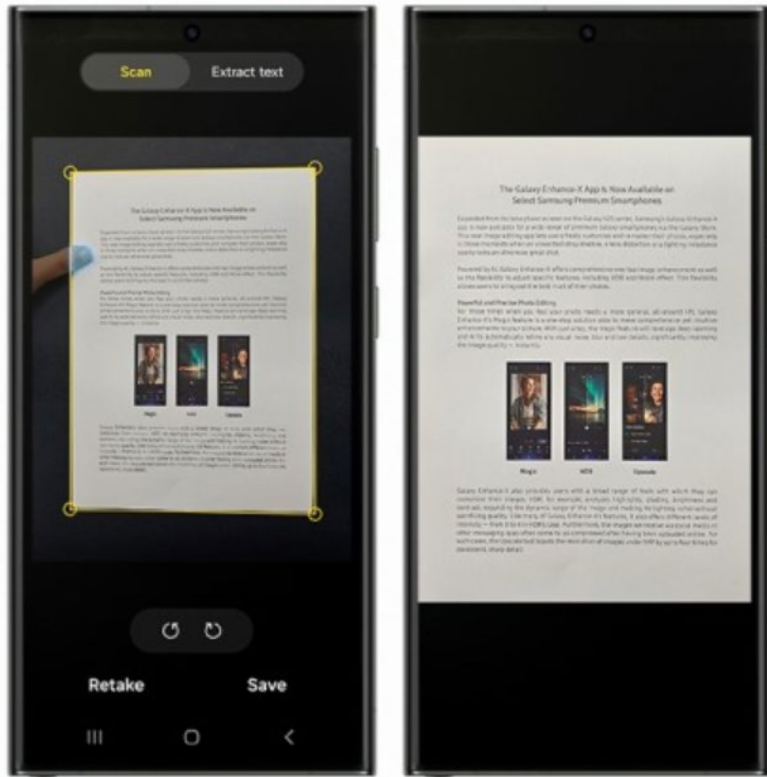
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> <pre> graph LR LD[Learning Data] --> I[Moon Image] LD --> NI[Not Moon Image] I --> SO[Scene Optimizer (Convolution Neural Network)] NI --> SO SO --> Q[Is this the moon or not?] Q --> SO_O[Operation of Scene Optimizer] SO_O --> SO </pre> </div> <p>Next, the camera takes multiple pictures and then synthesizes them into a single, bright image with reduced noise.</p> <p>After Multi-frame Processing has taken place, Galaxy camera further harnesses Scene Optimizer's deep-learning-based AI detail enhancement engine to effectively eliminate remaining noise and enhance the image details even further.</p> <p>https://www.samsungmobilepress.com/feature-stories/how-samsung-galaxy-cameras-combine-super-resolution-technologies-with-ai-technology-to-produce-high-quality-images-of-the-moon/</p> <p>For example, as an example the Accused Samsung '950 Products include AI Stereo Depth Mapping, that distinguishes various features (e.g., hair, clothing, or face).</p> <h2 align="center">Become the ultimate photographer with Samsung AI</h2> <p align="center">Tap into the tools that help take perfect pictures, capture nighttime photos and make shareable content</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Samsung's Galaxy S23 Ultra series uses AI Stereo Depth Mapping, a software-based feature that relies on AI algorithms to improve image output when you click a photo. This algorithm essentially creates a depth map that automatically measures the distance between objects in an image, so it doesn't miss out on the smaller elements. For example, imagine a picture of a person on the Galaxy S23 ultra whose face is in focus, but their hair or clothing, which normal cameras may treat as background elements, might not be. AI Stereo Depth Mapping fixes this common problem, making sure all these elements are clear and in focus.</p> <p>https://www.samsung.com/us/explore/photography/become-the-ultimate-photographer-with-samsung-AI/</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div>  <p align="center">Document Scan</p> </div> <p>https://news.samsung.com/global/one-ui-6-update-7-tips-for-making-the-most-of-ai-camera-on-your-galaxy</p> <p><u>Doctrine of Equivalents</u></p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>To the extent Samsung argues that the above-identified structure do not literally infringe this claim element, this limitation is infringed under the doctrine of equivalents because the Accused Samsung '645 Products contain one or more components and/or software, or combination thereof, that perform substantially the same function in substantially the same way to obtain the same result.</p> <p>By way of example, to the extent that Samsung argues that the Accused Samsung '950 Products do not have a feature detection unit, each of these products include software, hardware, or a combination of the two that perform the equivalent function of detecting a position where features of each pixel are for object detection. Using this software, hardware, or combination, these products perform substantially the same function in substantially the same way. The performance of this function achieves substantially the same result, for example, the detection of a position where features of each pixel have changed. For example, the Accused Samsung '950 Products include image sensors, ISP, DSP, GPU, and/or CPU that execute source code to perform image processing and detect features. That this functionality may be divided across several components does not preclude these components from collectively functioning as a feature detection unit.</p>
[1.b] a region creation unit which creates a region by removing pixels with the features from an evaluated value extraction region;	<p>In each of the Accused Samsung '950 Products, the region creation unit is comprised of one or more processors (e.g., a CPU, ISP, and/or DSP), which are configured to create a region by removing pixels with the features from an evaluated value extraction region.</p> <p>As an example of region creation incorporated in or performed by the signal processor, the signal processor is configured to perform “segmentation” that, upon information and belief, creates one or more regions by removing pixels with the features from the extracted region to perform detection and corrections based on detected features such as skin tones and textures and other region or regions that do not include skin tones and textures (e.g., text, foliage, fireworks, food, moon etc).</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><h2>Capture the Stars Like a Pro</h2><p>on October 26, 2022</p><p>Audio  Share  </p></div> <p>Earlier this year, the Galaxy S22 series introduced the pro-grade smartphone camera with advanced Nightography features. Now, that camera just got even better. With an updated version of the Expert RAW app and a brand new app called Camera Assistant,¹ you'll be able to capture professional-looking shots.</p> <h3>Capture the Galaxy With Astrophoto in Expert RAW</h3> <p>The Expert RAW elevates the S22's already robust night photography capabilities with a powerful Astrophoto feature. This brand-new feature lets star gazers and outdoor enthusiasts take clear and beautiful photos of constellations and dark sky activity.</p> <p>Simply turn on the Sky guide to pinpoint the location of constellations, groups of stars, nebula and other celestial objects in our solar system. Your camera will use advanced AI segmentation technology and multi-frame processing based on the movements of a celestial body to snap photos over a set time period. As a result, you'll capture stunning shots of stars that look like they were taken with top-grade professional equipment.</p> <p>https://news.samsung.com/global/new-galaxy-s22-camera-updates-let-you-capture-the-stars-like-a-pro</p> <p>As an example of region creation incorporated in or performed by the signal processor, the signal processor is configured to create a region that includes skin tones and textures and other region or regions that do not include skin tones and textures (<i>e.g.</i>, text, foliage, fireworks, food, moon etc).</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Look your best in every light</p> <p>Our camera with enhanced Object-Aware Engine adapts to various lighting environments to capture skin tones and textures exactly as your eyes see them.</p> <p>https://www.samsung.com/us/smartphones/galaxy-s25/</p> <p>As another example of region creation incorporated in or performed by the signal processor, the signal processor is configured to create a region that contain a detected moving object or subject and other region or regions that do not contain the detected moving object or subject.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div>Shots captured at lightning speed</div> <div><p>ProVisual Engine and advanced sensors join forces to create high-quality images even at fast shutter speeds so you can capture moving subjects with more clarity.³</p></div> <div>A photograph of a tabby cat in mid-air, jumping towards a yellow toy hanging from a string. The cat is positioned on a yellow platform, and its front paws are extended towards the toy. The background shows a cat tree with a red top and a black and white patterned wall.</div> <div>A close-up photograph of a tabby cat's face. The cat has green eyes and is looking directly at the camera. The background is slightly blurred, showing a striped pattern.</div> <div><p>https://www.samsung.com/us/smartphones/galaxy-s25/</p></div>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div></div> <p>Don't let the fact that it's dark ruin your chance to capture unforgettable moments. Samsung Galaxy devices have an incredible range of camera modes - perfect for every occasion and when it comes to taking epic shots at night you have everything you need in Night Mode. Here we explore Nightography in all its illuminating glory and explain why Night mode is the best camera setting to choose for exceptional low light images.</p> <h3>What does Night Mode do?</h3> <p>Night Mode is a smartphone feature that enables you to take vivid, highly optimised photos, even in the dark. Meaning you can avoid taking washed out, blurry night images. Pictures look sharp due to the innovative AI multi-frame processing which combines 30 images into just one epic shot, optimising colour and detail in every pixel.</p> <p>https://www.samsung.com/uk/mobile-phone-buying-guide/samsung-night-mode-camera/</p>

APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12, AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> <h3>What is low light photography?</h3> </div> <div> <p>Low light photography is all about capturing stunning images in conditions where natural or artificial light is minimal. Imagine photographing a beautiful sunset, a cityscape at night, or a candlelit dinner. The challenge lies in capturing the right details without the picture becoming too dark or grainy¹.</p> </div> <div> <p>Enter the Galaxy S25 Ultra; designed to make low light photography an absolute joy. With its innovative Night Mode and Nightography features, this smartphone transforms night-time scenes into vivid and detailed photos. Night Mode intelligently combines multiple exposures, balancing the light and ensuring every part of the image is well-lit and clear.</p> </div> <div> <p>Nightography takes it a step further by leveraging advanced AI² and sensor technology to enhance low-light performance. This ensures that even in the darkest environments, your photos are bright, sharp, and full of detail. Whether you're capturing a starry night sky, a bustling cityscape, or a cosy, dimly lit moment, the Galaxy S25 Ultra makes low light photography effortless and exciting.</p> </div> <div> <p><small>1. Results may vary depending on shooting conditions including multiple subjects, being out of focus or moving subjects. 2. Samsung account login is required for certain AI features.</small></p> </div> <div>  </div> <div> <h3>What is astrophotography?</h3> </div> <div> <p>Astrophotography is the art of capturing the beauty of the night sky, and with the Galaxy S25 Ultra, it's never been easier. This advanced camera feature, is designed to capture the breath-taking beauty of the stars and planets by using long-exposure lenses, advanced AI¹ technology, and cutting-edge camera software. It even guides you through the process with on-screen prompts, making it simple to snap stunning photos at night².</p> </div> <div> <p>The sophisticated Camera AI enhances night-time images by optimising colours and restoring the intricate details of the evening sky. With the Galaxy S25 Ultra's advanced camera capabilities, larger sensors, and improved low-light performance, you can capture the wonders of the stars and planets without needing specialist equipment. So, point your Galaxy S25 Ultra towards the sky, and let it show you the way!</p> </div> <div> <p><small>1. Samsung account login is required for certain AI features. 2. Results may vary depending on shooting conditions including multiple subjects, being out of focus or moving subjects.</small></p> </div> <div>  </div> <div> <p>https://www.samsung.com/uk/mobile-phone-buying-guide/samsung-galaxy-s25-camera-specs-explained/</p> </div>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>As another example, the signal processor performs segmentation to create a region that contains detected face and other region or regions that do not contain the detected face. The signal processor is configured to perform segmentation by removing pixels evaluated to be part of a face according to a face evaluation value.</p> <p>As another example of region creation incorporated in or performed by the signal processor, the signal processor is configured to create different regions in an image by performing segmentation of a photo or video frame.</p> <p>For example, the signal processor performs segmentation to create a region that contains detected natural skin and other region or regions that do not contain the detected natural skin. The signal processor is configured to perform segmentation by removing pixels evaluated to be part of natural skin region according to a natural skin evaluation value.</p> <p>For example, the signal processor performs segmentation to create a region that contains detected hair and other region or regions that do not contain the detected hair. The signal processor is configured to perform segmentation by removing pixels evaluated to be part of hair region according to a hair evaluation value.</p> <p>For example, the signal processor performs segmentation to create a region that contains detected clothing and other region or regions that do not contain the detected clothing. The signal processor is configured to perform segmentation by removing pixels evaluated to be part of clothing region according to a clothing evaluation value.</p> <p>For example, the signal processor performs segmentation to create a region that contains a detected object and other region or regions that do not contain the detected object. The signal processor is configured to perform segmentation by removing pixels evaluated to be part of a moving object region according to a moving object evaluation value.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>For example, the signal processor performs segmentation to create a region that contains a detected object and other region or regions that do not contain the detected object. The signal processor is configured to perform segmentation by removing pixels evaluated to be part of an object such as food, moon, fireworks, text, and/or other features according to an object evaluation value.</p> <p>For example, the signal processor performs segmentation to create a region that contains a detected object in a foreground and other region or regions that are part of a background. The signal processor is configured to perform segmentation by removing pixels evaluated to be part of a background region according to a foreground evaluation value.</p> <p>If you're unsure how to edit a photo or video in the Gallery app, let AI Edit Suggestion help you out. This feature lets you move and delete unwanted objects in order to create an entirely new image. You can also use additional options such as remastering, colorizing, removing reflections, and adding portrait effects to transform and elevate your photos and videos. You can learn more about AI Edit suggestions using our guide.</p> <p>Generative edit is an AI editing tool that lets you customize your images. Just find your desired image in the Gallery app, tap the Photo Assist icon (the three stars), and then tap or draw around an object in the photo you'd like to adjust. You can move the object around to another part of the photo. When you tap Generate, AI will fill in the photo's missing parts.</p> <p>Note: Generative edit requires an internet connection and will resize photos to 12MP.</p> <p>Drawing Assist lets you bring your drawings to life. You can create AI sketches using Air command, Samsung Notes, Gallery, and the AI Select feature in the Edge panel.</p> <p>Portrait Studio on the Z Fold6 and Z Flip6 lets you add extra flair to your selfies. Select your desired selfie in the Gallery app, then tap the Photo Assist icon (the stars), and then tap Generative portrait on the image. You can select from the available styles at the bottom of the screen, and then tap Generate to create a new image.</p> <p>Live Effects will bring your photos to life with animations on the Z Fold6 and Z Flip6. Select a photo in the Gallery app, then swipe up to view more details, and then tap 3D photo. AI will generate the photo's effects. You may see a zooming motion, a panning motion, or a swivel motion.</p> <p>https://www.samsung.com/us/support/answer/ANS10000753/</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Use AI editing tools in Gallery on your Galaxy phone or tablet</p> <p>The new editing features on select Galaxy phones and tablets will transform your favorite photos into masterpieces! Thanks to Galaxy AI, you can use features like Generative edit and Edit suggestions to move objects within your photos and automatically receive enhancement recommendations. You can also use the Galaxy Enhance-X app to take things further with more editing options that include blur removal and brightness adjustment.</p> <p>https://www.samsung.com/us/support/answer/ANS10000753/</p> <p>Further, the Accused Samsung '950 Products include a detector to detect pattern portions to perform “Generative edit,” provide “Edit suggestions,” implement Portrait Studio, and/or generate photo effects.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div>Use Generative edit </div> <div><p> Note</p><p>Generative edit is available on the Galaxy S25 Ultra, S25 Edge, S25+, S25, S24 Ultra, S24+, S24, S24 FE, S23 Ultra, S23+, S23, S23 FE, S22 Ultra, S22+, S22, Z Fold6, Z Fold5, Z Fold4, Z Flip6, Z Flip5, Z Flip4, Tab S10, Tab S9 Ultra, Tab S9+, Tab S9, Tab S8+, Tab S8, and Tab S8.</p></div> <div></div> <p>Generative edit allows you to move or delete objects from your pictures in order to create an entirely new image. Galaxy AI will then fill in the background and any missing portions.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Generative edit allows you to move or delete objects from your pictures in order to create an entirely new image. Galaxy AI will then fill in the background and any missing portions.</p> <ol style="list-style-type: none">1 Navigate to and open the Gallery app, and then select a picture you'd like to edit.2 Tap the Edit icon (the pencil), and then tap the Generative edit icon (the blue circle with three stars). Note: You may be required to tap OK on the prompt.3 Using your finger, outline your desired object. Tap Deselect to start over if needed.4 Next, touch and hold the outlined object, and then drag it into a different part of the image. Tap Return (the back arrow) to move the object back to its original position, or tap Remove (the eraser icon) to erase the object. Repeat this process to move or remove additional objects.5 If needed, adjust the slider at the bottom of the screen to straighten the picture.6 When you're finished, tap Generate. Galaxy AI will fill in the image's background and adjust the objects that have been moved.7 Touch and hold View original to compare the original image with the newly generated image.8 When you're finished, tap Done, and then tap Save as copy to save the image. <p>https://www.samsung.com/us/support/answer/ANS10000934/</p>

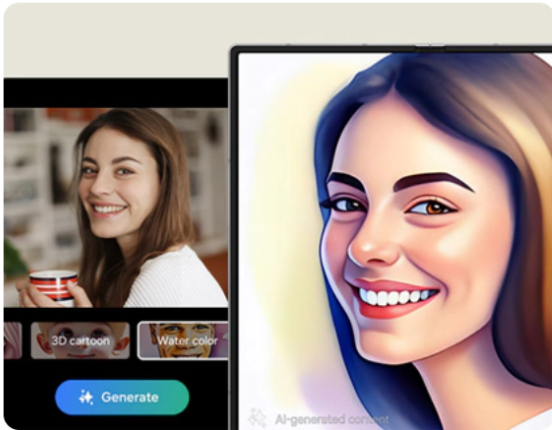
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><p>Use Edit suggestions</p></div> <div><p>★ Note</p></div> <div><p>Edit suggestions are available on the Galaxy S25 Ultra, S25 Edge, S25+, S25, S24 Ultra, S24+, S24, S24 FE, S23 Ultra, S23+, S23, S23 FE, S22 Ultra, S22+, S22, Z Fold6, Z Fold5, Z Fold4, Z Flip6, Z Flip5, Z Flip4, A16 5G, A26 5G, A35 5G, A36 5G, A54 5G, Tab S9 Ultra, Tab S9+, Tab S9, Tab S8+, Tab S8, and Tab S8.</p></div> <div></div> <div><p>Galaxy AI will analyze your pictures and provide editing suggestions to enhance them! The individual suggestion will vary depending on the image, or there may not be any suggestions at all.</p></div> <div><p>1 Navigate to and open the Gallery app, and then select a picture you'd like to edit.</p></div>

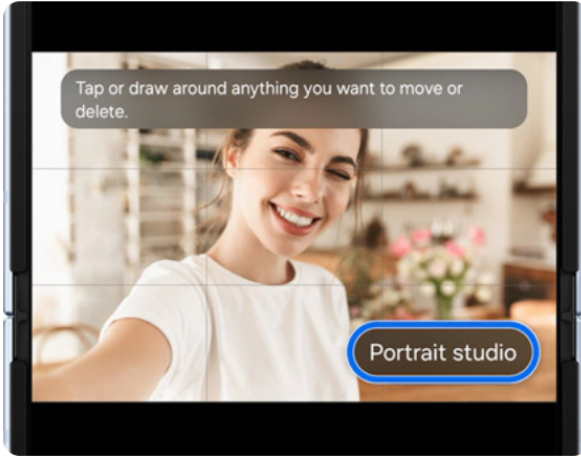
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<ul style="list-style-type: none">- Pro: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while taking pictures.- Pro video: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while recording videos. <p>Samsung Galaxy S25 User Manual at 43. (https://downloadcenter.samsung.com/content/UM/202502/20250222040501249/SAM_S931_S936_S938_EN_UG_OS15_012425_FINAL_AC_02072025.pdf)</p>

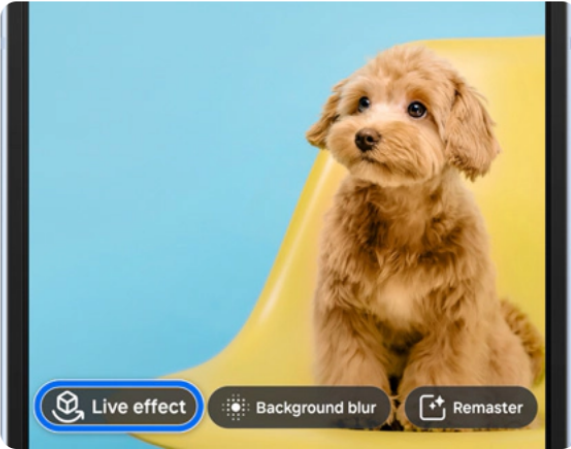
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> <div>Use Portrait Studio</div> <div>^</div> </div> <div> <div> ☆ <div>Note</div> </div> <div> <p>Portrait Studio is available on the Galaxy S25 Ultra, S25 Edge, S25+, S25, S24 Ultra, S24+, S24, S24 FE, S23 Ultra, S23+, S23, S23 FE, S22 Ultra, S22+, S22, Z Fold6, Z Fold5, Z Fold4, Z Flip6, Z Flip5, Z Flip4, Tab S10, Tab S9 Ultra, Tab S9+, Tab S9, Tab S8+, Tab S8, and Tab S8.</p> </div> </div> <div>  <p>The screenshot shows the Portrait Studio app interface. On the left, there is a camera viewfinder showing a woman's face. Below the viewfinder are two style selection buttons: '3D cartoon' and 'Water color'. At the bottom of the interface is a large blue 'Generate' button with a star icon. To the right of the interface, a large, vibrant AI-generated portrait of the same woman is displayed. At the bottom of this portrait, the text 'AI-generated content' is visible.</p> </div> <div> <p>After you've taken a selfie, you can add some extra flair to it with Portrait Studio.</p> </div>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>After you've taken a selfie, you can add some extra flair to it with Portrait Studio.</p> <ol style="list-style-type: none">1 Open the Gallery app, and then find and select your desired selfie.2 Tap the Photo Assist icon (the stars), and then tap Generative portrait on the image. <div></div> <ol style="list-style-type: none">3 Select from the available styles at the bottom of the screen, such as Comic, 3D cartoon, or Watercolor.4 Then, tap Generate. <p>https://www.samsung.com/us/support/answer/ANS10000934/</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Live Effect will bring your photos to life with animations. The effect may differ depending on the photo.</p> <ol style="list-style-type: none"><li>1 Open the Gallery app, and then find and select a photo.<li>2 Swipe up to view more details, and then tap 3D photo on the image. <div></div> <ol style="list-style-type: none"><li>3 AI will generate the photo's effects. You may see a zooming motion, a panning motion, or a swivel motion.<li>4 You can share the generated photo by tapping Share at the bottom of the screen. <p>https://www.samsung.com/us/support/answer/ANS10000753/</p> <p>Further, the Accused Samsung '950 Products include a Scene Optimizer to perform feature detection and corrections.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>How Samsung Galaxy Cameras Combine Super Resolution Technologies With AI Technology to Produce High-Quality Images of the Moon</p> <p>Samsung is committed to delivering best-in-class camera experiences in all conditions. Since the introduction of the Galaxy S10, the Samsung Galaxy series has harnessed artificial intelligence (AI) technologies in its cameras to help users capture every epic moment anytime, anywhere.</p> <p>As part of this, Samsung developed the Scene Optimizer feature, a camera functionality which uses advanced AI to recognize objects and thus deliver the best results to users. Since the introduction of the Galaxy S21 series, Scene Optimizer has been able to recognize the moon as a specific object during the photo-taking process, and applies the feature's detail enhancement engine to the shot.</p> <p>When you're taking a photo of the moon, your Galaxy device's¹ camera system will harness this deep learning-based AI technology, as well as multi-frame processing in order to further enhance details. Read on to learn more about the multiple steps, processes and technologies that go in to delivering high-quality images of the moon.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> </div> <p>Understanding Super Resolution and Scene Optimizer</p> <p>In order to take a clear photo of the moon, Galaxy cameras harness Super Resolution to synthesize more than 10 images taken at 25x zoom or higher. The image taken at 25x zoom or above needs to eliminate noise and enhance clarity and other details.</p> <p>Super Resolution technology helps produce images through multi-frame composition. When Scene Optimizer is turned on and the moon has been recognized as an object, the camera will deliver users a bright and clear image through the detail enhancement engine of Scene Optimizer on top of the Super Resolution technology.</p> <div> </div> <p>AI Deep Learning for Moon Object Recognition</p> <p>The engine for recognizing the moon was built based on a variety of moon shapes and details, from full through to crescent moons, and is based on images taken from our view from the Earth.</p> <p>It uses an AI deep learning model to detect the presence of the moon and identify the area it occupies – as denoted by the square box - in the relevant image. Once the AI model has completed its learning, it can detect the area occupied by the moon even in images that were not used in training.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> </div> <p>However, the moon will not be properly recognized by the camera and Scene Optimizer technology if it is obscured by clouds, or if the moon object itself is the side that is not visible from the Earth.</p> <div> </div> <p>https://www.samsungmobilepress.com/feature-stories/how-samsung-galaxy-cameras-combine-super-resolution-technologies-with-ai-technology-to-produce-high-quality-images-of-the-moon/</p>

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>The Brightness Control Process</p> <p>Once the device has recognized the moon after zooming in, it will control the brightness of the display in order to present the moon more clearly while maintaining optimal brightness.</p> <p>Accordingly, when users take photos of the moon at early evening time, the sky around the moon will appear darker than the actual sky color because the device will darken the object background brightness in order to help make the moon appear more clearly. Once your device recognizes the moon, it will continuously adjust focus to stay directly on the moon.</p> <div></div> <p>Capturing the Most Stable Images Possible</p> <p>Samsung introduced the Zoom Lock feature, which automatically reduces the effects of a shaking device without the need for a tripod. Combining OIS and VDIS technologies, Zoom Lock is able to minimize the image blur that can be caused by shaking hands and helps users take truly epic moon shots.</p> <p>While zooming in and touching the display or maintaining a focus on the moon for longer than 1.5 seconds, the Zoom Lock feature will be automatically activated. The border line of the zoom map on the upper right side of the screen will change from white to yellow, and the moon will be fixed on the display.</p>

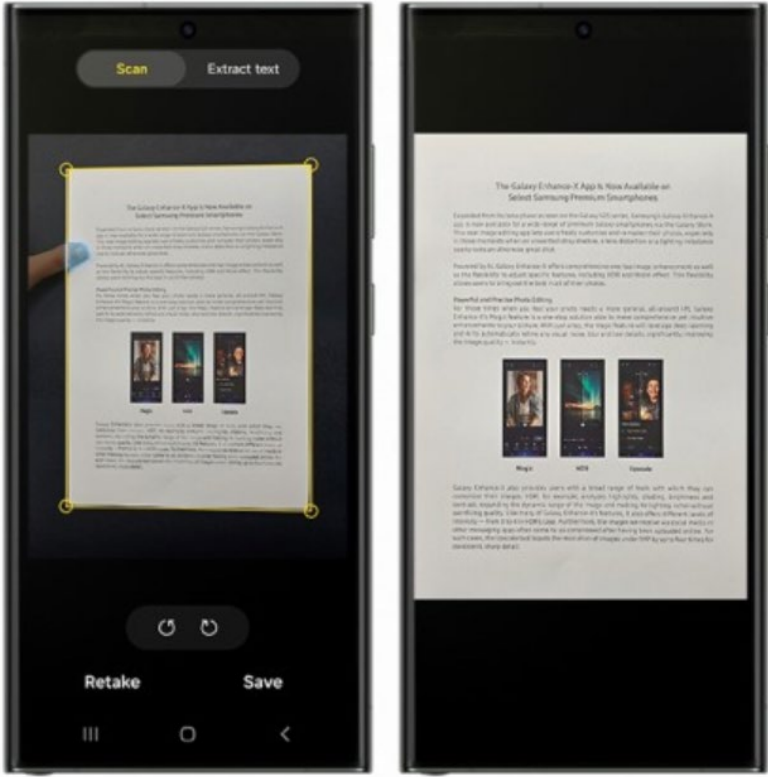
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> <pre> graph LR LD[Learning Data] --> I[Moon Image] I --> SO[Scene Optimizer (Convolution Neural Network)] SO --> Q[Is this the moon or not?] Q -- "Operation of Scene Optimizer" --> SO </pre> </div> <p>Next, the camera takes multiple pictures and then synthesizes them into a single, bright image with reduced noise.</p> <p>After Multi-frame Processing has taken place, Galaxy camera further harnesses Scene Optimizer's deep-learning-based AI detail enhancement engine to effectively eliminate remaining noise and enhance the image details even further.</p> <p>https://www.samsungmobilepress.com/feature-stories/how-samsung-galaxy-cameras-combine-super-resolution-technologies-with-ai-technology-to-produce-high-quality-images-of-the-moon/</p> <p>For example, as an example the Accused Samsung '950 Products include AI Stereo Depth Mapping, that distinguishes various features (e.g., hair, clothing, or face).</p> <h2 align="center">Become the ultimate photographer with Samsung AI</h2> <p align="center">Tap into the tools that help take perfect pictures, capture nighttime photos and make shareable content</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Samsung's Galaxy S23 Ultra series uses AI Stereo Depth Mapping, a software-based feature that relies on AI algorithms to improve image output when you click a photo. This algorithm essentially creates a depth map that automatically measures the distance between objects in an image, so it doesn't miss out on the smaller elements. For example, imagine a picture of a person on the Galaxy S23 ultra whose face is in focus, but their hair or clothing, which normal cameras may treat as background elements, might not be. AI Stereo Depth Mapping fixes this common problem, making sure all these elements are clear and in focus.</p> <p>https://www.samsung.com/us/explore/photography/become-the-ultimate-photographer-with-samsung-AI/</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	 <p align="center">Document Scan</p> <p align="center">https://news.samsung.com/global/one-ui-6-update-7-tips-for-making-the-most-of-ai-camera-on-your-galaxy</p>

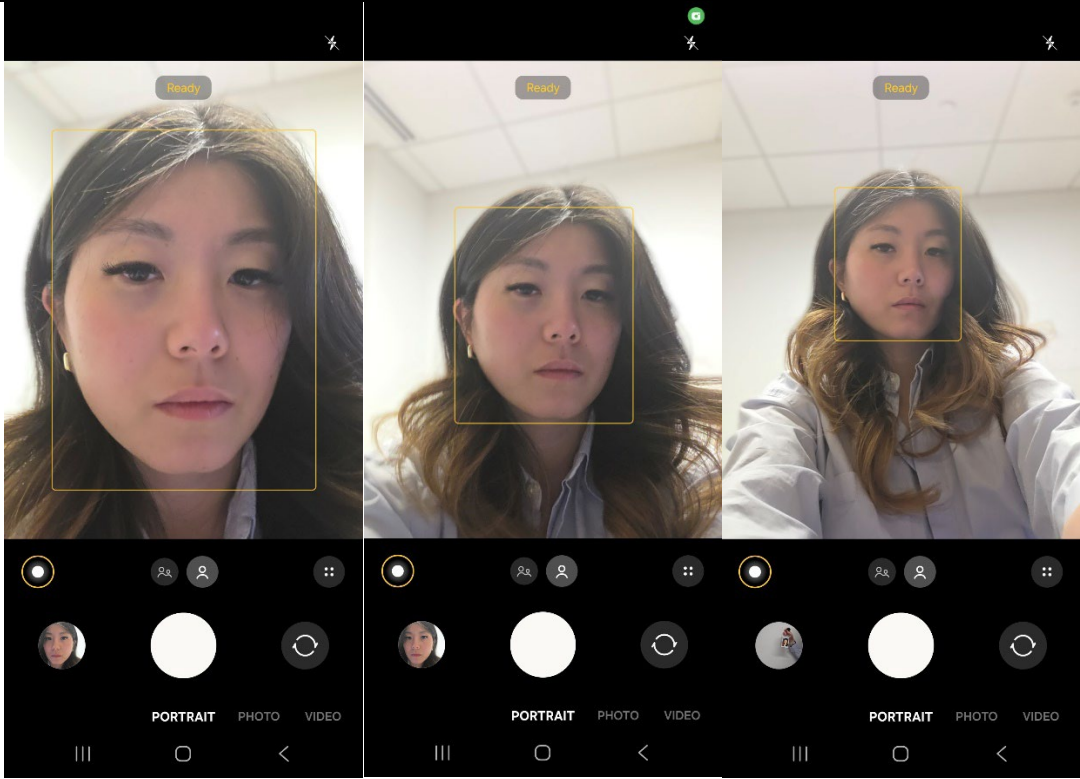
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<ul style="list-style-type: none">• Our Qualcomm Spectra™ AI ISP features:<ul style="list-style-type: none">• Limitless Real-time Semantic Segmentation for photo/video frame• Insight AI provides real-time skin and sky adjustments to create more natural color and lighting in uncertain conditions.• Ultra-low Light video capture• Video Object Eraser can remove unwanted elements from videos• Real-time AI Relighting make you appear professional wherever you are• Truepic photo capture with C2PA standard support lets you snap a photo with Truepic's cryptographic seal to prove the photo is real and not Gen AI <p>(https://www.qualcomm.com/products/mobile/snapdragon/smartphones/snapdragon-8-series-mobile-platforms/snapdragon-8-elite-mobile-platform)</p>

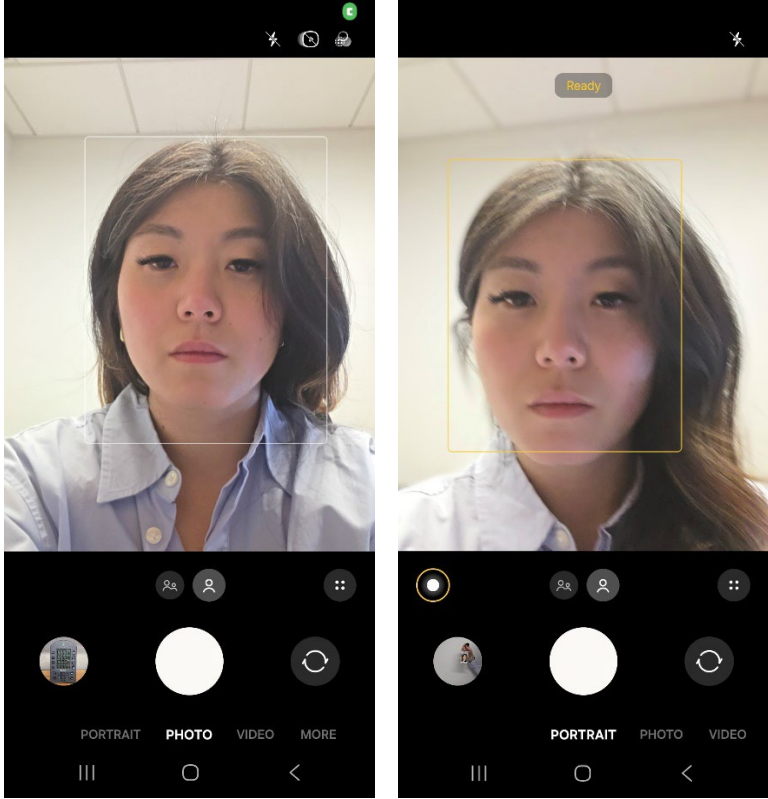
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>AI-powered camera redefines photography</p> <p>Infuse brilliance into mobile capture with our AI ISP, enhancing everything from selfies to crystal-clear video chats thanks to an overhauled Hexagon Direct Link. The first AI-powered Limitless Segmentation recognizes and enhances virtually anything in the frame, including faces, hair, clothing, objects, backgrounds, and beyond. Even furry friends appear crisp and cute—no matter how fast the zoomies—thanks to AI-Based Pet Capture.</p> <ul style="list-style-type: none"> • Our powerful AI ISP is deeply integrated with the Hexagon NPU for enhanced, intuitive capture. • Limitless Segmentation can segment an image in over 250 layers, each optimized to perfection. • Real-time Insight AI captures and enhances natural skin and sky tones even in the most challenging conditions. • Truepic with C2PA adds cryptographic seals so you can authenticate your photos as real and not AI-generated—now including videos and audio recordings. • Video Object Eraser can remove unwanted elements from video footage—on-device. • Capture vivid videos at 4K60 FPS, even in near darkness. <p>(https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/Snapdragon-8-Elite-Platform-Product-Brief.pdf)</p> <p>Let's dive deeper into why Snapdragon 8 Elite is a game-changer:</p> <ul style="list-style-type: none"> • Incredible power: Experience a 45% boost in performance with the Qualcomm Oryon CPU, giving you lightning-fast apps and incredible multitasking.¹ • AI at your fingertips: The Qualcomm® Hexagon™ NPU increases AI performance by 45%, handling everything from voice commands to image prompts. Your device is ready to adapt to your every move. • Photography, reimagined: With features like 4K Semantic Segmentation, Video Object Eraser, and real-time AI lighting adjustments, the Snapdragon 8 Elite camera tech turns your mobile photos into pro-level masterpieces. <p>https://www.qualcomm.com/snapdragon/news/snapdragon-8-elite--the-power-behind-the-name</p>

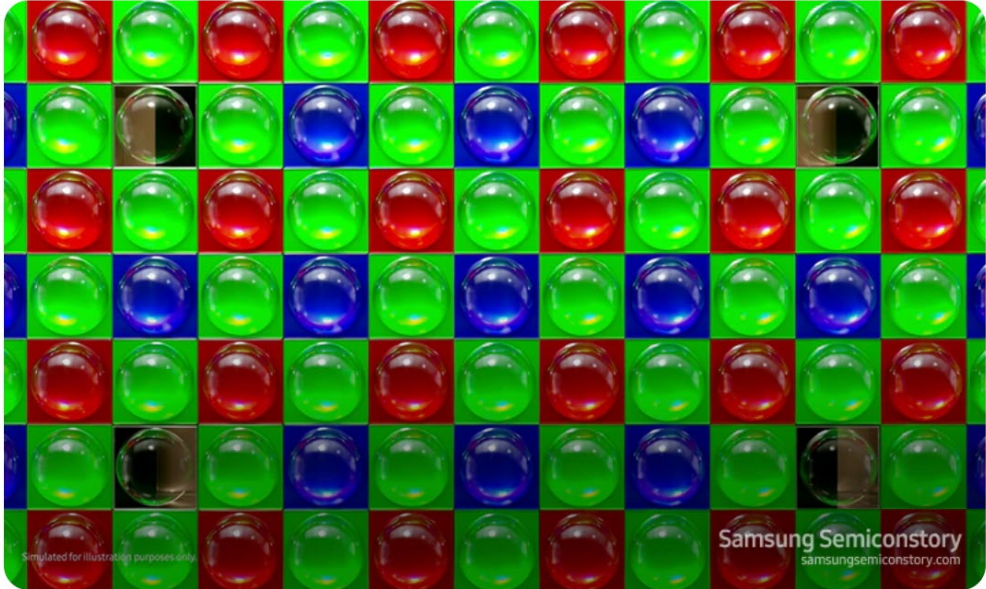
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div></div> <p>Demonstration of face detection, with the bounding box shown identifying the face at three different sizes which requires region creation and removing pixels to perform detections.</p>

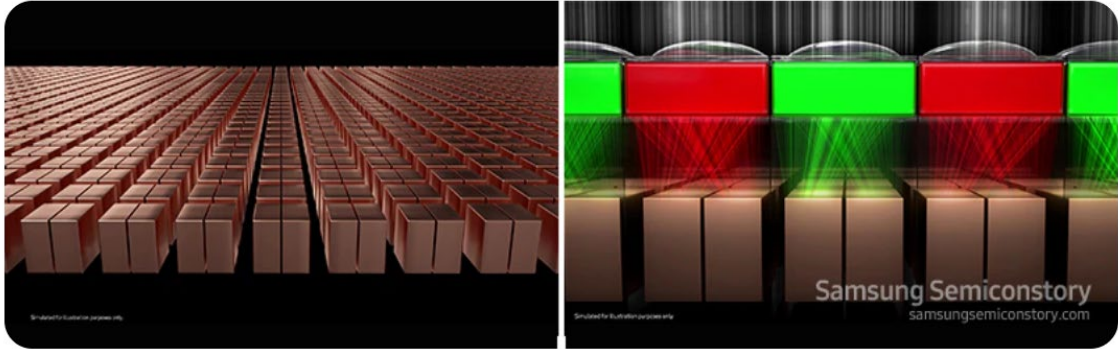
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div></div> <p>Demonstrating difference between the “Photo” mode and the “Portrait” mode which requires region creation and removing pixels to perform detections.</p> <p>Further, the Accused Samsung '950 Products creates a region by removing pixels with the features from an evaluated value extraction region to perform PDAF:</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Special Autofocus Pixels Used in PDAF Technology</p> <p>To understand how Dual Pixel Pro works, it is important to first understand its foundational technology, Phase Detection Autofocus (PDAF). Just like how humans use their two eyes to focus, PDAF compares the phase difference perceived from two different locations and moves the lens such that the two phases align to adjust the focus.</p> 

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Dual Pixel with Improved Autofocus</p> <div></div> <p>Each pixel on a Dual Pixel sensor contains two photodiodes, one left-looking, one right-looking. When capturing a scene, the phases from each pair of photodiodes are compared to achieve autofocus. Since every pixel in the sensor is being used for both autofocus and color values, the sensor can achieve quick autofocus without losing image quality.</p> <p>In the previous Dual Pixel technology, each pixel is divided vertically into left and right. Dual Pixel Pro features green pixels that are divided diagonally.</p> <p>There are clear benefits in dividing pixels diagonally. These pixels can compare the phase difference between the top and bottom of the pixel in addition to phase differences in the left and right side. As a result, even in a situation where autofocusing is challenging to achieve based on the use of only left and right phase differences, Dual Pixel Pro can use top and bottom phase differences, therefore delivering faster and more accurate autofocusing capabilities.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>https://semiconductor.samsung.com/news-events/tech-blog/the-evolution-from-image-sensor-to-human-eye-samsungs-innovative-dual-pixel-pro-technology/</p> <p><u>Doctrine of Equivalents</u></p> <p>To the extent Samsung argues that the above-identified structure does not literally infringe this claim element, this limitation is infringed under the doctrine of equivalents because the Accused Samsung '950 Products contain one or more components and/or software, or a combination thereof, that perform substantially the same function in substantially the same way to obtain the same result.</p> <p>By way of example, to the extent that Samsung argues that the Accused Samsung '950 Products do not have a region creation unit, each of these products include software, hardware, or a combination of the two that perform the equivalent function of creating a region where pixels are removed. Using this combination, these products perform substantially the same function (for example, region creation) in substantially the same way. The performance of this function achieves substantially the same result, for example, the creation of a region corresponding to object detection. That this functionality may be divided across several components does not preclude these components from collectively functioning as a region creation unit.</p>
[1.c] an evaluated value extraction unit which extracts an evaluated value in accordance with the evaluated value extraction region;	<p>In each of the Accused Samsung '950 Products, the evaluated value extraction unit is comprised of one or more processors (e.g., a CPU, ISP, and/or DSP), which are configured to extract an evaluated value in accordance with the evaluated value extraction region.</p> <p>As an example of evaluated value extraction incorporated in or performed by the signal processor, the signal processor is configured to calculate or extract a value indicative of skin tones and textures in a region.</p>

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><h1>Look your best in every light</h1></div> <div><p>Our camera with enhanced Object-Aware Engine adapts to various lighting environments to capture skin tones and textures exactly as your eyes see them.</p></div> <div><p>https://www.samsung.com/us/smartphones/galaxy-s25/</p></div> <div><p>As another example of evaluated value extraction incorporated in or performed by the signal processor, the signal processor is configured to calculate or extract a value indicative of a moving object or subject in a region.</p></div>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><h2>Shots captured at lightning speed</h2></div> <div><p>ProVisual Engine and advanced sensors join forces to create high-quality images even at fast shutter speeds so you can capture moving subjects with more clarity.³</p></div> <div>A photograph of a tabby cat in mid-air, jumping towards a yellow toy hanging from a cat tree. The cat is positioned on a yellow platform of the cat tree, which has a red circular top and a black silhouette of a person climbing. The background shows a window with white curtains and a potted plant.</div> <div>A close-up photograph of a tabby cat's face. The cat has green eyes and is looking directly at the camera. The background is slightly blurred, showing a striped object.</div> <div><p>https://www.samsung.com/us/smartphones/galaxy-s25/</p></div>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div></div> <p>Don't let the fact that it's dark ruin your chance to capture unforgettable moments. Samsung Galaxy devices have an incredible range of camera modes - perfect for every occasion and when it comes to taking epic shots at night you have everything you need in Night Mode. Here we explore Nightography in all its illuminating glory and explain why Night mode is the best camera setting to choose for exceptional low light images.</p> <h3>What does Night Mode do?</h3> <p>Night Mode is a smartphone feature that enables you to take vivid, highly optimised photos, even in the dark. Meaning you can avoid taking washed out, blurry night images. Pictures look sharp due to the innovative AI multi-frame processing which combines 30 images into just one epic shot, optimising colour and detail in every pixel.</p> <p>https://www.samsung.com/uk/mobile-phone-buying-guide/samsung-night-mode-camera/</p>

APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12, AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> <h3>What is low light photography?</h3> </div> <div> <p>Low light photography is all about capturing stunning images in conditions where natural or artificial light is minimal. Imagine photographing a beautiful sunset, a cityscape at night, or a candlelit dinner. The challenge lies in capturing the right details without the picture becoming too dark or grainy¹.</p> </div> <div> <p>Enter the Galaxy S25 Ultra; designed to make low light photography an absolute joy. With its innovative Night Mode and Nightography features, this smartphone transforms night-time scenes into vivid and detailed photos. Night Mode intelligently combines multiple exposures, balancing the light and ensuring every part of the image is well-lit and clear.</p> </div> <div> <p>Nightography takes it a step further by leveraging advanced AI² and sensor technology to enhance low-light performance. This ensures that even in the darkest environments, your photos are bright, sharp, and full of detail. Whether you're capturing a starry night sky, a bustling cityscape, or a cosy, dimly lit moment, the Galaxy S25 Ultra makes low light photography effortless and exciting.</p> </div> <div> <p><small>1. Results may vary depending on shooting conditions including multiple subjects, being out of focus or moving subjects. 2. Samsung account login is required for certain AI features.</small></p> </div> <div>  </div> <div> <h3>What is astrophotography?</h3> </div> <div> <p>Astrophotography is the art of capturing the beauty of the night sky, and with the Galaxy S25 Ultra, it's never been easier. This advanced camera feature, is designed to capture the breath-taking beauty of the stars and planets by using long-exposure lenses, advanced AI¹ technology, and cutting-edge camera software. It even guides you through the process with on-screen prompts, making it simple to snap stunning photos at night².</p> </div> <div> <p>The sophisticated Camera AI enhances night-time images by optimising colours and restoring the intricate details of the evening sky. With the Galaxy S25 Ultra's advanced camera capabilities, larger sensors, and improved low-light performance, you can capture the wonders of the stars and planets without needing specialist equipment. So, point your Galaxy S25 Ultra towards the sky, and let it show you the way!</p> </div> <div> <p><small>1. Samsung account login is required for certain AI features. 2. Results may vary depending on shooting conditions including multiple subjects, being out of focus or moving subjects.</small></p> </div> <div>  </div> <div> <p>https://www.samsung.com/uk/mobile-phone-buying-guide/samsung-galaxy-s25-camera-specs-explained/</p> </div>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>As another example of evaluated value extraction incorporated in or performed by the signal processor, the signal processor is configured to calculate or extract a value indicative of a face in a region.</p> <p>As another example of evaluated value extraction incorporated in or performed by the signal processor, the signal processor is configured to calculate or extract a value indicative of natural skin in a region.</p> <p>As another example of evaluated value extraction incorporated in or performed by the signal processor, the signal processor is configured to calculate or extract a value indicative of hair in a region.</p> <p>As another example of evaluated value extraction incorporated in or performed by the signal processor, the signal processor is configured to calculate or extract a value indicative of clothing in a region.</p> <p>As another example of evaluated value extraction incorporated in or performed by the signal processor, the signal processor is configured to calculate or extract a value indicative of a moving object in a region.</p> <p>As another example of evaluated value extraction incorporated in or performed by the signal processor, the signal processor is configured to calculate or extract a value indicative of a background region.</p> <p>As another example of evaluated value extraction incorporated in or performed by the signal processor, the signal processor is configured to calculate or extract a value indicative of food, text, fireworks, moon, auto-focus pixels for PDAF and other AI powered detections.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<ul style="list-style-type: none">• Our Qualcomm Spectra™ AI ISP features:<ul style="list-style-type: none">• Limitless Real-time Semantic Segmentation for photo/video frame• Insight AI provides real-time skin and sky adjustments to create more natural color and lighting in uncertain conditions.• Ultra-low Light video capture• Video Object Eraser can remove unwanted elements from videos• Real-time AI Relighting make you appear professional wherever you are• Truepic photo capture with C2PA standard support lets you snap a photo with Truepic's cryptographic seal to prove the photo is real and not Gen AI <p>(https://www.qualcomm.com/products/mobile/snapdragon/smartphones/snapdragon-8-series-mobile-platforms/snapdragon-8-elite-mobile-platform)</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Camera</p> <hr/> <p>Qualcomm Spectra™ Image Signal Processor</p> <ul style="list-style-type: none"> • AI-ISP, Triple 18-bit ISPs <hr/> <p>Limitless real-time Semantic Segmentation photo and video processing</p> <hr/> <p>Engine for Visual Analytics 4.0, including hardware acceleration for iToF depth sensors up to 4K 60 FPS</p> <hr/> <p>Support for the latest HDR, DCG+VS, DCG, Staggered, QDOL, Less Blanking, and Multiframe HDR image sensors</p> <hr/> <p>Support for triple video capture from HDR image sensors, with seamless switching between any HDR mode</p> <ul style="list-style-type: none"> • Up to 48 MP triple camera @ 30 FPS with Zero Shutter Lag • Up to 108 MP single camera @ 30 FPS with Zero Shutter Lag • Up to 320-megapixel photo capture <hr/> <p>AI-based face detection, AI for 3A (auto-focus, autoexposure, and auto-white balance)</p> <hr/> <p>Rec. 2020 color gamut photo and video capture</p> <hr/> <p>Up to 10-bit color depth photo and video capture</p> <hr/> <p>10-bit HEIF: HEIC photo capture, HEVC video capture</p> <hr/> <p>Google Ultra HDR photo capture</p> <hr/> <p>Video capture HDR formats: HDR10+, HDR10, HLG, Dolby Vision</p> <hr/> <p>8K HDR video playback @ 60 FPS</p> <hr/> <p>4K video capture @ 120 FPS</p> <hr/> <p>Slow-mo video capture at 1080p @ 480 FPS</p> <hr/> <p>Hardware Bokeh Engine 2 for video capture</p> <hr/> <p>(https://docs.qualcomm.com/bundle/publicresource/87-83196-1_REV_D_Snapdragon_8_Elite_Mobile_Platform_Product_Brief.pdf)</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>AI-powered camera redefines photography</p> <p>Infuse brilliance into mobile capture with our AI ISP, enhancing everything from selfies to crystal-clear video chats thanks to an overhauled Hexagon Direct Link. The first AI-powered Limitless Segmentation recognizes and enhances virtually anything in the frame, including faces, hair, clothing, objects, backgrounds, and beyond. Even furry friends appear crisp and cute—no matter how fast the zoomies—thanks to AI-Based Pet Capture.</p> <ul style="list-style-type: none"> • Our powerful AI ISP is deeply integrated with the Hexagon NPU for enhanced, intuitive capture. • Limitless Segmentation can segment an image in over 250 layers, each optimized to perfection. • Real-time Insight AI captures and enhances natural skin and sky tones even in the most challenging conditions. • Truepic with C2PA adds cryptographic seals so you can authenticate your photos as real and not AI-generated—now including videos and audio recordings. • Video Object Eraser can remove unwanted elements from video footage—on-device. • Capture vivid videos at 4K60 FPS, even in near darkness. <p>(https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/Snapdragon-8-Elite-Platform-Product-Brief.pdf)</p> <p>Let's dive deeper into why Snapdragon 8 Elite is a game-changer:</p> <ul style="list-style-type: none"> • Incredible power: Experience a 45% boost in performance with the Qualcomm Oryon CPU, giving you lightning-fast apps and incredible multitasking.¹ • AI at your fingertips: The Qualcomm® Hexagon™ NPU increases AI performance by 45%, handling everything from voice commands to image prompts. Your device is ready to adapt to your every move. • Photography, reimagined: With features like 4K Semantic Segmentation, Video Object Eraser, and real-time AI lighting adjustments, the Snapdragon 8 Elite camera tech turns your mobile photos into pro-level masterpieces. <p>https://www.qualcomm.com/snapdragon/news/snapdragon-8-elite--the-power-behind-the-name</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>If you're unsure how to edit a photo or video in the Gallery app, let AI Edit Suggestion help you out. This feature lets you move and delete unwanted objects in order to create an entirely new image. You can also use additional options such as remastering, colorizing, removing reflections, and adding portrait effects to transform and elevate your photos and videos. You can learn more about AI Edit suggestions using our guide.</p> <p>Generative edit is an AI editing tool that lets you customize your images. Just find your desired image in the Gallery app, tap the Photo Assist icon (the three stars), and then tap or draw around an object in the photo you'd like to adjust. You can move the object around to another part of the photo. When you tap Generate, AI will fill in the photo's missing parts.</p> <p>Note: Generative edit requires an internet connection and will resize photos to 12MP.</p> <p>Drawing Assist lets you bring your drawings to life. You can create AI sketches using Air command, Samsung Notes, Gallery, and the AI Select feature in the Edge panel.</p> <p>Portrait Studio on the Z Fold6 and Z Flip6 lets you add extra flair to your selfies. Select your desired selfie in the Gallery app, then tap the Photo Assist icon (the stars), and then tap Generative portrait on the image. You can select from the available styles at the bottom of the screen, and then tap Generate to create a new image.</p> <p>Live Effects will bring your photos to life with animations on the Z Fold6 and Z Flip6. Select a photo in the Gallery app, then swipe up to view more details, and then tap 3D photo. AI will generate the photo's effects. You may see a zooming motion, a panning motion, or a swivel motion.</p> <p>https://www.samsung.com/us/support/answer/ANS10000753/</p> <div><h2>Use AI editing tools in Gallery on your Galaxy phone or tablet</h2><p>The new editing features on select Galaxy phones and tablets will transform your favorite photos into masterpieces! Thanks to Galaxy AI, you can use features like Generative edit and Edit suggestions to move objects within your photos and automatically receive enhancement recommendations. You can also use the Galaxy Enhance-X app to take things further with more editing options that include blur removal and brightness adjustment.</p></div> <p>https://www.samsung.com/us/support/answer/ANS10000753/</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div>Use Generative edit ^</div> <div><p>☆ Note</p><p>Generative edit is available on the Galaxy S25 Ultra, S25 Edge, S25+, S25, S24 Ultra, S24+, S24, S24 FE, S23 Ultra, S23+, S23, S23 FE, S22 Ultra, S22+, S22, Z Fold6, Z Fold5, Z Fold4, Z Flip6, Z Flip5, Z Flip4, Tab S10, Tab S9 Ultra, Tab S9+, Tab S9, Tab S8+, Tab S8, and Tab S8.</p></div> <div>A photograph showing a person's hands holding a Samsung smartphone. The screen displays a photo of a small, light-colored dog. Overlaid on the bottom of the screen is a generative edit interface with various icons and a circular selection tool. The background is a light-colored, textured surface.</div> <p>Generative edit allows you to move or delete objects from your pictures in order to create an entirely new image. Galaxy AI will then fill in the background and any missing portions.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Generative edit allows you to move or delete objects from your pictures in order to create an entirely new image. Galaxy AI will then fill in the background and any missing portions.</p> <ol style="list-style-type: none">1 Navigate to and open the Gallery app, and then select a picture you'd like to edit.2 Tap the Edit icon (the pencil), and then tap the Generative edit icon (the blue circle with three stars). Note: You may be required to tap OK on the prompt.3 Using your finger, outline your desired object. Tap Deselect to start over if needed.4 Next, touch and hold the outlined object, and then drag it into a different part of the image. Tap Return (the back arrow) to move the object back to its original position, or tap Remove (the eraser icon) to erase the object. Repeat this process to move or remove additional objects.5 If needed, adjust the slider at the bottom of the screen to straighten the picture.6 When you're finished, tap Generate. Galaxy AI will fill in the image's background and adjust the objects that have been moved.7 Touch and hold View original to compare the original image with the newly generated image.8 When you're finished, tap Done, and then tap Save as copy to save the image. <p>https://www.samsung.com/us/support/answer/ANS10000934/</p>

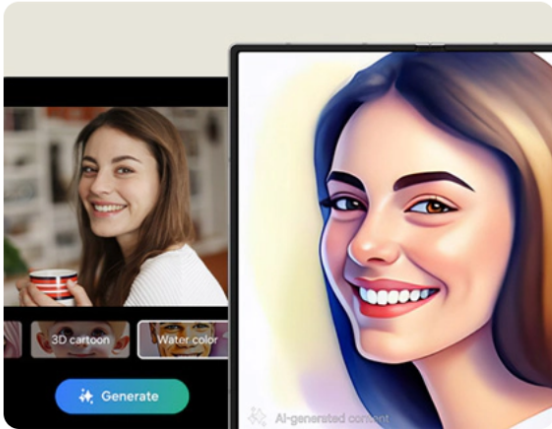
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> <p>Use Edit suggestions</p> </div> <div> <p>★ Note</p> </div> <div> <p>Edit suggestions are available on the Galaxy S25 Ultra, S25 Edge, S25+, S25, S24 Ultra, S24+, S24, S24 FE, S23 Ultra, S23+, S23, S23 FE, S22 Ultra, S22+, S22, Z Fold6, Z Fold5, Z Fold4, Z Flip6, Z Flip5, Z Flip4, A16 5G, A26 5G, A35 5G, A36 5G, A54 5G, Tab S9 Ultra, Tab S9+, Tab S9, Tab S8+, Tab S8, and Tab S8.</p> </div> <div>  </div> <div> <p>Galaxy AI will analyze your pictures and provide editing suggestions to enhance them! The individual suggestion will vary depending on the image, or there may not be any suggestions at all.</p> </div> <div> <p>1 Navigate to and open the Gallery app, and then select a picture you'd like to edit.</p> </div>

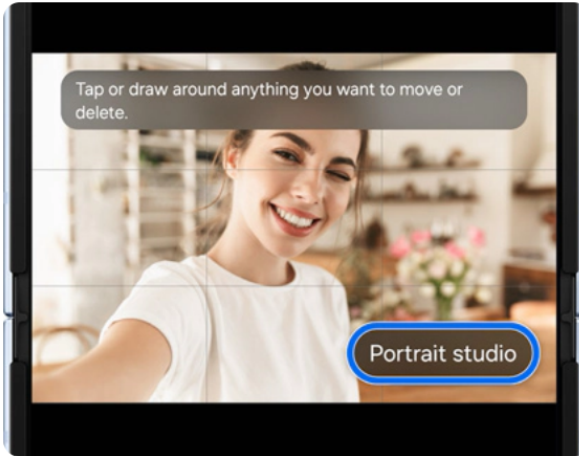
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<ul style="list-style-type: none">- Pro: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while taking pictures.- Pro video: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while recording videos. <p>Samsung Galaxy S25 User Manual at 43. (https://downloadcenter.samsung.com/content/UM/202502/20250222040501249/SAM_S931_S936_S938_EN_UG_OS15_012425_FINAL_AC_02072025.pdf)</p>

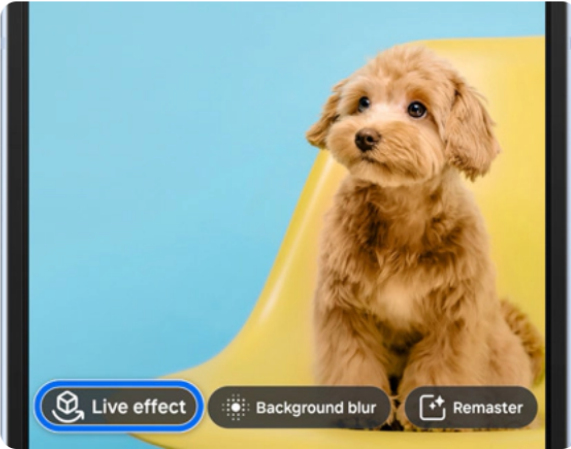
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> <div>Use Portrait Studio</div> <div>^</div> </div> <div> <div> ☆ <div>Note</div> </div> <div> <p>Portrait Studio is available on the Galaxy S25 Ultra, S25 Edge, S25+, S25, S24 Ultra, S24+, S24, S24 FE, S23 Ultra, S23+, S23, S23 FE, S22 Ultra, S22+, S22, Z Fold6, Z Fold5, Z Fold4, Z Flip6, Z Flip5, Z Flip4, Tab S10, Tab S9 Ultra, Tab S9+, Tab S9, Tab S8+, Tab S8, and Tab S8.</p> </div> </div> <div>  <p>The screenshot shows the Portrait Studio app interface. On the left, there is a camera viewfinder showing a woman's face. Below the viewfinder are two style selection buttons: '3D cartoon' and 'Water color'. At the bottom is a large blue 'Generate' button with a star icon. On the right, a large, vibrant AI-generated portrait of the same woman is displayed. At the bottom of this portrait, there is a small text label that reads 'AI-generated content'.</p> </div> <div> <p>After you've taken a selfie, you can add some extra flair to it with Portrait Studio.</p> </div>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>After you've taken a selfie, you can add some extra flair to it with Portrait Studio.</p> <ol style="list-style-type: none">1 Open the Gallery app, and then find and select your desired selfie.2 Tap the Photo Assist icon (the stars), and then tap Generative portrait on the image. <div></div> <ol style="list-style-type: none">3 Select from the available styles at the bottom of the screen, such as Comic, 3D cartoon, or Watercolor.4 Then, tap Generate. <p>https://www.samsung.com/us/support/answer/ANS10000934/</p>

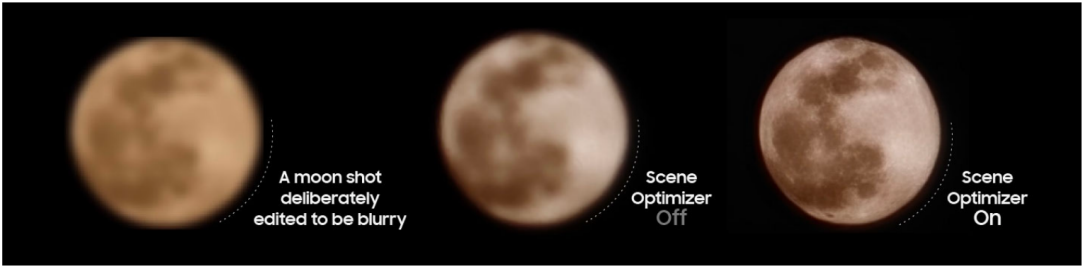
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Live Effect will bring your photos to life with animations. The effect may differ depending on the photo.</p> <ol style="list-style-type: none"><li>1 Open the Gallery app, and then find and select a photo.<li>2 Swipe up to view more details, and then tap 3D photo on the image. <div></div> <ol style="list-style-type: none"><li>3 AI will generate the photo's effects. You may see a zooming motion, a panning motion, or a swivel motion.<li>4 You can share the generated photo by tapping Share at the bottom of the screen. <p>https://www.samsung.com/us/support/answer/ANS10000753/</p> <p>Further, the Accused Samsung '950 Products include a Scene Optimizer to perform feature detection and corrections.</p>

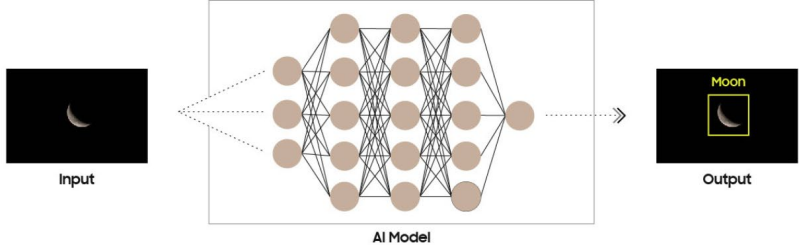
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>How Samsung Galaxy Cameras Combine Super Resolution Technologies With AI Technology to Produce High-Quality Images of the Moon</p> <p>Samsung is committed to delivering best-in-class camera experiences in all conditions. Since the introduction of the Galaxy S10, the Samsung Galaxy series has harnessed artificial intelligence (AI) technologies in its cameras to help users capture every epic moment anytime, anywhere.</p> <p>As part of this, Samsung developed the Scene Optimizer feature, a camera functionality which uses advanced AI to recognize objects and thus deliver the best results to users. Since the introduction of the Galaxy S21 series, Scene Optimizer has been able to recognize the moon as a specific object during the photo-taking process, and applies the feature's detail enhancement engine to the shot.</p> <p>When you're taking a photo of the moon, your Galaxy device's¹ camera system will harness this deep learning-based AI technology, as well as multi-frame processing in order to further enhance details. Read on to learn more about the multiple steps, processes and technologies that go in to delivering high-quality images of the moon.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> </div> <p>Understanding Super Resolution and Scene Optimizer</p> <p>In order to take a clear photo of the moon, Galaxy cameras harness Super Resolution to synthesize more than 10 images taken at 25x zoom or higher. The image taken at 25x zoom or above needs to eliminate noise and enhance clarity and other details.</p> <p>Super Resolution technology helps produce images through multi-frame composition. When Scene Optimizer is turned on and the moon has been recognized as an object, the camera will deliver users a bright and clear image through the detail enhancement engine of Scene Optimizer on top of the Super Resolution technology.</p> <div></div> <p>AI Deep Learning for Moon Object Recognition</p> <p>The engine for recognizing the moon was built based on a variety of moon shapes and details, from full through to crescent moons, and is based on images taken from our view from the Earth.</p> <p>It uses an AI deep learning model to detect the presence of the moon and identify the area it occupies – as denoted by the square box - in the relevant image. Once the AI model has completed its learning, it can detect the area occupied by the moon even in images that were not used in training.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div></div> <p>However, the moon will not be properly recognized by the camera and Scene Optimizer technology if it is obscured by clouds, or if the moon object itself is the side that is not visible from the Earth.</p> <div><p>Types of the moon that are difficult to be recognized</p></div> <p>https://www.samsungmobilepress.com/feature-stories/how-samsung-galaxy-cameras-combine-super-resolution-technologies-with-ai-technology-to-produce-high-quality-images-of-the-moon/</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>The Brightness Control Process</p> <p>Once the device has recognized the moon after zooming in, it will control the brightness of the display in order to present the moon more clearly while maintaining optimal brightness.</p> <p>Accordingly, when users take photos of the moon at early evening time, the sky around the moon will appear darker than the actual sky color because the device will darken the object background brightness in order to help make the moon appear more clearly. Once your device recognizes the moon, it will continuously adjust focus to stay directly on the moon.</p> <div></div> <p>Capturing the Most Stable Images Possible</p> <p>Samsung introduced the Zoom Lock feature, which automatically reduces the effects of a shaking device without the need for a tripod. Combining OIS and VDIS technologies, Zoom Lock is able to minimize the image blur that can be caused by shaking hands and helps users take truly epic moon shots.</p> <p>While zooming in and touching the display or maintaining a focus on the moon for longer than 1.5 seconds, the Zoom Lock feature will be automatically activated. The border line of the zoom map on the upper right side of the screen will change from white to yellow, and the moon will be fixed on the display.</p>

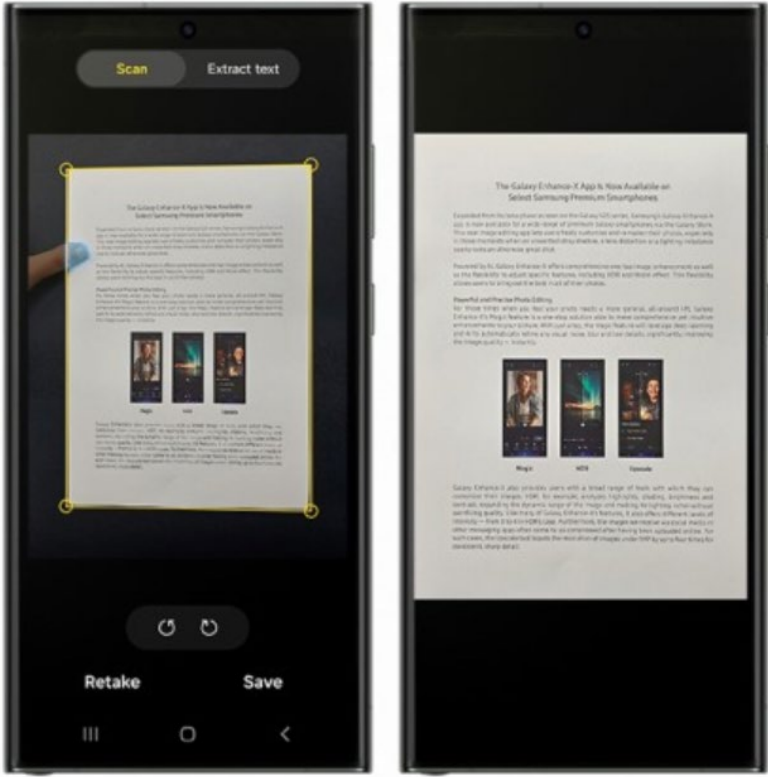
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> <pre> graph LR LD[Learning Data] --> I[Moon Image] LD --> NI[Not Moon Image] I --> SO[Scene Optimizer (Convolution Neural Network)] NI --> SO SO --> Q[Is this the moon or not?] Q --> SO Q --> O[Operation of Scene Optimizer] O --> SO </pre> </div> <p>Next, the camera takes multiple pictures and then synthesizes them into a single, bright image with reduced noise.</p> <p>After Multi-frame Processing has taken place, Galaxy camera further harnesses Scene Optimizer's deep-learning-based AI detail enhancement engine to effectively eliminate remaining noise and enhance the image details even further.</p> <p>https://www.samsungmobilepress.com/feature-stories/how-samsung-galaxy-cameras-combine-super-resolution-technologies-with-ai-technology-to-produce-high-quality-images-of-the-moon/</p> <p>For example, as an example the Accused Samsung '950 Products include AI Stereo Depth Mapping, that distinguishes various features (e.g., hair, clothing, or face).</p> <h2 align="center">Become the ultimate photographer with Samsung AI</h2> <p align="center">Tap into the tools that help take perfect pictures, capture nighttime photos and make shareable content</p>

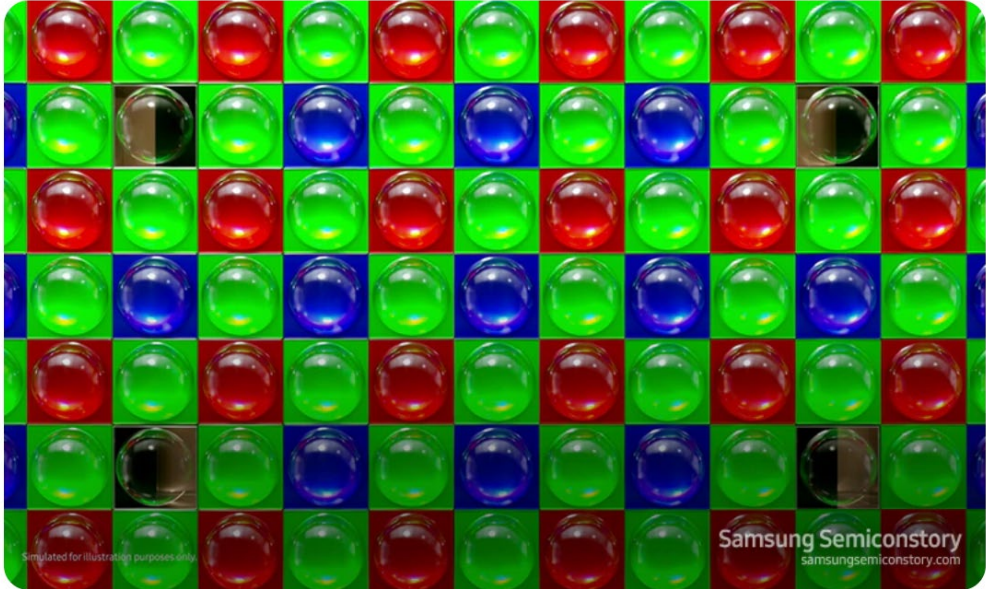
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Samsung's Galaxy S23 Ultra series uses AI Stereo Depth Mapping, a software-based feature that relies on AI algorithms to improve image output when you click a photo. This algorithm essentially creates a depth map that automatically measures the distance between objects in an image, so it doesn't miss out on the smaller elements. For example, imagine a picture of a person on the Galaxy S23 ultra whose face is in focus, but their hair or clothing, which normal cameras may treat as background elements, might not be. AI Stereo Depth Mapping fixes this common problem, making sure all these elements are clear and in focus.</p> <p>https://www.samsung.com/us/explore/photography/become-the-ultimate-photographer-with-samsung-AI/</p>

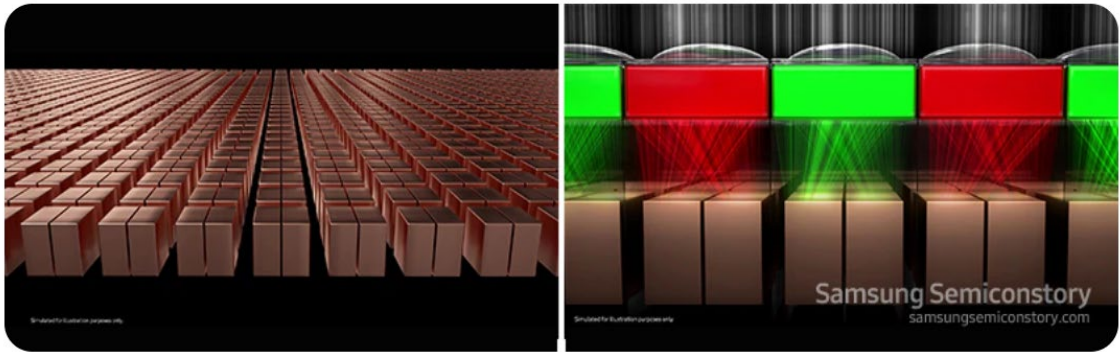
APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12, AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><p>Document Scan</p></div> <p>https://news.samsung.com/global/one-ui-6-update-7-tips-for-making-the-most-of-ai-camera-on-your-galaxy</p> <p>Further, the Accused Samsung '950 Products creates a region by removing pixels with the features from an evaluated value extraction region to perform PDAF:</p>

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Special Autofocus Pixels Used in PDAF Technology</p> <p>To understand how Dual Pixel Pro works, it is important to first understand its foundational technology, Phase Detection Autofocus (PDAF). Just like how humans use their two eyes to focus, PDAF compares the phase difference perceived from two different locations and moves the lens such that the two phases align to adjust the focus.</p>  <p>Simulated for illustration purposes only.</p> <p>Samsung Semiconstory samsungsemiconstory.com</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Dual Pixel with Improved Autofocus</p> <div>  </div> <p>Each pixel on a Dual Pixel sensor contains two photodiodes, one left-looking, one right-looking. When capturing a scene, the phases from each pair of photodiodes are compared to achieve autofocus. Since every pixel in the sensor is being used for both autofocus and color values, the sensor can achieve quick autofocus without losing image quality.</p> <p>In the previous Dual Pixel technology, each pixel is divided vertically into left and right. Dual Pixel Pro features green pixels that are divided diagonally.</p> <p>There are clear benefits in dividing pixels diagonally. These pixels can compare the phase difference between the top and bottom of the pixel in addition to phase differences in the left and right side. As a result, even in a situation where autofocusing is challenging to achieve based on the use of only left and right phase differences, Dual Pixel Pro can use top and bottom phase differences, therefore delivering faster and more accurate autofocusing capabilities.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>https://semiconductor.samsung.com/news-events/tech-blog/the-evolution-from-image-sensor-to-human-eye-samsungs-innovative-dual-pixel-pro-technology/</p> <p><u>Doctrine of Equivalents</u></p> <p>To the extent Samsung argues that the above-identified structure does not literally infringe this claim element, this limitation is infringed under the doctrine of equivalents because the Accused Samsung '950 Products contain one or more components and/or software, or a combination thereof, that perform substantially the same function in substantially the same way to obtain the same result.</p> <p>By way of example, to the extent that Samsung argues that the Accused Samsung '950 Products do not have an evaluated value extraction unit, each of these products include software, hardware, or a combination of the two that perform the equivalent function of extracting an evaluated value for a region. Using this combination, these products perform substantially the same function (for example, value extraction) in substantially the same way. The performance of this function achieves substantially the same result, for example, the extraction of a value of a region corresponding to an object. That this functionality may be divided across several components does not preclude them from collectively functioning as an evaluated value extraction unit.</p>
[1.d] a processing unit which applies predetermined processing to the picture signal; and	<p>In each of the Accused Samsung '950 Products, the processing unit is comprised of one or more processors (e.g., a CPU, ISP, and/or DSP), which are configured to apply predetermined processing to the picture signal. This processing unit performs various image and video processing tasks on captured images, including adjusting the background for portrait photos, determining ideal camera settings like exposure, and performing white balance adjustments.</p> <p>As an example, the signal processor is configured to adjust skin tones and textures in accordance with lighting environment.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Configure shooting mode</p> <p>Allow the camera to determine the ideal mode for your pictures or choose from several shooting modes.</p> <ul style="list-style-type: none"><li>○ From  Camera, swipe the screen right and left to change shooting modes.<ul style="list-style-type: none"><li>• Portrait: Adjust the background of your shots for portrait photos.<li>• Photo: Allow the camera to determine the ideal settings for pictures.<li>• Video: Allow the camera to determine the ideal settings for videos.<li>• More: Choose other available shooting modes. Tap Edit to drag modes into or out of the shooting modes tray at the bottom of the Camera screen.<ul style="list-style-type: none"><li>- Bixby Vision: When available, icons are displayed in the Camera viewfinder for translation, QR code detection, landmark recognition, or shopping.<li>- Pro: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while taking pictures.<li>- Pro video: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while recording videos.<li>- Night: Use this to take photos in low-light conditions, without using the flash.<li>- Food: Take pictures that emphasize the vivid colors of food.

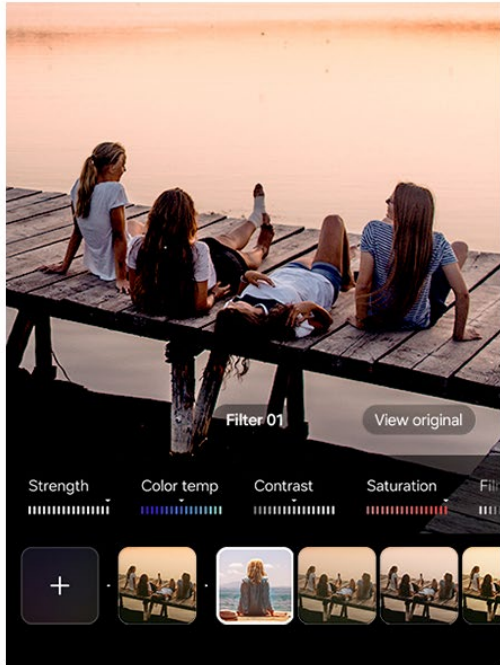
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<ul style="list-style-type: none">- Panorama: Create a linear image by taking pictures in either a horizontal or vertical direction.- Slow motion: Record videos at a high frame rate for viewing in slow motion.- Hyperlapse: Create a time lapse video by recording at various frame rates. The frame rate is adjusted depending on the scene being recorded and the movement of the device.- Portrait video: Adjust the background of your shots for portrait videos.- Dual rec: Access advanced features such as lock onto a subject, change between different rear camera lenses, and more.- Single take: Capture multiple pictures and video clips from different angles. <p>Samsung Galaxy S25 User Guide at 43-44. (https://downloadcenter.samsung.com/content/UM/202502/20250222040501249/SAM_S931_S936_S938_EN_UG_OS15_012425_FINAL_AC_02072025.pdf)</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Look your best in every light</p> <p>Our camera with enhanced Object-Aware Engine adapts to various lighting environments to capture skin tones and textures exactly as your eyes see them.</p>

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div></div> <p>Filters just for you</p> <p>Bring pics to life with personalized filters. Galaxy AI analyzes your photo and creates a filter to match. Use it instantly or customize further with tweaks to the saturation, brightness and more.</p> <p>▶ How to use Filters</p> <p>https://www.samsung.com/us/smartphones/galaxy-s25/</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><p>More life in every portrait</p><p>Capture every portrait with clarity and confidence on Galaxy S25+ and Galaxy S25. The advanced portrait features adjust skin tones and preserve natural textures, giving every shot a polished, professional look.</p></div> <p>https://www.samsung.com/us/smartphones/galaxy-s25</p> <p>As another example, the signal processor is configured to adjust shutter speed and/or exposure in accordance with a motion of a moving object or subject in a region.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><h2>Shots captured at lightning speed</h2></div> <div><p>ProVisual Engine and advanced sensors join forces to create high-quality images even at fast shutter speeds so you can capture moving subjects with more clarity.³</p></div> <div>A photograph of a tabby cat in mid-air, jumping towards a yellow toy hanging from a string. The cat is positioned on a yellow platform, and the background shows a cat tree and a window with blinds.</div> <div>A close-up photograph of a tabby cat's face, showing its green eyes and white whiskers. The cat is looking directly at the camera.</div> <div><p>https://www.samsung.com/us/smartphones/galaxy-s25/</p></div> <div><p>As another example, the signal processor is configured to perform image enhancement or color correction such as lighting adjustment or white balance on a detected face. In particular, upon information and belief, the Accused Samsung '950 Products are configured to perform face detect 3A, which is predetermined processing based on detection of a face.</p><p>As another example, the signal processor is configured to perform image enhancement or color correction such as lighting adjustment or white balance on a detected natural skin.</p></div>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>As another example, the signal processor is configured to perform image enhancement or color correction such as lighting adjustment or white balance in a hair region.</p> <p>As another example, the signal processor is configured to perform image enhancement or color correction such as lighting adjustment or white balance in a clothing region.</p> <p>As another example, the signal processor is configured to perform image enhancement or object deletion in a moving object region.</p> <p>As another example, the signal processor is configured to perform image enhancement, lighting adjustment, or noise reduction in a background region.</p> <p>As additional examples, the signal processor is configured to perform image enhancement, lighting adjustment, and/or other predetermined processes or AI-based corrections based on detection of various objects such as food, text, fireworks, moon, auto-focus pixels for PDAF. Such predetermined processing includes performing</p> <p>“Generative edit,” provide “Edit suggestions,” implement Portrait Studio, and/or generate photo effects.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>If you're unsure how to edit a photo or video in the Gallery app, let AI Edit Suggestion help you out. This feature lets you move and delete unwanted objects in order to create an entirely new image. You can also use additional options such as remastering, colorizing, removing reflections, and adding portrait effects to transform and elevate your photos and videos. You can learn more about AI Edit suggestions using our guide.</p> <p>Generative edit is an AI editing tool that lets you customize your images. Just find your desired image in the Gallery app, tap the Photo Assist icon (the three stars), and then tap or draw around an object in the photo you'd like to adjust. You can move the object around to another part of the photo. When you tap Generate, AI will fill in the photo's missing parts.</p> <p>Note: Generative edit requires an internet connection and will resize photos to 12MP.</p> <p>Drawing Assist lets you bring your drawings to life. You can create AI sketches using Air command, Samsung Notes, Gallery, and the AI Select feature in the Edge panel.</p> <p>Portrait Studio on the Z Fold6 and Z Flip6 lets you add extra flair to your selfies. Select your desired selfie in the Gallery app, then tap the Photo Assist icon (the stars), and then tap Generative portrait on the image. You can select from the available styles at the bottom of the screen, and then tap Generate to create a new image.</p> <p>Live Effects will bring your photos to life with animations on the Z Fold6 and Z Flip6. Select a photo in the Gallery app, then swipe up to view more details, and then tap 3D photo. AI will generate the photo's effects. You may see a zooming motion, a panning motion, or a swivel motion.</p> <p>https://www.samsung.com/us/support/answer/ANS10000753/</p> <div><h2>Use AI editing tools in Gallery on your Galaxy phone or tablet</h2><p>The new editing features on select Galaxy phones and tablets will transform your favorite photos into masterpieces! Thanks to Galaxy AI, you can use features like Generative edit and Edit suggestions to move objects within your photos and automatically receive enhancement recommendations. You can also use the Galaxy Enhance-X app to take things further with more editing options that include blur removal and brightness adjustment.</p></div>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>https://www.samsung.com/us/support/answer/ANS10000753/</p> <div><p>Use Generative edit</p><p>^</p></div> <div><p>☆ Note</p><p>Generative edit is available on the Galaxy S25 Ultra, S25 Edge, S25+, S25, S24 Ultra, S24+, S24, S24 FE, S23 Ultra, S23+, S23, S23 FE, S22 Ultra, S22+, S22, Z Fold6, Z Fold5, Z Fold4, Z Flip6, Z Flip5, Z Flip4, Tab S10, Tab S9 Ultra, Tab S9+, Tab S9, Tab S8+, Tab S8, and Tab S8.</p></div> <div></div> <p>Generative edit allows you to move or delete objects from your pictures in order to create an entirely new image. Galaxy AI will then fill in the background and any missing portions.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Generative edit allows you to move or delete objects from your pictures in order to create an entirely new image. Galaxy AI will then fill in the background and any missing portions.</p> <ol style="list-style-type: none">1 Navigate to and open the Gallery app, and then select a picture you'd like to edit.2 Tap the Edit icon (the pencil), and then tap the Generative edit icon (the blue circle with three stars). Note: You may be required to tap OK on the prompt.3 Using your finger, outline your desired object. Tap Deselect to start over if needed.4 Next, touch and hold the outlined object, and then drag it into a different part of the image. Tap Return (the back arrow) to move the object back to its original position, or tap Remove (the eraser icon) to erase the object. Repeat this process to move or remove additional objects.5 If needed, adjust the slider at the bottom of the screen to straighten the picture.6 When you're finished, tap Generate. Galaxy AI will fill in the image's background and adjust the objects that have been moved.7 Touch and hold View original to compare the original image with the newly generated image.8 When you're finished, tap Done, and then tap Save as copy to save the image. <p>https://www.samsung.com/us/support/answer/ANS10000934/</p>

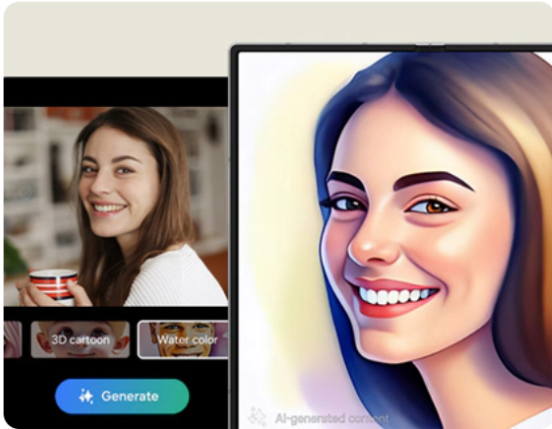
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><p>Use Edit suggestions</p></div> <div><p>★ Note</p></div> <div><p>Edit suggestions are available on the Galaxy S25 Ultra, S25 Edge, S25+, S25, S24 Ultra, S24+, S24, S24 FE, S23 Ultra, S23+, S23, S23 FE, S22 Ultra, S22+, S22, Z Fold6, Z Fold5, Z Fold4, Z Flip6, Z Flip5, Z Flip4, A16 5G, A26 5G, A35 5G, A36 5G, A54 5G, Tab S9 Ultra, Tab S9+, Tab S9, Tab S8+, Tab S8, and Tab S8.</p></div> <div></div> <div><p>Galaxy AI will analyze your pictures and provide editing suggestions to enhance them! The individual suggestion will vary depending on the image, or there may not be any suggestions at all.</p></div> <div><p>1 Navigate to and open the Gallery app, and then select a picture you'd like to edit.</p></div>

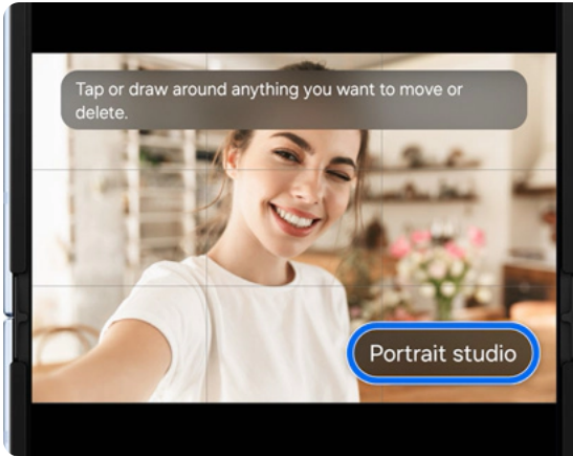
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<ul style="list-style-type: none">- Pro: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while taking pictures.- Pro video: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while recording videos. <p>Samsung Galaxy S25 User Manual at 43. (https://downloadcenter.samsung.com/content/UM/202502/20250222040501249/SAM_S931_S936_S938_EN_UG_OS15_012425_FINAL_AC_02072025.pdf)</p>

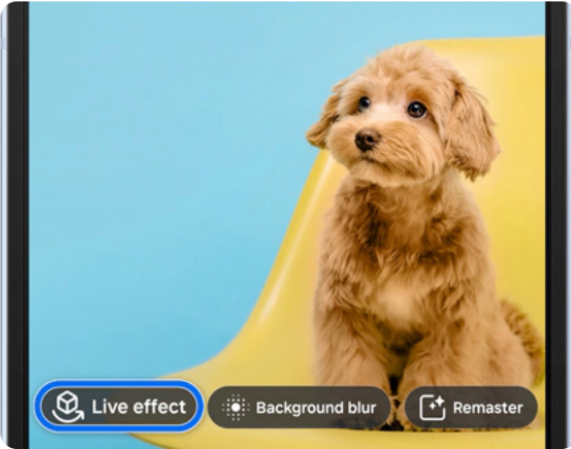
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> <div>Use Portrait Studio</div> <div>^</div> </div> <div> <div> ☆ <div>Note</div> </div> <div> <p>Portrait Studio is available on the Galaxy S25 Ultra, S25 Edge, S25+, S25, S24 Ultra, S24+, S24, S24 FE, S23 Ultra, S23+, S23, S23 FE, S22 Ultra, S22+, S22, Z Fold6, Z Fold5, Z Fold4, Z Flip6, Z Flip5, Z Flip4, Tab S10, Tab S9 Ultra, Tab S9+, Tab S9, Tab S8+, Tab S8, and Tab S8.</p> </div> </div> <div>  </div> <div> <p>After you've taken a selfie, you can add some extra flair to it with Portrait Studio.</p> </div>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>After you've taken a selfie, you can add some extra flair to it with Portrait Studio.</p> <ol style="list-style-type: none">1 Open the Gallery app, and then find and select your desired selfie.2 Tap the Photo Assist icon (the stars), and then tap Generative portrait on the image. <div></div> <ol style="list-style-type: none">3 Select from the available styles at the bottom of the screen, such as Comic, 3D cartoon, or Watercolor.4 Then, tap Generate. <p>https://www.samsung.com/us/support/answer/ANS10000934/</p>

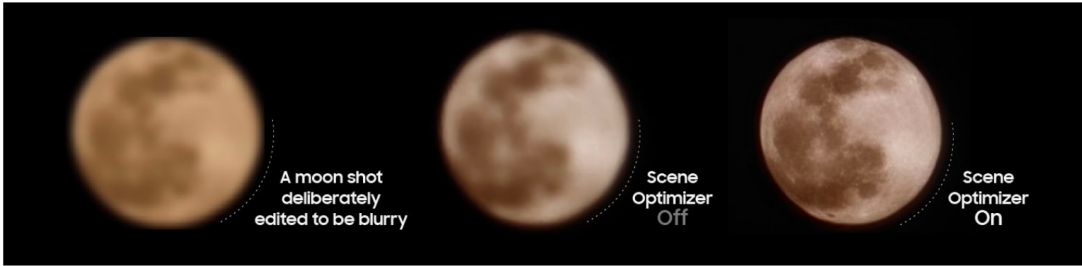
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Live Effect will bring your photos to life with animations. The effect may differ depending on the photo.</p> <ol style="list-style-type: none"><li>1 Open the Gallery app, and then find and select a photo.<li>2 Swipe up to view more details, and then tap 3D photo on the image. <div></div> <ol style="list-style-type: none"><li>3 AI will generate the photo's effects. You may see a zooming motion, a panning motion, or a swivel motion.<li>4 You can share the generated photo by tapping Share at the bottom of the screen. <p>https://www.samsung.com/us/support/answer/ANS10000753/</p> <p>Further, the Accused Samsung '950 Products include a Scene Optimizer to perform feature detection and corrections.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>How Samsung Galaxy Cameras Combine Super Resolution Technologies With AI Technology to Produce High-Quality Images of the Moon</p> <p>Samsung is committed to delivering best-in-class camera experiences in all conditions. Since the introduction of the Galaxy S10, the Samsung Galaxy series has harnessed artificial intelligence (AI) technologies in its cameras to help users capture every epic moment anytime, anywhere.</p> <p>As part of this, Samsung developed the Scene Optimizer feature, a camera functionality which uses advanced AI to recognize objects and thus deliver the best results to users. Since the introduction of the Galaxy S21 series, Scene Optimizer has been able to recognize the moon as a specific object during the photo-taking process, and applies the feature's detail enhancement engine to the shot.</p> <p>When you're taking a photo of the moon, your Galaxy device's¹ camera system will harness this deep learning-based AI technology, as well as multi-frame processing in order to further enhance details. Read on to learn more about the multiple steps, processes and technologies that go in to delivering high-quality images of the moon.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> </div> <p>Understanding Super Resolution and Scene Optimizer</p> <p>In order to take a clear photo of the moon, Galaxy cameras harness Super Resolution to synthesize more than 10 images taken at 25x zoom or higher. The image taken at 25x zoom or above needs to eliminate noise and enhance clarity and other details.</p> <p>Super Resolution technology helps produce images through multi-frame composition. When Scene Optimizer is turned on and the moon has been recognized as an object, the camera will deliver users a bright and clear image through the detail enhancement engine of Scene Optimizer on top of the Super Resolution technology.</p> <div></div> <p>AI Deep Learning for Moon Object Recognition</p> <p>The engine for recognizing the moon was built based on a variety of moon shapes and details, from full through to crescent moons, and is based on images taken from our view from the Earth.</p> <p>It uses an AI deep learning model to detect the presence of the moon and identify the area it occupies – as denoted by the square box - in the relevant image. Once the AI model has completed its learning, it can detect the area occupied by the moon even in images that were not used in training.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> </div> <p>However, the moon will not be properly recognized by the camera and Scene Optimizer technology if it is obscured by clouds, or if the moon object itself is the side that is not visible from the Earth.</p> <div> <div> <p>Types of the moon that are difficult to be recognized</p> </div> </div> <p> https://www.samsungmobilepress.com/feature-stories/how-samsung-galaxy-cameras-combine-super-resolution-technologies-with-ai-technology-to-produce-high-quality-images-of-the-moon/ </p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>The Brightness Control Process</p> <p>Once the device has recognized the moon after zooming in, it will control the brightness of the display in order to present the moon more clearly while maintaining optimal brightness.</p> <p>Accordingly, when users take photos of the moon at early evening time, the sky around the moon will appear darker than the actual sky color because the device will darken the object background brightness in order to help make the moon appear more clearly. Once your device recognizes the moon, it will continuously adjust focus to stay directly on the moon.</p> <div><p>The diagram shows a sequence of three images on a black background. The first image, labeled '01 Object', shows a bright, glowing circle representing the moon. The second image, labeled '02 Adjusting the optimal brightness', shows a sun-like icon with rays and a slider bar below it, indicating an adjustment process. The third image, labeled '03 Maintain proper brightness', shows a clear, detailed image of the moon's surface.</p></div> <p>Capturing the Most Stable Images Possible</p> <p>Samsung introduced the Zoom Lock feature, which automatically reduces the effects of a shaking device without the need for a tripod. Combining OIS and VDIS technologies, Zoom Lock is able to minimize the image blur that can be caused by shaking hands and helps users take truly epic moon shots.</p> <p>While zooming in and touching the display or maintaining a focus on the moon for longer than 1.5 seconds, the Zoom Lock feature will be automatically activated. The border line of the zoom map on the upper right side of the screen will change from white to yellow, and the moon will be fixed on the display.</p>

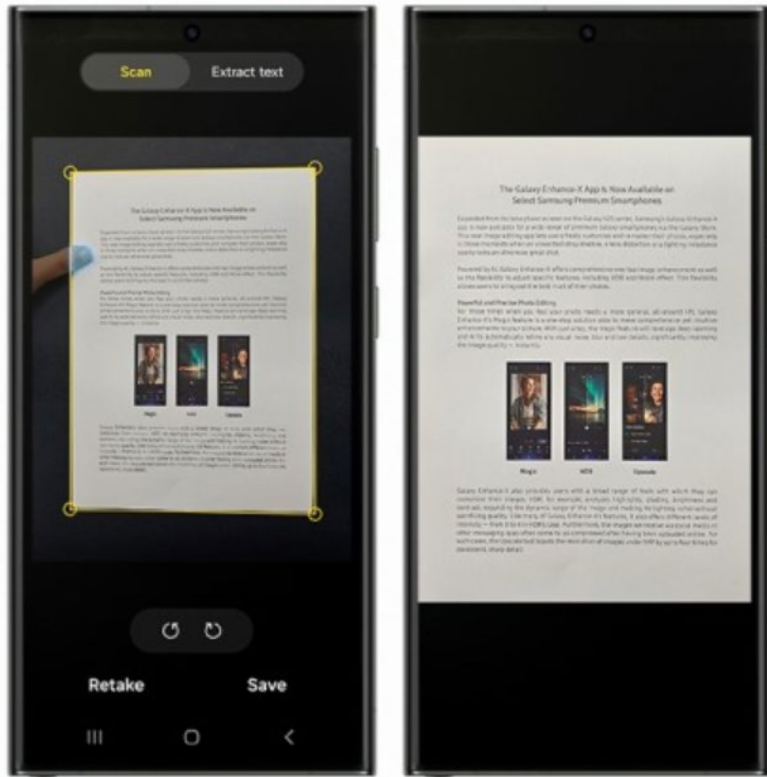
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> <pre> graph LR LD[Learning Data] --> IO[Input Image] IO --> SO[Scene Optimizer (Convolution Neural Network)] SO --> Q[Is this the moon or not?] Q -- "Operation of Scene Optimizer" --> SO </pre> </div> <p>Next, the camera takes multiple pictures and then synthesizes them into a single, bright image with reduced noise.</p> <p>After Multi-frame Processing has taken place, Galaxy camera further harnesses Scene Optimizer's deep-learning-based AI detail enhancement engine to effectively eliminate remaining noise and enhance the image details even further.</p> <p>https://www.samsungmobilepress.com/feature-stories/how-samsung-galaxy-cameras-combine-super-resolution-technologies-with-ai-technology-to-produce-high-quality-images-of-the-moon/</p> <p>For example, as an example the Accused Samsung '950 Products include AI Stereo Depth Mapping, that distinguishes various features (e.g., hair, clothing, or face).</p> <p align="center">Become the ultimate photographer with Samsung AI</p> <p align="center">Tap into the tools that help take perfect pictures, capture nighttime photos and make shareable content</p>

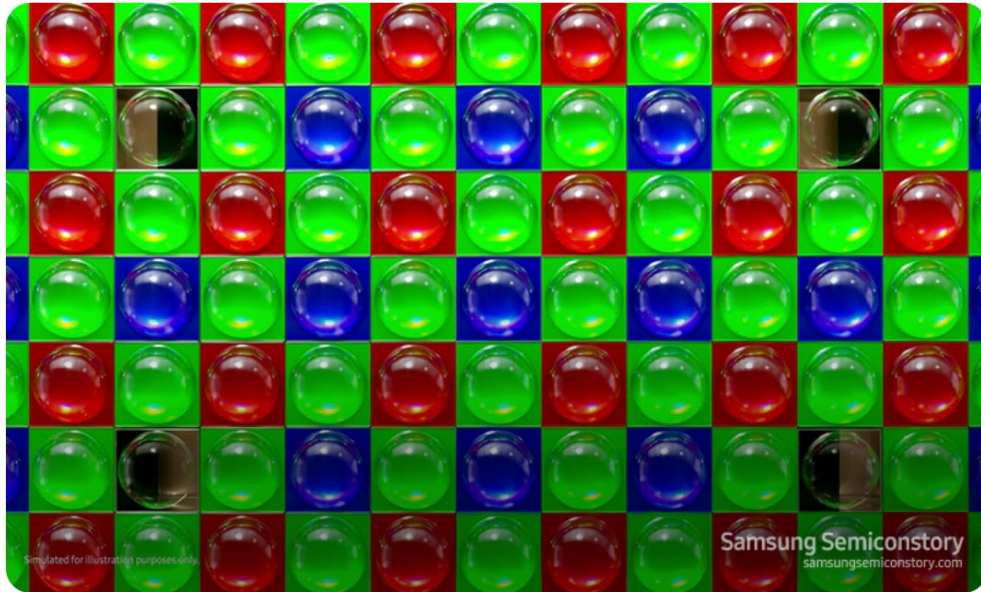
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Samsung's Galaxy S23 Ultra series uses AI Stereo Depth Mapping, a software-based feature that relies on AI algorithms to improve image output when you click a photo. This algorithm essentially creates a depth map that automatically measures the distance between objects in an image, so it doesn't miss out on the smaller elements. For example, imagine a picture of a person on the Galaxy S23 ultra whose face is in focus, but their hair or clothing, which normal cameras may treat as background elements, might not be. AI Stereo Depth Mapping fixes this common problem, making sure all these elements are clear and in focus.</p> <p>https://www.samsung.com/us/explore/photography/become-the-ultimate-photographer-with-samsung-AI/</p>

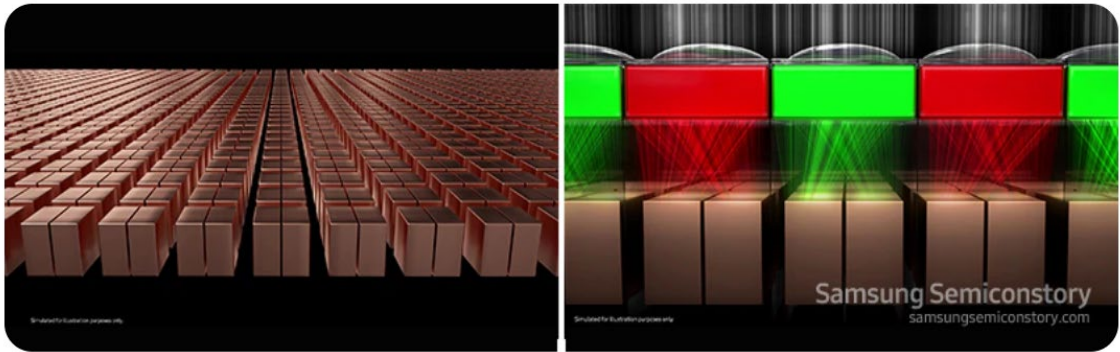
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div>  <p align="center">Document Scan</p> </div> <p>https://news.samsung.com/global/one-ui-6-update-7-tips-for-making-the-most-of-ai-camera-on-your-galaxy</p>

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Further, the Accused Samsung '950 Products creates a region by removing pixels with the features from an evaluated value extraction region to perform PDAF:</p> <p>Special Autofocus Pixels Used in PDAF Technology</p> <p>To understand how Dual Pixel Pro works, it is important to first understand its foundational technology, Phase Detection Autofocus (PDAF). Just like how humans use their two eyes to focus, PDAF compares the phase difference perceived from two different locations and moves the lens such that the two phases align to adjust the focus.</p> <div></div>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Dual Pixel with Improved Autofocus</p> <div>  </div> <p>Each pixel on a Dual Pixel sensor contains two photodiodes, one left-looking, one right-looking. When capturing a scene, the phases from each pair of photodiodes are compared to achieve autofocus. Since every pixel in the sensor is being used for both autofocus and color values, the sensor can achieve quick autofocus without losing image quality.</p> <p>In the previous Dual Pixel technology, each pixel is divided vertically into left and right. Dual Pixel features green pixels that are divided diagonally.</p> <p>There are clear benefits in dividing pixels diagonally. These pixels can compare the phase difference between the top and bottom of the pixel in addition to phase differences in the left and right side. As a result, even in a situation where autofocusing is challenging to achieve based on the use of only left and right phase differences, Dual Pixel Pro can use top and bottom phase differences, therefore delivering faster and more accurate autofocusing capabilities.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>https://semiconductor.samsung.com/news-events/tech-blog/the-evolution-from-image-sensor-to-human-eye-samsungs-innovative-dual-pixel-pro-technology/</p> <p>3. WB (White Balance)[3]</p> <p>This block helps the camera adjust the color balance and render them accurately. It ensures that an image has a uniform WB Gain and that the RGB of the grey (achromatic) areas are adjusted to the same value (to depict the grey as grey).</p> <p>The sensor output fed to ISP has twice as many green channels as any other. This is the reason why the raw image before the application of WB Gain looks green overall. (Refer to 'De-mosaic' below)</p> <p>4. De-mosaic (= Bayer Interpolation, Color Interpolation)</p> <p>Most smartphone cameras use the Bayer type (or pattern) sensor. The Bayer sensor, as illustrated below [2] is 3 color filter combination sensor mounted on top of a photodiode array.</p> <div> <p>The diagram illustrates the Bayer sensor structure. On the left, a 3D perspective shows a grid of photodiodes with red, green, and blue color filters. To the right, a 2D schematic shows 'Incoming light' (represented by red, green, and blue arrows) passing through a 'Filter layer' to a 'Sensor array'. Below this, the 'Resulting pattern' is shown as a 4x4 grid of squares, where the colors follow the Bayer pattern: Red (top-left), Green (top-right), Blue (bottom-left), and Green (bottom-right).</p> </div> <p>https://r2.community.samsung.com/t5/CamCyclopedia/ISP-Image-Signal-Processor/ba-p/13485145</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p align="center">FD (Face Detection)</p> <p>This block detects faces in an image/video and passes their coordinates to the next block. The face coordinates can be used in other algorithms or solutions to implement different features.</p> <p>[Example of application] Using FD information in AWB (Auto White Balance) and AE (Auto Exposure) algorithm blocks</p> <ol style="list-style-type: none">1. When a face is detected, it compares and corrects the difference between the face brightness and the targeted brightness of the whole image. It utilizes the face coordinates received, to adjust the face brightness, etc.2. When multiple sources are detected illuminating a face and the face is overly affected by these lights, this FD data can be used to correct the color on it. For example, if a face is detected in a low-color temperature light setup giving off a slightly reddish glow, the face coordinates are used to adjust the color of the face. <p>https://r2.community.samsung.com/t5/CamCyclopedia/ISP-Image-Signal-Processor/ba-p/13485145</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<ul style="list-style-type: none">• Our Qualcomm Spectra™ AI ISP features:<ul style="list-style-type: none">• Limitless Real-time Semantic Segmentation for photo/video frame• Insight AI provides real-time skin and sky adjustments to create more natural color and lighting in uncertain conditions.• Ultra-low Light video capture• Video Object Eraser can remove unwanted elements from videos• Real-time AI Relighting make you appear professional wherever you are• Truepic photo capture with C2PA standard support lets you snap a photo with Truepic's cryptographic seal to prove the photo is real and not Gen AI <p>(https://www.qualcomm.com/products/mobile/snapdragon/smartphones/snapdragon-8-series-mobile-platforms/snapdragon-8-elite-mobile-platform)</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Camera</p> <hr/> <p>Qualcomm Spectra™ Image Signal Processor</p> <ul style="list-style-type: none"> • AI-ISP, Triple 18-bit ISPs <hr/> <p>Limitless real-time Semantic Segmentation photo and video processing</p> <hr/> <p>Engine for Visual Analytics 4.0, including hardware acceleration for iToF depth sensors up to 4K 60 FPS</p> <hr/> <p>Support for the latest HDR, DCG+VS, DCG, Staggered, QDOL, Less Blanking, and Multiframe HDR image sensors</p> <hr/> <p>Support for triple video capture from HDR image sensors, with seamless switching between any HDR mode</p> <ul style="list-style-type: none"> • Up to 48 MP triple camera @ 30 FPS with Zero Shutter Lag • Up to 108 MP single camera @ 30 FPS with Zero Shutter Lag • Up to 320-megapixel photo capture <hr/> <p>AI-based face detection, AI for 3A (auto-focus, autoexposure, and auto-white balance)</p> <hr/> <p>Rec. 2020 color gamut photo and video capture</p> <hr/> <p>Up to 10-bit color depth photo and video capture</p> <hr/> <p>10-bit HEIF: HEIC photo capture, HEVC video capture</p> <hr/> <p>Google Ultra HDR photo capture</p> <hr/> <p>Video capture HDR formats: HDR10+, HDR10, HLG, Dolby Vision</p> <hr/> <p>8K HDR video playback @ 60 FPS</p> <hr/> <p>4K video capture @ 120 FPS</p> <hr/> <p>Slow-mo video capture at 1080p @ 480 FPS</p> <hr/> <p>Hardware Bokeh Engine 2 for video capture</p> <hr/>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>(https://docs.qualcomm.com/bundle/publicresource/87-83196-1_REV_D_Snapdragon_8_Elite_Mobile_Platform_Product_Brief.pdf)</p> <p>AI-powered camera redefines photography</p> <p>Infuse brilliance into mobile capture with our AI ISP, enhancing everything from selfies to crystal-clear video chats thanks to an overhauled Hexagon Direct Link. The first AI-powered Limitless Segmentation recognizes and enhances virtually anything in the frame, including faces, hair, clothing, objects, backgrounds, and beyond. Even furry friends appear crisp and cute—no matter how fast the zoomies—thanks to AI-Based Pet Capture.</p> <ul style="list-style-type: none"> • Our powerful AI ISP is deeply integrated with the Hexagon NPU for enhanced, intuitive capture. • Limitless Segmentation can segment an image in over 250 layers, each optimized to perfection. • Real-time Insight AI captures and enhances natural skin and sky tones even in the most challenging conditions. • Truepic with C2PA adds cryptographic seals so you can authenticate your photos as real and not AI-generated—now including videos and audio recordings. • Video Object Eraser can remove unwanted elements from video footage—on-device. • Capture vivid videos at 4K60 FPS, even in near darkness. <p>(https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/Snapdragon-8-Elite-Platform-Product-Brief.pdf)</p> <p>Let's dive deeper into why Snapdragon 8 Elite is a game-changer:</p> <ul style="list-style-type: none"> • Incredible power: Experience a 45% boost in performance with the Qualcomm Oryon CPU, giving you lightning-fast apps and incredible multitasking.¹ • AI at your fingertips: The Qualcomm® Hexagon™ NPU increases AI performance by 45%, handling everything from voice commands to image prompts. Your device is ready to adapt to your every move. • Photography, reimagined: With features like 4K Semantic Segmentation, Video Object Eraser, and real-time AI lighting adjustments, the Snapdragon 8 Elite camera tech turns your mobile photos into pro-level masterpieces. <p>https://www.qualcomm.com/snapdragon/news/snapdragon-8-elite--the-power-behind-the-name</p>

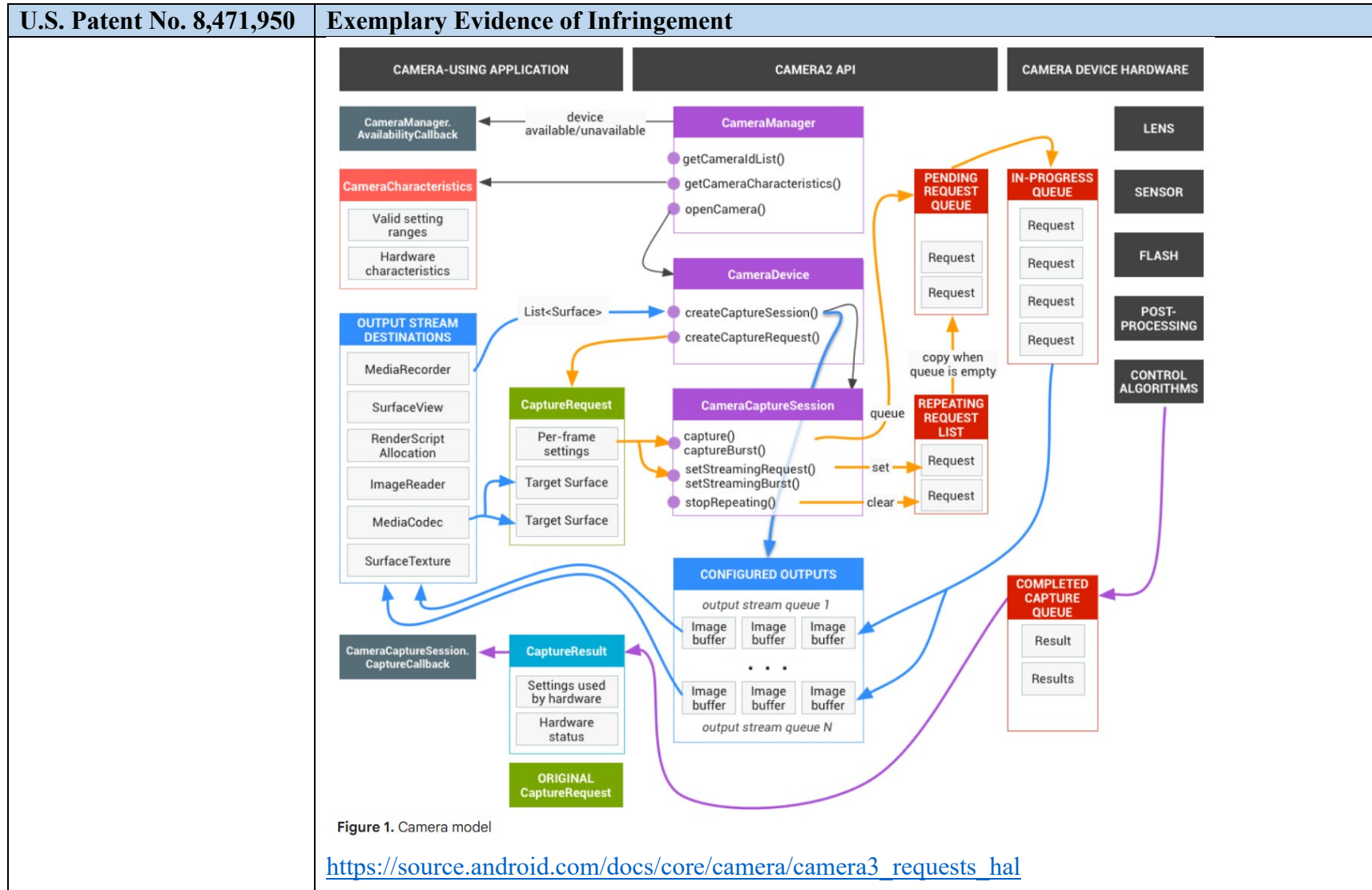
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>3. WB (White Balance)[3]</p> <p>This block helps the camera adjust the color balance and render them accurately. It ensures that an image has a uniform WB Gain and that the RGB of the grey (achromatic) areas are adjusted to the same value (to depict the grey as grey).</p> <p>The sensor output fed to ISP has twice as many green channels as any other. This is the reason why the raw image before the application of WB Gain looks green overall. (Refer to 'De-mosaic' below)</p> <p>4. De-mosaic (= Bayer Interpolation, Color Interpolation)</p> <p>Most smartphone cameras use the Bayer type (or pattern) sensor. The Bayer sensor, as illustrated below [2] is 3 color filter combination sensor mounted on top of a photodiode array.</p> <div> </div> <p>https://r2.community.samsung.com/t5/CamCyclopedia/ISP-Image-Signal-Processor/ba-p/13485145</p>

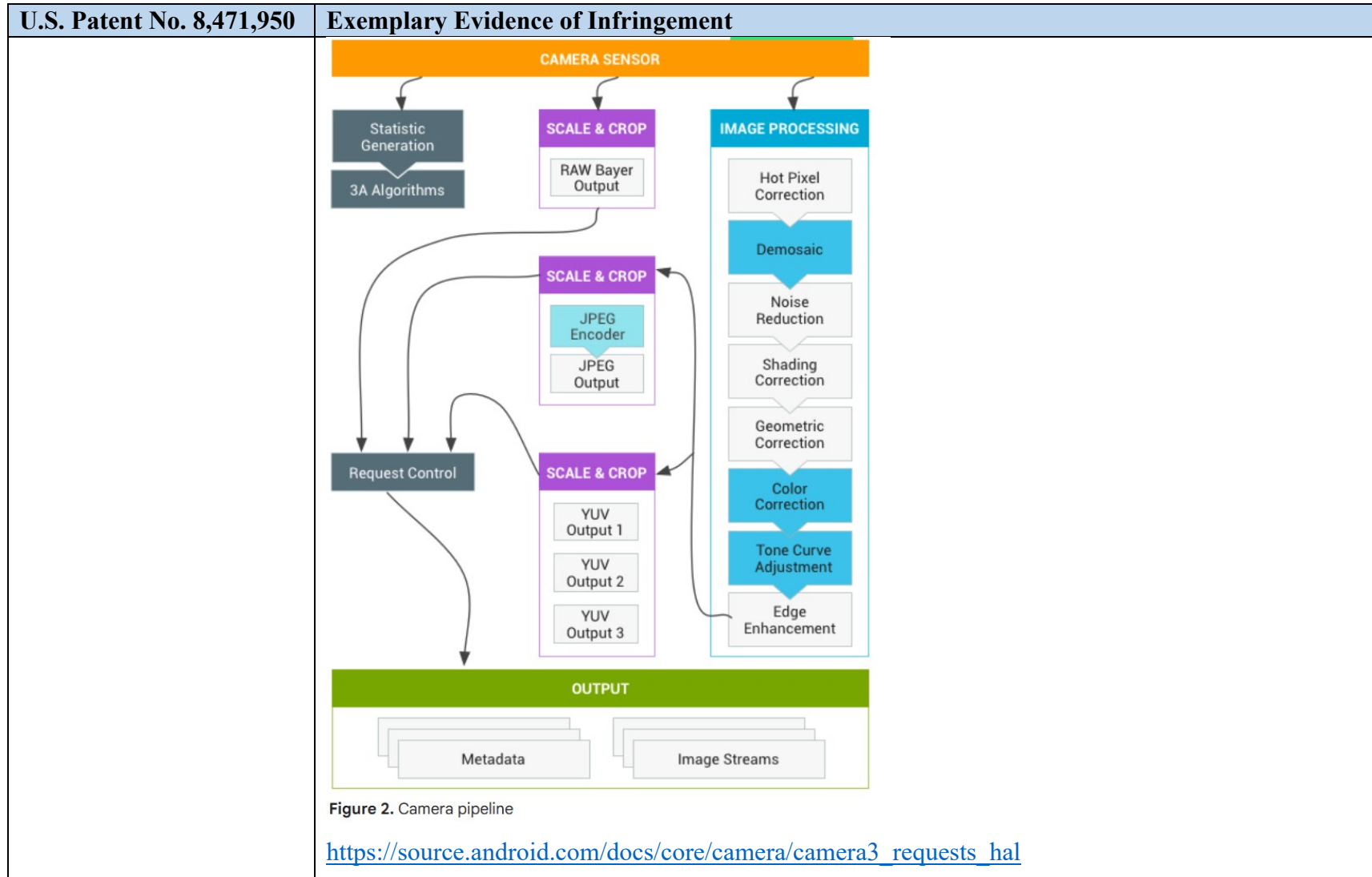
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p align="center">FD (Face Detection)</p> <p>This block detects faces in an image/video and passes their coordinates to the next block. The face coordinates can be used in other algorithms or solutions to implement different features.</p> <p>[Example of application] Using FD information in AWB (Auto White Balance) and AE (Auto Exposure) algorithm blocks</p> <ol style="list-style-type: none"> 1. When a face is detected, it compares and corrects the difference between the face brightness and the targeted brightness of the whole image. It utilizes the face coordinates received, to adjust the face brightness, etc. 2. When multiple sources are detected illuminating a face and the face is overly affected by these lights, this FD data can be used to correct the color on it. For example, if a face is detected in a low-color temperature light setup giving off a slightly reddish glow, the face coordinates are used to adjust the color of the face. <p>https://r2.community.samsung.com/t5/CamCyclopedia/ISP-Image-Signal-Processor/ba-p/13485145</p>

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**



**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**



**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<pre> /** * <p>Same as OFF mode, except that this capture will not be * used by camera device background auto-exposure, auto-white balance and * auto-focus algorithms (3A) to update their statistics.</p> * <p>Specifically, the 3A routines are locked to the last * values set from a request with AUTO, OFF, or * USE_SCENE_MODE, and any statistics or state updates * collected from manual captures with OFF_KEEP_STATE will be * discarded by the camera device.</p> * @see CaptureRequest#CONTROL_MODE */ public static final int CONTROL_MODE_OFF_KEEP_STATE = 3; /** * <p>If face detection support exists, use face * detection data for auto-focus, auto-white balance, and * auto-exposure routines.</p> * <p>If face detection statistics are disabled * (i.e. {@link CaptureRequest#STATISTICS_FACE_DETECT_MODE android.statistics.faceDetectMode} is set to OFF), * this should still operate correctly (but will not return * face detection statistics to the framework).</p> * <p>Unlike the other scene modes, {@link CaptureRequest#CONTROL_AE_MODE android.control.aeMode}, * {@link CaptureRequest#CONTROL_AWB_MODE android.control.awbMode}, and {@link CaptureRequest#CONTROL_AF_MODE android.control.afMode} * remain active when FACE_PRIORITY is set.</p> * * @see CaptureRequest#CONTROL_AE_MODE * @see CaptureRequest#CONTROL_AF_MODE * @see CaptureRequest#CONTROL_AWB_MODE * @see CaptureRequest#STATISTICS_FACE_DETECT_MODE * @see CaptureRequest#CONTROL_SCENE_MODE */ public static final int CONTROL_SCENE_MODE_FACE_PRIORITY = 1; </pre>

APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12, AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<pre> /** * <p>List of the maximum number of regions that can be used for metering in * auto-exposure (AE), auto-white balance (AWB), and auto-focus (AF); * this corresponds to the maximum number of elements in * {@link CaptureRequest#CONTROL_AE_REGIONS android.control.aeRegions}, {@link CaptureRequest#CONTROL_AWB_REGIONS android.control.awbRegions}, * and {@link CaptureRequest#CONTROL_AF_REGIONS android.control.afRegions}.</p> * <p>Range of valid values:
</p> * <p>Value must be <math>\geq 0</math> for each element. For full-capability devices * this value must be <math>\geq 1</math> for AE and AF. The order of the elements is: * <code>(AE, AWB, AF)</code>.</p> * <p>This key is available on all devices.</p> * * @see CaptureRequest#CONTROL_AE_REGIONS * @see CaptureRequest#CONTROL_AF_REGIONS * @see CaptureRequest#CONTROL_AWB_REGIONS * @hide */ public static final Key<int[]> CONTROL_MAX_REGIONS = new Key<int[]>("android.control.maxRegions", int[].class); */ @PublicKey @NonNull public static final Key<Integer> CONTROL_AWB_MODE = new Key<Integer>("android.control.awbMode", int.class); </pre> <p>See https://android.googlesource.com/platform/frameworks/base/+master/core/java/android/hardware/camera2/CameraMetadata.java; https://android.googlesource.com/platform/frameworks/base/+master/core/java/android/hardware/camera2/CameraCharacteristics.java; https://android.googlesource.com/platform/frameworks/base/+master/core/java/android/hardware/camera2/CaptureResult.java; https://android.googlesource.com/platform/frameworks/base/+master/core/java/android/hardware/camera2/CaptureRequest.java;</p> <p>As an additional example, the Accused Samsung '950 Products detect white attributes (e.g., based on scene classification or skin) and applies color temperature corrections by adjusting hue and</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>saturation. For example, the “Camera” application includes a scene mode feature, which adjusts the camera settings based on detection of the type of scene including detecting white attributes in the scene.</p> <p>CONTROL_SCENE_MODE_FACE_PRIORITY Added in API level 21</p> <div> <pre>public static final int CONTROL_SCENE_MODE_FACE_PRIORITY</pre>  </div> <p>If face detection support exists, use face detection data for auto-focus, auto-white balance, and auto-exposure routines.</p> <p>If face detection statistics are disabled (i.e. <code>android.statistics.faceDetectMode</code> is set to OFF), this should still operate correctly (but will not return face detection statistics to the framework).</p> <p>Unlike the other scene modes, <code>android.control.aeMode</code>, <code>android.control.awbMode</code>, and <code>android.control.afMode</code> remain active when FACE_PRIORITY is set.</p> <p>CONTROL_SCENE_MODE_FIREWORKS  Added in API level 21</p> <div> <pre>public static final int CONTROL_SCENE_MODE_FIREWORKS</pre>  </div> <p>Optimized for nighttime photos of fireworks.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><div>CONTROL_SCENE_MODE_HDR<div>Added in API level 22</div></div><div><pre>public static final int CONTROL_SCENE_MODE_HDR</pre><div></div></div><p>Turn on a device-specific high dynamic range (HDR) mode.</p><p>In this scene mode, the camera device captures images that keep a larger range of scene illumination levels visible in the final image. For example, when taking a picture of a object in front of a bright window, both the object and the scene through the window may be visible when using HDR mode, while in normal AUTO mode, one or the other may be poorly exposed. As a tradeoff, HDR mode generally takes much longer to capture a single image, has no user control, and may have other artifacts depending on the HDR method used.</p><p>Therefore, HDR captures operate at a much slower rate than regular captures.</p><div><div>CONTROL_SCENE_MODE_LANDSCAPE<div>Added in API level 21</div></div><div><pre>public static final int CONTROL_SCENE_MODE_LANDSCAPE</pre><div></div></div><p>Optimized for photos of distant macroscopic objects.</p><p>See also:</p><div>CaptureRequest.CONTROL_SCENE_MODE</div><p>Constant Value: 4 (0x00000004)</p></div></div>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><div>CONTROL_SCENE_MODE_NIGHT</div><div>Added in API level 21</div><div><pre>public static final int CONTROL_SCENE_MODE_NIGHT</pre></div><div>Optimized for low-light settings.</div><div>See also:</div><div>CaptureRequest.CONTROL_SCENE_MODE</div><div>Constant Value: 5 (0x00000005)</div><div>CONTROL_SCENE_MODE_NIGHT_PORTRAIT</div><div>Added in API level 21</div><div><pre>public static final int CONTROL_SCENE_MODE_NIGHT_PORTRAIT</pre></div><div>Optimized for still photos of people in low-light settings.</div><div>See also:</div><div>CaptureRequest.CONTROL_SCENE_MODE</div><div>Constant Value: 6 (0x00000006)</div></div>

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><div>CONTROL_SCENE_MODE_PARTY</div><div>Added in API level 21</div><div><pre>public static final int CONTROL_SCENE_MODE_PARTY</pre></div><div>Optimized for dim, indoor settings with multiple moving people.</div><div>See also:</div><div>CaptureRequest.CONTROL_SCENE_MODE</div><div>Constant Value: 14 (0x0000000e)</div><div>CONTROL_SCENE_MODE_PORTRAIT</div><div>Added in API level 21</div><div><pre>public static final int CONTROL_SCENE_MODE_PORTRAIT</pre></div><div>Optimized for still photos of people.</div><div>See also:</div><div>CaptureRequest.CONTROL_SCENE_MODE</div><div>Constant Value: 3 (0x00000003)</div></div>

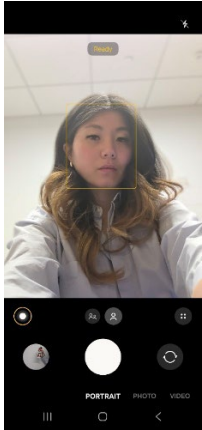
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>CONTROL_SCENE_MODE_SNOW  Added in API level 21</p> <div> <pre>public static final int CONTROL_SCENE_MODE_SNOW</pre>  </div> <p>Optimized for bright, outdoor settings containing snow.</p> <p>See also:</p> <div> CaptureRequest.CONTROL_SCENE_MODE </div> <p>Constant Value: 9 (0x00000009)</p> <p>COLOR_CORRECTION_MODE Added in API level 21</p> <div> <pre>public static final Key<Integer> COLOR_CORRECTION_MODE</pre>  </div> <p>The mode control selects how the image data is converted from the sensor's native color into linear sRGB color.</p> <p>When auto-white balance (AWB) is enabled with CaptureRequest#CONTROL_AWB_MODE, this control is overridden by the AWB routine. When AWB is disabled, the application controls how the color mapping is performed.</p> <p><i>See</i> https://developer.android.com/reference/android/hardware/camera2/CameraMetadata#CONTROL_SCENE_MODE_FACE_PRIORITY </p>
<p>[1.e] a control unit which controls the processing unit in accordance with the evaluated value having been extracted by the evaluated value extraction unit;</p>	<p>In each of the Accused Samsung '950 Products, the control unit is comprised of one or more processors (e.g., a CPU, ISP, and/or DSP), which are configured to control the processing unit in accordance with the evaluated value having been extracted by the evaluated value extraction unit. For example, on information and belief, the Samsung Galaxy S25 includes a CPU executing the operating system and/or the camera application and the AI camera detection software, that either alone or in conjunction with component of the image signal processor control components and/or the an image signal processor (ISP) and/or digital signal processor (DSP) that adjusts an image or</p>

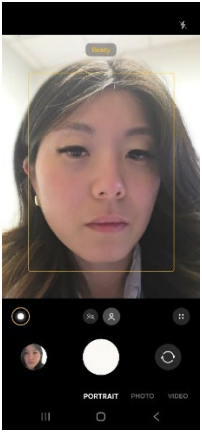
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement				
	<p>performs predetermined processing including corrections and enhancements based on object detection. For example, by performing white balance correction, food enhancement, firework detection, enhancement for moon photographs, corrections for text detection etc.</p> <p>As an additional example, white balance is adjusted in accordance with the detected lighting conditions, e.g. fluorescent lighting, incandescent lighting, sunny outdoor lighting, cloudy outdoor lighting. Upon information and belief, certain adjustments are applied when one or more features e.g. skin tone, hair, or face, are detected in a particular region (e.g., Face detect AWB, AW, or AF). Further, foliage or snow scene corrections are performed or not performed when such features are detected or not detected in a region but other image corrections are performed (e.g., face corrections and portrait mode corrections are applied). Further, text scanning corrections are not performed when text is not detected but additional image corrections are applied. Moreover, image corrections to the foreground (e.g., the face of a person or object being captured) are applied but corrections to the background are not applied if a white or black background is not detected. Further if the face is close to the camera such that a background is not detected, then the face corrections are applied but background corrections are not applied and background pattern portions are not contained.</p> <p>Further, Portrait Mode corrections are applied (e.g., background blurring and face enhancements) based on detected faces.</p> <p>The image signal processor in the Accused Samsung '950 Products is controled in accordance with the AI-detected objectes and peforms specific processing based on such detections.</p>				
	<div>Input</div> <div></div>	<div>Features</div> <div>Snow</div>	<div>Features Contained</div> <div>No</div>	<div>Video with Contents</div> <div>Cloth</div>	<div>Correction</div> <div>Corrections based on the selected camera's parameters</div>

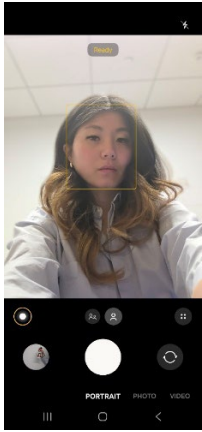
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement					
	Portrait Photo					
	 <p>Person in front of a white wall</p>	Snow	No	Face	Beauty face correction applied	
	 <p>Book Scan</p>	Snow	No	Scanned image	Scan correction applied	

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement				
	 <p>Face close up</p>	Stair	No	Face	Beauty face correction applied
	 <p>Portrait Photo</p>	Cloud	Yes	Cloth	No Correction. No Blur

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement					
	 <p>Person in front of a white wall</p>	Wall	Yes	Face	No Correction. No Blur	
	 <p>Book Scan</p>	Text	Yes	Scanned image	No Correction. No Blur	

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement				
	 <p>Face close up</p>	Cloth	Yes	Face	No White balance correction.
	<p>As an example, the signal processor is configured to control adjust skin tones and textures in accordance with lighting environment.</p> <p>Adaptive color tone</p> <p>Adjust the colors and white balance based on ambient lighting conditions to make colors appear more natural in different environments.</p> <p>○ From Settings, tap  Display > Adaptive color tone and tap  to enable this feature.</p> <p>Samsung Galaxy S25 User Manual at 116. (https://downloadcenter.samsung.com/content/UM/202502/20250222040501249/SAM_S931_S936_S938_EN_UG_OS15_012425_FINAL_AC_02072025.pdf)</p>				

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>3. WB (White Balance)[3]</p> <p>This block helps the camera adjust the color balance and render them accurately. It ensures that an image has a uniform WB Gain and that the RGB of the grey (achromatic) areas are adjusted to the same value (to depict the grey as grey).</p> <p>The sensor output fed to ISP has twice as many green channels as any other. This is the reason why the raw image before the application of WB Gain looks green overall. (Refer to 'De-mosaic' below)</p> <p>4. De-mosaic (= Bayer Interpolation, Color Interpolation)</p> <p>Most smartphone cameras use the Bayer type (or pattern) sensor. The Bayer sensor, as illustrated below [2] is 3 color filter combination sensor mounted on top of a photodiode array.</p> <div> </div> <p>https://r2.community.samsung.com/t5/CamCyclopedia/ISP-Image-Signal-Processor/ba-p/13485145</p>

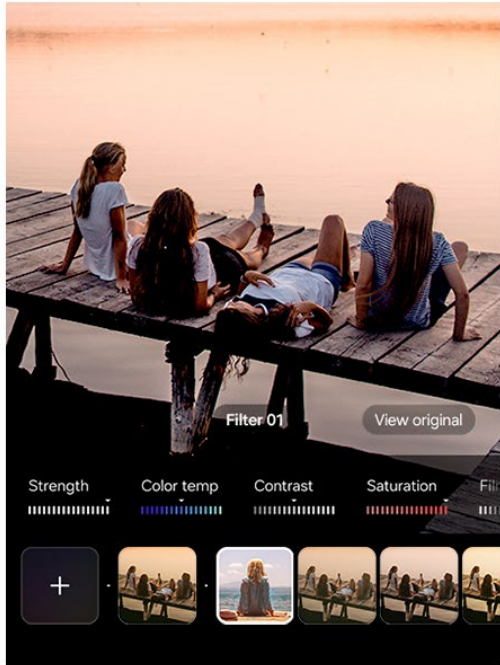
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p align="center">FD (Face Detection)</p> <p>This block detects faces in an image/video and passes their coordinates to the next block. The face coordinates can be used in other algorithms or solutions to implement different features.</p> <p>[Example of application] Using FD information in AWB (Auto White Balance) and AE (Auto Exposure) algorithm blocks</p> <ol style="list-style-type: none">1. When a face is detected, it compares and corrects the difference between the face brightness and the targeted brightness of the whole image. It utilizes the face coordinates received, to adjust the face brightness, etc.2. When multiple sources are detected illuminating a face and the face is overly affected by these lights, this FD data can be used to correct the color on it. For example, if a face is detected in a low-color temperature light setup giving off a slightly reddish glow, the face coordinates are used to adjust the color of the face. <p>https://r2.community.samsung.com/t5/CamCyclopedia/ISP-Image-Signal-Processor/ba-p/13485145</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Look your best in every light</p> <p>Our camera with enhanced Object-Aware Engine adapts to various lighting environments to capture skin tones and textures exactly as your eyes see them.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div></div> <p>Filters just for you</p> <p>Bring pics to life with personalized filters. Galaxy AI analyzes your photo and creates a filter to match. Use it instantly or customize further with tweaks to the saturation, brightness and more.</p> <p>▶ How to use Filters</p> <p>https://www.samsung.com/us/smartphones/galaxy-s25/</p> <p>As another example, the signal processor is configured to control adjustment of shutter speed and/or exposure in accordance with a motion of a moving object or subject in a region.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><h2>Shots captured at lightning speed</h2></div> <div><p>ProVisual Engine and advanced sensors join forces to create high-quality images even at fast shutter speeds so you can capture moving subjects with more clarity.³</p></div> <div>A photograph of a tabby cat in mid-air, jumping towards a yellow toy hanging from a string. The cat is positioned on a yellow platform, and the background shows a cat tree and a window with blinds.</div> <div>A close-up photograph of a tabby cat's face, showing its green eyes and white whiskers. The cat is looking directly at the camera.</div> <div><p>https://www.samsung.com/us/smartphones/galaxy-s25/</p></div> <div><p>As another example, the signal processor is configured to control image enhancement or color correction such as lighting adjustment or white balance on a detected face.</p></div> <div><p>As another example, the signal processor is configured to control image enhancement or color correction such as lighting adjustment or white balance on a detected natural skin.</p></div>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>As another example, the signal processor is configured to control image enhancement or color correction such as lighting adjustment or white balance in a hair region.</p> <p>As another example, the signal processor is configured to control image enhancement or color correction such as lighting adjustment or white balance in a clothing region.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>3. WB (White Balance)[3]</p> <p>This block helps the camera adjust the color balance and render them accurately. It ensures that an image has a uniform WB Gain and that the RGB of the grey (achromatic) areas are adjusted to the same value (to depict the grey as grey).</p> <p>The sensor output fed to ISP has twice as many green channels as any other. This is the reason why the raw image before the application of WB Gain looks green overall. (Refer to 'De-mosaic' below)</p> <p>4. De-mosaic (= Bayer Interpolation, Color Interpolation)</p> <p>Most smartphone cameras use the Bayer type (or pattern) sensor. The Bayer sensor, as illustrated below [2] is 3 color filter combination sensor mounted on top of a photodiode array.</p> <div> </div> <p>https://r2.community.samsung.com/t5/CamCyclopedia/ISP-Image-Signal-Processor/ba-p/13485145</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p align="center">FD (Face Detection)</p> <p>This block detects faces in an image/video and passes their coordinates to the next block. The face coordinates can be used in other algorithms or solutions to implement different features.</p> <p>[Example of application] Using FD information in AWB (Auto White Balance) and AE (Auto Exposure) algorithm blocks</p> <ol style="list-style-type: none"> 1. When a face is detected, it compares and corrects the difference between the face brightness and the targeted brightness of the whole image. It utilizes the face coordinates received, to adjust the face brightness, etc. 2. When multiple sources are detected illuminating a face and the face is overly affected by these lights, this FD data can be used to correct the color on it. For example, if a face is detected in a low-color temperature light setup giving off a slightly reddish glow, the face coordinates are used to adjust the color of the face. <p>https://r2.community.samsung.com/t5/CamCyclopedia/ISP-Image-Signal-Processor/ba-p/13485145</p> <p>As another example, the signal processor is configured to control image enhancement or object deletion in a moving object region.</p> <p>As another example, the signal processor is configured to control image enhancement, lighting adjustment, or noise reduction in a background region.</p> <p>As additional examples, the signal processor is configured to perform image enhancement, lighting adjustment, and/or other predetermined processes or AI-based corrections based on detection of various objects such as food, text, fireworks, moon, auto-focus pixels for PDAF. Such predetermined processing includes performing “Generative edit,” provide “Edit suggestions,” implement Portrait Studio, and/or generate photo effects.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>If you're unsure how to edit a photo or video in the Gallery app, let AI Edit Suggestion help you out. This feature lets you move and delete unwanted objects in order to create an entirely new image. You can also use additional options such as remastering, colorizing, removing reflections, and adding portrait effects to transform and elevate your photos and videos. You can learn more about AI Edit suggestions using our guide.</p> <p>Generative edit is an AI editing tool that lets you customize your images. Just find your desired image in the Gallery app, tap the Photo Assist icon (the three stars), and then tap or draw around an object in the photo you'd like to adjust. You can move the object around to another part of the photo. When you tap Generate, AI will fill in the photo's missing parts.</p> <p>Note: Generative edit requires an internet connection and will resize photos to 12MP.</p> <p>Drawing Assist lets you bring your drawings to life. You can create AI sketches using Air command, Samsung Notes, Gallery, and the AI Select feature in the Edge panel.</p> <p>Portrait Studio on the Z Fold6 and Z Flip6 lets you add extra flair to your selfies. Select your desired selfie in the Gallery app, then tap the Photo Assist icon (the stars), and then tap Generative portrait on the image. You can select from the available styles at the bottom of the screen, and then tap Generate to create a new image.</p> <p>Live Effects will bring your photos to life with animations on the Z Fold6 and Z Flip6. Select a photo in the Gallery app, then swipe up to view more details, and then tap 3D photo. AI will generate the photo's effects. You may see a zooming motion, a panning motion, or a swivel motion.</p> <p>https://www.samsung.com/us/support/answer/ANS10000753/</p> <div> <h2>Use AI editing tools in Gallery on your Galaxy phone or tablet</h2> <p>The new editing features on select Galaxy phones and tablets will transform your favorite photos into masterpieces! Thanks to Galaxy AI, you can use features like Generative edit and Edit suggestions to move objects within your photos and automatically receive enhancement recommendations. You can also use the Galaxy Enhance-X app to take things further with more editing options that include blur removal and brightness adjustment.</p> </div> <p>https://www.samsung.com/us/support/answer/ANS10000753/</p>

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><div>Use Generative edit</div><div>^</div></div> <div><div>☆ Note</div><p>Generative edit is available on the Galaxy S25 Ultra, S25 Edge, S25+, S25, S24 Ultra, S24+, S24, S24 FE, S23 Ultra, S23+, S23, S23 FE, S22 Ultra, S22+, S22, Z Fold6, Z Fold5, Z Fold4, Z Flip6, Z Flip5, Z Flip4, Tab S10, Tab S9 Ultra, Tab S9+, Tab S9, Tab S8+, Tab S8, and Tab S8.</p></div> <div></div> <p>Generative edit allows you to move or delete objects from your pictures in order to create an entirely new image. Galaxy AI will then fill in the background and any missing portions.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Generative edit allows you to move or delete objects from your pictures in order to create an entirely new image. Galaxy AI will then fill in the background and any missing portions.</p> <ol style="list-style-type: none">1 Navigate to and open the Gallery app, and then select a picture you'd like to edit.2 Tap the Edit icon (the pencil), and then tap the Generative edit icon (the blue circle with three stars). Note: You may be required to tap OK on the prompt.3 Using your finger, outline your desired object. Tap Deselect to start over if needed.4 Next, touch and hold the outlined object, and then drag it into a different part of the image. Tap Return (the back arrow) to move the object back to its original position, or tap Remove (the eraser icon) to erase the object. Repeat this process to move or remove additional objects.5 If needed, adjust the slider at the bottom of the screen to straighten the picture.6 When you're finished, tap Generate. Galaxy AI will fill in the image's background and adjust the objects that have been moved.7 Touch and hold View original to compare the original image with the newly generated image.8 When you're finished, tap Done, and then tap Save as copy to save the image. <p>https://www.samsung.com/us/support/answer/ANS10000934/</p>

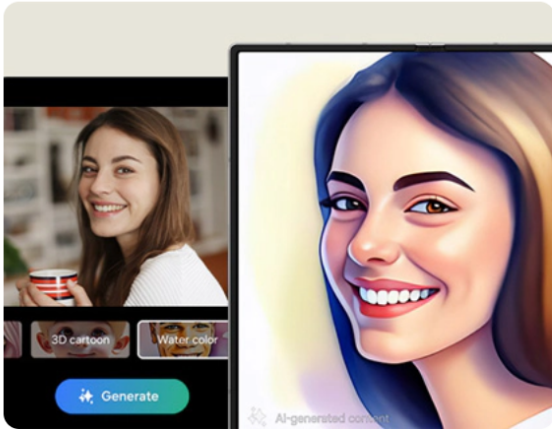
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> <p>Use Edit suggestions</p> </div> <div> <p> Note</p> <p>Edit suggestions are available on the Galaxy S25 Ultra, S25 Edge, S25+, S25, S24 Ultra, S24+, S24, S24 FE, S23 Ultra, S23+, S23, S23 FE, S22 Ultra, S22+, S22, Z Fold6, Z Fold5, Z Fold4, Z Flip6, Z Flip5, Z Flip4, A16 5G, A26 5G, A35 5G, A36 5G, A54 5G, Tab S9 Ultra, Tab S9+, Tab S9, Tab S8+, Tab S8, and Tab S8.</p> </div> <div>  </div> <p>Galaxy AI will analyze your pictures and provide editing suggestions to enhance them! The individual suggestion will vary depending on the image, or there may not be any suggestions at all.</p> <p>1 Navigate to and open the Gallery app, and then select a picture you'd like to edit.</p>

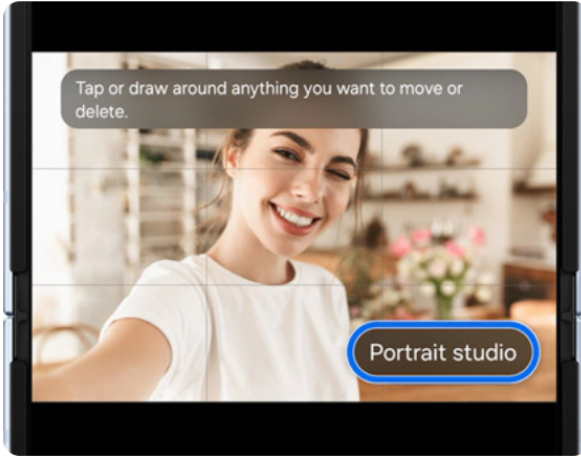
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<ul style="list-style-type: none">- Pro: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while taking pictures.- Pro video: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while recording videos. <p>Samsung Galaxy S25 User Manual at 43. (https://downloadcenter.samsung.com/content/UM/202502/20250222040501249/SAM_S931_S936_S938_EN_UG_OS15_012425_FINAL_AC_02072025.pdf)</p>

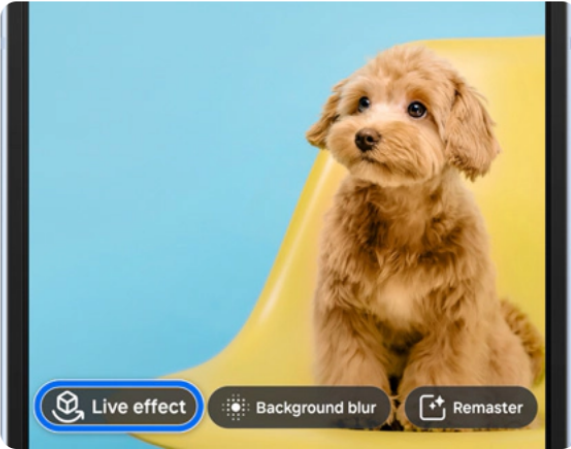
APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12, AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> <div>Use Portrait Studio</div> <div>^</div> </div> <div> <div> ☆ <div>Note</div> </div> <div> <p>Portrait Studio is available on the Galaxy S25 Ultra, S25 Edge, S25+, S25, S24 Ultra, S24+, S24, S24 FE, S23 Ultra, S23+, S23, S23 FE, S22 Ultra, S22+, S22, Z Fold6, Z Fold5, Z Fold4, Z Flip6, Z Flip5, Z Flip4, Tab S10, Tab S9 Ultra, Tab S9+, Tab S9, Tab S8+, Tab S8, and Tab S8.</p> </div> </div> <div>  <p>The screenshot shows the Portrait Studio app interface. On the left, there is a camera viewfinder showing a woman's face. Below the viewfinder are two style selection buttons: '3D cartoon' and 'Water color'. At the bottom is a large blue 'Generate' button with a star icon. On the right, a large, vibrant AI-generated portrait of the same woman is displayed. At the bottom of this portrait, there is a small text label that reads 'AI-generated content'.</p> </div> <div> <p>After you've taken a selfie, you can add some extra flair to it with Portrait Studio.</p> </div>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>After you've taken a selfie, you can add some extra flair to it with Portrait Studio.</p> <ol style="list-style-type: none">1 Open the Gallery app, and then find and select your desired selfie.2 Tap the Photo Assist icon (the stars), and then tap Generative portrait on the image. <div></div> <ol style="list-style-type: none">3 Select from the available styles at the bottom of the screen, such as Comic, 3D cartoon, or Watercolor.4 Then, tap Generate. <p>https://www.samsung.com/us/support/answer/ANS10000934/</p>

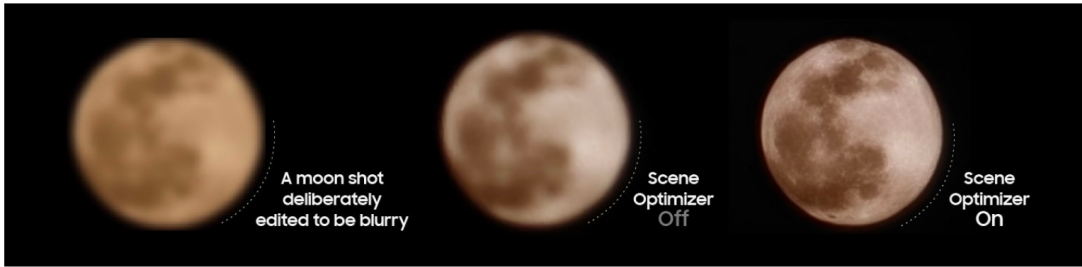
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Live Effect will bring your photos to life with animations. The effect may differ depending on the photo.</p> <ol style="list-style-type: none"><li>1 Open the Gallery app, and then find and select a photo.<li>2 Swipe up to view more details, and then tap 3D photo on the image. <div></div> <ol style="list-style-type: none"><li>3 AI will generate the photo's effects. You may see a zooming motion, a panning motion, or a swivel motion.<li>4 You can share the generated photo by tapping Share at the bottom of the screen. <p>https://www.samsung.com/us/support/answer/ANS10000753/</p> <p>Further, the Accused Samsung '950 Products include a Scene Optimizer to perform feature detection and corrections.</p>

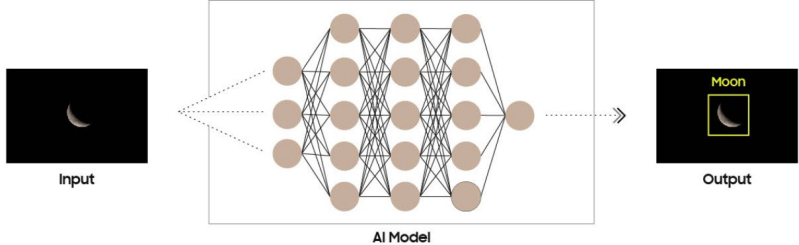
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>How Samsung Galaxy Cameras Combine Super Resolution Technologies With AI Technology to Produce High-Quality Images of the Moon</p> <p>Samsung is committed to delivering best-in-class camera experiences in all conditions. Since the introduction of the Galaxy S10, the Samsung Galaxy series has harnessed artificial intelligence (AI) technologies in its cameras to help users capture every epic moment anytime, anywhere.</p> <p>As part of this, Samsung developed the Scene Optimizer feature, a camera functionality which uses advanced AI to recognize objects and thus deliver the best results to users. Since the introduction of the Galaxy S21 series, Scene Optimizer has been able to recognize the moon as a specific object during the photo-taking process, and applies the feature's detail enhancement engine to the shot.</p> <p>When you're taking a photo of the moon, your Galaxy device's¹ camera system will harness this deep learning-based AI technology, as well as multi-frame processing in order to further enhance details. Read on to learn more about the multiple steps, processes and technologies that go in to delivering high-quality images of the moon.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div style="text-align: right;">f X</div> <p>Understanding Super Resolution and Scene Optimizer</p> <p>In order to take a clear photo of the moon, Galaxy cameras harness Super Resolution to synthesize more than 10 images taken at 25x zoom or higher. The image taken at 25x zoom or above needs to eliminate noise and enhance clarity and other details.</p> <p>Super Resolution technology helps produce images through multi-frame composition. When Scene Optimizer is turned on and the moon has been recognized as an object, the camera will deliver users a bright and clear image through the detail enhancement engine of Scene Optimizer on top of the Super Resolution technology.</p> <div>  </div> <p>AI Deep Learning for Moon Object Recognition</p> <p>The engine for recognizing the moon was built based on a variety of moon shapes and details, from full through to crescent moons, and is based on images taken from our view from the Earth.</p> <p>It uses an AI deep learning model to detect the presence of the moon and identify the area it occupies – as denoted by the square box - in the relevant image. Once the AI model has completed its learning, it can detect the area occupied by the moon even in images that were not used in training.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div></div> <p>However, the moon will not be properly recognized by the camera and Scene Optimizer technology if it is obscured by clouds, or if the moon object itself is the side that is not visible from the Earth.</p> <div><p>Types of the moon that are difficult to be recognized</p></div> <p>https://www.samsungmobilepress.com/feature-stories/how-samsung-galaxy-cameras-combine-super-resolution-technologies-with-ai-technology-to-produce-high-quality-images-of-the-moon/</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>The Brightness Control Process</p> <p>Once the device has recognized the moon after zooming in, it will control the brightness of the display in order to present the moon more clearly while maintaining optimal brightness.</p> <p>Accordingly, when users take photos of the moon at early evening time, the sky around the moon will appear darker than the actual sky color because the device will darken the object background brightness in order to help make the moon appear more clearly. Once your device recognizes the moon, it will continuously adjust focus to stay directly on the moon.</p> <div></div> <p>Capturing the Most Stable Images Possible</p> <p>Samsung introduced the Zoom Lock feature, which automatically reduces the effects of a shaking device without the need for a tripod. Combining OIS and VDIS technologies, Zoom Lock is able to minimize the image blur that can be caused by shaking hands and helps users take truly epic moon shots.</p> <p>While zooming in and touching the display or maintaining a focus on the moon for longer than 1.5 seconds, the Zoom Lock feature will be automatically activated. The border line of the zoom map on the upper right side of the screen will change from white to yellow, and the moon will be fixed on the display.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> <pre> graph LR LD[Learning Data] --> I[Moon Image] LD --> NI[Not Moon Image] I --> SO[Scene Optimizer (Convolution Neural Network)] NI --> SO SO --> Q[Is this the moon or not?] Q --> SO Q --> O[Operation of Scene Optimizer] O --> SO </pre> </div> <p>Next, the camera takes multiple pictures and then synthesizes them into a single, bright image with reduced noise.</p> <p>After Multi-frame Processing has taken place, Galaxy camera further harnesses Scene Optimizer's deep-learning-based AI detail enhancement engine to effectively eliminate remaining noise and enhance the image details even further.</p> <p>https://www.samsungmobilepress.com/feature-stories/how-samsung-galaxy-cameras-combine-super-resolution-technologies-with-ai-technology-to-produce-high-quality-images-of-the-moon/</p> <p>For example, as an example the Accused Samsung '950 Products include AI Stereo Depth Mapping, that distinguishes various features (e.g., hair, clothing, or face).</p> <p align="center">Become the ultimate photographer with Samsung AI</p> <p align="center">Tap into the tools that help take perfect pictures, capture nighttime photos and make shareable content</p>

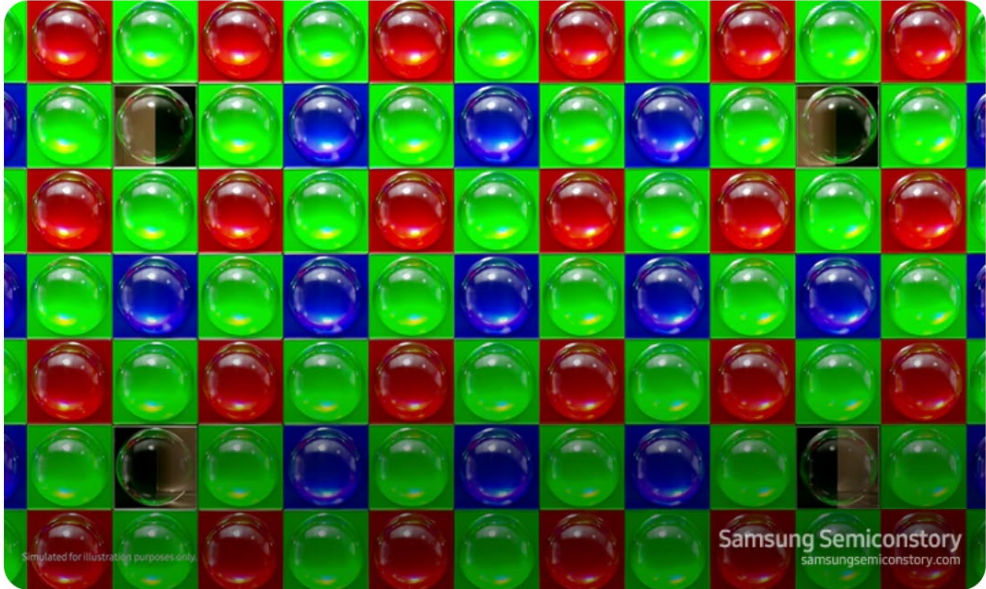
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Samsung's Galaxy S23 Ultra series uses AI Stereo Depth Mapping, a software-based feature that relies on AI algorithms to improve image output when you click a photo. This algorithm essentially creates a depth map that automatically measures the distance between objects in an image, so it doesn't miss out on the smaller elements. For example, imagine a picture of a person on the Galaxy S23 ultra whose face is in focus, but their hair or clothing, which normal cameras may treat as background elements, might not be. AI Stereo Depth Mapping fixes this common problem, making sure all these elements are clear and in focus.</p> <p>https://www.samsung.com/us/explore/photography/become-the-ultimate-photographer-with-samsung-AI/</p>

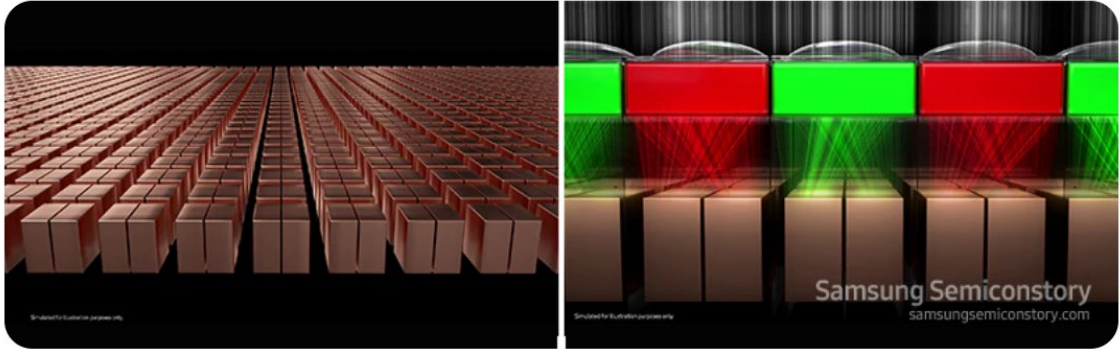
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><p>Document Scan</p></div> <p>https://news.samsung.com/global/one-ui-6-update-7-tips-for-making-the-most-of-ai-camera-on-your-galaxy</p> <p>Further, the Accused Samsung '950 Products creates a region by removing pixels with the features from an evaluated value extraction region to perform PDAF:</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Special Autofocus Pixels Used in PDAF Technology</p> <p>To understand how Dual Pixel Pro works, it is important to first understand its foundational technology, Phase Detection Autofocus (PDAF). Just like how humans use their two eyes to focus, PDAF compares the phase difference perceived from two different locations and moves the lens such that the two phases align to adjust the focus.</p> 

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Dual Pixel with Improved Autofocus</p> <div>  </div> <p>Each pixel on a Dual Pixel sensor contains two photodiodes, one left-looking, one right-looking. When capturing a scene, the phases from each pair of photodiodes are compared to achieve autofocus. Since every pixel in the sensor is being used for both autofocus and color values, the sensor can achieve quick autofocus without losing image quality.</p> <p>In the previous Dual Pixel technology, each pixel is divided vertically into left and right. Dual Pixel Pro features green pixels that are divided diagonally.</p> <p>There are clear benefits in dividing pixels diagonally. These pixels can compare the phase difference between the top and bottom of the pixel in addition to phase differences in the left and right side. As a result, even in a situation where autofocusing is challenging to achieve based on the use of only left and right phase differences, Dual Pixel Pro can use top and bottom phase differences, therefore delivering faster and more accurate autofocusing capabilities.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>https://semiconductor.samsung.com/news-events/tech-blog/the-evolution-from-image-sensor-to-human-eye-samsungs-innovative-dual-pixel-pro-technology/</p> <ul style="list-style-type: none"> <li>• Our Qualcomm Spectra™ AI ISP features: <ul style="list-style-type: none"> <li>• Limitless Real-time Semantic Segmentation for photo/video frame <li>• Insight AI provides real-time skin and sky adjustments to create more natural color and lighting in uncertain conditions. <li>• Ultra-low Light video capture <li>• Video Object Eraser can remove unwanted elements from videos <li>• Real-time AI Relighting make you appear professional wherever you are <li>• Truepic photo capture with C2PA standard support lets you snap a photo with Truepic's cryptographic seal to prove the photo is real and not Gen AI <p>https://www.qualcomm.com/products/mobile/snapdragon/smartphones/snapdragon-8-series-mobile-platforms/snapdragon-8-elite-mobile-platform)</p>

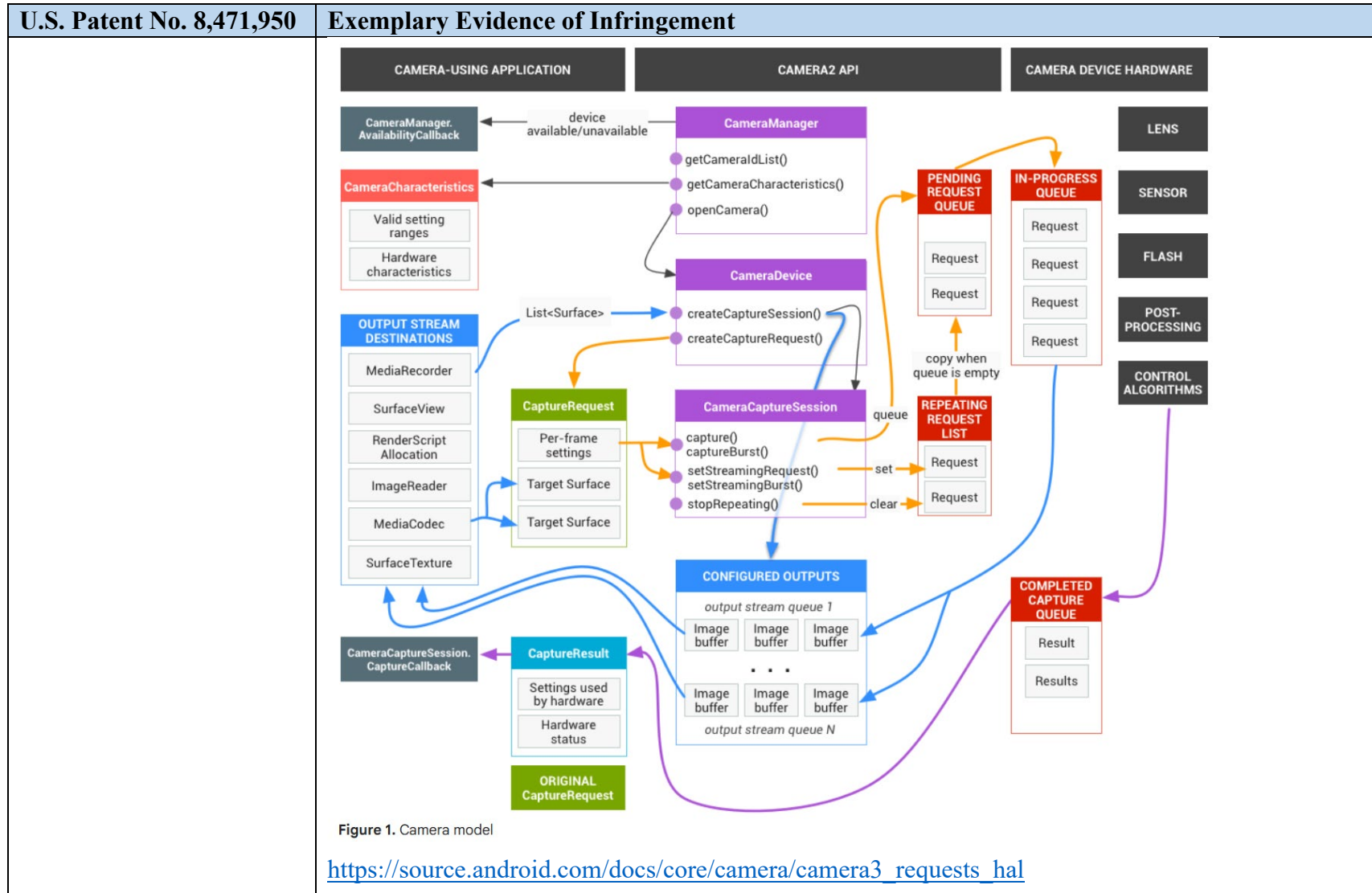
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Camera</p> <hr/> <p>Qualcomm Spectra™ Image Signal Processor</p> <ul style="list-style-type: none"> • AI-ISP, Triple 18-bit ISPs <hr/> <p>Limitless real-time Semantic Segmentation photo and video processing</p> <hr/> <p>Engine for Visual Analytics 4.0, including hardware acceleration for iToF depth sensors up to 4K 60 FPS</p> <hr/> <p>Support for the latest HDR, DCG+VS, DCG, Staggered, QDOL, Less Blanking, and Multiframe HDR image sensors</p> <hr/> <p>Support for triple video capture from HDR image sensors, with seamless switching between any HDR mode</p> <ul style="list-style-type: none"> • Up to 48 MP triple camera @ 30 FPS with Zero Shutter Lag • Up to 108 MP single camera @ 30 FPS with Zero Shutter Lag • Up to 320-megapixel photo capture <hr/> <p>AI-based face detection, AI for 3A (auto-focus, autoexposure, and auto-white balance)</p> <hr/> <p>Rec. 2020 color gamut photo and video capture</p> <hr/> <p>Up to 10-bit color depth photo and video capture</p> <hr/> <p>10-bit HEIF: HEIC photo capture, HEVC video capture</p> <hr/> <p>Google Ultra HDR photo capture</p> <hr/> <p>Video capture HDR formats: HDR10+, HDR10, HLG, Dolby Vision</p> <hr/> <p>8K HDR video playback @ 60 FPS</p> <hr/> <p>4K video capture @ 120 FPS</p> <hr/> <p>Slow-mo video capture at 1080p @ 480 FPS</p> <hr/> <p>Hardware Bokeh Engine 2 for video capture</p> <hr/> <p>(https://docs.qualcomm.com/bundle/publicresource/87-83196-1_REV_D_Snapdragon_8_Elite_Mobile_Platform_Product_Brief.pdf)</p>

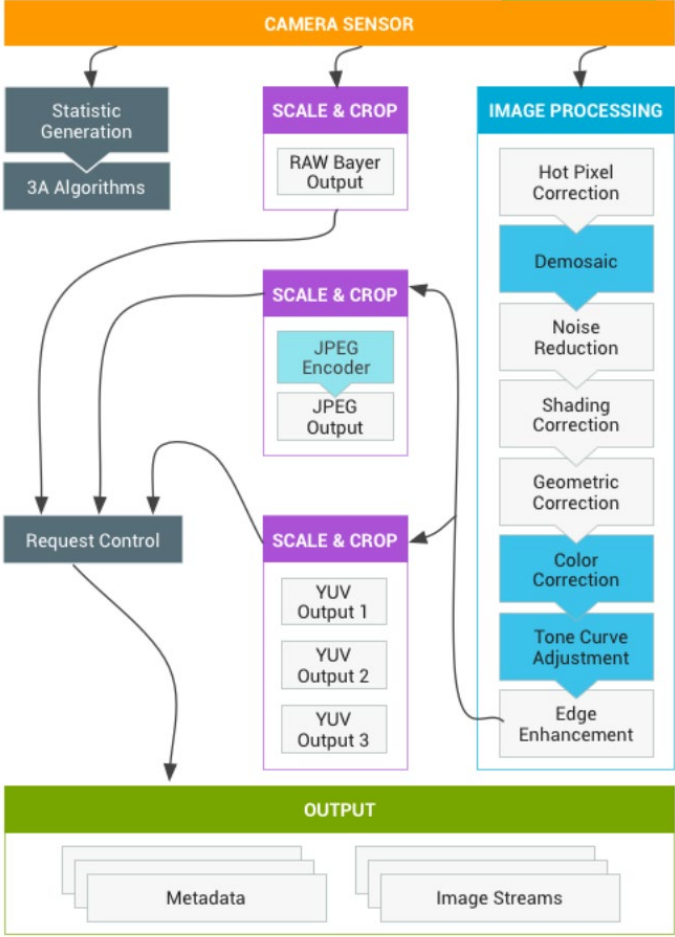
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>AI-powered camera redefines photography</p> <p>Infuse brilliance into mobile capture with our AI ISP, enhancing everything from selfies to crystal-clear video chats thanks to an overhauled Hexagon Direct Link. The first AI-powered Limitless Segmentation recognizes and enhances virtually anything in the frame, including faces, hair, clothing, objects, backgrounds, and beyond. Even furry friends appear crisp and cute—no matter how fast the zoomies—thanks to AI-Based Pet Capture.</p> <ul style="list-style-type: none"> • Our powerful AI ISP is deeply integrated with the Hexagon NPU for enhanced, intuitive capture. • Limitless Segmentation can segment an image in over 250 layers, each optimized to perfection. • Real-time Insight AI captures and enhances natural skin and sky tones even in the most challenging conditions. • Truepic with C2PA adds cryptographic seals so you can authenticate your photos as real and not AI-generated—now including videos and audio recordings. • Video Object Eraser can remove unwanted elements from video footage—on-device. • Capture vivid videos at 4K60 FPS, even in near darkness. <p>(https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/Snapdragon-8-Elite-Platform-Product-Brief.pdf)</p> <p>Let's dive deeper into why Snapdragon 8 Elite is a game-changer:</p> <ul style="list-style-type: none"> • Incredible power: Experience a 45% boost in performance with the Qualcomm Oryon CPU, giving you lightning-fast apps and incredible multitasking.¹ • AI at your fingertips: The Qualcomm® Hexagon™ NPU increases AI performance by 45%, handling everything from voice commands to image prompts. Your device is ready to adapt to your every move. • Photography, reimagined: With features like 4K Semantic Segmentation, Video Object Eraser, and real-time AI lighting adjustments, the Snapdragon 8 Elite camera tech turns your mobile photos into pro-level masterpieces. <p>https://www.qualcomm.com/snapdragon/news/snapdragon-8-elite--the-power-behind-the-name</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**



**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	 <p>The diagram illustrates a camera pipeline. At the top, an orange box labeled 'CAMERA SENSOR' has three arrows pointing down to three parallel processing paths. The left path consists of a grey box 'Statistic Generation' followed by a grey box '3A Algorithms'. The middle path starts with a purple box 'SCALE & CROP' containing 'RAW Bayer Output', followed by another purple box 'SCALE & CROP' containing a cyan box 'JPEG Encoder' and a grey box 'JPEG Output'. The right path is a blue box 'IMAGE PROCESSING' containing a sequence of steps: 'Hot Pixel Correction', 'Demosaic', 'Noise Reduction', 'Shading Correction', 'Geometric Correction', 'Color Correction', 'Tone Curve Adjustment', and 'Edge Enhancement'. Arrows from the 'Statistic Generation' and '3A Algorithms' boxes point to a grey box 'Request Control'. Arrows from the 'RAW Bayer Output' and 'JPEG Output' boxes also point to the 'Request Control' box. The 'Request Control' box has an arrow pointing to a green box 'OUTPUT' at the bottom. The 'OUTPUT' box contains two stacks of grey boxes labeled 'Metadata' and 'Image Streams'. Additionally, an arrow points from the 'Edge Enhancement' step in the 'IMAGE PROCESSING' block to the 'Request Control' box.</p> <p>Figure 2. Camera pipeline</p> <p>https://source.android.com/docs/core/camera/camera3_requests_hal</p> <p><u>Doctrine of Equivalents</u></p>

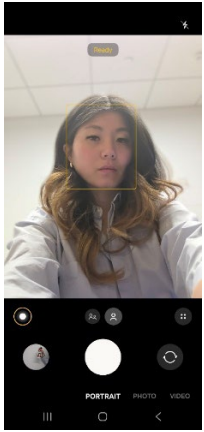
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>To the extent Samsung argues that the above-identified structure does not literally infringe this claim element, this limitation is infringed under the doctrine of equivalents because the Accused Samsung '950 Products contain one or more components and/or software, or a combination thereof, that perform substantially the same function in substantially the same way to obtain the same result.</p> <p>By way of example, to the extent that Samsung argues that the Accused Samsung '950 Products do not have a control unit, each of these products include software, hardware, or a combination of the two that perform the equivalent function of controlling the signal processing unit. Using this combination, these products perform substantially the same function (for example, controlling components within the signal processor) in substantially the same way. The performance of this function achieves substantially the same result, for example, the control of the processing unit based on an extracted value. That this functionality may be divided across several components does not preclude them from collectively functioning as a control unit.</p>
<p>[1.f] wherein the control unit controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.</p>	<p>The signal processor in each of the Accused Samsung '950 Products incorporates or operates as a control unit which controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.</p> <p>For example, on information and belief, the Samsung Galaxy S25 includes an image signal processor (ISP) and/or digital signal processor (DSP) that adjusts an image, for example, by performing white balance correction. For example, the white balance is adjusted in accordance with the detected lighting conditions, e.g. fluorescent lighting, incandescent lighting, sunny outdoor lighting, cloudy outdoor lighting.</p> <p>Upon information and belief, certain adjustments are applied when one or more features e.g. skin tone, hair, or face, are detected in a particular region (e.g., Face detect AWB, AW, or AF). Further, foliage or snow scene corrections are performed or not performed when such features are detected or not detected in a region but other image corrections are performed (e.g., face corrections and portrait mode corrections are applied). Further, text scanning corrections are not performed when text is not detected but additional image corrections are applied. Moreover, image corrections to the foreground (e.g., the face of a person or object being captured) are applied but corrections to the background are</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement				
	<p>not applied if a white or black background is not detected. Further if the face is close to the camera such that a background is not detected, then the face corrections are applied but background corrections are not applied and background pattern portions are not contained.</p> <p>Further, Portrait Mode corrections are applied (e.g., background blurring and face enhancements) based on detected faces.</p> <p>The image signal processor in the Accused Samsung '950 Products is controlled in accordance with the AI-detected objects and performs specific processing based on such detections.</p>				
	Input	Features	Features Contained	Video with Contents	Correction
	<div><p>Portrait Photo</p></div>	Snow	No	Cloth	Corrections based on the selected camera's parameters

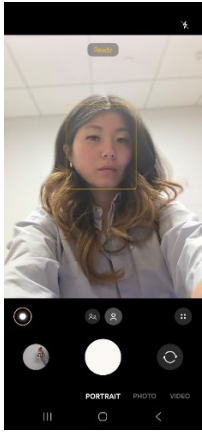
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement					
	 <p>Person in front of a white wall</p>	Snow	No	Face	Beauty face correction applied	
	 <p>Book Scan</p>	Snow	No	Scanned image	Scan correction applied	

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement				
	 <p>Face close up</p>	Stair	No	Face	Beauty face correction applied
	 <p>Portrait Photo</p>	Cloud	Yes	Cloth	No Correction. No Blur

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement					
	 <p>Person in front of a white wall</p>	Wall	Yes	Face	No Correction. No Blur	
	 <p>Book Scan</p>	Text	Yes	Scanned image	No Correction. No Blur	

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement				
	 <p>Face close up</p>	Cloth	Yes	Face	No White balance correction.
	<p>As an example, the signal processor is configured to control skin tones and textures adjustment while performing different processing for other region or regions that do not include the detected skin tones and textures.</p> <p>Look your best in every light</p> <p>Our camera with enhanced Object-Aware Engine adapts to various lighting environments to capture skin tones and textures exactly as your eyes see them.</p>				

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> </div> <div> <h2>Filters just for you</h2> </div> <div> <p>Bring pics to life with personalized filters. Galaxy AI analyzes your photo and creates a filter to match. Use it instantly or customize further with tweaks to the saturation, brightness and more.</p> </div> <div> <p>▶ How to use Filters</p> </div> <p>https://www.samsung.com/us/smartphones/galaxy-s25/</p> <p>As another example, the signal processor is configured to control adjustment of shutter speed and/or exposure in accordance with a motion of a moving object or subject in a region while performing different exposure adjustment for other region or regions that do not include the moving object</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><h2>Shots captured at lightning speed</h2></div> <div><p>ProVisual Engine and advanced sensors join forces to create high-quality images even at fast shutter speeds so you can capture moving subjects with more clarity.³</p></div> <div>A photograph of a tabby cat in mid-air, jumping towards a yellow toy hanging from a string. The cat is positioned on a yellow platform, and its front paws are extended towards the toy. The background shows a cat tree with a red top and a black silhouette of a cat.</div> <div>A close-up photograph of a tabby cat's face. The cat has green eyes and is looking directly at the camera. The background is slightly blurred, showing a striped pattern.</div> <div><p>https://www.samsung.com/us/smartphones/galaxy-s25/</p></div> <div><p>As another example, the signal processor is configured to control image enhancement or color correction such as lighting adjustment or white balance on a detected face while performing different image enhancement, or color correction such as white balance for other region or regions that do not include the detected face.</p></div>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>As another example, the signal processor is configured to control image enhancement or color correction such as lighting adjustment or white balance on a detected natural skin while performing different image enhancement, or color correction such as white balance for other region or regions that do not include the detected natural skin.</p> <p>As another example, the signal processor is configured to control image enhancement or color correction such as lighting adjustment or white balance in a hair region while performing different image enhancement, or color correction such as white balance for other region or regions that do not include the detected hair.</p> <p>As another example, the signal processor is configured to control image enhancement or color correction such as lighting adjustment or white balance in a clothing region while performing different image enhancement, or color correction such as white balance for other region or regions that do not include the detected clothing.</p> <p>As another example, the signal processor is configured to control image enhancement or object deletion in a moving object region while performing different image enhancement, or color correction such as white balance for other region or regions that do not include the detected moving object.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>3. WB (White Balance)[3]</p> <p>This block helps the camera adjust the color balance and render them accurately. It ensures that an image has a uniform WB Gain and that the RGB of the grey (achromatic) areas are adjusted to the same value (to depict the grey as grey).</p> <p>The sensor output fed to ISP has twice as many green channels as any other. This is the reason why the raw image before the application of WB Gain looks green overall. (Refer to 'De-mosaic' below)</p> <p>4. De-mosaic (= Bayer Interpolation, Color Interpolation)</p> <p>Most smartphone cameras use the Bayer type (or pattern) sensor. The Bayer sensor, as illustrated below [2] is 3 color filter combination sensor mounted on top of a photodiode array.</p> <div> </div> <p>https://r2.community.samsung.com/t5/CamCyclopedia/ISP-Image-Signal-Processor/ba-p/13485145</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p align="center">FD (Face Detection)</p> <p>This block detects faces in an image/video and passes their coordinates to the next block. The face coordinates can be used in other algorithms or solutions to implement different features.</p> <p>[Example of application] Using FD information in AWB (Auto White Balance) and AE (Auto Exposure) algorithm blocks</p> <ol style="list-style-type: none"> 1. When a face is detected, it compares and corrects the difference between the face brightness and the targeted brightness of the whole image. It utilizes the face coordinates received, to adjust the face brightness, etc. 2. When multiple sources are detected illuminating a face and the face is overly affected by these lights, this FD data can be used to correct the color on it. For example, if a face is detected in a low-color temperature light setup giving off a slightly reddish glow, the face coordinates are used to adjust the color of the face. <p>https://r2.community.samsung.com/t5/CamCyclopedia/ISP-Image-Signal-Processor/ba-p/13485145</p> <p>As another example, the signal processor is configured to control image enhancement, lighting adjustment, or noise reduction in a background region excluding other regions such as face region, hair region, clothing region, moving object region, or natural skin region.</p> <p>As additional examples, the signal processor is configured to perform image enhancement, lighting adjustment, and/or other predetermined processes or AI-based corrections based on detection of various objects such as food, text, fireworks, moon, auto-focus pixels for PDAF. Such predetermined processing includes performing “Generative edit,” provide “Edit suggestions,” implement Portrait Studio, and/or generate photo effects.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>If you're unsure how to edit a photo or video in the Gallery app, let AI Edit Suggestion help you out. This feature lets you move and delete unwanted objects in order to create an entirely new image. You can also use additional options such as remastering, colorizing, removing reflections, and adding portrait effects to transform and elevate your photos and videos. You can learn more about AI Edit suggestions using our guide.</p> <p>Generative edit is an AI editing tool that lets you customize your images. Just find your desired image in the Gallery app, tap the Photo Assist icon (the three stars), and then tap or draw around an object in the photo you'd like to adjust. You can move the object around to another part of the photo. When you tap Generate, AI will fill in the photo's missing parts.</p> <p>Note: Generative edit requires an internet connection and will resize photos to 12MP.</p> <p>Drawing Assist lets you bring your drawings to life. You can create AI sketches using Air command, Samsung Notes, Gallery, and the AI Select feature in the Edge panel.</p> <p>Portrait Studio on the Z Fold6 and Z Flip6 lets you add extra flair to your selfies. Select your desired selfie in the Gallery app, then tap the Photo Assist icon (the stars), and then tap Generative portrait on the image. You can select from the available styles at the bottom of the screen, and then tap Generate to create a new image.</p> <p>Live Effects will bring your photos to life with animations on the Z Fold6 and Z Flip6. Select a photo in the Gallery app, then swipe up to view more details, and then tap 3D photo. AI will generate the photo's effects. You may see a zooming motion, a panning motion, or a swivel motion.</p> <p>https://www.samsung.com/us/support/answer/ANS10000753/</p> <div><h2>Use AI editing tools in Gallery on your Galaxy phone or tablet</h2><p>The new editing features on select Galaxy phones and tablets will transform your favorite photos into masterpieces! Thanks to Galaxy AI, you can use features like Generative edit and Edit suggestions to move objects within your photos and automatically receive enhancement recommendations. You can also use the Galaxy Enhance-X app to take things further with more editing options that include blur removal and brightness adjustment.</p></div> <p>https://www.samsung.com/us/support/answer/ANS10000753/</p>

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div>Use Generative edit ^</div> <div><p>★ Note</p><p>Generative edit is available on the Galaxy S25 Ultra, S25 Edge, S25+, S25, S24 Ultra, S24+, S24, S24 FE, S23 Ultra, S23+, S23, S23 FE, S22 Ultra, S22+, S22, Z Fold6, Z Fold5, Z Fold4, Z Flip6, Z Flip5, Z Flip4, Tab S10, Tab S9 Ultra, Tab S9+, Tab S9, Tab S8+, Tab S8, and Tab S8.</p></div> <div></div> <p>Generative edit allows you to move or delete objects from your pictures in order to create an entirely new image. Galaxy AI will then fill in the background and any missing portions.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Generative edit allows you to move or delete objects from your pictures in order to create an entirely new image. Galaxy AI will then fill in the background and any missing portions.</p> <ol style="list-style-type: none">1 Navigate to and open the Gallery app, and then select a picture you'd like to edit.2 Tap the Edit icon (the pencil), and then tap the Generative edit icon (the blue circle with three stars). Note: You may be required to tap OK on the prompt.3 Using your finger, outline your desired object. Tap Deselect to start over if needed.4 Next, touch and hold the outlined object, and then drag it into a different part of the image. Tap Return (the back arrow) to move the object back to its original position, or tap Remove (the eraser icon) to erase the object. Repeat this process to move or remove additional objects.5 If needed, adjust the slider at the bottom of the screen to straighten the picture.6 When you're finished, tap Generate. Galaxy AI will fill in the image's background and adjust the objects that have been moved.7 Touch and hold View original to compare the original image with the newly generated image.8 When you're finished, tap Done, and then tap Save as copy to save the image. <p>https://www.samsung.com/us/support/answer/ANS10000934/</p>

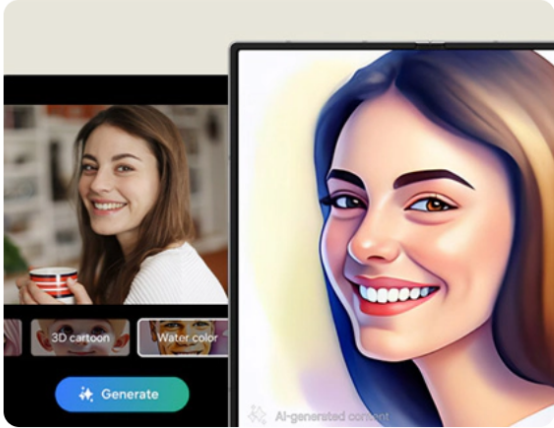
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div>Use Edit suggestions </div> <div></div> <div>Note</div> <div><p>Edit suggestions are available on the Galaxy S25 Ultra, S25 Edge, S25+, S25, S24 Ultra, S24+, S24, S24 FE, S23 Ultra, S23+, S23, S23 FE, S22 Ultra, S22+, S22, Z Fold6, Z Fold5, Z Fold4, Z Flip6, Z Flip5, Z Flip4, A16 5G, A26 5G, A35 5G, A36 5G, A54 5G, Tab S9 Ultra, Tab S9+, Tab S9, Tab S8+, Tab S8, and Tab S8.</p></div> <div></div> <div><p>Galaxy AI will analyze your pictures and provide editing suggestions to enhance them! The individual suggestion will vary depending on the image, or there may not be any suggestions at all.</p></div> <div><p>1 Navigate to and open the Gallery app, and then select a picture you'd like to edit.</p></div>

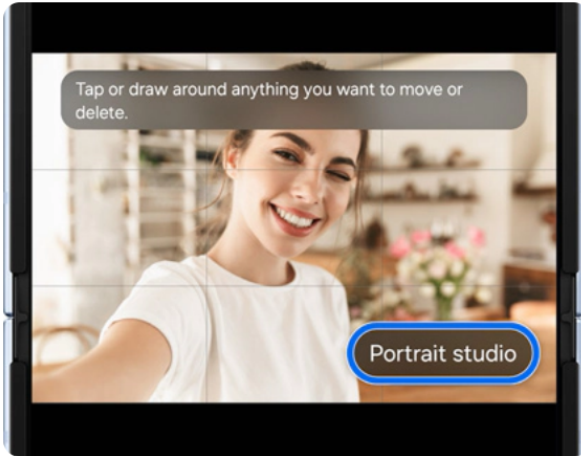
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<ul style="list-style-type: none">- Pro: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while taking pictures.- Pro video: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while recording videos. <p>Samsung Galaxy S25 User Manual at 43. (https://downloadcenter.samsung.com/content/UM/202502/20250222040501249/SAM_S931_S936_S938_EN_UG_OS15_012425_FINAL_AC_02072025.pdf)</p>

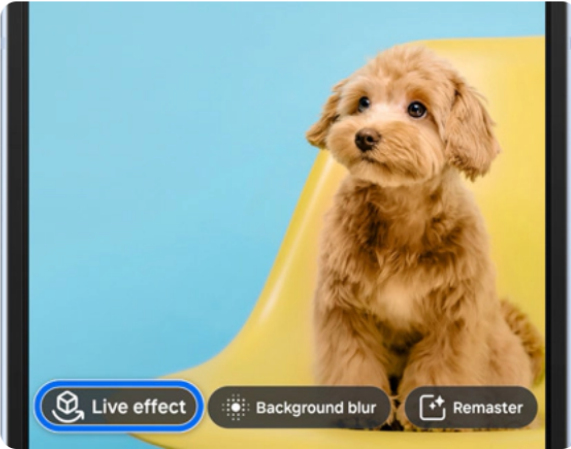
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><p>Use Portrait Studio ^</p></div> <div><p> Note</p><p>Portrait Studio is available on the Galaxy S25 Ultra, S25 Edge, S25+, S25, S24 Ultra, S24+, S24, S24 FE, S23 Ultra, S23+, S23, S23 FE, S22 Ultra, S22+, S22, Z Fold6, Z Fold5, Z Fold4, Z Flip6, Z Flip5, Z Flip4, Tab S10, Tab S9 Ultra, Tab S9+, Tab S9, Tab S8+, Tab S8, and Tab S8.</p></div> <div></div> <p>After you've taken a selfie, you can add some extra flair to it with Portrait Studio.</p> <div></div>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>After you've taken a selfie, you can add some extra flair to it with Portrait Studio.</p> <ol style="list-style-type: none">1 Open the Gallery app, and then find and select your desired selfie.2 Tap the Photo Assist icon (the stars), and then tap Generative portrait on the image. <div></div> <ol style="list-style-type: none">3 Select from the available styles at the bottom of the screen, such as Comic, 3D cartoon, or Watercolor.4 Then, tap Generate. <p>https://www.samsung.com/us/support/answer/ANS10000934/</p>

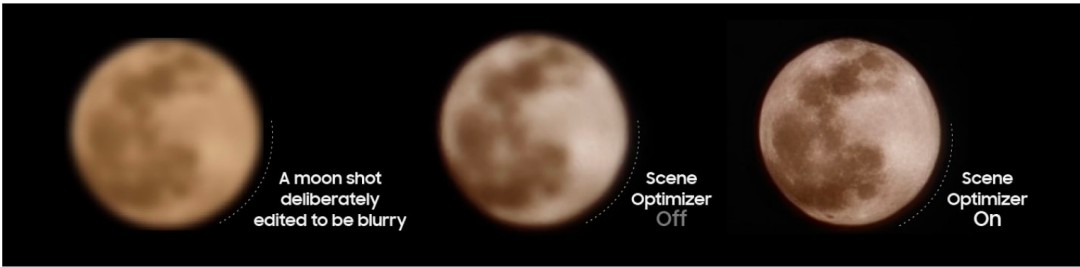
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Live Effect will bring your photos to life with animations. The effect may differ depending on the photo.</p> <ol style="list-style-type: none"><li>1 Open the Gallery app, and then find and select a photo.<li>2 Swipe up to view more details, and then tap 3D photo on the image. <div></div> <ol style="list-style-type: none"><li>3 AI will generate the photo's effects. You may see a zooming motion, a panning motion, or a swivel motion.<li>4 You can share the generated photo by tapping Share at the bottom of the screen. <p>https://www.samsung.com/us/support/answer/ANS10000753/</p> <p>Further, the Accused Samsung '950 Products include a Scene Optimizer to perform feature detection and corrections.</p>

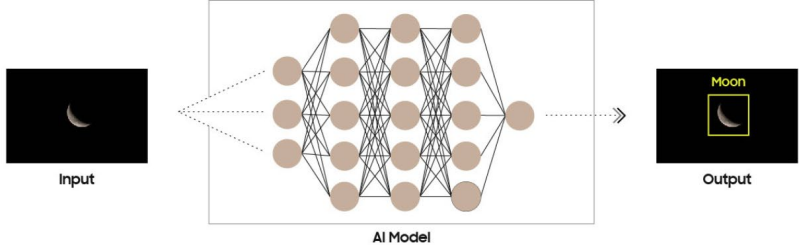
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>How Samsung Galaxy Cameras Combine Super Resolution Technologies With AI Technology to Produce High-Quality Images of the Moon</p> <p>Samsung is committed to delivering best-in-class camera experiences in all conditions. Since the introduction of the Galaxy S10, the Samsung Galaxy series has harnessed artificial intelligence (AI) technologies in its cameras to help users capture every epic moment anytime, anywhere.</p> <p>As part of this, Samsung developed the Scene Optimizer feature, a camera functionality which uses advanced AI to recognize objects and thus deliver the best results to users. Since the introduction of the Galaxy S21 series, Scene Optimizer has been able to recognize the moon as a specific object during the photo-taking process, and applies the feature's detail enhancement engine to the shot.</p> <p>When you're taking a photo of the moon, your Galaxy device's¹ camera system will harness this deep learning-based AI technology, as well as multi-frame processing in order to further enhance details. Read on to learn more about the multiple steps, processes and technologies that go in to delivering high-quality images of the moon.</p>

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div style="text-align: right;">f X</div> <p>Understanding Super Resolution and Scene Optimizer</p> <p>In order to take a clear photo of the moon, Galaxy cameras harness Super Resolution to synthesize more than 10 images taken at 25x zoom or higher. The image taken at 25x zoom or above needs to eliminate noise and enhance clarity and other details.</p> <p>Super Resolution technology helps produce images through multi-frame composition. When Scene Optimizer is turned on and the moon has been recognized as an object, the camera will deliver users a bright and clear image through the detail enhancement engine of Scene Optimizer on top of the Super Resolution technology.</p> <div>  </div> <p>AI Deep Learning for Moon Object Recognition</p> <p>The engine for recognizing the moon was built based on a variety of moon shapes and details, from full through to crescent moons, and is based on images taken from our view from the Earth.</p> <p>It uses an AI deep learning model to detect the presence of the moon and identify the area it occupies – as denoted by the square box - in the relevant image. Once the AI model has completed its learning, it can detect the area occupied by the moon even in images that were not used in training.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div></div> <p>However, the moon will not be properly recognized by the camera and Scene Optimizer technology if it is obscured by clouds, or if the moon object itself is the side that is not visible from the Earth.</p> <div><p>Types of the moon that are difficult to be recognized</p></div> <p>https://www.samsungmobilepress.com/feature-stories/how-samsung-galaxy-cameras-combine-super-resolution-technologies-with-ai-technology-to-produce-high-quality-images-of-the-moon/</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>The Brightness Control Process</p> <p>Once the device has recognized the moon after zooming in, it will control the brightness of the display in order to present the moon more clearly while maintaining optimal brightness.</p> <p>Accordingly, when users take photos of the moon at early evening time, the sky around the moon will appear darker than the actual sky color because the device will darken the object background brightness in order to help make the moon appear more clearly. Once your device recognizes the moon, it will continuously adjust focus to stay directly on the moon.</p> <div></div> <p>Capturing the Most Stable Images Possible</p> <p>Samsung introduced the Zoom Lock feature, which automatically reduces the effects of a shaking device without the need for a tripod. Combining OIS and VDIS technologies, Zoom Lock is able to minimize the image blur that can be caused by shaking hands and helps users take truly epic moon shots.</p> <p>While zooming in and touching the display or maintaining a focus on the moon for longer than 1.5 seconds, the Zoom Lock feature will be automatically activated. The border line of the zoom map on the upper right side of the screen will change from white to yellow, and the moon will be fixed on the display.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> <pre> graph LR LD[Learning Data] --> I[Moon Image] LD --> NI[Not Moon Image] I --> SO[Scene Optimizer (Convolution Neural Network)] NI --> SO SO --> Q[Is this the moon or not?] Q --> SO Q --> O[Operation of Scene Optimizer] O --> SO </pre> </div> <p>Next, the camera takes multiple pictures and then synthesizes them into a single, bright image with reduced noise.</p> <p>After Multi-frame Processing has taken place, Galaxy camera further harnesses Scene Optimizer's deep-learning-based AI detail enhancement engine to effectively eliminate remaining noise and enhance the image details even further.</p> <p>https://www.samsungmobilepress.com/feature-stories/how-samsung-galaxy-cameras-combine-super-resolution-technologies-with-ai-technology-to-produce-high-quality-images-of-the-moon/</p> <p>For example, as an example the Accused Samsung '950 Products include AI Stereo Depth Mapping, that distinguishes various features (e.g., hair, clothing, or face).</p> <h2 align="center">Become the ultimate photographer with Samsung AI</h2> <p align="center">Tap into the tools that help take perfect pictures, capture nighttime photos and make shareable content</p>

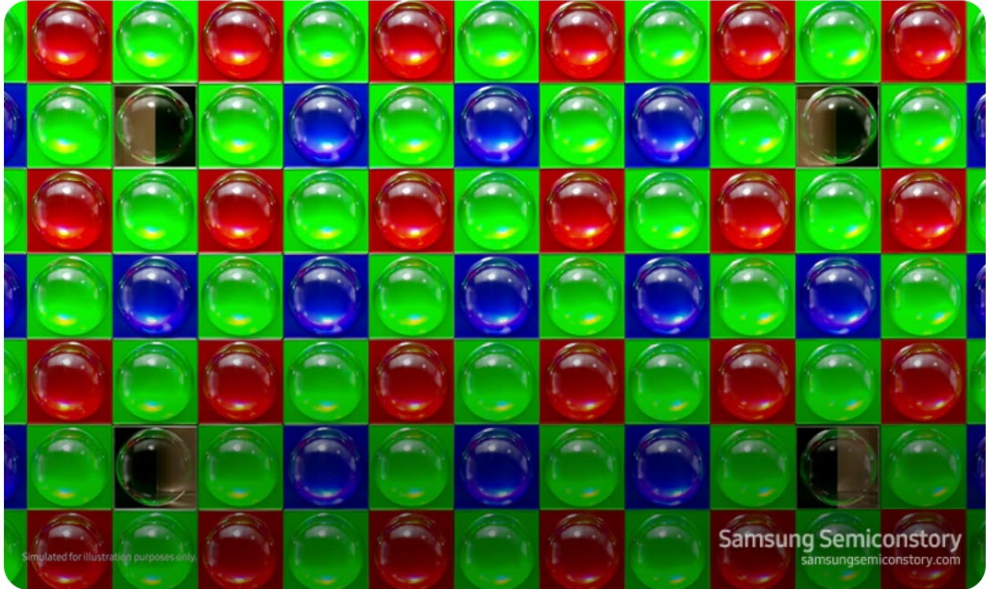
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Samsung's Galaxy S23 Ultra series uses AI Stereo Depth Mapping, a software-based feature that relies on AI algorithms to improve image output when you click a photo. This algorithm essentially creates a depth map that automatically measures the distance between objects in an image, so it doesn't miss out on the smaller elements. For example, imagine a picture of a person on the Galaxy S23 ultra whose face is in focus, but their hair or clothing, which normal cameras may treat as background elements, might not be. AI Stereo Depth Mapping fixes this common problem, making sure all these elements are clear and in focus.</p> <p>https://www.samsung.com/us/explore/photography/become-the-ultimate-photographer-with-samsung-AI/</p>

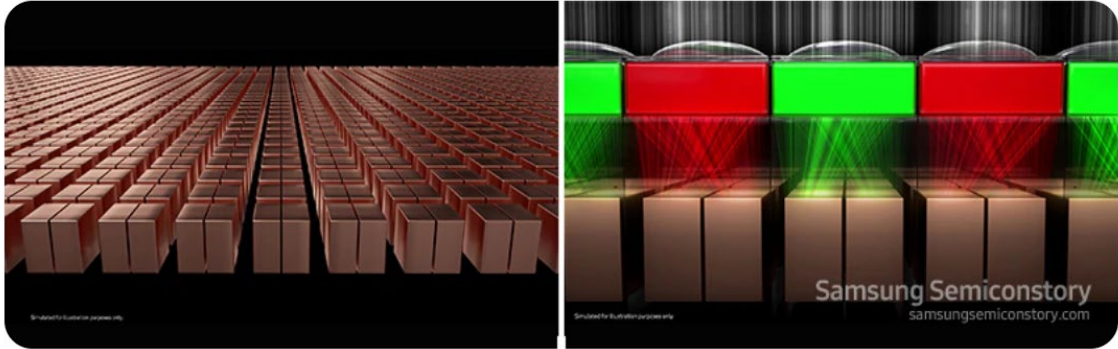
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> </div> <p align="center">Document Scan</p> <p>https://news.samsung.com/global/one-ui-6-update-7-tips-for-making-the-most-of-ai-camera-on-your-galaxy</p> <p>Further, the Accused Samsung '950 Products creates a region by removing pixels with the features from an evaluated value extraction region to perform PDAF:</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Special Autofocus Pixels Used in PDAF Technology</p> <p>To understand how Dual Pixel Pro works, it is important to first understand its foundational technology, Phase Detection Autofocus (PDAF). Just like how humans use their two eyes to focus, PDAF compares the phase difference perceived from two different locations and moves the lens such that the two phases align to adjust the focus.</p>  <p>Simulated for illustration purposes only.</p> <p>Samsung Semiconstory samsungsemiconstory.com</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Dual Pixel with Improved Autofocus</p> <div></div> <p>Each pixel on a Dual Pixel sensor contains two photodiodes, one left-looking, one right-looking. When capturing a scene, the phases from each pair of photodiodes are compared to achieve autofocus. Since every pixel in the sensor is being used for both autofocus and color values, the sensor can achieve quick autofocus without losing image quality.</p> <p>In the previous Dual Pixel technology, each pixel is divided vertically into left and right. Dual Pixel Pro features green pixels that are divided diagonally.</p> <p>There are clear benefits in dividing pixels diagonally. These pixels can compare the phase difference between the top and bottom of the pixel in addition to phase differences in the left and right side. As a result, even in a situation where autofocusing is challenging to achieve based on the use of only left and right phase differences, Dual Pixel Pro can use top and bottom phase differences, therefore delivering faster and more accurate autofocusing capabilities.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>https://semiconductor.samsung.com/news-events/tech-blog/the-evolution-from-image-sensor-to-human-eye-samsungs-innovative-dual-pixel-pro-technology/</p> <ul style="list-style-type: none"><li>• Our Qualcomm Spectra™ AI ISP features:<ul style="list-style-type: none"><li>• Limitless Real-time Semantic Segmentation for photo/video frame<li>• Insight AI provides real-time skin and sky adjustments to create more natural color and lighting in uncertain conditions.<li>• Ultra-low Light video capture<li>• Video Object Eraser can remove unwanted elements from videos<li>• Real-time AI Relighting make you appear professional wherever you are<li>• Truepic photo capture with C2PA standard support lets you snap a photo with Truepic's cryptographic seal to prove the photo is real and not Gen AI <p>https://www.qualcomm.com/products/mobile/snapdragon/smartphones/snapdragon-8-series-mobile-platforms/snapdragon-8-elite-mobile-platform)</p>

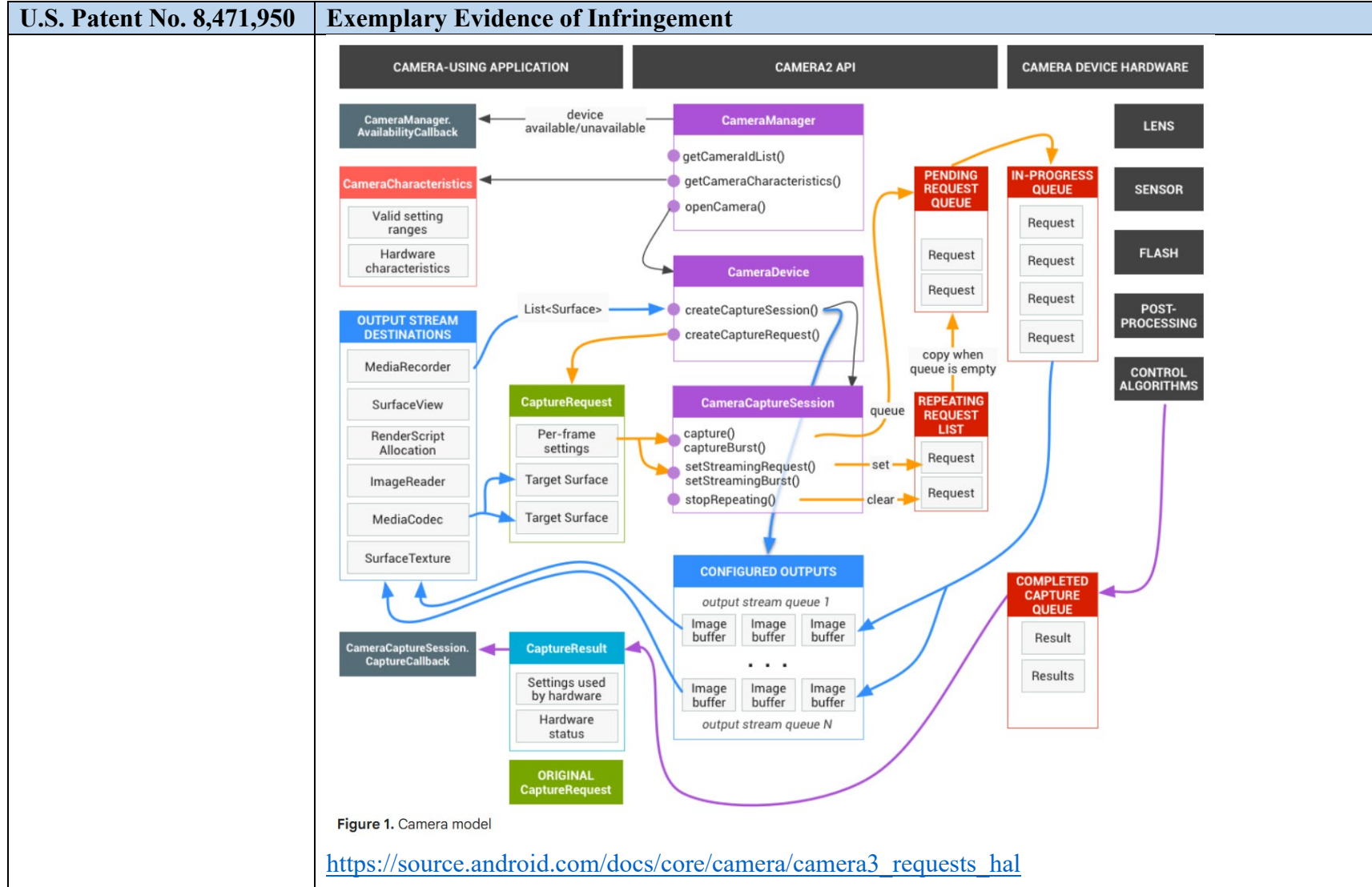
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Camera</p> <hr/> <p>Qualcomm Spectra™ Image Signal Processor</p> <ul style="list-style-type: none"> • AI-ISP, Triple 18-bit ISPs <hr/> <p>Limitless real-time Semantic Segmentation photo and video processing</p> <hr/> <p>Engine for Visual Analytics 4.0, including hardware acceleration for iToF depth sensors up to 4K 60 FPS</p> <hr/> <p>Support for the latest HDR, DCG+VS, DCG, Staggered, QDOL, Less Blanking, and Multiframe HDR image sensors</p> <hr/> <p>Support for triple video capture from HDR image sensors, with seamless switching between any HDR mode</p> <ul style="list-style-type: none"> • Up to 48 MP triple camera @ 30 FPS with Zero Shutter Lag • Up to 108 MP single camera @ 30 FPS with Zero Shutter Lag • Up to 320-megapixel photo capture <hr/> <p>AI-based face detection, AI for 3A (auto-focus, autoexposure, and auto-white balance)</p> <hr/> <p>Rec. 2020 color gamut photo and video capture</p> <hr/> <p>Up to 10-bit color depth photo and video capture</p> <hr/> <p>10-bit HEIF: HEIC photo capture, HEVC video capture</p> <hr/> <p>Google Ultra HDR photo capture</p> <hr/> <p>Video capture HDR formats: HDR10+, HDR10, HLG, Dolby Vision</p> <hr/> <p>8K HDR video playback @ 60 FPS</p> <hr/> <p>4K video capture @ 120 FPS</p> <hr/> <p>Slow-mo video capture at 1080p @ 480 FPS</p> <hr/> <p>Hardware Bokeh Engine 2 for video capture</p> <hr/> <p>(https://docs.qualcomm.com/bundle/publicresource/87-83196-1_REV_D_Snapdragon_8_Elite_Mobile_Platform_Product_Brief.pdf)</p>

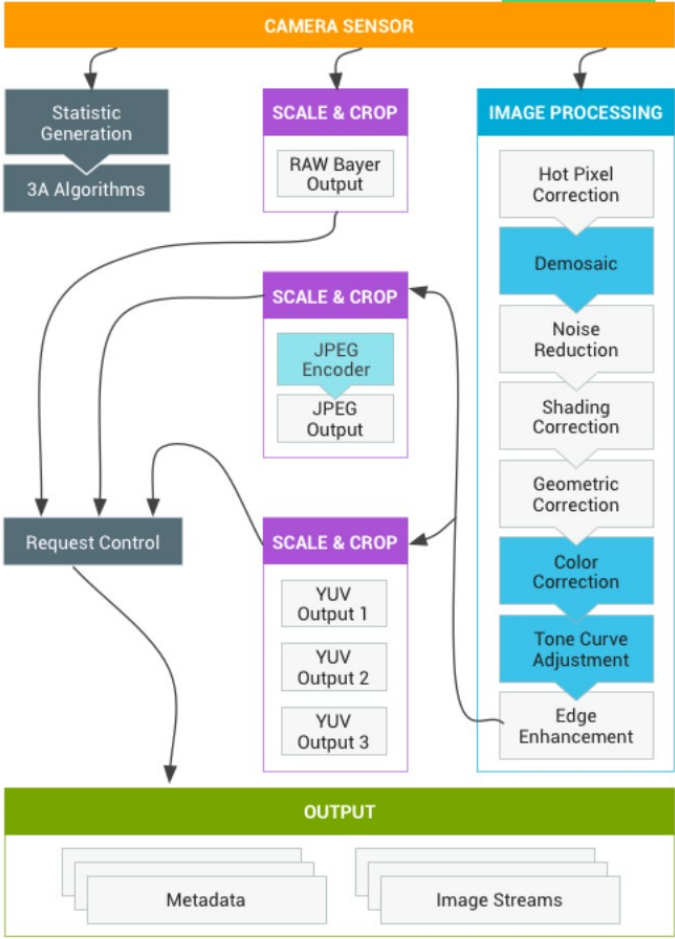
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>AI-powered camera redefines photography</p> <p>Infuse brilliance into mobile capture with our AI ISP, enhancing everything from selfies to crystal-clear video chats thanks to an overhauled Hexagon Direct Link. The first AI-powered Limitless Segmentation recognizes and enhances virtually anything in the frame, including faces, hair, clothing, objects, backgrounds, and beyond. Even furry friends appear crisp and cute—no matter how fast the zoomies—thanks to AI-Based Pet Capture.</p> <ul style="list-style-type: none"> • Our powerful AI ISP is deeply integrated with the Hexagon NPU for enhanced, intuitive capture. • Limitless Segmentation can segment an image in over 250 layers, each optimized to perfection. • Real-time Insight AI captures and enhances natural skin and sky tones even in the most challenging conditions. • Truepic with C2PA adds cryptographic seals so you can authenticate your photos as real and not AI-generated—now including videos and audio recordings. • Video Object Eraser can remove unwanted elements from video footage—on-device. • Capture vivid videos at 4K60 FPS, even in near darkness. <p>(https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/Snapdragon-8-Elite-Platform-Product-Brief.pdf)</p> <p>Let's dive deeper into why Snapdragon 8 Elite is a game-changer:</p> <ul style="list-style-type: none"> • Incredible power: Experience a 45% boost in performance with the Qualcomm Oryon CPU, giving you lightning-fast apps and incredible multitasking.¹ • AI at your fingertips: The Qualcomm® Hexagon™ NPU increases AI performance by 45%, handling everything from voice commands to image prompts. Your device is ready to adapt to your every move. • Photography, reimagined: With features like 4K Semantic Segmentation, Video Object Eraser, and real-time AI lighting adjustments, the Snapdragon 8 Elite camera tech turns your mobile photos into pro-level masterpieces. <p>https://www.qualcomm.com/snapdragon/news/snapdragon-8-elite--the-power-behind-the-name</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	 <p>The diagram illustrates a camera pipeline. At the top, an orange box labeled 'CAMERA SENSOR' has three arrows pointing down to three parallel processing paths. The left path consists of a grey box 'Statistic Generation' followed by a grey box '3A Algorithms'. The middle path starts with a purple box 'SCALE & CROP' containing 'RAW Bayer Output', followed by another purple box 'SCALE & CROP' containing a cyan box 'JPEG Encoder' and a grey box 'JPEG Output'. The right path is a blue box 'IMAGE PROCESSING' containing a sequence of steps: 'Hot Pixel Correction', 'Demosaic', 'Noise Reduction', 'Shading Correction', 'Geometric Correction', 'Color Correction', 'Tone Curve Adjustment', and 'Edge Enhancement'. Arrows from the 'Statistic Generation' and '3A Algorithms' boxes point to a grey box 'Request Control'. Arrows from the 'RAW Bayer Output' and 'JPEG Output' boxes point to the 'Request Control' box. Arrows from the 'Request Control' box point to the 'SCALE & CROP' boxes in the middle path and to a green box 'OUTPUT' at the bottom. The 'OUTPUT' box contains two stacks of grey boxes labeled 'Metadata' and 'Image Streams'. The 'SCALE & CROP' boxes in the middle path also have arrows pointing to the 'OUTPUT' box.</p> <p>Figure 2. Camera pipeline</p> <p>https://source.android.com/docs/core/camera/camera3_requests_hal</p> <p><u>Doctrine of Equivalents</u></p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>To the extent Samsung argues that the above-identified structure does not literally infringe this claim element, this limitation is infringed under the doctrine of equivalents because the Accused Samsung '950 Products contain one or more components and/or software, or a combination thereof, that perform substantially the same function in substantially the same way to obtain the same result.</p> <p>By way of example, to the extent that Samsung argues that the Accused Samsung '950 Products do not have a control unit that operates in this manner, each of these products include software, hardware, or a combination of the two that perform the equivalent function of controlling the signal processing unit. Using this combination, these products perform substantially the same function (for example, controlling components within the signal processor) in substantially the same way. The performance of this function achieves substantially the same result, for example, the control of the processing unit based on an extracted value from a region where other features were removed. That this functionality may be divided across several components does not preclude them from collectively functioning as a control unit.</p>
<p>[2.a] A signal processor according to claim 1, wherein the feature detection unit includes: a hold unit which holds position information of the detected pixels; and</p>	<p>For example, the Samsung S25 has one or more, buffer for temporary storing image data while ISP pipeline processes occur, a memory, and/or storage for holding information generated by software and applications including position information of the detected pixels e.g. pixels associated with detected features such as face, hair, clothing, moving objects, etc.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div>An advertisement for the Samsung Galaxy S25. It features a blue smartphone with a stack of various images (landscapes, cityscapes, a person) on its screen. To the right of the phone, the text reads: 'The storage you need' in large bold letters, followed by 'Store it all with 128GB or 256GB of storage on Galaxy S25, or choose between 256GB or 512GB of storage on Galaxy S25+.²⁶'</div> <div>https://www.samsung.com/us/smartphones/galaxy-s25/</div>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
<p>[2.b] the region creation unit which creates a region by excluding the held positions from an evaluated value extraction region.</p>	<p>The signal processor in each of the Accused Samsung '950 Products incorporates or operates as a region creation unit which creates a region by removing pixels with the features from an evaluated value extraction region.</p> <p>As an example, the signal processor is configured to create a region that includes skin tones and textures and other region or regions that do not include skin tones and textures. To create other region or regions that do not contain the detected skin tones and textures, the signal processor excludes a skin tone region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contain a detected moving object or subject and other region or regions that do not contain the detected moving object or subject. To create other region or regions that do not contain the detected moving object, the signal processor excludes a moving object region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains a detected face and other region or regions that do not contain the detected face. To create other region or regions that do not contain the detected face, the signal processor excludes a face region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains detected natural skin and other region or regions that do not contain the detected natural skin. To create other region or regions that do not contain the detected natural skin, the signal processor excludes a natural skin region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains detected hair and other region or regions that do not contain the detected hair. To create other region or regions that do not contain the detected hair, the signal processor excludes a hair region that contains the pixels for which a position has been held in the hold unit or memory.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>As another example, the signal processor is configured to create a region that contains detected clothing and other region or regions that do not contain the detected clothing. To create other region or regions that do not contain the detected clothing, the signal processor excludes a clothing region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains a detected object in a foreground and other region or regions that are part of a background. To create other region or regions that do not contain the detected foreground, the signal processor excludes a foreground region that contains the pixels for which a position has been held in the hold unit or memory.</p> <ul style="list-style-type: none">• Our Qualcomm Spectra™ AI ISP features:<ul style="list-style-type: none">• Limitless Real-time Semantic Segmentation for photo/video frame• Insight AI provides real-time skin and sky adjustments to create more natural color and lighting in uncertain conditions.• Ultra-low Light video capture• Video Object Eraser can remove unwanted elements from videos• Real-time AI Relighting make you appear professional wherever you are• Truepic photo capture with C2PA standard support lets you snap a photo with Truepic's cryptographic seal to prove the photo is real and not Gen AI

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>https://www.qualcomm.com/products/mobile/snapdragon/smartphones/snapdragon-8-series-mobile-platforms/snapdragon-8-elite-mobile-platform)</p> <p>AI-powered camera redefines photography</p> <p>Infuse brilliance into mobile capture with our AI ISP, enhancing everything from selfies to crystal-clear video chats thanks to an overhauled Hexagon Direct Link. The first AI-powered Limitless Segmentation recognizes and enhances virtually anything in the frame, including faces, hair, clothing, objects, backgrounds, and beyond. Even furry friends appear crisp and cute—no matter how fast the zoomies—thanks to AI-Based Pet Capture.</p> <ul style="list-style-type: none"> • Our powerful AI ISP is deeply integrated with the Hexagon NPU for enhanced, intuitive capture. • Limitless Segmentation can segment an image in over 250 layers, each optimized to perfection. • Real-time Insight AI captures and enhances natural skin and sky tones even in the most challenging conditions. • Truepic with C2PA adds cryptographic seals so you can authenticate your photos as real and not AI-generated—now including videos and audio recordings. • Video Object Eraser can remove unwanted elements from video footage—on-device. • Capture vivid videos at 4K60 FPS, even in near darkness. <p>https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/Snapdragon-8-Elite-Platform-Product-Brief.pdf)</p>
[3.a] A signal processor according to claim 2, wherein: the processing unit includes a focus lens, and a drive unit for driving the focus lens;	For example, the Samsung S25 incorporates one or more lenses e.g. a telephoto lens with an optical zoom including a drive unit to drive the optical zoom lens.

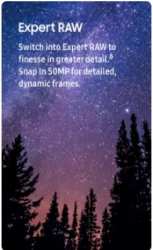
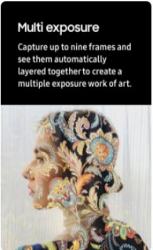
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement																						
	<table><tr><td rowspan="4">MAIN CAMERA</td><td>Triple</td><td>50 MP, f/1.8, 24mm (wide), 1/1.56", 1.0µm, dual pixel PDAF, OIS</td></tr><tr><td></td><td>10 MP, f/2.4, 67mm (telephoto), 1/3.94", 1.0µm, PDAF, OIS, 3x optical zoom</td></tr><tr><td></td><td>12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55" 1.4µm, Super Steady video</td></tr><tr><td>Features</td><td>Best Face, LED flash, auto-HDR, panorama</td></tr><tr><td></td><td>Video</td><td>8K@24/30fps, 4K@30/60fps, 1080p@30/60/120/240fps, 10-bit HDR, HDR10+, stereo sound rec., gyro-EIS</td></tr><tr><td rowspan="4">SELFIE CAMERA</td><td>Single</td><td>12 MP, f/2.2, 26mm (wide), 1/3.2", 1.12µm, dual pixel PDAF</td></tr><tr><td>Features</td><td>HDR, HDR10+</td></tr><tr><td></td><td></td><td></td></tr><tr><td>Video</td><td>4K@30/60fps, 1080p@30fps</td></tr></table> <p>https://www.gsmarena.com/samsung_galaxy_s25-13610.php</p> <p>The remaining accused products also include focus lens and a drive unit to, for example, perform AF or PDAF:</p> <div><div><div>Samsung Galaxy S23 Ultra</div><div><div></div><div><div>Released 2023, February 17</div><div>234g, 8.9mm thickness</div><div><> Android 13, One UI 5.1</div><div>256GB/512GB/1TB storage, no card slot</div></div><div><div>6.8"</div><div>1440x3088 pixels</div></div><div><div>200MP</div><div>4320p</div></div><div><div>8/12GB RAM</div><div>Snapdragon 8 Gen 2</div></div><div><div>5000mAh</div><div>Li-Ion</div></div></div><div><div>74%</div><div>5,014,011 HITS</div></div><div><div>879</div><div>BECOME A FAN</div></div></div><div><div>REVIEW</div><div>OPINIONS</div><div>COMPARE</div><div>PICTURES</div><div>PRICES</div></div></div>	MAIN CAMERA	Triple	50 MP, f/1.8, 24mm (wide), 1/1.56", 1.0µm, dual pixel PDAF, OIS		10 MP, f/2.4, 67mm (telephoto), 1/3.94", 1.0µm, PDAF, OIS, 3x optical zoom		12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55" 1.4µm, Super Steady video	Features	Best Face, LED flash, auto-HDR, panorama		Video	8K@24/30fps, 4K@30/60fps, 1080p@30/60/120/240fps, 10-bit HDR, HDR10+, stereo sound rec., gyro-EIS	SELFIE CAMERA	Single	12 MP, f/2.2, 26mm (wide), 1/3.2", 1.12µm, dual pixel PDAF	Features	HDR, HDR10+				Video	4K@30/60fps, 1080p@30fps
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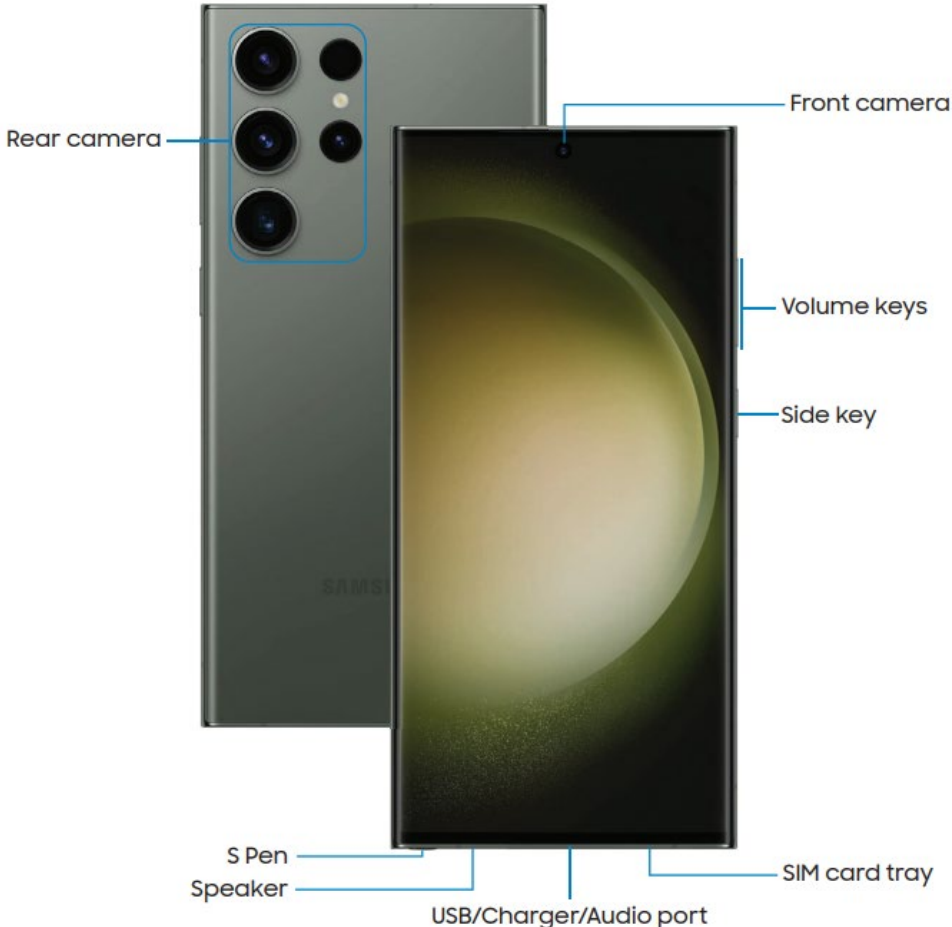
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><p><small>New</small> Galaxy S23 Ultra Verizon 512GB Green Learn more <small>SM-S918U / SM-S918UZGFVZW ★★★★★ 4.8 (8484) Write a Review</small></p><p align="right"><small>Pricing before trade-in</small> Get \$400 - \$800 trade-in bill credit</p></div> <div></div> <div><p>Galaxy S23 Ultra technical specifications; https://www.samsung.com/us/smartphones/galaxy-s23-ultra/buy/galaxy-s23-ultra-512gb-verizon-sm-s918uzgfvzw/?modelCode=SM-S918UZGFXAU; https://www.gsmarena.com/samsung_galaxy_s23_ultra-12024.php.</p></div>

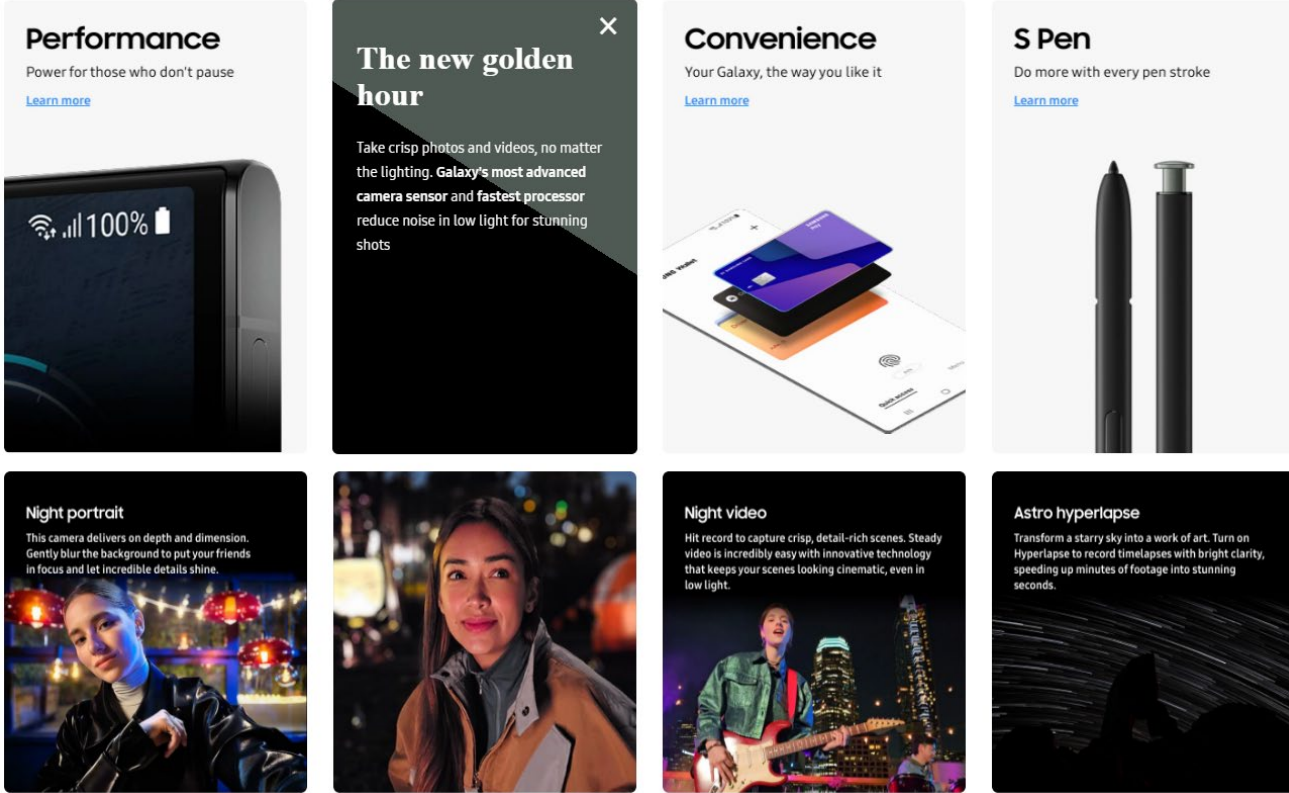
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	<div><div><div><p>Galaxy S23 Ultra We've raised the bar with a 200MP camera and our fastest mobile processor ever</p></div><div><p>Can you send me that?</p><p>Get ready to become your group's go-to photographer. We've packed Galaxy's biggest sensor, light-absorbing pixels and video stabilization technology into one epic camera for life's most share-worthy moments.</p></div><div><p>Eco design More innovation, less footprint Learn more</p></div></div><div><div><p>12MP Selfie Camera</p></div><div><p>12MP Ultra-Wide Camera</p><p>10MP 10x Optical Zoom Telephoto Camera 1</p></div><div><p>200MP Wide-Angle Camera</p><p>10MP 3x Optical Zoom Telephoto Camera 2</p></div><div><p>High resolution We nearly doubled the resolution on the Wide-Angle Camera,5 delivering images so clear you can zoom way in to find hidden masterpieces.</p></div><div><p>Expert RAW Switch into Expert RAW to finesse in greater detail.6 Snap in 50MP for detailed, dynamic frames.</p></div><div><p>Multi exposure Capture up to nine frames and see them automatically layered together to create a multiple exposure work of art.</p></div></div><table><tr><td rowspan="4">MAIN CAMERA</td><td>Quad</td><td>200 MP, f/1.7, 24mm (wide), 1/1.3", 0.6µm, multi-directional PDAF, Laser AF, OIS 10 MP, f/4.9, 230mm (periscope telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 10x optical zoom 10 MP, f/2.4, 70mm (telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55", 1.4µm, Dual Pixel PDAF, Super Steady video</td></tr><tr><td>Features</td><td>LED flash, auto-HDR, panorama</td></tr><tr><td>Video</td><td>8K@24/30fps, 4K@30/60fps, 1080p@30/60/240fps, 1080p@960fps, HDR10+, stereo sound rec., gyro-EIS</td></tr><tr><td></td><td></td><td></td></tr><tr><td rowspan="3">SELFIE CAMERA</td><td>Single</td><td>12 MP, f/2.2, 26mm (wide), Dual Pixel PDAF</td></tr><tr><td>Features</td><td>Dual video call, Auto-HDR, HDR10+</td></tr><tr><td>Video</td><td>4K@30/60fps, 1080p@30fps</td></tr></table><p>Galaxy S23 Ultra technical specifications; https://www.samsung.com/us/smartphones/galaxy-s23-ultra/buy/galaxy-s23-ultra-512gb-verizon-sm-s918uzgfvzw/?modelCode=SM-S918UZGFXAU; https://www.gsmarena.com/samsung_galaxy_s23_ultra-12024.php.</p></div>	MAIN CAMERA	Quad	200 MP, f/1.7, 24mm (wide), 1/1.3", 0.6µm, multi-directional PDAF, Laser AF, OIS 10 MP, f/4.9, 230mm (periscope telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 10x optical zoom 10 MP, f/2.4, 70mm (telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55", 1.4µm, Dual Pixel PDAF, Super Steady video	Features	LED flash, auto-HDR, panorama	Video	8K@24/30fps, 4K@30/60fps, 1080p@30/60/240fps, 1080p@960fps, HDR10+, stereo sound rec., gyro-EIS				SELFIE CAMERA	Single	12 MP, f/2.2, 26mm (wide), Dual Pixel PDAF	Features	Dual video call, Auto-HDR, HDR10+	Video	4K@30/60fps, 1080p@30fps
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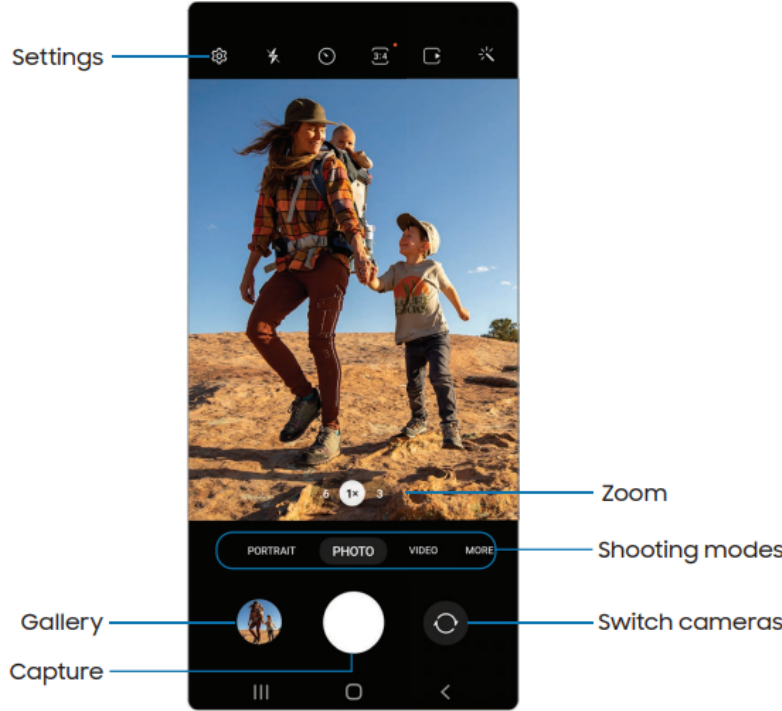
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Galaxy S23 Ultra</p>  <p>The diagram illustrates the Samsung Galaxy S23 Ultra with the following labeled components:</p> <ul style="list-style-type: none">Rear camera: Points to the camera module on the back of the device.Front camera: Points to the camera located at the top of the front display.Volume keys: Points to the two keys on the left side of the device.Side key: Points to the single key on the right side of the device.S Pen: Points to the stylus located at the bottom of the device.Speaker: Points to the speaker grille at the bottom of the device.USB/Charger/Audio port: Points to the port at the bottom of the device.SIM card tray: Points to the tray at the bottom of the device.

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Galaxy S23 Ultra technical specifications; https://downloadcenter.samsung.com/content/UM/202302/20230228053129621/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL_AC_022023.pdf at 5.</p> <div>  </div> <p>Galaxy S23 Ultra technical specifications; https://www.samsung.com/us/smartphones/galaxy-s23-ultra/buy/galaxy-s23-ultra-512gb-verizon-sm-s918uzgfvzw/?modelCode=SM-S918UZGFXAU.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><div> Camera</div><p>Enjoy a full kit of pro lenses and pro-grade video modes and settings.</p><ul style="list-style-type: none">○ From Apps, tap  Camera.<p> TIP Quickly press the Side key twice to open the Camera app.</p><div></div><p>Galaxy S23 Ultra technical specification; https://downloadcenter.samsung.com/content/UM/202302/20230228053129621/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL_AC_022023.pdf at 58.</p></div>

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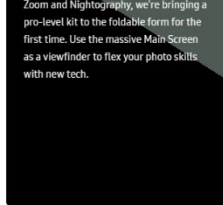
U.S. Patent No. 8,471,950

Exemplary Evidence of Infringement

The screenshot displays the Samsung Galaxy Z Fold4 product page. At the top, the title 'Samsung Galaxy Z Fold4' is shown. Below it, a grid of specifications includes: Released 2022, August 25; 263g, 6.3mm thickness; Android 12L, up to Android 13, One UI 5.1; 256GB/512GB/1TB storage, no card slot; 7.6" 1812x2176 pixels; 50MP 4320p camera; 12GB RAM Snapdragon 8+ Gen 1; and 4400mAh Li-Po battery. A navigation bar at the bottom of the spec section includes links for REVIEW, OPINIONS, COMPARE, PICTURES, and PRICES. Below this, the 'Galaxy Z Fold4' model name is followed by carrier and storage options (Verizon | 512GB | Beige | Learn more) and a pricing note: 'Pricing before trade-in. Get \$400 - \$800 trade-in bill credit.' A large image of the phone is shown, displaying a colorful abstract wallpaper. To the left of the phone image is a small circular icon with a left-pointing arrow.

Galaxy Z Fold4 technical specifications; <https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzeatt/>;
https://www.gsmarena.com/samsung_galaxy_z_fold4-11737.php.

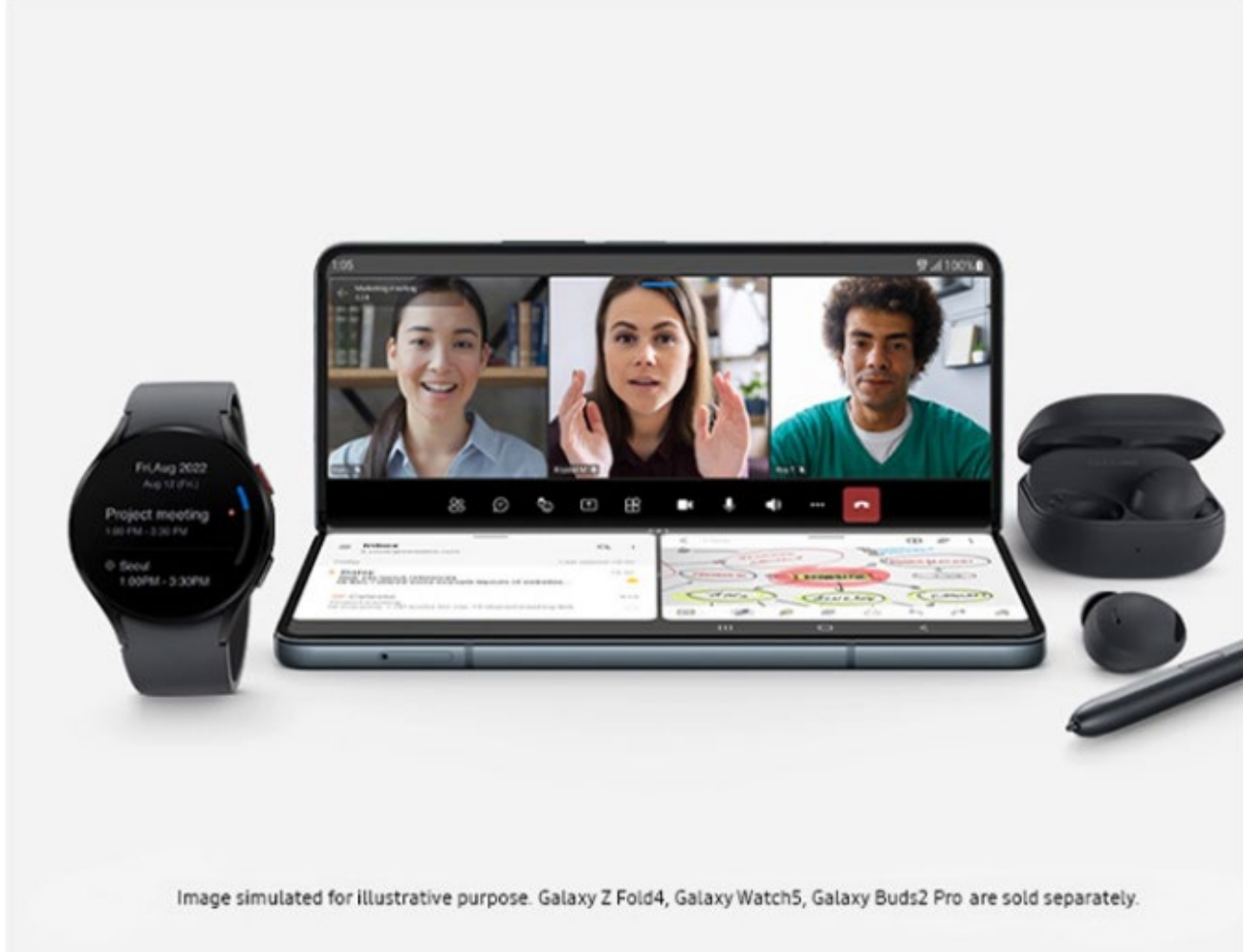
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement																
	<div><div><div><div><div>Immersive View</div><div>Get in the Zone.</div><div>Learn more</div><div></div></div></div><div><div><div>Built to last</div><div>Unbelievable tech.</div><div>Learn more</div><div></div></div></div><div><div><div>Smile-worthy improvements</div><div>With the upgraded Rear Camera, Space Zoom and Nightography, we're bringing a pro-level kit to the foldable form for the first time. Use the massive Main Screen as a viewfinder to flex your photo skills with new tech.</div><div></div></div></div><div><div><div>Galaxy Excellence</div><div>The brilliance is built in</div><div>Learn more</div><div></div></div></div></div><div><div><div><div><div>10MP 3x Optical Zoom Telephoto Camera</div><div></div></div></div><div><div><div>12MP Ultra-wide camera</div><div></div></div></div><div><div><div>50MP Wide-angle camera</div><div></div></div></div><div><div><div>4MP Under display camera</div><div></div></div></div><div><div><div>10MP Cover camera</div><div></div></div></div><div><div><div>Stay nimble Stay night</div><div>Intuitive technology delivers vivid and bright portraits in the low-light.</div><div></div></div></div></div><table><tr><td rowspan="4">MAIN CAMERA</td><td>Triple</td><td>50 MP, f/1.8, 23mm (wide), 1.0µm, Dual Pixel PDAF, OIS 10 MP, f/2.4, 66mm (telephoto), 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 123°, 12mm (ultrawide), 1.12µm</td></tr><tr><td>Features</td><td>LED flash, HDR, panorama</td></tr><tr><td>Video</td><td>8K@24fps, 4K@60fps, 1080p@60/240fps (gyro-EIS), 720p@960fps (gyro-EIS), HDR10+</td></tr><tr><td>SELFIE CAMERA</td><td>Single</td><td>4 MP, f/1.8, 26mm (wide), 2.0µm, under display Cover camera: 10 MP, f/2.2, 24mm (wide), 1/3", 1.22µm</td></tr><tr><td></td><td>Features</td><td>HDR</td></tr><tr><td></td><td>Video</td><td>4K@30/60fps, 1080p@30/60fps, gyro-EIS</td></tr></table><div>Galaxy Z Fold4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzeeatt/; https://www.gsmarena.com/samsung_galaxy_z_fold4-11737.php.</div></div></div>	MAIN CAMERA	Triple	50 MP, f/1.8, 23mm (wide), 1.0µm, Dual Pixel PDAF, OIS 10 MP, f/2.4, 66mm (telephoto), 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 123°, 12mm (ultrawide), 1.12µm	Features	LED flash, HDR, panorama	Video	8K@24fps, 4K@60fps, 1080p@60/240fps (gyro-EIS), 720p@960fps (gyro-EIS), HDR10+	SELFIE CAMERA	Single	4 MP, f/1.8, 26mm (wide), 2.0µm, under display Cover camera: 10 MP, f/2.2, 24mm (wide), 1/3", 1.22µm		Features	HDR		Video	4K@30/60fps, 1080p@30/60fps, gyro-EIS
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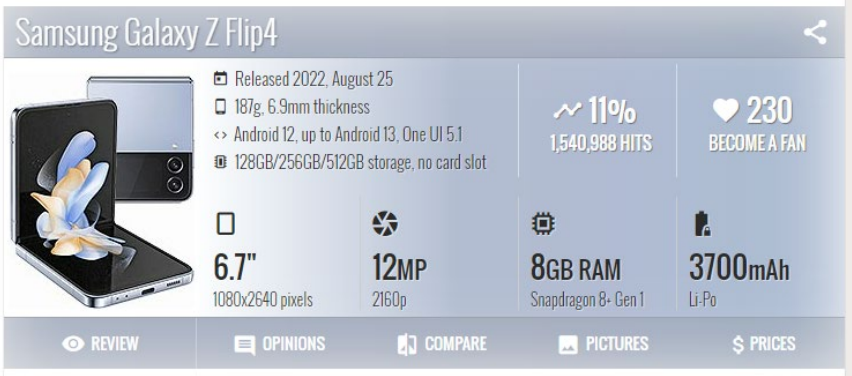
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> <h2>Galaxy Z Fold4</h2> </div>  <p>The diagram illustrates the Samsung Galaxy Z Fold4 in both its folded and unfolded configurations. The folded phone is shown in the background, while the unfolded phone is in the foreground, displaying a vibrant, abstract pattern. Labels with leader lines point to various components: 'Rear camera' and 'Flash' point to the camera module on the back of the folded phone; 'Cover camera' points to the front-facing camera on the outer cover; 'Speaker' points to the speaker grille on the top edge of the cover; 'Under display camera' points to the camera located beneath the main display of the unfolded phone; 'Volume keys' and 'Side key/ Fingerprint sensor' point to the controls on the right edge of the unfolded phone; and another 'Speaker' and 'USB/charging/ audio port' point to the bottom edge of the unfolded phone.</p> <p>Galaxy Z Fold4 technical specification; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_fold4_d1e605.html.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	 <p>Image simulated for illustrative purpose. Galaxy Z Fold4, Galaxy Watch5, Galaxy Buds2 Pro are sold separately.</p> <p>Galaxy Z Fold4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzeeatt/.</p>

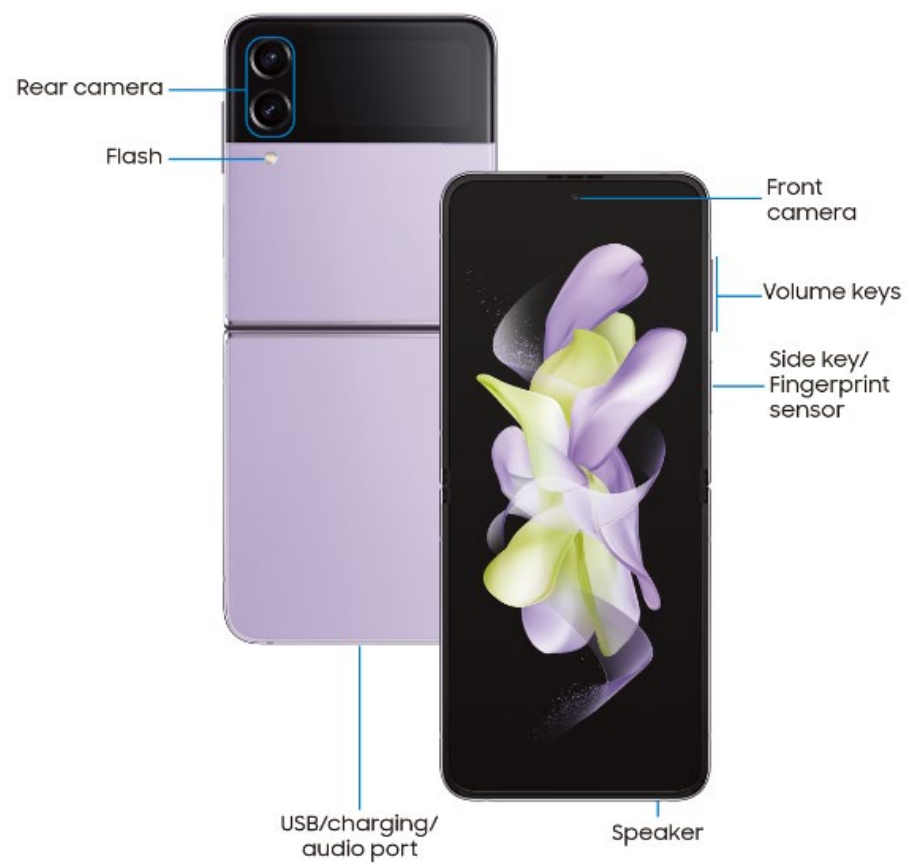
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement																						
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p align="center">Galaxy Z Flip4</p>  <p>The diagram illustrates the Samsung Galaxy Z Flip4 in two configurations: folded and unfolded. The folded phone (left) shows the rear camera and flash. The unfolded phone (right) shows the front camera, volume keys, side key/fingerprint sensor, and speaker. A label at the bottom points to the USB/charging/audio port on the bottom edge of the unfolded phone.</p> <p>Galaxy Z Flip4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_flip4_d1e661.html.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950

Exemplary Evidence of Infringement

The screenshot displays the Samsung Galaxy A54 product page. At the top, the title 'Samsung Galaxy A54' is shown with a share icon. Below this, a grid of specifications is presented: Release date (2023, March 24), Weight (202g, 8.2mm thickness), OS (Android 13, One UI 5.1), Storage (128GB/256GB), Display (6.4" 1080x2340 pixels), Camera (50MP 2160p), RAM (6/8GB RAM Exynos 1380), and Battery (5000mAh Li-Po). A navigation bar at the bottom of the grid includes links for REVIEW, OPINIONS, COMPARE, PICTURES, and PRICES. Below the grid, a 'New Arrival' badge is followed by the 'Galaxy A54 5G' title and Verizon compatibility. A promotional banner offers a \$25.00 discount with Samsung Offer Programs and Samsung.com Advantage. Another banner below it offers a \$250 instant trade-in. The main image area shows a large view of the phone's back and front. A 'now' dropdown menu is visible at the bottom left of the image area.

Galaxy A54 5G technical specifications; <https://www.samsung.com/us/mobile/phones/galaxy-a54/buy/>; https://www.gsmarena.com/samsung_galaxy_a54-12070.php.

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement													
	<div><div><p>Capture your Awesome moments with a multi-lens camera</p></div><div><p>Front Camera 32MP (f/2.2)</p><p>Ultra-Wide Camera 12MP (f/2.2)</p><p>Main Camera 50MP (f/1.8) OIS*</p><p>Macro Camera 5MP (f/2.4)</p><p><small>*OIS: Optical Image Stabilization</small></p></div></div> <table><tr><td rowspan="4">MAIN CAMERA</td><td>Triple</td><td>50 MP, f/1.8, (wide), 1/1.56", 1.0µm, PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm 5 MP, f/2.4, (macro)</td></tr><tr><td>Features</td><td>LED flash, panorama, HDR</td></tr><tr><td>Video</td><td>4K@30fps, 1080p@30/60fps, 720p@480fps</td></tr><tr><td>SELFIE CAMERA</td><td>Single</td><td>32 MP, f/2.2, 26mm (wide), 1/2.8", 0.8µm</td></tr><tr><td></td><td>Video</td><td>4K@30fps, 1080p@30/60fps</td></tr></table> <p>Samsung Galaxy A54 5G technical specifications; Galaxy A54 5G, 128GB (Unlocked) Phones - SM-A546UZKBXAA Samsung US; https://www.gsmarena.com/samsung_galaxy_a54-12070.php.</p>	MAIN CAMERA	Triple	50 MP, f/1.8, (wide), 1/1.56", 1.0µm, PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm 5 MP, f/2.4, (macro)	Features	LED flash, panorama, HDR	Video	4K@30fps, 1080p@30/60fps, 720p@480fps	SELFIE CAMERA	Single	32 MP, f/2.2, 26mm (wide), 1/2.8", 0.8µm		Video	4K@30fps, 1080p@30/60fps
MAIN CAMERA	Triple		50 MP, f/1.8, (wide), 1/1.56", 1.0µm, PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm 5 MP, f/2.4, (macro)											
	Features		LED flash, panorama, HDR											
	Video		4K@30fps, 1080p@30/60fps, 720p@480fps											
	SELFIE CAMERA	Single	32 MP, f/2.2, 26mm (wide), 1/2.8", 0.8µm											
	Video	4K@30fps, 1080p@30/60fps												

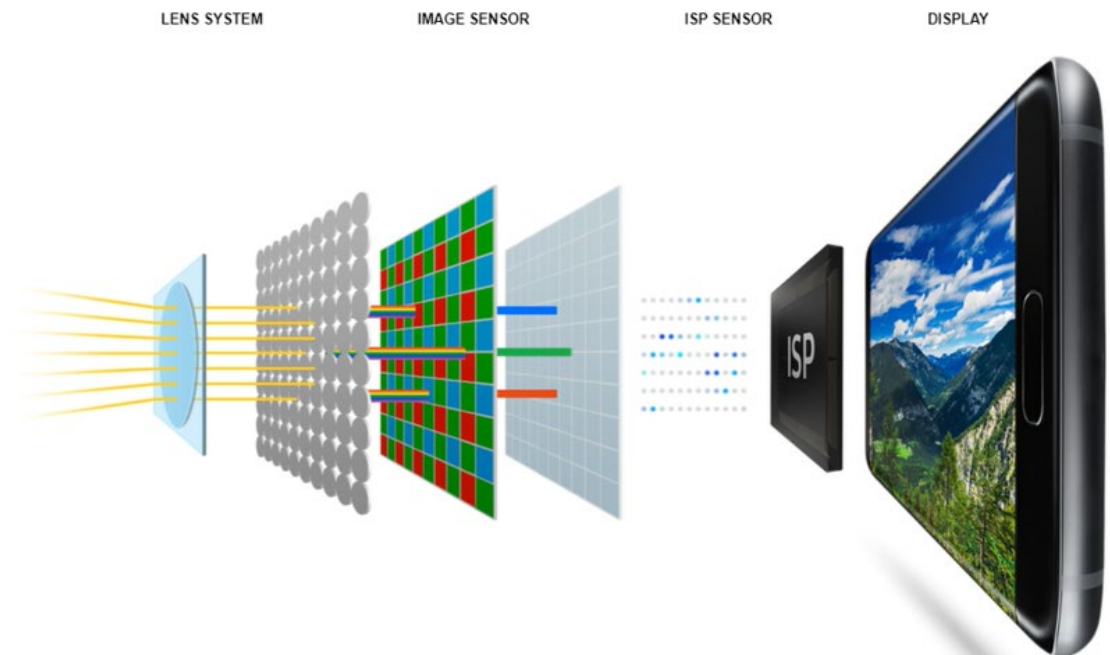
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div>Galaxy A54 5G</div> <div><p>The diagram shows the Samsung Galaxy A54 5G from both front and back views. Labels with leader lines point to the following features: 'Flash' (top of rear camera module), 'Rear camera' (three lenses on the rear), 'Front camera' (top of front display), 'Volume keys' (left side), 'Side key' (right side), 'Fingerprint scanner' (bottom of front display), and 'USB/Charging/Audio port' (bottom of rear). The Samsung logo is visible on the back of the phone.</p></div> <div><p>Galaxy A54 5G technical specifications; https://downloadcenter.samsung.com/content/UM/202304/20230407022332214/SAM_A546_EN_UM_OS13_040523_FINAL.pdf at 5.</p></div>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
<p>[3.b] a photoelectric conversion unit for performing photoelectric conversion is disposed between the focus lens and the extraction unit; and</p>	<p>For example, the Samsung S25 incorporates an image sensor corresponding to each of the one or more lenses e.g. a 10MP image sensor for the telephoto lens. The image sensor incorporates a photoelectric conversion unit for performing photoelectric conversion disposed between the focus lens and the extraction unit. For example, the image sensor converts light to electricity representing pixel elements.</p> <p>As a nonlimiting example, each of the Accused Samsung '950 Products includes one or more image sensors associated with the plurality of cameras as front-facing and/or rear-facing cameras, which alone or in conjunction with other features and/or components discussed in this claim chart, allows each of the Accused Samsung '950 Products to convert light associated with an image into a digital signal representing the image as pixels. For example, each of the Accused Samsung '950 Products includes one or more image sensors that convert light received through optical lens into an electronic signal, which is sent to one or more image signal processors (ISP) where the electronic signal is rebuilt as a picture or a preview on a display. <i>See e.g.</i>, https://semiconductor.samsung.com/us/solutions/technology/image-processing/.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p align="center">Background</p> <p align="center">Processor for converting light information into an image</p> <p align="center">The image sensor converts the light received through the optical lens into an electric form. And this data is sent to an ISP where it is rebuilt as a picture or a preview on a display. Even when the lighting isn't at best for photo taking, ISP does the magical wonders to improve image quality.</p> <div align="center"> <p>LENS SYSTEM IMAGE SENSOR ISP SENSOR DISPLAY</p>  </div> <p>Accused Samsung '0 Products provide evidence of one or more image sensors converting light into a digital signal, https://semiconductor.samsung.com/us/solutions/technology/image-processing/.</p>

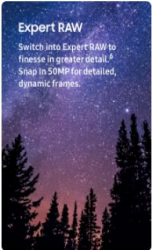
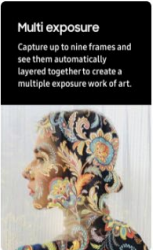
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement														
	<table><tr><td rowspan="4">MAIN CAMERA</td><td>Triple</td><td>50 MP, f/1.8, 24mm (wide), 1/1.56", 1.0µm, dual pixel PDAF, OIS 10 MP, f/2.4, 67mm (telephoto), 1/3.94", 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55" 1.4µm, Super Steady video</td></tr><tr><td>Features</td><td>Best Face, LED flash, auto-HDR, panorama</td></tr><tr><td>Video</td><td>8K@24/30fps, 4K@30/60fps, 1080p@30/60/120/240fps, 10-bit HDR, HDR10+, stereo sound rec., gyro-EIS</td></tr><tr><td rowspan="3">SELFIE CAMERA</td><td>Single</td><td>12 MP, f/2.2, 26mm (wide), 1/3.2", 1.12µm, dual pixel PDAF</td></tr><tr><td>Features</td><td>HDR, HDR10+</td></tr><tr><td>Video</td><td>4K@30/60fps, 1080p@30fps</td></tr></table> <p>https://www.gsmarena.com/samsung_galaxy_s25-13610.php</p> <p>Further, each of the Accused Samsung '950 Products includes a photoelectric conversion circuit for performing conversions by using CMOS image sensors to convert light into electricity:</p> <div><div><div>Samsung Galaxy S23 Ultra</div><div><div><div>Released 2023, February 17</div><div>234g, 8.9mm thickness</div><div><> Android 13, One UI 5.1</div><div>256GB/512GB/1TB storage, no card slot</div></div><div><div>6.8"</div><div>1440x3088 pixels</div></div><div><div>200MP</div><div>4320p</div></div><div><div>8/12GB RAM</div><div>Snapdragon 8 Gen 2</div></div><div><div>5000mAh</div><div>Li-Ion</div></div><div><div>74%</div><div>5,014,011 HITS</div></div><div><div>879</div><div>BECOME A FAN</div></div></div><div><div>REVIEW</div><div>OPINIONS</div><div>COMPARE</div><div>PICTURES</div><div>PRICES</div></div></div></div>	MAIN CAMERA	Triple	50 MP, f/1.8, 24mm (wide), 1/1.56", 1.0µm, dual pixel PDAF, OIS 10 MP, f/2.4, 67mm (telephoto), 1/3.94", 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55" 1.4µm, Super Steady video	Features	Best Face, LED flash, auto-HDR, panorama	Video	8K@24/30fps, 4K@30/60fps, 1080p@30/60/120/240fps, 10-bit HDR, HDR10+, stereo sound rec., gyro-EIS	SELFIE CAMERA	Single	12 MP, f/2.2, 26mm (wide), 1/3.2", 1.12µm, dual pixel PDAF	Features	HDR, HDR10+	Video	4K@30/60fps, 1080p@30fps
MAIN CAMERA	Triple		50 MP, f/1.8, 24mm (wide), 1/1.56", 1.0µm, dual pixel PDAF, OIS 10 MP, f/2.4, 67mm (telephoto), 1/3.94", 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55" 1.4µm, Super Steady video												
	Features		Best Face, LED flash, auto-HDR, panorama												
	Video		8K@24/30fps, 4K@30/60fps, 1080p@30/60/120/240fps, 10-bit HDR, HDR10+, stereo sound rec., gyro-EIS												
	SELFIE CAMERA	Single	12 MP, f/2.2, 26mm (wide), 1/3.2", 1.12µm, dual pixel PDAF												
Features		HDR, HDR10+													
Video		4K@30/60fps, 1080p@30fps													

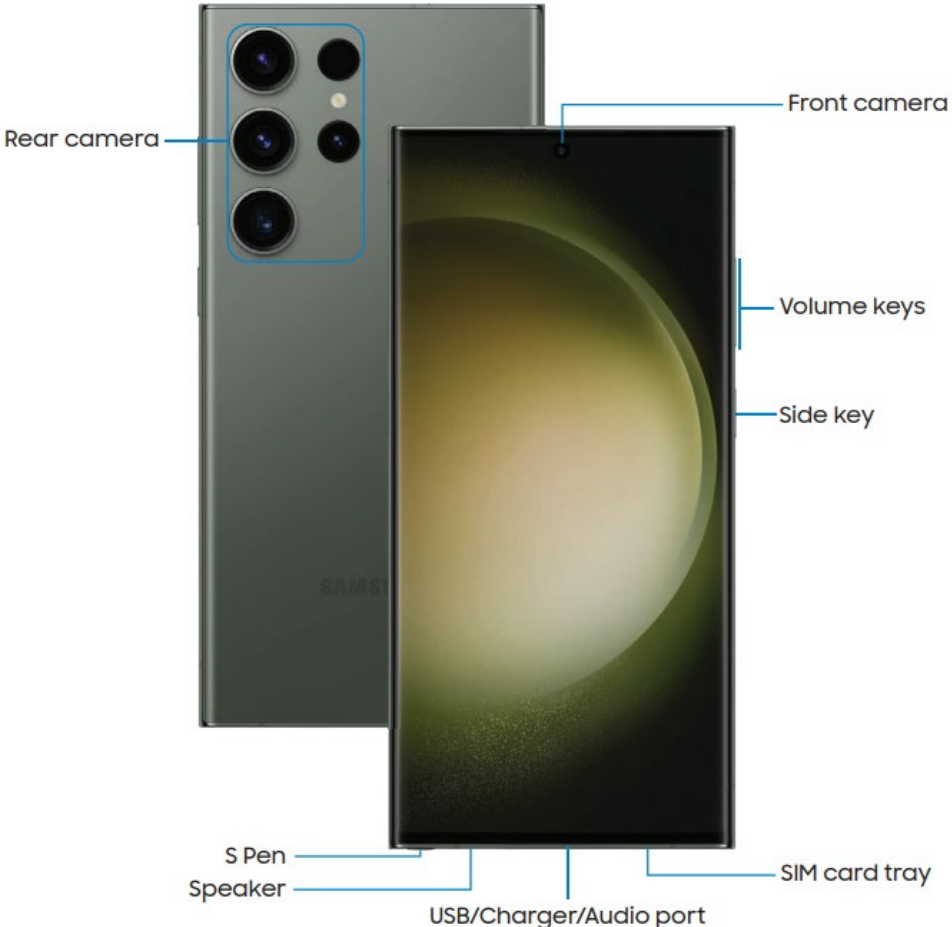
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><p><small>New</small> Galaxy S23 Ultra Verizon 512GB Green Learn more <small>SM-S918U / SM-S918UZGFVZW ★★★★★ 4.8 (8484) Write a Review</small> <small>Pricing before trade-in Get \$400 - \$800 trade-in bill credit</small></p></div> <div></div> <div><p>Galaxy S23 Ultra technical specifications; https://www.samsung.com/us/smartphones/galaxy-s23-ultra/buy/galaxy-s23-ultra-512gb-verizon-sm-s918uzgfvzw/?modelCode=SM-S918UZGFXAU; https://www.gsmarena.com/samsung_galaxy_s23_ultra-12024.php.</p></div>

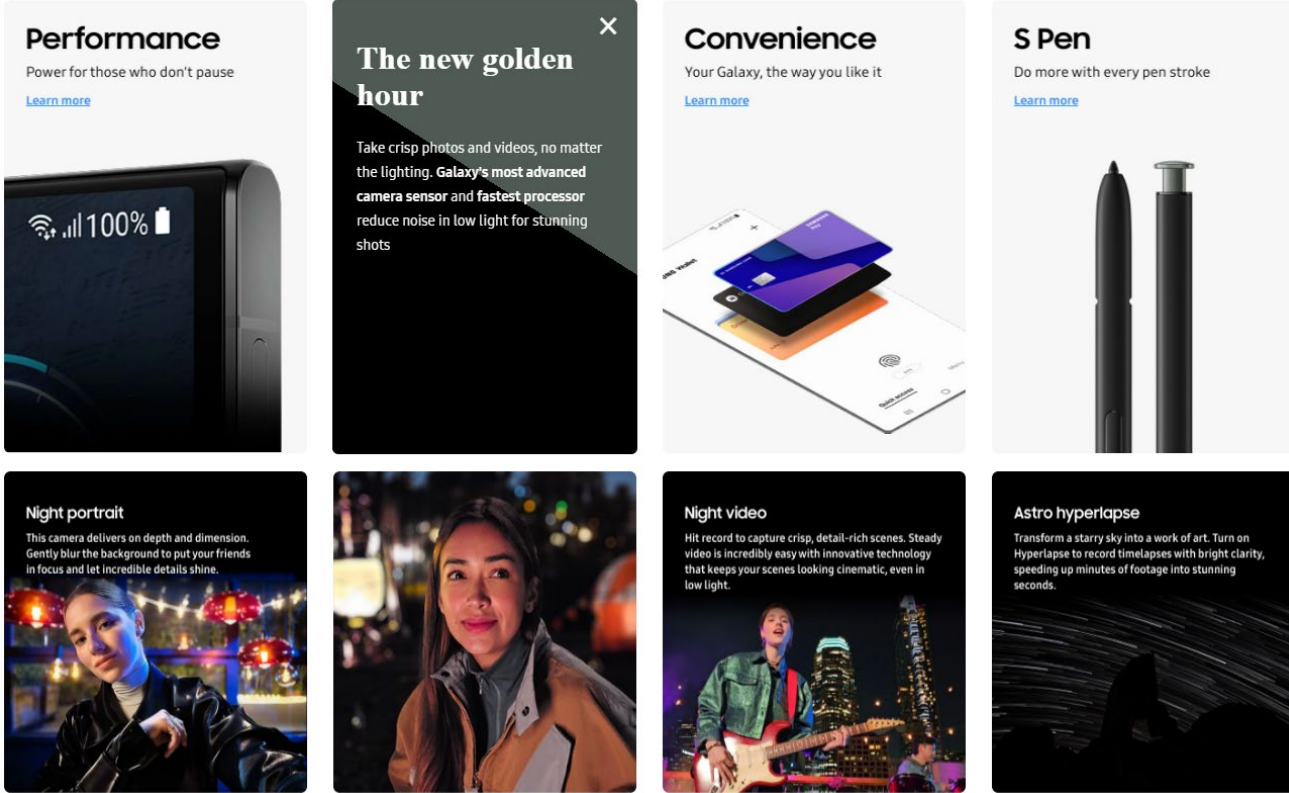
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement																
	<div><div><div><p>Galaxy S23 Ultra We've raised the bar with a 200MP camera and our fastest mobile processor ever</p></div><div><p>Can you send me that?</p><p>Get ready to become your group's go-to photographer. We've packed Galaxy's biggest sensor, light-absorbing pixels and video stabilization technology into one epic camera for life's most share-worthy moments.</p></div><div><p>Eco design More innovation, less footprint Learn more</p></div></div><div><div><p>12MP Selfie Camera</p></div><div><p>12MP Ultra-Wide Camera</p></div><div><p>200MP Wide-Angle Camera</p></div><div><p>High resolution We nearly doubled the resolution on the Wide-Angle Camera, delivering images so clear you can zoom way in to find hidden masterpieces.</p></div><div><p>Expert RAW Switch into Expert RAW to refine in greater detail. Snap in 50MP for detailed, dynamic frames.</p></div><div><p>Multi exposure Capture up to nine frames and see them automatically layered together to create a multiple exposure work of art.</p></div></div><table><tr><td rowspan="4">MAIN CAMERA</td><td>Quad</td><td>200 MP, f/1.7, 24mm (wide), 1/1.3", 0.6µm, multi-directional PDAF, Laser AF, OIS 10 MP, f/4.9, 230mm (periscope telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 10x optical zoom 10 MP, f/2.4, 70mm (telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55", 1.4µm, Dual Pixel PDAF, Super Steady video</td></tr><tr><td>Features</td><td>LED flash, auto-HDR, panorama</td></tr><tr><td>Video</td><td>8K@24/30fps, 4K@30/60fps, 1080p@30/60/240fps, 1080p@960fps, HDR10+, stereo sound rec., gyro-EIS</td></tr><tr><td></td><td></td></tr><tr><td rowspan="3">SELFIE CAMERA</td><td>Single</td><td>12 MP, f/2.2, 26mm (wide), Dual Pixel PDAF</td></tr><tr><td>Features</td><td>Dual video call, Auto-HDR, HDR10+</td></tr><tr><td>Video</td><td>4K@30/60fps, 1080p@30fps</td></tr></table><p>Galaxy S23 Ultra technical specifications; https://www.samsung.com/us/smartphones/galaxy-s23-ultra/buy/galaxy-s23-ultra-512gb-verizon-sm-s918uzgfvzw/?modelCode=SM-S918UZGFXAU; https://www.gsmarena.com/samsung_galaxy_s23_ultra-12024.php.</p></div>	MAIN CAMERA	Quad	200 MP, f/1.7, 24mm (wide), 1/1.3", 0.6µm, multi-directional PDAF, Laser AF, OIS 10 MP, f/4.9, 230mm (periscope telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 10x optical zoom 10 MP, f/2.4, 70mm (telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55", 1.4µm, Dual Pixel PDAF, Super Steady video	Features	LED flash, auto-HDR, panorama	Video	8K@24/30fps, 4K@30/60fps, 1080p@30/60/240fps, 1080p@960fps, HDR10+, stereo sound rec., gyro-EIS			SELFIE CAMERA	Single	12 MP, f/2.2, 26mm (wide), Dual Pixel PDAF	Features	Dual video call, Auto-HDR, HDR10+	Video	4K@30/60fps, 1080p@30fps
MAIN CAMERA	Quad		200 MP, f/1.7, 24mm (wide), 1/1.3", 0.6µm, multi-directional PDAF, Laser AF, OIS 10 MP, f/4.9, 230mm (periscope telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 10x optical zoom 10 MP, f/2.4, 70mm (telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55", 1.4µm, Dual Pixel PDAF, Super Steady video														
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Galaxy S23 Ultra</p>  <p>The diagram illustrates the Samsung Galaxy S23 Ultra with the following labeled components:</p> <ul style="list-style-type: none">Rear camera: Points to the camera module on the back of the device.Front camera: Points to the camera located at the top of the front display.Volume keys: Points to the two keys on the left side of the device.Side key: Points to the single key on the right side of the device.S Pen: Points to the stylus located at the bottom of the device.Speaker: Points to the speaker grille at the bottom of the device.USB/Charger/Audio port: Points to the port at the bottom of the device.SIM card tray: Points to the tray at the bottom of the device.

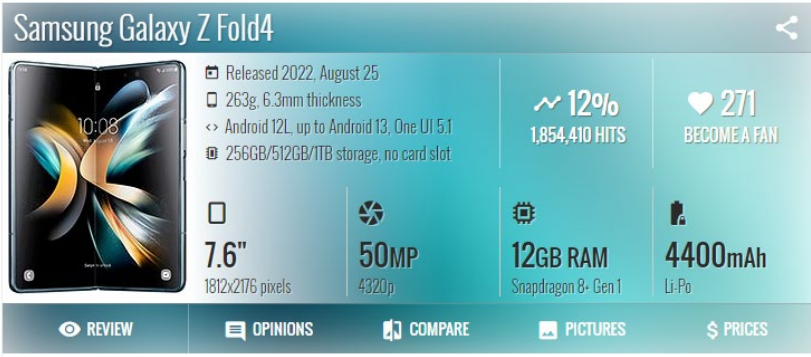
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Galaxy S23 Ultra technical specifications; https://downloadcenter.samsung.com/content/UM/202302/20230228053129621/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL_AC_022023.pdf at 5.</p> <div>  </div> <p>Galaxy S23 Ultra technical specifications; https://www.samsung.com/us/smartphones/galaxy-s23-ultra/buy/galaxy-s23-ultra-512gb-verizon-sm-s918uzgfvzw/?modelCode=SM-S918UZGFXAU.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div>  Camera </div> <p>Enjoy a full kit of pro lenses and pro-grade video modes and settings.</p> <ul style="list-style-type: none"> ○ From Apps, tap  Camera. <p> TIP Quickly press the Side key twice to open the Camera app.</p> <div>  </div> <p>Galaxy S23 Ultra technical specification; https://downloadcenter.samsung.com/content/UM/202302/20230228053129621/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL_AC_022023.pdf at 58.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div>  <p>Samsung Galaxy Z Fold4</p> <ul style="list-style-type: none"> Released 2022, August 25 263g, 6.3mm thickness Android 12L, up to Android 13, One UI 5.1 256GB/512GB/1TB storage, no card slot 7.6" 1812x2176 pixels 50MP 4320p 12GB RAM Snapdragon 8+ Gen 1 4400mAh Li-Po <p>12% 1,854,410 HITS 271 BECOME A FAN <p>REVIEW OPINIONS COMPARE PICTURES PRICES <p>Galaxy Z Fold4 Verizon 512GB Beige Learn more</p> <p>SM-F936U / SM-F936UZEZVZW ★★★★★ 4.7 (2624) Write a Review</p> <p>Pricing before trade-in Get \$400 - \$800 trade-in bill credit</p> </p></p></div> <div>  </div> <div> <p>Galaxy Z Fold4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzezatt/; https://www.gsmarena.com/samsung_galaxy_z_fold4-11737.php.</p> </div>

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement																
	<div><div><div><div><div>Immersive View</div><div>Get in the Zone.</div><div>Learn more</div><div></div></div></div><div><div><div>Built to last</div><div>Unbelievable tech.</div><div>Learn more</div><div></div></div></div><div><div><div>Smile-worthy improvements</div><div>With the upgraded Rear Camera, Space Zoom and Nightography, we're bringing a pro-level kit to the foldable form for the first time. Use the massive Main Screen as a viewfinder to flex your photo skills with new tech.</div><div></div></div></div><div><div><div>Galaxy Excellence</div><div>The brilliance is built in</div><div>Learn more</div><div></div></div></div></div><div><div><div><div><div>10MP 3x Optical Zoom Telephoto Camera</div><div></div></div></div><div><div><div>12MP Ultra-wide camera</div><div></div></div></div><div><div><div>50MP Wide-angle camera</div><div></div></div></div><div><div><div>4MP Under display camera</div><div></div></div></div><div><div><div>10MP Cover camera</div><div></div></div></div><div><div><div>Stay nimble Stay night</div><div>Intuitive technology delivers vivid and bright portraits in the low-light.</div><div></div></div></div></div></div><table><tr><td rowspan="4">MAIN CAMERA</td><td>Triple</td><td>50 MP, f/1.8, 23mm (wide), 1.0µm, Dual Pixel PDAF, OIS 10 MP, f/2.4, 66mm (telephoto), 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 123°, 12mm (ultrawide), 1.12µm</td></tr><tr><td>Features</td><td>LED flash, HDR, panorama</td></tr><tr><td>Video</td><td>8K@24fps, 4K@60fps, 1080p@60/240fps (gyro-EIS), 720p@960fps (gyro-EIS), HDR10+</td></tr><tr><td>SELFIE CAMERA</td><td>Single</td><td>4 MP, f/1.8, 26mm (wide), 2.0µm, under display Cover camera: 10 MP, f/2.2, 24mm (wide), 1/3", 1.22µm</td></tr><tr><td></td><td>Features</td><td>HDR</td></tr><tr><td></td><td>Video</td><td>4K@30/60fps, 1080p@30/60fps, gyro-EIS</td></tr></table><div>Galaxy Z Fold4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzeeatt/; https://www.gsmarena.com/samsung_galaxy_z_fold4-11737.php.</div></div>	MAIN CAMERA	Triple	50 MP, f/1.8, 23mm (wide), 1.0µm, Dual Pixel PDAF, OIS 10 MP, f/2.4, 66mm (telephoto), 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 123°, 12mm (ultrawide), 1.12µm	Features	LED flash, HDR, panorama	Video	8K@24fps, 4K@60fps, 1080p@60/240fps (gyro-EIS), 720p@960fps (gyro-EIS), HDR10+	SELFIE CAMERA	Single	4 MP, f/1.8, 26mm (wide), 2.0µm, under display Cover camera: 10 MP, f/2.2, 24mm (wide), 1/3", 1.22µm		Features	HDR		Video	4K@30/60fps, 1080p@30/60fps, gyro-EIS
MAIN CAMERA	Triple		50 MP, f/1.8, 23mm (wide), 1.0µm, Dual Pixel PDAF, OIS 10 MP, f/2.4, 66mm (telephoto), 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 123°, 12mm (ultrawide), 1.12µm														
	Features		LED flash, HDR, panorama														
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	Features	HDR															
	Video	4K@30/60fps, 1080p@30/60fps, gyro-EIS															

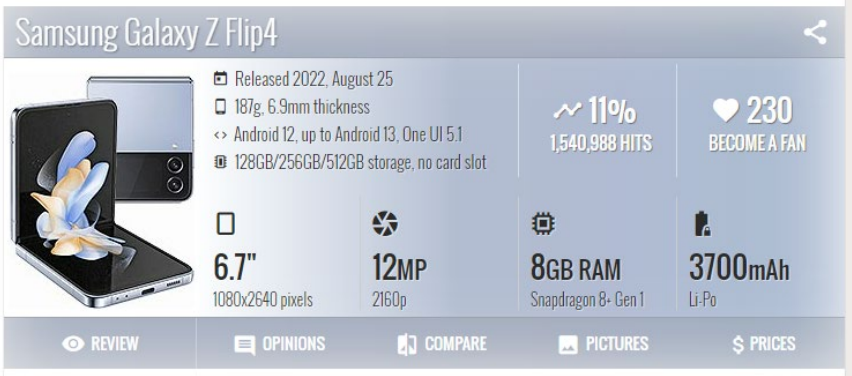
APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><h2>Galaxy Z Fold4</h2></div> <div><p>The diagram illustrates the Samsung Galaxy Z Fold4 in both its folded and unfolded configurations. The folded phone is shown in the background, while the unfolded phone is in the foreground, displaying a vibrant, abstract pattern. Labels with leader lines point to various components: 'Rear camera' and 'Flash' point to the camera module on the back of the folded phone; 'Cover camera' points to the front-facing camera on the outer cover; 'Speaker' points to the speaker grille on the top edge of the cover; 'Under display camera' points to the camera located beneath the main display of the unfolded phone; 'Volume keys' and 'Side key/ Fingerprint sensor' point to the controls on the right edge of the unfolded phone; and another 'Speaker' and 'USB/charging/ audio port' point to the bottom edge of the unfolded phone.</p></div> <p>Galaxy Z Fold4 technical specification; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_fold4_d1e605.html.</p>

APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12, AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><p>Image simulated for illustrative purpose. Galaxy Z Fold4, Galaxy Watch5, Galaxy Buds2 Pro are sold separately.</p></div> <p>Galaxy Z Fold4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzeeatt/.</p>

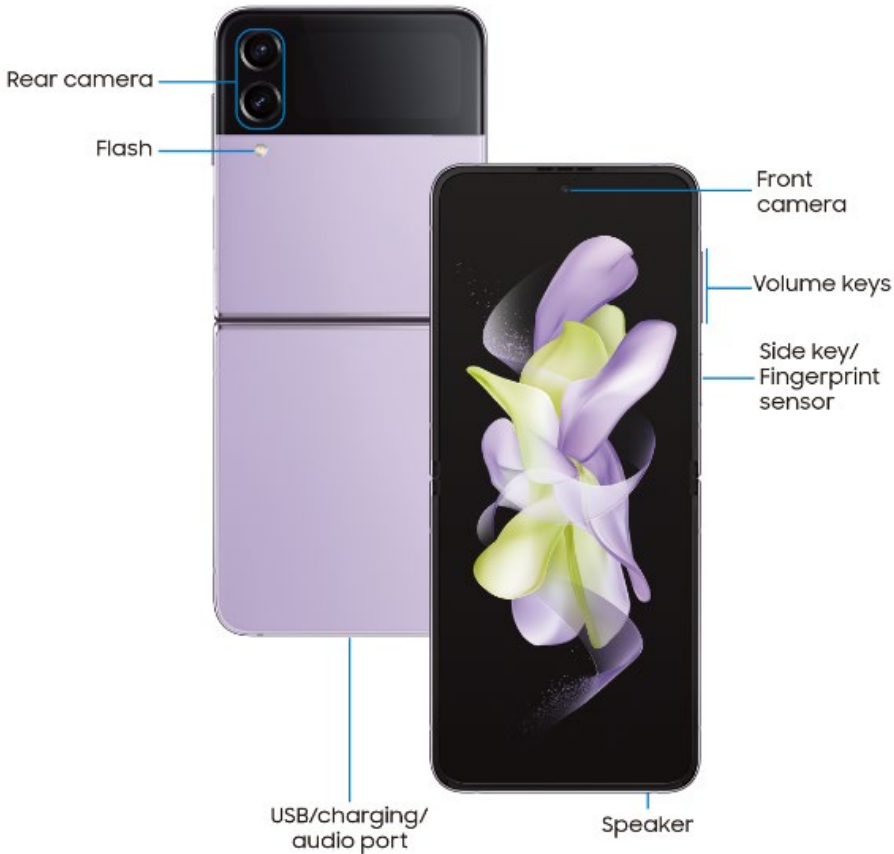
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Galaxy Z Fold4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_fold4_camera_features_d1e3185.</p>  <p>Galaxy Z Flip4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-flip4/buy/galaxy-z-flip4-256gb-t-mobile-sm-f721uzdexau/; https://www.gsmarena.com/samsung_galaxy_z_flip4-11538.php.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement														
	<table><tr><td rowspan="4">MAIN CAMERA</td><td>Dual</td><td>12 MP, f/1.8, 24mm (wide), 1/1.76", 1.8µm, Dual Pixel PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm</td></tr><tr><td>Features</td><td>LED flash, HDR, panorama</td></tr><tr><td>Video</td><td>4K@30/60fps, 1080p@60/240fps, 720p@960fps, HDR10+</td></tr><tr><td rowspan="3">SELFIE CAMERA</td><td>Single</td><td>10 MP, f/2.4, 26mm (wide), 1.22µm</td></tr><tr><td>Features</td><td>HDR</td></tr><tr><td>Video</td><td>4K@30fps</td></tr></table> <p>Galaxy Z Flip4 technical specifications; https://www.gsmarena.com/samsung_galaxy_z_flip4-11538.php.</p>	MAIN CAMERA	Dual	12 MP, f/1.8, 24mm (wide), 1/1.76", 1.8µm, Dual Pixel PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm	Features	LED flash, HDR, panorama	Video	4K@30/60fps, 1080p@60/240fps, 720p@960fps, HDR10+	SELFIE CAMERA	Single	10 MP, f/2.4, 26mm (wide), 1.22µm	Features	HDR	Video	4K@30fps
MAIN CAMERA	Dual		12 MP, f/1.8, 24mm (wide), 1/1.76", 1.8µm, Dual Pixel PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm												
	Features		LED flash, HDR, panorama												
	Video		4K@30/60fps, 1080p@60/240fps, 720p@960fps, HDR10+												
	SELFIE CAMERA	Single	10 MP, f/2.4, 26mm (wide), 1.22µm												
Features		HDR													
Video		4K@30fps													

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><h2>Galaxy Z Flip4</h2></div> <div><p>The diagram illustrates the Galaxy Z Flip4 in two orientations. The rear view (left) shows a purple back cover with a black camera module at the top left containing two lenses and a flash. The front view (right) shows the phone unfolded, displaying a black screen with a purple and yellow flower wallpaper. Labels with leader lines point to the following components: Rear camera, Flash, Front camera, Volume keys, Side key/Fingerprint sensor, USB/charging/audio port, and Speaker.</p></div> <div><p>Galaxy Z Flip4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_flip4_d1e661.html.</p></div>

APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12, AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS

U.S. Patent No. 8,471,950

Exemplary Evidence of Infringement

The screenshot displays the Samsung Galaxy A54 product page. At the top, the phone is shown in a blue color. Below the image, technical specifications are listed: Released 2023, March 24; 202g, 8.2mm thickness; Android 13, One UI 5.1; 128GB/256GB storage, microSDXC. A grid of features includes: 6.4" 1080x2340 pixels display, 50MP 2160p camera, 6/8GB RAM Exynos 1380, and 5000mAh Li-Po battery. Navigation tabs for REVIEW, OPINIONS, COMPARE, PICTURES, and PRICES are visible. Below the phone image, the text 'Galaxy A54 5G' is followed by 'Verizon | 128GB | Awesome Graphite | Learn more'. A promotional banner states 'Save up to an extra \$25.00 with Samsung Offer Programs'. Another banner at the bottom says 'Save up to \$250 with Instant trade-in'.

Galaxy A54 5G technical specifications; <https://www.samsung.com/us/mobile/phones/galaxy-a54/buy/>; https://www.gsmarena.com/samsung_galaxy_a54-12070.php.

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement												
	<div><div><p>Capture your Awesome moments with a multi-lens camera</p><p>*OIS: Optical Image Stabilization</p></div><div><table><tr><td rowspan="4">MAIN CAMERA</td><td>Triple</td><td>50 MP, f/1.8, (wide), 1/1.56", 1.0µm, PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm 5 MP, f/2.4, (macro)</td></tr><tr><td>Features</td><td>LED flash, panorama, HDR</td></tr><tr><td>Video</td><td>4K@30fps, 1080p@30/60fps, 720p@480fps</td></tr><tr><td rowspan="2">SELFIE CAMERA</td><td>Single</td><td>32 MP, f/2.2, 26mm (wide), 1/2.8", 0.8µm</td></tr><tr><td>Video</td><td>4K@30fps, 1080p@30/60fps</td></tr></table></div></div> <div>Samsung Galaxy A54 5G technical specifications; Galaxy A54 5G, 128GB (Unlocked) Phones - SM-A546UZKBXAA Samsung US; https://www.gsmarena.com/samsung_galaxy_a54-12070.php.</div>	MAIN CAMERA	Triple	50 MP, f/1.8, (wide), 1/1.56", 1.0µm, PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm 5 MP, f/2.4, (macro)	Features	LED flash, panorama, HDR	Video	4K@30fps, 1080p@30/60fps, 720p@480fps	SELFIE CAMERA	Single	32 MP, f/2.2, 26mm (wide), 1/2.8", 0.8µm	Video	4K@30fps, 1080p@30/60fps
MAIN CAMERA	Triple		50 MP, f/1.8, (wide), 1/1.56", 1.0µm, PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm 5 MP, f/2.4, (macro)										
	Features		LED flash, panorama, HDR										
	Video		4K@30fps, 1080p@30/60fps, 720p@480fps										
	SELFIE CAMERA	Single	32 MP, f/2.2, 26mm (wide), 1/2.8", 0.8µm										
Video		4K@30fps, 1080p@30/60fps											

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p align="center">Galaxy A54 5G</p>  <p>Galaxy A54 5G technical specifications; https://downloadcenter.samsung.com/content/UM/202304/20230407022332214/SAM_A546_EN_U_M_OS13_040523_FINAL.pdf at 5. As a nonlimiting example, each of the Accused Samsung '950 Products includes one or more image sensors associated with the plurality of cameras as front-facing</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>and/or rear-facing cameras, which alone or in conjunction with other features and/or components discussed in this claim chart, allows each of the Accused Samsung '950 Products to convert light associated with an image into a digital signal representing the image as pixels. For example, each of the Accused Samsung '950 Products includes one or more image sensors that convert light received through optical lens into an electronic signal, which is sent to one or more image signal processors (ISP) where the electronic signal is rebuilt as a picture or a preview on a display. <i>See e.g.</i>, https://semiconductor.samsung.com/us/solutions/technology/image-processing/.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p align="center">Background</p> <p align="center">Processor for converting light information into an image</p> <p align="center">The image sensor converts the light received through the optical lens into an electric form. And this data is sent to an ISP where it is rebuilt as a picture or a preview on a display. Even when the lighting isn't at best for photo taking, ISP does the magical wonders to improve image quality.</p> <div> <p>The diagram illustrates the flow of light information through four stages: LENS SYSTEM, IMAGE SENSOR, ISP SENSOR, and DISPLAY. Light rays enter from the left, pass through the lens system, hit the image sensor (a grid of colored squares), then pass through the ISP sensor (a grid of colored squares), and finally are displayed on a smartphone screen showing a landscape image.</p> </div> <p>Accused Samsung '0 Products provide evidence of one or more image sensors converting light into a digital signal, https://semiconductor.samsung.com/us/solutions/technology/image-processing/.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement														
	<table><tr><td rowspan="4">MAIN CAMERA</td><td>Triple</td><td>50 MP, f/1.8, 24mm (wide), 1/1.56", 1.0µm, dual pixel PDAF, OIS 10 MP, f/2.4, 67mm (telephoto), 1/3.94", 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55" 1.4µm, Super Steady video</td></tr><tr><td>Features</td><td>Best Face, LED flash, auto-HDR, panorama</td></tr><tr><td>Video</td><td>8K@24/30fps, 4K@30/60fps, 1080p@30/60/120/240fps, 10-bit HDR, HDR10+, stereo sound rec., gyro-EIS</td></tr><tr><td rowspan="3">SELFIE CAMERA</td><td>Single</td><td>12 MP, f/2.2, 26mm (wide), 1/3.2", 1.12µm, dual pixel PDAF</td></tr><tr><td>Features</td><td>HDR, HDR10+</td></tr><tr><td>Video</td><td>4K@30/60fps, 1080p@30fps</td></tr></table> <p>https://www.gsmarena.com/samsung_galaxy_s25-13610.php</p> <p>Further, each of the Accused Samsung '950 Products includes a photoelectric conversion circuit for performing conversions by using CMOS image sensors to convert light into electricity:</p> <div><div><div>Samsung Galaxy S23 Ultra</div><div><div><div>Released 2023, February 17</div><div>234g, 8.9mm thickness</div><div><> Android 13, One UI 5.1</div><div>256GB/512GB/1TB storage, no card slot</div></div><div><div>6.8"</div><div>1440x3088 pixels</div></div><div><div>200MP</div><div>4320p</div></div><div><div>8/12GB RAM</div><div>Snapdragon 8 Gen 2</div></div><div><div>5000mAh</div><div>Li-Ion</div></div><div><div>74%</div><div>5,014,011 HITS</div></div><div><div>879</div><div>BECOME A FAN</div></div></div><div><div>REVIEW</div><div>OPINIONS</div><div>COMPARE</div><div>PICTURES</div><div>PRICES</div></div></div></div>	MAIN CAMERA	Triple	50 MP, f/1.8, 24mm (wide), 1/1.56", 1.0µm, dual pixel PDAF, OIS 10 MP, f/2.4, 67mm (telephoto), 1/3.94", 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55" 1.4µm, Super Steady video	Features	Best Face, LED flash, auto-HDR, panorama	Video	8K@24/30fps, 4K@30/60fps, 1080p@30/60/120/240fps, 10-bit HDR, HDR10+, stereo sound rec., gyro-EIS	SELFIE CAMERA	Single	12 MP, f/2.2, 26mm (wide), 1/3.2", 1.12µm, dual pixel PDAF	Features	HDR, HDR10+	Video	4K@30/60fps, 1080p@30fps
MAIN CAMERA	Triple		50 MP, f/1.8, 24mm (wide), 1/1.56", 1.0µm, dual pixel PDAF, OIS 10 MP, f/2.4, 67mm (telephoto), 1/3.94", 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55" 1.4µm, Super Steady video												
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	Video		8K@24/30fps, 4K@30/60fps, 1080p@30/60/120/240fps, 10-bit HDR, HDR10+, stereo sound rec., gyro-EIS												
	SELFIE CAMERA	Single	12 MP, f/2.2, 26mm (wide), 1/3.2", 1.12µm, dual pixel PDAF												
Features		HDR, HDR10+													
Video		4K@30/60fps, 1080p@30fps													

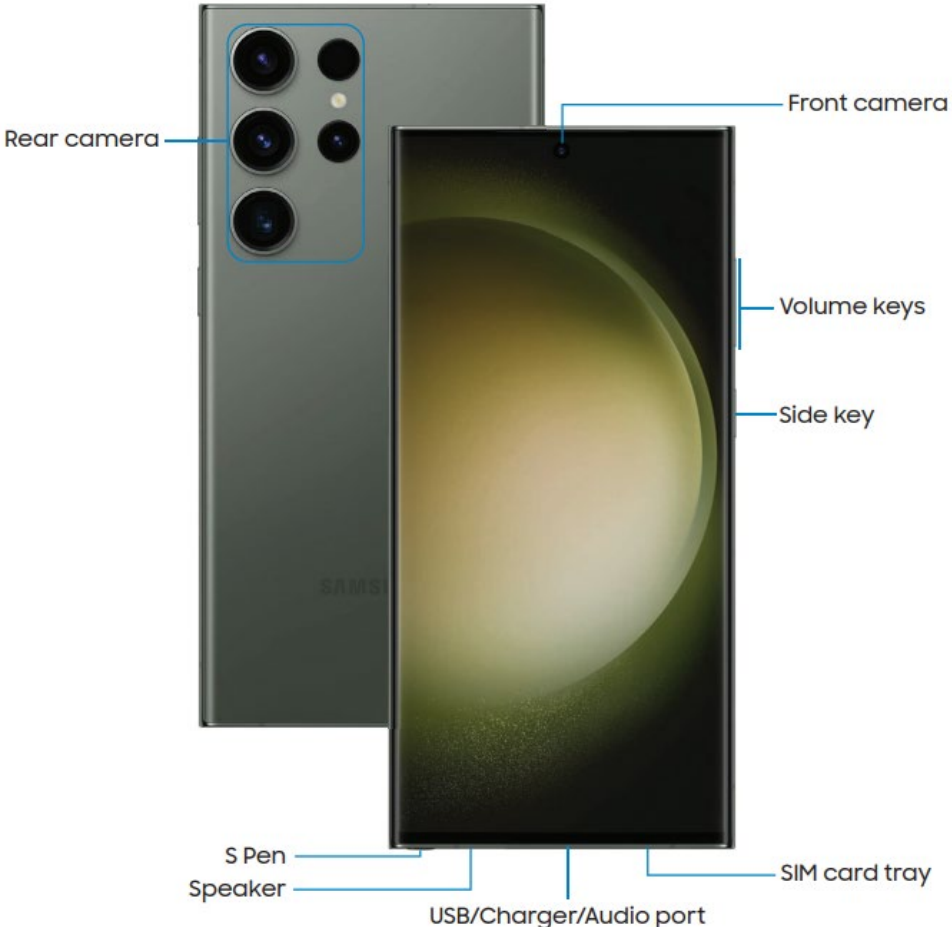
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><p><small>New</small> Galaxy S23 Ultra Verizon 512GB Green Learn more <small>SM-S918U / SM-S918UZGFVZW ★★★★★ 4.8 (8484) Write a Review</small></p><p align="right"><small>Pricing before trade-in</small> Get \$400 - \$800 trade-in bill credit</p></div> <div></div> <p>Galaxy S23 Ultra technical specifications; https://www.samsung.com/us/smartphones/galaxy-s23-ultra/buy/galaxy-s23-ultra-512gb-verizon-sm-s918uzgfvzw/?modelCode=SM-S918UZGFXAU; https://www.gsmarena.com/samsung_galaxy_s23_ultra-12024.php.</p>

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement																
	<div><div><div><p>Galaxy S23 Ultra We've raised the bar with a 200MP camera and our fastest mobile processor ever</p></div><div><p>Can you send me that?</p><p>Get ready to become your group's go-to photographer. We've packed Galaxy's biggest sensor, light-absorbing pixels and video stabilization technology into one epic camera for life's most share-worthy moments.</p></div><div><p>Eco design More innovation, less footprint Learn more</p></div></div><div><div><p>12MP Selfie Camera</p></div><div><p>12MP Ultra-Wide Camera</p><p>10MP 10x Optical Zoom Telephoto Camera 1</p></div><div><p>200MP Wide-Angle Camera</p><p>10MP 3x Optical Zoom Telephoto Camera 2</p></div><div><p>High resolution We nearly doubled the resolution on the Wide-Angle Camera,5 delivering images so clear you can zoom way in to find hidden masterpieces.</p></div><div><p>Expert RAW Switch into Expert RAW to finesse in greater detail.6 Snap in 50MP for detailed, dynamic frames.</p></div><div><p>Multi exposure Capture up to nine frames and see them automatically layered together to create a multiple exposure work of art.</p></div></div><table><tr><td rowspan="4">MAIN CAMERA</td><td>Quad</td><td>200 MP, f/1.7, 24mm (wide), 1/1.3", 0.6µm, multi-directional PDAF, Laser AF, OIS 10 MP, f/4.9, 230mm (periscope telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 10x optical zoom 10 MP, f/2.4, 70mm (telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55", 1.4µm, Dual Pixel PDAF, Super Steady video</td></tr><tr><td>Features</td><td>LED flash, auto-HDR, panorama</td></tr><tr><td>Video</td><td>8K@24/30fps, 4K@30/60fps, 1080p@30/60/240fps, 1080p@960fps, HDR10+, stereo sound rec., gyro-EIS</td></tr><tr><td>SELFIE CAMERA</td><td>Single</td><td>12 MP, f/2.2, 26mm (wide), Dual Pixel PDAF</td></tr><tr><td></td><td>Features</td><td>Dual video call, Auto-HDR, HDR10+</td></tr><tr><td></td><td>Video</td><td>4K@30/60fps, 1080p@30fps</td></tr></table><p>Galaxy S23 Ultra technical specifications; https://www.samsung.com/us/smartphones/galaxy-s23-ultra/buy/galaxy-s23-ultra-512gb-verizon-sm-s918uzgfvzw/?modelCode=SM-S918UZGFXAU; https://www.gsmarena.com/samsung_galaxy_s23_ultra-12024.php.</p></div>	MAIN CAMERA	Quad	200 MP, f/1.7, 24mm (wide), 1/1.3", 0.6µm, multi-directional PDAF, Laser AF, OIS 10 MP, f/4.9, 230mm (periscope telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 10x optical zoom 10 MP, f/2.4, 70mm (telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55", 1.4µm, Dual Pixel PDAF, Super Steady video	Features	LED flash, auto-HDR, panorama	Video	8K@24/30fps, 4K@30/60fps, 1080p@30/60/240fps, 1080p@960fps, HDR10+, stereo sound rec., gyro-EIS	SELFIE CAMERA	Single	12 MP, f/2.2, 26mm (wide), Dual Pixel PDAF		Features	Dual video call, Auto-HDR, HDR10+		Video	4K@30/60fps, 1080p@30fps
MAIN CAMERA	Quad		200 MP, f/1.7, 24mm (wide), 1/1.3", 0.6µm, multi-directional PDAF, Laser AF, OIS 10 MP, f/4.9, 230mm (periscope telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 10x optical zoom 10 MP, f/2.4, 70mm (telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55", 1.4µm, Dual Pixel PDAF, Super Steady video														
	Features		LED flash, auto-HDR, panorama														
	Video		8K@24/30fps, 4K@30/60fps, 1080p@30/60/240fps, 1080p@960fps, HDR10+, stereo sound rec., gyro-EIS														
	SELFIE CAMERA	Single	12 MP, f/2.2, 26mm (wide), Dual Pixel PDAF														
	Features	Dual video call, Auto-HDR, HDR10+															
	Video	4K@30/60fps, 1080p@30fps															

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Galaxy S23 Ultra</p>  <p>The diagram illustrates the Samsung Galaxy S23 Ultra with the following labeled components:</p> <ul style="list-style-type: none">Rear camera: Points to the camera module on the back of the device.Front camera: Points to the camera located at the top of the front display.Volume keys: Points to the two keys on the left side of the device.Side key: Points to the single key on the right side of the device.S Pen: Points to the stylus shown at the bottom left.Speaker: Points to the speaker grille at the bottom left.USB/Charger/Audio port: Points to the port at the bottom center.SIM card tray: Points to the tray at the bottom right.

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Galaxy S23 Ultra technical specifications; https://downloadcenter.samsung.com/content/UM/202302/20230228053129621/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL_AC_022023.pdf at 5.</p> <div> </div> <p>Galaxy S23 Ultra technical specifications; https://www.samsung.com/us/smartphones/galaxy-s23-ultra/buy/galaxy-s23-ultra-512gb-verizon-sm-s918uzgfvzw/?modelCode=SM-S918UZGFXAU.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div>  Camera </div> <p>Enjoy a full kit of pro lenses and pro-grade video modes and settings.</p> <ul style="list-style-type: none"> ○ From Apps, tap  Camera. <p> TIP Quickly press the Side key twice to open the Camera app.</p> <div>  </div> <p>Galaxy S23 Ultra technical specification; https://downloadcenter.samsung.com/content/UM/202302/20230228053129621/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL_AC_022023.pdf at 58.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div> </div> <div> </div> <p>Galaxy Z Fold4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzeatt/; https://www.gsmarena.com/samsung_galaxy_z_fold4-11737.php.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement																				
	<div><div><div><div><div>Immersive View</div><div>Get in the Zone.</div><div>Learn more</div><div></div></div></div><div><div><div>Built to last</div><div>Unbelievable tech.</div><div>Learn more</div><div></div></div></div><div><div><div>Smile-worthy improvements</div><div>With the upgraded Rear Camera, Space Zoom and Nightography, we're bringing a pro-level kit to the foldable form for the first time. Use the massive Main Screen as a viewfinder to flex your photo skills with new tech.</div></div></div><div><div><div>Galaxy Excellence</div><div>The brilliance is built in</div><div>Learn more</div><div></div></div></div></div><div><div><div><div><div>10MP 3x Optical Zoom Telephoto Camera</div><div></div></div></div><div><div><div>12MP Ultra-wide camera</div><div></div></div></div><div><div><div>50MP Wide-angle camera</div><div></div></div></div><div><div><div>4MP Under display camera</div><div></div></div></div><div><div><div>10MP Cover camera</div><div></div></div></div><div><div><div>Stay nimble Stay night</div><div>Intuitive technology delivers vivid and bright portraits in the low-light.</div><div></div></div></div></div><table><tr><td rowspan="4">MAIN CAMERA</td><td>Triple</td><td>50 MP, f/1.8, 23mm (wide), 1.0µm, Dual Pixel PDAF, OIS 10 MP, f/2.4, 66mm (telephoto), 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 123°, 12mm (ultrawide), 1.12µm</td></tr><tr><td>Features</td><td>LED flash, HDR, panorama</td></tr><tr><td>Video</td><td>8K@24fps, 4K@60fps, 1080p@60/240fps (gyro-EIS), 720p@960fps (gyro-EIS), HDR10+</td></tr><tr><td></td><td></td><td></td></tr><tr><td rowspan="4">SELFIE CAMERA</td><td>Single</td><td>4 MP, f/1.8, 26mm (wide), 2.0µm, under display Cover camera: 10 MP, f/2.2, 24mm (wide), 1/3", 1.22µm</td></tr><tr><td>Features</td><td>HDR</td></tr><tr><td>Video</td><td>4K@30/60fps, 1080p@30/60fps, gyro-EIS</td></tr><tr><td></td><td></td><td></td></tr></table><div>Galaxy Z Fold4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzeeatt/; https://www.gsmarena.com/samsung_galaxy_z_fold4-11737.php.</div></div></div>	MAIN CAMERA	Triple	50 MP, f/1.8, 23mm (wide), 1.0µm, Dual Pixel PDAF, OIS 10 MP, f/2.4, 66mm (telephoto), 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 123°, 12mm (ultrawide), 1.12µm	Features	LED flash, HDR, panorama	Video	8K@24fps, 4K@60fps, 1080p@60/240fps (gyro-EIS), 720p@960fps (gyro-EIS), HDR10+				SELFIE CAMERA	Single	4 MP, f/1.8, 26mm (wide), 2.0µm, under display Cover camera: 10 MP, f/2.2, 24mm (wide), 1/3", 1.22µm	Features	HDR	Video	4K@30/60fps, 1080p@30/60fps, gyro-EIS			
MAIN CAMERA	Triple		50 MP, f/1.8, 23mm (wide), 1.0µm, Dual Pixel PDAF, OIS 10 MP, f/2.4, 66mm (telephoto), 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 123°, 12mm (ultrawide), 1.12µm																		
	Features		LED flash, HDR, panorama																		
	Video		8K@24fps, 4K@60fps, 1080p@60/240fps (gyro-EIS), 720p@960fps (gyro-EIS), HDR10+																		
SELFIE CAMERA	Single	4 MP, f/1.8, 26mm (wide), 2.0µm, under display Cover camera: 10 MP, f/2.2, 24mm (wide), 1/3", 1.22µm																			
	Features	HDR																			
	Video	4K@30/60fps, 1080p@30/60fps, gyro-EIS																			

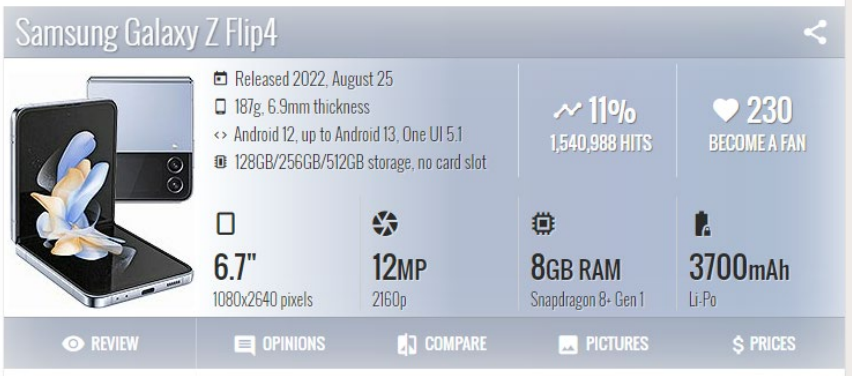
APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><h2>Galaxy Z Fold4</h2></div> <div><p>The diagram illustrates the Samsung Galaxy Z Fold4 in both its folded and unfolded configurations. The folded phone is shown in the background, while the unfolded phone is in the foreground, displaying a vibrant, abstract pattern. Labels with leader lines point to various components: 'Rear camera' and 'Flash' point to the camera module on the back of the folded phone; 'Cover camera' points to the front-facing camera on the outer cover; 'Speaker' points to the speaker grille on the top edge of the cover; 'Under display camera' points to the camera located beneath the main display of the unfolded phone; 'Volume keys' and 'Side key/ Fingerprint sensor' point to the controls on the right edge of the unfolded phone; and another 'Speaker' and 'USB/charging/ audio port' point to the bottom edge of the unfolded phone.</p></div> <p>Galaxy Z Fold4 technical specification; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_fold4_d1e605.html.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><p>Image simulated for illustrative purpose. Galaxy Z Fold4, Galaxy Watch5, Galaxy Buds2 Pro are sold separately.</p></div> <p>Galaxy Z Fold4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzeeatt/.</p>

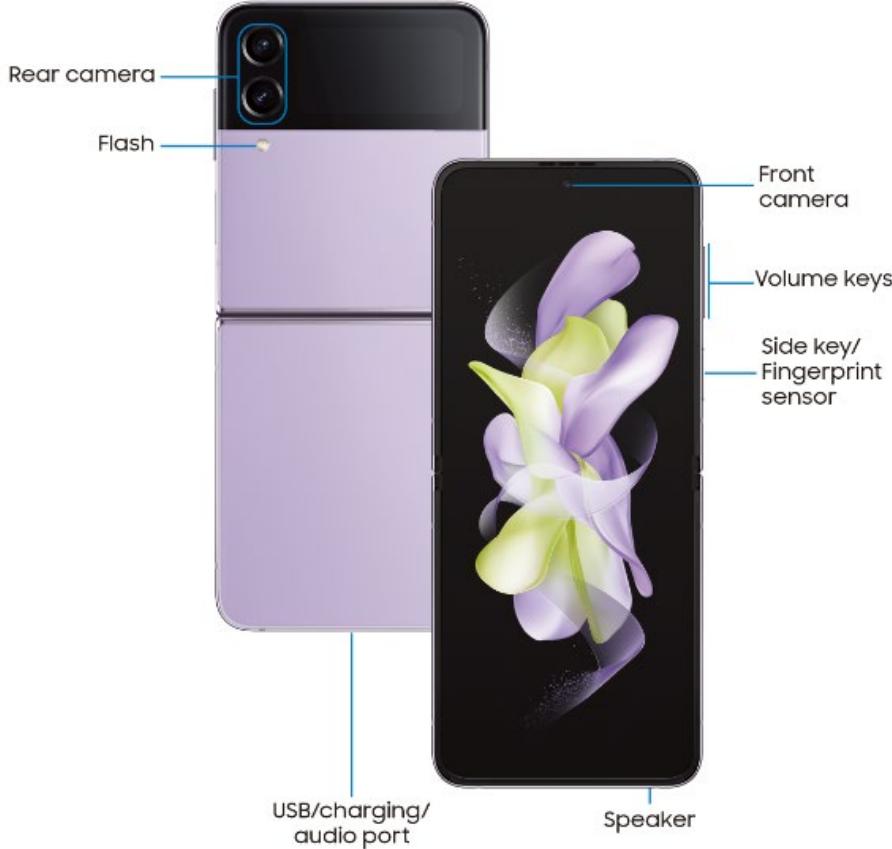
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Galaxy Z Fold4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_fold4_camera_features_d1e3185.</p>  <p>Galaxy Z Flip4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-flip4/buy/galaxy-z-flip4-256gb-t-mobile-sm-f721uzdexau/; https://www.gsmarena.com/samsung_galaxy_z_flip4-11538.php.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement														
	<table><tr><td rowspan="4">MAIN CAMERA</td><td>Dual</td><td>12 MP, f/1.8, 24mm (wide), 1/1.76", 1.8µm, Dual Pixel PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm</td></tr><tr><td>Features</td><td>LED flash, HDR, panorama</td></tr><tr><td>Video</td><td>4K@30/60fps, 1080p@60/240fps, 720p@960fps, HDR10+</td></tr><tr><td rowspan="3">SELFIE CAMERA</td><td>Single</td><td>10 MP, f/2.4, 26mm (wide), 1.22µm</td></tr><tr><td>Features</td><td>HDR</td></tr><tr><td>Video</td><td>4K@30fps</td></tr></table> <p>Galaxy Z Flip4 technical specifications; https://www.gsmarena.com/samsung_galaxy_z_flip4-11538.php.</p>	MAIN CAMERA	Dual	12 MP, f/1.8, 24mm (wide), 1/1.76", 1.8µm, Dual Pixel PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm	Features	LED flash, HDR, panorama	Video	4K@30/60fps, 1080p@60/240fps, 720p@960fps, HDR10+	SELFIE CAMERA	Single	10 MP, f/2.4, 26mm (wide), 1.22µm	Features	HDR	Video	4K@30fps
MAIN CAMERA	Dual		12 MP, f/1.8, 24mm (wide), 1/1.76", 1.8µm, Dual Pixel PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm												
	Features		LED flash, HDR, panorama												
	Video		4K@30/60fps, 1080p@60/240fps, 720p@960fps, HDR10+												
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Video		4K@30fps													

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><h2>Galaxy Z Flip4</h2></div> <div><p>The diagram illustrates the Samsung Galaxy Z Flip4 in two configurations: folded and unfolded. The folded phone is shown in a light purple color, with labels pointing to the 'Rear camera' (a dual-lens system) and the 'Flash' located on the top outer edge. The unfolded phone is shown in a black color, displaying a vibrant purple and yellow flower on its screen. Labels for the unfolded state include the 'Front camera' at the top of the screen, 'Volume keys' on the right side, a 'Side key/ Fingerprint sensor' on the left side, and a 'Speaker' at the bottom. A label for the 'USB/charging/ audio port' points to the bottom edge of the folded phone.</p></div> <div><p>Galaxy Z Flip4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_flip4_d1e661.html.</p></div>

APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12, AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS

U.S. Patent No. 8,471,950

Exemplary Evidence of Infringement

The screenshot displays the Samsung Galaxy A54 product page. At the top, the phone is shown in a blue color. Below the image, technical specifications are listed: Released 2023, March 24; 202g, 8.2mm thickness; Android 13, One UI 5.1; 128GB/256GB storage, microSDXC. A grid of icons shows the phone's dimensions (6.4" 1080x2340 pixels), camera (50MP 2160p), RAM (6/8GB RAM Exynos 1380), and battery (5000mAh Li-Po). Navigation tabs for REVIEW, OPINIONS, COMPARE, PICTURES, and PRICES are visible. Below the specifications, a 'New Arrival' badge is present. The main heading is 'Galaxy A54 5G' followed by carrier and storage options. A promotional banner states 'Save up to an extra \$25.00 with Samsung Offer Programs' and 'Highest online'. A black bar at the bottom of the banner says 'Save up to \$250 with Instant trade-in'. Below the banner, a larger image of the phone is shown with a navigation arrow on the left and a 'now' dropdown menu at the bottom left.

Galaxy A54 5G technical specifications; <https://www.samsung.com/us/mobile/phones/galaxy-a54/buy/>; https://www.gsmarena.com/samsung_galaxy_a54-12070.php.

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement																	
	<div><div><p>Capture your Awesome moments with a multi-lens camera</p></div><div><p>Front Camera 32MP (f/2.2)</p><p>Ultra-Wide Camera 12MP (f/2.2)</p><p>Main Camera 50MP (f/1.8) OIS*</p><p>Macro Camera 5MP (f/2.4)</p><p><small>*OIS: Optical Image Stabilization</small></p></div></div> <table><tr><td rowspan="4">MAIN CAMERA</td><td>Triple</td><td>50 MP, f/1.8, (wide), 1/1.56", 1.0µm, PDAF, OIS</td></tr><tr><td></td><td>12 MP, f/2.2, 123° (ultrawide), 1.12µm</td></tr><tr><td></td><td>5 MP, f/2.4, (macro)</td></tr><tr><td>Features</td><td>LED flash, panorama, HDR</td></tr><tr><td></td><td>Video</td><td>4K@30fps, 1080p@30/60fps, 720p@480fps</td></tr><tr><td rowspan="2">SELFIE CAMERA</td><td>Single</td><td>32 MP, f/2.2, 26mm (wide), 1/2.8", 0.8µm</td></tr><tr><td>Video</td><td>4K@30fps, 1080p@30/60fps</td></tr></table> <p>Samsung Galaxy A54 5G technical specifications; Galaxy A54 5G, 128GB (Unlocked) Phones - SM-A546UZKBXAA Samsung US; https://www.gsmarena.com/samsung_galaxy_a54-12070.php.</p>	MAIN CAMERA	Triple	50 MP, f/1.8, (wide), 1/1.56", 1.0µm, PDAF, OIS		12 MP, f/2.2, 123° (ultrawide), 1.12µm		5 MP, f/2.4, (macro)	Features	LED flash, panorama, HDR		Video	4K@30fps, 1080p@30/60fps, 720p@480fps	SELFIE CAMERA	Single	32 MP, f/2.2, 26mm (wide), 1/2.8", 0.8µm	Video	4K@30fps, 1080p@30/60fps
MAIN CAMERA	Triple		50 MP, f/1.8, (wide), 1/1.56", 1.0µm, PDAF, OIS															
			12 MP, f/2.2, 123° (ultrawide), 1.12µm															
			5 MP, f/2.4, (macro)															
	Features	LED flash, panorama, HDR																
	Video	4K@30fps, 1080p@30/60fps, 720p@480fps																
SELFIE CAMERA	Single	32 MP, f/2.2, 26mm (wide), 1/2.8", 0.8µm																
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><h3>Galaxy A54 5G</h3></div> <div><p>The diagram shows the Samsung Galaxy A54 5G from both front and back views. Labels with leader lines point to the following features:</p><ul style="list-style-type: none">Flash (on the back, next to the camera)Rear camera (the camera module on the back)Front camera (the small hole at the top of the screen)Volume keys (on the left side of the phone)Side key (the power button on the right side of the phone)Fingerprint scanner (the circular sensor at the bottom of the screen)USB/Charging/Audio port (at the bottom of the back of the phone)</div> <div><p>Galaxy A54 5G technical specifications; https://downloadcenter.samsung.com/content/UM/202304/20230407022332214/SAM_A546_EN_UM_OS13_040523_FINAL.pdf at 5.</p></div>

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
<p>[3.c] the control unit controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.</p>	<p><i>See claim [1.f] above. See also:</i></p> <p>The signal processor in each of the Accused Samsung '950 Products incorporates or operates as the control unit that controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.</p> <p>As an example, the signal processor is configured to create a region that includes skin tones and textures and other region or regions that do not include skin tones and textures. To create other region or regions that do not contain the detected skin tones and textures, the signal processor excludes a skin tone region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contain a detected moving object or subject and other region or regions that do not contain the detected moving object or subject. To create other region or regions that do not contain the detected moving object, the signal processor excludes a moving object region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains a detected face and other region or regions that do not contain the detected face. To create other region or regions that do not contain the detected face, the signal processor excludes a face region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains detected natural skin and other region or regions that do not contain the detected natural skin. To create other region or regions that do not contain the detected natural skin, the signal processor excludes a natural skin region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains detected hair and other region or regions that do not contain the detected hair. To create other region or regions</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>that do not contain the detected hair, the signal processor excludes a hair region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains detected clothing and other region or regions that do not contain the detected clothing. To create other region or regions that do not contain the detected clothing, the signal processor excludes a clothing region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains a detected object in a foreground and other region or regions that are part of a background. To create other region or regions that do not contain the detected foreground, the signal processor excludes a foreground region that contains the pixels for which a position has been held in the hold unit or memory.</p>

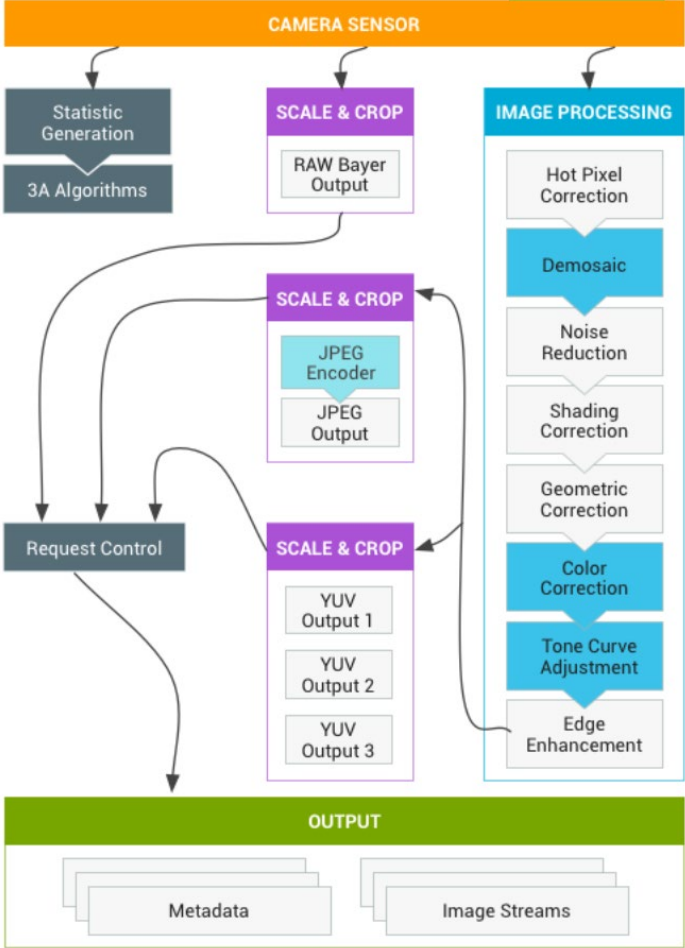
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<ul style="list-style-type: none">• Our Qualcomm Spectra™ AI ISP features:<ul style="list-style-type: none">• Limitless Real-time Semantic Segmentation for photo/video frame• Insight AI provides real-time skin and sky adjustments to create more natural color and lighting in uncertain conditions.• Ultra-low Light video capture• Video Object Eraser can remove unwanted elements from videos• Real-time AI Relighting make you appear professional wherever you are• Truepic photo capture with C2PA standard support lets you snap a photo with Truepic's cryptographic seal to prove the photo is real and not Gen AI <p>(https://www.qualcomm.com/products/mobile/snapdragon/smartphones/snapdragon-8-series-mobile-platforms/snapdragon-8-elite-mobile-platform)</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>AI-powered camera redefines photography</p> <p>Infuse brilliance into mobile capture with our AI ISP, enhancing everything from selfies to crystal-clear video chats thanks to an overhauled Hexagon Direct Link. The first AI-powered Limitless Segmentation recognizes and enhances virtually anything in the frame, including faces, hair, clothing, objects, backgrounds, and beyond. Even furry friends appear crisp and cute—no matter how fast the zoomies—thanks to AI-Based Pet Capture.</p> <ul style="list-style-type: none"> • Our powerful AI ISP is deeply integrated with the Hexagon NPU for enhanced, intuitive capture. • Limitless Segmentation can segment an image in over 250 layers, each optimized to perfection. • Real-time Insight AI captures and enhances natural skin and sky tones even in the most challenging conditions. • Truepic with C2PA adds cryptographic seals so you can authenticate your photos as real and not AI-generated—now including videos and audio recordings. • Video Object Eraser can remove unwanted elements from video footage—on-device. • Capture vivid videos at 4K60 FPS, even in near darkness. <p>(https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/Snapdragon-8-Elite-Platform-Product-Brief.pdf)</p>
[4.a] A signal processor according to claim 2, wherein: the processing unit is a signal processing unit for adjusting white balance of an input picture signal; and	<p>For example, all of the Accused Samsung '950 Products are equipped with white balance correction, which is activated when an object that appears white in person is detected in an image. The white balance correction adjusts for the color temperature of the light source so that an object that appears white in person also appears white in the image. As a result, the Accused Samsung '950 Products are necessarily configured to detect with a patterned portion (e.g. white object, white snow) formed of a single color of black or white is input, and contain one or more processors for doing same (e.g., CPU, ISP, and/or DSP). Further, the Accused Samsung '950 Products performs specific white balance processes when a face is detected.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	 <p>The diagram illustrates a camera pipeline. At the top is the CAMERA SENSOR (orange bar). It feeds into three parallel paths: Statistic Generation (grey box) leading to 3A Algorithms (grey box); SCALE & CROP (purple box) leading to RAW Bayer Output (grey box); and IMAGE PROCESSING (blue box) which contains a sequence of steps: Hot Pixel Correction, Demosaic, Noise Reduction, Shading Correction, Geometric Correction, Color Correction, Tone Curve Adjustment, and Edge Enhancement. The RAW Bayer Output feeds into a second SCALE & CROP (purple box) which contains a JPEG Encoder and JPEG Output. The IMAGE PROCESSING block also feeds into a third SCALE & CROP (purple box) which contains YUV Output 1, YUV Output 2, and YUV Output 3. A Request Control (grey box) receives input from the 3A Algorithms and the first SCALE & CROP block, and outputs to the OUTPUT section. The OUTPUT section (green bar) contains Metadata and Image Streams (represented by stacked boxes).</p> <p>Figure 2. Camera pipeline</p> <p>https://source.android.com/docs/core/camera/camera3_requests_hal (white balance is included in “3A”)</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<ul style="list-style-type: none"> - Pro: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while taking pictures. - Pro video: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while recording videos. <p>Samsung Galaxy S25 User Manual at 43. https://downloadcenter.samsung.com/content/UM/202502/20250222040501249/SAM_S931_S936_S938_EN_UG_OS15_012425_FINAL_AC_02072025.pdf)</p> <p>Adaptive color tone</p> <p>Adjust the colors and white balance based on ambient lighting conditions to make colors appear more natural in different environments.</p> <p>○ From Settings, tap  Display > Adaptive color tone and tap  to enable this feature.</p> <p><i>Id.</i> at 116.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Screen mode</p> <p>Your device has several screen mode options which adjust the screen quality for different situations. You can select the mode according to your preference.</p> <ol style="list-style-type: none"><li>1. From Settings, tap  Display > Screen mode.<li>2. Tap an option to set a different screen mode.<ul style="list-style-type: none"><li>• Drag the slider to adjust the white balance.<li>• Tap Advanced settings to manually change the RGB values. <p><i>Id.</i> at 117.</p> <p>Intelligent features</p> <ul style="list-style-type: none"><li>• Scan documents and text: Automatically show a button when a document is detected to scan it. Tap the option to enable Auto scanning, which will scan a document without a tap. You'll also have the option to remove unwanted objects, in case your fingers are in the frame.<li>• Scan QR codes: Automatically detects QR codes when using the camera.<li>• Shot suggestions: Get on-screen guides to help you line up great shots.<li>• Intelligent optimization: Set the quality optimization options to prioritize quality or speed in Photo mode. You can also enable Scene optimizer to automatically adjust exposure, contrast, white balance, and more based on what is detected in the camera frame. The Scene optimizer is only available when using the rear camera. <p>https://www.samsung.com/us/support/answer/ANS10004601/</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>As another example, the signal processor is configured to control image enhancement or color correction such as lighting adjustment or white balance on a detected face while performing different image enhancement, or color correction such as white balance for other region or regions that do not include the detected face.</p> <p>3. WB (White Balance)[3]</p> <p>This block helps the camera adjust the color balance and render them accurately. It ensures that an image has a uniform WB Gain and that the RGB of the grey (achromatic) areas are adjusted to the same value (to depict the grey as grey).</p> <p>The sensor output fed to ISP has twice as many green channels as any other. This is the reason why the raw image before the application of WB Gain looks green overall. (Refer to 'De-mosaic' below)</p> <p>4. De-mosaic (= Bayer Interpolation, Color Interpolation)</p> <p>Most smartphone cameras use the Bayer type (or pattern) sensor. The Bayer sensor, as illustrated below [2] is 3 color filter combination sensor mounted on top of a photodiode array.</p> <div> <p>The diagram illustrates the Bayer sensor structure and resulting pattern. It shows a 3D view of a sensor array with red, green, and blue filters. To the right, a 2D diagram shows incoming light passing through a filter layer to a sensor array, resulting in a Bayer pattern of red, green, and blue subpixels.</p> </div> <p>https://r2.community.samsung.com/t5/CamCyclopedia/ISP-Image-Signal-Processor/ba-p/13485145</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p align="center">FD (Face Detection)</p> <p>This block detects faces in an image/video and passes their coordinates to the next block. The face coordinates can be used in other algorithms or solutions to implement different features.</p> <p>[Example of application] Using FD information in AWB (Auto White Balance) and AE (Auto Exposure) algorithm blocks</p> <ol style="list-style-type: none"> 1. When a face is detected, it compares and corrects the difference between the face brightness and the targeted brightness of the whole image. It utilizes the face coordinates received, to adjust the face brightness, etc. 2. When multiple sources are detected illuminating a face and the face is overly affected by these lights, this FD data can be used to correct the color on it. For example, if a face is detected in a low-color temperature light setup giving off a slightly reddish glow, the face coordinates are used to adjust the color of the face. <p>https://r2.community.samsung.com/t5/CamCyclopedia/ISP-Image-Signal-Processor/ba-p/13485145</p> <p>As another example, the signal processor is configured to control image enhancement or color correction such as lighting adjustment or white balance on a detected natural skin while performing different image enhancement, or color correction such as white balance for other region or regions that do not include the detected natural skin.</p> <p>As another example, the signal processor is configured to control image enhancement or color correction such as lighting adjustment or white balance in a hair region while performing different image enhancement, or color correction such as white balance for other region or regions that do not include the detected hair.</p> <p>As another example, the signal processor is configured to control image enhancement or color correction such as lighting adjustment or white balance in a clothing region while performing different image enhancement, or color correction such as white balance for other region or regions that do not include the detected clothing.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>As another example, the signal processor is configured to control image enhancement or object deletion in a moving object region while performing different image enhancement, or color correction such as white balance for other region or regions that do not include the detected moving object.</p>
<p>[4.b] the control unit controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.</p>	<p><i>See claim [1.e] above. See also:</i></p> <p>The signal processor in each of the Accused Samsung '950 Products incorporates or operates as the control unit that controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.</p> <p>As an example, the signal processor is configured to create a region that includes skin tones and textures and other region or regions that do not include skin tones and textures. To create other region or regions that do not contain the detected skin tones and textures, the signal processor excludes a skin tone region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contain a detected moving object or subject and other region or regions that do not contain the detected moving object or subject. To create other region or regions that do not contain the detected moving object, the signal processor excludes a moving object region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains a detected face and other region or regions that do not contain the detected face. To create other region or regions that do not contain the detected face, the signal processor excludes a face region that contains the pixels for which a position has been held in the hold unit or memory.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>As another example, the signal processor is configured to create a region that contains detected natural skin and other region or regions that do not contain the detected natural skin. To create other region or regions that do not contain the detected natural skin, the signal processor excludes a natural skin region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains detected hair and other region or regions that do not contain the detected hair. To create other region or regions that do not contain the detected hair, the signal processor excludes a hair region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains detected clothing and other region or regions that do not contain the detected clothing. To create other region or regions that do not contain the detected clothing, the signal processor excludes a clothing region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains a detected object in a foreground and other region or regions that are part of a background. To create other region or regions that do not contain the detected foreground, the signal processor excludes a foreground region that contains the pixels for which a position has been held in the hold unit or memory.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<ul style="list-style-type: none">• Our Qualcomm Spectra™ AI ISP features:<ul style="list-style-type: none">• Limitless Real-time Semantic Segmentation for photo/video frame• Insight AI provides real-time skin and sky adjustments to create more natural color and lighting in uncertain conditions.• Ultra-low Light video capture• Video Object Eraser can remove unwanted elements from videos• Real-time AI Relighting make you appear professional wherever you are• Truepic photo capture with C2PA standard support lets you snap a photo with Truepic's cryptographic seal to prove the photo is real and not Gen AI <p>(https://www.qualcomm.com/products/mobile/snapdragon/smartphones/snapdragon-8-series-mobile-platforms/snapdragon-8-elite-mobile-platform)</p>

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>AI-powered camera redefines photography</p> <p>Infuse brilliance into mobile capture with our AI ISP, enhancing everything from selfies to crystal-clear video chats thanks to an overhauled Hexagon Direct Link. The first AI-powered Limitless Segmentation recognizes and enhances virtually anything in the frame, including faces, hair, clothing, objects, backgrounds, and beyond. Even furry friends appear crisp and cute—no matter how fast the zoomies—thanks to AI-Based Pet Capture.</p> <ul style="list-style-type: none">• Our powerful AI ISP is deeply integrated with the Hexagon NPU for enhanced, intuitive capture.• Limitless Segmentation can segment an image in over 250 layers, each optimized to perfection.• Real-time Insight AI captures and enhances natural skin and sky tones even in the most challenging conditions.• Truepic with C2PA adds cryptographic seals so you can authenticate your photos as real and not AI-generated—now including videos and audio recordings.• Video Object Eraser can remove unwanted elements from video footage—on-device.• Capture vivid videos at 4K60 FPS, even in near darkness. <p><u>(https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/Snapdragon-8-Elite-Platform-Product-Brief.pdf)</u></p>

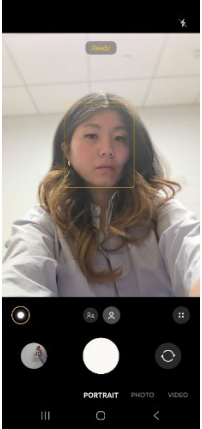
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>3. WB (White Balance)[3]</p> <p>This block helps the camera adjust the color balance and render them accurately. It ensures that an image has a uniform WB Gain and that the RGB of the grey (achromatic) areas are adjusted to the same value (to depict the grey as grey).</p> <p>The sensor output fed to ISP has twice as many green channels as any other. This is the reason why the raw image before the application of WB Gain looks green overall. (Refer to 'De-mosaic' below)</p> <p>4. De-mosaic (= Bayer Interpolation, Color Interpolation)</p> <p>Most smartphone cameras use the Bayer type (or pattern) sensor. The Bayer sensor, as illustrated below [2] is 3 color filter combination sensor mounted on top of a photodiode array.</p> <div> </div> <p>https://r2.community.samsung.com/t5/CamCyclopedia/ISP-Image-Signal-Processor/ba-p/13485145</p>

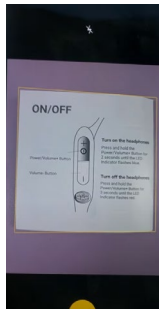
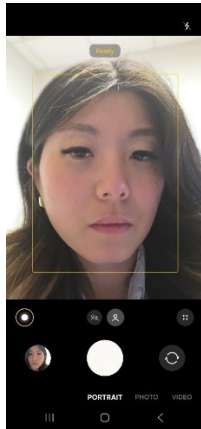
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p align="center">FD (Face Detection)</p> <p>This block detects faces in an image/video and passes their coordinates to the next block. The face coordinates can be used in other algorithms or solutions to implement different features.</p> <p>[Example of application] Using FD information in AWB (Auto White Balance) and AE (Auto Exposure) algorithm blocks</p> <ol style="list-style-type: none"> 1. When a face is detected, it compares and corrects the difference between the face brightness and the targeted brightness of the whole image. It utilizes the face coordinates received, to adjust the face brightness, etc. 2. When multiple sources are detected illuminating a face and the face is overly affected by these lights, this FD data can be used to correct the color on it. For example, if a face is detected in a low-color temperature light setup giving off a slightly reddish glow, the face coordinates are used to adjust the color of the face. <p>https://r2.community.samsung.com/t5/CamCyclopedia/ISP-Image-Signal-Processor/ba-p/13485145</p> <p>For example, on information and belief, the Samsung Galaxy S25 includes an image signal processor (ISP) and/or digital signal processor (DSP) that adjusts an image, for example, by performing white balance correction. For example, the white balance is adjusted in accordance with the detected lighting conditions, e.g. fluorescent lighting, incandescent lighting, sunny outdoor lighting, cloudy outdoor lighting. Upon information and belief, certain adjustments are applied when one or more features e.g. skin tone, hair, or face, are detected in a particular region and certain adjustments are performed when the one or more such features are not contained in another region. For example, foliage or snow scene corrections are not performed when such features are not detected in a region but other image corrections are performed (e.g., face corrections and portrait mode corrections are applied). Similarly, certain white balance corrections are not performed when a white or black background is not contained but additional white balance corrections are applied to the content. Further, text scanning corrections are not performed when text is not detected but additional image corrections are applied. Moreover, image corrections to the foreground (e.g., the face of a person or object being captured) are applied but corrections to the background are not applied if a white or black background is not detected. Further if the face is close to the camera such</p>

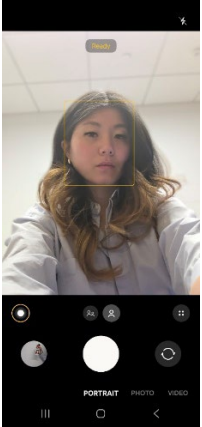
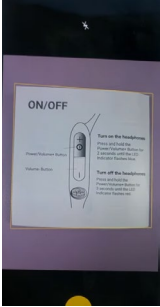
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement				
	that a background is not detected, then the face corrections are applied but background corrections are not applied and background pattern portions are not contained.				
	Input	Features	Features Contained	Video with Contents	Correction
	 Portrait Photo	Snow	No	Cloth	Corrections based on the selected camera's parameters
	 Person in front of a white wall	Snow	No	Face	Beauty face correction applied

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U.S. Patent No. 8,471,950		Exemplary Evidence of Infringement												
	 <p>Book Scan</p>	Snow	No	Scanned image	Scan correction applied									
	 <p>Face close up</p>	Stair	No	Face	Beauty face correction applied									
	<table><tr><th>Input</th><th>Features</th><th>Features Contained</th><th>Video with Contents</th><th>Correction</th></tr><tr><td></td><td>Cloud</td><td>Yes</td><td>Cloth</td><td>No Correction.</td></tr></table>					Input	Features	Features Contained	Video with Contents	Correction		Cloud	Yes	Cloth
Input	Features	Features Contained	Video with Contents	Correction										
	Cloud	Yes	Cloth	No Correction.										

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement					
	 Portrait Photo				No Blur	
	 Person in front of a white wall	Wall	Yes	Face	No Correction. No Blur	
	 Book Scan	Text	Yes	Scanned image	No Correction. No Blur	

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement					
	 <p>Face close up</p>	Cloth	Yes	Face	No White balance correction.	
<p>[5.a] A signal processor according to claim 2, wherein: the region creation unit includes a region segmentation unit for segmenting an effective region in advance, and an overlap detection unit which detects overlap of position information output from the hold unit with blocks segmented by the region segmentation unit; and</p>	<p>For example, the signal processor is configured to detect different regions in an image by performing segmentation of a photo or video frame. For example, the signal processor performs segmentation to detect one or more features including faces, natural skin, hair, clothing, objects, and backgrounds. On information and belief, the signal processor is configured to detect whether a region having a feature e.g. one of face, natural skin, hair, clothing, background overlaps another region having another one of the features face, natural skin, hair, clothing, background. For example, the signal processor can detect whether a region in which hair is detected overlaps with another region in which natural skin is detected. In another example, the signal processor can detect whether a region in which face is detected overlaps with another region in which natural skin is detected. In another example, the signal processor can detect whether a region in which face is detected overlaps with another region in which clothing is detected. In another example, the signal processor can detect whether a region in which face is detected overlaps with another region in which natural skin is detected.</p>					

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>3. WB (White Balance)[3]</p> <p>This block helps the camera adjust the color balance and render them accurately. It ensures that an image has a uniform WB Gain and that the RGB of the grey (achromatic) areas are adjusted to the same value (to depict the grey as grey).</p> <p>The sensor output fed to ISP has twice as many green channels as any other. This is the reason why the raw image before the application of WB Gain looks green overall. (Refer to 'De-mosaic' below)</p> <p>4. De-mosaic (= Bayer Interpolation, Color Interpolation)</p> <p>Most smartphone cameras use the Bayer type (or pattern) sensor. The Bayer sensor, as illustrated below [2] is 3 color filter combination sensor mounted on top of a photodiode array.</p> <div> </div> <p>https://r2.community.samsung.com/t5/CamCyclopedia/ISP-Image-Signal-Processor/ba-p/13485145</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p align="center">FD (Face Detection)</p> <p>This block detects faces in an image/video and passes their coordinates to the next block. The face coordinates can be used in other algorithms or solutions to implement different features.</p> <p>[Example of application] Using FD information in AWB (Auto White Balance) and AE (Auto Exposure) algorithm blocks</p> <ol style="list-style-type: none"> 1. When a face is detected, it compares and corrects the difference between the face brightness and the targeted brightness of the whole image. It utilizes the face coordinates received, to adjust the face brightness, etc. 2. When multiple sources are detected illuminating a face and the face is overly affected by these lights, this FD data can be used to correct the color on it. For example, if a face is detected in a low-color temperature light setup giving off a slightly reddish glow, the face coordinates are used to adjust the color of the face. <p>https://r2.community.samsung.com/t5/CamCyclopedia/ISP-Image-Signal-Processor/ba-p/13485145</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<ul style="list-style-type: none">• Our Qualcomm Spectra™ AI ISP features:<ul style="list-style-type: none">• Limitless Real-time Semantic Segmentation for photo/video frame• Insight AI provides real-time skin and sky adjustments to create more natural color and lighting in uncertain conditions.• Ultra-low Light video capture• Video Object Eraser can remove unwanted elements from videos• Real-time AI Relighting make you appear professional wherever you are• Truepic photo capture with C2PA standard support lets you snap a photo with Truepic's cryptographic seal to prove the photo is real and not Gen AI <p>(https://www.qualcomm.com/products/mobile/snapdragon/smartphones/snapdragon-8-series-mobile-platforms/snapdragon-8-elite-mobile-platform)</p>

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>AI-powered camera redefines photography</p> <p>Infuse brilliance into mobile capture with our AI ISP, enhancing everything from selfies to crystal-clear video chats thanks to an overhauled Hexagon Direct Link. The first AI-powered Limitless Segmentation recognizes and enhances virtually anything in the frame, including faces, hair, clothing, objects, backgrounds, and beyond. Even furry friends appear crisp and cute—no matter how fast the zoomies—thanks to AI-Based Pet Capture.</p> <ul style="list-style-type: none"> • Our powerful AI ISP is deeply integrated with the Hexagon NPU for enhanced, intuitive capture. • Limitless Segmentation can segment an image in over 250 layers, each optimized to perfection. • Real-time Insight AI captures and enhances natural skin and sky tones even in the most challenging conditions. • Truepic with C2PA adds cryptographic seals so you can authenticate your photos as real and not AI-generated—now including videos and audio recordings. • Video Object Eraser can remove unwanted elements from video footage—on-device. • Capture vivid videos at 4K60 FPS, even in near darkness. <p>(https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/Snapdragon-8-Elite-Platform-Product-Brief.pdf)</p> <p>Let's dive deeper into why Snapdragon 8 Elite is a game-changer:</p> <ul style="list-style-type: none"> • Incredible power: Experience a 45% boost in performance with the Qualcomm Oryon CPU, giving you lightning-fast apps and incredible multitasking.¹ • AI at your fingertips: The Qualcomm® Hexagon™ NPU increases AI performance by 45%, handling everything from voice commands to image prompts. Your device is ready to adapt to your every move. • Photography, reimagined: With features like 4K Semantic Segmentation, Video Object Eraser, and real-time AI lighting adjustments, the Snapdragon 8 Elite camera tech turns your mobile photos into pro-level masterpieces. <p>https://www.qualcomm.com/snapdragon/news/snapdragon-8-elite--the-power-behind-the-name</p>
[5.b] the control unit controls the processing unit by using an evaluated	See claim [1.f] above. See also:

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
<p>value of a region from which pixels having an extracted predetermined feature are removed.</p>	<p>The signal processor in each of the Accused Samsung '950 Products incorporates or operates as the control unit that controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.</p> <p>As an example, the signal processor is configured to create a region that includes skin tones and textures and other region or regions that do not include skin tones and textures. To create other region or regions that do not contain the detected skin tones and textures, the signal processor excludes a skin tone region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contain a detected moving object or subject and other region or regions that do not contain the detected moving object or subject. To create other region or regions that do not contain the detected moving object, the signal processor excludes a moving object region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains a detected face and other region or regions that do not contain the detected face. To create other region or regions that do not contain the detected face, the signal processor excludes a face region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains detected natural skin and other region or regions that do not contain the detected natural skin. To create other region or regions that do not contain the detected natural skin, the signal processor excludes a natural skin region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains detected hair and other region or regions that do not contain the detected hair. To create other region or regions that do not contain the detected hair, the signal processor excludes a hair region that contains the pixels for which a position has been held in the hold unit or memory.</p>

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>As another example, the signal processor is configured to create a region that contains detected clothing and other region or regions that do not contain the detected clothing. To create other region or regions that do not contain the detected clothing, the signal processor excludes a clothing region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains a detected object in a foreground and other region or regions that are part of a background. To create other region or regions that do not contain the detected foreground, the signal processor excludes a foreground region that contains the pixels for which a position has been held in the hold unit or memory.</p>

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<ul style="list-style-type: none">• Our Qualcomm Spectra™ AI ISP features:<ul style="list-style-type: none">• Limitless Real-time Semantic Segmentation for photo/video frame• Insight AI provides real-time skin and sky adjustments to create more natural color and lighting in uncertain conditions.• Ultra-low Light video capture• Video Object Eraser can remove unwanted elements from videos• Real-time AI Relighting make you appear professional wherever you are• Truepic photo capture with C2PA standard support lets you snap a photo with Truepic's cryptographic seal to prove the photo is real and not Gen AI <p>(https://www.qualcomm.com/products/mobile/snapdragon/smartphones/snapdragon-8-series-mobile-platforms/snapdragon-8-elite-mobile-platform)</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>AI-powered camera redefines photography</p> <p>Infuse brilliance into mobile capture with our AI ISP, enhancing everything from selfies to crystal-clear video chats thanks to an overhauled Hexagon Direct Link. The first AI-powered Limitless Segmentation recognizes and enhances virtually anything in the frame, including faces, hair, clothing, objects, backgrounds, and beyond. Even furry friends appear crisp and cute—no matter how fast the zoomies—thanks to AI-Based Pet Capture.</p> <ul style="list-style-type: none"> • Our powerful AI ISP is deeply integrated with the Hexagon NPU for enhanced, intuitive capture. • Limitless Segmentation can segment an image in over 250 layers, each optimized to perfection. • Real-time Insight AI captures and enhances natural skin and sky tones even in the most challenging conditions. • Truepic with C2PA adds cryptographic seals so you can authenticate your photos as real and not AI-generated—now including videos and audio recordings. • Video Object Eraser can remove unwanted elements from video footage—on-device. • Capture vivid videos at 4K60 FPS, even in near darkness. <p>https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/Snapdragon-8-Elite-Platform-Product-Brief.pdf</p> <p>For example, on information and belief, the Samsung Galaxy S25 includes an image signal processor (ISP) and/or digital signal processor (DSP) that adjusts an image, for example, by performing white balance correction. For example, the white balance is adjusted in accordance with the detected lighting conditions, e.g. fluorescent lighting, incandescent lighting, sunny outdoor lighting, cloudy outdoor lighting. Upon information and belief, certain adjustments are applied when one or more features e.g. skin tone, hair, or face, are detected in a particular region and certain adjustments are performed when the one or more such features are not contained in another region. For example, foliage or snow scene corrections are not performed when such features are not detected in a region but other image corrections are performed (e.g., face corrections and portrait mode corrections are applied). Similarly, certain white balance corrections are not performed when a white or black background is not contained but additional white balance corrections are applied to the content. Further, text scanning corrections are not performed when text is not detected but additional image corrections are applied. Moreover, image corrections to the foreground (e.g., the face of a person or object being captured) are applied but corrections to the background are not applied if a white or black background is not detected. Further if the face is close to the camera such</p>

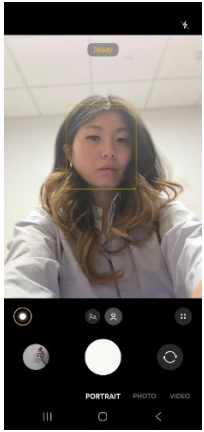
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>that a background is not detected, then the face corrections are applied but background corrections are not applied and background pattern portions are not contained.</p> <p>3. WB (White Balance)[3]</p> <p>This block helps the camera adjust the color balance and render them accurately. It ensures that an image has a uniform WB Gain and that the RGB of the grey (achromatic) areas are adjusted to the same value (to depict the grey as grey).</p> <p>The sensor output fed to ISP has twice as many green channels as any other. This is the reason why the raw image before the application of WB Gain looks green overall. (Refer to 'De-mosaic' below)</p> <p>4. De-mosaic (= Bayer Interpolation, Color Interpolation)</p> <p>Most smartphone cameras use the Bayer type (or pattern) sensor. The Bayer sensor, as illustrated below [2] is 3 color filter combination sensor mounted on top of a photodiode array.</p> <div> </div> <p>https://r2.community.samsung.com/t5/CamCyclopedia/ISP-Image-Signal-Processor/ba-p/13485145</p>

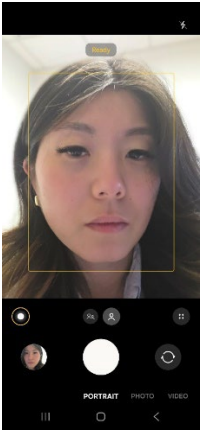
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement				
	FD (Face Detection)				
	This block detects faces in an image/video and passes their coordinates to the next block. The face coordinates can be used in other algorithms or solutions to implement different features.				
	[Example of application] Using FD information in AWB (Auto White Balance) and AE (Auto Exposure) algorithm blocks				
	<div>1. When a face is detected, it compares and corrects the difference between the face brightness and the targeted brightness of the whole image. It utilizes the face coordinates received, to adjust the face brightness, etc.</div> <div>2. When multiple sources are detected illuminating a face and the face is overly affected by these lights, this FD data can be used to correct the color on it. For example, if a face is detected in a low-color temperature light setup giving off a slightly reddish glow, the face coordinates are used to adjust the color of the face.</div>				
	https://r2.community.samsung.com/t5/CamCyclopedia/ISP-Image-Signal-Processor/ba-p/13485145				

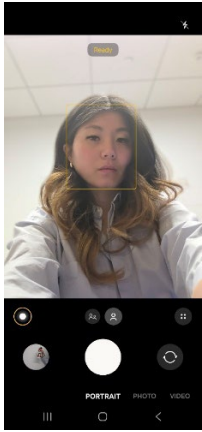
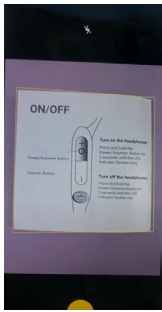
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement					
	 <p>Person in front of a white wall</p>	Snow	No	Face	Beauty face correction applied	
	 <p>Book Scan</p>	Snow	No	Scanned image	Scan correction applied	

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement				
	 <p>Face close up</p>	Stair	No	Face	Beauty face correction applied
	 <p>Portrait Photo</p>	Cloud	Yes	Cloth	No Correction. No Blur

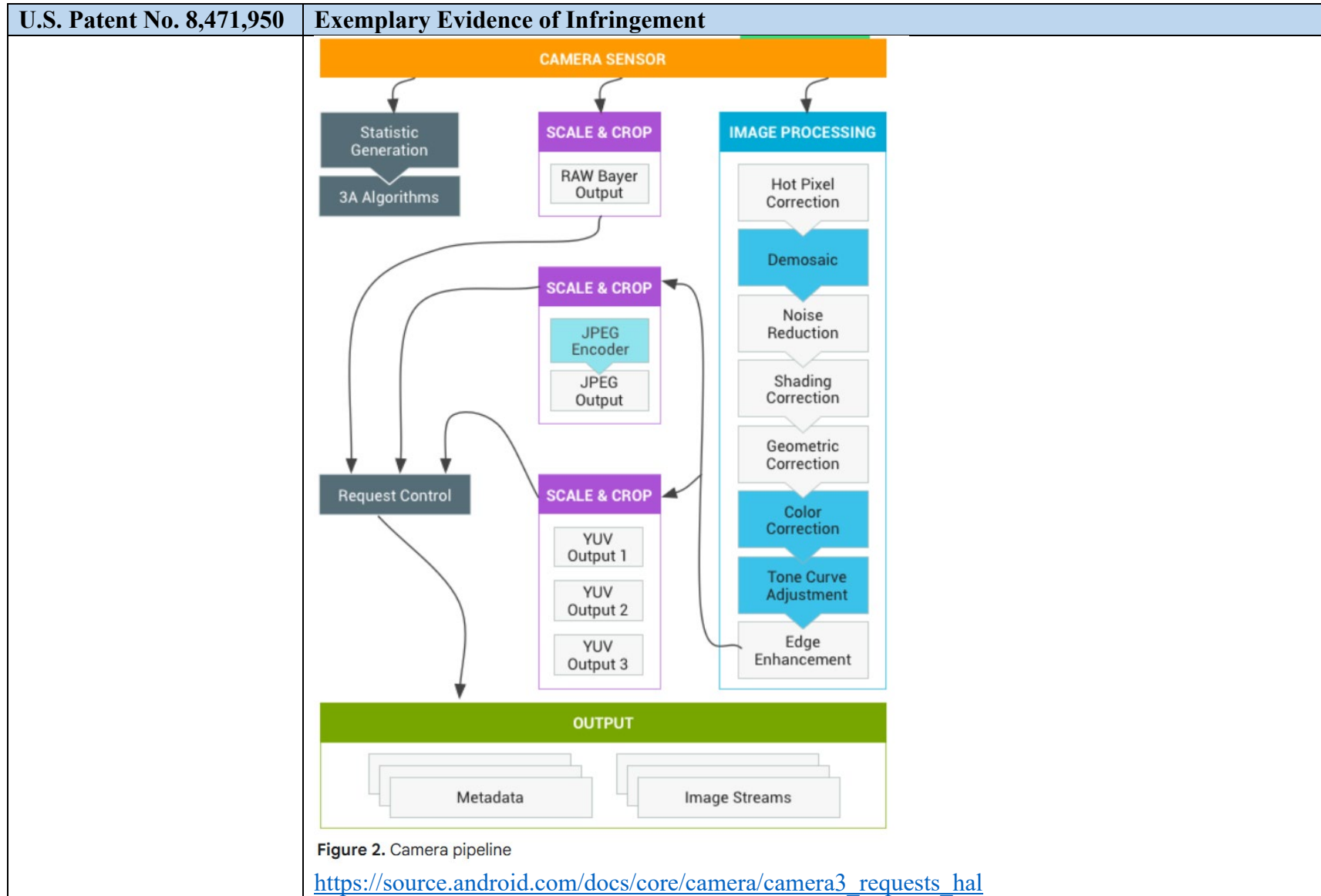
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement					
	 <p>Person in front of a white wall</p>	Wall	Yes	Face	No Correction. No Blur	
	 <p>Book Scan</p>	Text	Yes	Scanned image	No Correction. No Blur	

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement					
	 <p>Face close up</p>	Cloth	Yes	Face	No White balance correction.	
[7.a] A signal according to claim 2, wherein: the processing unit is a light intensity adjustment unit for controlling exposure;	As another example, the signal processor is configured to perform lighting adjustment for example by adjusting shutter and/or exposure. This includes performing AE.					

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><h2>Shots captured at lightning speed</h2></div> <div><p>ProVisual Engine and advanced sensors join forces to create high-quality images even at fast shutter speeds so you can capture moving subjects with more clarity.³</p></div> <div>A photograph of a tabby cat in mid-air, jumping towards a yellow toy hanging from a string. The cat is positioned on a yellow platform, and the background shows a cat tree and a window.</div> <div>A close-up photograph of a tabby cat's face, showing its green eyes and white whiskers. The cat is looking directly at the camera.</div> <div><p>https://www.samsung.com/us/smartphones/galaxy-s25/</p></div>

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<ul style="list-style-type: none">• Our Qualcomm Spectra™ AI ISP features:<ul style="list-style-type: none">• Limitless Real-time Semantic Segmentation for photo/video frame• Insight AI provides real-time skin and sky adjustments to create more natural color and lighting in uncertain conditions.• Ultra-low Light video capture• Video Object Eraser can remove unwanted elements from videos• Real-time AI Relighting make you appear professional wherever you are• Truepic photo capture with C2PA standard support lets you snap a photo with Truepic's cryptographic seal to prove the photo is real and not Gen AI <p>(https://www.qualcomm.com/products/mobile/snapdragon/smartphones/snapdragon-8-series-mobile-platforms/snapdragon-8-elite-mobile-platform)</p>

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Camera</p> <hr/> <p>Qualcomm Spectra™ Image Signal Processor</p> <ul style="list-style-type: none"> • AI-ISP, Triple 18-bit ISPs <hr/> <p>Limitless real-time Semantic Segmentation photo and video processing</p> <hr/> <p>Engine for Visual Analytics 4.0, including hardware acceleration for iToF depth sensors up to 4K 60 FPS</p> <hr/> <p>Support for the latest HDR, DCG+VS, DCG, Staggered, QDOL, Less Blanking, and Multiframe HDR image sensors</p> <hr/> <p>Support for triple video capture from HDR image sensors, with seamless switching between any HDR mode</p> <ul style="list-style-type: none"> • Up to 48 MP triple camera @ 30 FPS with Zero Shutter Lag • Up to 108 MP single camera @ 30 FPS with Zero Shutter Lag • Up to 320-megapixel photo capture <hr/> <p>AI-based face detection, AI for 3A (auto-focus, autoexposure, and auto-white balance)</p> <hr/> <p>Rec. 2020 color gamut photo and video capture</p> <hr/> <p>Up to 10-bit color depth photo and video capture</p> <hr/> <p>10-bit HEIF: HEIC photo capture, HEVC video capture</p> <hr/> <p>Google Ultra HDR photo capture</p> <hr/> <p>Video capture HDR formats: HDR10+, HDR10, HLG, Dolby Vision</p> <hr/> <p>8K HDR video playback @ 60 FPS</p> <hr/> <p>4K video capture @ 120 FPS</p> <hr/> <p>Slow-mo video capture at 1080p @ 480 FPS</p> <hr/> <p>Hardware Bokeh Engine 2 for video capture</p> <hr/> <p>(https://docs.qualcomm.com/bundle/publicresource/87-83196-1_REV_D_Snapdragon_8_Elite_Mobile_Platform_Product_Brief.pdf)</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>AI-powered camera redefines photography</p> <p>Infuse brilliance into mobile capture with our AI ISP, enhancing everything from selfies to crystal-clear video chats thanks to an overhauled Hexagon Direct Link. The first AI-powered Limitless Segmentation recognizes and enhances virtually anything in the frame, including faces, hair, clothing, objects, backgrounds, and beyond. Even furry friends appear crisp and cute—no matter how fast the zoomies—thanks to AI-Based Pet Capture.</p> <ul style="list-style-type: none"> • Our powerful AI ISP is deeply integrated with the Hexagon NPU for enhanced, intuitive capture. • Limitless Segmentation can segment an image in over 250 layers, each optimized to perfection. • Real-time Insight AI captures and enhances natural skin and sky tones even in the most challenging conditions. • Truepic with C2PA adds cryptographic seals so you can authenticate your photos as real and not AI-generated—now including videos and audio recordings. • Video Object Eraser can remove unwanted elements from video footage—on-device. • Capture vivid videos at 4K60 FPS, even in near darkness. <p>https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/Snapdragon-8-Elite-Platform-Product-Brief.pdf</p> <p>Let's dive deeper into why Snapdragon 8 Elite is a game-changer:</p> <ul style="list-style-type: none"> • Incredible power: Experience a 45% boost in performance with the Qualcomm Oryon CPU, giving you lightning-fast apps and incredible multitasking.¹ • AI at your fingertips: The Qualcomm[®] Hexagon[™] NPU increases AI performance by 45%, handling everything from voice commands to image prompts. Your device is ready to adapt to your every move. • Photography, reimagined: With features like 4K Semantic Segmentation, Video Object Eraser, and real-time AI lighting adjustments, the Snapdragon 8 Elite camera tech turns your mobile photos into pro-level masterpieces. <p>https://www.qualcomm.com/snapdragon/news/snapdragon-8-elite--the-power-behind-the-name</p>
[7.b] a lens and a photoelectric conversion unit for performing photoelectric conversion	For example, the Samsung S25 incorporates one or more lenses e.g. a telephoto lens with an optical zoom including a drive unit to drive the optical zoom lens. In addition, the Samsung S25 incorporates an image sensor corresponding to each of the one or more lenses e.g. a 10MP image sensor for the telephoto lens. The image sensor incorporates a photoelectric conversion unit for

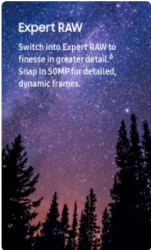
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement																			
are disposed between the light intensity adjustment unit and the extraction unit; and	performing photoelectric conversion disposed between the focus lens and the extraction unit. For example, the image sensor converts light to electricity representing pixel elements.																			
	<table><tr><td rowspan="4">MAIN CAMERA</td><td>Triple</td><td>50 MP, f/1.8, 24mm (wide), 1/1.56", 1.0µm, dual pixel PDAF, OIS</td></tr><tr><td></td><td>10 MP, f/2.4, 67mm (telephoto), 1/3.94", 1.0µm, PDAF, OIS, 3x optical zoom</td></tr><tr><td></td><td>12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55" 1.4µm, Super Steady video</td></tr><tr><td>Features</td><td>Best Face, LED flash, auto-HDR, panorama</td></tr><tr><td></td><td>Video</td><td>8K@24/30fps, 4K@30/60fps, 1080p@30/60/120/240fps, 10-bit HDR, HDR10+, stereo sound rec., gyro-EIS</td></tr><tr><td rowspan="3">SELFIE CAMERA</td><td>Single</td><td>12 MP, f/2.2, 26mm (wide), 1/3.2", 1.12µm, dual pixel PDAF</td></tr><tr><td>Features</td><td>HDR, HDR10+</td></tr><tr><td>Video</td><td>4K@30/60fps, 1080p@30fps</td></tr></table>	MAIN CAMERA	Triple	50 MP, f/1.8, 24mm (wide), 1/1.56", 1.0µm, dual pixel PDAF, OIS		10 MP, f/2.4, 67mm (telephoto), 1/3.94", 1.0µm, PDAF, OIS, 3x optical zoom		12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55" 1.4µm, Super Steady video	Features	Best Face, LED flash, auto-HDR, panorama		Video	8K@24/30fps, 4K@30/60fps, 1080p@30/60/120/240fps, 10-bit HDR, HDR10+, stereo sound rec., gyro-EIS	SELFIE CAMERA	Single	12 MP, f/2.2, 26mm (wide), 1/3.2", 1.12µm, dual pixel PDAF	Features	HDR, HDR10+	Video	4K@30/60fps, 1080p@30fps
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	https://www.gsmarena.com/samsung_galaxy_s25-13610.php																			
	<div><div><div>Samsung Galaxy S23 Ultra</div><div><div></div><div><div>Released 2023, February 17</div><div>234g, 8.9mm thickness</div><div><> Android 13, One UI 5.1</div><div>256GB/512GB/1TB storage, no card slot</div></div><div><div>6.8"</div><div>1440x3088 pixels</div></div><div><div>200MP</div><div>4320p</div></div><div><div>8/12GB RAM</div><div>Snapdragon 8 Gen 2</div></div><div><div>5000mAh</div><div>Li-Ion</div></div></div><div><div>74%</div><div>5,014,011 HITS</div></div><div><div>879</div><div>BECOME A FAN</div></div></div><div><div>REVIEW</div><div>OPINIONS</div><div>COMPARE</div><div>PICTURES</div><div>PRICES</div></div></div>																			

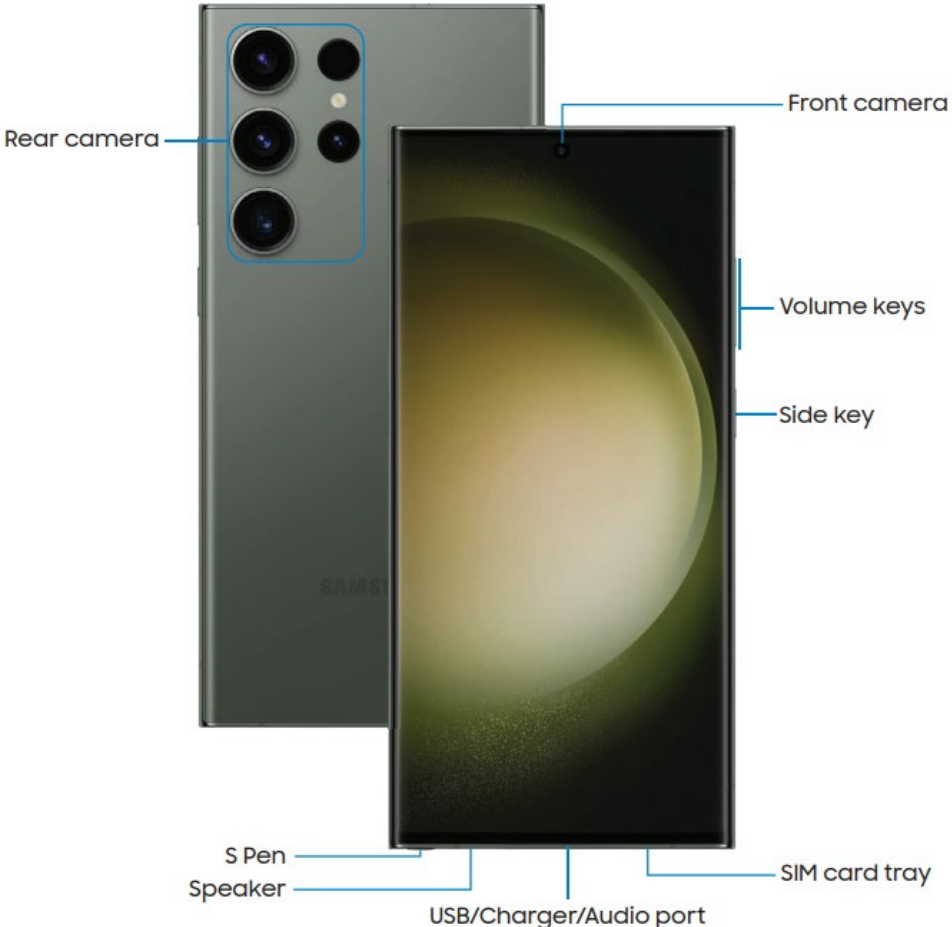
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><p><small>New</small> Galaxy S23 Ultra Verizon 512GB Green Learn more <small>SM-S918U / SM-S918UZGFVZW ★★★★★ 4.8 (8484) Write a Review</small> <small>Pricing before trade-in Get \$400 - \$800 trade-in bill credit</small></p></div> <div></div> <div><p>Galaxy S23 Ultra technical specifications; https://www.samsung.com/us/smartphones/galaxy-s23-ultra/buy/galaxy-s23-ultra-512gb-verizon-sm-s918uzgfvzw/?modelCode=SM-S918UZGFXAU; https://www.gsmarena.com/samsung_galaxy_s23_ultra-12024.php.</p></div>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement																
	<div><div><div><p>Galaxy S23 Ultra We've raised the bar with a 200MP camera and our fastest mobile processor ever</p></div><div><p>Can you send me that?</p><p>Get ready to become your group's go-to photographer. We've packed Galaxy's biggest sensor, light-absorbing pixels and video stabilization technology into one epic camera for life's most share-worthy moments.</p></div><div><p>Eco design More innovation, less footprint Learn more</p></div></div><div><div><p>12MP Selfie Camera</p></div><div><p>12MP Ultra-Wide Camera</p><p>10MP 10x Optical Zoom Telephoto Camera 1</p></div><div><p>200MP Wide-Angle Camera</p><p>10MP 3x Optical Zoom Telephoto Camera 2</p></div><div><p>High resolution</p><p>We nearly doubled the resolution on the Wide-Angle Camera,5 delivering images so clear you can zoom way in to find hidden masterpieces.</p></div><div><p>Expert RAW</p><p>Switch into Expert RAW to finesse in greater detail.6 Snap in 50MP for detailed, dynamic frames.</p></div><div><p>Multi exposure</p><p>Capture up to nine frames and see them automatically layered together to create a multiple exposure work of art.</p></div></div><table><tr><td rowspan="4">MAIN CAMERA</td><td>Quad</td><td>200 MP, f/1.7, 24mm (wide), 1/1.3", 0.6µm, multi-directional PDAF, Laser AF, OIS 10 MP, f/4.9, 230mm (periscope telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 10x optical zoom 10 MP, f/2.4, 70mm (telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55", 1.4µm, Dual Pixel PDAF, Super Steady video</td></tr><tr><td>Features</td><td>LED flash, auto-HDR, panorama</td></tr><tr><td>Video</td><td>8K@24/30fps, 4K@30/60fps, 1080p@30/60/240fps, 1080p@960fps, HDR10+, stereo sound rec., gyro-EIS</td></tr><tr><td></td><td></td></tr><tr><td rowspan="3">SELFIE CAMERA</td><td>Single</td><td>12 MP, f/2.2, 26mm (wide), Dual Pixel PDAF</td></tr><tr><td>Features</td><td>Dual video call, Auto-HDR, HDR10+</td></tr><tr><td>Video</td><td>4K@30/60fps, 1080p@30fps</td></tr></table><p>Galaxy S23 Ultra technical specifications; https://www.samsung.com/us/smartphones/galaxy-s23-ultra/buy/galaxy-s23-ultra-512gb-verizon-sm-s918uzgfvzw/?modelCode=SM-S918UZGFXAU; https://www.gsmarena.com/samsung_galaxy_s23_ultra-12024.php.</p></div>	MAIN CAMERA	Quad	200 MP, f/1.7, 24mm (wide), 1/1.3", 0.6µm, multi-directional PDAF, Laser AF, OIS 10 MP, f/4.9, 230mm (periscope telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 10x optical zoom 10 MP, f/2.4, 70mm (telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55", 1.4µm, Dual Pixel PDAF, Super Steady video	Features	LED flash, auto-HDR, panorama	Video	8K@24/30fps, 4K@30/60fps, 1080p@30/60/240fps, 1080p@960fps, HDR10+, stereo sound rec., gyro-EIS			SELFIE CAMERA	Single	12 MP, f/2.2, 26mm (wide), Dual Pixel PDAF	Features	Dual video call, Auto-HDR, HDR10+	Video	4K@30/60fps, 1080p@30fps
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**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Galaxy S23 Ultra</p>  <p>The diagram illustrates the Samsung Galaxy S23 Ultra with the following labeled components:</p> <ul style="list-style-type: none">Rear camera: Points to the camera module on the back of the device.Front camera: Points to the camera located at the top of the front display.Volume keys: Points to the two keys on the left side of the device.Side key: Points to the single key on the right side of the device.S Pen: Points to the stylus shown at the bottom left.Speaker: Points to the speaker grille at the bottom left.USB/Charger/Audio port: Points to the port at the bottom center.SIM card tray: Points to the tray at the bottom right.

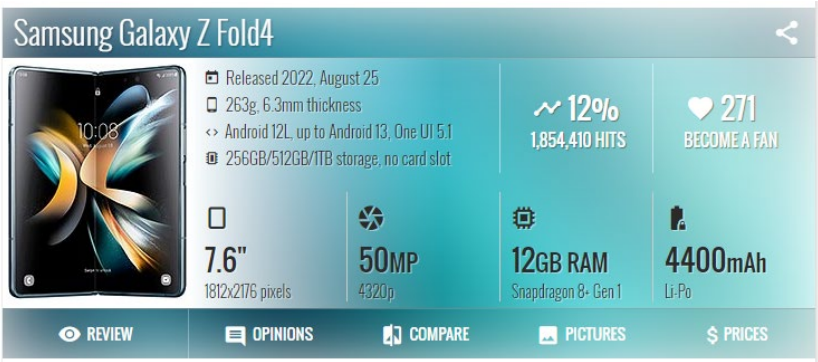
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Galaxy S23 Ultra technical specifications; https://downloadcenter.samsung.com/content/UM/202302/20230228053129621/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL_AC_022023.pdf at 5.</p> <div> </div> <p>Galaxy S23 Ultra technical specifications; https://www.samsung.com/us/smartphones/galaxy-s23-ultra/buy/galaxy-s23-ultra-512gb-verizon-sm-s918uzgfvzw/?modelCode=SM-S918UZGFXAU.</p>

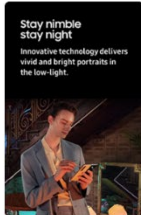
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div>  Camera </div> <p>Enjoy a full kit of pro lenses and pro-grade video modes and settings.</p> <ul style="list-style-type: none"> ○ From Apps, tap  Camera. <p> TIP Quickly press the Side key twice to open the Camera app.</p> <div>  </div> <p>Galaxy S23 Ultra technical specification; https://downloadcenter.samsung.com/content/UM/202302/20230228053129621/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL_AC_022023.pdf at 58.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div>  <p>Samsung Galaxy Z Fold4</p> <p>Released 2022, August 25 263g, 6.3mm thickness Android 12L, up to Android 13, One UI 5.1 256GB/512GB/1TB storage, no card slot</p> <p>7.6" 1812x2176 pixels 50MP 4320p 12GB RAM Snapdragon 8+ Gen 1 4400mAh Li-Po</p> <p>REVIEW OPINIONS COMPARE PICTURES PRICES</p> <p>Galaxy Z Fold4 Verizon 512GB Beige Learn more</p> <p>SM-F936U / SM-F936UZEZEVZW ★★★★★ 4.7 (2624) Write a Review</p> <p>Pricing before trade-in Get \$400 - \$800 trade-in bill credit</p> </div> <div>  </div> <p>Galaxy Z Fold4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzeeatt/; https://www.gsmarena.com/samsung_galaxy_z_fold4-11737.php.</p>

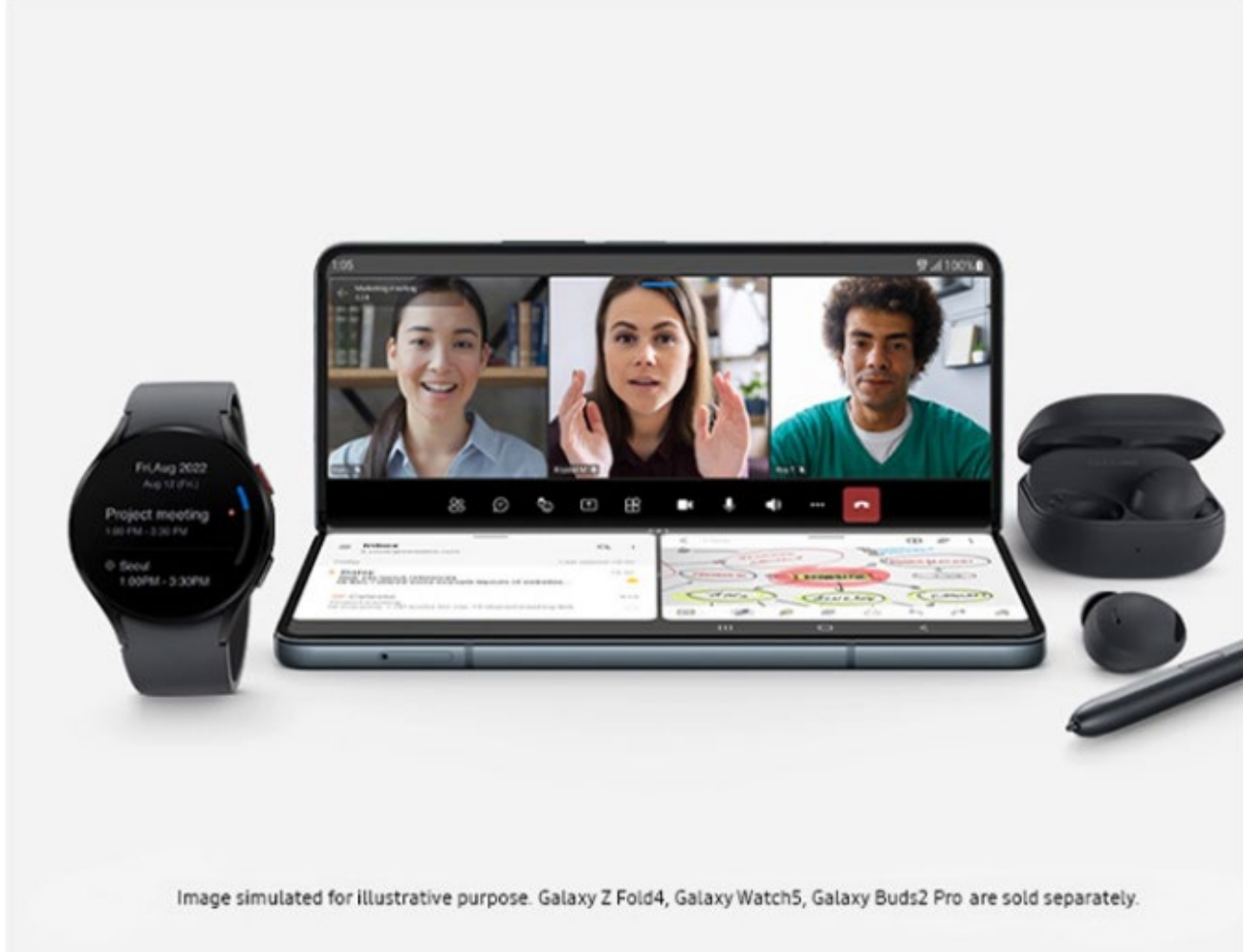
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement																		
	<div><div><div><div><div>Immersive View</div><div>Get in the Zone.</div><div>Learn more</div><div></div></div></div><div><div>Built to last</div><div>Unbelievable tech.</div><div>Learn more</div><div></div></div><div><div>Smile-worthy improvements</div><div>With the upgraded Rear Camera, Space Zoom and Nightography, we're bringing a pro-level kit to the foldable form for the first time. Use the massive Main Screen as a viewfinder to flex your photo skills with new tech.</div><div></div></div><div><div>Galaxy Excellence</div><div>The brilliance is built in</div><div>Learn more</div><div></div></div></div><div><div><div><div>10MP</div><div>3x Optical Zoom Telephoto Camera</div><div></div></div><div><div>12MP</div><div>Ultra wide camera</div><div></div></div><div><div>50MP</div><div>Wide-angle camera</div><div></div></div><div><div>4MP</div><div>Under display camera</div><div></div></div><div><div>10MP</div><div>Cover camera</div><div></div></div><div><div>Stay nimble</div><div>Stay right</div><div>Innovative technology delivers vivid and bright portraits in the low-light.</div><div></div></div></div></div><table><tr><td rowspan="4">MAIN CAMERA</td><td>Triple</td><td>50 MP, f/1.8, 23mm (wide), 1.0µm, Dual Pixel PDAF, OIS 10 MP, f/2.4, 66mm (telephoto), 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 123°, 12mm (ultrawide), 1.12µm</td></tr><tr><td>Features</td><td>LED flash, HDR, panorama</td></tr><tr><td>Video</td><td>8K@24fps, 4K@60fps, 1080p@60/240fps (gyro-EIS), 720p@960fps (gyro-EIS), HDR10+</td></tr><tr><td></td><td></td></tr><tr><td rowspan="4">SELFIE CAMERA</td><td>Single</td><td>4 MP, f/1.8, 26mm (wide), 2.0µm, under display Cover camera: 10 MP, f/2.2, 24mm (wide), 1/3", 1.22µm</td></tr><tr><td>Features</td><td>HDR</td></tr><tr><td>Video</td><td>4K@30/60fps, 1080p@30/60fps, gyro-EIS</td></tr><tr><td></td><td></td></tr></table><p>Galaxy Z Fold4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzeeatt/; https://www.gsmarena.com/samsung_galaxy_z_fold4-11737.php.</p></div>	MAIN CAMERA	Triple	50 MP, f/1.8, 23mm (wide), 1.0µm, Dual Pixel PDAF, OIS 10 MP, f/2.4, 66mm (telephoto), 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 123°, 12mm (ultrawide), 1.12µm	Features	LED flash, HDR, panorama	Video	8K@24fps, 4K@60fps, 1080p@60/240fps (gyro-EIS), 720p@960fps (gyro-EIS), HDR10+			SELFIE CAMERA	Single	4 MP, f/1.8, 26mm (wide), 2.0µm, under display Cover camera: 10 MP, f/2.2, 24mm (wide), 1/3", 1.22µm	Features	HDR	Video	4K@30/60fps, 1080p@30/60fps, gyro-EIS		
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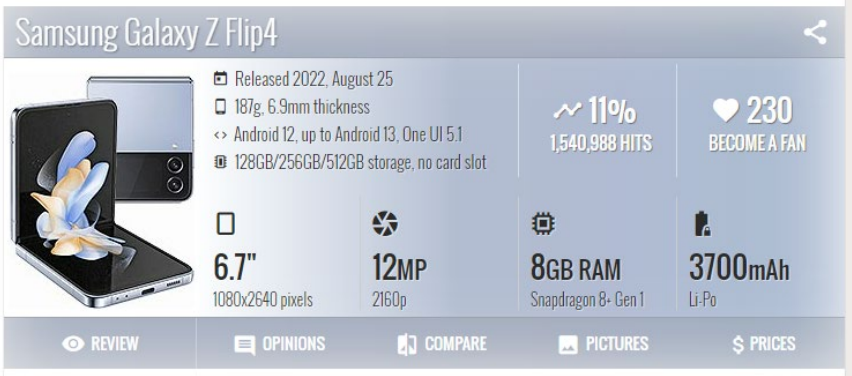
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><h2>Galaxy Z Fold4</h2></div> <div><p>The diagram illustrates the Samsung Galaxy Z Fold4 in both its folded and unfolded configurations. The folded phone is shown in the background, while the unfolded phone is in the foreground, displaying a vibrant, abstract pattern. Labels with leader lines point to various components: 'Rear camera' and 'Flash' point to the camera module on the back of the folded phone; 'Cover camera' points to the front-facing camera on the outer cover; 'Speaker' points to the speaker grille on the top edge of the cover; 'Under display camera' points to the camera located beneath the main display of the unfolded phone; 'Volume keys' and 'Side key/ Fingerprint sensor' point to the controls on the right edge of the unfolded phone; and another 'Speaker' and 'USB/charging/ audio port' point to the bottom edge of the unfolded phone.</p></div> <p>Galaxy Z Fold4 technical specification; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_fold4_d1e605.html.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	 <p>Image simulated for illustrative purpose. Galaxy Z Fold4, Galaxy Watch5, Galaxy Buds2 Pro are sold separately.</p> <p>Galaxy Z Fold4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzeeatt/.</p>

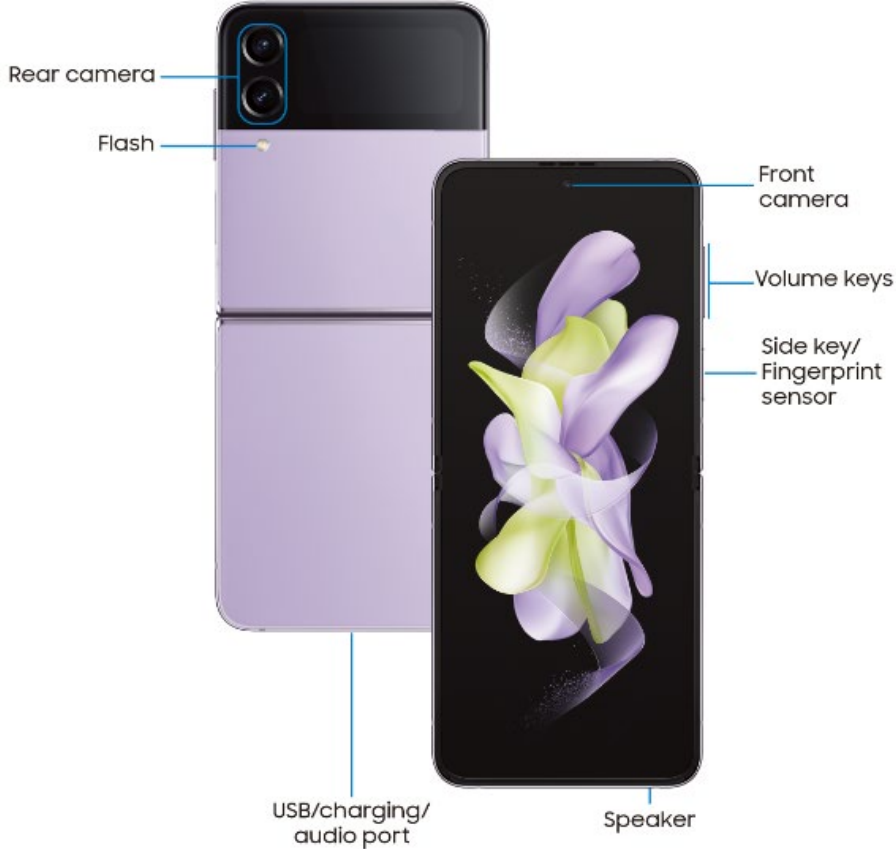
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement																						
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><h2>Galaxy Z Flip4</h2></div> <div><p>The diagram illustrates the Samsung Galaxy Z Flip4 in two configurations: folded and unfolded. The folded phone is shown in a light purple color, with labels pointing to the 'Rear camera' (a dual-lens system) and the 'Flash' located on the back. The unfolded phone is shown in a black color, displaying a vibrant image of a purple and yellow flower on its screen. Labels on the unfolded phone include the 'Front camera' at the top, 'Volume keys' on the right side, the 'Side key/ Fingerprint sensor' on the left side, and a 'Speaker' at the bottom. A label at the bottom of the folded phone points to the 'USB/charging/ audio port'.</p></div> <div><p>Galaxy Z Flip4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_flip4_d1e661.html.</p></div>

U.S. Patent No. 8,471,950

Exemplary Evidence of Infringement

The screenshot displays the Samsung Galaxy A54 product page. At the top, the title 'Samsung Galaxy A54' is shown with a share icon. Below this, there are two main sections: a left column with images of the phone and a right column with technical specifications. The specifications include: Released 2023, March 24; 202g, 8.2mm thickness; Android 13, One UI 5.1; 128GB/256GB storage, microSDXC; 6.4" 1080x2340 pixels display; 50MP 2160p camera; 6/8GB RAM Exynos 1380; and 5000mAh Li-Po battery. Below the specifications, there are tabs for REVIEW, OPINIONS, COMPARE, PICTURES, and PRICES. A 'New Arrival' badge is present above the 'Galaxy A54 5G' title. The price is listed as \$299.99, with a 'Save up to an extra \$25.00 with Samsung Offer Programs' and a 'Samsung.com Advantage' badge. A black banner at the bottom of the product section states 'Save up to \$250 with Instant trade-in'. Below the product section, there is a large image of the Galaxy A54 5G phone, showing the back and front views. A 'now' badge is visible in the bottom left corner of the image area.

Galaxy A54 5G technical specifications; <https://www.samsung.com/us/mobile/phones/galaxy-a54/buy/>; https://www.gsmarena.com/samsung_galaxy_a54-12070.php.

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement												
	<div><p>Capture your Awesome moments with a multi-lens camera</p><div><div><p>Front Camera 32MP (f/2.2)</p><p>Ultra-Wide Camera 12MP (f/2.2)</p><p>Main Camera 50MP (f/1.8) OIS*</p><p>Macro Camera 5MP (f/2.4)</p></div></div><p><small>*OIS: Optical Image Stabilization</small></p><table><tr><td rowspan="4">MAIN CAMERA</td><td>Triple</td><td>50 MP, f/1.8, (wide), 1/1.56", 1.0µm, PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm 5 MP, f/2.4, (macro)</td></tr><tr><td>Features</td><td>LED flash, panorama, HDR</td></tr><tr><td>Video</td><td>4K@30fps, 1080p@30/60fps, 720p@480fps</td></tr><tr><td rowspan="2">SELFIE CAMERA</td><td>Single</td><td>32 MP, f/2.2, 26mm (wide), 1/2.8", 0.8µm</td></tr><tr><td>Video</td><td>4K@30fps, 1080p@30/60fps</td></tr></table></div> <div><p>Samsung Galaxy A54 5G technical specifications; Galaxy A54 5G, 128GB (Unlocked) Phones - SM-A546UZKBXAA Samsung US; https://www.gsmarena.com/samsung_galaxy_a54-12070.php.</p></div>	MAIN CAMERA	Triple	50 MP, f/1.8, (wide), 1/1.56", 1.0µm, PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm 5 MP, f/2.4, (macro)	Features	LED flash, panorama, HDR	Video	4K@30fps, 1080p@30/60fps, 720p@480fps	SELFIE CAMERA	Single	32 MP, f/2.2, 26mm (wide), 1/2.8", 0.8µm	Video	4K@30fps, 1080p@30/60fps
MAIN CAMERA	Triple		50 MP, f/1.8, (wide), 1/1.56", 1.0µm, PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm 5 MP, f/2.4, (macro)										
	Features		LED flash, panorama, HDR										
	Video		4K@30fps, 1080p@30/60fps, 720p@480fps										
	SELFIE CAMERA	Single	32 MP, f/2.2, 26mm (wide), 1/2.8", 0.8µm										
Video		4K@30fps, 1080p@30/60fps											

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><h2>Galaxy A54 5G</h2></div> <div><p>The diagram shows the Samsung Galaxy A54 5G from both front and back views. Labels with leader lines point to the following features: 'Flash' (top left of rear camera), 'Rear camera' (top left of rear camera), 'Front camera' (top center of front screen), 'Volume keys' (left side of phone), 'Side key' (right side of phone), 'Fingerprint scanner' (bottom center of front screen), and 'USB/Charging/Audio port' (bottom of rear phone).</p></div> <div><p>Galaxy A54 5G technical specifications; https://downloadcenter.samsung.com/content/UM/202304/20230407022332214/SAM_A546_EN_UM_OS13_040523_FINAL.pdf at 5.</p></div>

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
<p>[7.c] the control unit controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.</p>	<p><i>See claim [1.f] above. See also:</i></p> <p>The signal processor in each of the Accused Samsung '950 Products incorporates or operates as the control unit that controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.</p> <p>As an example, the signal processor is configured to create a region that includes skin tones and textures and other region or regions that do not include skin tones and textures. To create other region or regions that do not contain the detected skin tones and textures, the signal processor excludes a skin tone region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contain a detected moving object or subject and other region or regions that do not contain the detected moving object or subject. To create other region or regions that do not contain the detected moving object, the signal processor excludes a moving object region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains a detected face and other region or regions that do not contain the detected face. To create other region or regions that do not contain the detected face, the signal processor excludes a face region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains detected natural skin and other region or regions that do not contain the detected natural skin. To create other region or regions that do not contain the detected natural skin, the signal processor excludes a natural skin region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains detected hair and other region or regions that do not contain the detected hair. To create other region or regions</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>that do not contain the detected hair, the signal processor excludes a hair region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains detected clothing and other region or regions that do not contain the detected clothing. To create other region or regions that do not contain the detected clothing, the signal processor excludes a clothing region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains a detected object in a foreground and other region or regions that are part of a background. To create other region or regions that do not contain the detected foreground, the signal processor excludes a foreground region that contains the pixels for which a position has been held in the hold unit or memory.</p>

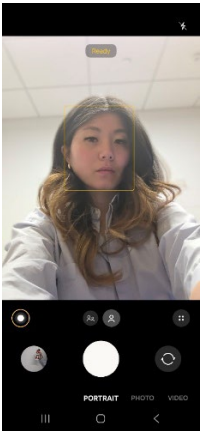
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<ul style="list-style-type: none">• Our Qualcomm Spectra™ AI ISP features:<ul style="list-style-type: none">• Limitless Real-time Semantic Segmentation for photo/video frame• Insight AI provides real-time skin and sky adjustments to create more natural color and lighting in uncertain conditions.• Ultra-low Light video capture• Video Object Eraser can remove unwanted elements from videos• Real-time AI Relighting make you appear professional wherever you are• Truepic photo capture with C2PA standard support lets you snap a photo with Truepic's cryptographic seal to prove the photo is real and not Gen AI <p>(https://www.qualcomm.com/products/mobile/snapdragon/smartphones/snapdragon-8-series-mobile-platforms/snapdragon-8-elite-mobile-platform)</p>

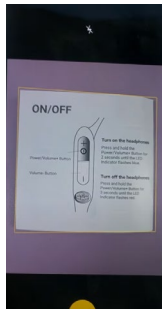
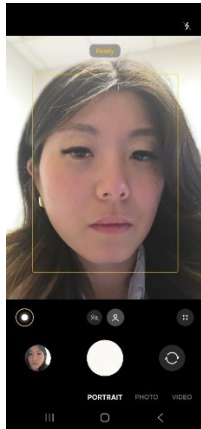
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>AI-powered camera redefines photography</p> <p>Infuse brilliance into mobile capture with our AI ISP, enhancing everything from selfies to crystal-clear video chats thanks to an overhauled Hexagon Direct Link. The first AI-powered Limitless Segmentation recognizes and enhances virtually anything in the frame, including faces, hair, clothing, objects, backgrounds, and beyond. Even furry friends appear crisp and cute—no matter how fast the zoomies—thanks to AI-Based Pet Capture.</p> <ul style="list-style-type: none"> • Our powerful AI ISP is deeply integrated with the Hexagon NPU for enhanced, intuitive capture. • Limitless Segmentation can segment an image in over 250 layers, each optimized to perfection. • Real-time Insight AI captures and enhances natural skin and sky tones even in the most challenging conditions. • Truepic with C2PA adds cryptographic seals so you can authenticate your photos as real and not AI-generated—now including videos and audio recordings. • Video Object Eraser can remove unwanted elements from video footage—on-device. • Capture vivid videos at 4K60 FPS, even in near darkness. <p>(https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/Snapdragon-8-Elite-Platform-Product-Brief.pdf)</p> <p>For example, on information and belief, the Samsung Galaxy S25 includes an image signal processor (ISP) and/or digital signal processor (DSP) that adjusts an image, for example, by performing white balance correction. For example, the white balance is adjusted in accordance with the detected lighting conditions, e.g. fluorescent lighting, incandescent lighting, sunny outdoor lighting, cloudy outdoor lighting. Upon information and belief, certain adjustments are applied when one or more features e.g. skin tone, hair, or face, are detected in a particular region and certain adjustments are performed when the one or more such features are not contained in another region. For example, foliage or snow scene corrections are not performed when such features are not detected in a region but other image corrections are performed (e.g., face corrections and portrait mode corrections are applied). Similarly, certain white balance corrections are not performed when a white or black background is not contained but additional white balance corrections are applied to the content. Further, text scanning corrections are not performed when text is not detected but additional image corrections are applied. Moreover, image corrections to the foreground (e.g., the face of a person or object being captured) are applied but corrections to the background are not applied if a white or black background is not detected. Further if the face is close to the camera such</p>

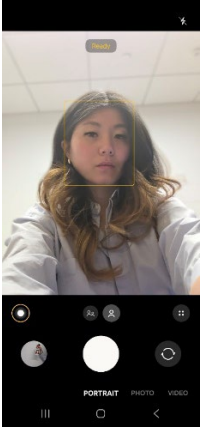
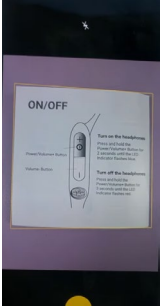
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement				
	that a background is not detected, then the face corrections are applied but background corrections are not applied and background pattern portions are not contained.				
	Input	Features	Features Contained	Video with Contents	Correction
	 Portrait Photo	Snow	No	Cloth	Corrections based on the selected camera's parameters
 Person in front of a white wall	Snow	No	Face	Beauty face correction applied	

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U.S. Patent No. 8,471,950		Exemplary Evidence of Infringement			
	 <p>Book Scan</p>	Snow	No	Scanned image	Scan correction applied
	 <p>Face close up</p>	Stair	No	Face	Beauty face correction applied
	Input	Features	Features Contained	Video with Contents	Correction
	Cloud	Yes	Cloth	No Correction.	

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement					
	 Portrait Photo				No Blur	
	 Person in front of a white wall	Wall	Yes	Face	No Correction. No Blur	
	 Book Scan	Text	Yes	Scanned image	No Correction. No Blur	

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement					
	 <p>Face close up</p>	Cloth	Yes	Face	No White balance correction.	
<p>[8.a] A signal processor according to claim 7, wherein: the region creation unit includes a region segmentation unit for segmenting an effective region in advance, and an overlap detection unit which detects overlap of position information output from the hold unit with blocks segmented by the region segmentation unit; and</p>	<p>For example, the signal processor is configured to detect different regions in an image by performing segmentation of a photo or video frame. For example, the signal processor performs segmentation to detect one or more features including faces, natural skin, hair, clothing, objects, and backgrounds. On information and belief, the signal processor is configured to detect whether a region having a feature e.g. one of face, natural skin, hair, clothing, background overlaps another region having another one of the features face, natural skin, hair, clothing, background. For example, the signal processor can detect whether a region in which hair is detected overlaps with another region in which natural skin is detected. In another example, the signal processor can detect whether a region in which face is detected overlaps with another region in which natural skin is detected. In another example, the signal processor can detect whether a region in which face is detected overlaps with another region in which clothing is detected. In another example, the signal processor can detect whether a region in which face is detected overlaps with another region in which natural skin is detected.</p>					

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>3. WB (White Balance)[3]</p> <p>This block helps the camera adjust the color balance and render them accurately. It ensures that an image has a uniform WB Gain and that the RGB of the grey (achromatic) areas are adjusted to the same value (to depict the grey as grey).</p> <p>The sensor output fed to ISP has twice as many green channels as any other. This is the reason why the raw image before the application of WB Gain looks green overall. (Refer to 'De-mosaic' below)</p> <p>4. De-mosaic (= Bayer Interpolation, Color Interpolation)</p> <p>Most smartphone cameras use the Bayer type (or pattern) sensor. The Bayer sensor, as illustrated below [2] is 3 color filter combination sensor mounted on top of a photodiode array.</p> <div> </div> <p>https://r2.community.samsung.com/t5/CamCyclopedia/ISP-Image-Signal-Processor/ba-p/13485145</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p align="center">FD (Face Detection)</p> <p>This block detects faces in an image/video and passes their coordinates to the next block. The face coordinates can be used in other algorithms or solutions to implement different features.</p> <p>[Example of application] Using FD information in AWB (Auto White Balance) and AE (Auto Exposure) algorithm blocks</p> <ol style="list-style-type: none">1. When a face is detected, it compares and corrects the difference between the face brightness and the targeted brightness of the whole image. It utilizes the face coordinates received, to adjust the face brightness, etc.2. When multiple sources are detected illuminating a face and the face is overly affected by these lights, this FD data can be used to correct the color on it. For example, if a face is detected in a low-color temperature light setup giving off a slightly reddish glow, the face coordinates are used to adjust the color of the face. <p>https://r2.community.samsung.com/t5/CamCyclopedia/ISP-Image-Signal-Processor/ba-p/13485145</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<ul style="list-style-type: none">• Our Qualcomm Spectra™ AI ISP features:<ul style="list-style-type: none">• Limitless Real-time Semantic Segmentation for photo/video frame• Insight AI provides real-time skin and sky adjustments to create more natural color and lighting in uncertain conditions.• Ultra-low Light video capture• Video Object Eraser can remove unwanted elements from videos• Real-time AI Relighting make you appear professional wherever you are• Truepic photo capture with C2PA standard support lets you snap a photo with Truepic's cryptographic seal to prove the photo is real and not Gen AI <p>(https://www.qualcomm.com/products/mobile/snapdragon/smartphones/snapdragon-8-series-mobile-platforms/snapdragon-8-elite-mobile-platform)</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>AI-powered camera redefines photography</p> <p>Infuse brilliance into mobile capture with our AI ISP, enhancing everything from selfies to crystal-clear video chats thanks to an overhauled Hexagon Direct Link. The first AI-powered Limitless Segmentation recognizes and enhances virtually anything in the frame, including faces, hair, clothing, objects, backgrounds, and beyond. Even furry friends appear crisp and cute—no matter how fast the zoomies—thanks to AI-Based Pet Capture.</p> <ul style="list-style-type: none"> • Our powerful AI ISP is deeply integrated with the Hexagon NPU for enhanced, intuitive capture. • Limitless Segmentation can segment an image in over 250 layers, each optimized to perfection. • Real-time Insight AI captures and enhances natural skin and sky tones even in the most challenging conditions. • Truepic with C2PA adds cryptographic seals so you can authenticate your photos as real and not AI-generated—now including videos and audio recordings. • Video Object Eraser can remove unwanted elements from video footage—on-device. • Capture vivid videos at 4K60 FPS, even in near darkness. <p>(https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/Snapdragon-8-Elite-Platform-Product-Brief.pdf)</p> <p>Let's dive deeper into why Snapdragon 8 Elite is a game-changer:</p> <ul style="list-style-type: none"> • Incredible power: Experience a 45% boost in performance with the Qualcomm Oryon CPU, giving you lightning-fast apps and incredible multitasking.¹ • AI at your fingertips: The Qualcomm® Hexagon™ NPU increases AI performance by 45%, handling everything from voice commands to image prompts. Your device is ready to adapt to your every move. • Photography, reimagined: With features like 4K Semantic Segmentation, Video Object Eraser, and real-time AI lighting adjustments, the Snapdragon 8 Elite camera tech turns your mobile photos into pro-level masterpieces. <p>https://www.qualcomm.com/snapdragon/news/snapdragon-8-elite--the-power-behind-the-name</p>
[8.b] the control unit controls the processing unit by using an evaluated value of a region from which pixels having an	<p><i>See claim [1.f] above. See also:</i></p> <p>The signal processor in each of the Accused Samsung '950 Products incorporates or operates as the control unit that controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
<p>extracted predetermined feature are removed.</p>	<p>As an example, the signal processor is configured to create a region that includes skin tones and textures and other region or regions that do not include skin tones and textures. To create other region or regions that do not contain the detected skin tones and textures, the signal processor excludes a skin tone region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contain a detected moving object or subject and other region or regions that do not contain the detected moving object or subject. To create other region or regions that do not contain the detected moving object, the signal processor excludes a moving object region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains a detected face and other region or regions that do not contain the detected face. To create other region or regions that do not contain the detected face, the signal processor excludes a face region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains detected natural skin and other region or regions that do not contain the detected natural skin. To create other region or regions that do not contain the detected natural skin, the signal processor excludes a natural skin region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains detected hair and other region or regions that do not contain the detected hair. To create other region or regions that do not contain the detected hair, the signal processor excludes a hair region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains detected clothing and other region or regions that do not contain the detected clothing. To create other region</p>

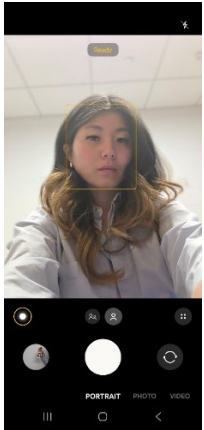
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>or regions that do not contain the detected clothing, the signal processor excludes a clothing region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains a detected object in a foreground and other region or regions that are part of a background. To create other region or regions that do not contain the detected foreground, the signal processor excludes a foreground region that contains the pixels for which a position has been held in the hold unit or memory.</p> <ul style="list-style-type: none">• Our Qualcomm Spectra™ AI ISP features:<ul style="list-style-type: none">• Limitless Real-time Semantic Segmentation for photo/video frame• Insight AI provides real-time skin and sky adjustments to create more natural color and lighting in uncertain conditions.• Ultra-low Light video capture• Video Object Eraser can remove unwanted elements from videos• Real-time AI Relighting make you appear professional wherever you are• Truepic photo capture with C2PA standard support lets you snap a photo with Truepic's cryptographic seal to prove the photo is real and not Gen AI <p>(https://www.qualcomm.com/products/mobile/snapdragon/smartphones/snapdragon-8-series-mobile-platforms/snapdragon-8-elite-mobile-platform)</p>

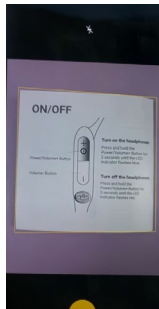
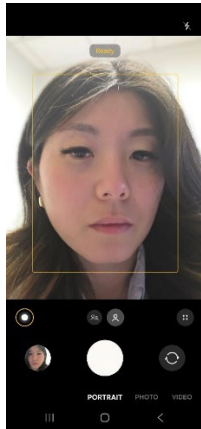
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>AI-powered camera redefines photography</p> <p>Infuse brilliance into mobile capture with our AI ISP, enhancing everything from selfies to crystal-clear video chats thanks to an overhauled Hexagon Direct Link. The first AI-powered Limitless Segmentation recognizes and enhances virtually anything in the frame, including faces, hair, clothing, objects, backgrounds, and beyond. Even furry friends appear crisp and cute—no matter how fast the zoomies—thanks to AI-Based Pet Capture.</p> <ul style="list-style-type: none"> • Our powerful AI ISP is deeply integrated with the Hexagon NPU for enhanced, intuitive capture. • Limitless Segmentation can segment an image in over 250 layers, each optimized to perfection. • Real-time Insight AI captures and enhances natural skin and sky tones even in the most challenging conditions. • Truepic with C2PA adds cryptographic seals so you can authenticate your photos as real and not AI-generated—now including videos and audio recordings. • Video Object Eraser can remove unwanted elements from video footage—on-device. • Capture vivid videos at 4K60 FPS, even in near darkness. <p>https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/Snapdragon-8-Elite-Platform-Product-Brief.pdf)</p> <p>For example, on information and belief, the Samsung Galaxy S25 includes an image signal processor (ISP) and/or digital signal processor (DSP) that adjusts an image, for example, by performing white balance correction. For example, the white balance is adjusted in accordance with the detected lighting conditions, e.g. fluorescent lighting, incandescent lighting, sunny outdoor lighting, cloudy outdoor lighting. Upon information and belief, certain adjustments are applied when one or more features e.g. skin tone, hair, or face, are detected in a particular region and certain adjustments are performed when the one or more such features are not contained in another region. For example, foliage or snow scene corrections are not performed when such features are not detected in a region but other image corrections are performed (e.g., face corrections and portrait mode corrections are applied). Similarly, certain white balance corrections are not performed when a white or black background is not contained but additional white balance corrections are applied to the content. Further, text scanning corrections are not performed when text is not detected but additional image corrections are applied. Moreover, image corrections to the foreground (e.g., the</p>

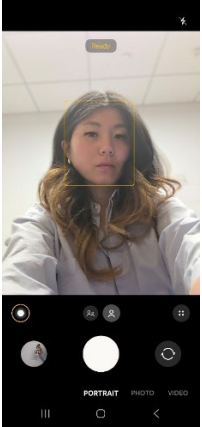
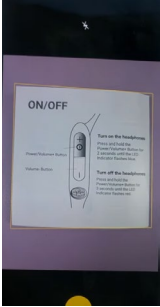
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement				
	face of a person or object being captured) are applied but corrections to the background are not applied if a white or black background is not detected. Further if the face is close to the camera such that a background is not detected, then the face corrections are applied but background corrections are not applied and background pattern portions are not contained.				
	Input	Features	Features Contained	Video with Contents	Correction
 Portrait Photo	Snow	No	Cloth	Corrections based on the selected camera's parameters	
 Person in front of a white wall	Snow	No	Face	Beauty face correction applied	

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950		Exemplary Evidence of Infringement												
	 <p>Book Scan</p>	Snow	No	Scanned image	Scan correction applied									
	 <p>Face close up</p>	Stair	No	Face	Beauty face correction applied									
	<table><tr><th>Input</th><th>Features</th><th>Features Contained</th><th>Video with Contents</th><th>Correction</th></tr><tr><td></td><td>Cloud</td><td>Yes</td><td>Cloth</td><td>No Correction.</td></tr></table>					Input	Features	Features Contained	Video with Contents	Correction		Cloud	Yes	Cloth
Input	Features	Features Contained	Video with Contents	Correction										
	Cloud	Yes	Cloth	No Correction.										

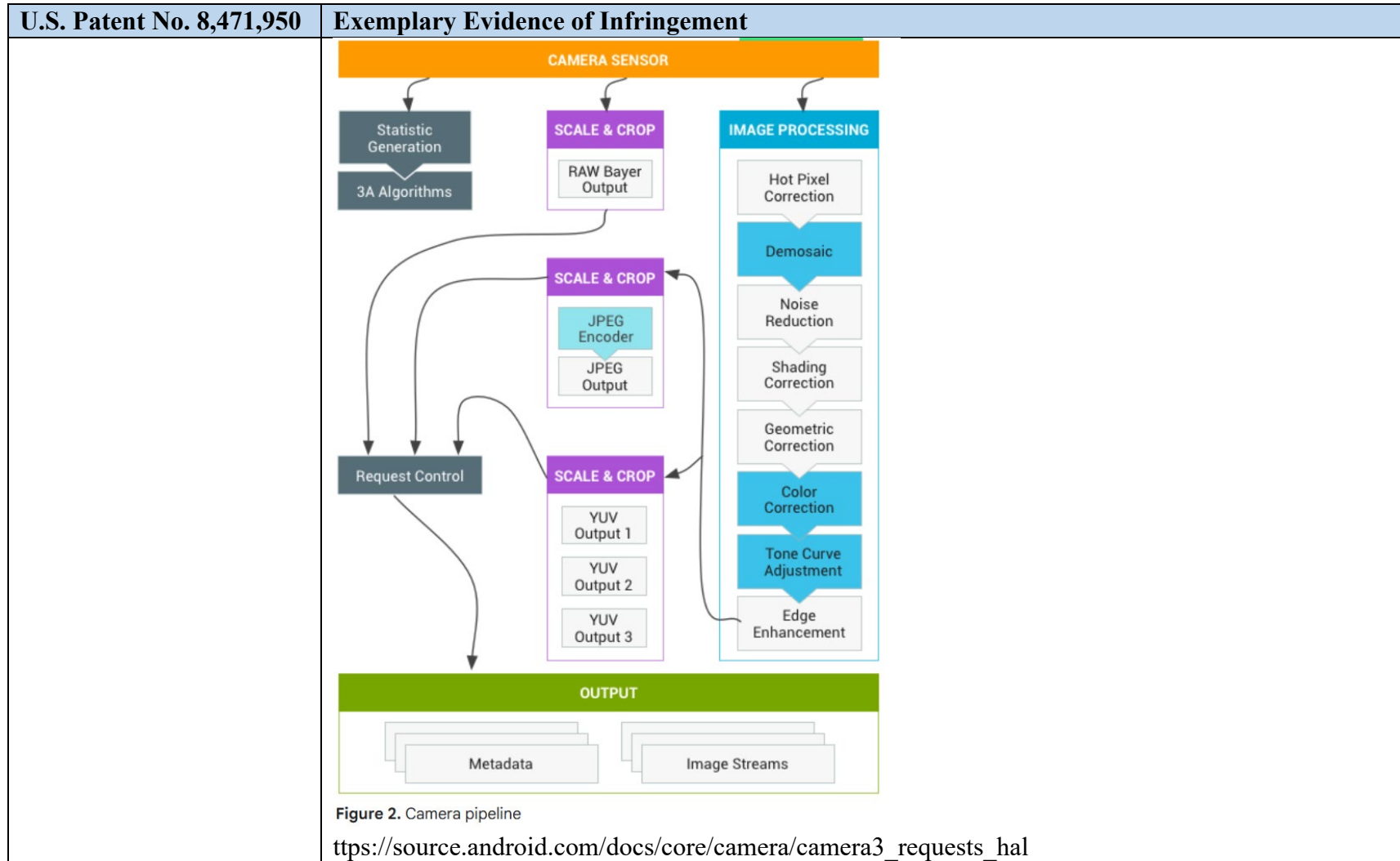
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement					
	 Portrait Photo				No Blur	
	 Person in front of a white wall	Wall	Yes	Face	No Correction. No Blur	
	 Book Scan	Text	Yes	Scanned image	No Correction. No Blur	

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement					
	 <p>Face close up</p>	Cloth	Yes	Face	No White balance correction.	
<p>[10.a] A signal processor according to claim 1, wherein: the processing unit is a light intensity adjustment unit for controlling exposure;</p>	<p>As another example, the signal processor is configured to perform lighting adjustment for example by adjusting shutter and/or exposure. This includes performing AE.</p>					

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**



**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><h2>Shots captured at lightning speed</h2></div> <div><p>ProVisual Engine and advanced sensors join forces to create high-quality images even at fast shutter speeds so you can capture moving subjects with more clarity.³</p></div> <div>A photograph of a tabby cat in mid-air, jumping towards a yellow toy hanging from a string. The cat is positioned on a yellow platform, and its front paws are extended towards the toy. The background shows a cat tree with a red top and a black and white patterned wall.</div> <div>A close-up photograph of a tabby cat's face. The cat has green eyes and is looking directly at the camera. Its whiskers are prominent, and its ears are pointed.</div> <div><p>https://www.samsung.com/us/smartphones/galaxy-s25/</p></div>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<ul style="list-style-type: none">• Our Qualcomm Spectra™ AI ISP features:<ul style="list-style-type: none">• Limitless Real-time Semantic Segmentation for photo/video frame• Insight AI provides real-time skin and sky adjustments to create more natural color and lighting in uncertain conditions.• Ultra-low Light video capture• Video Object Eraser can remove unwanted elements from videos• Real-time AI Relighting make you appear professional wherever you are• Truepic photo capture with C2PA standard support lets you snap a photo with Truepic's cryptographic seal to prove the photo is real and not Gen AI <p>(https://www.qualcomm.com/products/mobile/snapdragon/smartphones/snapdragon-8-series-mobile-platforms/snapdragon-8-elite-mobile-platform)</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Camera</p> <hr/> <p>Qualcomm Spectra™ Image Signal Processor</p> <ul style="list-style-type: none"> • AI-ISP, Triple 18-bit ISPs <hr/> <p>Limitless real-time Semantic Segmentation photo and video processing</p> <hr/> <p>Engine for Visual Analytics 4.0, including hardware acceleration for iToF depth sensors up to 4K 60 FPS</p> <hr/> <p>Support for the latest HDR, DCG+VS, DCG, Staggered, QDOL, Less Blanking, and Multiframe HDR image sensors</p> <hr/> <p>Support for triple video capture from HDR image sensors, with seamless switching between any HDR mode</p> <ul style="list-style-type: none"> • Up to 48 MP triple camera @ 30 FPS with Zero Shutter Lag • Up to 108 MP single camera @ 30 FPS with Zero Shutter Lag • Up to 320-megapixel photo capture <hr/> <p>AI-based face detection, AI for 3A (auto-focus, autoexposure, and auto-white balance)</p> <hr/> <p>Rec. 2020 color gamut photo and video capture</p> <hr/> <p>Up to 10-bit color depth photo and video capture</p> <hr/> <p>10-bit HEIF: HEIC photo capture, HEVC video capture</p> <hr/> <p>Google Ultra HDR photo capture</p> <hr/> <p>Video capture HDR formats: HDR10+, HDR10, HLG, Dolby Vision</p> <hr/> <p>8K HDR video playback @ 60 FPS</p> <hr/> <p>4K video capture @ 120 FPS</p> <hr/> <p>Slow-mo video capture at 1080p @ 480 FPS</p> <hr/> <p>Hardware Bokeh Engine 2 for video capture</p> <hr/> <p>https://docs.qualcomm.com/bundle/publicresource/87-83196-1_REV_D_Snapdragon_8_Elite_Mobile_Platform_Product_Brief.pdf</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>AI-powered camera redefines photography</p> <p>Infuse brilliance into mobile capture with our AI ISP, enhancing everything from selfies to crystal-clear video chats thanks to an overhauled Hexagon Direct Link. The first AI-powered Limitless Segmentation recognizes and enhances virtually anything in the frame, including faces, hair, clothing, objects, backgrounds, and beyond. Even furry friends appear crisp and cute—no matter how fast the zoomies—thanks to AI-Based Pet Capture.</p> <ul style="list-style-type: none"> • Our powerful AI ISP is deeply integrated with the Hexagon NPU for enhanced, intuitive capture. • Limitless Segmentation can segment an image in over 250 layers, each optimized to perfection. • Real-time Insight AI captures and enhances natural skin and sky tones even in the most challenging conditions. • Truepic with C2PA adds cryptographic seals so you can authenticate your photos as real and not AI-generated—now including videos and audio recordings. • Video Object Eraser can remove unwanted elements from video footage—on-device. • Capture vivid videos at 4K60 FPS, even in near darkness. <p>(https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/Snapdragon-8-Elite-Platform-Product-Brief.pdf)</p> <p>Let's dive deeper into why Snapdragon 8 Elite is a game-changer:</p> <ul style="list-style-type: none"> • Incredible power: Experience a 45% boost in performance with the Qualcomm Oryon CPU, giving you lightning-fast apps and incredible multitasking.¹ • AI at your fingertips: The Qualcomm[®] Hexagon™ NPU increases AI performance by 45%, handling everything from voice commands to image prompts. Your device is ready to adapt to your every move. • Photography, reimagined: With features like 4K Semantic Segmentation, Video Object Eraser, and real-time AI lighting adjustments, the Snapdragon 8 Elite camera tech turns your mobile photos into pro-level masterpieces. <p>https://www.qualcomm.com/snapdragon/news/snapdragon-8-elite--the-power-behind-the-name</p>
[10.b] a lens and a photoelectric conversion unit for performing photoelectric conversion	For example, the Samsung S25 incorporates one or more lenses e.g. a telephoto lens with an optical zoom including a drive unit to drive the optical zoom lens. In addition, the Samsung S25 incorporates an image sensor corresponding to each of the one or more lenses e.g. a 10MP image sensor for the telephoto lens. The image sensor incorporates a photoelectric conversion unit for

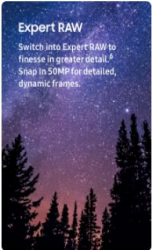
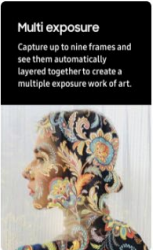
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement																			
are disposed between the light intensity adjustment unit and the extraction unit; and	<p>performing photoelectric conversion disposed between the focus lens and the extraction unit. For example, the image sensor converts light to electricity representing pixel elements.</p> <table><tr><td rowspan="4">MAIN CAMERA</td><td>Triple</td><td>50 MP, f/1.8, 24mm (wide), 1/1.56", 1.0µm, dual pixel PDAF, OIS</td></tr><tr><td></td><td>10 MP, f/2.4, 67mm (telephoto), 1/3.94", 1.0µm, PDAF, OIS, 3x optical zoom</td></tr><tr><td></td><td>12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55" 1.4µm, Super Steady video</td></tr><tr><td>Features</td><td>Best Face, LED flash, auto-HDR, panorama</td></tr><tr><td></td><td>Video</td><td>8K@24/30fps, 4K@30/60fps, 1080p@30/60/120/240fps, 10-bit HDR, HDR10+, stereo sound rec., gyro-EIS</td></tr><tr><td rowspan="3">SELFIE CAMERA</td><td>Single</td><td>12 MP, f/2.2, 26mm (wide), 1/3.2", 1.12µm, dual pixel PDAF</td></tr><tr><td>Features</td><td>HDR, HDR10+</td></tr><tr><td>Video</td><td>4K@30/60fps, 1080p@30fps</td></tr></table> <p>https://www.gsmarena.com/samsung_galaxy_s25-13610.php</p> <p>The remaining accused products also include focus lens and a drive unit to, for example, perform AF or PDAF:</p> <div><div><div>Samsung Galaxy S23 Ultra</div><div><div><div>Released 2023, February 17</div><div>234g, 8.9mm thickness</div><div>Android 13, One UI 5.1</div><div>256GB/512GB/1TB storage, no card slot</div></div><div><div>6.8"</div><div>1440x3088 pixels</div></div><div><div>200MP</div><div>4320p</div></div><div><div>8/12GB RAM</div><div>Snapdragon 8 Gen 2</div></div><div><div>5000mAh</div><div>Li-Ion</div></div></div><div><div>74%</div><div>5,014,011 HITS</div></div><div><div>879</div><div>BECOME A FAN</div></div></div><div><div>REVIEW</div><div>OPINIONS</div><div>COMPARE</div><div>PICTURES</div><div>PRICES</div></div></div>	MAIN CAMERA	Triple	50 MP, f/1.8, 24mm (wide), 1/1.56", 1.0µm, dual pixel PDAF, OIS		10 MP, f/2.4, 67mm (telephoto), 1/3.94", 1.0µm, PDAF, OIS, 3x optical zoom		12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55" 1.4µm, Super Steady video	Features	Best Face, LED flash, auto-HDR, panorama		Video	8K@24/30fps, 4K@30/60fps, 1080p@30/60/120/240fps, 10-bit HDR, HDR10+, stereo sound rec., gyro-EIS	SELFIE CAMERA	Single	12 MP, f/2.2, 26mm (wide), 1/3.2", 1.12µm, dual pixel PDAF	Features	HDR, HDR10+	Video	4K@30/60fps, 1080p@30fps
MAIN CAMERA	Triple		50 MP, f/1.8, 24mm (wide), 1/1.56", 1.0µm, dual pixel PDAF, OIS																	
			10 MP, f/2.4, 67mm (telephoto), 1/3.94", 1.0µm, PDAF, OIS, 3x optical zoom																	
			12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55" 1.4µm, Super Steady video																	
	Features	Best Face, LED flash, auto-HDR, panorama																		
	Video	8K@24/30fps, 4K@30/60fps, 1080p@30/60/120/240fps, 10-bit HDR, HDR10+, stereo sound rec., gyro-EIS																		
SELFIE CAMERA	Single	12 MP, f/2.2, 26mm (wide), 1/3.2", 1.12µm, dual pixel PDAF																		
	Features	HDR, HDR10+																		
	Video	4K@30/60fps, 1080p@30fps																		

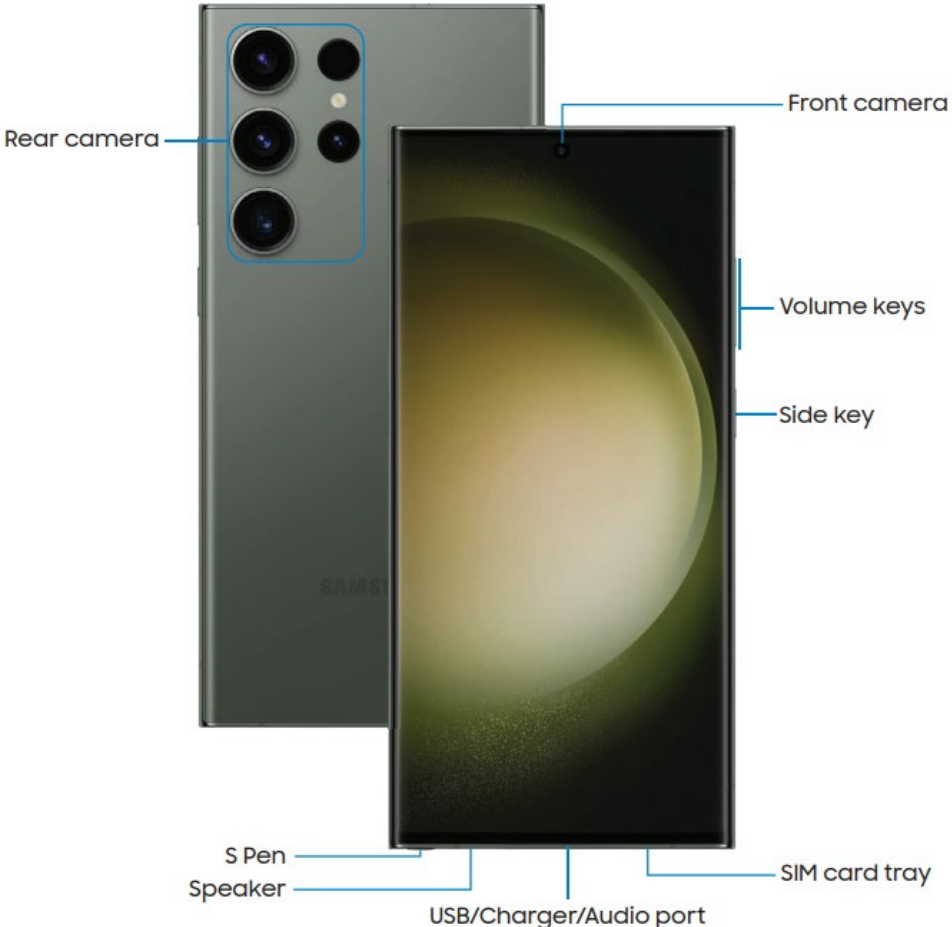
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><p><small>New</small> Galaxy S23 Ultra Verizon 512GB Green Learn more <small>SM-S918U / SM-S918UZGFVZW ★★★★★ 4.8 (8484) Write a Review</small> <small>Pricing before trade-in Get \$400 - \$800 trade-in bill credit</small></p></div> <div></div> <div><p>Galaxy S23 Ultra technical specifications; https://www.samsung.com/us/smartphones/galaxy-s23-ultra/buy/galaxy-s23-ultra-512gb-verizon-sm-s918uzgfvzw/?modelCode=SM-S918UZGFXAU; https://www.gsmarena.com/samsung_galaxy_s23_ultra-12024.php.</p></div>

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement																	
	<div><div><div><p>Galaxy S23 Ultra We've raised the bar with a 200MP camera and our fastest mobile processor ever</p></div><div><p>Can you send me that?</p><p>Get ready to become your group's go-to photographer. We've packed Galaxy's biggest sensor, light-absorbing pixels and video stabilization technology into one epic camera for life's most share-worthy moments.</p></div><div><p>Eco design More innovation, less footprint Learn more</p></div></div><div><div><p>12MP Selfie Camera</p></div><div><p>12MP Ultra-Wide Camera</p><p>10MP 10x Optical Zoom Telephoto Camera 1</p></div><div><p>200MP Wide-Angle Camera</p><p>10MP 3x Optical Zoom Telephoto Camera 2</p></div><div><p>High resolution We nearly doubled the resolution on the Wide-Angle Camera,5 delivering images so clear you can zoom way in to find hidden masterpieces.</p></div><div><p>Expert RAW Switch into Expert RAW to finesse in greater detail.6 Snap in 50MP for detailed, dynamic frames.</p></div><div><p>Multi exposure Capture up to nine frames and see them automatically layered together to create a multiple exposure work of art.</p></div></div><table><tr><td rowspan="4">MAIN CAMERA</td><td>Quad</td><td>200 MP, f/1.7, 24mm (wide), 1/1.3", 0.6µm, multi-directional PDAF, Laser AF, OIS 10 MP, f/4.9, 230mm (periscope telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 10x optical zoom 10 MP, f/2.4, 70mm (telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55", 1.4µm, Dual Pixel PDAF, Super Steady video</td></tr><tr><td>Features</td><td>LED flash, auto-HDR, panorama</td></tr><tr><td>Video</td><td>8K@24/30fps, 4K@30/60fps, 1080p@30/60/240fps, 1080p@960fps, HDR10+, stereo sound rec., gyro-EIS</td></tr><tr><td></td><td></td><td></td></tr><tr><td rowspan="3">SELFIE CAMERA</td><td>Single</td><td>12 MP, f/2.2, 26mm (wide), Dual Pixel PDAF</td></tr><tr><td>Features</td><td>Dual video call, Auto-HDR, HDR10+</td></tr><tr><td>Video</td><td>4K@30/60fps, 1080p@30fps</td></tr></table><p>Galaxy S23 Ultra technical specifications; https://www.samsung.com/us/smartphones/galaxy-s23-ultra/buy/galaxy-s23-ultra-512gb-verizon-sm-s918uzgfvzw/?modelCode=SM-S918UZGFXAU; https://www.gsmarena.com/samsung_galaxy_s23_ultra-12024.php.</p></div>	MAIN CAMERA	Quad	200 MP, f/1.7, 24mm (wide), 1/1.3", 0.6µm, multi-directional PDAF, Laser AF, OIS 10 MP, f/4.9, 230mm (periscope telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 10x optical zoom 10 MP, f/2.4, 70mm (telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55", 1.4µm, Dual Pixel PDAF, Super Steady video	Features	LED flash, auto-HDR, panorama	Video	8K@24/30fps, 4K@30/60fps, 1080p@30/60/240fps, 1080p@960fps, HDR10+, stereo sound rec., gyro-EIS				SELFIE CAMERA	Single	12 MP, f/2.2, 26mm (wide), Dual Pixel PDAF	Features	Dual video call, Auto-HDR, HDR10+	Video	4K@30/60fps, 1080p@30fps
MAIN CAMERA	Quad		200 MP, f/1.7, 24mm (wide), 1/1.3", 0.6µm, multi-directional PDAF, Laser AF, OIS 10 MP, f/4.9, 230mm (periscope telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 10x optical zoom 10 MP, f/2.4, 70mm (telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55", 1.4µm, Dual Pixel PDAF, Super Steady video															
	Features		LED flash, auto-HDR, panorama															
	Video		8K@24/30fps, 4K@30/60fps, 1080p@30/60/240fps, 1080p@960fps, HDR10+, stereo sound rec., gyro-EIS															
SELFIE CAMERA	Single	12 MP, f/2.2, 26mm (wide), Dual Pixel PDAF																
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Galaxy S23 Ultra</p>  <p>The diagram illustrates the Samsung Galaxy S23 Ultra with the following labeled components:</p> <ul style="list-style-type: none">Rear camera: Points to the camera module on the back of the device.Front camera: Points to the front-facing camera on the top bezel.Volume keys: Points to the volume up and down keys on the left side.Side key: Points to the power button on the right side.S Pen: Points to the S Pen accessory.Speaker: Points to the bottom speaker grille.USB/Charger/Audio port: Points to the bottom port.SIM card tray: Points to the SIM card tray on the bottom edge.

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Galaxy S23 Ultra technical specifications; https://downloadcenter.samsung.com/content/UM/202302/20230228053129621/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL_AC_022023.pdf at 5.</p> <div> </div> <p>Galaxy S23 Ultra technical specifications; https://www.samsung.com/us/smartphones/galaxy-s23-ultra/buy/galaxy-s23-ultra-512gb-verizon-sm-s918uzgfvzw/?modelCode=SM-S918UZGFXAU.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div>  Camera </div> <p>Enjoy a full kit of pro lenses and pro-grade video modes and settings.</p> <ul style="list-style-type: none"> ○ From Apps, tap  Camera. <p> TIP Quickly press the Side key twice to open the Camera app.</p> <div>  </div> <p>Galaxy S23 Ultra technical specification; https://downloadcenter.samsung.com/content/UM/202302/20230228053129621/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL_AC_022023.pdf at 58.</p>

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950

Exemplary Evidence of Infringement

The screenshot displays the Samsung Galaxy Z Fold4 product page. At the top, the title 'Samsung Galaxy Z Fold4' is shown. Below it, a grid of specifications includes: Released 2022, August 25; 263g, 6.3mm thickness; <> Android 12L, up to Android 13, One UI 5.1; 256GB/512GB/1TB storage, no card slot; 7.6" 1812x2176 pixels; 50MP 4320p; 12GB RAM Snapdragon 8+ Gen 1; and 4400mAh Li-Po. A navigation bar at the bottom of the spec section includes REVIEW, OPINIONS, COMPARE, PICTURES, and PRICES. Below this, the 'Galaxy Z Fold4' is listed with Verizon, 512GB, and Beige options, a 'Learn more' link, and a 4.7-star rating from 2624 reviews. A pricing note states 'Pricing before trade-in Get \$400 - \$800 trade-in bill credit'. A large image of the phone is shown at the bottom, displaying a colorful abstract wallpaper. To the left of the phone image is a small circular icon with a left-pointing arrow.

Galaxy Z Fold4 technical specifications; <https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzeatt/>;
https://www.gsmarena.com/samsung_galaxy_z_fold4-11737.php.

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement																				
	<div><div><div><div><div>Immersive View</div><div>Get in the Zone.</div><div>Learn more</div><div></div></div></div><div><div><div>Built to last</div><div>Unbelievable tech.</div><div>Learn more</div><div></div></div></div><div><div><div>Smile-worthy improvements</div><div>With the upgraded Rear Camera, Space Zoom and Nightography, we're bringing a pro-level kit to the foldable form for the first time. Use the massive Main Screen as a viewfinder to flex your photo skills with new tech.</div><div></div></div></div><div><div><div>Galaxy Excellence</div><div>The brilliance is built in</div><div>Learn more</div><div></div></div></div></div><div><div><div><div><div>10MP 3x Optical Zoom Telephoto Camera</div><div></div></div></div><div><div><div>12MP Ultra-wide camera</div><div></div></div></div><div><div><div>50MP Wide-angle camera</div><div></div></div></div><div><div><div>4MP Under display camera</div><div></div></div></div><div><div><div>10MP Cover camera</div><div></div></div></div><div><div><div>Stay nimble Stay night</div><div>Intuitive technology delivers vivid and bright portraits in the low-light.</div><div></div></div></div></div></div><table><tr><td rowspan="4">MAIN CAMERA</td><td>Triple</td><td>50 MP, f/1.8, 23mm (wide), 1.0µm, Dual Pixel PDAF, OIS 10 MP, f/2.4, 66mm (telephoto), 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 123°, 12mm (ultrawide), 1.12µm</td></tr><tr><td>Features</td><td>LED flash, HDR, panorama</td></tr><tr><td>Video</td><td>8K@24fps, 4K@60fps, 1080p@60/240fps (gyro-EIS), 720p@960fps (gyro-EIS), HDR10+</td></tr><tr><td></td><td></td><td></td></tr><tr><td rowspan="4">SELFIE CAMERA</td><td>Single</td><td>4 MP, f/1.8, 26mm (wide), 2.0µm, under display Cover camera: 10 MP, f/2.2, 24mm (wide), 1/3", 1.22µm</td></tr><tr><td>Features</td><td>HDR</td></tr><tr><td>Video</td><td>4K@30/60fps, 1080p@30/60fps, gyro-EIS</td></tr><tr><td></td><td></td><td></td></tr></table><div>Galaxy Z Fold4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzeeatt/; https://www.gsmarena.com/samsung_galaxy_z_fold4-11737.php.</div></div>	MAIN CAMERA	Triple	50 MP, f/1.8, 23mm (wide), 1.0µm, Dual Pixel PDAF, OIS 10 MP, f/2.4, 66mm (telephoto), 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 123°, 12mm (ultrawide), 1.12µm	Features	LED flash, HDR, panorama	Video	8K@24fps, 4K@60fps, 1080p@60/240fps (gyro-EIS), 720p@960fps (gyro-EIS), HDR10+				SELFIE CAMERA	Single	4 MP, f/1.8, 26mm (wide), 2.0µm, under display Cover camera: 10 MP, f/2.2, 24mm (wide), 1/3", 1.22µm	Features	HDR	Video	4K@30/60fps, 1080p@30/60fps, gyro-EIS			
MAIN CAMERA	Triple		50 MP, f/1.8, 23mm (wide), 1.0µm, Dual Pixel PDAF, OIS 10 MP, f/2.4, 66mm (telephoto), 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 123°, 12mm (ultrawide), 1.12µm																		
	Features		LED flash, HDR, panorama																		
	Video		8K@24fps, 4K@60fps, 1080p@60/240fps (gyro-EIS), 720p@960fps (gyro-EIS), HDR10+																		
SELFIE CAMERA	Single	4 MP, f/1.8, 26mm (wide), 2.0µm, under display Cover camera: 10 MP, f/2.2, 24mm (wide), 1/3", 1.22µm																			
	Features	HDR																			
	Video	4K@30/60fps, 1080p@30/60fps, gyro-EIS																			

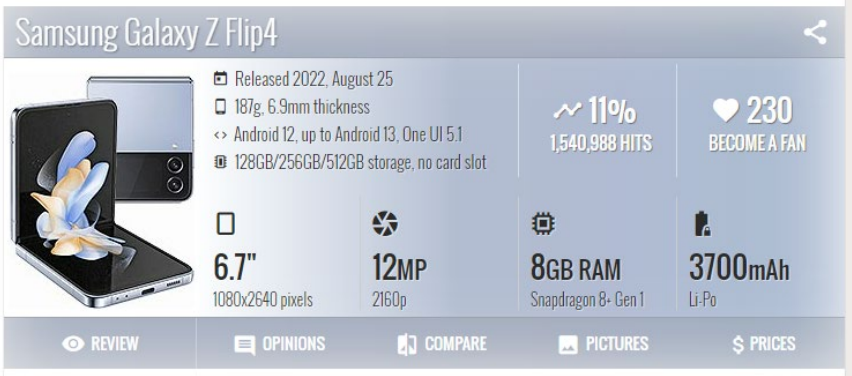
APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><h2>Galaxy Z Fold4</h2></div> <div><p>The diagram illustrates the Samsung Galaxy Z Fold4 in both its folded and unfolded configurations. The folded phone is shown in the background, while the unfolded phone is in the foreground, displaying a vibrant, abstract pattern. Labels with leader lines point to various components: 'Rear camera' and 'Flash' point to the camera module on the back of the folded phone; 'Cover camera' points to the front-facing camera on the outer cover; 'Speaker' points to the speaker grille on the top edge of the cover; 'Under display camera' points to the camera located beneath the main display; 'Volume keys' and 'Side key/ Fingerprint sensor' point to the controls on the right edge of the unfolded phone; and another 'Speaker' and 'USB/charging/ audio port' point to the bottom edge of the unfolded phone.</p></div> <p>Galaxy Z Fold4 technical specification; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_fold4_d1e605.html.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><p>Image simulated for illustrative purpose. Galaxy Z Fold4, Galaxy Watch5, Galaxy Buds2 Pro are sold separately.</p></div> <p>Galaxy Z Fold4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzeeatt/.</p>

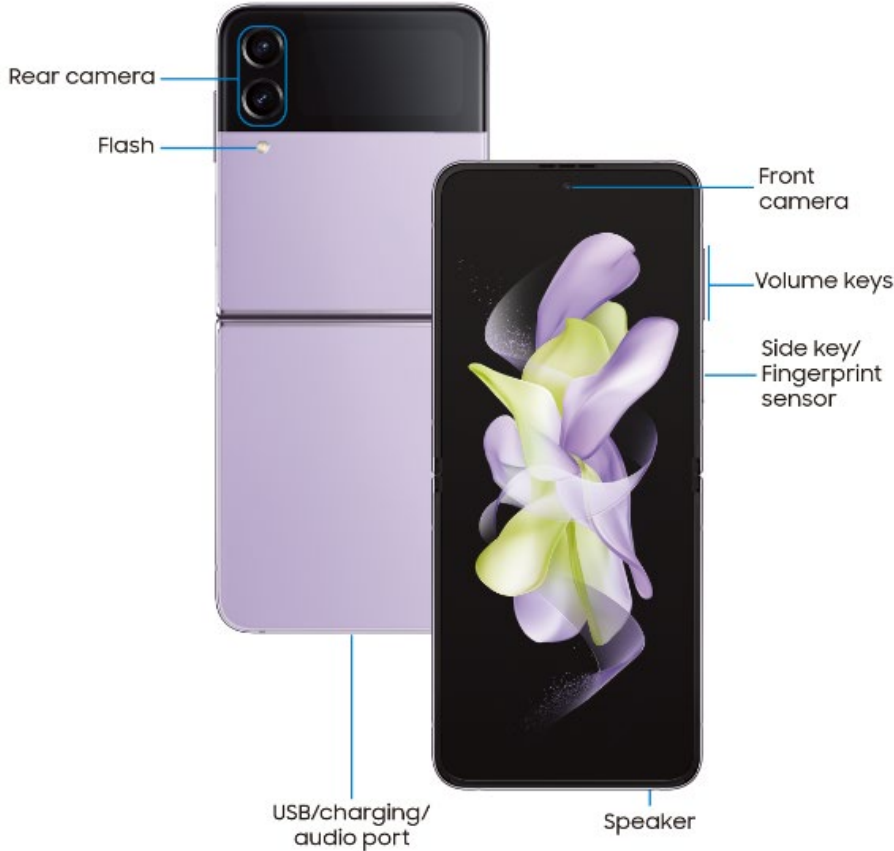
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Galaxy Z Fold4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_fold4_camera_features_d1e3185.</p>  <p>Galaxy Z Flip4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-flip4/buy/galaxy-z-flip4-256gb-t-mobile-sm-f721uzdexau/; https://www.gsmarena.com/samsung_galaxy_z_flip4-11538.php.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement														
	<table><tr><td rowspan="4">MAIN CAMERA</td><td>Dual</td><td>12 MP, f/1.8, 24mm (wide), 1/1.76", 1.8µm, Dual Pixel PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm</td></tr><tr><td>Features</td><td>LED flash, HDR, panorama</td></tr><tr><td>Video</td><td>4K@30/60fps, 1080p@60/240fps, 720p@960fps, HDR10+</td></tr><tr><td rowspan="3">SELFIE CAMERA</td><td>Single</td><td>10 MP, f/2.4, 26mm (wide), 1.22µm</td></tr><tr><td>Features</td><td>HDR</td></tr><tr><td>Video</td><td>4K@30fps</td></tr></table> <p>Galaxy Z Flip4 technical specifications; https://www.gsmarena.com/samsung_galaxy_z_flip4-11538.php.</p>	MAIN CAMERA	Dual	12 MP, f/1.8, 24mm (wide), 1/1.76", 1.8µm, Dual Pixel PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm	Features	LED flash, HDR, panorama	Video	4K@30/60fps, 1080p@60/240fps, 720p@960fps, HDR10+	SELFIE CAMERA	Single	10 MP, f/2.4, 26mm (wide), 1.22µm	Features	HDR	Video	4K@30fps
MAIN CAMERA	Dual		12 MP, f/1.8, 24mm (wide), 1/1.76", 1.8µm, Dual Pixel PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm												
	Features		LED flash, HDR, panorama												
	Video		4K@30/60fps, 1080p@60/240fps, 720p@960fps, HDR10+												
	SELFIE CAMERA	Single	10 MP, f/2.4, 26mm (wide), 1.22µm												
Features		HDR													
Video		4K@30fps													

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><h2>Galaxy Z Flip4</h2></div> <div><p>The diagram illustrates the Samsung Galaxy Z Flip4 in two configurations: folded and unfolded. The folded phone is shown in a purple color, with labels pointing to the 'Rear camera' and 'Flash'. The unfolded phone is shown in a black color, displaying a purple and yellow flower on its screen. Labels point to the 'Front camera', 'Volume keys', 'Side key/ Fingerprint sensor', and 'Speaker'. A label at the bottom points to the 'USB/charging/ audio port'.</p></div> <div><p>Galaxy Z Flip4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_flip4_d1e661.html.</p></div>

APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12, AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS

U.S. Patent No. 8,471,950

Exemplary Evidence of Infringement

The screenshot displays the Samsung Galaxy A54 product page. At the top, the phone is shown in a blue color. Below the image, technical specifications are listed: Released 2023, March 24; 202g, 8.2mm thickness; Android 13, One UI 5.1; 128GB/256GB storage, microSDXC. Performance metrics include 91% (3,667,313 hits) and 395 fans. Display specs are 6.4" (1080x2340 pixels). Camera is 50MP (2160p). RAM is 6/8GB (Exynos 1380). Battery is 5000mAh (Li-Po). Navigation tabs include REVIEW, OPINIONS, COMPARE, PICTURES, and PRICES.

Below the specifications, a 'New Arrival' banner for the Galaxy A54 5G is shown, listing variants SM-A540V and SM-A540VZKBYZW. A promotional offer states: 'Save up to an extra \$25.00 with Samsung Offer Programs | Samsung.com Advantage | Highest online'. A black bar at the bottom of the offer states: 'Save up to \$250 with Instant trade-in'.

Below the offer, a larger image of the Galaxy A54 5G is shown, displaying the phone in a dark color. A small 'now' icon is visible in the bottom left corner of the image area.

Galaxy A54 5G technical specifications; <https://www.samsung.com/us/mobile/phones/galaxy-a54/buy/>; https://www.gsmarena.com/samsung_galaxy_a54-12070.php.

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement												
	<div><p>Capture your Awesome moments with a multi-lens camera</p><div><div><p>Front Camera 32MP (f/2.2)</p><p>Ultra-Wide Camera 12MP (f/2.2)</p><p>Main Camera 50MP (f/1.8) OIS*</p><p>Macro Camera 5MP (f/2.4)</p></div></div><p><small>*OIS: Optical Image Stabilization</small></p><table><tr><td rowspan="4">MAIN CAMERA</td><td>Triple</td><td>50 MP, f/1.8, (wide), 1/1.56", 1.0µm, PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm 5 MP, f/2.4, (macro)</td></tr><tr><td>Features</td><td>LED flash, panorama, HDR</td></tr><tr><td>Video</td><td>4K@30fps, 1080p@30/60fps, 720p@480fps</td></tr><tr><td rowspan="2">SELFIE CAMERA</td><td>Single</td><td>32 MP, f/2.2, 26mm (wide), 1/2.8", 0.8µm</td></tr><tr><td>Video</td><td>4K@30fps, 1080p@30/60fps</td></tr></table></div> <div><p>Samsung Galaxy A54 5G technical specifications; Galaxy A54 5G, 128GB (Unlocked) Phones - SM-A546UZKBXAA Samsung US; https://www.gsmarena.com/samsung_galaxy_a54-12070.php.</p></div>	MAIN CAMERA	Triple	50 MP, f/1.8, (wide), 1/1.56", 1.0µm, PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm 5 MP, f/2.4, (macro)	Features	LED flash, panorama, HDR	Video	4K@30fps, 1080p@30/60fps, 720p@480fps	SELFIE CAMERA	Single	32 MP, f/2.2, 26mm (wide), 1/2.8", 0.8µm	Video	4K@30fps, 1080p@30/60fps
MAIN CAMERA	Triple		50 MP, f/1.8, (wide), 1/1.56", 1.0µm, PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm 5 MP, f/2.4, (macro)										
	Features		LED flash, panorama, HDR										
	Video		4K@30fps, 1080p@30/60fps, 720p@480fps										
	SELFIE CAMERA	Single	32 MP, f/2.2, 26mm (wide), 1/2.8", 0.8µm										
Video		4K@30fps, 1080p@30/60fps											

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p align="center">Galaxy A54 5G</p>  <p>The diagram illustrates the Samsung Galaxy A54 5G smartphone from both rear and front perspectives. Labels with leader lines point to the following components:</p> <ul style="list-style-type: none"> Flash: Located at the top of the rear camera module. Rear camera: The main camera lens on the back. Front camera: The selfie camera located at the top center of the front display. Volume keys: Two keys on the left side of the device. Side key: The power button located on the right side of the device. Fingerprint scanner: A circular sensor located at the bottom center of the front display. USB/Charging/Audio port: The port located at the bottom of the rear of the device. <p>Galaxy A54 5G technical specifications; https://downloadcenter.samsung.com/content/UM/202304/20230407022332214/SAM_A546_EN_UM_OS13_040523_FINAL.pdf at 5.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
<p>[10.c] the control unit controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.</p>	<p><i>See claim [1.f] above. See also:</i></p> <p>The signal processor in each of the Accused Samsung '950 Products incorporates or operates as the control unit that controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.</p> <p>As an example, the signal processor is configured to create a region that includes skin tones and textures and other region or regions that do not include skin tones and textures. To create other region or regions that do not contain the detected skin tones and textures, the signal processor excludes a skin tone region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contain a detected moving object or subject and other region or regions that do not contain the detected moving object or subject. To create other region or regions that do not contain the detected moving object, the signal processor excludes a moving object region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains a detected face and other region or regions that do not contain the detected face. To create other region or regions that do not contain the detected face, the signal processor excludes a face region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains detected natural skin and other region or regions that do not contain the detected natural skin. To create other region or regions that do not contain the detected natural skin, the signal processor excludes a natural skin region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains detected hair and other region or regions that do not contain the detected hair. To create other region or regions</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>that do not contain the detected hair, the signal processor excludes a hair region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains detected clothing and other region or regions that do not contain the detected clothing. To create other region or regions that do not contain the detected clothing, the signal processor excludes a clothing region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains a detected object in a foreground and other region or regions that are part of a background. To create other region or regions that do not contain the detected foreground, the signal processor excludes a foreground region that contains the pixels for which a position has been held in the hold unit or memory.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<ul style="list-style-type: none">• Our Qualcomm Spectra™ AI ISP features:<ul style="list-style-type: none">• Limitless Real-time Semantic Segmentation for photo/video frame• Insight AI provides real-time skin and sky adjustments to create more natural color and lighting in uncertain conditions.• Ultra-low Light video capture• Video Object Eraser can remove unwanted elements from videos• Real-time AI Relighting make you appear professional wherever you are• Truepic photo capture with C2PA standard support lets you snap a photo with Truepic's cryptographic seal to prove the photo is real and not Gen AI <p>(https://www.qualcomm.com/products/mobile/snapdragon/smartphones/snapdragon-8-series-mobile-platforms/snapdragon-8-elite-mobile-platform)</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>AI-powered camera redefines photography</p> <p>Infuse brilliance into mobile capture with our AI ISP, enhancing everything from selfies to crystal-clear video chats thanks to an overhauled Hexagon Direct Link. The first AI-powered Limitless Segmentation recognizes and enhances virtually anything in the frame, including faces, hair, clothing, objects, backgrounds, and beyond. Even furry friends appear crisp and cute—no matter how fast the zoomies—thanks to AI-Based Pet Capture.</p> <ul style="list-style-type: none"> • Our powerful AI ISP is deeply integrated with the Hexagon NPU for enhanced, intuitive capture. • Limitless Segmentation can segment an image in over 250 layers, each optimized to perfection. • Real-time Insight AI captures and enhances natural skin and sky tones even in the most challenging conditions. • Truepic with C2PA adds cryptographic seals so you can authenticate your photos as real and not AI-generated—now including videos and audio recordings. • Video Object Eraser can remove unwanted elements from video footage—on-device. • Capture vivid videos at 4K60 FPS, even in near darkness. <p>(https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/Snapdragon-8-Elite-Platform-Product-Brief.pdf)</p> <p>For example, on information and belief, the Samsung Galaxy S25 includes an image signal processor (ISP) and/or digital signal processor (DSP) that adjusts an image, for example, by performing white balance correction. For example, the white balance is adjusted in accordance with the detected lighting conditions, e.g. fluorescent lighting, incandescent lighting, sunny outdoor lighting, cloudy outdoor lighting. Upon information and belief, certain adjustments are applied when one or more features e.g. skin tone, hair, or face, are detected in a particular region and certain adjustments are performed when the one or more such features are not contained in another region. For example, foliage or snow scene corrections are not performed when such features are not detected in a region but other image corrections are performed (e.g., face corrections and portrait mode corrections are applied). Similarly, certain white balance corrections are not performed when a white or black background is not contained but additional white balance corrections are applied to the content. Further, text scanning corrections are not performed when text is not detected but additional image corrections are applied. Moreover, image corrections to the foreground (e.g., the face of a person or object being captured) are applied but corrections to the background are not applied if a white or black background is not detected. Further if the face is close to the camera such</p>

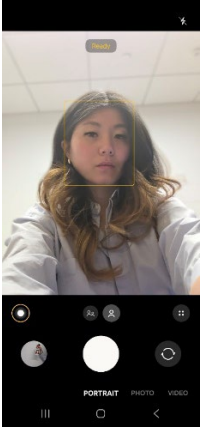
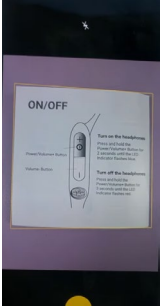
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement				
	that a background is not detected, then the face corrections are applied but background corrections are not applied and background pattern portions are not contained.				
			</		

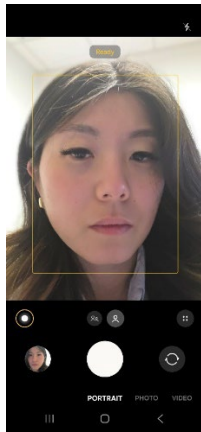
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U.S. Patent No. 8,471,950		Exemplary Evidence of Infringement			
	 Book Scan	Snow	No	Scanned image	Scan correction applied
	 Face close up	Stair	No	Face	Beauty face correction applied

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement					
	 Portrait Photo				No Blur	
	 Person in front of a white wall	Wall	Yes	Face	No Correction. No Blur	
	 Book Scan	Text	Yes	Scanned image	No Correction. No Blur	

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement																								
	<div><p>Face close up</p></div>	Cloth	Yes	Face	No White balance correction.																				
[12.a] A signal processor according to claim 1, wherein: the processing unit includes a focus lens, and a drive unit for driving the focus lens;	<div>For example, the Samsung S25 incorporates one or more lenses e.g. a telephoto lens with an optical zoom including a drive unit to drive the optical zoom lens.</div> <table><tr><td rowspan="4">MAIN CAMERA</td><td>Triple</td><td>50 MP, f/1.8, 24mm (wide), 1/1.56", 1.0µm, dual pixel PDAF, OIS</td></tr><tr><td></td><td>10 MP, f/2.4, 67mm (telephoto), 1/3.94", 1.0µm, PDAF, OIS, 3x optical zoom</td></tr><tr><td></td><td>12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55" 1.4µm, Super Steady video</td></tr><tr><td>Features</td><td>Best Face, LED flash, auto-HDR, panorama</td></tr><tr><td></td><td>Video</td><td>8K@24/30fps, 4K@30/60fps, 1080p@30/60/120/240fps, 10-bit HDR, HDR10+, stereo sound rec., gyro-EIS</td></tr><tr><td rowspan="3">SELFIE CAMERA</td><td>Single</td><td>12 MP, f/2.2, 26mm (wide), 1/3.2", 1.12µm, dual pixel PDAF</td></tr><tr><td>Features</td><td>HDR, HDR10+</td></tr><tr><td>Video</td><td>4K@30/60fps, 1080p@30fps</td></tr></table> <div>https://www.gsmarena.com/samsung_galaxy_s25-13610.php</div> <div>The remaining accused products also include focus lens and a drive unit to, for example, perform AF or PDAF:</div>						MAIN CAMERA	Triple	50 MP, f/1.8, 24mm (wide), 1/1.56", 1.0µm, dual pixel PDAF, OIS		10 MP, f/2.4, 67mm (telephoto), 1/3.94", 1.0µm, PDAF, OIS, 3x optical zoom		12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55" 1.4µm, Super Steady video	Features	Best Face, LED flash, auto-HDR, panorama		Video	8K@24/30fps, 4K@30/60fps, 1080p@30/60/120/240fps, 10-bit HDR, HDR10+, stereo sound rec., gyro-EIS	SELFIE CAMERA	Single	12 MP, f/2.2, 26mm (wide), 1/3.2", 1.12µm, dual pixel PDAF	Features	HDR, HDR10+	Video	4K@30/60fps, 1080p@30fps
MAIN CAMERA	Triple	50 MP, f/1.8, 24mm (wide), 1/1.56", 1.0µm, dual pixel PDAF, OIS																							
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APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12, AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS

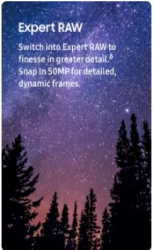
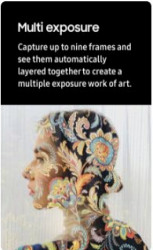
U.S. Patent No. 8,471,950

Exemplary Evidence of Infringement

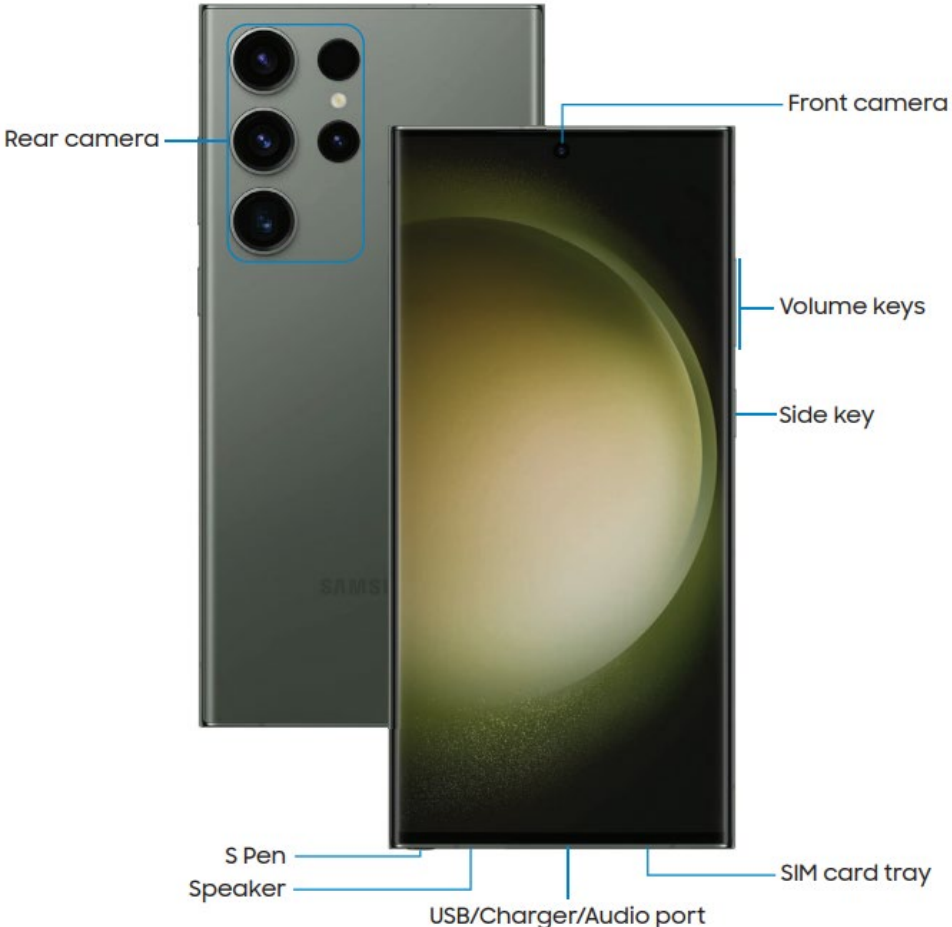
The screenshot displays the Samsung Galaxy S23 Ultra product page. At the top, the title 'Samsung Galaxy S23 Ultra' is followed by a share icon. Below this, a grid of specifications is presented: Release date (February 17, 2023), Weight (234g), Thickness (8.9mm), OS (Android 13, One UI 5.1), Storage (256GB/512GB/1TB), Display (6.8" 1440x3088 pixels), Camera (200MP), RAM (8/12GB), Processor (Snapdragon 8 Gen 2), and Battery (5000mAh). Navigation tabs for REVIEW, OPINIONS, COMPARE, PICTURES, and PRICES are visible. A promotional banner for the Verizon 512GB Green model is shown, including a 'New' tag, a 'Learn more' link, and pricing information: 'Pricing before trade-in. Get \$400 - \$800 trade-in bill credit.' Below the banner, the model number SM-S918U / SM-S918UZGFVZW and a 4.8-star rating (8484 reviews) are listed. The bottom section features a promotional image of the phone in four colors (black, white, purple, and green) with confetti falling around them.

Galaxy S23 Ultra technical specifications; <https://www.samsung.com/us/smartphones/galaxy-s23-ultra/buy/galaxy-s23-ultra-512gb-verizon-sm-s918uzgfvzw/?modelCode=SM-S918UZGFXAU>; https://www.gsmarena.com/samsung_galaxy_s23_ultra-12024.php.

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement																						
	<div><div><div><p>Galaxy S23 Ultra We've raised the bar with a 200MP camera and our fastest mobile processor ever</p></div><div><p>Can you send me that?</p><p>Get ready to become your group's go-to photographer. We've packed Galaxy's biggest sensor, light-absorbing pixels and video stabilization technology into one epic camera for life's most share-worthy moments.</p></div><div><p>Eco design More innovation, less footprint Learn more</p></div></div><div><div><p>12MP Selfie Camera</p></div><div><p>12MP Ultra-Wide Camera</p><p>10MP 10x Optical Zoom Telephoto Camera 1</p></div><div><p>200MP Wide-Angle Camera</p><p>10MP 3x Optical Zoom Telephoto Camera 2</p></div><div><p>High resolution We nearly doubled the resolution on the Wide-Angle Camera,5 delivering images so clear you can zoom way in to find hidden masterpieces.</p></div><div><p>Expert RAW Switch into Expert RAW to finesse in greater detail.6 Snap in 50MP for detailed, dynamic frames.</p></div><div><p>Multi exposure Capture up to nine frames and see them automatically layered together to create a multiple exposure work of art.</p></div></div><table><tr><td rowspan="4">MAIN CAMERA</td><td>Quad</td><td>200 MP, f/1.7, 24mm (wide), 1/1.3", 0.6µm, multi-directional PDAF, Laser AF, OIS</td></tr><tr><td></td><td>10 MP, f/4.9, 230mm (periscope telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 10x optical zoom</td></tr><tr><td></td><td>10 MP, f/2.4, 70mm (telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 3x optical zoom</td></tr><tr><td></td><td>12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55", 1.4µm, Dual Pixel PDAF, Super Steady video</td></tr><tr><td></td><td>Features</td><td>LED flash, auto-HDR, panorama</td></tr><tr><td></td><td>Video</td><td>8K@24/30fps, 4K@30/60fps, 1080p@30/60/240fps, 1080p@960fps, HDR10+, stereo sound rec., gyro-EIS</td></tr><tr><td rowspan="3">SELFIE CAMERA</td><td>Single</td><td>12 MP, f/2.2, 26mm (wide), Dual Pixel PDAF</td></tr><tr><td>Features</td><td>Dual video call, Auto-HDR, HDR10+</td></tr><tr><td>Video</td><td>4K@30/60fps, 1080p@30fps</td></tr></table><p>Galaxy S23 Ultra technical specifications; https://www.samsung.com/us/smartphones/galaxy-s23-ultra/buy/galaxy-s23-ultra-512gb-verizon-sm-s918uzgfvzw/?modelCode=SM-S918UZGFXAU; https://www.gsmarena.com/samsung_galaxy_s23_ultra-12024.php.</p></div>	MAIN CAMERA	Quad	200 MP, f/1.7, 24mm (wide), 1/1.3", 0.6µm, multi-directional PDAF, Laser AF, OIS		10 MP, f/4.9, 230mm (periscope telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 10x optical zoom		10 MP, f/2.4, 70mm (telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 3x optical zoom		12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55", 1.4µm, Dual Pixel PDAF, Super Steady video		Features	LED flash, auto-HDR, panorama		Video	8K@24/30fps, 4K@30/60fps, 1080p@30/60/240fps, 1080p@960fps, HDR10+, stereo sound rec., gyro-EIS	SELFIE CAMERA	Single	12 MP, f/2.2, 26mm (wide), Dual Pixel PDAF	Features	Dual video call, Auto-HDR, HDR10+	Video	4K@30/60fps, 1080p@30fps
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**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Galaxy S23 Ultra</p>  <p>The diagram illustrates the Samsung Galaxy S23 Ultra with the following labeled components:</p> <ul style="list-style-type: none">Rear camera: Points to the camera module on the back of the device.Front camera: Points to the front-facing camera located at the top of the screen.Volume keys: Points to the volume up and down keys on the left side of the device.Side key: Points to the power button on the right side of the device.S Pen: Points to the S Pen accessory shown at the bottom left.Speaker: Points to the speaker grille at the bottom of the device.USB/Charger/Audio port: Points to the port at the bottom center of the device.SIM card tray: Points to the SIM card tray at the bottom right of the device.

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Galaxy S23 Ultra technical specifications; https://downloadcenter.samsung.com/content/UM/202302/20230228053129621/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL_AC_022023.pdf at 5.</p> <div> </div> <p>Galaxy S23 Ultra technical specifications; https://www.samsung.com/us/smartphones/galaxy-s23-ultra/buy/galaxy-s23-ultra-512gb-verizon-sm-s918uzgfvzw/?modelCode=SM-S918UZGFXAU.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div>  Camera </div> <p>Enjoy a full kit of pro lenses and pro-grade video modes and settings.</p> <ul style="list-style-type: none"> ○ From Apps, tap  Camera. <p> TIP Quickly press the Side key twice to open the Camera app.</p> <div>  </div> <p>Galaxy S23 Ultra technical specification; https://downloadcenter.samsung.com/content/UM/202302/20230228053129621/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL_AC_022023.pdf at 58.</p>

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	 <p>The screenshot shows the Samsung Galaxy Z Fold4 product page. The top section features a large image of the phone in its folded state, displaying a colorful abstract wallpaper. To the right of the image, key specifications are listed: Released 2022, August 25; 263g, 6.3mm thickness; <> Android 12L, up to Android 13, One UI 5.1; 256GB/512GB/1TB storage, no card slot. Below this, a grid of icons represents the phone's features: a screen icon for '7.6" 1812x2176 pixels', a camera icon for '50MP 4320p', a RAM icon for '12GB RAM Snapdragon 8+ Gen 1', and a battery icon for '4400mAh Li-Po'. A navigation bar at the bottom of the screenshot includes links for REVIEW, OPINIONS, COMPARE, PICTURES, and PRICES. Below the navigation bar, the text 'Galaxy Z Fold4' is followed by 'Verizon 512GB Beige Learn more'. A pricing section indicates 'Pricing before trade-in' and 'Get \$400 - \$800 trade-in bill credit'. Below the screenshot is a photograph of the Samsung Galaxy Z Fold4 device, showing its slim profile and the large, flexible display when unfolded.</p> <p>Galaxy Z Fold4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzeatt/; https://www.gsmarena.com/samsung_galaxy_z_fold4-11737.php.</p>

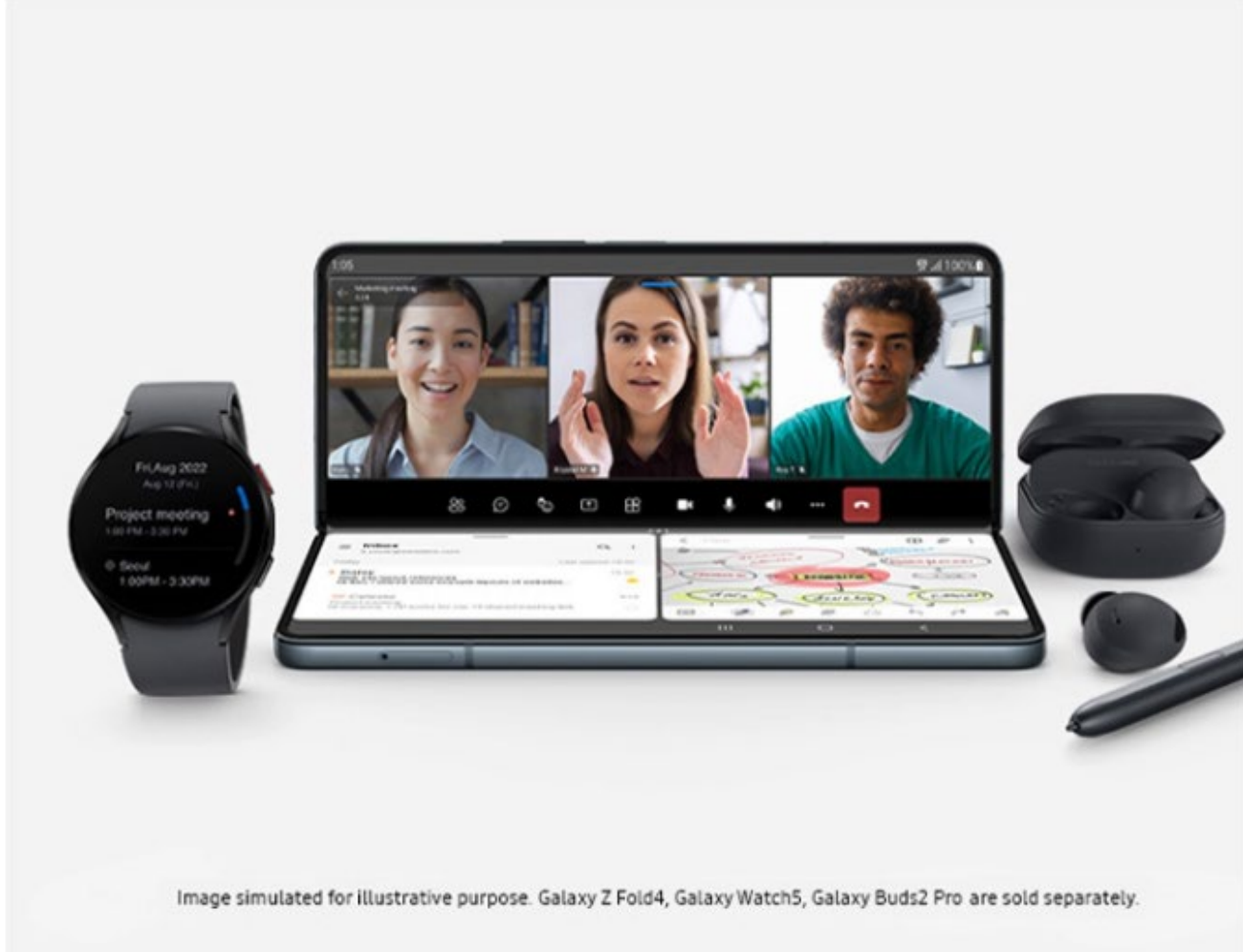
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement																				
	<div><div><div><div><div>Immersive View</div><div>Get in the Zone.</div><div>Learn more</div><div></div></div></div><div><div><div>Built to last</div><div>Unbelievable tech.</div><div>Learn more</div><div></div></div></div><div><div><div>Smile-worthy improvements</div><div>With the upgraded Rear Camera, Space Zoom and Nightography, we're bringing a pro-level kit to the foldable form for the first time. Use the massive Main Screen as a viewfinder to flex your photo skills with new tech.</div></div></div><div><div><div>Galaxy Excellence</div><div>The brilliance is built in</div><div>Learn more</div><div></div></div></div></div><div><div><div><div><div>10MP 3x Optical Zoom Telephoto Camera</div><div></div></div></div><div><div><div>12MP Ultra-wide camera</div><div></div></div></div><div><div><div>50MP Wide-angle camera</div><div></div></div></div><div><div><div>4MP Under display camera</div><div></div></div></div><div><div><div>10MP Cover camera</div><div></div></div></div><div><div><div>Stay nimble Stay night</div><div>Intuitive technology delivers vivid and bright portraits in the low-light.</div><div></div></div></div></div><table><tr><td rowspan="4">MAIN CAMERA</td><td>Triple</td><td>50 MP, f/1.8, 23mm (wide), 1.0µm, Dual Pixel PDAF, OIS 10 MP, f/2.4, 66mm (telephoto), 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 123°, 12mm (ultrawide), 1.12µm</td></tr><tr><td>Features</td><td>LED flash, HDR, panorama</td></tr><tr><td>Video</td><td>8K@24fps, 4K@60fps, 1080p@60/240fps (gyro-EIS), 720p@960fps (gyro-EIS), HDR10+</td></tr><tr><td></td><td></td><td></td></tr><tr><td rowspan="4">SELFIE CAMERA</td><td>Single</td><td>4 MP, f/1.8, 26mm (wide), 2.0µm, under display Cover camera: 10 MP, f/2.2, 24mm (wide), 1/3", 1.22µm</td></tr><tr><td>Features</td><td>HDR</td></tr><tr><td>Video</td><td>4K@30/60fps, 1080p@30/60fps, gyro-EIS</td></tr><tr><td></td><td></td><td></td></tr></table><div>Galaxy Z Fold4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzeeatt/; https://www.gsmarena.com/samsung_galaxy_z_fold4-11737.php.</div></div></div>	MAIN CAMERA	Triple	50 MP, f/1.8, 23mm (wide), 1.0µm, Dual Pixel PDAF, OIS 10 MP, f/2.4, 66mm (telephoto), 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 123°, 12mm (ultrawide), 1.12µm	Features	LED flash, HDR, panorama	Video	8K@24fps, 4K@60fps, 1080p@60/240fps (gyro-EIS), 720p@960fps (gyro-EIS), HDR10+				SELFIE CAMERA	Single	4 MP, f/1.8, 26mm (wide), 2.0µm, under display Cover camera: 10 MP, f/2.2, 24mm (wide), 1/3", 1.22µm	Features	HDR	Video	4K@30/60fps, 1080p@30/60fps, gyro-EIS			
MAIN CAMERA	Triple		50 MP, f/1.8, 23mm (wide), 1.0µm, Dual Pixel PDAF, OIS 10 MP, f/2.4, 66mm (telephoto), 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 123°, 12mm (ultrawide), 1.12µm																		
	Features		LED flash, HDR, panorama																		
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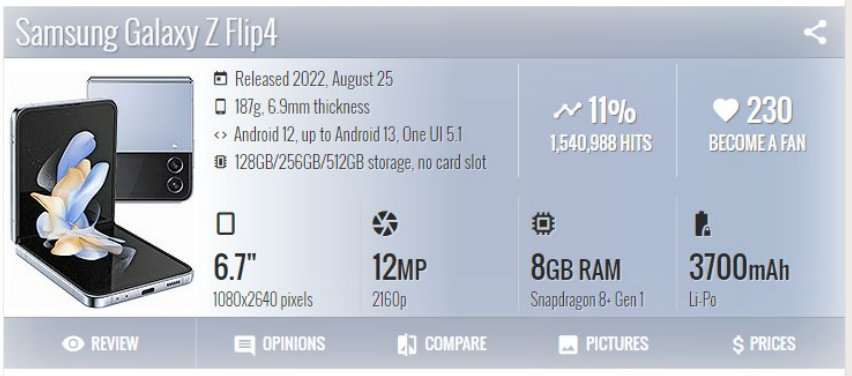
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><h2>Galaxy Z Fold4</h2></div> <div><p>The diagram illustrates the Samsung Galaxy Z Fold4 in both its folded and unfolded configurations. The folded phone is shown in the background, while the unfolded phone is in the foreground, displaying a vibrant, abstract pattern. Labels with leader lines point to various components: 'Rear camera' and 'Flash' point to the camera module on the back of the folded phone; 'Cover camera' points to the camera on the outer cover of the unfolded phone; 'Speaker' points to the speaker on the top edge of the unfolded phone; 'Under display camera' points to the camera located beneath the main display of the unfolded phone; 'Volume keys' and 'Side key/ Fingerprint sensor' point to the controls on the right edge of the unfolded phone; and another 'Speaker' and 'USB/charging/ audio port' point to the bottom edge of the unfolded phone.</p></div> <p>Galaxy Z Fold4 technical specification; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_fold4_d1e605.html.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	 <p>Image simulated for illustrative purpose. Galaxy Z Fold4, Galaxy Watch5, Galaxy Buds2 Pro are sold separately.</p> <p>Galaxy Z Fold4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzeeatt/.</p>

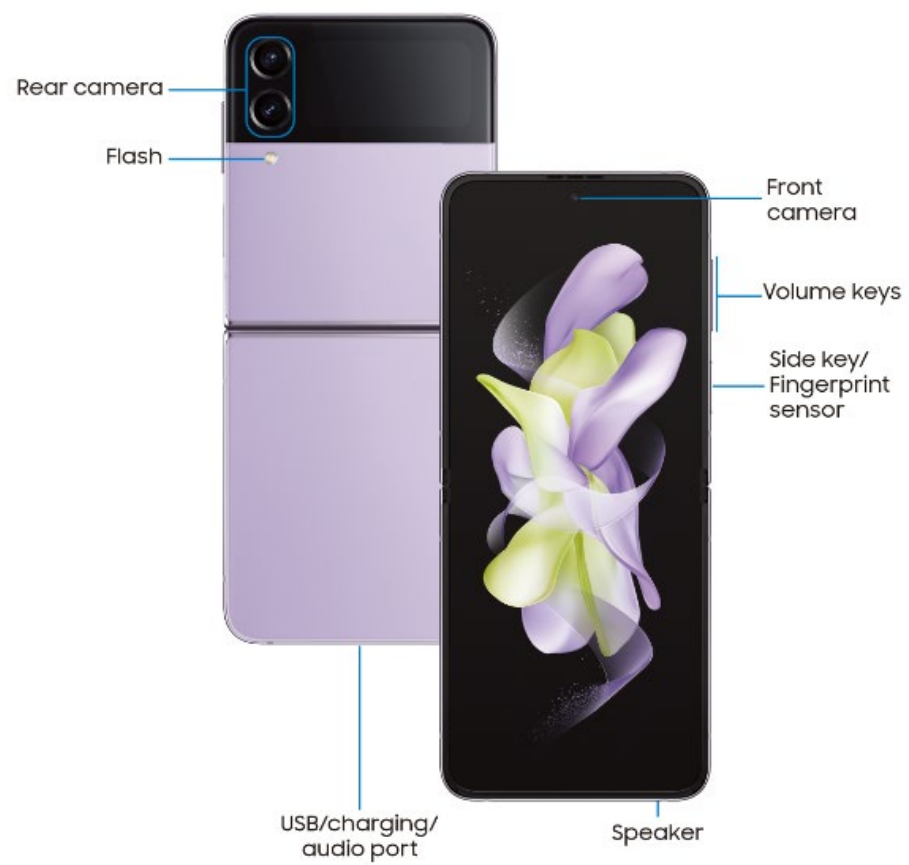
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement																						
	<table><tr><td rowspan="3">MAIN CAMERA</td><td>Dual</td><td colspan="2">12 MP, f/1.8, 24mm (wide), 1/1.76", 1.8µm, Dual Pixel PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm</td></tr><tr><td>Features</td><td colspan="2">LED flash, HDR, panorama</td></tr><tr><td>Video</td><td colspan="2">4K@30/60fps, 1080p@60/240fps, 720p@960fps, HDR10+</td></tr><tr><td rowspan="3">SELFIE CAMERA</td><td>Single</td><td colspan="2">10 MP, f/2.4, 26mm (wide), 1.22µm</td></tr><tr><td>Features</td><td colspan="2">HDR</td></tr><tr><td>Video</td><td colspan="2">4K@30fps</td></tr></table>			MAIN CAMERA	Dual	12 MP, f/1.8, 24mm (wide), 1/1.76", 1.8µm, Dual Pixel PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm		Features	LED flash, HDR, panorama		Video	4K@30/60fps, 1080p@60/240fps, 720p@960fps, HDR10+		SELFIE CAMERA	Single	10 MP, f/2.4, 26mm (wide), 1.22µm		Features	HDR		Video	4K@30fps	
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p align="center">Galaxy Z Flip4</p>  <p>The diagram illustrates the Samsung Galaxy Z Flip4 in two configurations. On the left, the phone is shown in its folded state, highlighting the rear camera and flash. On the right, the phone is shown unfolded, displaying the front camera, volume keys, side key/fingerprint sensor, and speaker. The USB/charging/audio port is also indicated at the bottom of the folded state.</p> <p>Galaxy Z Flip4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_flip4_d1e661.html.</p>

U.S. Patent No. 8,471,950

Exemplary Evidence of Infringement

The screenshot displays the Samsung Galaxy A54 product page. At the top, the title 'Samsung Galaxy A54' is shown with a share icon. Below this, there are two main sections: a left column with images of the phone and a right column with technical specifications. The specifications include: Released 2023, March 24; 202g, 8.2mm thickness; Android 13, One UI 5.1; 128GB/256GB storage, microSDXC; 6.4" 1080x2340 pixels display; 50MP 2160p camera; 6/8GB RAM Exynos 1380; and 5000mAh Li-Po battery. Below the specifications, there are five tabs: REVIEW, OPINIONS, COMPARE, PICTURES, and PRICES. A 'New Arrival' badge is present above the 'Galaxy A54 5G' title. Below the title, it says 'Verizon | 128GB | Awesome Graphite | Learn more'. A promotional banner states 'Save up to an extra \$25.00 with Samsung Offer Programs' and 'Save up to \$250 with Instant trade-in'. At the bottom, there is a large image of the Galaxy A54 5G phone in Awesome Graphite color, showing both the front and back views. A small 'now' badge is visible in the bottom left corner of the phone image.

Galaxy A54 5G technical specifications; <https://www.samsung.com/us/mobile/phones/galaxy-a54/buy/>; https://www.gsmarena.com/samsung_galaxy_a54-12070.php.

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement																	
	<div><div><p>Capture your Awesome moments with a multi-lens camera</p></div><div><p>Front Camera 32MP (f/2.2)</p><p>Ultra-Wide Camera 12MP (f/2.2)</p><p>Main Camera 50MP (f/1.8) OIS*</p><p>Macro Camera 5MP (f/2.4)</p><p><small>*OIS: Optical Image Stabilization</small></p></div></div> <table><tr><td rowspan="4">MAIN CAMERA</td><td>Triple</td><td>50 MP, f/1.8, (wide), 1/1.56", 1.0µm, PDAF, OIS</td></tr><tr><td></td><td>12 MP, f/2.2, 123° (ultrawide), 1.12µm</td></tr><tr><td></td><td>5 MP, f/2.4, (macro)</td></tr><tr><td>Features</td><td>LED flash, panorama, HDR</td></tr><tr><td></td><td>Video</td><td>4K@30fps, 1080p@30/60fps, 720p@480fps</td></tr><tr><td rowspan="2">SELFIE CAMERA</td><td>Single</td><td>32 MP, f/2.2, 26mm (wide), 1/2.8", 0.8µm</td></tr><tr><td>Video</td><td>4K@30fps, 1080p@30/60fps</td></tr></table> <p>Samsung Galaxy A54 5G technical specifications; Galaxy A54 5G, 128GB (Unlocked) Phones - SM-A546UZKBXAA Samsung US; https://www.gsmarena.com/samsung_galaxy_a54-12070.php.</p>	MAIN CAMERA	Triple	50 MP, f/1.8, (wide), 1/1.56", 1.0µm, PDAF, OIS		12 MP, f/2.2, 123° (ultrawide), 1.12µm		5 MP, f/2.4, (macro)	Features	LED flash, panorama, HDR		Video	4K@30fps, 1080p@30/60fps, 720p@480fps	SELFIE CAMERA	Single	32 MP, f/2.2, 26mm (wide), 1/2.8", 0.8µm	Video	4K@30fps, 1080p@30/60fps
MAIN CAMERA	Triple		50 MP, f/1.8, (wide), 1/1.56", 1.0µm, PDAF, OIS															
			12 MP, f/2.2, 123° (ultrawide), 1.12µm															
			5 MP, f/2.4, (macro)															
	Features	LED flash, panorama, HDR																
	Video	4K@30fps, 1080p@30/60fps, 720p@480fps																
SELFIE CAMERA	Single	32 MP, f/2.2, 26mm (wide), 1/2.8", 0.8µm																
	Video	4K@30fps, 1080p@30/60fps																

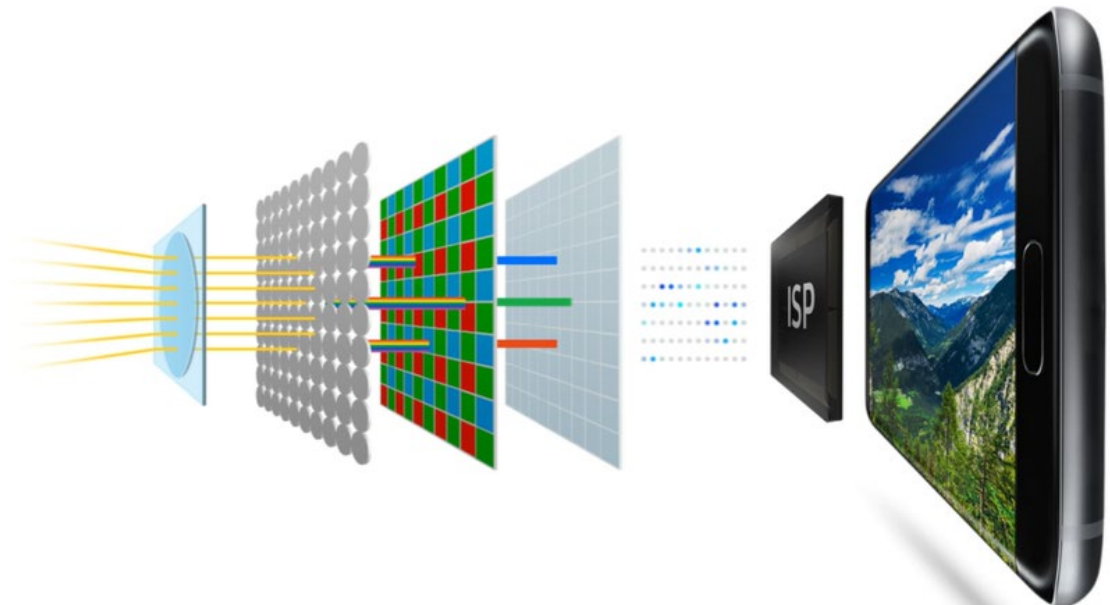
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p align="center">Galaxy A54 5G</p>  <p>The diagram illustrates the Samsung Galaxy A54 5G smartphone from both rear and front perspectives. Labels with leader lines point to the following components:</p> <ul style="list-style-type: none"> Flash: Located on the rear camera module. Rear camera: The primary camera lens on the back. Front camera: The selfie camera located at the top center of the front display. Volume keys: Two keys on the left side of the device. Side key: The power button located on the right side of the device. Fingerprint scanner: A circular sensor located at the bottom center of the front display. USB/Charging/Audio port: The port located at the bottom of the rear of the device. <p>Galaxy A54 5G technical specifications; https://downloadcenter.samsung.com/content/UM/202304/20230407022332214/SAM_A546_EN_UM_OS13_040523_FINAL.pdf at 5.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
<p>[12.b] a photoelectric conversion unit for performing photoelectric conversion is disposed between the focus lens and the extraction unit; and</p>	<p>For example, the Samsung S25 incorporates an image sensor corresponding to each of the one or more lenses e.g. a 10MP image sensor for the telephoto lens. The image sensor incorporates a photoelectric conversion unit for performing photoelectric conversion disposed between the focus lens and the extraction unit. For example, the image sensor converts light to electricity representing pixel elements.</p> <p>As a nonlimiting example, each of the Accused Samsung '950 Products includes one or more image sensors associated with the plurality of cameras as front-facing and/or rear-facing cameras, which alone or in conjunction with other features and/or components discussed in this claim chart, allows each of the Accused Samsung '950 Products to convert light associated with an image into a digital signal representing the image as pixels. For example, each of the Accused Samsung '950 Products includes one or more image sensors that convert light received through optical lens into an electronic signal, which is sent to one or more image signal processors (ISP) where the electronic signal is rebuilt as a picture or a preview on a display. <i>See e.g.</i>, https://semiconductor.samsung.com/us/solutions/technology/image-processing/.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p align="center">Background</p> <p align="center">Processor for converting light information into an image</p> <p align="center">The image sensor converts the light received through the optical lens into an electric form. And this data is sent to an ISP where it is rebuilt as a picture or a preview on a display. Even when the lighting isn't at best for photo taking, ISP does the magical wonders to improve image quality.</p> <div align="center"> <p>LENS SYSTEM IMAGE SENSOR ISP SENSOR DISPLAY</p>  </div> <p>Accused Samsung '0 Products provide evidence of one or more image sensors converting light into a digital signal, https://semiconductor.samsung.com/us/solutions/technology/image-processing/.</p>

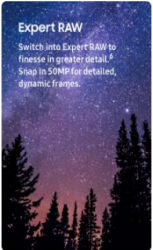
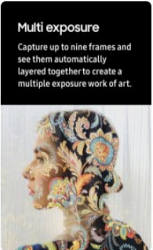
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement														
	<table><tr><td rowspan="4">MAIN CAMERA</td><td>Triple</td><td>50 MP, f/1.8, 24mm (wide), 1/1.56", 1.0µm, dual pixel PDAF, OIS 10 MP, f/2.4, 67mm (telephoto), 1/3.94", 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55" 1.4µm, Super Steady video</td></tr><tr><td>Features</td><td>Best Face, LED flash, auto-HDR, panorama</td></tr><tr><td>Video</td><td>8K@24/30fps, 4K@30/60fps, 1080p@30/60/120/240fps, 10-bit HDR, HDR10+, stereo sound rec., gyro-EIS</td></tr><tr><td rowspan="3">SELFIE CAMERA</td><td>Single</td><td>12 MP, f/2.2, 26mm (wide), 1/3.2", 1.12µm, dual pixel PDAF</td></tr><tr><td>Features</td><td>HDR, HDR10+</td></tr><tr><td>Video</td><td>4K@30/60fps, 1080p@30fps</td></tr></table> <p>https://www.gsmarena.com/samsung_galaxy_s25-13610.php</p> <p>Further, each of the Accused Samsung '950 Products includes a photoelectric conversion circuit for performing conversions by using CMOS image sensors to convert light into electricity:</p> <div><div><div>Samsung Galaxy S23 Ultra</div><div><div><div>Released 2023, February 17</div><div>234g, 8.9mm thickness</div><div><> Android 13, One UI 5.1</div><div>256GB/512GB/1TB storage, no card slot</div></div><div><div>6.8"</div><div>1440x3088 pixels</div></div><div><div>200MP</div><div>4320p</div></div><div><div>8/12GB RAM</div><div>Snapdragon 8 Gen 2</div></div><div><div>5000mAh</div><div>Li-Ion</div></div></div><div><div>74%</div><div>5,014,011 HITS</div></div><div><div>879</div><div>BECOME A FAN</div></div></div><div><div>REVIEW</div><div>OPINIONS</div><div>COMPARE</div><div>PICTURES</div><div>PRICES</div></div></div>	MAIN CAMERA	Triple	50 MP, f/1.8, 24mm (wide), 1/1.56", 1.0µm, dual pixel PDAF, OIS 10 MP, f/2.4, 67mm (telephoto), 1/3.94", 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55" 1.4µm, Super Steady video	Features	Best Face, LED flash, auto-HDR, panorama	Video	8K@24/30fps, 4K@30/60fps, 1080p@30/60/120/240fps, 10-bit HDR, HDR10+, stereo sound rec., gyro-EIS	SELFIE CAMERA	Single	12 MP, f/2.2, 26mm (wide), 1/3.2", 1.12µm, dual pixel PDAF	Features	HDR, HDR10+	Video	4K@30/60fps, 1080p@30fps
MAIN CAMERA	Triple		50 MP, f/1.8, 24mm (wide), 1/1.56", 1.0µm, dual pixel PDAF, OIS 10 MP, f/2.4, 67mm (telephoto), 1/3.94", 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55" 1.4µm, Super Steady video												
	Features		Best Face, LED flash, auto-HDR, panorama												
	Video		8K@24/30fps, 4K@30/60fps, 1080p@30/60/120/240fps, 10-bit HDR, HDR10+, stereo sound rec., gyro-EIS												
	SELFIE CAMERA	Single	12 MP, f/2.2, 26mm (wide), 1/3.2", 1.12µm, dual pixel PDAF												
Features		HDR, HDR10+													
Video		4K@30/60fps, 1080p@30fps													

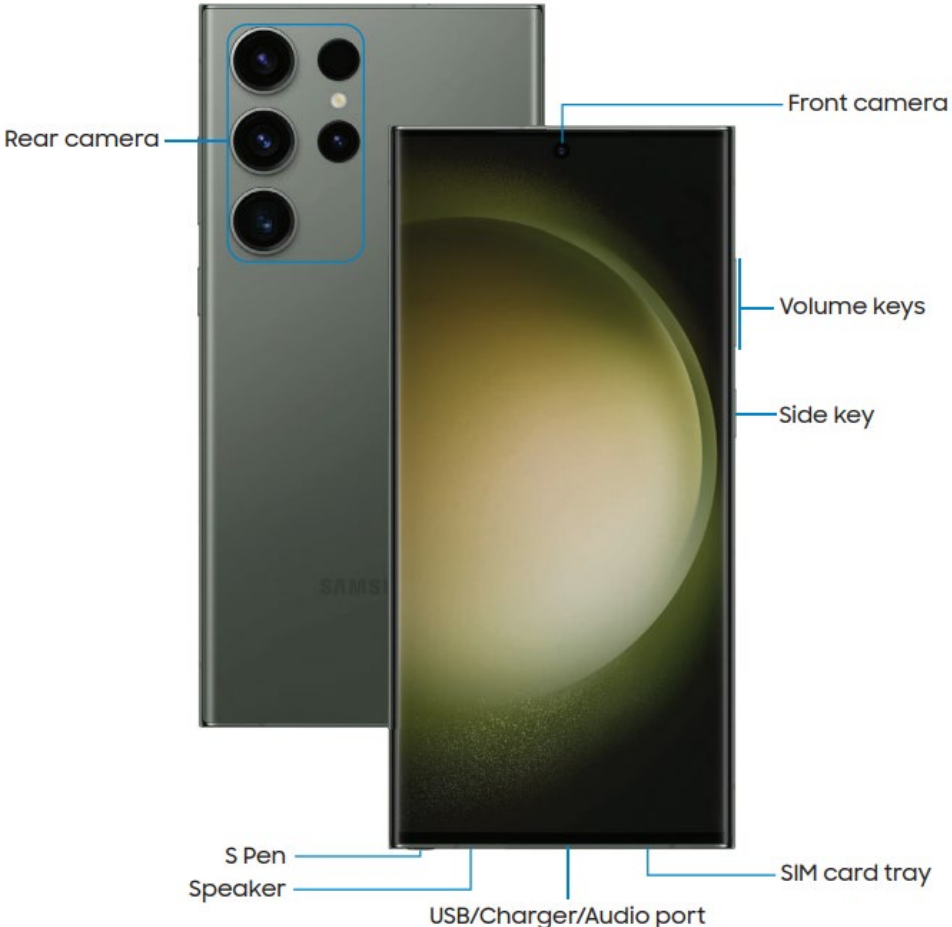
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><p><small>New</small> Galaxy S23 Ultra Verizon 512GB Green Learn more <small>SM-S918U / SM-S918UZGFVZW</small> ★★★★★ 4.8 (8484) Write a Review</p><p align="right"><small>Pricing before trade-in</small> Get \$400 - \$800 trade-in bill credit</p></div> <div></div> <p>Galaxy S23 Ultra technical specifications; https://www.samsung.com/us/smartphones/galaxy-s23-ultra/buy/galaxy-s23-ultra-512gb-verizon-sm-s918uzgfvzw/?modelCode=SM-S918UZGFXAU; https://www.gsmarena.com/samsung_galaxy_s23_ultra-12024.php.</p>

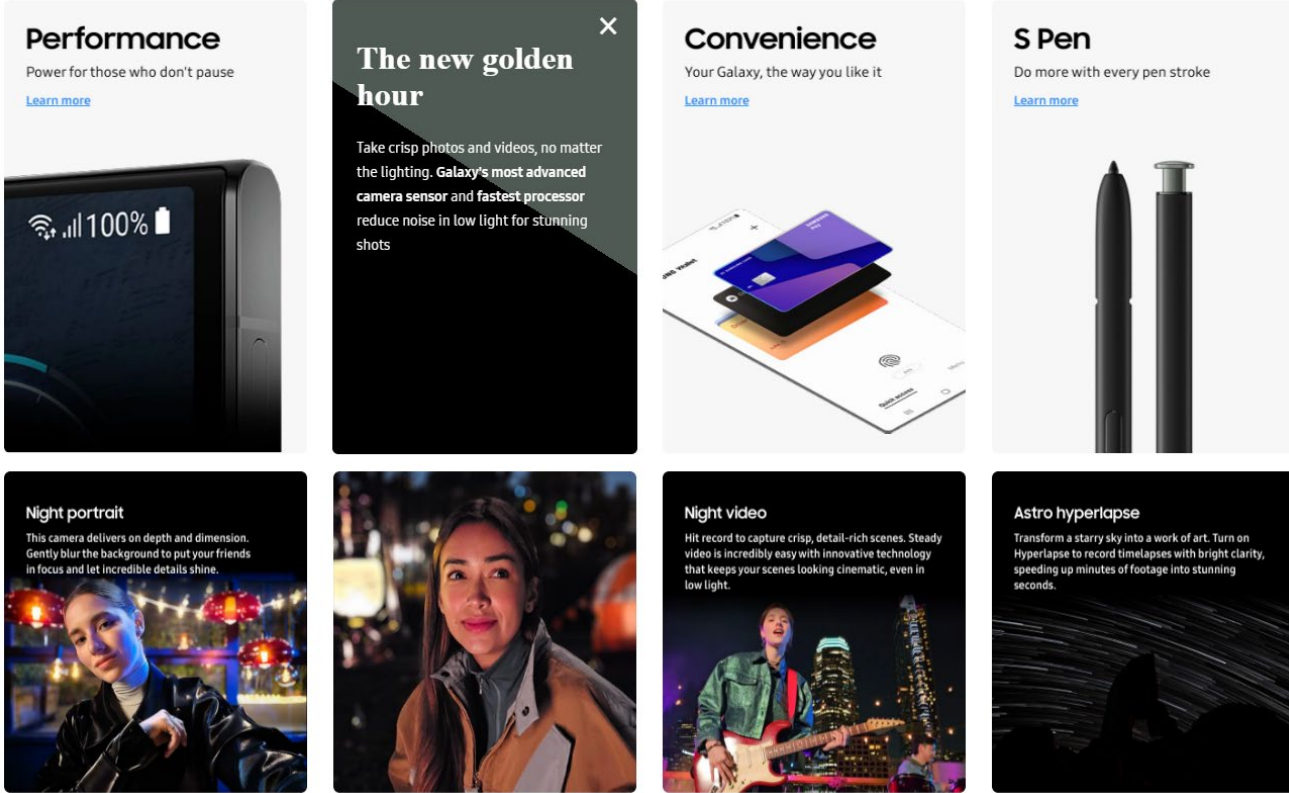
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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement																	
	<div><div><div><p>Galaxy S23 Ultra We've raised the bar with a 200MP camera and our fastest mobile processor ever</p></div><div><p>Can you send me that?</p><p>Get ready to become your group's go-to photographer. We've packed Galaxy's biggest sensor, light-absorbing pixels and video stabilization technology into one epic camera for life's most share-worthy moments.</p></div><div><p>Eco design More innovation, less footprint Learn more</p></div></div><div><div><p>12MP Selfie Camera</p></div><div><p>12MP Ultra-Wide Camera</p><p>10MP 10x Optical Zoom Telephoto Camera 1</p></div><div><p>200MP Wide-Angle Camera</p><p>10MP 3x Optical Zoom Telephoto Camera 2</p></div><div><p>High resolution We nearly doubled the resolution on the Wide-Angle Camera,5 delivering images so clear you can zoom way in to find hidden masterpieces.</p></div><div><p>Expert RAW Switch into Expert RAW to finesse in greater detail.6 Snap in 50MP for detailed, dynamic frames.</p></div><div><p>Multi exposure Capture up to nine frames and see them automatically layered together to create a multiple exposure work of art.</p></div></div><table><tr><td rowspan="4">MAIN CAMERA</td><td>Quad</td><td>200 MP, f/1.7, 24mm (wide), 1/1.3", 0.6µm, multi-directional PDAF, Laser AF, OIS 10 MP, f/4.9, 230mm (periscope telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 10x optical zoom 10 MP, f/2.4, 70mm (telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55", 1.4µm, Dual Pixel PDAF, Super Steady video</td></tr><tr><td>Features</td><td>LED flash, auto-HDR, panorama</td></tr><tr><td>Video</td><td>8K@24/30fps, 4K@30/60fps, 1080p@30/60/240fps, 1080p@960fps, HDR10+, stereo sound rec., gyro-EIS</td></tr><tr><td></td><td></td><td></td></tr><tr><td rowspan="3">SELFIE CAMERA</td><td>Single</td><td>12 MP, f/2.2, 26mm (wide), Dual Pixel PDAF</td></tr><tr><td>Features</td><td>Dual video call, Auto-HDR, HDR10+</td></tr><tr><td>Video</td><td>4K@30/60fps, 1080p@30fps</td></tr></table><p>Galaxy S23 Ultra technical specifications; https://www.samsung.com/us/smartphones/galaxy-s23-ultra/buy/galaxy-s23-ultra-512gb-verizon-sm-s918uzgfvzw/?modelCode=SM-S918UZGFXAU; https://www.gsmarena.com/samsung_galaxy_s23_ultra-12024.php.</p></div>	MAIN CAMERA	Quad	200 MP, f/1.7, 24mm (wide), 1/1.3", 0.6µm, multi-directional PDAF, Laser AF, OIS 10 MP, f/4.9, 230mm (periscope telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 10x optical zoom 10 MP, f/2.4, 70mm (telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55", 1.4µm, Dual Pixel PDAF, Super Steady video	Features	LED flash, auto-HDR, panorama	Video	8K@24/30fps, 4K@30/60fps, 1080p@30/60/240fps, 1080p@960fps, HDR10+, stereo sound rec., gyro-EIS				SELFIE CAMERA	Single	12 MP, f/2.2, 26mm (wide), Dual Pixel PDAF	Features	Dual video call, Auto-HDR, HDR10+	Video	4K@30/60fps, 1080p@30fps
MAIN CAMERA	Quad		200 MP, f/1.7, 24mm (wide), 1/1.3", 0.6µm, multi-directional PDAF, Laser AF, OIS 10 MP, f/4.9, 230mm (periscope telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 10x optical zoom 10 MP, f/2.4, 70mm (telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55", 1.4µm, Dual Pixel PDAF, Super Steady video															
	Features		LED flash, auto-HDR, panorama															
	Video		8K@24/30fps, 4K@30/60fps, 1080p@30/60/240fps, 1080p@960fps, HDR10+, stereo sound rec., gyro-EIS															
SELFIE CAMERA	Single	12 MP, f/2.2, 26mm (wide), Dual Pixel PDAF																
	Features	Dual video call, Auto-HDR, HDR10+																
	Video	4K@30/60fps, 1080p@30fps																

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Galaxy S23 Ultra</p>  <p>The diagram illustrates the Samsung Galaxy S23 Ultra with the following labeled components:</p> <ul style="list-style-type: none">Rear camera: Points to the camera module on the back of the device.Front camera: Points to the camera located at the top of the front display.Volume keys: Points to the two keys on the left side of the device.Side key: Points to the single key on the right side of the device.S Pen: Points to the stylus shown at the bottom left.Speaker: Points to the speaker grille at the bottom left.USB/Charger/Audio port: Points to the port at the bottom center.SIM card tray: Points to the tray at the bottom right.

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Galaxy S23 Ultra technical specifications; https://downloadcenter.samsung.com/content/UM/202302/20230228053129621/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL_AC_022023.pdf at 5.</p> <div>  </div> <p>Galaxy S23 Ultra technical specifications; https://www.samsung.com/us/smartphones/galaxy-s23-ultra/buy/galaxy-s23-ultra-512gb-verizon-sm-s918uzgfvzw/?modelCode=SM-S918UZGFXAU.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div>  Camera </div> <p>Enjoy a full kit of pro lenses and pro-grade video modes and settings.</p> <ul style="list-style-type: none"> ○ From Apps, tap  Camera. <p>  TIP Quickly press the Side key twice to open the Camera app. </p> <div>  </div> <p> Galaxy S23 Ultra technical specification; https://downloadcenter.samsung.com/content/UM/202302/20230228053129621/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL_AC_022023.pdf at 58. </p>

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950

Exemplary Evidence of Infringement

The screenshot displays the Samsung Galaxy Z Fold4 product page. At the top, the title 'Samsung Galaxy Z Fold4' is shown. Below it, a grid of specifications includes: Released 2022, August 25; 263g, 6.3mm thickness; <> Android 12L, up to Android 13, One UI 5.1; 256GB/512GB/1TB storage, no card slot; 7.6" 1812x2176 pixels; 50MP 4320p; 12GB RAM Snapdragon 8+ Gen 1; and 4400mAh Li-Po. A navigation bar at the bottom of the spec section includes links for REVIEW, OPINIONS, COMPARE, PICTURES, and PRICES. Below this, the 'Galaxy Z Fold4' is listed with Verizon, 512GB, and Beige options, a 'Learn more' link, and a 4.7-star rating from 2624 reviews. A pricing note indicates a trade-in credit of up to \$800. A large image of the phone is shown at the bottom, displaying a colorful abstract wallpaper.

Galaxy Z Fold4 technical specifications; <https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzeatt/>;
https://www.gsmarena.com/samsung_galaxy_z_fold4-11737.php.

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AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement																				
	<div><div><div><div><div>Immersive View</div><div>Get in the Zone.</div><div>Learn more</div><div></div></div></div><div><div><div>Built to last</div><div>Unbelievable tech.</div><div>Learn more</div><div></div></div></div><div><div><div>Smile-worthy improvements</div><div>With the upgraded Rear Camera, Space Zoom and Nightography, we're bringing a pro-level kit to the foldable form for the first time. Use the massive Main Screen as a viewfinder to flex your photo skills with new tech.</div></div></div><div><div><div>Galaxy Excellence</div><div>The brilliance is built in</div><div>Learn more</div><div></div></div></div></div><div><div><div><div><div>10MP</div><div>3x Optical Zoom Telephoto Camera</div><div></div></div></div><div><div><div>12MP</div><div>Ultra wide camera</div><div></div></div></div><div><div><div>50MP</div><div>Wide-angle camera</div><div></div></div></div><div><div><div>4MP</div><div>Under display camera</div><div></div></div></div><div><div><div>10MP</div><div>Cover camera</div><div></div></div></div><div><div><div>Stay nimble</div><div>Stay right</div><div>Innovative technology delivers vivid and bright portraits in the low-light.</div><div></div></div></div></div></div><table><tr><td rowspan="4">MAIN CAMERA</td><td>Triple</td><td>50 MP, f/1.8, 23mm (wide), 1.0µm, Dual Pixel PDAF, OIS 10 MP, f/2.4, 66mm (telephoto), 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 123°, 12mm (ultrawide), 1.12µm</td></tr><tr><td>Features</td><td>LED flash, HDR, panorama</td></tr><tr><td>Video</td><td>8K@24fps, 4K@60fps, 1080p@60/240fps (gyro-EIS), 720p@960fps (gyro-EIS), HDR10+</td></tr><tr><td></td><td></td><td></td></tr><tr><td rowspan="4">SELFIE CAMERA</td><td>Single</td><td>4 MP, f/1.8, 26mm (wide), 2.0µm, under display Cover camera: 10 MP, f/2.2, 24mm (wide), 1/3", 1.22µm</td></tr><tr><td>Features</td><td>HDR</td></tr><tr><td>Video</td><td>4K@30/60fps, 1080p@30/60fps, gyro-EIS</td></tr><tr><td></td><td></td><td></td></tr></table><div>Galaxy Z Fold4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzeeatt/; https://www.gsmarena.com/samsung_galaxy_z_fold4-11737.php.</div></div>	MAIN CAMERA	Triple	50 MP, f/1.8, 23mm (wide), 1.0µm, Dual Pixel PDAF, OIS 10 MP, f/2.4, 66mm (telephoto), 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 123°, 12mm (ultrawide), 1.12µm	Features	LED flash, HDR, panorama	Video	8K@24fps, 4K@60fps, 1080p@60/240fps (gyro-EIS), 720p@960fps (gyro-EIS), HDR10+				SELFIE CAMERA	Single	4 MP, f/1.8, 26mm (wide), 2.0µm, under display Cover camera: 10 MP, f/2.2, 24mm (wide), 1/3", 1.22µm	Features	HDR	Video	4K@30/60fps, 1080p@30/60fps, gyro-EIS			
MAIN CAMERA	Triple		50 MP, f/1.8, 23mm (wide), 1.0µm, Dual Pixel PDAF, OIS 10 MP, f/2.4, 66mm (telephoto), 1.0µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 123°, 12mm (ultrawide), 1.12µm																		
	Features		LED flash, HDR, panorama																		
	Video		8K@24fps, 4K@60fps, 1080p@60/240fps (gyro-EIS), 720p@960fps (gyro-EIS), HDR10+																		
SELFIE CAMERA	Single	4 MP, f/1.8, 26mm (wide), 2.0µm, under display Cover camera: 10 MP, f/2.2, 24mm (wide), 1/3", 1.22µm																			
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	Video	4K@30/60fps, 1080p@30/60fps, gyro-EIS																			

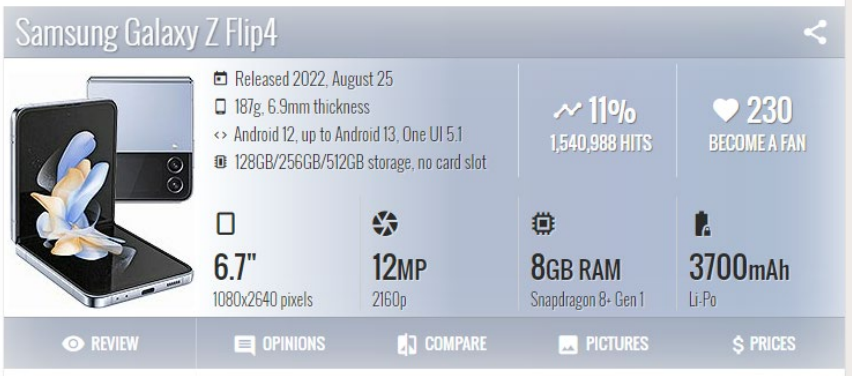
APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><h2>Galaxy Z Fold4</h2></div> <div><p>The diagram illustrates the Samsung Galaxy Z Fold4 in both its folded and unfolded configurations. The folded phone is shown in the background, while the unfolded phone is in the foreground, displaying a vibrant, abstract pattern. Labels with leader lines point to various components: 'Rear camera' and 'Flash' point to the camera module on the back of the folded phone; 'Cover camera' points to the camera on the outer cover of the unfolded phone; 'Speaker' points to the speaker on the top edge of the unfolded phone; 'Under display camera' points to the camera integrated into the top of the unfolded display; 'Volume keys' and 'Side key/ Fingerprint sensor' point to the controls on the right edge of the unfolded phone; and another 'Speaker' and 'USB/charging/ audio port' point to the bottom edge of the unfolded phone.</p></div> <p>Galaxy Z Fold4 technical specification; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_fold4_d1e605.html.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><p>Image simulated for illustrative purpose. Galaxy Z Fold4, Galaxy Watch5, Galaxy Buds2 Pro are sold separately.</p></div> <p>Galaxy Z Fold4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzeeatt/.</p>

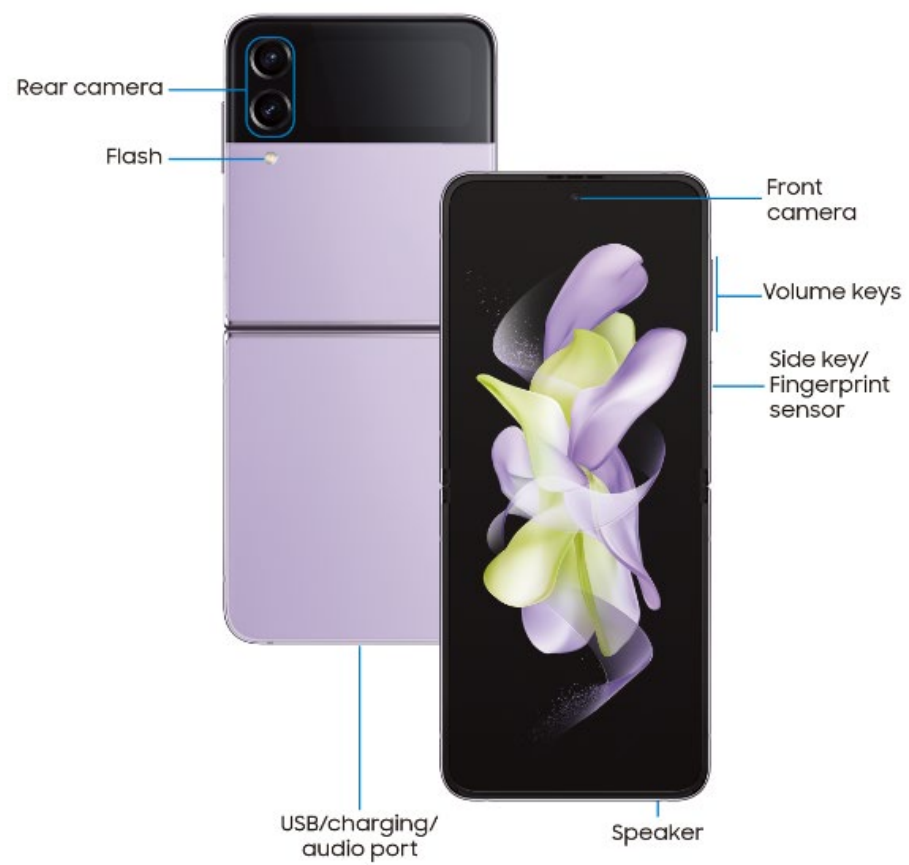
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Galaxy Z Fold4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_fold4_camera_features_d1e3185.</p>  <p>Galaxy Z Flip4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-flip4/buy/galaxy-z-flip4-256gb-t-mobile-sm-f721uzdexau/; https://www.gsmarena.com/samsung_galaxy_z_flip4-11538.php.</p>

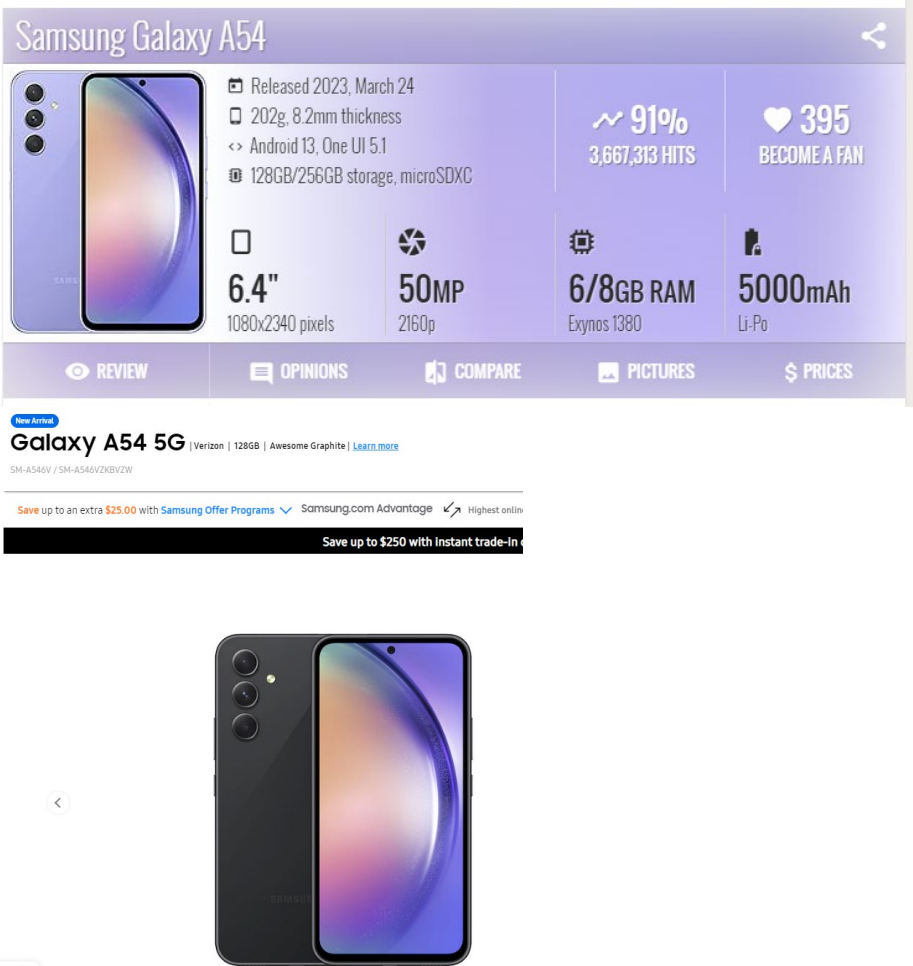
**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement																						
	<table><tr><td rowspan="3">MAIN CAMERA</td><td>Dual</td><td colspan="2">12 MP, f/1.8, 24mm (wide), 1/1.76", 1.8µm, Dual Pixel PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm</td></tr><tr><td>Features</td><td colspan="2">LED flash, HDR, panorama</td></tr><tr><td>Video</td><td colspan="2">4K@30/60fps, 1080p@60/240fps, 720p@960fps, HDR10+</td></tr><tr><td rowspan="3">SELFIE CAMERA</td><td>Single</td><td colspan="2">10 MP, f/2.4, 26mm (wide), 1.22µm</td></tr><tr><td>Features</td><td colspan="2">HDR</td></tr><tr><td>Video</td><td colspan="2">4K@30fps</td></tr></table>			MAIN CAMERA	Dual	12 MP, f/1.8, 24mm (wide), 1/1.76", 1.8µm, Dual Pixel PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm		Features	LED flash, HDR, panorama		Video	4K@30/60fps, 1080p@60/240fps, 720p@960fps, HDR10+		SELFIE CAMERA	Single	10 MP, f/2.4, 26mm (wide), 1.22µm		Features	HDR		Video	4K@30fps	
MAIN CAMERA	Dual	12 MP, f/1.8, 24mm (wide), 1/1.76", 1.8µm, Dual Pixel PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm																					
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	Features	HDR																					
	Video	4K@30fps																					
	Galaxy Z Flip4 technical specifications; https://www.gsmarena.com/samsung_galaxy_z_flip4-11538.php .																						

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p align="center">Galaxy Z Flip4</p>  <p>The diagram illustrates the Samsung Galaxy Z Flip4 in two configurations. On the left, the phone is shown in its folded state, with labels pointing to the 'Rear camera' and 'Flash'. On the right, the phone is shown unfolded, displaying a screen with a purple and yellow flower. Labels on the unfolded phone include 'Front camera', 'Volume keys', 'Side key/ Fingerprint sensor', and 'Speaker'. A label at the bottom points to the 'USB/charging/ audio port' on the bottom edge of the folded phone.</p> <p>Galaxy Z Flip4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_flip4_d1e661.html.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	 <p>The screenshot displays the Samsung Galaxy A54 product page. At the top, the title 'Samsung Galaxy A54' is shown with a share icon. Below the title, there's a grid of specifications: Released 2023, March 24; 202g, 8.2mm thickness; Android 13, One UI 5.1; 128GB/256GB storage, microSDXC; 91% (3,667,313 HITS); 395 (BECOME A FAN); 6.4" (1080x2340 pixels); 50MP (2160p); 6/8GB RAM (Exynos 1380); 5000mAh (Li-Po). Below this grid are tabs for REVIEW, OPINIONS, COMPARE, PICTURES, and PRICES. A 'New Arrival' badge is present. The main heading is 'Galaxy A54 5G' with details for Verizon, 128GB, and Awesome Graphite. Below this, there are promotional banners: 'Save up to an extra \$25.00 with Samsung Offer Programs' and 'Save up to \$250 with Instant trade-in'. A large image of the phone is shown in the center. At the bottom, there's a link to the Galaxy A54 5G technical specifications: https://www.samsung.com/us/mobile/phones/galaxy-a54/buy/; https://www.gsmarena.com/samsung_galaxy_a54-12070.php.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement												
	<div><div><p>Capture your Awesome moments with a multi-lens camera</p><p>*OIS: Optical Image Stabilization</p></div><table><tr><td rowspan="4">MAIN CAMERA</td><td>Triple</td><td>50 MP, f/1.8, (wide), 1/1.56", 1.0µm, PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm 5 MP, f/2.4, (macro)</td></tr><tr><td>Features</td><td>LED flash, panorama, HDR</td></tr><tr><td>Video</td><td>4K@30fps, 1080p@30/60fps, 720p@480fps</td></tr><tr><td rowspan="2">SELFIE CAMERA</td><td>Single</td><td>32 MP, f/2.2, 26mm (wide), 1/2.8", 0.8µm</td></tr><tr><td>Video</td><td>4K@30fps, 1080p@30/60fps</td></tr></table></div> <div><p>Samsung Galaxy A54 5G technical specifications; Galaxy A54 5G, 128GB (Unlocked) Phones - SM-A546UZKBXAA Samsung US; https://www.gsmarena.com/samsung_galaxy_a54-12070.php.</p></div>	MAIN CAMERA	Triple	50 MP, f/1.8, (wide), 1/1.56", 1.0µm, PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm 5 MP, f/2.4, (macro)	Features	LED flash, panorama, HDR	Video	4K@30fps, 1080p@30/60fps, 720p@480fps	SELFIE CAMERA	Single	32 MP, f/2.2, 26mm (wide), 1/2.8", 0.8µm	Video	4K@30fps, 1080p@30/60fps
MAIN CAMERA	Triple		50 MP, f/1.8, (wide), 1/1.56", 1.0µm, PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm 5 MP, f/2.4, (macro)										
	Features		LED flash, panorama, HDR										
	Video		4K@30fps, 1080p@30/60fps, 720p@480fps										
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Video		4K@30fps, 1080p@30/60fps											

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p align="center">Galaxy A54 5G</p>  <p>The diagram illustrates the Samsung Galaxy A54 5G smartphone from both rear and front perspectives. Labels with leader lines point to the following components:</p> <ul style="list-style-type: none"> Flash: Located at the top of the rear camera module. Rear camera: The main camera lens on the back. Front camera: The camera lens on the top bezel of the front screen. Volume keys: Two keys on the left side of the device. Side key: The power button on the right side of the device. Fingerprint scanner: A circular sensor located at the bottom center of the front screen. USB/Charging/Audio port: The port at the bottom of the rear of the device. <p>Galaxy A54 5G technical specifications; https://downloadcenter.samsung.com/content/UM/202304/20230407022332214/SAM_A546_EN_UM_OS13_040523_FINAL.pdf at 5.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
<p>[12.c] the control unit controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.</p>	<p><i>See [1.f] above.</i></p> <p>The signal processor in each of the Accused Samsung '950 Products incorporates or operates as the control unit that controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.</p> <p>As an example, the signal processor is configured to create a region that includes skin tones and textures and other region or regions that do not include skin tones and textures. To create other region or regions that do not contain the detected skin tones and textures, the signal processor excludes a skin tone region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contain a detected moving object or subject and other region or regions that do not contain the detected moving object or subject. To create other region or regions that do not contain the detected moving object, the signal processor excludes a moving object region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains a detected face and other region or regions that do not contain the detected face. To create other region or regions that do not contain the detected face, the signal processor excludes a face region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains detected natural skin and other region or regions that do not contain the detected natural skin. To create other region or regions that do not contain the detected natural skin, the signal processor excludes a natural skin region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains detected hair and other region or regions that do not contain the detected hair. To create other region or regions</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>that do not contain the detected hair, the signal processor excludes a hair region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains detected clothing and other region or regions that do not contain the detected clothing. To create other region or regions that do not contain the detected clothing, the signal processor excludes a clothing region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains a detected object in a foreground and other region or regions that are part of a background. To create other region or regions that do not contain the detected foreground, the signal processor excludes a foreground region that contains the pixels for which a position has been held in the hold unit or memory.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<ul style="list-style-type: none">• Our Qualcomm Spectra™ AI ISP features:<ul style="list-style-type: none">• Limitless Real-time Semantic Segmentation for photo/video frame• Insight AI provides real-time skin and sky adjustments to create more natural color and lighting in uncertain conditions.• Ultra-low Light video capture• Video Object Eraser can remove unwanted elements from videos• Real-time AI Relighting make you appear professional wherever you are• Truepic photo capture with C2PA standard support lets you snap a photo with Truepic's cryptographic seal to prove the photo is real and not Gen AI <p>(https://www.qualcomm.com/products/mobile/snapdragon/smartphones/snapdragon-8-series-mobile-platforms/snapdragon-8-elite-mobile-platform)</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>AI-powered camera redefines photography</p> <p>Infuse brilliance into mobile capture with our AI ISP, enhancing everything from selfies to crystal-clear video chats thanks to an overhauled Hexagon Direct Link. The first AI-powered Limitless Segmentation recognizes and enhances virtually anything in the frame, including faces, hair, clothing, objects, backgrounds, and beyond. Even furry friends appear crisp and cute—no matter how fast the zoomies—thanks to AI-Based Pet Capture.</p> <ul style="list-style-type: none"> • Our powerful AI ISP is deeply integrated with the Hexagon NPU for enhanced, intuitive capture. • Limitless Segmentation can segment an image in over 250 layers, each optimized to perfection. • Real-time Insight AI captures and enhances natural skin and sky tones even in the most challenging conditions. • Truepic with C2PA adds cryptographic seals so you can authenticate your photos as real and not AI-generated—now including videos and audio recordings. • Video Object Eraser can remove unwanted elements from video footage—on-device. • Capture vivid videos at 4K60 FPS, even in near darkness. <p>(https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/Snapdragon-8-Elite-Platform-Product-Brief.pdf)</p>
<p>[14.a] A signal processor according to claim 1, wherein: the processing unit is a signal processing unit for adjusting white balance of an input picture signal; and</p>	<p><i>See claim [4.a] above. See also:</i></p> <p>For example, all of the Accused Samsung '950 Products are equipped with white balance correction, which is activated when an object that appears white in person is detected in an image. The white balance correction adjusts for the color temperature of the light source so that an object that appears white in person also appears white in the image. As a result, the Accused Samsung '950 Products are necessarily configured to detect with a patterned portion (e.g. white object, white snow) formed of a single color of black or white is input, and contain one or more processors for doing same (e.g., CPU, ISP, and/or DSP).</p> <ul style="list-style-type: none"> - Pro: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while taking pictures. - Pro video: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while recording videos.

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Samsung Galaxy S25 User Manual at 43. (https://downloadcenter.samsung.com/content/UM/202502/20250222040501249/SAM_S931_S936_S938_EN_UG_OS15_012425_FINAL_AC_02072025.pdf)</p> <p>Adaptive color tone</p> <p>Adjust the colors and white balance based on ambient lighting conditions to make colors appear more natural in different environments.</p> <p>○ From Settings, tap  Display > Adaptive color tone and tap  to enable this feature.</p> <p><i>Id.</i> at 116.</p> <p>Screen mode</p> <p>Your device has several screen mode options which adjust the screen quality for different situations. You can select the mode according to your preference.</p> <ol style="list-style-type: none">1. From Settings, tap  Display > Screen mode.2. Tap an option to set a different screen mode.<ul style="list-style-type: none">• Drag the slider to adjust the white balance.• Tap Advanced settings to manually change the RGB values. <p><i>Id.</i> at 117.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>Intelligent features</p> <ul style="list-style-type: none"><li>• Scan documents and text: Automatically show a button when a document is detected to scan it. Tap the option to enable Auto scanning, which will scan a document without a tap. You'll also have the option to remove unwanted objects, in case your fingers are in the frame.<li>• Scan QR codes: Automatically detects QR codes when using the camera.<li>• Shot suggestions: Get on-screen guides to help you line up great shots.<li>• Intelligent optimization: Set the quality optimization options to prioritize quality or speed in Photo mode. You can also enable Scene optimizer to automatically adjust exposure, contrast, white balance, and more based on what is detected in the camera frame. The Scene optimizer is only available when using the rear camera. <p>https://www.samsung.com/us/support/answer/ANS10004601/</p>

APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12, AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<pre> /** * <p>The camera device's autoexposure routine is disabled.</p> * <p>The application-selected {@link CaptureRequest#SENSOR_EXPOSURE_TIME android.sensor.exposureTime}, * {@link CaptureRequest#SENSOR_SENSITIVITY android.sensor.sensitivity} and * {@link CaptureRequest#SENSOR_FRAME_DURATION android.sensor.frameDuration} are used by the camera * device, along with android.flash.* fields, if there's * a flash unit for this camera device.</p> * <p>Note that auto-white balance (AWB) and auto-focus (AF) * behavior is device dependent when AE is in OFF mode. * To have consistent behavior across different devices, * it is recommended to either set AWB and AF to OFF mode * or lock AWB and AF before setting AE to OFF. * See {@link CaptureRequest#CONTROL_AWB_MODE android.control.awbMode}, {@link CaptureRequest#CONTROL_AF_MODE android.control.afMode}, * {@link CaptureRequest#CONTROL_AWB_LOCK android.control.awbLock}, and {@link CaptureRequest#CONTROL_AF_TRIGGER android.control.afTrigger} * for more details.</p> * <p>LEGACY devices do not support the OFF mode and will * override attempts to use this value to ON.</p> * * @see CaptureRequest#CONTROL_AF_MODE * @see CaptureRequest#CONTROL_AF_TRIGGER * @see CaptureRequest#CONTROL_AWB_LOCK * @see CaptureRequest#CONTROL_AWB_MODE * @see CaptureRequest#SENSOR_EXPOSURE_TIME * @see CaptureRequest#SENSOR_FRAME_DURATION * @see CaptureRequest#SENSOR_SENSITIVITY * @see CaptureRequest#CONTROL_AE_MODE */ public static final int CONTROL_AE_MODE_OFF = 0; </pre>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<pre> /** * <p>The camera device's auto-white balance routine is disabled.</p> * <p>The application-selected color transform matrix * ({@link CaptureRequest#COLOR_CORRECTION_TRANSFORM android.colorCorrection.transform}) and gains * ({@link CaptureRequest#COLOR_CORRECTION_GAINS android.colorCorrection.gains}) are used by the camera * device for manual white balance control.</p> * * @see CaptureRequest#COLOR_CORRECTION_GAINS * @see CaptureRequest#COLOR_CORRECTION_TRANSFORM * @see CaptureRequest#CONTROL_AWB_MODE */ public static final int CONTROL_AWB_MODE_OFF = 0; /** * <p>The camera device's auto-white balance routine is active.</p> * <p>The application's values for {@link CaptureRequest#COLOR_CORRECTION_TRANSFORM android.colorCorrection.transform} * and {@link CaptureRequest#COLOR_CORRECTION_GAINS android.colorCorrection.gains} are ignored. * For devices that support the MANUAL_POST_PROCESSING capability, the * values used by the camera device for the transform and gains * will be available in the capture result for this request.</p> * * @see CaptureRequest#COLOR_CORRECTION_GAINS * @see CaptureRequest#COLOR_CORRECTION_TRANSFORM * @see CaptureRequest#CONTROL_AWB_MODE */ public static final int CONTROL_AWB_MODE_AUTO = 1; </pre>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<pre> * <p>The camera device's auto-white balance routine is disabled; * the camera device uses incandescent light as the assumed scene * illumination for white balance.</p> * <p>While the exact white balance transforms are up to the * camera device, they will approximately match the CIE * standard illuminant A.</p> * <p>The application's values for {@link CaptureRequest#COLOR_CORRECTION_TRANSFORM android.colorCorrection.transform} * and {@link CaptureRequest#COLOR_CORRECTION_GAINS android.colorCorrection.gains} are ignored. * For devices that support the MANUAL_POST_PROCESSING capability, the * values used by the camera device for the transform and gains * will be available in the capture result for this request.</p> * * @see CaptureRequest#COLOR_CORRECTION_GAINS * @see CaptureRequest#COLOR_CORRECTION_TRANSFORM * @see CaptureRequest#CONTROL_AWB_MODE */ public static final int CONTROL_AWB_MODE_INCANDESCENT = 2; /** * <p>The camera device's auto-white balance routine is disabled; * the camera device uses fluorescent light as the assumed scene * illumination for white balance.</p> * <p>While the exact white balance transforms are up to the * camera device, they will approximately match the CIE * standard illuminant F2.</p> * <p>The application's values for {@link CaptureRequest#COLOR_CORRECTION_TRANSFORM android.colorCorrection.transform} * and {@link CaptureRequest#COLOR_CORRECTION_GAINS android.colorCorrection.gains} are ignored. * For devices that support the MANUAL_POST_PROCESSING capability, the * values used by the camera device for the transform and gains * will be available in the capture result for this request.</p> * * @see CaptureRequest#COLOR_CORRECTION_GAINS * @see CaptureRequest#COLOR_CORRECTION_TRANSFORM * @see CaptureRequest#CONTROL_AWB_MODE */ public static final int CONTROL_AWB_MODE_FLUORESCENT = 3; </pre>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<pre> * <p>The camera device's auto-white balance routine is disabled; * the camera device uses warm fluorescent light as the assumed scene * illumination for white balance.</p> * <p>While the exact white balance transforms are up to the * camera device, they will approximately match the CIE * standard illuminant F4.</p> * <p>The application's values for {@link CaptureRequest#COLOR_CORRECTION_TRANSFORM android.colorCorrection.transform} * and {@link CaptureRequest#COLOR_CORRECTION_GAINS android.colorCorrection.gains} are ignored. * For devices that support the MANUAL_POST_PROCESSING capability, the * values used by the camera device for the transform and gains * will be available in the capture result for this request.</p> * * @see CaptureRequest#COLOR_CORRECTION_GAINS * @see CaptureRequest#COLOR_CORRECTION_TRANSFORM * @see CaptureRequest#CONTROL_AWB_MODE */ public static final int CONTROL_AWB_MODE_WARM_FLUORESCENT = 4; /** * <p>The camera device's auto-white balance routine is disabled; * the camera device uses daylight light as the assumed scene * illumination for white balance.</p> * <p>While the exact white balance transforms are up to the * camera device, they will approximately match the CIE * standard illuminant D65.</p> * <p>The application's values for {@link CaptureRequest#COLOR_CORRECTION_TRANSFORM android.colorCorrection.transform} * and {@link CaptureRequest#COLOR_CORRECTION_GAINS android.colorCorrection.gains} are ignored. * For devices that support the MANUAL_POST_PROCESSING capability, the * values used by the camera device for the transform and gains * will be available in the capture result for this request.</p> * * @see CaptureRequest#COLOR_CORRECTION_GAINS * @see CaptureRequest#COLOR_CORRECTION_TRANSFORM * @see CaptureRequest#CONTROL_AWB_MODE */ public static final int CONTROL_AWB_MODE_DAYLIGHT = 5; </pre>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<pre> /** * <p>The camera device's auto-white balance routine is disabled; * the camera device uses cloudy daylight light as the assumed scene * illumination for white balance.</p> * <p>The application's values for {@link CaptureRequest#COLOR_CORRECTION_TRANSFORM android.colorCorrection.transform} * and {@link CaptureRequest#COLOR_CORRECTION_GAINS android.colorCorrection.gains} are ignored. * For devices that support the MANUAL_POST_PROCESSING capability, the * values used by the camera device for the transform and gains * will be available in the capture result for this request.</p> * * @see CaptureRequest#COLOR_CORRECTION_GAINS * @see CaptureRequest#COLOR_CORRECTION_TRANSFORM * @see CaptureRequest#CONTROL_AWB_MODE */ public static final int CONTROL_AWB_MODE_CLOUDY_DAYLIGHT = 6; /** * <p>The camera device's auto-white balance routine is disabled; * the camera device uses twilight light as the assumed scene * illumination for white balance.</p> * <p>The application's values for {@link CaptureRequest#COLOR_CORRECTION_TRANSFORM android.colorCorrection.transform} * and {@link CaptureRequest#COLOR_CORRECTION_GAINS android.colorCorrection.gains} are ignored. * For devices that support the MANUAL_POST_PROCESSING capability, the * values used by the camera device for the transform and gains * will be available in the capture result for this request.</p> * * @see CaptureRequest#COLOR_CORRECTION_GAINS * @see CaptureRequest#COLOR_CORRECTION_TRANSFORM * @see CaptureRequest#CONTROL_AWB_MODE */ public static final int CONTROL_AWB_MODE_TWILIGHT = 7; </pre>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<pre> /** * <p>Same as OFF mode, except that this capture will not be * used by camera device background auto-exposure, auto-white balance and * auto-focus algorithms (3A) to update their statistics.</p> * <p>Specifically, the 3A routines are locked to the last * values set from a request with AUTO, OFF, or * USE_SCENE_MODE, and any statistics or state updates * collected from manual captures with OFF_KEEP_STATE will be * discarded by the camera device.</p> * @see CaptureRequest#CONTROL_MODE */ public static final int CONTROL_MODE_OFF_KEEP_STATE = 3; /** * <p>If face detection support exists, use face * detection data for auto-focus, auto-white balance, and * auto-exposure routines.</p> * <p>If face detection statistics are disabled * (i.e. {@link CaptureRequest#STATISTICS_FACE_DETECT_MODE android.statistics.faceDetectMode} is set to OFF), * this should still operate correctly (but will not return * face detection statistics to the framework).</p> * <p>Unlike the other scene modes, {@link CaptureRequest#CONTROL_AE_MODE android.control.aeMode}, * {@link CaptureRequest#CONTROL_AWB_MODE android.control.awbMode}, and {@link CaptureRequest#CONTROL_AF_MODE android.control.afMode} * remain active when FACE_PRIORITY is set.</p> * * @see CaptureRequest#CONTROL_AE_MODE * @see CaptureRequest#CONTROL_AF_MODE * @see CaptureRequest#CONTROL_AWB_MODE * @see CaptureRequest#STATISTICS_FACE_DETECT_MODE * @see CaptureRequest#CONTROL_SCENE_MODE */ public static final int CONTROL_SCENE_MODE_FACE_PRIORITY = 1; </pre>

APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12, AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<pre> /** * <p>List of the maximum number of regions that can be used for metering in * auto-exposure (AE), auto-white balance (AWB), and auto-focus (AF); * this corresponds to the maximum number of elements in * {@link CaptureRequest#CONTROL_AE_REGIONS android.control.aeRegions}, {@link CaptureRequest#CONTROL_AWB_REGIONS android.control.awbRegions}, * and {@link CaptureRequest#CONTROL_AF_REGIONS android.control.afRegions}.auto-white-balance modes for {@link CaptureRequest#CONTROL_AWB_MODE android.control.awbMode} that are supported by this * camera device.</p> * <p>Not all the auto-white-balance modes may be supported by a * given camera device. This entry lists the valid modes for * {@link CaptureRequest#CONTROL_AWB_MODE android.control.awbMode} for this camera device.</p> * <p>All camera devices will support ON mode.</p> * <p>Camera devices that support the MANUAL_POST_PROCESSING capability will always support OFF * mode, which enables application control of white balance, by using * {@link CaptureRequest#COLOR_CORRECTION_TRANSFORM android.colorCorrection.transform} and {@link CaptureRequest#COLOR_CORRECTION_GAINS android.colorCorrection.gains}{@l * mode camera devices.</p> * <p>Range of valid values:
</p> * Any value listed in {@link CaptureRequest#CONTROL_AWB_MODE android.control.awbMode}</p> * <p>This key is available on all devices.</p> * * @see CaptureRequest#COLOR_CORRECTION_GAINS * @see CaptureRequest#COLOR_CORRECTION_MODE * @see CaptureRequest#COLOR_CORRECTION_TRANSFORM * @see CaptureRequest#CONTROL_AWB_MODE */ @PublicKey @NonNull public static final Key<int[]> CONTROL_AWB_AVAILABLE_MODES = new Key<int[]>("android.control.awbAvailableModes", int[].class); </pre>

APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12, AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<pre> /** * <p>List of the maximum number of regions that can be used for metering in * auto-exposure (AE), auto-white balance (AWB), and auto-focus (AF); * this corresponds to the maximum number of elements in * {@link CaptureRequest#CONTROL_AE_REGIONS android.control.aeRegions}, {@link CaptureRequest#CONTROL_AWB_REGIONS android.control.awbRegions}, * and {@link CaptureRequest#CONTROL_AF_REGIONS android.control.afRegions}.white balance (AWB) is enabled with {@link CaptureRequest#CONTROL_AWB_MODE android.control.awbMode}, this * control is overridden by the AWB routine. When AWB is disabled, the * application controls how the color mapping is performed.</p> * <p>We define the expected processing pipeline below. For consistency * across devices, this is always the case with TRANSFORM_MATRIX.</p> * <p>When either FAST or HIGH_QUALITY is used, the camera device may * do additional processing but {@link CaptureRequest#COLOR_CORRECTION_GAINS android.colorCorrection.gains} and * {@link CaptureRequest#COLOR_CORRECTION_TRANSFORM android.colorCorrection.transform} will still be provided by the * camera device (in the results) and be roughly correct.</p> * <p>Switching to TRANSFORM_MATRIX and using the data provided from * FAST or HIGH_QUALITY will yield a picture with the same white point * as what was produced by the camera device in the earlier frame.</p> * <p>The expected processing pipeline is as follows:</p> * <p></p> * <p>The white balance is encoded by two values, a 4-channel white-balance * gain vector (applied in the Bayer domain), and a 3x3 color transform * matrix (applied after demosaic).</p> * <p>The 4-channel white-balance gains are defined as:</p> * <pre><code>{@link CaptureRequest#COLOR_CORRECTION_GAINS android.colorCorrection.gains} = [R G_even G_odd B] * </code></pre> * * @PublicKey * @NonNull * public static final Key<Integer> COLOR_CORRECTION_MODE = * new Key<Integer>("android.colorCorrection.mode", int.class); </pre>

APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12, AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<pre> /** * <p>Specifies the color temperature for CCT mode in Kelvin * to adjust the white balance of the image.</p> * <p>Sets the color temperature in Kelvin units for when * {@link CaptureRequest#COLOR_CORRECTION_MODE android.colorCorrection.mode} is CCT to adjust the * white balance of the image.</p> * <p>If CCT mode is enabled without a requested color temperature, * a default value will be set by the camera device. The default value can be * retrieved by checking the corresponding capture result. Color temperatures * requested outside the advertised {@link CameraCharacteristics#COLOR_CORRECTION_COLOR_TEMPERATURE_RANGE android.colorCorrection.colorTemperatureRange} * will be clamped.</p> * <p>Units: Kelvin</p> * <p>Range of valid values:
 * {@link CameraCharacteristics#COLOR_CORRECTION_COLOR_TEMPERATURE_RANGE android.colorCorrection.colorTemperatureRange}</p> * <p>Optional - The value for this key may be {@code null} on some devices.</p> * * @see CameraCharacteristics#COLOR_CORRECTION_COLOR_TEMPERATURE_RANGE * @see CaptureRequest#COLOR_CORRECTION_MODE */ @PublicKey @NonNull @FlaggedApi(Flags.FLAG_COLOR_TEMPERATURE) public static final Key<Integer> COLOR_CORRECTION_COLOR_TEMPERATURE = new Key<Integer>("android.colorCorrection.colorTemperature", int.class); </pre>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<pre> /** * <p>Whether auto-white balance (AWB) is currently locked to its * latest calculated values.</p> * <p>When set to <code>true</code> (ON), the AWB algorithm is locked to its latest parameters, * and will not change color balance settings until the lock is set to <code>false</code> (OFF).</p> * <p>Since the camera device has a pipeline of in-flight requests, the settings that * get locked do not necessarily correspond to the settings that were present in the * latest capture result received from the camera device, since additional captures * and AWB updates may have occurred even before the result was sent out. If an * application is switching between automatic and manual control and wishes to eliminate * any flicker during the switch, the following procedure is recommended:</p> * * Starting in auto-AWB mode: * Lock AWB * Wait for the first result to be output that has the AWB locked * Copy AWB settings from that result into a request, set the request to manual AWB * Submit the capture request, proceed to run manual AWB as desired. * * <p>Note that AWB lock is only meaningful when * {@link CaptureRequest#CONTROL_AWB_MODE android.control.awbMode} is in the AUTO mode; in other modes, * AWB is already fixed to a specific setting.</p> * <p>Some LEGACY devices may not support ON; the value is then overridden to OFF.</p> * <p>This key is available on all devices.</p> * * @see CaptureRequest#CONTROL_AWB_MODE */ @PublicKey @NonNull public static final Key<Boolean> CONTROL_AWB_LOCK = new Key<Boolean>("android.control.awbLock", boolean.class); </pre>

APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12, AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<pre> /** * <p>Whether auto-white balance (AWB) is currently setting the color * transform fields, and what its illumination target * is.</p> * <p>This control is only effective if {@link CaptureRequest#CONTROL_MODE android.control.mode} is AUTO.</p> * <p>When set to the AUTO mode, the camera device's auto-white balance * routine is enabled, overriding the application's selected * {@link CaptureRequest#COLOR_CORRECTION_TRANSFORM android.colorCorrection.transform}, {@link CaptureRequest#COLOR_CORRECTION_GAINS android.colorCorrection.gains} and * {@link CaptureRequest#COLOR_CORRECTION_MODE android.colorCorrection.mode}. Note that when {@link CaptureRequest#CONTROL_AE_MODE android.control.aeMode} * is OFF, the behavior of AWB is device dependent. It is recommended to * also set AWB mode to OFF or lock AWB by using {@link CaptureRequest#CONTROL_AWB_LOCK android.control.awbLock} before * setting AE mode to OFF.</p> * <p>When set to the OFF mode, the camera device's auto-white balance * routine is disabled. The application manually controls the white * balance by {@link CaptureRequest#COLOR_CORRECTION_TRANSFORM android.colorCorrection.transform}, {@link CaptureRequest#COLOR_CORRECTION_GAINS android.colorCorrection.g * and {@link CaptureRequest#COLOR_CORRECTION_MODE android.colorCorrection.mode}</p> * <p>When set to any other modes, the camera device's auto-white * balance routine is disabled. The camera device uses each * particular illumination target for white balance * adjustment. The application's values for * {@link CaptureRequest#COLOR_CORRECTION_TRANSFORM android.colorCorrection.transform}, * {@link CaptureRequest#COLOR_CORRECTION_GAINS android.colorCorrection.gains} and * {@link CaptureRequest#COLOR_CORRECTION_MODE android.colorCorrection.mode} are ignored.</p> * <p>Possible values:</p> * * {@link #CONTROL_AWB_MODE_OFF OFF} * {@link #CONTROL_AWB_MODE_AUTO AUTO} * {@link #CONTROL_AWB_MODE_INCANDESCENT INCANDESCENT} * {@link #CONTROL_AWB_MODE_FLUORESCENT FLUORESCENT} * {@link #CONTROL_AWB_MODE_WARM_FLUORESCENT WARM_FLUORESCENT} * {@link #CONTROL_AWB_MODE_DAYLIGHT DAYLIGHT} * {@link #CONTROL_AWB_MODE_CLOUDY_DAYLIGHT CLOUDY_DAYLIGHT} * {@link #CONTROL_AWB_MODE_TWILIGHT TWILIGHT} * {@link #CONTROL_AWB_MODE_SHADE SHADE} * * * <p>Available values for this device:
 * {@link CameraCharacteristics#CONTROL_AWB_AVAILABLE_MODES android.control.awbAvailableModes}</p> * <p>This key is available on all devices.</p> */ @PublicKey @NonNull public static final Key<Integer> CONTROL_AWB_MODE = new Key<Integer>("android.control.awbMode", int.class); </pre>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<pre> /** * <p>Current state of auto-white balance (AWB) algorithm.</p> * <p>Switching between or enabling AWB modes ({@link CaptureRequest#CONTROL_AWB_MODE android.control.awbMode}) always * resets the AWB state to INACTIVE. Similarly, switching between {@link CaptureRequest#CONTROL_MODE android.control.i * or {@link CaptureRequest#CONTROL_SCENE_MODE android.control.sceneMode} if <code>{@link CaptureRequest#CONTROL_MODE * the algorithm states to INACTIVE.</p> * <p>The camera device can do several state transitions between two results, if it is * allowed by the state transition table. So INACTIVE may never actually be seen in * a result.</p> * <p>The state in the result is the state for this image (in sync with this image): if * AWB state becomes CONVERGED, then the image data associated with this result should * be good to use.</p> * <p>Below are state transition tables for different AWB modes.</p> * <p>When <code>{@link CaptureRequest#CONTROL_AWB_MODE android.control.awbMode} != AWB_MODE_AUTO</code>:</p> * <table> * <thead> * <tr> * <th style="text-align: center;">State</th> * <th style="text-align: center;">Transition Cause</th> * <th style="text-align: center;">New State</th> * <th style="text-align: center;">Notes</th> * </tr> * </thead> * <tbody> * <tr> * <td style="text-align: center;">INACTIVE</td> * <td style="text-align: center;"></td> * <td style="text-align: center;">INACTIVE</td> * <td style="text-align: center;">Camera device auto white balance algorithm is disabled</td> * </tr> * */ @PublicKey @NonNull public static final Key<Integer> CONTROL_AWB_STATE = new Key<Integer>("android.control.awbState", int.class); </pre>

APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12, AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<pre> /** * <p>Whether auto-white balance (AWB) is currently setting the color * transform fields, and what its illumination target * is.</p> * <p>This control is only effective if {@link CaptureRequest#CONTROL_MODE android.control.mode} is AUTO.</p> * <p>When set to the AUTO mode, the camera device's auto-white balance * routine is enabled, overriding the application's selected * {@link CaptureRequest#COLOR_CORRECTION_TRANSFORM android.colorCorrection.transform}, {@link CaptureRequest#COLOR_CORRECTION_GAINS android.colorCorrection.gains} and * {@link CaptureRequest#COLOR_CORRECTION_MODE android.colorCorrection.mode}. Note that when {@link CaptureRequest#CONTROL_AE_MODE android.control.aeMode} * is OFF, the behavior of AWB is device dependent. It is recommended to * also set AWB mode to OFF or lock AWB by using {@link CaptureRequest#CONTROL_AWB_LOCK android.control.awbLock} before * setting AE mode to OFF.</p> * <p>When set to the OFF mode, the camera device's auto-white balance * routine is disabled. The application manually controls the white * balance by {@link CaptureRequest#COLOR_CORRECTION_TRANSFORM android.colorCorrection.transform}, {@link CaptureRequest#COLOR_CORRECTION_GAINS android.colorCorrection.gains} * and {@link CaptureRequest#COLOR_CORRECTION_MODE android.colorCorrection.mode}.</p> * <p>When set to any other modes, the camera device's auto-white * balance routine is disabled. The camera device uses each * particular illumination target for white balance * adjustment. The application's values for * {@link CaptureRequest#COLOR_CORRECTION_TRANSFORM android.colorCorrection.transform}, * {@link CaptureRequest#COLOR_CORRECTION_GAINS android.colorCorrection.gains} and * {@link CaptureRequest#COLOR_CORRECTION_MODE android.colorCorrection.mode} are ignored.</p> * <p>Possible values:</p> * * {@link #CONTROL_AWB_MODE_OFF OFF} * {@link #CONTROL_AWB_MODE_AUTO AUTO} * {@link #CONTROL_AWB_MODE_INCANDESCENT INCANDESCENT} * {@link #CONTROL_AWB_MODE_FLUORESCENT FLUORESCENT} * {@link #CONTROL_AWB_MODE_WARM_FLUORESCENT WARM_FLUORESCENT} * {@link #CONTROL_AWB_MODE_DAYLIGHT DAYLIGHT} * {@link #CONTROL_AWB_MODE_CLOUDY_DAYLIGHT CLOUDY_DAYLIGHT} * {@link #CONTROL_AWB_MODE_TWILIGHT TWILIGHT} * {@link #CONTROL_AWB_MODE_SHADE SHADE} * */ */ @PublicKey @NonNull public static final Key<Integer> CONTROL_AWB_MODE = new Key<Integer>("android.control.awbMode", int.class); </pre> <p>See https://android.googlesource.com/platform/frameworks/base/+master/core/java/android/hardware/camera2/CameraMetadata.java; https://android.googlesource.com/platform/frameworks/base/+master/core/java/android/hardware/camera2/CameraCharacteristics.java; https://android.googlesource.com/platform/frameworks/base/+master/core/java/android/hardware/camera2/CaptureResult.java;</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>https://android.googlesource.com/platform/frameworks/base/+master/core/java/android/hardware/camera2/CaptureRequest.java;</p> <p>As an additional example, the Accused Samsung '950 Products detect white attributes (e.g., based on scene classification or skin) and applies color temperature corrections by adjusting hue and saturation. For example, the “Camera” application includes a scene mode feature, which adjusts the camera settings based on detection of the type of scene including detecting white attributes in the scene.</p> <p>CONTROL_SCENE_MODE_FACE_PRIORITY Added in API level 21</p> <div style="border: 1px solid #ccc; padding: 10px; margin: 10px 0;"> <pre>public static final int CONTROL_SCENE_MODE_FACE_PRIORITY</pre> </div> <p>If face detection support exists, use face detection data for auto-focus, auto-white balance, and auto-exposure routines.</p> <p>If face detection statistics are disabled (i.e. <code>android.statistics.faceDetectMode</code> is set to OFF), this should still operate correctly (but will not return face detection statistics to the framework).</p> <p>Unlike the other scene modes, <code>android.control.aeMode</code>, <code>android.control.awbMode</code>, and <code>android.control.afMode</code> remain active when FACE_PRIORITY is set.</p>

**APPENDIX 7: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-5, 7, 8, 10, 12,
AND 14 OF U.S. PATENT NO. 8,471,950 TO ACCUSED SAMSUNG '950 PRODUCTS**

U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><div>CONTROL_SCENE_MODE_FIREWORKS </div><div>Added in API level 21</div></div> <div><div>public static final int CONTROL_SCENE_MODE_FIREWORKS </div></div> <p>Optimized for nighttime photos of fireworks.</p> <div><div>CONTROL_SCENE_MODE_HDR</div><div>Added in API level 22</div></div> <div><div>public static final int CONTROL_SCENE_MODE_HDR </div></div> <p>Turn on a device-specific high dynamic range (HDR) mode.</p> <p>In this scene mode, the camera device captures images that keep a larger range of scene illumination levels visible in the final image. For example, when taking a picture of a object in front of a bright window, both the object and the scene through the window may be visible when using HDR mode, while in normal AUTO mode, one or the other may be poorly exposed. As a tradeoff, HDR mode generally takes much longer to capture a single image, has no user control, and may have other artifacts depending on the HDR method used.</p> <p>Therefore, HDR captures operate at a much slower rate than regular captures.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><div>CONTROL_SCENE_MODE_LANDSCAPE</div><div>Added in API level 21</div><div><pre>public static final int CONTROL_SCENE_MODE_LANDSCAPE</pre></div><div>Optimized for photos of distant macroscopic objects.</div><div>See also:</div><div>CaptureRequest.CONTROL_SCENE_MODE</div><div>Constant Value: 4 (0x00000004)</div><div>CONTROL_SCENE_MODE_NIGHT</div><div>Added in API level 21</div><div><pre>public static final int CONTROL_SCENE_MODE_NIGHT</pre></div><div>Optimized for low-light settings.</div><div>See also:</div><div>CaptureRequest.CONTROL_SCENE_MODE</div><div>Constant Value: 5 (0x00000005)</div></div>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><div>CONTROL_SCENE_MODE_NIGHT_PORTRAIT</div><div>Added in API level 21</div><div><div>public static final int CONTROL_SCENE_MODE_NIGHT_PORTRAIT</div><div></div></div><div>Optimized for still photos of people in low-light settings.</div><div>See also:</div><div>CaptureRequest.CONTROL_SCENE_MODE</div><div>Constant Value: 6 (0x00000006)</div><div>CONTROL_SCENE_MODE_PARTY</div><div>Added in API level 21</div><div><div>public static final int CONTROL_SCENE_MODE_PARTY</div><div></div></div><div>Optimized for dim, indoor settings with multiple moving people.</div><div>See also:</div><div>CaptureRequest.CONTROL_SCENE_MODE</div><div>Constant Value: 14 (0x0000000e)</div></div>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<div><div>CONTROL_SCENE_MODE_PORTRAIT</div><div>Added in API level 21</div><div><pre>public static final int CONTROL_SCENE_MODE_PORTRAIT</pre></div><div>Optimized for still photos of people.</div><div>See also:</div><div>CaptureRequest.CONTROL_SCENE_MODE</div><div>Constant Value: 3 (0x00000003)</div><div><div>CONTROL_SCENE_MODE_SNOW</div><div>Added in API level 21</div><div><pre>public static final int CONTROL_SCENE_MODE_SNOW</pre></div><div>Optimized for bright, outdoor settings containing snow.</div><div>See also:</div><div>CaptureRequest.CONTROL_SCENE_MODE</div><div>Constant Value: 9 (0x00000009)</div></div></div>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>COLOR_CORRECTION_MODE Added in API level 21</p> <pre>public static final Key<Integer> COLOR_CORRECTION_MODE</pre> <p>The mode control selects how the image data is converted from the sensor's native color into linear sRGB color.</p> <p>When auto-white balance (AWB) is enabled with <code>CaptureRequest#CONTROL_AWB_MODE</code>, this control is overridden by the AWB routine. When AWB is disabled, the application controls how the color mapping is performed.</p> <p><i>See</i> https://developer.android.com/reference/android/hardware/camera2/CameraMetadata#CONTROL_SCENE_MODE_FACE_PRIORITY</p> <p>As another example, the signal processor is configured to control image enhancement or color correction such as lighting adjustment or white balance on a detected face while performing different image enhancement, or color correction such as white balance for other region or regions that do not include the detected face.</p> <p>As another example, the signal processor is configured to control image enhancement or color correction such as lighting adjustment or white balance on a detected natural skin while performing different image enhancement, or color correction such as white balance for other region or regions that do not include the detected natural skin.</p> <p>As another example, the signal processor is configured to control image enhancement or color correction such as lighting adjustment or white balance in a hair region while performing different image enhancement, or color correction such as white balance for other region or regions that do not include the detected hair.</p> <p>As another example, the signal processor is configured to control image enhancement or color correction such as lighting adjustment or white balance in a clothing region while performing</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>different image enhancement, or color correction such as white balance for other region or regions that do not include the detected clothing.</p> <p>As another example, the signal processor is configured to control image enhancement or object deletion in a moving object region while performing different image enhancement, or color correction such as white balance for other region or regions that do not include the detected moving object.</p>
<p>[14.b] the control unit controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.</p>	<p><i>See claim [1.f] above. See also:</i></p> <p>The signal processor in each of the Accused Samsung '950 Products incorporates or operates as the control unit that controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.</p> <p>As an example, the signal processor is configured to create a region that includes skin tones and textures and other region or regions that do not include skin tones and textures. To create other region or regions that do not contain the detected skin tones and textures, the signal processor excludes a skin tone region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contain a detected moving object or subject and other region or regions that do not contain the detected moving object or subject. To create other region or regions that do not contain the detected moving object, the signal processor excludes a moving object region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains a detected face and other region or regions that do not contain the detected face. To create other region or</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<p>regions that do not contain the detected face, the signal processor excludes a face region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains detected natural skin and other region or regions that do not contain the detected natural skin. To create other region or regions that do not contain the detected natural skin, the signal processor excludes a natural skin region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains detected hair and other region or regions that do not contain the detected hair. To create other region or regions that do not contain the detected hair, the signal processor excludes a hair region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains detected clothing and other region or regions that do not contain the detected clothing. To create other region or regions that do not contain the detected clothing, the signal processor excludes a clothing region that contains the pixels for which a position has been held in the hold unit or memory.</p> <p>As another example, the signal processor is configured to create a region that contains a detected object in a foreground and other region or regions that are part of a background. To create other region or regions that do not contain the detected foreground, the signal processor excludes a foreground region that contains the pixels for which a position has been held in the hold unit or memory.</p>

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement
	<ul style="list-style-type: none">• Our Qualcomm Spectra™ AI ISP features:<ul style="list-style-type: none">• Limitless Real-time Semantic Segmentation for photo/video frame• Insight AI provides real-time skin and sky adjustments to create more natural color and lighting in uncertain conditions.• Ultra-low Light video capture• Video Object Eraser can remove unwanted elements from videos• Real-time AI Relighting make you appear professional wherever you are• Truepic photo capture with C2PA standard support lets you snap a photo with Truepic's cryptographic seal to prove the photo is real and not Gen AI <p>(https://www.qualcomm.com/products/mobile/snapdragon/smartphones/snapdragon-8-series-mobile-platforms/snapdragon-8-elite-mobile-platform)</p>

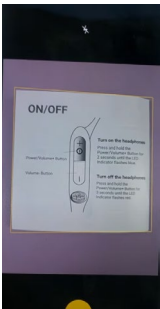
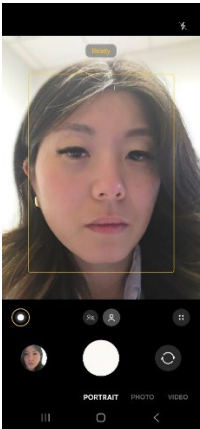
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	<p>AI-powered camera redefines photography</p> <p>Infuse brilliance into mobile capture with our AI ISP, enhancing everything from selfies to crystal-clear video chats thanks to an overhauled Hexagon Direct Link. The first AI-powered Limitless Segmentation recognizes and enhances virtually anything in the frame, including faces, hair, clothing, objects, backgrounds, and beyond. Even furry friends appear crisp and cute—no matter how fast the zoomies—thanks to AI-Based Pet Capture.</p> <ul style="list-style-type: none"> • Our powerful AI ISP is deeply integrated with the Hexagon NPU for enhanced, intuitive capture. • Limitless Segmentation can segment an image in over 250 layers, each optimized to perfection. • Real-time Insight AI captures and enhances natural skin and sky tones even in the most challenging conditions. • Truepic with C2PA adds cryptographic seals so you can authenticate your photos as real and not AI-generated—now including videos and audio recordings. • Video Object Eraser can remove unwanted elements from video footage—on-device. • Capture vivid videos at 4K60 FPS, even in near darkness. <p>https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/Snapdragon-8-Elite-Platform-Product-Brief.pdf)</p> <p>For example, on information and belief, the Samsung Galaxy S25 includes an image signal processor (ISP) and/or digital signal processor (DSP) that adjusts an image, for example, by performing white balance correction. For example, the white balance is adjusted in accordance with the detected lighting conditions, e.g. fluorescent lighting, incandescent lighting, sunny outdoor lighting, cloudy outdoor lighting. Upon information and belief, certain adjustments are applied when one or more features e.g. skin tone, hair, or face, are detected in a particular region and certain adjustments are performed when the one or more such features are not contained in another region. For example, foliage or snow scene corrections are not performed when such features are not detected in a region but other image corrections are performed (e.g., face corrections and portrait mode corrections are applied). Similarly, certain white balance corrections are not performed when a white or black background is not contained but additional white balance corrections are applied to the content. Further, text scanning corrections are not performed when text is not detected but additional image corrections are applied. Moreover, image corrections to the foreground (e.g., the face of a person or object being captured) are applied but corrections to the background are not applied if a white or black background is not detected. Further if the face is close to the camera such</p>

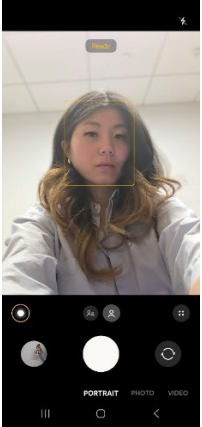
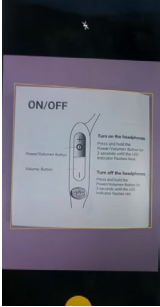
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	that a background is not detected, then the face corrections are applied but background corrections are not applied and background pattern portions are not contained.				
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U.S. Patent No. 8,471,950		Exemplary Evidence of Infringement			
	 <p>Book Scan</p>	Snow	No	Scanned image	Scan correction applied
	 <p>Face close up</p>	Stair	No	Face	Beauty face correction applied

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement					
	 Portrait Photo				No Blur	
	 Person in front of a white wall	Wall	Yes	Face	No Correction. No Blur	
	 Book Scan	Text	Yes	Scanned image	No Correction. No Blur	

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U.S. Patent No. 8,471,950	Exemplary Evidence of Infringement				
	 <p>Face close up</p>	Cloth	Yes	Face	No White balance correction.