

**APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT
NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS**

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
[1.pre] A portable terminal apparatus comprising:	Each of the Accused Samsung '646 Products¹ is a portable terminal apparatus. <i>See</i> User Guide and Technical Specifications of each of the Accused Samsung '646 Products available at Samsung's website showing that each device is a portable terminal apparatus. For example, the Samsung Galaxy S25 is a portable terminal apparatus, such as a smartphone.

¹ The Accused Samsung '646 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+, and Galaxy Tab S10 FE. Maxell reserves the right to accuse additional products as discovery proceeds in this investigation.

**APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT
NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS**

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement		
	COMMS	WLAN	Wi-Fi 802.11 a/b/g/n/ac/6e/7, tri-band, Wi-Fi Direct
		Bluetooth	5.4, A2DP, LE
		Positioning	GPS, GLONASS, BDS, GALILEO, QZSS
		NFC	Yes
		Radio	No
		USB	USB Type-C 3.2, DisplayPort 1.2, OTG
		https://www.gsmarena.com/samsung_galaxy_s25-13610.php	

[illegible]

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NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS**

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement		
	Display Resolution (Main Display) 2340 x 1080 (FHD+)	Main Display Size 156.4mm (6.2" full rectangle) / 152.3mm (6.0" rounded corners)	Technology (Main Display) Dynamic AMOLED 2X
	Processor CPU Type Octa-Core		CPU Speed 4.47GHz,3.5GHz
	Network 2G GSM GSM850,GSM900,DCS1800,PCS1900	3G UMTS B1(2100),B2(1900),B4(AWS),B5(850),B8(900)	4G FDD LTE B1(2100),B2(1900),B3(1800),B4(AWS),B5(850),B7(2600),B8(900),B12(700),B13(700),B14(700),B18(800),B19(800),B20(800),B25(1900),B26(850),B28(700),B29(700),B30(2300),B66(AWS-3),B71(600)
	4G TDD LTE B38(2600),B39(1900),B40(2300),B41(2500),B48(3600)	SIM Slot Type SIM 1 + eSIM / Dual eSIM	5G FDD Sub6 N1(2100),N2(1900),N5(850),N7(2600),N25(1900),N28(700),N66(AWS-3),N71(600)

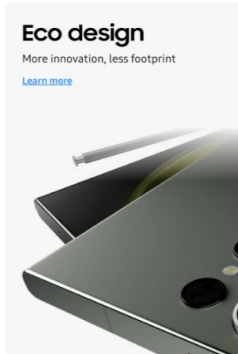
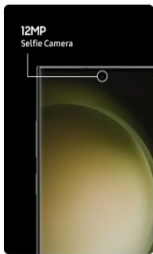
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U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement		
	Connectivity		
	Wi-Fi Connectivity	USB	Bluetooth®
	802.11a/b/g/n/ac/ax/be 2.4GHz+5GHz+6GHz, EHT320, MIMO, 4096-QAM	USB 3.2 Gen 1	Bluetooth v5.4
	Location Technology	Earjack	MHL
	GPS, Glonass, Beidou, Galileo	USB Type-C	No
	Wi-Fi Direct	NFC	PC Sync.
	Yes	Yes	Smart Switch (PC version)
	USB Interface		
	USB Type-C		
	OS		
	OS		
	Android		
	Samsung Galaxy S25 Technical Spec: https://www.samsung.com/us/smartphones/galaxy-s25/buy/galaxy-s25-128gb-unlocked-sm-s931uzkaxaa/		

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U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	Smart View (Mirroring on a TV screen) View your phone's displayed content on a large screen by connecting your phone to a screen mirroring-enabled TV or monitor. 1 Open the quick settings panel and tap Smart View. 2 Select a device to mirror your phone's screen.  When you play a video with Smart View, the resolution may vary depending on the TV model. Casting apps to the screen Only display the video on the connected screen while you are checking private messages or using other features on your phone at the same time. Open the app to cast a video on the connected screen and tap  → .  Some apps may not support this feature. Samsung Galaxy S25 User Manual at 110 : https://www.galaxys25userguide.com/wp-content/uploads/pdf/galaxy-s25-user-guide-SM-S93X-EU-15-English.pdf The remaining Accused Samsung '646 Products are also portable terminals:

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U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement																	
	 Galaxy S23 Ultra We've raised the bar with a 200MP camera and our fastest mobile processor ever  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.  Eco design More innovation, less footprint Learn more  12MP Selfie Camera  12MP Ultra-Wide Camera 10MP 10x Optical Zoom Telephoto Camera 1  200MP Wide-Angle Camera 10MP 3x Optical Zoom Telephoto Camera 2  High resolution We nearly doubled the resolution on the Wide-Angle Camera, S delivering images so clear you can zoom way in to find hidden masterpieces.  Expert RAW Switch into Expert RAW to finesse in greater detail. A Snap in 50MP for detailed, dynamic frames.  Multi exposure Capture up to nine frames and see them automatically layered together to create a multiple exposure work of art. <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>	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																

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U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement														
	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. Immersive View Get in the Zone. Learn more  Built to last Unbelievable tech. Learn more  Smile-worthy improvements 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. Galaxy Excellence The brilliance is built in Learn more  10MP 3x Optical Zoom Telephoto Camera  12MP Ultra wide camera  50MP Wide-angle camera  4MP Under display camera  10MP Cover camera  Stay nimble stay night Innovative technology delivers vivid and bright portraits in the low-light.  <table><tr><td rowspan="3">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 rowspan="3">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></table> 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.	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													

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U.S. Patent No. 10,812,646	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>SELFIE CAMERA</td><td>Single</td><td>10 MP, f/2.4, 26mm (wide), 1.22µm</td></tr><tr><td></td><td>Features</td><td>HDR</td></tr><tr><td></td><td>Video</td><td>4K@30fps</td></tr></table> Galaxy Z Flip4 technical specifications; https://www.gsmarena.com/samsung_galaxy_z_flip4-11538.php. Capture your Awesome moments with a multi-lens camera  Front Camera 32MP (f/2.2) Ultra-Wide Camera 12MP (f/2.2) Main Camera 50MP (f/1.8) OIS* Macro Camera 5MP (f/2.4) *OIS: Optical Image Stabilization	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															

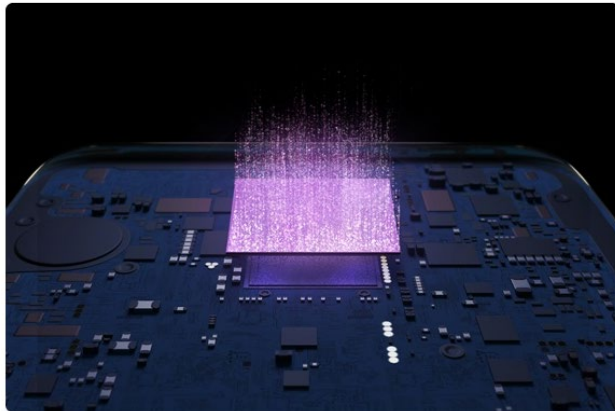
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U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement																					
	<table><tr><td rowspan="4">MAIN CAMERA</td><td>Triple</td><td>50 MP, f/1.8, (wide), 1/1.56", 1.0µm, PDAF, OIS 12 MP, f/2.2, 123° (ultrawide), 1.12µm 5 MP, f/2.4, (macro)</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> 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.  Processor Qualcomm Snapdragon 8 Gen2 Mobile Platform for Galaxy <table><tr><td rowspan="4">PLATFORM</td><td>OS</td><td>Android 13, One UI 5.1</td></tr><tr><td>Chipset</td><td>Qualcomm SM8550-AC Snapdragon 8 Gen 2 (4 nm)</td></tr><tr><td>CPU</td><td>Octa-core (1x3.36 GHz Cortex-X3 & 2x2.8 GHz Cortex-A715 & 2x2.8 GHz Cortex-A710 & 3x2.0 GHz Cortex-A510)</td></tr><tr><td>GPU</td><td>Adreno 740</td></tr></table> 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.  Processor Snapdragon 8+ Gen 1 Up to 3.2GHz	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	PLATFORM	OS	Android 13, One UI 5.1	Chipset	Qualcomm SM8550-AC Snapdragon 8 Gen 2 (4 nm)	CPU	Octa-core (1x3.36 GHz Cortex-X3 & 2x2.8 GHz Cortex-A715 & 2x2.8 GHz Cortex-A710 & 3x2.0 GHz Cortex-A510)	GPU	Adreno 740
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																				
PLATFORM	OS	Android 13, One UI 5.1																				
	Chipset	Qualcomm SM8550-AC Snapdragon 8 Gen 2 (4 nm)																				
	CPU	Octa-core (1x3.36 GHz Cortex-X3 & 2x2.8 GHz Cortex-A715 & 2x2.8 GHz Cortex-A710 & 3x2.0 GHz Cortex-A510)																				
	GPU	Adreno 740																				

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	<table><tr><td rowspan="4">PLATFORM</td><td>OS</td><td>Android 12L, upgradable to Android 13, One UI 5.1</td></tr><tr><td>Chipset</td><td>Qualcomm SM8475 Snapdragon 8+ Gen 1 (4 nm)</td></tr><tr><td>CPU</td><td>Octa-core (1x3.19 GHz Cortex-X2 & 3x2.75 GHz Cortex-A710 & 4x1.80 GHz Cortex-A510)</td></tr><tr><td>GPU</td><td>Adreno 730</td></tr></table> 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.  Processor Snapdragon 8+ Gen 1 Up to 3.2GHz <table><tr><td rowspan="4">PLATFORM</td><td>OS</td><td>Android 12, upgradable to Android 13, One UI 5.1</td></tr><tr><td>Chipset</td><td>Qualcomm SM8475 Snapdragon 8+ Gen 1 (4 nm)</td></tr><tr><td>CPU</td><td>Octa-core (1x3.19 GHz Cortex-X2 & 3x2.75 GHz Cortex-A710 & 4x1.80 GHz Cortex-A510)</td></tr><tr><td>GPU</td><td>Adreno 730</td></tr></table> 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. <table><tr><td>Processor</td><td></td></tr><tr><td>CPU Type</td><td>CPU Speed</td></tr><tr><td>Octa-Core</td><td>2.4GHz,2GHz</td></tr></table>	PLATFORM	OS	Android 12L, upgradable to Android 13, One UI 5.1	Chipset	Qualcomm SM8475 Snapdragon 8+ Gen 1 (4 nm)	CPU	Octa-core (1x3.19 GHz Cortex-X2 & 3x2.75 GHz Cortex-A710 & 4x1.80 GHz Cortex-A510)	GPU	Adreno 730	PLATFORM	OS	Android 12, upgradable to Android 13, One UI 5.1	Chipset	Qualcomm SM8475 Snapdragon 8+ Gen 1 (4 nm)	CPU	Octa-core (1x3.19 GHz Cortex-X2 & 3x2.75 GHz Cortex-A710 & 4x1.80 GHz Cortex-A510)	GPU	Adreno 730	Processor		CPU Type	CPU Speed	Octa-Core	2.4GHz,2GHz
PLATFORM	OS		Android 12L, upgradable to Android 13, One UI 5.1																						
	Chipset		Qualcomm SM8475 Snapdragon 8+ Gen 1 (4 nm)																						
	CPU		Octa-core (1x3.19 GHz Cortex-X2 & 3x2.75 GHz Cortex-A710 & 4x1.80 GHz Cortex-A510)																						
	GPU	Adreno 730																							
PLATFORM	OS	Android 12, upgradable to Android 13, One UI 5.1																							
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Processor																									
CPU Type	CPU Speed																								
Octa-Core	2.4GHz,2GHz																								

APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement												
	Performance  Impressive speed. Powerful processor The powerful Octa-core processor opens up a new range of possibilities with heightened performance and capacity. <table><tr><td>PLATFORM</td><td>OS</td><td>Android 13, One UI 5.1</td></tr><tr><td></td><td>Chipset</td><td>Exynos 1380 (5 nm)</td></tr><tr><td></td><td>CPU</td><td>Octa-core (4x2.4 GHz Cortex-A78 & 4x2.0 GHz Cortex-A55)</td></tr><tr><td></td><td>GPU</td><td>Mali-G68 MP5</td></tr></table> Galaxy A54 5G technical specifications; https://www.samsung.com/us/mobile/phones/galaxy-a/galaxy-a54-5g-128gb-verizon-sm-a546vzkbyzw/; https://www.gsmarena.com/samsung_galaxy_a54-12070.php.	PLATFORM	OS	Android 13, One UI 5.1		Chipset	Exynos 1380 (5 nm)		CPU	Octa-core (4x2.4 GHz Cortex-A78 & 4x2.0 GHz Cortex-A55)		GPU	Mali-G68 MP5
PLATFORM	OS	Android 13, One UI 5.1											
	Chipset	Exynos 1380 (5 nm)											
	CPU	Octa-core (4x2.4 GHz Cortex-A78 & 4x2.0 GHz Cortex-A55)											
	GPU	Mali-G68 MP5											
[1.a] a display;	Each of the Accused Samsung '646 Products includes a display. <i>See</i> User Guide and Technical Specifications of each of the Accused Samsung '646 Products available at Samsung's website showing that each of the devices includes a display. For example, the Samsung Galaxy S25 includes a screen that functions as a display.												

**APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT
NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS**

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement		
	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
		https://www.gsmarena.com/samsung_galaxy_s25-13610.php	

APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	Galaxy S25 Unlocked 128GB Blueblack SM-S931U1 / SM-S931UZKAXAA ★★★★★ 4.6 (552) Write a review Get exclusive benefits when b ↙ ↗ Up to \$500 instant trade-in credit⁸ ↗ Seamless upgrades with 

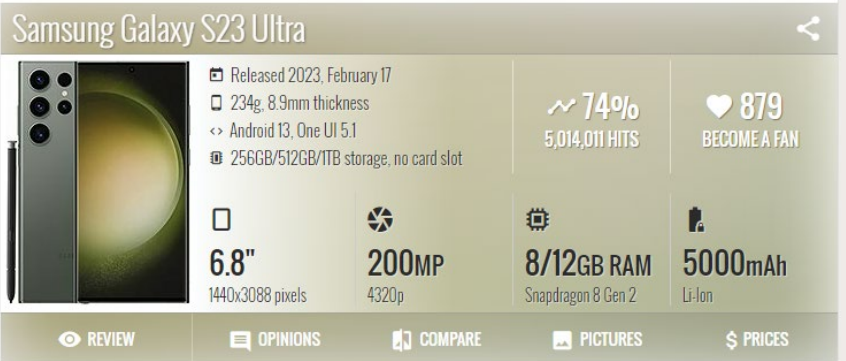
APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement								
	Display <table><tr><th>Resolution (Main Display)</th><th>Main Display Size</th><th>Technology (Main Display)</th></tr><tr><td>2340 x 1080 (FHD+)</td><td>156.4mm (6.2" full rectangle) / 152.3mm (6.0" rounded corners)</td><td>Dynamic AMOLED 2X</td></tr></table> Samsung Galaxy S25 Technical Spec: https://www.samsung.com/us/smartphones/galaxy-s25/buy/galaxy-s25-128gb-unlocked-sm-s931uzkaxaa/			Resolution (Main Display)	Main Display Size	Technology (Main Display)	2340 x 1080 (FHD+)	156.4mm (6.2" full rectangle) / 152.3mm (6.0" rounded corners)	Dynamic AMOLED 2X
Resolution (Main Display)	Main Display Size	Technology (Main Display)							
2340 x 1080 (FHD+)	156.4mm (6.2" full rectangle) / 152.3mm (6.0" rounded corners)	Dynamic AMOLED 2X							

APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	Display Options Change the display and the Home screen settings. On the Settings screen, tap Display. • Light / Dark: Turn Dark mode on or off. • Dark mode settings: Reduce eye strain by applying the dark theme when using the device at night or in a dark place. You can set a schedule for applying Dark mode.  The dark theme may not be applied in some apps. • Brightness: Adjust the brightness of the display. • Adaptive brightness: Set the device to keep track of your brightness adjustments and apply them automatically in similar lighting conditions. • Extra brightness: Set the display to be brighter than the maximum brightness. This feature is available when you turn off the Adaptive brightness feature. Samsung Galaxy S25 User Manual at 127: https://www.galaxys25userguide.com/wp-content/uploads/pdf/galaxy-s25-user-guide-SM-S93X-EU-15-English.pdf Technical Specifications of each of the Accused Samsung '646 show that each of the phones incorporates a display, <i>e.g.</i>, an OLED, LED, Retina, or LCD display, together with a processor(s). <i>See</i>, for example:

APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement												
	Galaxy S23 Ultra:  The screenshot displays the Samsung Galaxy S23 Ultra product page. It includes a list of key 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. Below this, a navigation bar contains links for REVIEW, OPINIONS, COMPARE, PICTURES, and PRICES. A detailed 'DISPLAY' section is also visible, listing the following specifications: <table border="1"> <thead> <tr> <th>Category</th> <th>Specification</th> </tr> </thead> <tbody> <tr> <td>Type</td> <td>Dynamic AMOLED 2X, 120Hz, HDR10+, 1200 nits (HBM), 1750 nits (peak)</td> </tr> <tr> <td>Size</td> <td>6.8 inches, 114.7 cm² (~89.9% screen-to-body ratio)</td> </tr> <tr> <td>Resolution</td> <td>1440 x 3088 pixels, 19.3:9 ratio (~500 ppi density)</td> </tr> <tr> <td>Protection</td> <td>Corning Gorilla Glass Victus 2</td> </tr> <tr> <td></td> <td>Always-on display</td> </tr> </tbody> </table>	Category	Specification	Type	Dynamic AMOLED 2X, 120Hz, HDR10+, 1200 nits (HBM), 1750 nits (peak)	Size	6.8 inches, 114.7 cm ² (~89.9% screen-to-body ratio)	Resolution	1440 x 3088 pixels, 19.3:9 ratio (~500 ppi density)	Protection	Corning Gorilla Glass Victus 2		Always-on display
Category	Specification												
Type	Dynamic AMOLED 2X, 120Hz, HDR10+, 1200 nits (HBM), 1750 nits (peak)												
Size	6.8 inches, 114.7 cm ² (~89.9% screen-to-body ratio)												
Resolution	1440 x 3088 pixels, 19.3:9 ratio (~500 ppi density)												
Protection	Corning Gorilla Glass Victus 2												
	Always-on display												

**APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT
NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS**

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	New Galaxy S23 Ultra Verizon 512GB Green Learn more SM-S918U / SM-S918UZGFVZW ★★★★★ 4.8 (8484) Write a Review Pricing before trade-in Get \$400 - \$800 trade-in bill credit  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 Galaxy Z Fold4:

APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS

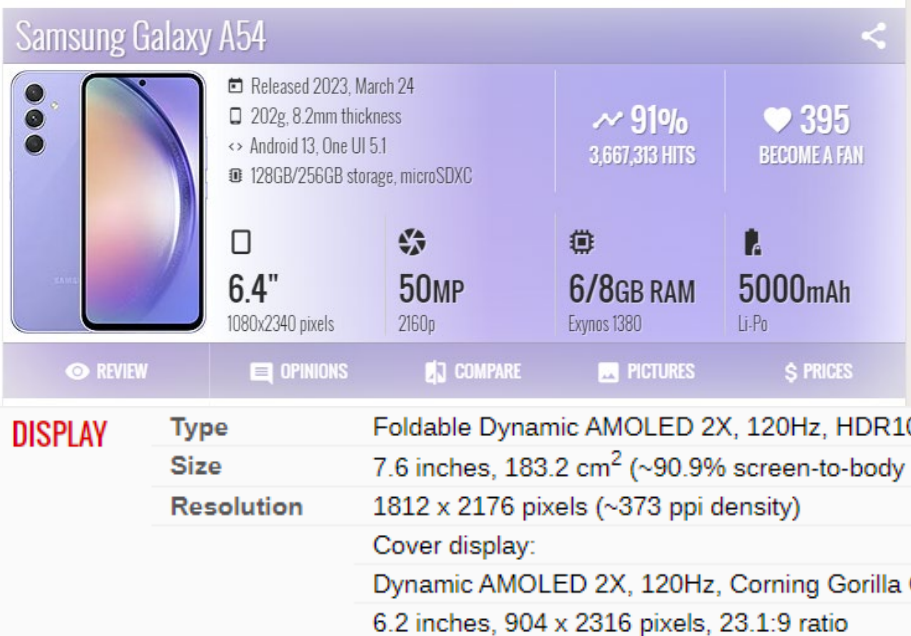
U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement										
	Samsung Galaxy Z Fold4  Released 2022, August 25 263g, 6.3mm thickness <> Android 12L, up to Android 13, One UI 5.1 256GB/512GB/1TB storage, no card slot 7.6" 1812x2176 pixels 50MP 4320p 12GB RAM Snapdragon 8+ Gen 1 4400mAh Li-Po ~ 12% 1,854,410 HITS 271 BECOME A FAN REVIEW OPINIONS COMPARE PICTURES PRICES DISPLAY <table><tr><td>Type</td><td>Foldable Dynamic AMOLED 2X, 120Hz, HDR10+, 1200 nits (peak)</td></tr><tr><td>Size</td><td>7.6 inches, 183.2 cm² (~90.9% screen-to-body ratio)</td></tr><tr><td>Resolution</td><td>1812 x 2176 pixels (~373 ppi density)</td></tr><tr><td></td><td>Cover display: Dynamic AMOLED 2X, 120Hz, Corning Gorilla Glass Victus+</td></tr><tr><td></td><td>6.2 inches, 904 x 2316 pixels, 23.1:9 ratio</td></tr></table>	Type	Foldable Dynamic AMOLED 2X, 120Hz, HDR10+, 1200 nits (peak)	Size	7.6 inches, 183.2 cm ² (~90.9% screen-to-body ratio)	Resolution	1812 x 2176 pixels (~373 ppi density)		Cover display: Dynamic AMOLED 2X, 120Hz, Corning Gorilla Glass Victus+		6.2 inches, 904 x 2316 pixels, 23.1:9 ratio
Type	Foldable Dynamic AMOLED 2X, 120Hz, HDR10+, 1200 nits (peak)										
Size	7.6 inches, 183.2 cm ² (~90.9% screen-to-body ratio)										
Resolution	1812 x 2176 pixels (~373 ppi density)										
	Cover display: Dynamic AMOLED 2X, 120Hz, Corning Gorilla Glass Victus+										
	6.2 inches, 904 x 2316 pixels, 23.1:9 ratio										

APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	Galaxy Z Fold4 Verizon 512GB Beige Learn more SM-F936U / SM-F936UZEYZW ★★★★★ 4.7 (2624) Write a Review Pricing before trade-in Get \$400 - \$800 trade-in bill credit  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 Galaxy Z Flip4:

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement												
	The screenshot displays the Samsung Galaxy Z Flip4 product page. At the top, it shows the phone's name and release date (August 25, 2022). Key specifications listed include 187g weight, 6.9mm thickness, Android 12, 128GB/256GB storage, 6.7-inch display (1080x2640 pixels), 12MP camera, 8GB RAM, and 3700mAh battery. Below the specs are tabs for REVIEW, OPINIONS, COMPARE, PICTURES, and PRICES. A detailed specification table follows: <table border="1"> <thead> <tr> <th>DISPLAY</th> <th>Type</th> <th>Foldable Dynamic AMOLED 2X, 120Hz, HDR10+, 1200 nits (peak)</th> </tr> </thead> <tbody> <tr> <td></td> <td>Size</td> <td>6.7 inches, 101.5 cm² (~85.4% screen-to-body ratio)</td> </tr> <tr> <td></td> <td>Resolution</td> <td>1080 x 2640 pixels (~426 ppi density)</td> </tr> <tr> <td></td> <td>Cover display:</td> <td>Super AMOLED, 1.9 inches, 260 x 512 pixels (Gorilla Glass Victus+)</td> </tr> </tbody> </table> Below the table, there's a section for the Galaxy Z Flip4 with carrier options (Verizon, T-Mobile) and pricing information. A banner at the bottom promotes a \$100 off offer on select T-Mobile models. At the very bottom, there's a gallery of images showing various color options for the phone in both folded and unfolded states.	DISPLAY	Type	Foldable Dynamic AMOLED 2X, 120Hz, HDR10+, 1200 nits (peak)		Size	6.7 inches, 101.5 cm ² (~85.4% screen-to-body ratio)		Resolution	1080 x 2640 pixels (~426 ppi density)		Cover display:	Super AMOLED, 1.9 inches, 260 x 512 pixels (Gorilla Glass Victus+)
DISPLAY	Type	Foldable Dynamic AMOLED 2X, 120Hz, HDR10+, 1200 nits (peak)											
	Size	6.7 inches, 101.5 cm ² (~85.4% screen-to-body ratio)											
	Resolution	1080 x 2640 pixels (~426 ppi density)											
	Cover display:	Super AMOLED, 1.9 inches, 260 x 512 pixels (Gorilla Glass Victus+)											

APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	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 Galaxy A54:  The screenshot shows the Samsung Galaxy A54 product page. It includes a list of specifications: Released 2023, March 24; 202g, 8.2mm thickness; Android 13, One UI 5.1; 128GB/256GB storage, microSDXC; 6.4" 1080x2340 pixels display; 50MP camera; 6/8GB RAM Exynos 1380; and 5000mAh Li-Po battery. Below the specifications is a navigation bar with links for REVIEW, OPINIONS, COMPARE, PICTURES, and PRICES. A detailed 'DISPLAY' section is also visible, listing the Type as Foldable Dynamic AMOLED 2X, 120Hz, HDR10+, 1200 nits (peak); Size as 7.6 inches, 183.2 cm² (~90.9% screen-to-body ratio); and Resolution as 1812 x 2176 pixels (~373 ppi density). It also mentions a Cover display: Dynamic AMOLED 2X, 120Hz, Corning Gorilla Glass Victus+ with a size of 6.2 inches, 904 x 2316 pixels, 23.1:9 ratio.

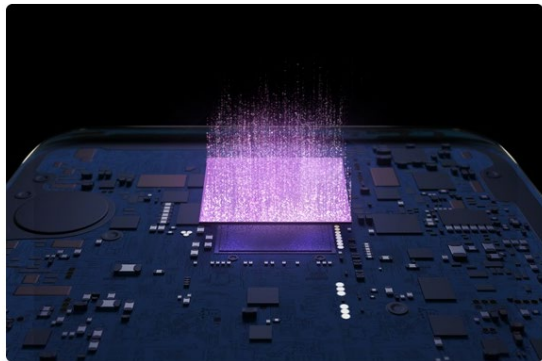
APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	New Arrival Galaxy A54 5G Verizon 128GB Awesome Graphite Learn more SM-A546V / SM-A546VZKBVZW Save up to an extra \$25.00 with Samsung Offer Programs Samsung.com Advantage Highest online Save up to \$250 with Instant trade-in  now Galaxy A54 5G technical specifications; https://www.samsung.com/us/mobile/phones/galaxy-a54/buy/; https://www.gsmarena.com/samsung_galaxy_a54-12070.php Processor  Qualcomm Snapdragon 8 Gen2 Mobile Platform for Galaxy

APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement																																				
	<table><tr><td>PLATFORM</td><td>OS</td><td>Android 13, One UI 5.1</td></tr><tr><td></td><td>Chipset</td><td>Qualcomm SM8550-AC Snapdragon 8 Gen 2 (4 nm)</td></tr><tr><td></td><td>CPU</td><td>Octa-core (1x3.36 GHz Cortex-X3 & 2x2.8 GHz Cortex-A715 & 2x2.8 GHz Cortex-A710 & 3x2.0 GHz Cortex-A510)</td></tr><tr><td></td><td>GPU</td><td>Adreno 740</td></tr></table> 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.  Processor Snapdragon 8+ Gen 1 Up to 3.2GHz <table><tr><td>PLATFORM</td><td>OS</td><td>Android 12L, upgradable to Android 13, One UI 5.1</td></tr><tr><td></td><td>Chipset</td><td>Qualcomm SM8475 Snapdragon 8+ Gen 1 (4 nm)</td></tr><tr><td></td><td>CPU</td><td>Octa-core (1x3.19 GHz Cortex-X2 & 3x2.75 GHz Cortex-A710 & 4x1.80 GHz Cortex-A510)</td></tr><tr><td></td><td>GPU</td><td>Adreno 730</td></tr></table> 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.  Processor Snapdragon 8+ Gen 1 Up to 3.2GHz <table><tr><td>PLATFORM</td><td>OS</td><td>Android 12, upgradable to Android 13, One UI 5.1</td></tr><tr><td></td><td>Chipset</td><td>Qualcomm SM8475 Snapdragon 8+ Gen 1 (4 nm)</td></tr><tr><td></td><td>CPU</td><td>Octa-core (1x3.19 GHz Cortex-X2 & 3x2.75 GHz Cortex-A710 & 4x1.80 GHz Cortex-A510)</td></tr><tr><td></td><td>GPU</td><td>Adreno 730</td></tr></table>	PLATFORM	OS	Android 13, One UI 5.1		Chipset	Qualcomm SM8550-AC Snapdragon 8 Gen 2 (4 nm)		CPU	Octa-core (1x3.36 GHz Cortex-X3 & 2x2.8 GHz Cortex-A715 & 2x2.8 GHz Cortex-A710 & 3x2.0 GHz Cortex-A510)		GPU	Adreno 740	PLATFORM	OS	Android 12L, upgradable to Android 13, One UI 5.1		Chipset	Qualcomm SM8475 Snapdragon 8+ Gen 1 (4 nm)		CPU	Octa-core (1x3.19 GHz Cortex-X2 & 3x2.75 GHz Cortex-A710 & 4x1.80 GHz Cortex-A510)		GPU	Adreno 730	PLATFORM	OS	Android 12, upgradable to Android 13, One UI 5.1		Chipset	Qualcomm SM8475 Snapdragon 8+ Gen 1 (4 nm)		CPU	Octa-core (1x3.19 GHz Cortex-X2 & 3x2.75 GHz Cortex-A710 & 4x1.80 GHz Cortex-A510)		GPU	Adreno 730
PLATFORM	OS	Android 13, One UI 5.1																																			
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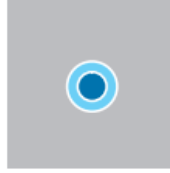
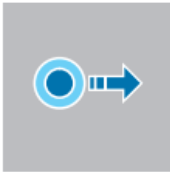
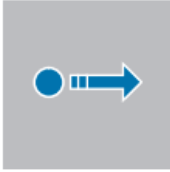
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U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement									
	Galaxy Z Flip4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-flip4/buy/galaxy-z-flip4-256gb-t-mobile-sm-f721uzdexau/; https://www.gsmarena.com/samsung_galaxy_z_flip4-11538.php. Processor CPU Type Octa-Core CPU Speed 2.4GHz,2GHz Performance  * * * Impressive speed. Powerful processor The powerful Octa-core processor opens up a new range of possibilities with heightened performance and capacity. <table><tr><td rowspan="4">PLATFORM</td><td>OS</td><td>Android 13, One UI 5.1</td></tr><tr><td>Chipset</td><td>Exynos 1380 (5 nm)</td></tr><tr><td>CPU</td><td>Octa-core (4x2.4 GHz Cortex-A78 & 4x2.0 GHz Cortex-A55)</td></tr><tr><td>GPU</td><td>Mali-G68 MP5</td></tr></table> Galaxy A54 5G technical specifications; https://www.samsung.com/us/mobile/phones/galaxy-a/galaxy-a54-5g-128gb-verizon-sm-a546vzkbvzw/; https://www.gsmarena.com/samsung_galaxy_a54-12070.php.	PLATFORM	OS	Android 13, One UI 5.1	Chipset	Exynos 1380 (5 nm)	CPU	Octa-core (4x2.4 GHz Cortex-A78 & 4x2.0 GHz Cortex-A55)	GPU	Mali-G68 MP5
PLATFORM	OS		Android 13, One UI 5.1							
	Chipset		Exynos 1380 (5 nm)							
	CPU		Octa-core (4x2.4 GHz Cortex-A78 & 4x2.0 GHz Cortex-A55)							
	GPU	Mali-G68 MP5								

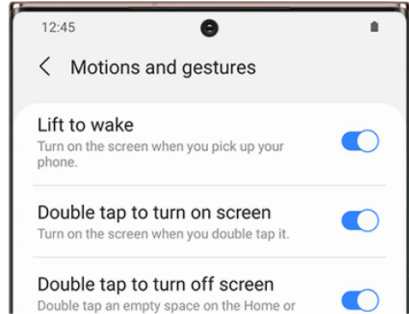
**APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT
NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS**

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
[1.b] an operation input interface configured to receive an input corresponding to a user operation;	Each of the Accused Samsung '646 Products comprises an operation input interface configured to receive an input corresponding to a user operation. <i>See</i> User Guide and Technical Specifications of each of the Accused Samsung '646 Products available at Samsung's website showing that each of the devices comprises an operation input interface configured to receive an input corresponding to a user operation. For example, the Samsung Galaxy S25 includes a touch-sensitive screen which functions as the claimed operation input interface. The operation input interface is configured to receive input, such as taps, swipes, and gestures, corresponding to user operations on the displayed interface. General Information General Information Touch Bar Samsung Galaxy S25 Technical Spec: https://www.samsung.com/us/smartphones/galaxy-s25/buy/galaxy-s25-128gb-unlocked-sm-s931uzkaxaa/

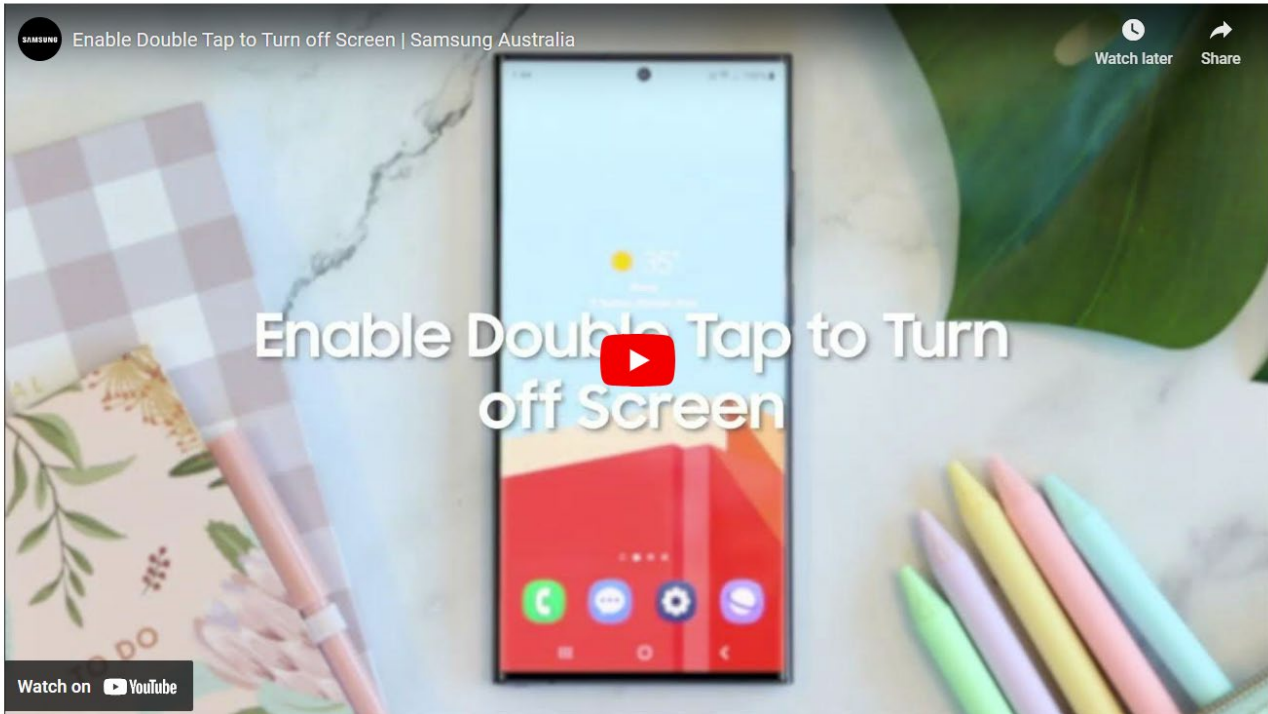
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U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	Understanding the screen Controlling the screen Tapping Tap the screen.  Touching and holding Touch and hold the screen for approximately 2 seconds.  Dragging Touch and hold an item and drag it to the target position.  Double tapping Double tap the screen.  Swiping Swipe upwards, downwards, to the left, or to the right.  Spreading and pinching Spread two fingers apart or pinch on the screen.   Samsung Galaxy S25 User Manual at 22: https://www.galaxys25userguide.com/wp-content/uploads/pdf/galaxy-s25-user-guide-SM-S93X-EU-15-English.pdf

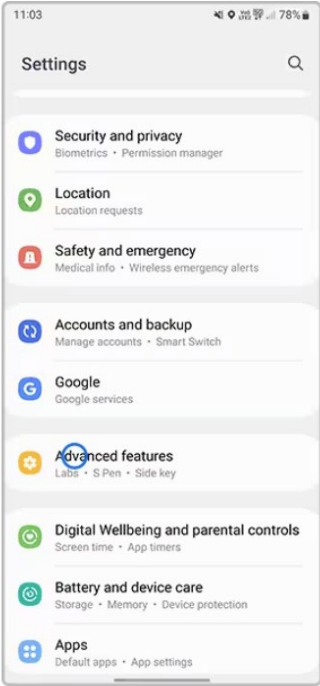
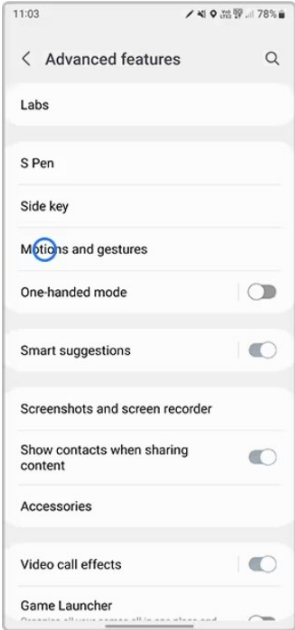
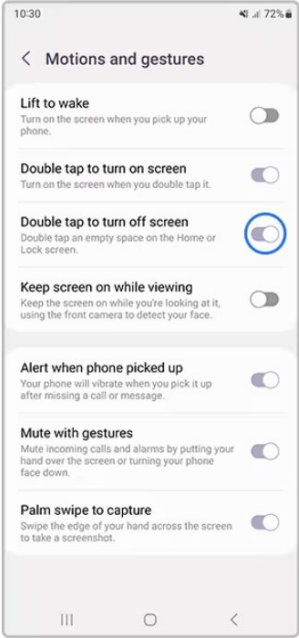
APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	Use motions and gestures to control your Galaxy phone Motions and gestures are here to make life simpler. With a few hand movements, you can tell your Galaxy phone to turn on, mute your alerts, or take a screenshot. You can even make your phone vibrate when you pick it up after receiving a message, so you'll be reminded to reply right away. Play around with the different features until you find the ones you're comfortable with, and turn them off or on to have more control over your phone. Turn motions and gestures on or off You can interact with your phone by performing simple actions with your hands, like swiping and tapping. To find Motions and gestures, navigate to and open Settings, and then swipe to and tap Advanced features. Tap Motions and gestures; these options will be available: • Lift to wake: Picking up your phone will turn on the screen, so you can easily see new notifications and messages. • Double tap to turn on screen: The screen will turn on when you double tap it. This will help you avoid accidentally turning on the screen. • Double tap to turn off screen: The screen will turn off when you double tap an empty space on the Lock or Home screen. • Keep screen on while viewing: The screen will stay on the entire time you are looking at it, without requiring you to touch it. The front camera will identify your face in order to keep the screen illuminated. • Alert when phone picked up: If you missed a call or message, your phone will vibrate once you pick it up. • Mute with gestures: Placing your hand over the screen will mute alarms and calls. You can also turn your phone face down to silence it. • Finger sensor gestures: Open or close the notification panel by swiping up or down on the fingerprint sensor. You can use this to access Samsung Wallet as well. 

APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	https://www.samsung.com/us/support/answer/ANS00086302/ Enable Double Tap to Turn off on my Galaxy Device Last Update date : Apr 27, 2023 Noticing your screen locking when you double tap the screen? Or maybe you would know how to quickly turn off your screen without pressing the Side Key? Simply follow the below guide for step-by-step instructions on enabling or disabling Double tap to turn off screen.  The image is a YouTube video thumbnail. At the top left, it says 'SAMSUNG Enable Double Tap to Turn off Screen Samsung Australia'. At the top right, there are icons for 'Watch later' and 'Share'. The main image shows a Samsung smartphone lying on a desk. The phone's screen is on, displaying a lock screen with a weather widget showing '75°' and a clock. The phone is surrounded by various desk items: a checkered notebook, a pink pen, a green plant, and several colorful pens. Overlaid on the center of the phone is the text 'Enable Double Tap to Turn off Screen' in white, with a red play button icon in the middle. At the bottom left, there is a 'Watch on YouTube' logo.

APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	1 Head into your Settings > Advanced Features  2 Tap on Motions and gestures  3 Toggle on Double tap to turn off screen  See https://www.samsung.com/au/support/mobile-devices/enable-double-tap-to-turn-off/
[1.c] a wireless communication interface configured to perform communication over a wireless local area network; and	Each of the Accused Samsung '646 Products comprises a wireless communication interface configured to perform communication over a wireless local area network. <i>See</i> User Guide and Technical Specifications of each of the Accused Samsung '646 Products available at Samsung's website showing that each of the devices comprises a wireless communication interface configured to perform communication over a wireless local area network.

APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement																												
	For example, the Accused Samsung '646 Products include hardware and software that constitute the claimed wireless communication interface. The wireless communication interface is configured to perform Wi-Fi communication, which is a type of communication over a wireless local area network. <table><tr><td rowspan="6">COMMS</td><td>WLAN</td><td>Wi-Fi 802.11 a/b/g/n/ac/6e/7, tri-band, Wi-Fi Direct</td></tr><tr><td>Bluetooth</td><td>5.4, A2DP, LE</td></tr><tr><td>Positioning</td><td>GPS, GLONASS, BDS, GALILEO, QZSS</td></tr><tr><td>NFC</td><td>Yes</td></tr><tr><td>Radio</td><td>No</td></tr><tr><td>USB</td><td>USB Type-C 3.2, DisplayPort 1.2, OTG</td></tr></table> https://www.gsmarena.com/samsung_galaxy_s25-13610.php <table><tr><td colspan="3">Network</td></tr><tr><td>2G GSM</td><td>3G UMTS</td><td>4G FDD LTE</td></tr><tr><td>GSM850,GSM900,DCS1800,PCS1900</td><td>B1(2100),B2(1900),B4(AWS),B5(850),B8(900)</td><td>B1(2100),B2(1900),B3(1800),B4(AWS),B5(850),B7(2600),B8(900),B12(700),B13(700),B14(700),B18(800),B19(800),B20(800),B25(1900),B26(850),B28(700),B29(700),B30(2300),B66(AWS-3),B71(600)</td></tr><tr><td>4G TDD LTE</td><td>SIM Slot Type</td><td>5G FDD Sub6</td></tr><tr><td>B38(2600),B39(1900),B40(2300),B41(2500),B48(3600)</td><td>SIM 1 + eSIM / Dual eSIM</td><td>N1(2100),N2(1900),N5(850),N7(2600),N25(1900),N28(700),N66(AWS-3),N71(600)</td></tr></table>	COMMS	WLAN	Wi-Fi 802.11 a/b/g/n/ac/6e/7, tri-band, Wi-Fi Direct	Bluetooth	5.4, A2DP, LE	Positioning	GPS, GLONASS, BDS, GALILEO, QZSS	NFC	Yes	Radio	No	USB	USB Type-C 3.2, DisplayPort 1.2, OTG	Network			2G GSM	3G UMTS	4G FDD LTE	GSM850,GSM900,DCS1800,PCS1900	B1(2100),B2(1900),B4(AWS),B5(850),B8(900)	B1(2100),B2(1900),B3(1800),B4(AWS),B5(850),B7(2600),B8(900),B12(700),B13(700),B14(700),B18(800),B19(800),B20(800),B25(1900),B26(850),B28(700),B29(700),B30(2300),B66(AWS-3),B71(600)	4G TDD LTE	SIM Slot Type	5G FDD Sub6	B38(2600),B39(1900),B40(2300),B41(2500),B48(3600)	SIM 1 + eSIM / Dual eSIM	N1(2100),N2(1900),N5(850),N7(2600),N25(1900),N28(700),N66(AWS-3),N71(600)
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GSM850,GSM900,DCS1800,PCS1900	B1(2100),B2(1900),B4(AWS),B5(850),B8(900)	B1(2100),B2(1900),B3(1800),B4(AWS),B5(850),B7(2600),B8(900),B12(700),B13(700),B14(700),B18(800),B19(800),B20(800),B25(1900),B26(850),B28(700),B29(700),B30(2300),B66(AWS-3),B71(600)																											
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B38(2600),B39(1900),B40(2300),B41(2500),B48(3600)	SIM 1 + eSIM / Dual eSIM	N1(2100),N2(1900),N5(850),N7(2600),N25(1900),N28(700),N66(AWS-3),N71(600)																											

APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement		
	Connectivity		
	Wi-Fi Connectivity	USB	Bluetooth®
	802.11a/b/g/n/ac/ax/be 2.4GHz+5GHz+6GHz, EHT320, MIMO, 4096-QAM	USB 3.2 Gen 1	Bluetooth v5.4
	Location Technology	Earjack	MHL
	GPS, Glonass, Beidou, Galileo	USB Type-C	No
	Wi-Fi Direct	NFC	PC Sync.
	Yes	Yes	Smart Switch (PC version)
	USB Interface		
	USB Type-C		
	OS		
	OS		
	Android		
	Samsung Galaxy S25 Technical Spec: https://www.samsung.com/us/smartphones/galaxy-s25/buy/galaxy-s25-128gb-unlocked-sm-s931uzkaxaa/		

APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	Wi-Fi Turn on the Wi-Fi feature to connect to a Wi-Fi network and access the internet or other network devices. Connecting to a Wi-Fi network 1 On the Settings screen, tap Connections → Wi-Fi and tap the switch to turn it on. 2 Select a network from the Wi-Fi networks list. Networks with a lock icon require a password. •  Once the device connects to a Wi-Fi network, the device will reconnect to that network each time it is available without requiring a password. To prevent the device from connecting to the network automatically, tap  next to the network and tap the Auto reconnect switch to turn it off. • If you cannot connect to a Wi-Fi network properly, restart your device's Wi-Fi feature or the wireless router. Sharing Wi-Fi network passwords If you make a request to a person who is connected to a secured Wi-Fi network to share its password, you can connect to the network without entering the password. This feature is available between the devices which have contacts each other and the screen of the other device must be turned on. 1 On the Settings screen, tap Connections → Wi-Fi and tap the switch to turn it on. 2 Select a network from the Wi-Fi networks list. 3 Tap Request password. 4 Accept the share request on the other device. The Wi-Fi password is entered on your device and it is connected to the network. Samsung Galaxy S25 User Manual at 115: https://www.galaxys25userguide.com/wp-content/uploads/pdf/galaxy-s25-user-guide-SM-S93X-EU-15-English.pdf

**APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT
NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS**

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement													
	Galaxy S23 Ultra: <table><tr><td rowspan="6">COMMS</td><td>WLAN</td><td>Wi-Fi 802.11 a/b/g/n/ac/6e, tri-band, Wi-Fi Direct</td></tr><tr><td>Bluetooth</td><td>5.3, A2DP, LE</td></tr><tr><td>Positioning</td><td>GPS, GLONASS, BDS, GALILEO</td></tr><tr><td>NFC</td><td>Yes</td></tr><tr><td>Radio</td><td>No</td></tr><tr><td>USB</td><td>USB Type-C 3.2, OTG</td></tr></table> Galaxy S23 Ultra technical specifications; https://www.gsmarena.com/samsung_galaxy_s23_ultra-12024.php.	COMMS	WLAN	Wi-Fi 802.11 a/b/g/n/ac/6e, tri-band, Wi-Fi Direct	Bluetooth	5.3, A2DP, LE	Positioning	GPS, GLONASS, BDS, GALILEO	NFC	Yes	Radio	No	USB	USB Type-C 3.2, OTG
COMMS	WLAN		Wi-Fi 802.11 a/b/g/n/ac/6e, tri-band, Wi-Fi Direct											
	Bluetooth		5.3, A2DP, LE											
	Positioning		GPS, GLONASS, BDS, GALILEO											
	NFC		Yes											
	Radio		No											
	USB	USB Type-C 3.2, OTG												

**APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT
NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS**

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement																																																																																																																																																									
	<table><tr><th>Band & Mode</th><th>Operating Modes</th><th>Tx Frequency</th></tr><tr><td>GSM/GPRS/EDGE 850</td><td>Voice/Data</td><td>824,20 - 848,80 MHz</td></tr><tr><td>GSM/GPRS/EDGE 1900</td><td>Voice/Data</td><td>1850,20 - 1909,80 MHz</td></tr><tr><td>UMTS 850</td><td>Voice/Data</td><td>826,40 - 846,60 MHz</td></tr><tr><td>UMTS 1750</td><td>Voice/Data</td><td>1712,4 - 1752,6 MHz</td></tr><tr><td>UMTS 1900</td><td>Voice/Data</td><td>1852,4 - 1907,6 MHz</td></tr><tr><td>LTE Band 71</td><td>Voice/Data</td><td>665,5 - 695,5 MHz</td></tr><tr><td>LTE Band 12</td><td>Voice/Data</td><td>699,7 - 715,3 MHz</td></tr><tr><td>LTE Band 13</td><td>Voice/Data</td><td>779,5 - 784,5 MHz</td></tr><tr><td>LTE Band 14</td><td>Voice/Data</td><td>790,5 - 795,5 MHz</td></tr><tr><td>LTE Band 26 (Cell)</td><td>Voice/Data</td><td>814,7 - 848,3 MHz</td></tr><tr><td>LTE Band 5 (Cell)</td><td>Voice/Data</td><td>824,7 - 848,3 MHz</td></tr><tr><td>LTE Band 66 (AWS)</td><td>Voice/Data</td><td>1710,7 - 1779,3 MHz</td></tr><tr><td>LTE Band 4 (AWS)</td><td>Voice/Data</td><td>1710,7 - 1754,3 MHz</td></tr><tr><td>LTE Band 25 (PCS)</td><td>Voice/Data</td><td>1850,7 - 1914,3 MHz</td></tr><tr><td>LTE Band 2 (PCS)</td><td>Voice/Data</td><td>1850,7 - 1909,3 MHz</td></tr><tr><td>LTE Band 30</td><td>Voice/Data</td><td>2307,5 - 2312,5 MHz</td></tr><tr><td>LTE Band 7</td><td>Voice/Data</td><td>2502,5 - 2567,5 MHz</td></tr><tr><td>LTE Band 41</td><td>Voice/Data</td><td>2498,5 - 2687,5 MHz</td></tr><tr><td>LTE Band 38</td><td>Voice/Data</td><td>2572,5 - 2617,5 MHz</td></tr><tr><td>LTE Band 48</td><td>Voice/Data</td><td>3552,5 - 3697,5 MHz</td></tr><tr><td>NR Band n71</td><td>Voice/Data</td><td>665,5 - 695,5 MHz</td></tr><tr><td>NR Band n12</td><td>Voice/Data</td><td>701,5 - 713,5 MHz</td></tr><tr><td>NR Band n26</td><td>Voice/Data</td><td>816,5 - 846,5 MHz</td></tr><tr><td>NR Band n5</td><td>Voice/Data</td><td>826,5 - 846,5 MHz</td></tr><tr><td>NR Band n66</td><td>Voice/Data</td><td>1712,5 - 1777,5 MHz</td></tr><tr><td>NR Band n25</td><td>Voice/Data</td><td>1852,5 - 1912,5 MHz</td></tr><tr><td>NR Band n2</td><td>Voice/Data</td><td>1852,5 - 1907,5 MHz</td></tr><tr><td>NR Band n30</td><td>Voice/Data</td><td>2307,5 - 2312,5 MHz</td></tr><tr><td>NR Band n7</td><td>Voice/Data</td><td>2502,5 - 2567,5 MHz</td></tr><tr><td>NR Band n41</td><td>Voice/Data</td><td>2501,01 - 2685 MHz</td></tr><tr><td>NR Band n38</td><td>Voice/Data</td><td>2575 - 2615 MHz</td></tr><tr><td>NR Band n48</td><td>Voice/Data</td><td>3555 - 3694,98 MHz</td></tr><tr><td>NR Band n77 DoD</td><td>Voice/Data</td><td>3455,01 - 3544,98 MHz</td></tr><tr><td>NR Band n77</td><td>Voice/Data</td><td>3705 - 3975 MHz</td></tr><tr><td>2,4 GHz WLAN</td><td>Voice/Data</td><td>2412 - 2462 MHz</td></tr><tr><td>U-NII-1</td><td>Voice/Data</td><td>5180 - 5240 MHz</td></tr><tr><td>U-NII-2A</td><td>Voice/Data</td><td>5260 - 5320 MHz</td></tr><tr><td>U-NII-2C</td><td>Voice/Data</td><td>5500 - 5720 MHz</td></tr><tr><td>U-NII-3</td><td>Voice/Data</td><td>5745 - 5825 MHz</td></tr><tr><td>U-NII-4</td><td>Voice/Data</td><td>5845 - 5885 MHz</td></tr><tr><td>U-NII-5</td><td>Voice/Data</td><td>5935 - 6415 MHz</td></tr><tr><td>U-NII-6</td><td>Voice/Data</td><td>6435 - 6515 MHz</td></tr><tr><td>U-NII-7</td><td>Voice/Data</td><td>6535 - 6875 MHz</td></tr><tr><td>U-NII-8</td><td>Voice/Data</td><td>6895 - 7115 MHz</td></tr><tr><td>Bluetooth</td><td>Data</td><td>2402 - 2480 MHz</td></tr><tr><td>NFC</td><td>Data</td><td>13,56 MHz</td></tr><tr><td>NR Band n258</td><td>Data</td><td>24250 - 24450 MHz; 24750 - 25250 MHz</td></tr><tr><td>NR Band n260</td><td>Data</td><td>37000 - 40000 MHz</td></tr><tr><td>NR Band n261</td><td>Data</td><td>27500 - 28350 MHz</td></tr><tr><td>UWB</td><td>Data</td><td>6489,6 - 7987,2 MHz</td></tr></table>	Band & Mode	Operating Modes	Tx Frequency	GSM/GPRS/EDGE 850	Voice/Data	824,20 - 848,80 MHz	GSM/GPRS/EDGE 1900	Voice/Data	1850,20 - 1909,80 MHz	UMTS 850	Voice/Data	826,40 - 846,60 MHz	UMTS 1750	Voice/Data	1712,4 - 1752,6 MHz	UMTS 1900	Voice/Data	1852,4 - 1907,6 MHz	LTE Band 71	Voice/Data	665,5 - 695,5 MHz	LTE Band 12	Voice/Data	699,7 - 715,3 MHz	LTE Band 13	Voice/Data	779,5 - 784,5 MHz	LTE Band 14	Voice/Data	790,5 - 795,5 MHz	LTE Band 26 (Cell)	Voice/Data	814,7 - 848,3 MHz	LTE Band 5 (Cell)	Voice/Data	824,7 - 848,3 MHz	LTE Band 66 (AWS)	Voice/Data	1710,7 - 1779,3 MHz	LTE Band 4 (AWS)	Voice/Data	1710,7 - 1754,3 MHz	LTE Band 25 (PCS)	Voice/Data	1850,7 - 1914,3 MHz	LTE Band 2 (PCS)	Voice/Data	1850,7 - 1909,3 MHz	LTE Band 30	Voice/Data	2307,5 - 2312,5 MHz	LTE Band 7	Voice/Data	2502,5 - 2567,5 MHz	LTE Band 41	Voice/Data	2498,5 - 2687,5 MHz	LTE Band 38	Voice/Data	2572,5 - 2617,5 MHz	LTE Band 48	Voice/Data	3552,5 - 3697,5 MHz	NR Band n71	Voice/Data	665,5 - 695,5 MHz	NR Band n12	Voice/Data	701,5 - 713,5 MHz	NR Band n26	Voice/Data	816,5 - 846,5 MHz	NR Band n5	Voice/Data	826,5 - 846,5 MHz	NR Band n66	Voice/Data	1712,5 - 1777,5 MHz	NR Band n25	Voice/Data	1852,5 - 1912,5 MHz	NR Band n2	Voice/Data	1852,5 - 1907,5 MHz	NR Band n30	Voice/Data	2307,5 - 2312,5 MHz	NR Band n7	Voice/Data	2502,5 - 2567,5 MHz	NR Band n41	Voice/Data	2501,01 - 2685 MHz	NR Band n38	Voice/Data	2575 - 2615 MHz	NR Band n48	Voice/Data	3555 - 3694,98 MHz	NR Band n77 DoD	Voice/Data	3455,01 - 3544,98 MHz	NR Band n77	Voice/Data	3705 - 3975 MHz	2,4 GHz WLAN	Voice/Data	2412 - 2462 MHz	U-NII-1	Voice/Data	5180 - 5240 MHz	U-NII-2A	Voice/Data	5260 - 5320 MHz	U-NII-2C	Voice/Data	5500 - 5720 MHz	U-NII-3	Voice/Data	5745 - 5825 MHz	U-NII-4	Voice/Data	5845 - 5885 MHz	U-NII-5	Voice/Data	5935 - 6415 MHz	U-NII-6	Voice/Data	6435 - 6515 MHz	U-NII-7	Voice/Data	6535 - 6875 MHz	U-NII-8	Voice/Data	6895 - 7115 MHz	Bluetooth	Data	2402 - 2480 MHz	NFC	Data	13,56 MHz	NR Band n258	Data	24250 - 24450 MHz; 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NR Band n77	Voice/Data	3705 - 3975 MHz																																																																																																																																																								
2,4 GHz WLAN	Voice/Data	2412 - 2462 MHz																																																																																																																																																								
U-NII-1	Voice/Data	5180 - 5240 MHz																																																																																																																																																								
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U-NII-3	Voice/Data	5745 - 5825 MHz																																																																																																																																																								
U-NII-4	Voice/Data	5845 - 5885 MHz																																																																																																																																																								
U-NII-5	Voice/Data	5935 - 6415 MHz																																																																																																																																																								
U-NII-6	Voice/Data	6435 - 6515 MHz																																																																																																																																																								
U-NII-7	Voice/Data	6535 - 6875 MHz																																																																																																																																																								
U-NII-8	Voice/Data	6895 - 7115 MHz																																																																																																																																																								
Bluetooth	Data	2402 - 2480 MHz																																																																																																																																																								
NFC	Data	13,56 MHz																																																																																																																																																								
NR Band n258	Data	24250 - 24450 MHz; 24750 - 25250 MHz																																																																																																																																																								
NR Band n260	Data	37000 - 40000 MHz																																																																																																																																																								
NR Band n261	Data	27500 - 28350 MHz																																																																																																																																																								
UWB	Data	6489,6 - 7987,2 MHz																																																																																																																																																								

APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement													
	(A) WIFI/BT Since U-NII-1 and U-NII-2A bands have the same maximum output power and the highest reported SAR for U-NII-2A is less than 1.2 W/kg, SAR is not required for U-NII-1 band according to FCC KDB Publication 248227 D01v02r02. Since Wireless Router operations are not allowed by the chipset firmware using U-NII-1, U-NII-2A, U-NII-2C, and U-NII-4 WIFI, only 2.4 GHz WIFI, 2.4 GHz Bluetooth, and U-NII-3 WIFI Hotspot SAR tests and combinations are considered for SAR with respect to Wireless Router configurations according to FCC KDB 941225 D06v02r01. This device supports IEEE 802.11ax with the following features: a) Up to 160 MHz Bandwidth only for 5/6 GHz b) Up to 20 MHz Bandwidth only for 2.4 GHz c) 2 Tx antenna output d) Up to 1024 QAM is supported e) TDWR and Band gap channels are supported for 5/6 GHz f) MU-MIMO UL Operations are not supported Samsung S23 Ultra FCC SAR Test Report, available at https://fccid.io/A3LSMS918U/RF-Exposure-Info/SAR-Part-1-Report-6266754.pdf Galaxy Z Flip4: <table><tr><td rowspan="6">COMMS</td><td>WLAN</td><td>Wi-Fi 802.11 a/b/g/n/ac/6, dual-band, Wi-Fi Direct</td></tr><tr><td>Bluetooth</td><td>5.2, A2DP, LE</td></tr><tr><td>Positioning</td><td>GPS, GLONASS, GALILEO, BDS</td></tr><tr><td>NFC</td><td>Yes</td></tr><tr><td>Radio</td><td>No</td></tr><tr><td>USB</td><td>USB Type-C 2.0, OTG</td></tr></table> Galaxy Z Flip4 technical specifications; https://www.gsmarena.com/samsung_galaxy_z_flip4-11538.php.	COMMS	WLAN	Wi-Fi 802.11 a/b/g/n/ac/6, dual-band, Wi-Fi Direct	Bluetooth	5.2, A2DP, LE	Positioning	GPS, GLONASS, GALILEO, BDS	NFC	Yes	Radio	No	USB	USB Type-C 2.0, OTG
COMMS	WLAN		Wi-Fi 802.11 a/b/g/n/ac/6, dual-band, Wi-Fi Direct											
	Bluetooth		5.2, A2DP, LE											
	Positioning		GPS, GLONASS, GALILEO, BDS											
	NFC		Yes											
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	USB	USB Type-C 2.0, OTG												

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U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement																																																																																																																																							
	<table><tr><th>Band & Mode</th><th>Operating Modes</th><th>Tx Frequency</th></tr><tr><td>GSM/GPRS/EDGE 850</td><td>Voice/Data</td><td>824.20 - 848.80 MHz</td></tr><tr><td>GSM/GPRS/EDGE 1900</td><td>Voice/Data</td><td>1850.20 - 1909.80 MHz</td></tr><tr><td>UMTS 850</td><td>Voice/Data</td><td>826.40 - 846.60 MHz</td></tr><tr><td>UMTS 1750</td><td>Voice/Data</td><td>1712.4 - 1752.6 MHz</td></tr><tr><td>UMTS 1900</td><td>Voice/Data</td><td>1852.4 - 1907.6 MHz</td></tr><tr><td>LTE Band 71</td><td>Voice/Data</td><td>665.5 - 695.5 MHz</td></tr><tr><td>LTE Band 12</td><td>Voice/Data</td><td>699.7 - 715.3 MHz</td></tr><tr><td>LTE Band 13</td><td>Voice/Data</td><td>779.5 - 784.5 MHz</td></tr><tr><td>LTE Band 14</td><td>Voice/Data</td><td>790.5 - 795.5 MHz</td></tr><tr><td>LTE Band 26 (Cell)</td><td>Voice/Data</td><td>814.7 - 848.3 MHz</td></tr><tr><td>LTE Band 5 (Cell)</td><td>Voice/Data</td><td>824.7 - 848.3 MHz</td></tr><tr><td>LTE Band 66 (AWS)</td><td>Voice/Data</td><td>1710.7 - 1779.3 MHz</td></tr><tr><td>LTE Band 4 (AWS)</td><td>Voice/Data</td><td>1710.7 - 1754.3 MHz</td></tr><tr><td>LTE Band 25 (PCS)</td><td>Voice/Data</td><td>1850.7 - 1914.3 MHz</td></tr><tr><td>LTE Band 2 (PCS)</td><td>Voice/Data</td><td>1850.7 - 1909.3 MHz</td></tr><tr><td>LTE Band 30</td><td>Voice/Data</td><td>2307.5 - 2312.5 MHz</td></tr><tr><td>LTE Band 7</td><td>Voice/Data</td><td>2502.5 - 2567.5 MHz</td></tr><tr><td>LTE Band 41</td><td>Voice/Data</td><td>2498.5 - 2687.5 MHz</td></tr><tr><td>LTE Band 38</td><td>Voice/Data</td><td>2572.5 - 2617.5 MHz</td></tr><tr><td>LTE Band 48</td><td>Voice/Data</td><td>3552.5 - 3697.5 MHz</td></tr><tr><td>NR Band n71</td><td>Voice/Data</td><td>665.5 - 695.5 MHz</td></tr><tr><td>NR Band n12</td><td>Voice/Data</td><td>701.5 - 713.5 MHz</td></tr><tr><td>NR Band n5 (Cell)</td><td>Voice/Data</td><td>826.5 - 846.5 MHz</td></tr><tr><td>NR Band n66 (AWS)</td><td>Voice/Data</td><td>1712.5 - 1777.5 MHz</td></tr><tr><td>NR Band n25 (PCS)</td><td>Voice/Data</td><td>1852.5 - 1912.5 MHz</td></tr><tr><td>NR Band n2 (PCS)</td><td>Voice/Data</td><td>1852.5 - 1907.5 MHz</td></tr><tr><td>NR Band n30</td><td>Voice/Data</td><td>2307.5 - 2312.5 MHz</td></tr><tr><td>NR Band n7</td><td>Voice/Data</td><td>2502.5 - 2567.5 MHz</td></tr><tr><td>NR Band n41</td><td>Voice/Data</td><td>2506.02 - 2679.99 MHz</td></tr><tr><td>NR Band n38</td><td>Voice/Data</td><td>2575 - 2615 MHz</td></tr><tr><td>NR Band n48</td><td>Voice/Data</td><td>3555 - 3694.98 MHz</td></tr><tr><td>NR Band n77 DoD</td><td>Voice/Data</td><td>3455.01 - 3544.98 MHz</td></tr><tr><td>NR Band n77</td><td>Voice/Data</td><td>3705 - 3975 MHz</td></tr><tr><td>2.4 GHz WLAN</td><td>Voice/Data</td><td>2412 - 2462 MHz</td></tr><tr><td>U-NII-1</td><td>Voice/Data</td><td>5180 - 5240 MHz</td></tr><tr><td>U-NII-2A</td><td>Voice/Data</td><td>5260 - 5320 MHz</td></tr><tr><td>U-NII-2C</td><td>Voice/Data</td><td>5500 - 5720 MHz</td></tr><tr><td>U-NII-3</td><td>Voice/Data</td><td>5745 - 5825 MHz</td></tr><tr><td>U-NII-4</td><td>Voice/Data</td><td>5845 - 5885 MHz</td></tr><tr><td>Bluetooth</td><td>Data</td><td>2402 - 2480 MHz</td></tr><tr><td>NFC</td><td>Data</td><td>13.56 MHz</td></tr><tr><td>NR Band n258</td><td>Data</td><td>24250 - 24450 MHz; 24750 - 25250 MHz</td></tr><tr><td>NR Band n260</td><td>Data</td><td>37000 - 40000 MHz</td></tr><tr><td>NR Band n261</td><td>Data</td><td>27500 - 28350 MHz</td></tr></table>	Band & Mode	Operating Modes	Tx Frequency	GSM/GPRS/EDGE 850	Voice/Data	824.20 - 848.80 MHz	GSM/GPRS/EDGE 1900	Voice/Data	1850.20 - 1909.80 MHz	UMTS 850	Voice/Data	826.40 - 846.60 MHz	UMTS 1750	Voice/Data	1712.4 - 1752.6 MHz	UMTS 1900	Voice/Data	1852.4 - 1907.6 MHz	LTE Band 71	Voice/Data	665.5 - 695.5 MHz	LTE Band 12	Voice/Data	699.7 - 715.3 MHz	LTE Band 13	Voice/Data	779.5 - 784.5 MHz	LTE Band 14	Voice/Data	790.5 - 795.5 MHz	LTE Band 26 (Cell)	Voice/Data	814.7 - 848.3 MHz	LTE Band 5 (Cell)	Voice/Data	824.7 - 848.3 MHz	LTE Band 66 (AWS)	Voice/Data	1710.7 - 1779.3 MHz	LTE Band 4 (AWS)	Voice/Data	1710.7 - 1754.3 MHz	LTE Band 25 (PCS)	Voice/Data	1850.7 - 1914.3 MHz	LTE Band 2 (PCS)	Voice/Data	1850.7 - 1909.3 MHz	LTE Band 30	Voice/Data	2307.5 - 2312.5 MHz	LTE Band 7	Voice/Data	2502.5 - 2567.5 MHz	LTE Band 41	Voice/Data	2498.5 - 2687.5 MHz	LTE Band 38	Voice/Data	2572.5 - 2617.5 MHz	LTE Band 48	Voice/Data	3552.5 - 3697.5 MHz	NR Band n71	Voice/Data	665.5 - 695.5 MHz	NR Band n12	Voice/Data	701.5 - 713.5 MHz	NR Band n5 (Cell)	Voice/Data	826.5 - 846.5 MHz	NR Band n66 (AWS)	Voice/Data	1712.5 - 1777.5 MHz	NR Band n25 (PCS)	Voice/Data	1852.5 - 1912.5 MHz	NR Band n2 (PCS)	Voice/Data	1852.5 - 1907.5 MHz	NR Band n30	Voice/Data	2307.5 - 2312.5 MHz	NR Band n7	Voice/Data	2502.5 - 2567.5 MHz	NR Band n41	Voice/Data	2506.02 - 2679.99 MHz	NR Band n38	Voice/Data	2575 - 2615 MHz	NR Band n48	Voice/Data	3555 - 3694.98 MHz	NR Band n77 DoD	Voice/Data	3455.01 - 3544.98 MHz	NR Band n77	Voice/Data	3705 - 3975 MHz	2.4 GHz WLAN	Voice/Data	2412 - 2462 MHz	U-NII-1	Voice/Data	5180 - 5240 MHz	U-NII-2A	Voice/Data	5260 - 5320 MHz	U-NII-2C	Voice/Data	5500 - 5720 MHz	U-NII-3	Voice/Data	5745 - 5825 MHz	U-NII-4	Voice/Data	5845 - 5885 MHz	Bluetooth	Data	2402 - 2480 MHz	NFC	Data	13.56 MHz	NR Band n258	Data	24250 - 24450 MHz; 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COMMS	WLAN		Wi-Fi 802.11 a/b/g/n/ac/6e, dual-band, Wi-Fi Direct											
	Bluetooth		5.2, A2DP, LE, aptX HD											
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NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS**

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	<table><tr><th>Band & Mode</th><th>Operating Modes</th><th>Tx Frequency</th></tr><tr><td>GSM/GPRS/EDGE 850</td><td>Voice/Data</td><td>824.20 - 848.80 MHz</td></tr><tr><td>GSM/GPRS/EDGE 1900</td><td>Voice/Data</td><td>1850.20 - 1909.80 MHz</td></tr><tr><td>UMTS 850</td><td>Voice/Data</td><td>826.40 - 846.60 MHz</td></tr><tr><td>UMTS 1750</td><td>Voice/Data</td><td>1712.4 - 1752.6 MHz</td></tr><tr><td>UMTS 1900</td><td>Voice/Data</td><td>1852.4 - 1907.6 MHz</td></tr><tr><td>LTE Band 71</td><td>Voice/Data</td><td>665.5 - 695.5 MHz</td></tr><tr><td>LTE Band 12</td><td>Voice/Data</td><td>699.7 - 715.3 MHz</td></tr><tr><td>LTE Band 13</td><td>Voice/Data</td><td>779.5 - 784.5 MHz</td></tr><tr><td>LTE Band 14</td><td>Voice/Data</td><td>790.5 - 795.5 MHz</td></tr><tr><td>LTE Band 26 (Cell)</td><td>Voice/Data</td><td>814.7 - 848.3 MHz</td></tr><tr><td>LTE Band 5 (Cell)</td><td>Voice/Data</td><td>824.7 - 848.3 MHz</td></tr><tr><td>LTE Band 66 (AWS)</td><td>Voice/Data</td><td>1710.7 - 1779.3 MHz</td></tr><tr><td>LTE Band 4 (AWS)</td><td>Voice/Data</td><td>1710.7 - 1754.3 MHz</td></tr><tr><td>LTE Band 25 (PCS)</td><td>Voice/Data</td><td>1850.7 - 1914.3 MHz</td></tr><tr><td>LTE Band 2 (PCS)</td><td>Voice/Data</td><td>1850.7 - 1909.3 MHz</td></tr><tr><td>LTE Band 30</td><td>Voice/Data</td><td>2307.5 - 2312.5 MHz</td></tr><tr><td>LTE Band 7</td><td>Voice/Data</td><td>2502.5 - 2567.5 MHz</td></tr><tr><td>LTE Band 41</td><td>Voice/Data</td><td>2498.5 - 2687.5 MHz</td></tr><tr><td>LTE Band 38</td><td>Voice/Data</td><td>2572.5 - 2617.5 MHz</td></tr><tr><td>LTE Band 48</td><td>Voice/Data</td><td>3552.5 - 3697.5 MHz</td></tr><tr><td>NR Band n71</td><td>Voice/Data</td><td>665.5 - 695.5 MHz</td></tr><tr><td>NR Band n12</td><td>Voice/Data</td><td>701.5 - 713.5 MHz</td></tr><tr><td>NR Band n5 (Cell)</td><td>Voice/Data</td><td>826.5 - 846.5 MHz</td></tr><tr><td>NR Band n66 (AWS)</td><td>Voice/Data</td><td>1712.5 - 1777.5 MHz</td></tr><tr><td>NR Band n25 (PCS)</td><td>Voice/Data</td><td>1852.5 - 1912.5 MHz</td></tr><tr><td>NR Band n2 (PCS)</td><td>Voice/Data</td><td>1852.5 - 1907.5 MHz</td></tr><tr><td>NR Band n30</td><td>Voice/Data</td><td>2307.5 - 2312.5 MHz</td></tr><tr><td>NR Band n7</td><td>Voice/Data</td><td>2502.5 - 2567.5 MHz</td></tr><tr><td>NR Band n41</td><td>Voice/Data</td><td>2506.02 - 2679.99 MHz</td></tr><tr><td>NR Band n38</td><td>Voice/Data</td><td>2575 - 2615 MHz</td></tr><tr><td>NR Band n48</td><td>Voice/Data</td><td>3555 - 3694.98 MHz</td></tr><tr><td>NR Band n77 DoD</td><td>Voice/Data</td><td>3455.01 - 3544.98 MHz</td></tr><tr><td>NR Band n77</td><td>Voice/Data</td><td>3705 - 3975 MHz</td></tr><tr><td>2.4 GHz WLAN</td><td>Voice/Data</td><td>2412 - 2472 MHz</td></tr><tr><td>U-NII-1</td><td>Voice/Data</td><td>5180 - 5240 MHz</td></tr><tr><td>U-NII-2A</td><td>Voice/Data</td><td>5260 - 5320 MHz</td></tr><tr><td>U-NII-2C</td><td>Voice/Data</td><td>5500 - 5720 MHz</td></tr><tr><td>U-NII-3</td><td>Voice/Data</td><td>5745 - 5825 MHz</td></tr><tr><td>U-NII-4</td><td>Voice/Data</td><td>5845 - 5885 MHz</td></tr><tr><td>U-NII-5</td><td>Voice/Data</td><td>5935 - 6415 MHz</td></tr><tr><td>U-NII-6</td><td>Voice/Data</td><td>6435 - 6525 MHz</td></tr><tr><td>U-NII-7</td><td>Voice/Data</td><td>6535 - 6875 MHz</td></tr><tr><td>U-NII-8</td><td>Voice/Data</td><td>6895 - 7115 MHz</td></tr><tr><td>Bluetooth</td><td>Data</td><td>2402 - 2480 MHz</td></tr><tr><td>NFC</td><td>Data</td><td>13.56 MHz</td></tr><tr><td>NR Band n258</td><td>Data</td><td>24250 - 24450 MHz; 24750 - 25250 MHz</td></tr><tr><td>NR Band n260</td><td>Data</td><td>37000 - 40000 MHz</td></tr><tr><td>NR Band n261</td><td>Data</td><td>27500 - 28350 MHz</td></tr><tr><td>UWB</td><td>Data</td><td>6489.6 - 7987.2 MHz</td></tr></table>	Band & Mode	Operating Modes	Tx Frequency	GSM/GPRS/EDGE 850	Voice/Data	824.20 - 848.80 MHz	GSM/GPRS/EDGE 1900	Voice/Data	1850.20 - 1909.80 MHz	UMTS 850	Voice/Data	826.40 - 846.60 MHz	UMTS 1750	Voice/Data	1712.4 - 1752.6 MHz	UMTS 1900	Voice/Data	1852.4 - 1907.6 MHz	LTE Band 71	Voice/Data	665.5 - 695.5 MHz	LTE Band 12	Voice/Data	699.7 - 715.3 MHz	LTE Band 13	Voice/Data	779.5 - 784.5 MHz	LTE Band 14	Voice/Data	790.5 - 795.5 MHz	LTE Band 26 (Cell)	Voice/Data	814.7 - 848.3 MHz	LTE Band 5 (Cell)	Voice/Data	824.7 - 848.3 MHz	LTE Band 66 (AWS)	Voice/Data	1710.7 - 1779.3 MHz	LTE Band 4 (AWS)	Voice/Data	1710.7 - 1754.3 MHz	LTE Band 25 (PCS)	Voice/Data	1850.7 - 1914.3 MHz	LTE Band 2 (PCS)	Voice/Data	1850.7 - 1909.3 MHz	LTE Band 30	Voice/Data	2307.5 - 2312.5 MHz	LTE Band 7	Voice/Data	2502.5 - 2567.5 MHz	LTE Band 41	Voice/Data	2498.5 - 2687.5 MHz	LTE Band 38	Voice/Data	2572.5 - 2617.5 MHz	LTE Band 48	Voice/Data	3552.5 - 3697.5 MHz	NR Band n71	Voice/Data	665.5 - 695.5 MHz	NR Band n12	Voice/Data	701.5 - 713.5 MHz	NR Band n5 (Cell)	Voice/Data	826.5 - 846.5 MHz	NR Band n66 (AWS)	Voice/Data	1712.5 - 1777.5 MHz	NR Band n25 (PCS)	Voice/Data	1852.5 - 1912.5 MHz	NR Band n2 (PCS)	Voice/Data	1852.5 - 1907.5 MHz	NR Band n30	Voice/Data	2307.5 - 2312.5 MHz	NR Band n7	Voice/Data	2502.5 - 2567.5 MHz	NR Band n41	Voice/Data	2506.02 - 2679.99 MHz	NR Band n38	Voice/Data	2575 - 2615 MHz	NR Band n48	Voice/Data	3555 - 3694.98 MHz	NR Band n77 DoD	Voice/Data	3455.01 - 3544.98 MHz	NR Band n77	Voice/Data	3705 - 3975 MHz	2.4 GHz WLAN	Voice/Data	2412 - 2472 MHz	U-NII-1	Voice/Data	5180 - 5240 MHz	U-NII-2A	Voice/Data	5260 - 5320 MHz	U-NII-2C	Voice/Data	5500 - 5720 MHz	U-NII-3	Voice/Data	5745 - 5825 MHz	U-NII-4	Voice/Data	5845 - 5885 MHz	U-NII-5	Voice/Data	5935 - 6415 MHz	U-NII-6	Voice/Data	6435 - 6525 MHz	U-NII-7	Voice/Data	6535 - 6875 MHz	U-NII-8	Voice/Data	6895 - 7115 MHz	Bluetooth	Data	2402 - 2480 MHz	NFC	Data	13.56 MHz	NR Band n258	Data	24250 - 24450 MHz; 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APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement													
	(A) WIFI/BT Since U-NII-1 and U-NII-2A bands have the same maximum output power and the highest reported SAR for U-NII-2A is less than 1.2 W/kg, SAR is not required for U-NII-1 band according to FCC KDB Publication 248227 D01v02r02. This device supports channel 1-13 for 2.4 GHZ WLAN. However, because channel 12/13 targets are not higher than that of channels 1-11, default channels for SAR testing are determined per FCC KDB 248227 D01v02r02. Since Wireless Router operations are not allowed by the chipset firmware using U-NII-1, U-NII-2A, U-NII-2C, and U-NII-4 WIFI, only 2.4 GHz WIFI, 2.4 GHz Bluetooth, and U-NII-3 WIFI Hotspot SAR tests and combinations are considered for SAR with respect to Wireless Router configurations according to FCC KDB 941225 D06v02r01. This device supports IEEE 802.11ax with the following features: a) Up to 160 MHz Bandwidth only for 5/6 GHz b) Up to 20 MHz Bandwidth only for 2.4 GHz c) 2 Tx antenna output d) Up to 1024 QAM is supported e) TDWR and Band gap channels are supported for 5/6 GHz f) MU-MIMO UL Operations are not supported Galaxy Z Fold4 FCC SAR Test Report, available at https://fcc.report/FCC-ID/A3LSMF936U/5986685.pdf Galaxy A54 5G: <table><tr><td rowspan="6">COMMS</td><td>WLAN</td><td>Wi-Fi 802.11 a/b/g/n/ac/6, dual-band, Wi-Fi Direct</td></tr><tr><td>Bluetooth</td><td>5.3, A2DP, LE</td></tr><tr><td>Positioning</td><td>GPS, GLONASS, GALILEO, BDS</td></tr><tr><td>NFC</td><td>Yes (market/region dependent)</td></tr><tr><td>Radio</td><td>No</td></tr><tr><td>USB</td><td>USB Type-C 2.0, OTG</td></tr></table> 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.	COMMS	WLAN	Wi-Fi 802.11 a/b/g/n/ac/6, dual-band, Wi-Fi Direct	Bluetooth	5.3, A2DP, LE	Positioning	GPS, GLONASS, GALILEO, BDS	NFC	Yes (market/region dependent)	Radio	No	USB	USB Type-C 2.0, OTG
COMMS	WLAN		Wi-Fi 802.11 a/b/g/n/ac/6, dual-band, Wi-Fi Direct											
	Bluetooth		5.3, A2DP, LE											
	Positioning		GPS, GLONASS, GALILEO, BDS											
	NFC		Yes (market/region dependent)											
	Radio		No											
	USB	USB Type-C 2.0, OTG												

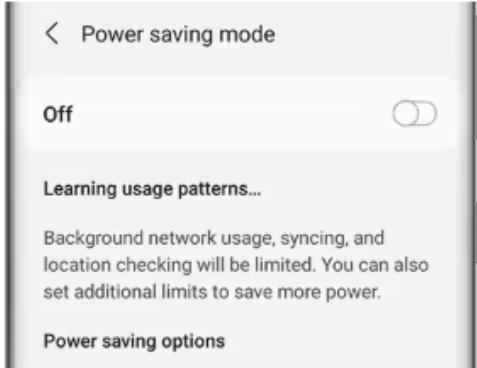
**APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT
NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS**

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement				
	Wireless technologies	Frequency bands	Operating mode		Duty Cycle used for SAR testing
	GSM	850 1900	Voice (GMSK) GPRS (GMSK) EGPRS (8PSK)	GPRS Multi-Slot Class: ☐ Class 8 - 1 Up, 4 Down ☐ Class 10 - 2 Up, 4 Down ☐ Class 12 - 4 Up, 4 Down ☒ Class 33 - 4 Up, 5 Down	GSM Voice: 12.5% (E)GPRS: 1 Slot: 12.5% 2 Slots: 25% 3 Slots: 37.5% 4 Slots: 50%
	W-CDMA (UMTS)	Band II Band IV Band V	UMTS Rel. 99 (Voice & Data) HSDPA (Category 14) HSUPA (Category 6) DC-HSDPA (Category 14) HSPA+ (DL only)		100%
	LTE	FDD Bands : 2, 4, 5, 7, 12, 13, 14, 25 26, 30, 66, 71 TDD Bands 38, 40, 41-PC3, 41-PC2, 48	QPSK 16QAM 64QAM 256QAM Rel. 16 Carrier Aggregation (2 Uplink and 4 Downlinks) <u>Uplink Carrier Aggregation(2CC)</u> CA_41C & CA_48C	100% (FDD) 63.3% (TDD) 43.3% (TDD)	
	5G NR (Sub 6)	FDD Bands : n2, n5, n12, n25, n30, n66, n71 TDD Bands n41-PC3, n41-PC2, n48 n77-PC3, n77-PC2	DFT-s-OFDM: ■ π/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: ■ QPSK, 16QAM, 64QAM, 256QAM		100%
	Wi-Fi	2.4 GHz	802.11b, 802.11g, 802.11n (HT20), 802.11ax (HE20)		98.7% (802.11b)
		5 GHz	802.11a / 802.11n (HT20/40) 802.11ac (VHT20/40/80) 802.11ax (HE20/40/80)		96.0% (802.11a) 95.2% (802.11ac (VHT80)
		Does this device support bands 5.60 ~ 5.65 GHz? ☒ Yes ☐ No			
		Does this device support Band gap channel(s)? ☒ Yes ☐ No			
	Bluetooth	2.4 GHz	Version 5.3 LE		77.1%
	NFC	13.56 MHz	Type A/B/F		100%

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U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	Galaxy A54 5G FCC SAR Test Report, available at https://fccid.io/A3LSMA546U/RF-Exposure-Info/4790632108-S1V3-FCC-Report-SAR-6356395.pdf
[1.d] a processor programmed to control state transitions of the portable terminal apparatus to and from a sleep state and further performing a plurality of display modes, the plurality of display modes including:	Each of the Accused Samsung '646 Products comprises a processor programmed to control state transitions of the portable terminal apparatus to and from a sleep state and further performing a plurality of display modes. <i>See</i> User Guide and Technical Specifications of each of the Accused Samsung '646 Products available at Samsung's website showing that each of the devices comprises a processor programmed to control state transitions to and from a sleep state and further performing a plurality of display modes. Sleep state include, for example, when the Accused Samsung '646 Products configure the processor to consume less power than an operation state. For example, less power is consumed when the display is dimmed.

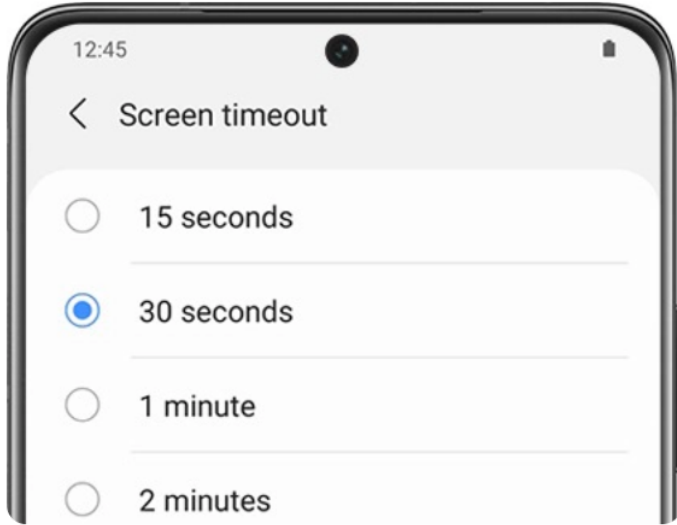
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U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	Power saving mode ^ Note: Devices with One UI 2.5 or lower will have different power saving options, such as Optimized, Medium power saving, and Maximum power saving. To find these options, open Settings, tap Device care, tap Battery, and then tap Power mode. If you know you will be away from a charger for an extended period and you want to make sure your phone will last, just turn on Power saving mode. This way, you will not have to worry about a low battery. First, navigate to Settings, and then tap Battery and device care. Tap Battery, and then tap Power saving mode.  Tap the switch to turn it on. Power saving mode will limit certain things on your device, such as background network usage and syncing. You can use additional power saving options as well: • Turn off Always on Display: This will disable the Always on Display feature. • Limit CPU speed to 70%: Decreases the processing speed of your device. • Decrease brightness by 10%: Tap this option to dim your device's screen by 10%. • Limit apps and Home screen: This option will provide you with maximum power saving by limiting background activity, using a simplified home screen, and limiting the available apps. It will also turn off Edge panels.

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NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS**

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	https://www.samsung.com/ca/support/mobile-devices/galaxy-phone-power-saving-mode/ (the same functionality exists in the US models)

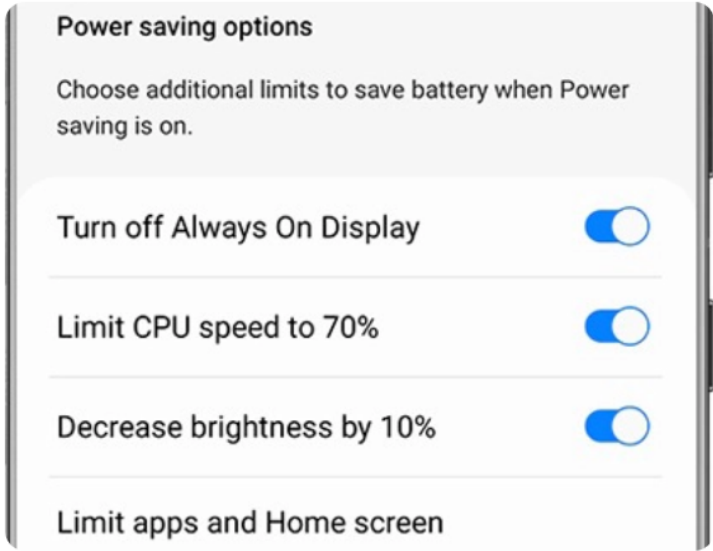
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U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	 By default, your Galaxy phone or tablet's screen timeout is 30 seconds, meaning the screen will turn off automatically after this amount of time. If this is too fast, you can adjust the screen timeout to be longer. 1 Navigate to and open Settings. 2 Tap Display. 3 Then tap Screen timeout. 4 From there, choose your desired amount. The maximum screen timeout is 10 minutes. https://www.samsung.com/us/support/answer/ANS10003431/

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U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	When you have a lock screen set up, your phone will automatically lock itself after a set amount of time. However, with the Secure lock settings, you can adjust the length of time your device will remain unlocked after the screen switches off. 1 Navigate to and open Settings. 2 Tap Lock screen, and then tap Secure lock settings. 3 Enter your security credentials, and then tap Auto lock when screen turns off. 4 Next, choose your desired amount of time before the phone locks. The maximum amount is 30 minutes. https://www.samsung.com/us/support/answer/ANS10003431/

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U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	A screenshot of a smartphone's 'Power saving options' menu. The title 'Power saving options' is at the top. Below it is a subtitle: 'Choose additional limits to save battery when Power saving is on.' There are four toggle switches, all of which are turned on (blue). The first toggle is labeled 'Turn off Always On Display'. The second is 'Limit CPU speed to 70%'. The third is 'Decrease brightness by 10%'. The fourth is 'Limit apps and Home screen'. Some power saving modes will make your phone's screen dim in order to save battery life. However, you can turn off Power saving if you prefer a brighter screen. 1 Navigate to and open Settings. 2 Tap Battery and device care, and then tap Battery. 3 Tap Power saving, and then choose your preferred settings. 4 Finally, tap the switch at the top of the screen to turn on Power saving.

APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement									
	https://www.samsung.com/us/support/answer/ANS10003431/ For example, the Samsung Galaxy S25 includes one or more processors. On information and belief, the processor(s) are programmed with software instructions to control various functions, including managing state transitions of the device, such as entering and waking from a sleep state. Furthermore, on information and belief, the processor is programmed to perform different display modes upon waking from a sleep state, depending on certain conditions. <table><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> https://www.gsmarena.com/samsung_galaxy_s25-13610.php	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
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								

APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	1:32 ← AIDA64 / CPU ⋮ SoC Model Qualcomm Snapdragon 8 Elite (SM8750) Core Architecture 6x Qualcomm Oryon @ 3532 MHz 2x Qualcomm Oryon @ 4473 MHz Manufacturing Process 3 nm Instruction Set 64-bit ARMv9-A CPU Revision r3p4 CPU Cores 8 CPU Clock Range 384 - 4473 MHz Core 1 Clock 556 MHz Core 2 Clock 556 MHz Core 3 Clock 556 MHz Core 4 Clock 556 MHz Core 5 Clock 556 MHz Core 6 Clock 556 MHz Core 7 Clock 1017 MHz Core 8 Clock 1017 MHz Scaling Governor walt Supported ABIs arm64-v8a Supported 64-bit ABIs arm64-v8a AES Supported ASIMD/NEON Supported PMULL Supported SHA1 Supported SHA2 Supported Samsung Galaxy S25 AIDA 64 report

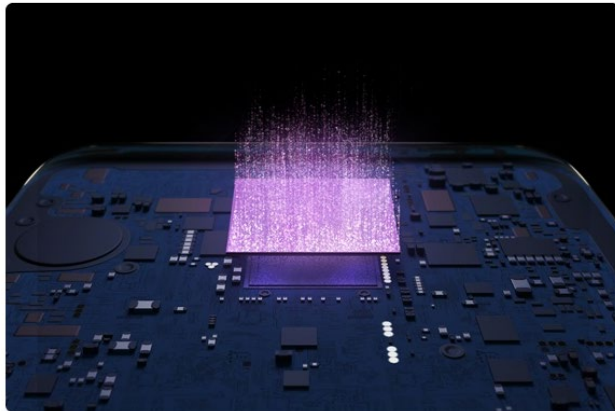
APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement										
	Processor CPU Type Octa-Core CPU Speed 4.47GHz,3.5GHz Samsung Galaxy S25 Technical Spec: https://www.samsung.com/us/smartphones/galaxy-s25/buy/galaxy-s25-128gb-unlocked-sm-s931uzkaxaa/ Processor Qualcomm Snapdragon 8 Gen2 Mobile Platform for Galaxy <table><tr><td rowspan="4">PLATFORM</td><td>OS</td><td>Android 13, One UI 5.1</td></tr><tr><td>Chipset</td><td>Qualcomm SM8550-AC Snapdragon 8 Gen 2 (4 nm)</td></tr><tr><td>CPU</td><td>Octa-core (1x3.36 GHz Cortex-X3 & 2x2.8 GHz Cortex-A715 & 2x2.8 GHz Cortex-A710 & 3x2.0 GHz Cortex-A510)</td></tr><tr><td>GPU</td><td>Adreno 740</td></tr></table> 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. Processor Snapdragon 8+ Gen 1 Up to 3.2GHz		PLATFORM	OS	Android 13, One UI 5.1	Chipset	Qualcomm SM8550-AC Snapdragon 8 Gen 2 (4 nm)	CPU	Octa-core (1x3.36 GHz Cortex-X3 & 2x2.8 GHz Cortex-A715 & 2x2.8 GHz Cortex-A710 & 3x2.0 GHz Cortex-A510)	GPU	Adreno 740
PLATFORM	OS	Android 13, One UI 5.1									
	Chipset	Qualcomm SM8550-AC Snapdragon 8 Gen 2 (4 nm)									
	CPU	Octa-core (1x3.36 GHz Cortex-X3 & 2x2.8 GHz Cortex-A715 & 2x2.8 GHz Cortex-A710 & 3x2.0 GHz Cortex-A510)									
	GPU	Adreno 740									

APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement																														
	<table><tr><td>PLATFORM</td><td>OS</td><td>Android 12L, upgradable to Android 13, One UI 5.1</td></tr><tr><td></td><td>Chipset</td><td>Qualcomm SM8475 Snapdragon 8+ Gen 1 (4 nm)</td></tr><tr><td></td><td>CPU</td><td>Octa-core (1x3.19 GHz Cortex-X2 & 3x2.75 GHz Cortex-A710 & 4x1.80 GHz Cortex-A510)</td></tr><tr><td></td><td>GPU</td><td>Adreno 730</td></tr></table> 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.  Processor Snapdragon 8+ Gen 1 Up to 3.2GHz <table><tr><td>PLATFORM</td><td>OS</td><td>Android 12, upgradable to Android 13, One UI 5.1</td></tr><tr><td></td><td>Chipset</td><td>Qualcomm SM8475 Snapdragon 8+ Gen 1 (4 nm)</td></tr><tr><td></td><td>CPU</td><td>Octa-core (1x3.19 GHz Cortex-X2 & 3x2.75 GHz Cortex-A710 & 4x1.80 GHz Cortex-A510)</td></tr><tr><td></td><td>GPU</td><td>Adreno 730</td></tr></table> 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. <table><tr><td>Processor</td><td></td></tr><tr><td>CPU Type</td><td>CPU Speed</td></tr><tr><td>Octa-Core</td><td>2.4GHz,2GHz</td></tr></table>	PLATFORM	OS	Android 12L, upgradable to Android 13, One UI 5.1		Chipset	Qualcomm SM8475 Snapdragon 8+ Gen 1 (4 nm)		CPU	Octa-core (1x3.19 GHz Cortex-X2 & 3x2.75 GHz Cortex-A710 & 4x1.80 GHz Cortex-A510)		GPU	Adreno 730	PLATFORM	OS	Android 12, upgradable to Android 13, One UI 5.1		Chipset	Qualcomm SM8475 Snapdragon 8+ Gen 1 (4 nm)		CPU	Octa-core (1x3.19 GHz Cortex-X2 & 3x2.75 GHz Cortex-A710 & 4x1.80 GHz Cortex-A510)		GPU	Adreno 730	Processor		CPU Type	CPU Speed	Octa-Core	2.4GHz,2GHz
PLATFORM	OS	Android 12L, upgradable to Android 13, One UI 5.1																													
	Chipset	Qualcomm SM8475 Snapdragon 8+ Gen 1 (4 nm)																													
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PLATFORM	OS	Android 12, upgradable to Android 13, One UI 5.1																													
	Chipset	Qualcomm SM8475 Snapdragon 8+ Gen 1 (4 nm)																													
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	GPU	Adreno 730																													
Processor																															
CPU Type	CPU Speed																														
Octa-Core	2.4GHz,2GHz																														

**APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT
NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS**

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement									
	Performance  . . . Impressive speed. Powerful processor The powerful Octa-core processor opens up a new range of possibilities with heightened performance and capacity. <table><tr><td rowspan="4">PLATFORM</td><td>OS</td><td>Android 13, One UI 5.1</td></tr><tr><td>Chipset</td><td>Exynos 1380 (5 nm)</td></tr><tr><td>CPU</td><td>Octa-core (4x2.4 GHz Cortex-A78 & 4x2.0 GHz Cortex-A55)</td></tr><tr><td>GPU</td><td>Mali-G68 MP5</td></tr></table> Galaxy A54 5G technical specifications; https://www.samsung.com/us/mobile/phones/galaxy-a/galaxy-a54-5g-128gb-verizon-sm-a546vzkbvzw/; https://www.gsmarena.com/samsung_galaxy_a54-12070.php.	PLATFORM	OS	Android 13, One UI 5.1	Chipset	Exynos 1380 (5 nm)	CPU	Octa-core (4x2.4 GHz Cortex-A78 & 4x2.0 GHz Cortex-A55)	GPU	Mali-G68 MP5
PLATFORM	OS		Android 13, One UI 5.1							
	Chipset		Exynos 1380 (5 nm)							
	CPU		Octa-core (4x2.4 GHz Cortex-A78 & 4x2.0 GHz Cortex-A55)							
	GPU	Mali-G68 MP5								

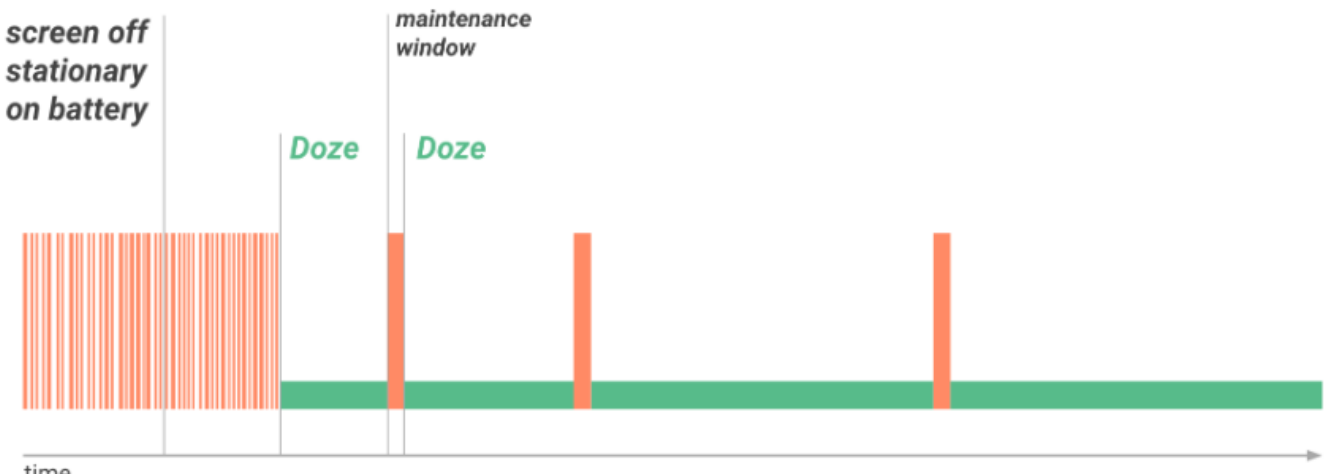
APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	Power management  Battery life is a perennial user concern. To extend battery life, Android continually adds new features to help the platform optimize the off-charger behavior of apps and devices. Android includes the following battery life enhancements: • App restrictions. The platform can suggest apps that negatively affect battery life, so that users can choose to restrict those apps from consuming resources. Apps aren't background restricted by default. • App standby. The platform can place unused apps in App standby mode, temporarily restricting network access and deferring syncs and jobs for those apps. • Doze. The platform can enter a state of deep sleep (periodically resuming normal operations) if users haven't actively used their device (screen off and stationary) for extended periods of time. Android 7.0 and higher also enables Doze to trigger a lighter set of optimizations when users turn off the device screen yet continue to move around. • Limiting power transfer during USB backup and restore. When performing a USB backup or restore, set the <code>UsbPort</code> class's <code>enableLimitPowerTransfer</code> method to <code>true</code> to disable charging and limit the sourcing power. To verify that power is limited, call <code>UsbPortStatus</code> class's <code>isPowerTransferLimited</code> method. When <code>isPowerTransferLimited</code> is <code>true</code>, the Android device reduces the power draw as a sink to 0 (or the lowest possible value allowed by hardware) and limits the source current to 0. Limiting source power can be enforced only when both port partners support USB power delivery (PD) specification. To return power usage to the default state, set <code>enableLimitPowerTransfer</code> to <code>false</code>. The default state is also returned when the USB cable is disconnected. • Exemptions. Preloaded system apps and cloud messaging services are typically exempted from App standby and Doze by default. App developers can use intents to apply these settings to their apps. Users can exempt apps from App standby and Doze power-saving modes in the Settings menu. • Trackers. App background behavior trackers monitor apps' foreground and background battery usage to determine if the apps violate some policy. https://source.android.com/docs/core/power/mgmt

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U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	Optimize for Doze and App Standby  Android has two power-saving features that extend battery life for users by managing how apps behave when a device isn't connected to a power source: Doze and App Standby. <i>Doze</i> reduces battery consumption by deferring background CPU and network activity for apps when the device is unused for long periods of time. <i>App Standby</i> defers background network activity for apps with no recent user activity. While the device is in Doze, apps' access to certain battery-intensive resources is deferred until the maintenance window. The specific restrictions are listed in Power management restrictions. Doze and App Standby manage the behavior of all apps running on Android 6.0 or higher, regardless of whether they are specifically targeting API level 23. To help ensure the best experience for users, test your app in Doze and App Standby modes and make any necessary adjustments to your code. The following sections provide details. Understand Doze If a user leaves a device unplugged and stationary for a period of time, with the screen off, the device enters Doze mode. In Doze mode, the system attempts to conserve battery by restricting apps' access to network and CPU-intensive services. It also prevents apps from accessing the network and defers their jobs, syncs, and standard alarms. Periodically, the system exits Doze for a brief time to let apps complete their deferred activities. During this <i>maintenance window</i>, the system runs all pending syncs, jobs, and alarms, and lets apps access the network.

APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	 <i>Figure 1. Doze provides a recurring maintenance window for apps to use the network and handle pending activities.</i> When the maintenance window concludes, the system again enters Doze, suspending network access and deferring jobs, syncs, and alarms. Over time, the system schedules maintenance windows less frequently, helping reduce battery consumption in cases of longer inactivity when the device isn't charging. When the user wakes the device by moving it, turning on the screen, or connecting a charger, the system exits Doze and all apps resume normal activity. https://developer.android.com/training/monitoring-device-state/doze-standby
[1.e] a first display mode during which a first screen to be moved to a screen for performing authentication to execute an unlock operation is displayed on the display without display of a control icon when the	Each of the Accused Samsung '646 Products performs a first display mode during which a first screen to be moved to a screen for performing authentication to execute an unlock operation is displayed on the display without display of a control icon when the portable terminal apparatus wakes up from a sleep state based on a first condition, wherein the first condition is met when a control screen for remotely and wirelessly controlling an external device via the wireless communication interface is not displayed on the display before the portable terminal apparatus enters a sleep state. <i>See User Guide and Technical Specifications of</i>

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U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
portable terminal apparatus wakes up from a sleep state based on a first condition, wherein the first condition is met when a control screen for remotely and wirelessly controlling an external device via the wireless communication interface is not displayed on the display before the portable terminal apparatus enters a sleep state;	each of the Accused Samsung '646 Products available at Samsung's website showing that each of the devices performs a first display mode during which a first screen to be moved to a screen for performing authentication to execute an unlock operation is displayed on the display without display of a control icon when the portable terminal apparatus wakes up from a sleep state based on a first condition, wherein the first condition is met when a control screen for remotely and wirelessly controlling an external device via the wireless communication interface is not displayed on the display before the portable terminal apparatus enters a sleep state. For example, the Samsung Galaxy S25 demonstrates this first display mode. The first condition is met when the device enters a sleep state while a "control screen for remotely and wirelessly controlling an external device" is not displayed; for instance, if the device was on its Home screen before the screen turned off. Upon waking the Samsung Galaxy S25 from such a sleep state, the device enters the first display mode. In this mode, a first screen is displayed on the display. This first screen, typically the standard lock screen (which can be moved, e.g., by swiping, to a screen for performing authentication like PIN entry to execute an unlock operation), is displayed without display of a control icon related to remote controlling an external device.

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U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	Series of screenshots illustrating the “first condition” and resulting “first display mode” on a Samsung Galaxy S25. (1) The device is shown on its Home screen before entering a sleep state, demonstrating that a “control screen for remotely and wirelessly controlling an external device” is not displayed. (2) The device is then depicted in a sleep state (dark screen). (3) Upon waking, the device displays the “first screen” (the standard lock screen, which is to be moved to a screen for performing authentication) “without display of a control icon” for remote control. This sequence establishes that the “first condition” (no active remote control screen prior to sleep) is met, leading to the device entering the “first display mode” upon waking.

**APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT
NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS**

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	Upon waking from a sleep state where no remote control screen was active, the device displays the initial “first screen” (the lock screen). The user initiates an unlock operation by performing a swipe gesture on this screen. Following the swipe gesture, the “first screen” is moved or transitioned to a screen for performing authentication – in this case, a PIN entry screen – to execute the unlock operation. This demonstrates the device entering the “first display mode.”
[1.f] a second display mode during which a first screen to be moved to a	Each of the Accused Samsung '646 Products performs a second display mode during which a first screen to be moved to a screen for performing authentication to execute an unlock operation is displayed on the

APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
screen for performing authentication to execute an unlock operation is displayed on the display without display of a control icon when the portable terminal apparatus wakes up from a sleep state based on a second condition, wherein the second condition is met when the wireless communication interface is unable to communicate with the external device and the control screen is displayed on the display before the portable terminal apparatus enters a sleep state;	display without display of a control icon when the portable terminal apparatus wakes up from a sleep state based on a second condition, wherein the second condition is met when the wireless communication interface is unable to communicate with the external device and the control screen is displayed on the display before the portable terminal apparatus enters a sleep state. <i>See</i> User Guide and Technical Specifications of each of the Accused Samsung '646 Products available at Samsung's website showing that each of the devices performs a second display mode during which a first screen to be moved to a screen for performing authentication to execute an unlock operation is displayed on the display without display of a control icon when the portable terminal apparatus wakes up from a sleep state based on a second condition, wherein the second condition is met when the wireless communication interface is unable to communicate with the external device and the control screen is displayed on the display before the portable terminal apparatus enters a sleep state. Upon information and belief Netflix comes preinstalled on the Accused Samsung '646 Products and/or Samsung induces users to download Netflix application at setup.  https://techcrunch.com/2020/02/13/netflix-fends-off-new-streaming-rivals-by-way-of-samsung-partnership/

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U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	For example, the Samsung Galaxy S25 demonstrates this second display mode when its “second condition” is met. The first part of this condition occurs if a “control screen for remotely and wirelessly controlling an external device” is displayed on the Samsung Galaxy S25 before it enters a sleep state. For instance, this occurs when a user initiates casting from an application like Netflix to an external display. During such an active casting session, the phone typically displays an interface for controlling that session, which constitutes the “control screen.” The second part of the condition is met if, after the device enters a sleep state and upon or before waking, the “wireless communication interface is unable to communicate with the external device.” This could occur if, for example, the device is taken out of range of the Wi-Fi network connecting to the external device, or the external casting device itself is turned off or disconnected. When the Samsung Galaxy S25 subsequently wakes up from its sleep state under this met second condition, it enters the second display mode: a “first screen to be moved to a screen for performing authentication to execute an unlock operation” (which is typically the standard lock screen) is displayed on the display. Importantly, this screen is displayed “without display of a control icon” that would be related to the previous casting session, because communication with the external device is not possible. Below are set of screenshots illustrating the “second condition” and resulting “second display mode” on a Samsung Galaxy S25

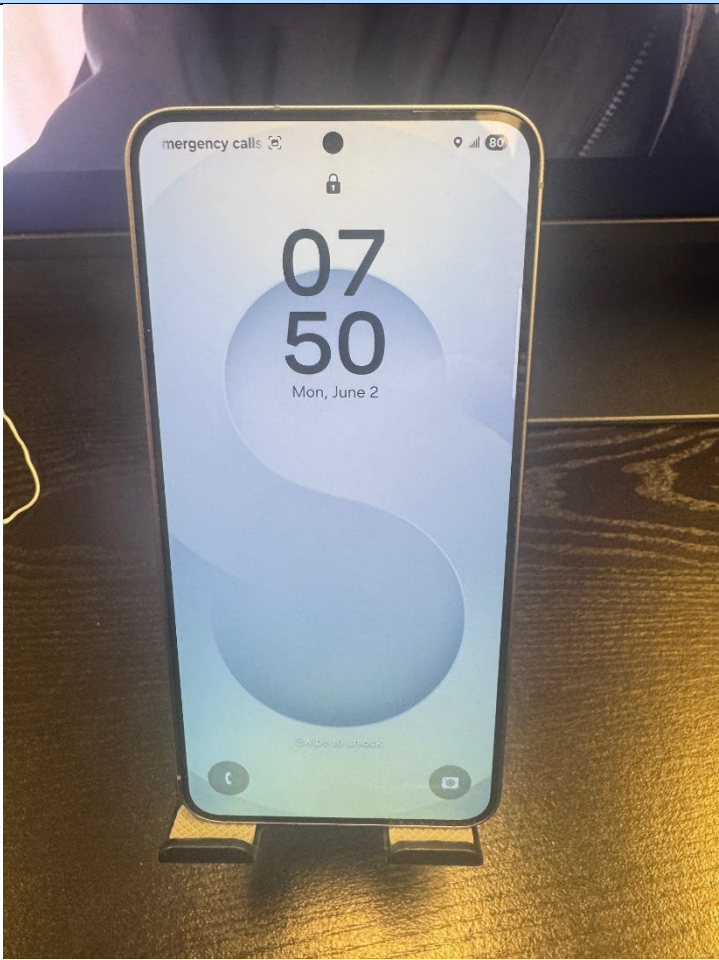
APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	 The first screenshot shows the Netflix application actively casting video, with its control interface displayed on the Samsung Galaxy S25, establishing that a “control screen for remotely and wirelessly controlling an external device” is displayed before the device enters a sleep state.

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U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	Subsequently, the connection to the external device is severed by either taking the device out of Wi-Fi range or turning off the access point. A photograph showing a smartphone in a black dock. The phone's screen is dark, reflecting the surroundings. In the background, a large screen displays a video of a person with the word "Because" visible at the top. A photograph of a large monitor on a desk. The monitor displays a video of a woman with glasses sitting on a couch. Subtitles at the bottom of the video read: "[chuckles] Those are lovely ideas. Just super." A smartphone is placed on the desk in front of the monitor. The above screenshot depicts the device entering a sleep state (e.g., screen turned off).

APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS

U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	 The fourth screenshot, taken upon waking the device from the sleep state under these conditions, shows the “first screen” (the standard lock screen, which is to be moved to a screen for performing authentication) displayed “without display of a control icon” related to the previous Netflix casting session.

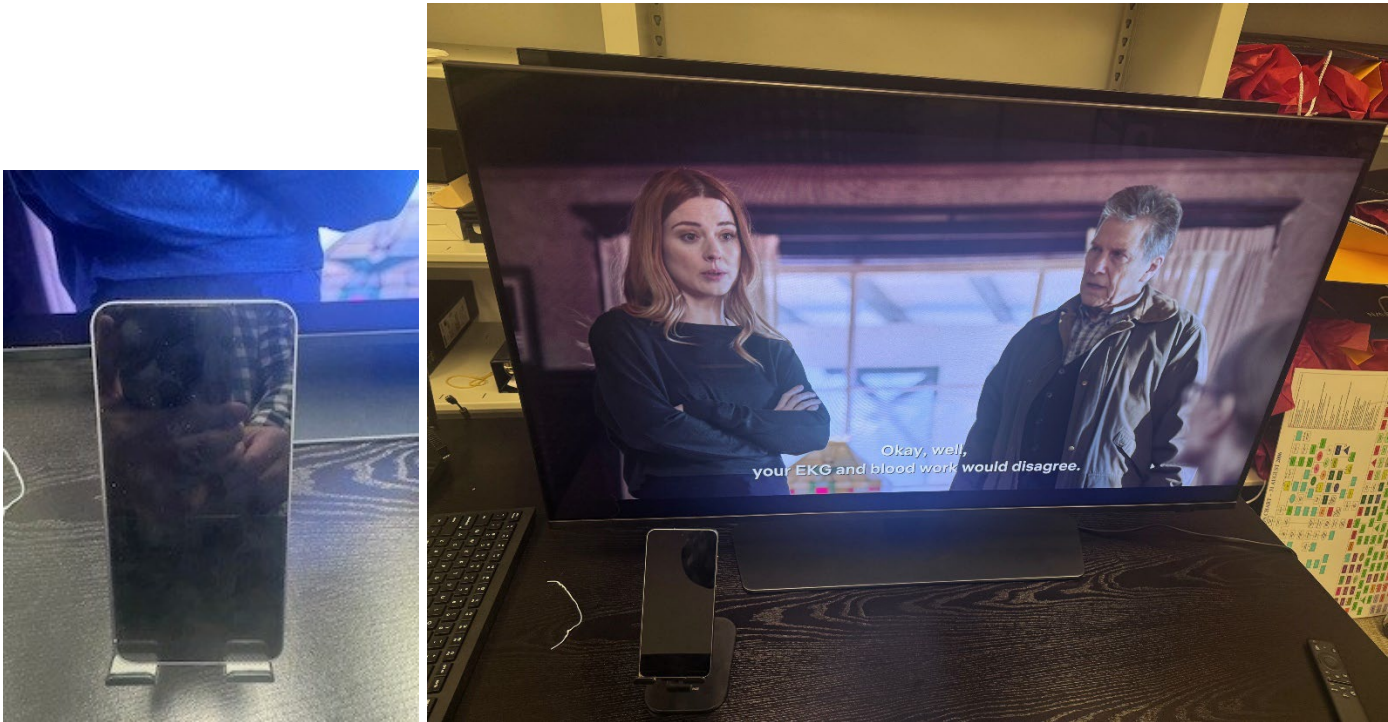
**APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT
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U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	This sequence demonstrates the “second condition” being met and the subsequent activation of the “second display mode” as recited in the claim.
[1.g] a third display mode during which a control icon and a first screen to be moved to a screen for performing authentication to execute an unlock operation are displayed on the display when the portable terminal apparatus wakes up from a sleep state based on a third condition, wherein the third condition is met when the wireless communication interface is able to communicate with the external device and the control screen is displayed on the display before the portable terminal apparatus enters a sleep state	Each of the Accused Samsung '646 Products performs a third display mode during which a control icon and a first screen to be moved to a screen for performing authentication to execute an unlock operation are displayed on the display when the portable terminal apparatus wakes up from a sleep state based on a third condition, wherein the third condition is met when the wireless communication interface is able to communicate with the external device and the control screen is displayed on the display before the portable terminal apparatus enters a sleep state. See User Guide and Technical Specifications of each of the Accused Samsung '646 Products available at Samsung's website showing that each of the devices performs a third display mode during which a control icon and a first screen to be moved to a screen for performing authentication to execute an unlock operation are displayed on the display when the portable terminal apparatus wakes up from a sleep state based on a third condition, wherein the third condition is met when the wireless communication interface is able to communicate with the external device and the control screen is displayed on the display before the portable terminal apparatus enters a sleep state. For example, the Samsung Galaxy S25 demonstrates this third display mode when its “third condition” is met. The first part of this condition occurs if a “control screen for remotely and wirelessly controlling an external device” is displayed on the Samsung Galaxy S25 before it enters a sleep state. For instance, this occurs when a user initiates casting from an application like Netflix (using its built-in casting feature that connects to a Chromecast) to an external display, and the phone displays an active control interface for that casting session. The second part of the condition is met if, upon waking the Samsung Galaxy S25 from that sleep state, its “wireless communication interface is able to communicate with the external device” (e.g., Wi-Fi remains connected, and the external casting device is still active and reachable on the network). When the Samsung Galaxy S25 subsequently wakes up from its sleep state under this met third condition, it enters the third display mode: a “control icon” related to the remote control or casting function is displayed on the display, AND a “first screen to be moved to a screen for performing authentication to execute an unlock operation” (typically the standard lock screen) is also displayed simultaneously.

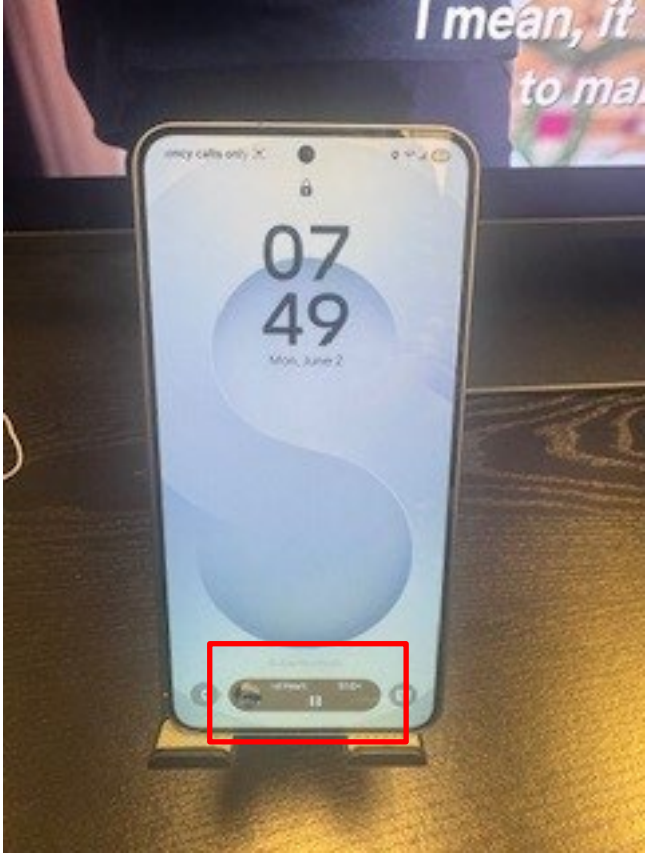
**APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT
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U.S. Patent No. 10,812,646	Exemplary Evidence of Infringement
	Below set of screenshots illustrates the 'third condition' and resulting “third display mode” on a Samsung Galaxy S25.  The first screenshot shows the Netflix application actively casting video, with its control interface (the “control screen”) displayed on the Samsung Galaxy S25 before the device enters a sleep state. For this

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	mode, it is established that the wireless communication interface remains able to communicate with the external device.  The second screenshot depicts the device entering a sleep state (e.g., screen turned off).

**APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT
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	 The third screenshot, taken upon waking the device from the sleep state under these conditions, shows the “third display mode”: both a “control icon” and the “first screen” (the standard lock screen, which is to be moved to a screen for performing authentication) are displayed simultaneously. This sequence demonstrates the “third condition” being met (control screen active before sleep AND able to communicate with the external device upon wake) and the subsequent activation of the “third display mode.”

**APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT
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[1.h] wherein the control screen is used to execute control operations on the external device based on the input received by the operation input interface, and	Each of the Accused Samsung '646 Products is configured wherein the control screen is used to execute control operations on the external device based on the input received by the operation input interface. <i>See</i> User Guide and Technical Specifications of each of the Accused Samsung '646 Products available at Samsung's website showing that each of the devices is configured wherein the control screen is used to execute control operations on the external device based on the input received by the operation input interface. For example, when the Samsung Galaxy S25 displays a “control screen” for remotely controlling an external device—such as the interface presented when using an application’s built-in casting function (e.g., from Netflix by tapping the cast icon) to control playback on that external device—that control screen is used to execute control operations on the external device based on the input received by the operation input interface. For instance, if the user taps a “pause” icon displayed on the casting control screen on the Samsung Galaxy S25, then, a corresponding command is sent to the external device, causing the video playback on the external device to pause.

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	 The screenshots shows the Samsung Galaxy S25 displaying an active control screen for Netflix casting to an external TV. On the phone's screen, the playback controls indicate that the content is currently paused. Simultaneously, the TV displays the casted content in the identical paused state. This synchronized state is the result of the user having provided an input (e.g., tapping the 'pause' button) on the phone's operation input interface (the touchscreen), which then, on information and belief, caused the control screen to execute the corresponding control operation on the external TV.

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	 Continuing from the previously paused state, above screenshot shows the Samsung Galaxy S25 after the user has tapped the “play” button on the Netflix control screen. The phone’s screen now indicates active playback. Simultaneously, the TV displays the casted content actively playing, in sync with the state shown

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	on the phone. This synchronized transition from a paused to a playing state further demonstrates that an input on the phone's operation input interface (tapping "play") caused the control screen to execute the corresponding control operation (resuming play) on the external TV.
[1.i] wherein, when the control icon is selected in the third display mode without the unlock operation, the wireless communication interface transmits a remote control signal corresponding to the selected control icon to the external device.	Each of the Accused Samsung '646 Products is configured wherein, when the control icon is selected in the third display mode without the unlock operation, the wireless communication interface transmits a remote control signal corresponding to the selected control icon to the external device. <i>See</i> User Guide and Technical Specifications of each of the Accused Samsung '646 Products available at Samsung's website showing that each of the devices is configured wherein, when the control icon is selected in the third display mode without the unlock operation, the wireless communication interface transmits a remote control signal corresponding to the selected control icon to the external device. For example, when the Samsung Galaxy S25 is in the third display mode (as detailed in [1.g]) and a user selects that control icon (e.g., by tapping it on the touchscreen), this selection occurs without the unlock operation needing to be fully completed first. On information and belief, following such selection of the control icon, the Samsung Galaxy S25's wireless communication interface transmits a remote control signal corresponding to the function of the selected control icon (e.g., play, pause) to the external device.

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	 A large Samsung television is shown on a dark wooden desk. The screen displays a scene from a movie or TV show, featuring three people in a living room. A man in a dark jacket is standing and talking to two people sitting on a couch. The room has a fireplace, a lamp, and a window with curtains. In the foreground, a black keyboard is partially visible on the left, and a smartphone is standing upright in the center, displaying the time 08:41. To the right of the TV, a remote control and some papers are on the desk. The background shows a cluttered shelf with various items, including boxes and bags.

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	 Screenshot depicting a Samsung Galaxy S25 on its lock screen in the foreground, while an external TV in the background displays video content. The image illustrates that a “remote control signal” was sent from the smartphone to the TV. This is demonstrated by the fact that a control icon displayed on the

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	smartphone's lock screen was pressed, and as a result, the video playback on the TV was controlled without requiring a full unlock operation.
[2.] The portable terminal apparatus according to claim 1, wherein the portable terminal apparatus is a smartphone and the external device is used for display of a video content.	Each of the Accused Samsung '646 Products is the portable terminal apparatus according to claim 1, wherein the portable terminal apparatus is a smartphone and the external device is used for display of a video content. <i>See</i> User Guide and Technical Specifications of each of the Accused Samsung '646 Products available at Samsung's website showing that each of the devices is configured wherein the portable terminal apparatus is a smartphone and the external device is used for display of a video content. For example, the Samsung Galaxy S25 is a smartphone. As detailed in the analysis for Claim 1, this smartphone is used to control an external device, such as a television, for the display of video content. This occurs when a user initiates casting from an application like Netflix on the phone to an external TV, which then displays the video content.

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[illegible]

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	A photograph showing a Samsung Smart TV on a desk. The TV screen displays a video of three people in a living room. In the foreground, a smartphone is placed vertically, displaying the time 08:41. The TV is a large, black, flat-screen model. The background of the room shows a window with curtains and some furniture. The screenshot shows a portable terminal apparatus (a smartphone) and a Samsung Smart TV that is actively being “used for display of a video content.”

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[3.] The portable terminal apparatus according to claim 1, wherein the control screen includes a plurality of selectable control icons that enable a user to execute control operations on content being displayed under the control of the external device, the control operations including an operation for selection of content to be displayed.	Each of the Accused Samsung '646 Products is a portable terminal apparatus according to claim 1, wherein the control screen includes a plurality of selectable control icons that enable a user to execute control operations on content being displayed under the control of the external device, the control operations including an operation for selection of content to be displayed. <i>See</i> User Guide and Technical Specifications of each of the Accused Samsung '646 Products available at Samsung's website showing that each of the devices includes a control screen with a plurality of selectable control icons that enable a user to execute control operations on content being displayed under the control of the external device, including an operation for selection of content to be displayed. For example, when using an application like Netflix on the Samsung Galaxy S25 to control video playback on an external TV, the interface on the phone acts as the claimed "control screen". This screen includes a "plurality of selectable control icons," such as play, pause, and a playback progress bar, that enable a user to execute control operations on the content being displayed on the TV. The control operations also include an "operation for selection of content to be displayed," as the control screen provides icons that allow the user to navigate the application's library to select a new movie or episode for playback on the external device.

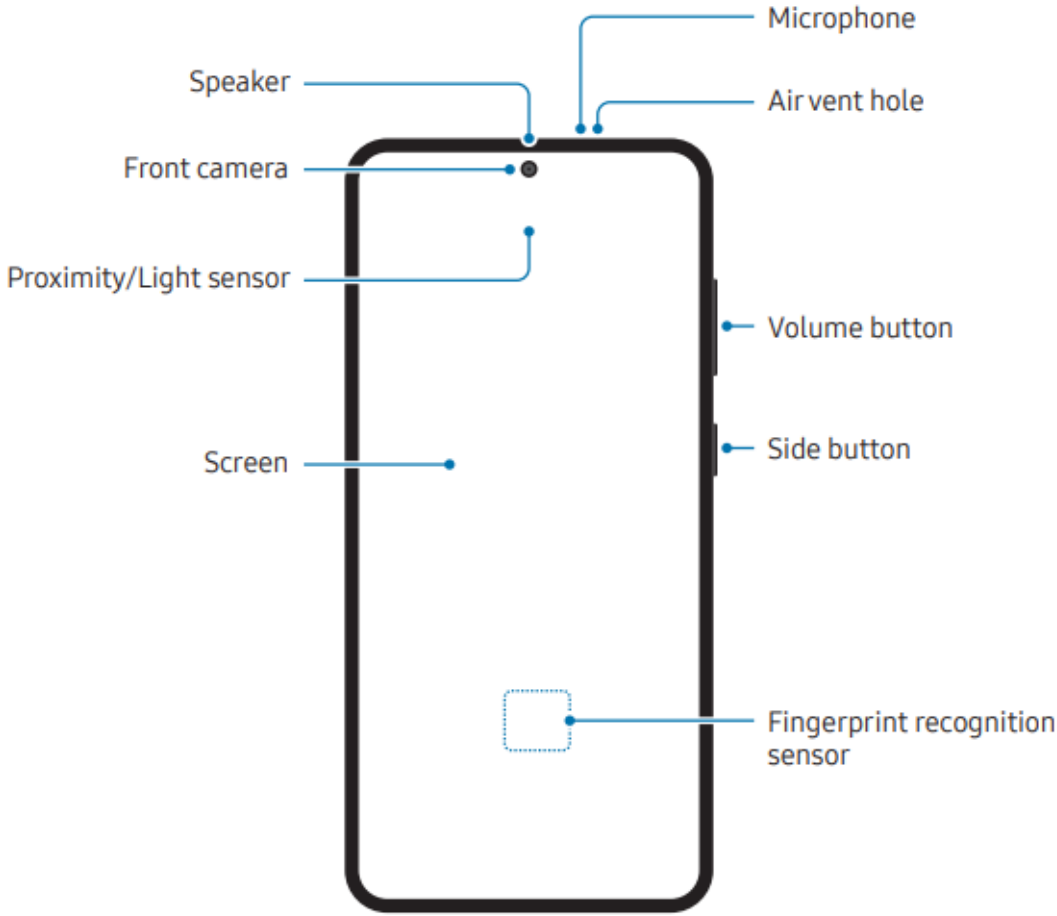
APPENDIX 9: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-8 AND 11 OF U.S. PATENT NO. 10,812,646 TO ACCUSED SAMSUNG '646 PRODUCTS

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[4.] The portable terminal apparatus according to claim 1, further comprising: a GPS receiver; a sensor determining a movement state of the portable terminal apparatus; an infrared sensor; a gyro sensor	Each of the Accused Samsung '646 Products is a portable terminal apparatus according to claim 1, further comprising: a GPS receiver; a sensor determining a movement state of the portable terminal apparatus; an infrared sensor; a gyro sensor determining angular movement of the portable terminal apparatus; and a physical button executing a predetermined operation when a user pushes the physical button. <i>See</i> User Guide and Technical Specifications of each of the Accused Samsung '646 Products available at Samsung's website showing that each of the devices further comprises a GPS receiver; a sensor determining a

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determining angular movement of the portable terminal apparatus; and a physical button executing a predetermined operation when a user pushes the physical button.	movement state of the portable terminal apparatus; an infrared sensor; a gyro sensor determining angular movement of the portable terminal apparatus; and a physical button executing a predetermined operation when a user pushes the physical button. For example, the Samsung Galaxy S25 includes a GPS receiver for navigation and location-based services. The device also includes an accelerometer, which is a sensor that determines the movement state of the apparatus, and a gyro sensor to determine its angular movement. The device is further configured with an infrared sensor, for example, as part of its proximity and light sensor capabilities. Finally, the Accused Samsung '646 Products include physical buttons, such as the side key and volume keys, that each execute a predetermined operation when pushed by a user. For example, the predetermined operation may be turning the device on/off or performing volume adjustments or capturing screenshots. Sensors Accelerometer, Barometer, Fingerprint Sensor, Gyro Sensor, Geomagnetic Sensor, Hall Sensor, Light Sensor, Proximity Sensor Samsung Galaxy S25 Technical Spec: https://www.samsung.com/us/smartphones/galaxy-s25/buy/galaxy-s25-128gb-unlocked-sm-s931uzkaxaa/ <table><tr><td>FEATURES</td><td>Sensors</td><td>Fingerprint (under display, ultrasonic), accelerometer, gyro, proximity, compass, barometer</td></tr><tr><td></td><td></td><td>Samsung DeX, Samsung Wireless DeX (desktop experience support)</td></tr><tr><td></td><td></td><td>Circle to Search</td></tr></table> https://www.gsmarena.com/samsung_galaxy_s25-13610.php	FEATURES	Sensors	Fingerprint (under display, ultrasonic), accelerometer, gyro, proximity, compass, barometer			Samsung DeX, Samsung Wireless DeX (desktop experience support)			Circle to Search
FEATURES	Sensors	Fingerprint (under display, ultrasonic), accelerometer, gyro, proximity, compass, barometer								
		Samsung DeX, Samsung Wireless DeX (desktop experience support)								
		Circle to Search								

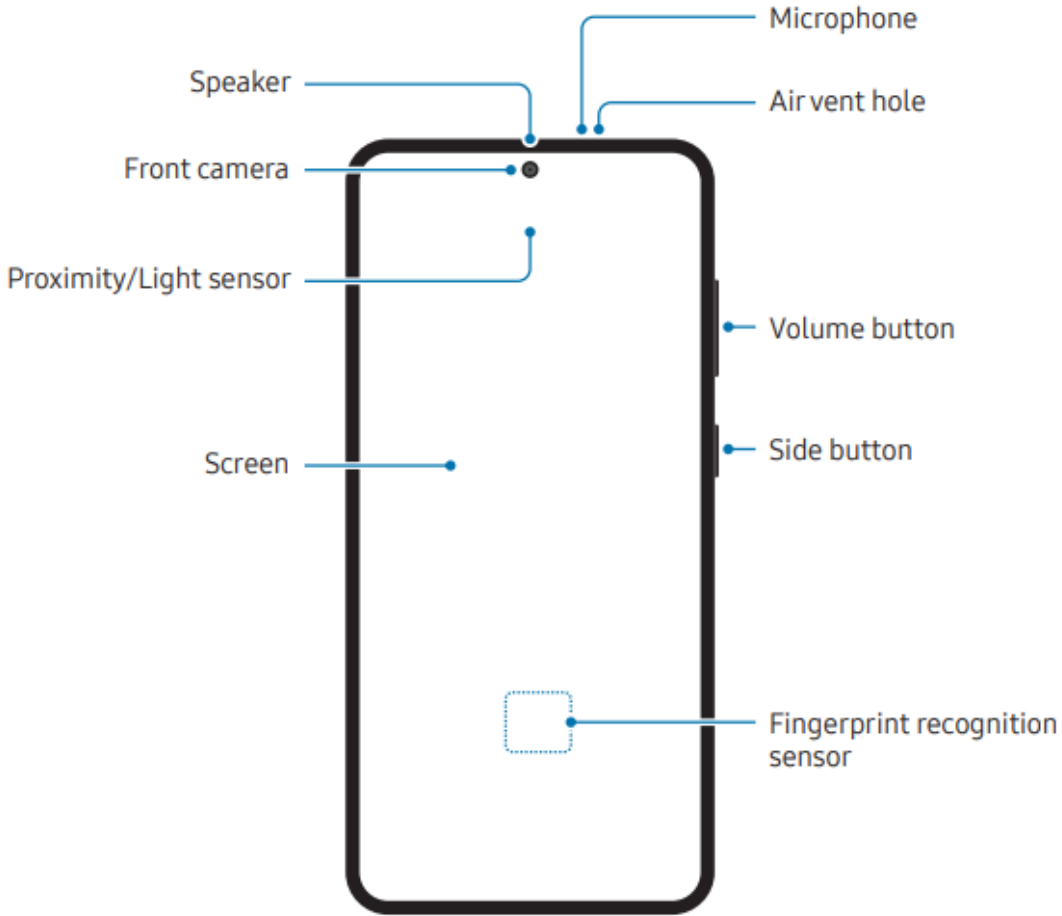
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	► Galaxy S25+, Galaxy S25:  The diagram shows a front view of a Samsung Galaxy S25+ smartphone. Labels with leader lines point to the following components: Speaker (top left), Front camera (top center), Proximity/Light sensor (top center, below camera), Screen (center), Microphone (top right), Air vent hole (top right, below microphone), Volume button (right side), Side button (right side, below volume button), and Fingerprint recognition sensor (bottom center, indicated by a dashed box). Samsung Galaxy S25 User Manual at 7: https://www.galaxys25userguide.com/wp-content/uploads/pdf/galaxy-s25-user-guide-SM-S93X-EU-15-English.pdf

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[5.] The portable terminal apparatus according to claim 1, further comprising: a plurality of physical buttons, wherein the simultaneous pushing of the plurality of physical buttons results in a single predetermined operation being executed by the portable terminal apparatus.	Each of the Accused Samsung '646 Products is a portable terminal apparatus according to claim 1, further comprising a plurality of physical buttons, wherein the simultaneous pushing of the plurality of physical buttons results in a single predetermined operation being executed by the portable terminal apparatus. <i>See</i> User Guide and Technical Specifications of each of the Accused Samsung '646 Products available at Samsung's website showing that the devices comprise a plurality of physical buttons, and that the simultaneous pushing of the plurality of physical buttons results in a single predetermined operation being executed by the portable terminal apparatus. For example, the Samsung Galaxy S25 includes a plurality of physical buttons, including the side key and the volume down key. The simultaneous pushing of this plurality of buttons—specifically, pressing the side key and volume down key at the same time—results in a single predetermined operation being executed: the capture of a screenshot of the current display.

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	► Galaxy S25+, Galaxy S25:  Samsung Galaxy S25 User Manual at 7: https://www.galaxys25userguide.com/wp-content/uploads/pdf/galaxy-s25-user-guide-SM-S93X-EU-15-English.pdf

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	Screen capture Capture a screenshot while using the device and write on, draw on, crop, or share the captured screen. You can capture the current screen and scrollable area. How to capture a screenshot Use the following methods to capture a screenshot. You can check the captured screenshots in Gallery. • Button capture Press the Side button and the Volume Down button simultaneously. • Swipe capture With the edge of your hand, swipe your hand to the left or right across the screen. If capturing a screenshot by swiping is not turned on, open Settings, tap Advanced features → Motions and gestures, and then tap the Palm swipe to capture switch to turn it on.  It is not possible to capture a screenshot while using some apps and features. Samsung Galaxy S25 User Manual at 33: https://www.galaxys25userguide.com/wp-content/uploads/pdf/galaxy-s25-user-guide-SM-S93X-EU-15-English.pdf
[6.] The portable terminal apparatus according to claim 1, wherein the	Each of the Accused Samsung '646 Products is a portable terminal apparatus according to claim 1, wherein the unlock operation in the first display mode, the second display mode, and the third display mode is

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unlock operation in the first display mode, the second display mode, and the third display mode is initiated by sliding the first screen.	initiated by sliding the first screen. <i>See</i> User Guide and Technical Specifications of each of the Accused Samsung '646 Products available at Samsung's website showing that the unlock operation in the first, second, and third display modes is initiated by sliding the first screen. For example, on the Samsung Galaxy S25, when the device is awakened from a sleep state in any of the display modes recited in claims [1.e], [1.f], and [1.g], the user is presented with the lock screen (the "first screen"). To begin the unlock process, the user initiates the unlock operation by performing a sliding or swiping gesture on this screen. This action moves the first screen and transitions the device to a screen for performing authentication, such as PIN or password entry. Lock screen Pressing the Side button turns off the screen and locks it. Also, the screen turns off and automatically locks if the device is not used for a specified period. To unlock the screen, swipe in any direction when the screen turns on. If the screen is off or the Always On Display is on, press the Side button or double tap the screen. For more information about the Always On Display, refer to Always On Display.

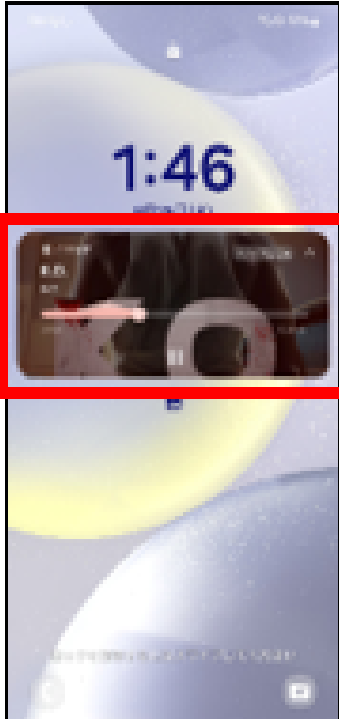
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	Editing shortcuts You can change the shortcuts at the bottom of the locked screen to other apps or features you want. Touch and hold on the locked screen, tap the shortcut icon, select an app or feature you want, and then tap Done. Changing the screen lock method To change the screen lock method, open Settings, tap Lock screen and AOD → Screen lock and biometrics, and then select a method. When you set a pattern, PIN, password, or your biometric data for the screen lock method, you can protect your personal information by preventing others from accessing your device. After setting the screen lock method, the device will require an unlock code whenever unlocking it.  You can set your device to perform a factory data reset if you enter the unlock code incorrectly several times in a row and reach the attempt limit. Open Settings, tap Lock screen and AOD → Secure lock settings, unlock the screen using the preset screen lock method, and then tap the Auto factory reset switch to turn it on. Samsung Galaxy S25 User Manual at 27-28: https://www.galaxys25userguide.com/wp-content/uploads/pdf/galaxy-s25-user-guide-SM-S93X-EU-15-English.pdf

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	 The screenshots above demonstrates that the unlock operation is initiated by sliding the first screen. The first image shows the lock screen with a user's finger initiating a sliding gesture on the display. The second image shows the result of this action, where the device has transitioned to the "screen for performing authentication," in this case, a PIN entry screen.
[7.] The portable terminal apparatus according to claim 1, wherein in the third display mode the control icon and the first screen are displayed simultaneously on the display and	Each of the Accused Samsung '646 Products is a portable terminal apparatus according to claim 1, wherein in the third display mode the control icon and the first screen are displayed simultaneously on the display and are arranged such that at least a portion of the control icon is displayed in a top half of the display screen. <i>See</i> User Guide and Technical Specifications of each of the Accused Samsung '646 Products available at Samsung's website showing that in the third display mode the control icon and the first screen

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are arranged such that at least a portion of the control icon is displayed in a top half of the display screen.	are displayed simultaneously, and that the control icon is arranged such that at least a portion of it is displayed in the top half of the display screen. For example, when the Samsung Galaxy S25 is in the third display mode as recited in claim [1.g], the lock screen (“first screen”) and the media “control icon” are displayed simultaneously. On the lock screen, the media control icon typically appears as a widget or notification located below the clock, placing it entirely within the top half of the display screen.  This screenshot shows the lock screen of a Samsung Galaxy S24 (running One UI 6.1). It demonstrates that the “first screen” (the lock screen) and the media “control icon” (the media player widget) are displayed

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	simultaneously. As shown, the media control icon is positioned below the clock, arranging the widget entirely within the top half of the display screen, thereby meeting the claim limitation.
[8.] The portable terminal apparatus according to claim 1, wherein the wireless communication interface is configured to communicate with the external device by implementing an encryption scheme.	Each of the Accused Samsung '646 Products is a portable terminal apparatus according to claim 1, wherein the wireless communication interface is configured to communicate with the external device by implementing an encryption scheme. For example, upon information and belief, the Accused Samsung '646 Products support wireless display standards such as Miracast. The Miracast standard requires that the communication link between the phone and the external device be secured using an encryption scheme, specifically WPA2 (Wi-Fi Protected Access 2) Wi-Fi CERTIFIED Miracast™ Technical Overview  July 2017

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	Certification prerequisites To be certified for Miracast, a device must also be Wi-Fi CERTIFIED for: • Wi-Fi CERTIFIED ac or Wi-Fi CERTIFIED n: Leverages 2.4 and 5 GHz bands • WPA2: Required in all Wi-Fi CERTIFIED devices, provides IEEE 802.1X controlled access, secure Extensible Authentication Protocol (EAP)-based authentication and connectivity through encryption of the over-the-air traffic
[11.] The portable terminal apparatus according to claim 8, wherein the encryption scheme is WPA (WiFi Protected Access) 2.	Each of the Accused Samsung '646 Products includes communicate with the external device by implementing an encryption scheme, such as WPA 2. For example, upon information and belief, the Accused Samsung '646 Products support wireless display standards such as Miracast. The Miracast standard requires that the communication link between the phone and the external device be secured using an encryption scheme, specifically WPA2 (Wi-Fi Protected Access 2)

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	Wi-Fi CERTIFIED Miracast™ Technical Overview  July 2017 Certification prerequisites To be certified for Miracast, a device must also be Wi-Fi CERTIFIED for: • Wi-Fi CERTIFIED ac or Wi-Fi CERTIFIED n: Leverages 2.4 and 5 GHz bands • WPA2: Required in all Wi-Fi CERTIFIED devices, provides IEEE 802.1X controlled access, secure Extensible Authentication Protocol (EAP)-based authentication and connectivity through encryption of the over-the-air traffic

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	Certification prerequisites To be certified for Miracast, a device must also be Wi-Fi CERTIFIED for: • Wi-Fi CERTIFIED ac or Wi-Fi CERTIFIED n: Leverages 2.4 and 5 GHz bands • WPA2: Required in all Wi-Fi CERTIFIED devices, provides IEEE 802.1X controlled access, secure Extensible Authentication Protocol (EAP)-based authentication and connectivity through encryption of the over-the-air traffic