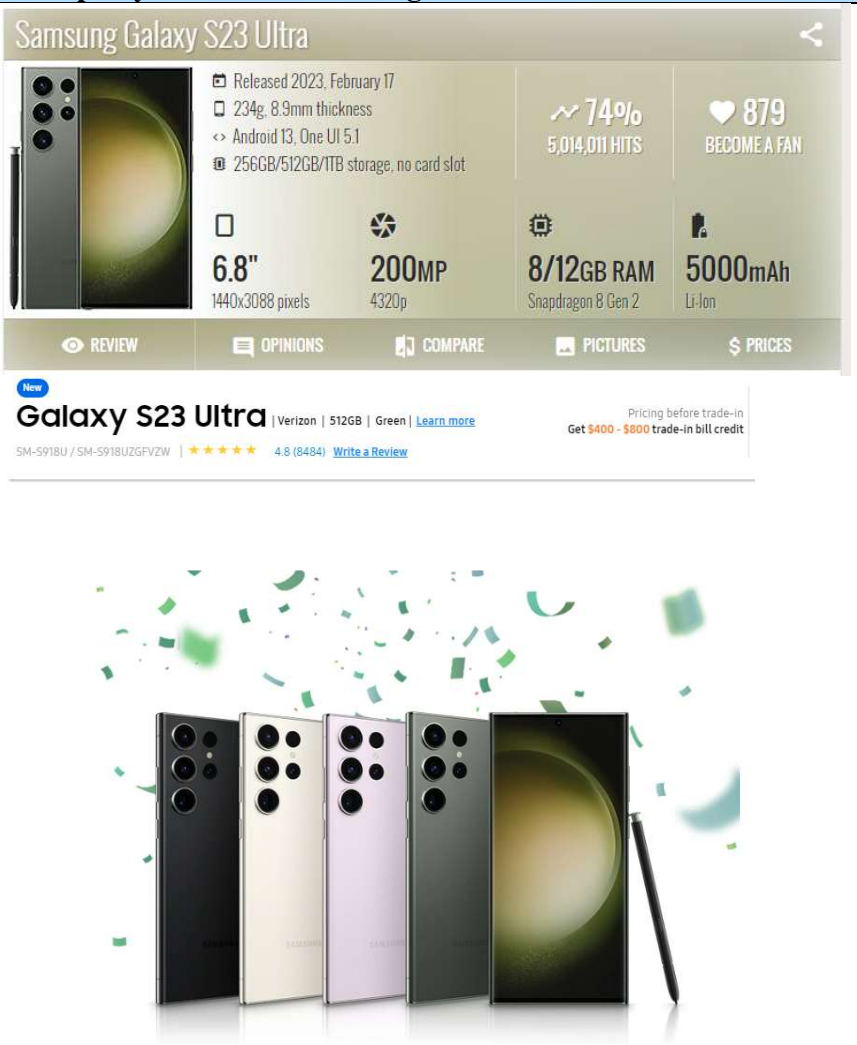
APPENDIX 4: MARCH 7, 2024 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1–11 OF U.S. PATENT NO. 11,223,757 TO ACCUSED SAMSUNG '757 PRODUCTS

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
[1.pre] An image recording device configured to execute a plurality of different photographing processes, comprising:	Each of the Accused Samsung '757 Products[1] includes an image recording device configured to execute a plurality of different photographing processes. *See e.g.*, Technical Specifications of each of the Accused Samsung '757 Products available at Samsung's website showing that each of the devices include an image recording device configured to execute a plurality of different photographing processes (https://www.samsung.com/us/mobile/ and https://www.samsung.com/us/tablets/). As a non-limiting example of an image recording device, each of the Accused Samsung '757 Products is a smartphone and/or tablet. For example, the Accused Samsung '757 Products include a plurality of front and rear facing cameras that are configured to execute a plurality of different photographing processes such as taking still-images in different modes:

[1] The Accused Samsung '757 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 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 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 Fold2 5G; Galaxy Z Fold3 5G; Galaxy Z Fold4; Galaxy Z Fold5; 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; and Galaxy Tab S9+.

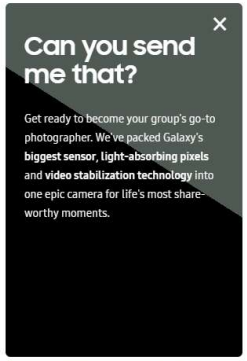
Samsung - Exhibit 1012 - Page 1

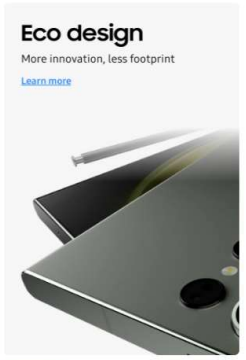
APPENDIX 4: MARCH 7, 2024 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1–11 OF U.S. PATENT NO. 11,223,757 TO ACCUSED SAMSUNG '757 PRODUCTS

U.S. Patent No. 11,223,757	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.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement













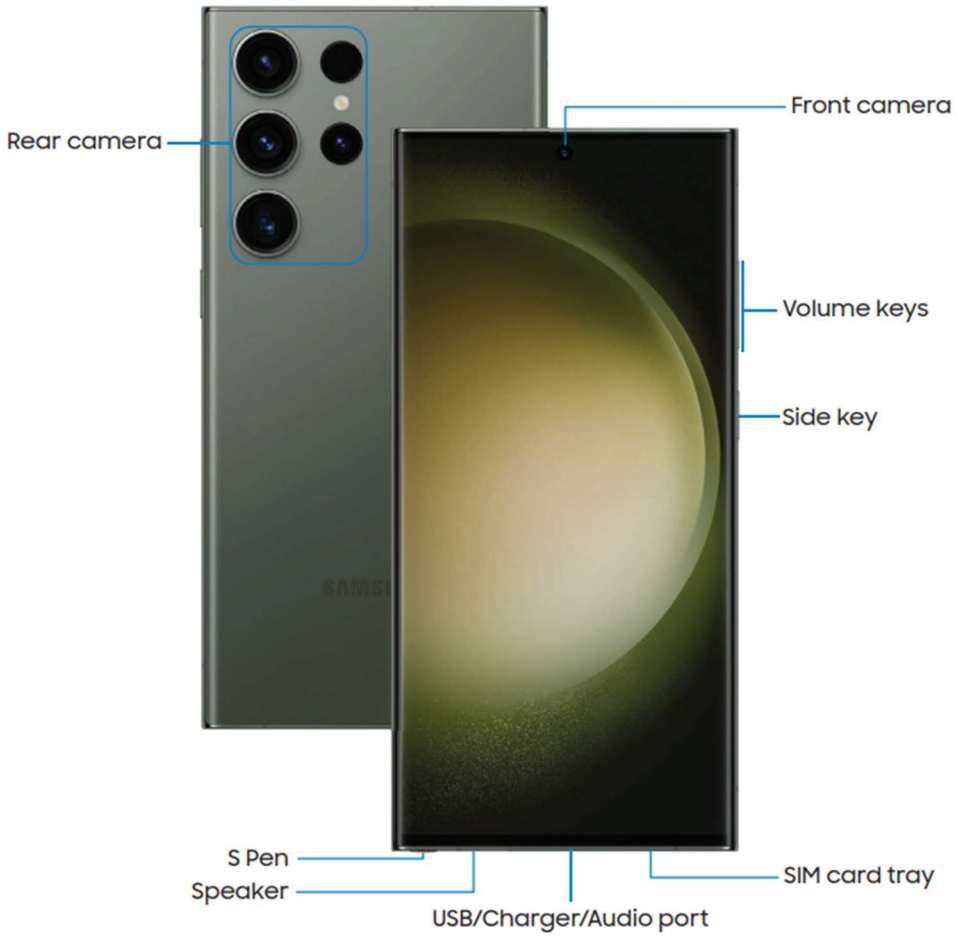


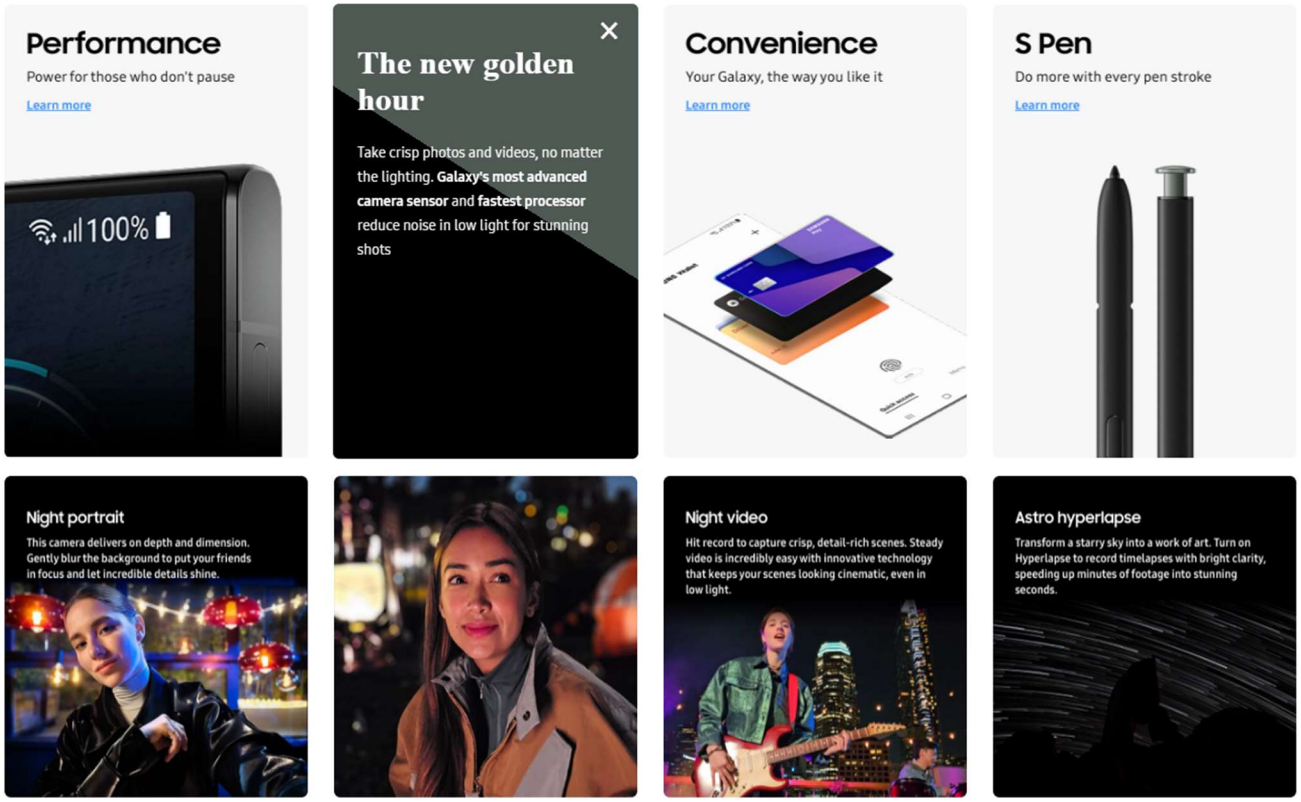


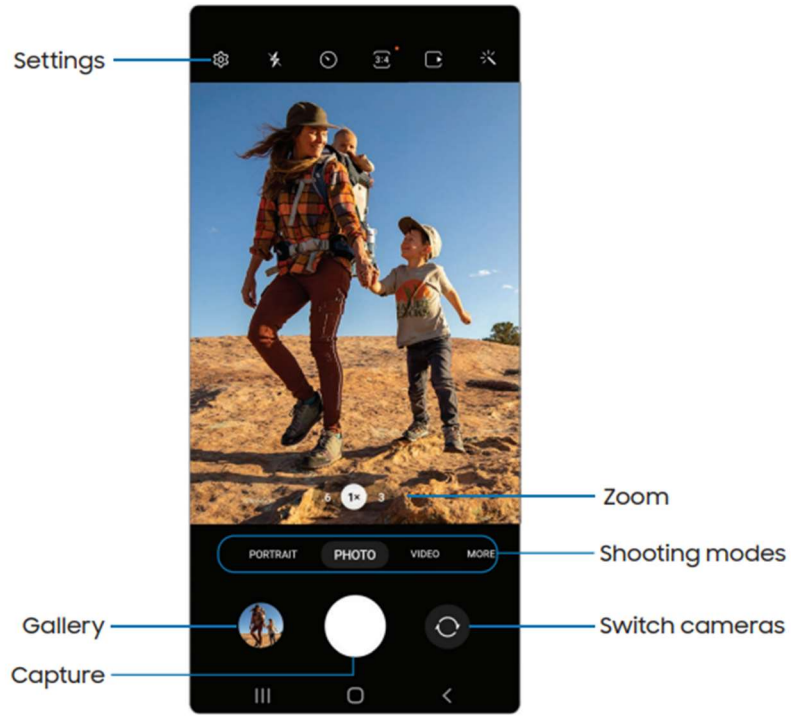


MAIN CAMERA	Quad	200 MP, f/1.7, 24mm (wide), 1/1.3", 0.6µm, multi-directional PDAF, Laser AF, OIS
		10 MP, f/4.9, 230mm (periscope telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 10x optical zoom
		10 MP, f/2.4, 70mm (telephoto), 1/3.52", 1.12µm, Dual Pixel PDAF, OIS, 3x optical zoom
		12 MP, f/2.2, 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

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.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Galaxy S23 Ultra  Galaxy S23 Ultra technical specifications; https://downloadcenter.samsung.com/content/UM/202302/20230228053129621/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL_AC_022023.pdf at 5.

U.S. Patent No. 11,223,757	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.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Camera Enjoy a full kit of pro lenses and pro-grade video modes and settings. ○ From Apps, tap Camera. TIP Quickly press the Side key twice to open the Camera app.  Galaxy S23 Ultra technical specification; https://downloadcenter.samsung.com/content/UM/202302/20230228053129621/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL_AC_022023.pdf at 58.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

Configure shooting mode

Allow the camera to determine the ideal mode for your pictures or choose from several shooting modes.

- From **Camera**, swipe the screen right and left to change shooting modes.
  - **Portrait**: Adjust the background of your shots for portrait photos.
  - **Photo**: Allow the camera to determine the ideal settings for pictures.
  - **Video**: Allow the camera to determine the ideal settings for videos.
  - **More**: Choose other available shooting modes. Tap **Add** to drag modes into or out of the shooting modes tray at the bottom of the Camera screen.
    - **Expert RAW**: Download the Expert RAW shooting mode.
    - **Pro**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while taking pictures.
    - **Pro video**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while recording videos.
    - **Single take**: Capture multiple pictures and video clips from different angles.
    - **Panorama**: Create a linear image by taking pictures in either a horizontal or vertical direction.
    - **Night**: Use this to take photos in low-light conditions, without using the flash.
    - **Food**: Take pictures that emphasize the vivid colors of food.
    - **Super slow-mo**: Record videos at an extremely high frame rate for viewing in high quality slow motion. You can play a specific section of each video in slow motion after recording it.
    - **Slow motion**: Record videos at a high frame rate for viewing in slow motion.
    - **Hyperlapse**: Create a time lapse video by recording at various frame rates. The frame rate is adjusted depending on the scene being recorded and the movement of the device.
    - **Portrait video**: Adjust the background of your shots for portrait videos.
    - **Director's view**: Access advanced features such as lock onto a subject in view, change between different rear camera lenses, and more.

Id. at 59–60.

APPENDIX 4: MARCH 7, 2024 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1–11 OF U.S. PATENT NO. 11,223,757 TO ACCUSED SAMSUNG '757 PRODUCTS

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	  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.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

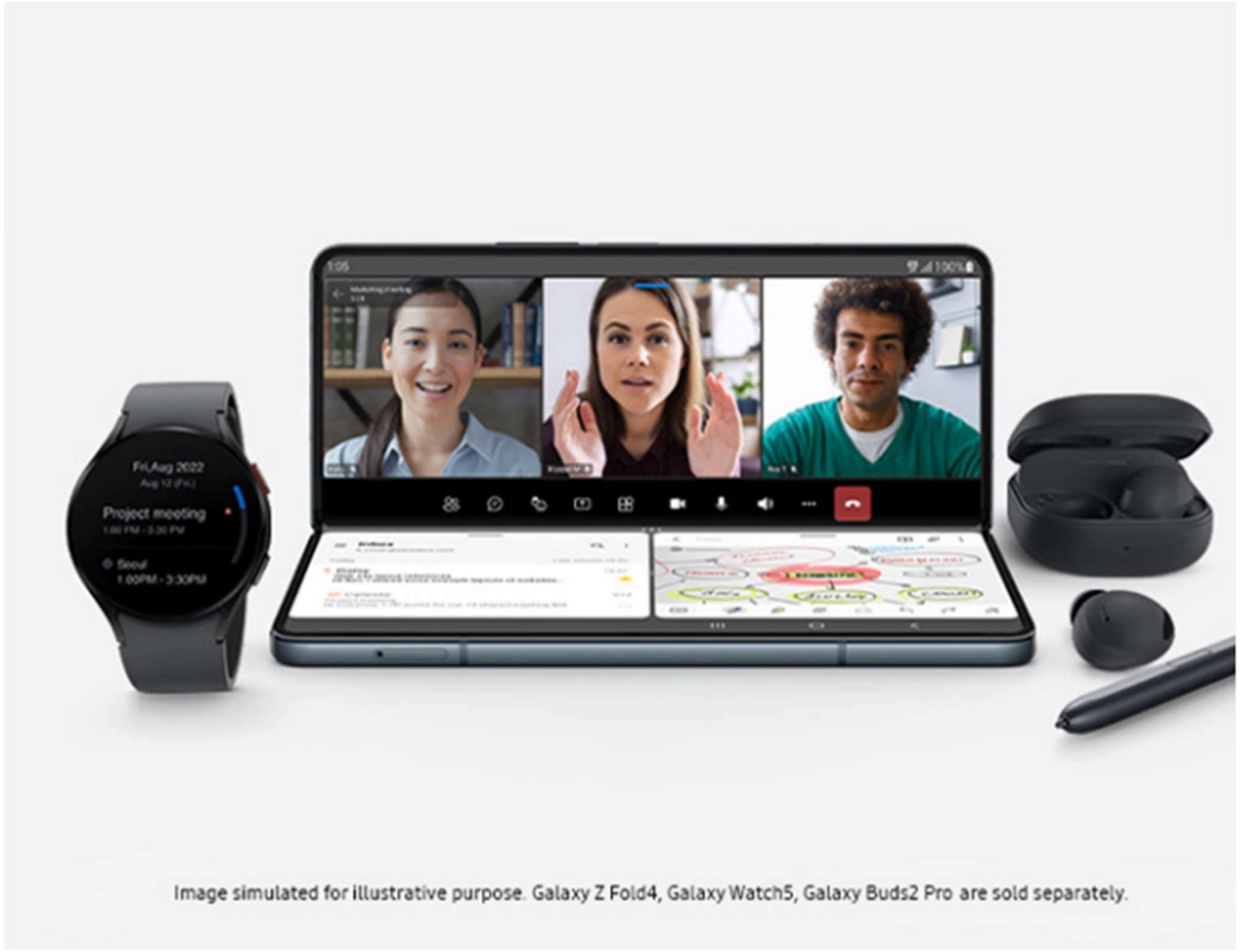




MAIN CAMERA	Triple	50 MP, f/1.8, 23mm (wide), 1.0µm, Dual Pixel PDAF, OIS
		10 MP, f/2.4, 66mm (telephoto), 1.0µm, PDAF, OIS, 3x optical zoom
		12 MP, f/2.2, 123˚, 12mm (ultrawide), 1.12µm
	Features	LED flash, HDR, panorama
	Video	8K@24fps, 4K@60fps, 1080p@60/240fps (gyro-EIS), 720p@960fps (gyro-EIS), 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

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.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Galaxy Z Fold4  Galaxy Z Fold4 technical specification; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_fold4_d1e605.html.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Fold4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzeeatt/.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

Galaxy Z Fold4 Camera features



Capture and view

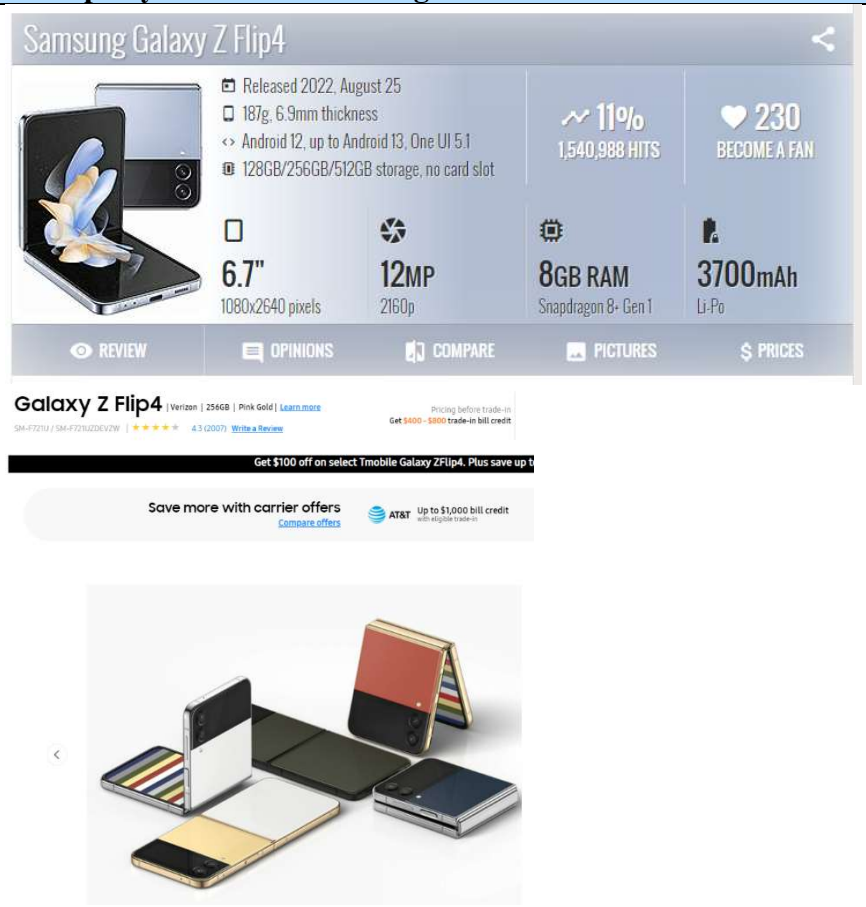
View the pictures and videos you capture while still using your camera. Images will be shown on the side panel until the Camera app is closed. This feature is only available when the device is open.

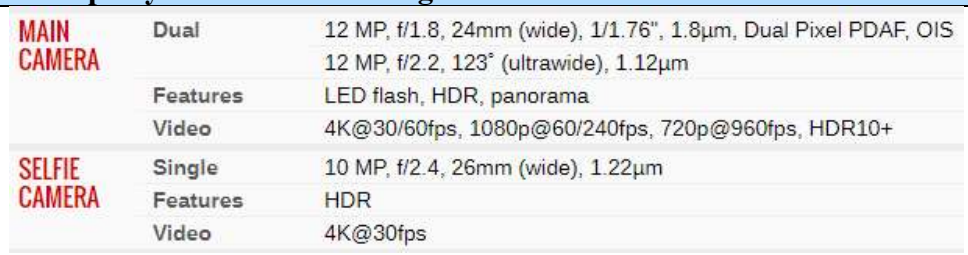
- From **Camera**, tap **Capture View**.

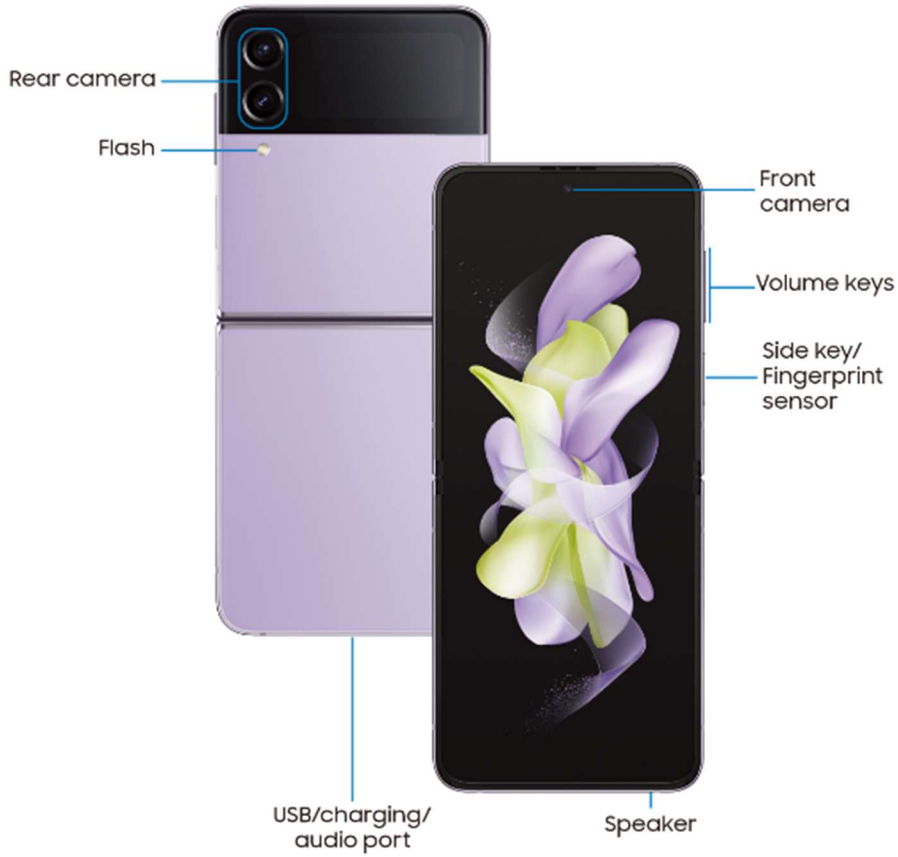
Galaxy Z Fold4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_fold4_camera_features_d1e3185.

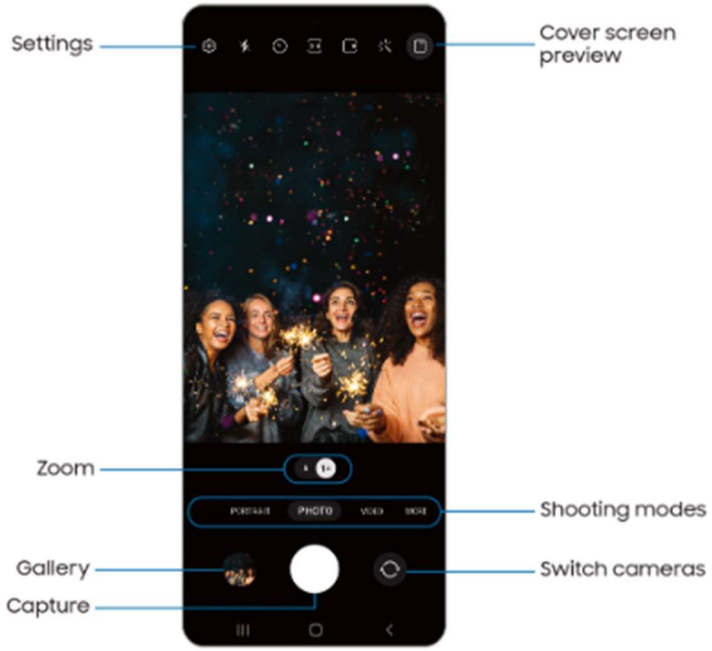
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Configure shooting mode Allow the camera to determine the ideal mode for your pictures or choose from several shooting modes. ◦ From **Camera**, swipe the screen right and left to change shooting modes. • **Portrait**: Adjust the background of your shots for portrait photos. • **Photo**: Allow the camera to determine the ideal settings for pictures. • **Video**: Allow the camera to determine the ideal settings for videos. • **More**: Choose other available shooting modes. Tap **Add** to drag modes into or out of the shooting modes tray at the bottom of the Camera screen. - **Pro**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while taking pictures. - **Pro video**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while recording videos. - **Single take**: Capture multiple pictures and video clips from different angles. - **Panorama**: Create a linear image by taking pictures in either a horizontal or vertical direction. - **Night**: Use this to take photos in low-light conditions, without using the flash. - **Food**: Take pictures that emphasize the vivid colors of food. - **Super slow-mo**: Record videos at an extremely high frame rate for viewing in high quality slow motion. You can play a specific section of each video in slow motion after recording it. - **Slow motion**: Record videos at a high frame rate for viewing in slow motion. - **Hyperlapse**: Create a time lapse video by recording at various frame rates. The frame rate is adjusted depending on the scene being recorded and the movement of the device. - **Portrait video**: Adjust the background of your shots for portrait videos. - **Director's view**: Access advanced features such as lock onto a subject in view, change between different rear camera lenses, and more. Galaxy Z Fold4 technical specification; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/configure_shooting_mode_d1e3233.html.

APPENDIX 4: MARCH 7, 2024 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1–11 OF U.S. PATENT NO. 11,223,757 TO ACCUSED SAMSUNG '757 PRODUCTS

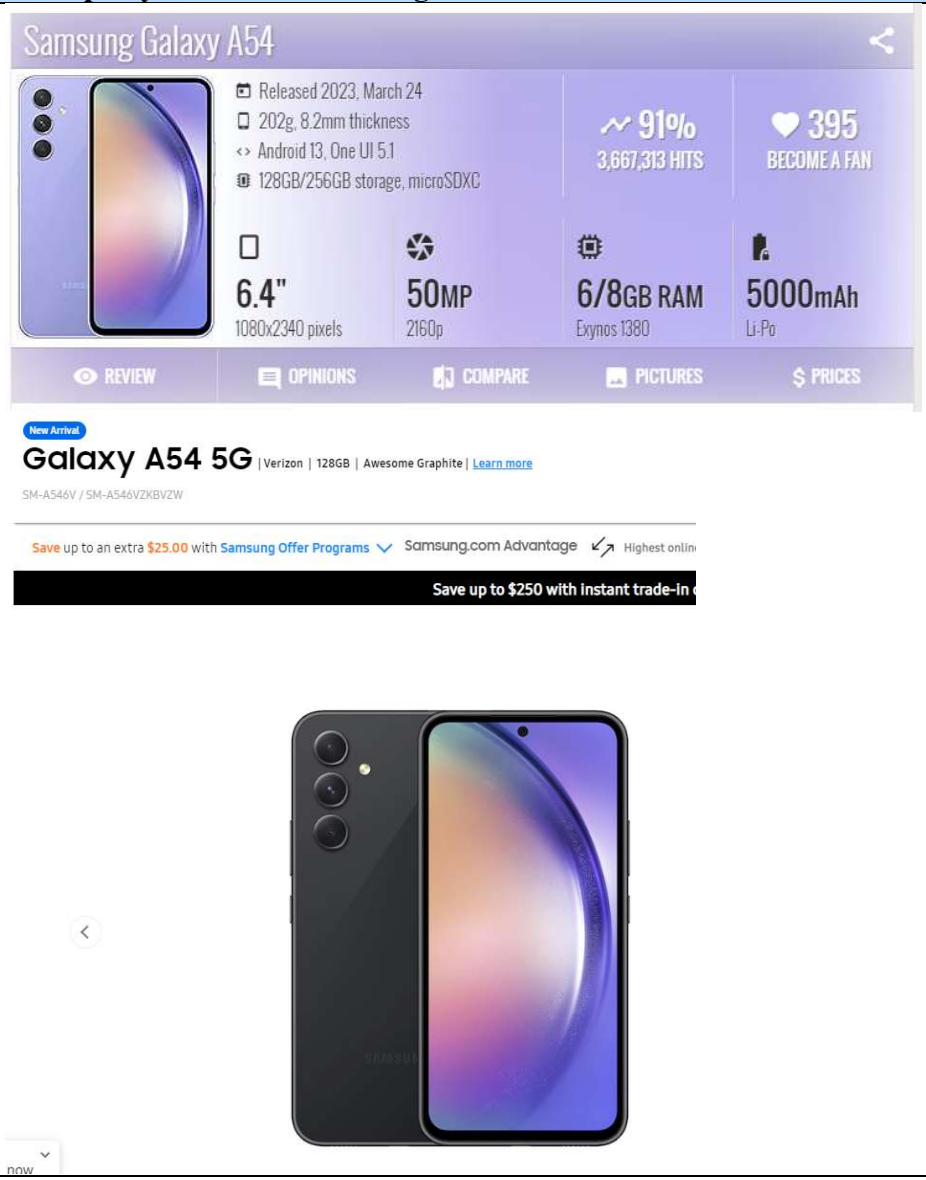
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Flip4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-flip4/buy/galaxy-z-flip4-256gb-t-mobile-sm-f721uzdexau/; https://www.gsmarena.com/samsung_galaxy_z_flip4-11538.php.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Flip4 technical specifications; https://www.gsmarena.com/samsung_galaxy_z_flip4-11538.php.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Galaxy Z Flip4  Galaxy Z Flip4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_flip4_d1e661.html.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Galaxy Z Flip4 Camera features  **Selfies in Flex mode** Use your camera in Flex mode for hands-free selfies. 1. Place your phone on a flat surface in table top view. 2. From **Camera**, tap **Portrait**. 3. Tap or to move the camera preview to the top or bottom half of the screen. Galaxy Z Flip4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_flip4_camera_features_d1e3206.html.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Configure shooting mode Allow the camera to determine the ideal mode for your pictures or choose from several shooting modes. ◦ From **Camera**, swipe the screen right and left to change shooting modes. • **Portrait**: Adjust the background of your shots for portrait photos. • **Photo**: Allow the camera to determine the ideal settings for pictures. • **Video**: Allow the camera to determine the ideal settings for videos. • **More**: Choose other available shooting modes. Tap **Add** to drag modes into or out of the shooting modes tray at the bottom of the Camera screen. - **Pro**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while taking pictures. - **Pro video**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while recording videos. - **Single take**: Capture multiple pictures and video clips from different angles. - **Panorama**: Create a linear image by taking pictures in either a horizontal or vertical direction. - **Night**: Use this to take photos in low-light conditions, without using the flash. - **Food**: Take pictures that emphasize the vivid colors of food. - **Super slow-mo**: Record videos at an extremely high frame rate for viewing in high quality slow motion. You can play a specific section of each video in slow motion after recording it. - **Slow motion**: Record videos at a high frame rate for viewing in slow motion. - **Hyperlapse**: Create a time lapse video by recording at various frame rates. The frame rate is adjusted depending on the scene being recorded and the movement of the device. - **Portrait video**: Adjust the background of your shots for portrait videos. - **Director's view**: Access advanced features such as lock onto a subject in view, change between different rear camera lenses, and more. Galaxy Z Flip4 technical specification; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/configure_shooting_mode_d1e3233.html.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Galaxy A54 5G technical specifications; https://www.samsung.com/us/mobile/phones/galaxy-a54/buy/; https://www.gsmarena.com/samsung_galaxy_a54-12070.php.

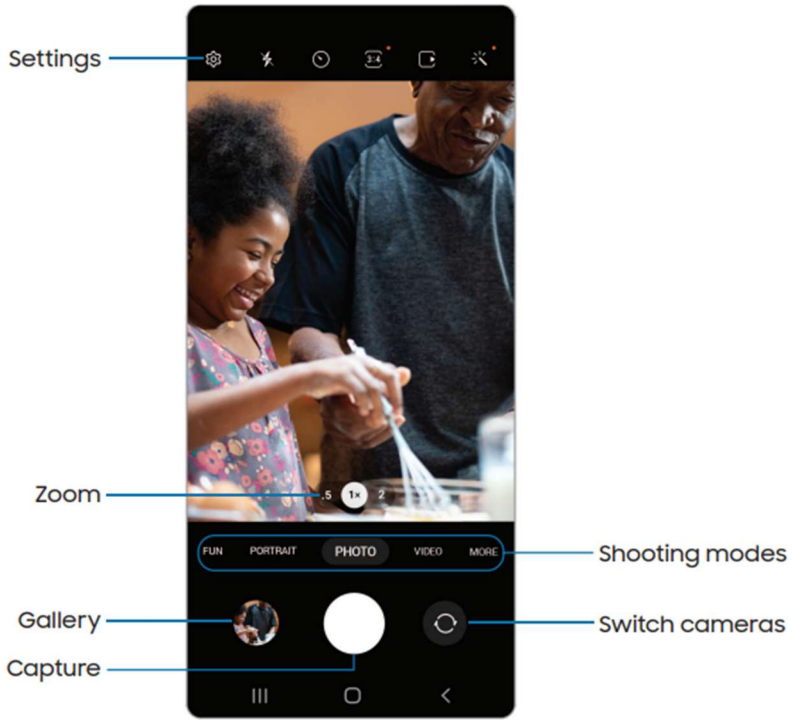


MAIN CAMERA	Triple	50 MP, f/1.8, (wide), 1/1.56", 1.0µm, PDAF, OIS
		12 MP, f/2.2, 123˚ (ultrawide), 1.12µm
		5 MP, f/2.4, (macro)
	Features	LED flash, panorama, HDR
	Video	4K@30fps, 1080p@30/60fps, 720p@480fps
SELFIE CAMERA	Single	32 MP, f/2.2, 26mm (wide), 1/2.8", 0.8µm
	Video	4K@30fps, 1080p@30/60fps

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.

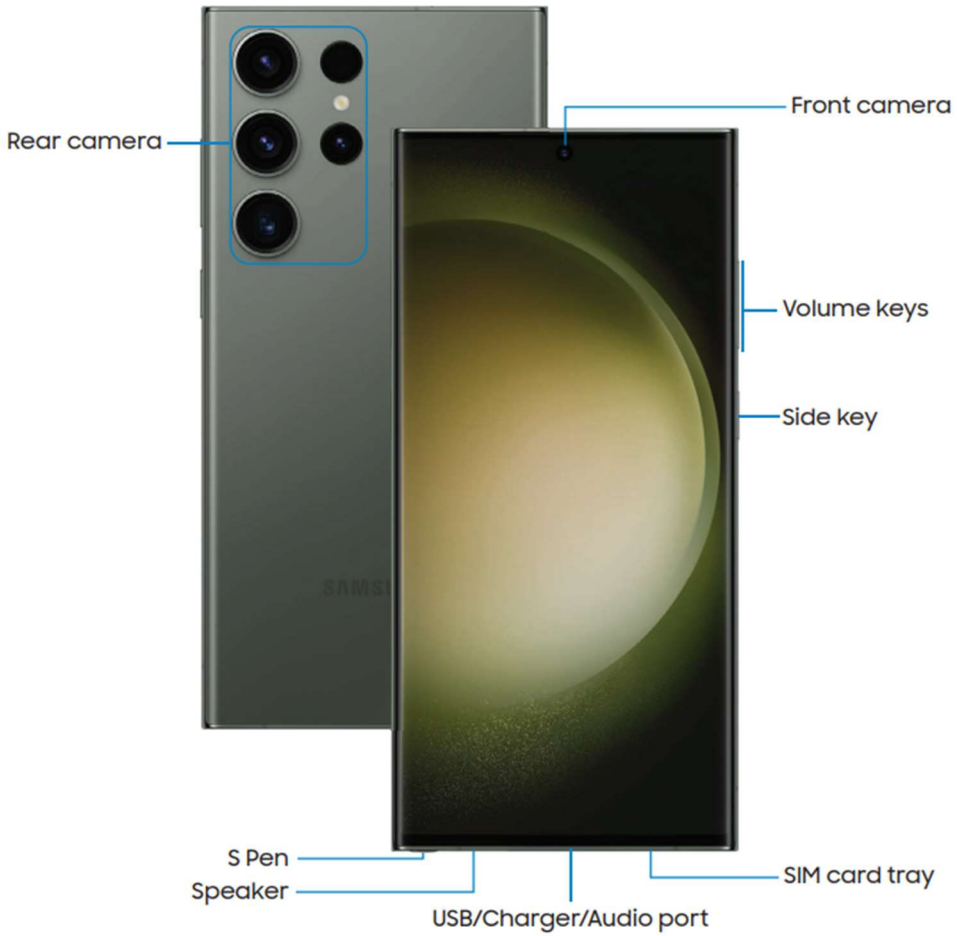
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy A54 5G technical specifications; https://downloadcenter.samsung.com/content/UM/202304/20230407022332214/SAM_A546_EN_UM_OS13_040523_FINAL.pdf at 5.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Samsung Galaxy A54 5G technical specifications; https://www.samsung.com/us/mobile/phones/galaxy-a/galaxy-a54-5g-128gb-unlocked-sm-a546uzkbxaa/?cid=sem-mktg-pfs-mob-us-google-na-04062023-141977-&ds_e=GOOGLE-cr:0-pl:331187244-&ds_c=FF~A54+Core_CN~hhp+a+series_PH~on_MK~usnat_BS~mx_PR~smart_SB~A54_FS~lo_CA~kew_KS~ba_MT~exact-&ds_ag=AG~Core-

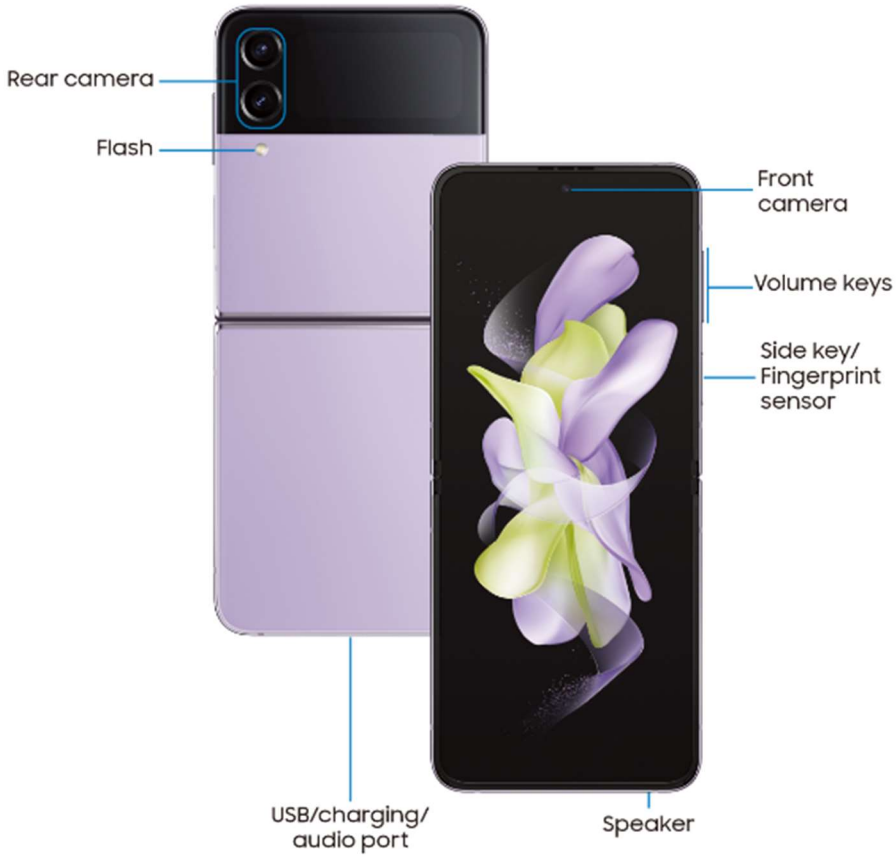
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
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U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Galaxy A54 5G technical specifications; https://downloadcenter.samsung.com/content/UM/202304/20230407022332214/SAM_A546_EN_UM_OS13_040523_FINAL.pdf at 40. Configure shooting mode Allow the camera to determine the ideal mode for your pictures or choose from several shooting modes. ○ From Camera, swipe the screen right and left to change shooting modes. • **Fun**: Change your look and reimagine your world with unique Snapchat Lenses. • **Portrait**: Adjust the background of your shots for portrait photos. • **Photo**: Allow the camera to determine the ideal settings for pictures. • **Video**: Allow the camera to determine the ideal settings for videos. • **More**: Choose other available shooting modes. Tap ⊕ **Add** to drag modes into or out of the shooting modes tray at the bottom of the Camera screen. – **Pro**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while taking pictures. – **Macro**: Capture close-up images of objects from 3-5 cm away. – **Pro video**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while recording videos.

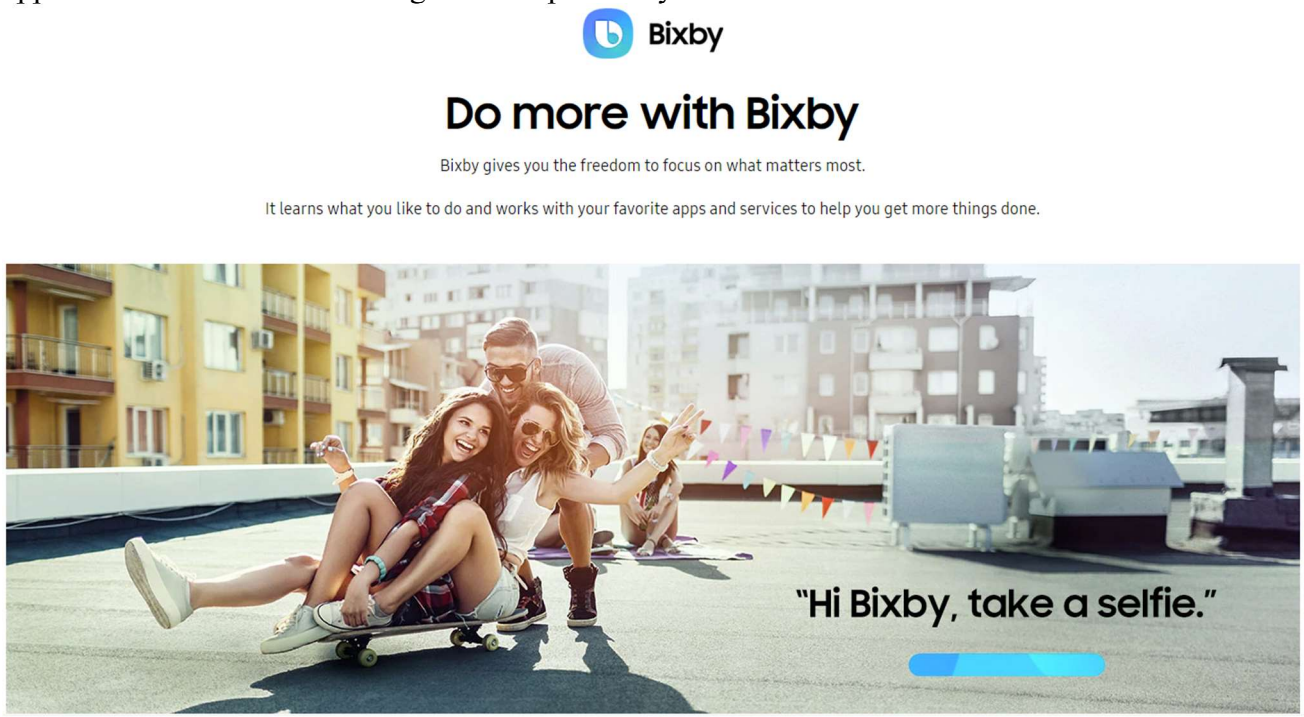
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	- **Single take**: Capture multiple pictures and video clips from different angles. - **Panorama**: Create a linear image by taking pictures in either a horizontal or vertical direction. - **Night**: Use this to take photos in low-light conditions, without using the flash. - **Food**: Take pictures that emphasize the vivid colors of food. - **Super slow-mo**: Record videos at an extremely high frame rate for viewing in high quality slow motion. You can play a specific section of each video in slow motion after recording it. - **Slow motion**: Record videos at a high frame rate for viewing in slow motion. - **Hyperlapse**: Create a time lapse video by recording at various frame rates. The frame rate is adjusted depending on the scene being recorded and the movement of the device. *Id.* at 40–41. *See also* Appendix 8 showing that the remaining Accused Samsung '757 Products are image recording device configured to execute a plurality of different photographing processes. Specifically, the remaining Accused Samsung '757 Products, including Galaxy smartphones and Galaxy tablets are image recording devices that have a plurality of front and rear facing cameras for executing a plurality of different photographing processes, such as, *e.g.*, still-images.
[1.a] an audio input interface configured to receive a command voice;	Each of the Accused Samsung '757 Products includes an audio input interface configured to receive a command voice. *See e.g.*, Technical Specifications of each of the Accused Samsung '757 Products available at Samsung's website showing that each of the devices include an audio input interface configured to receive a command voice (https://www.samsung.com/us/mobile/ and https://www.samsung.com/us/tablets/). As a non-limiting example of an audio input interface, each of the Accused Samsung '757 Products is a smartphone and/or tablet having one or more microphones as audio ports:

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Galaxy S23 Ultra  Galaxy S23 Ultra technical specifications; https://downloadcenter.samsung.com/content/UM/202302/20230228053129621/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL_AC_022023.pdf at 5.

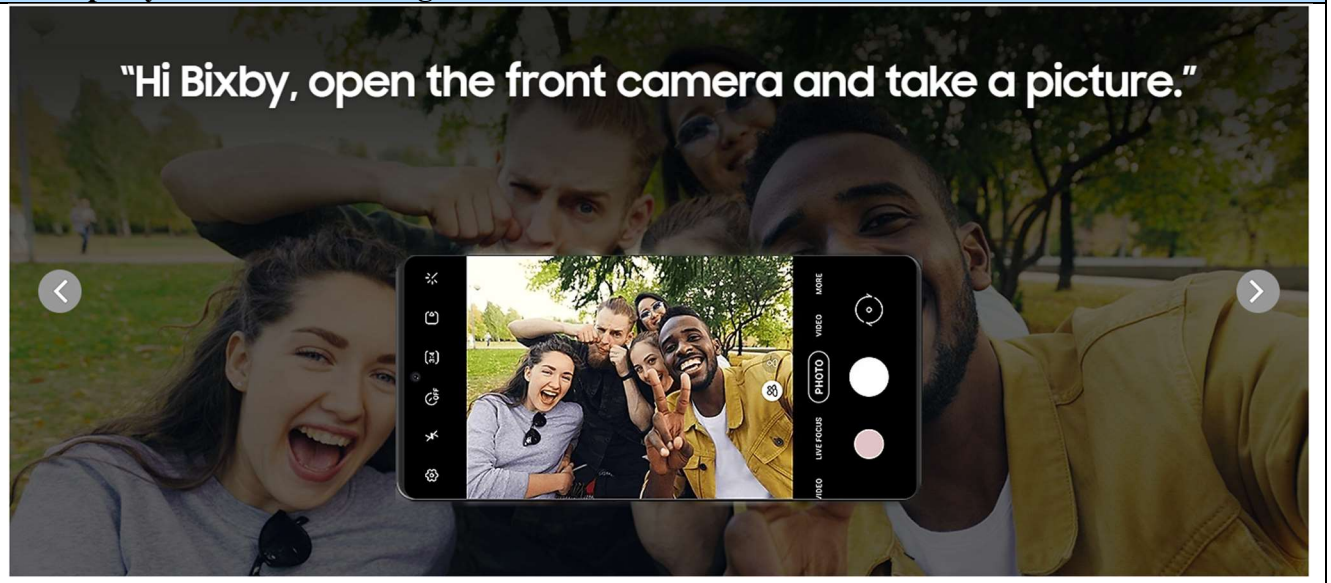
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Galaxy Z Fold4  Galaxy Z Fold4 technical specification; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_fold4_d1e605.html.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Galaxy Z Flip4  Galaxy Z Flip4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_flip4_d1e661.html.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy A54 5G technical specifications; https://downloadcenter.samsung.com/content/UM/202304/20230407022332214/SAM_A546_EN_UM_OS13_040523_FINAL.pdf at 5.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	In addition, as a non-limiting example of an audio input interface, each of the Accused Samsung '757 Products' one or more microphones as audio ports configured to receive a command voice from a user. For example, the Accused Samsung '757 Products include one or more audio ports configured to receive a user's command voice to interact with the smartphone or tablet's photographing application and/or cameras using for example Bixby:  https://www.samsung.com/us/apps/bixby/

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement



Id.

FEATURES	Sensors	Fingerprint (under display, ultrasonic), accelerometer, gyro, proximity, compass, barometer
		Samsung DeX, Samsung Wireless DeX (desktop experience support)
		Bixby natural language commands and dictation
		Samsung Pay (Visa, MasterCard certified)
		Ultra Wideband (UWB) support

Galaxy S23 Ultra technical specifications; https://www.gsmarena.com/samsung_galaxy_s23_ultra-12024.php.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

Hearing enhancements

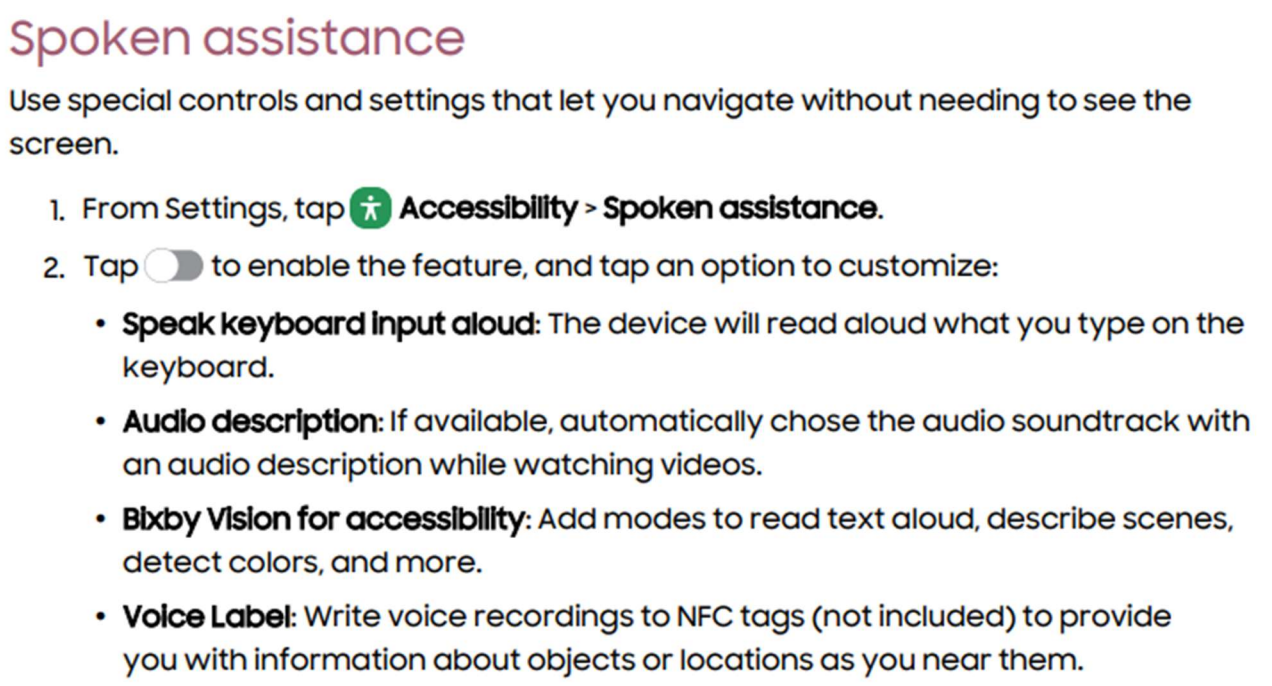
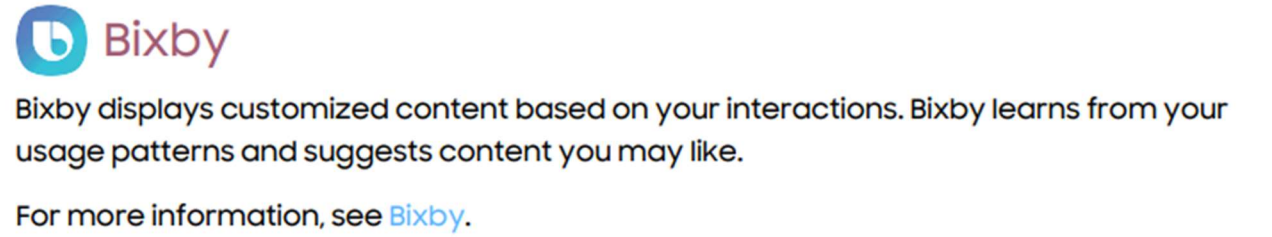
You can configure settings to help you interact with your device's sounds, including captioning, sound balance, and hearing aid support.

The devices covered by this User manual are hearing aid compatible, and have these Hearing Aid Compatibility (HAC) rating(s):

Device	HAC Rating
Glaxay S23 Ultra	M3/T3 (2011)
Galaxy S23+	M3/T3 (2011)
Galaxy S23	M3/T3 (2011)

- From Settings, tap **Accessibility** > **Hearing enhancements** and tap an option:
  - **Real time text**: Activate real-time text (RTT) calling.
  - **Live Transcribe**: Use the microphone to record speech and convert it to text.
  - **Live Caption**: Automatically caption speech in media played on your device.
  - **Caption preference**: Configure closed caption and subtitle services.
  - **Sound notifications**: Receive alerts when the device detects a baby crying or a doorbell.
  - **Hearing aid support**: Improve the sound quality to work better with hearing aids.
  - **Amplify ambient sound**: Enable this feature and connect headphones to your device to amplify the sounds of conversations.
  - **Adapt sound**: Customize the sound for each ear and enhance your listening experience. See Adapt sound.
  - **Mute all sounds**: Turn off all notifications and audio for privacy.
  - **Mono audio**: Switch audio from stereo to mono.
  - **Left/right sound balance**: Use the sliders to adjust the left and right balance for connected audio and device speakers.

Galaxy S23 Ultra technical specifications: https://downloadcenter.samsung.com/content/UM/202302/20230228053129621/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL_AC_022023.pdf at 169

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 *Id.* at 166.  *Id.* at 74; https://www.samsung.com/us/apps/bixby/; https://www.samsung.com/us/apps/bixby/bixby-user-guide/.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Bixby Bixby is a virtual assistant that learns, evolves, and adapts to you. It learns your routines, helps you set up reminders based on time and location, and is built in to your favorite apps. Visit **samsung.com/us/support/owners/app/Bixby** for more information. ○ From a Home screen, press and hold the **Side** key. **TIP** You can also access Bixby from the Apps list. Bixby Vision Bixby is integrated with your Camera, Gallery, and Internet apps to give you a deeper understanding of what you see. It provides contextual icons for translation, QR code detection, landmark recognition, or shopping. Camera Bixby Vision is available on the Camera viewfinder to help understand what you see. ○ From **Camera**, tap **More** > **Bixby Vision** and follow the prompts. Gallery Bixby Vision can be used on pictures and images saved in the Gallery app. 1. From **Gallery**, tap a picture to view it. 2. Tap **Bixby Vision** and follow the prompts. Internet Bixby Vision can help you find out more about an image you find in the Internet app. 1. From **Internet**, touch and hold an image until a pop-up menu is displayed. 2. Tap **Search with Bixby Vision** and follow the prompts. *Id.* at 41.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

Bixby

Introduction

Bixby is a user interface that helps you use your device more conveniently.

You can talk to Bixby or type text. Bixby will launch a feature you request or show the information you want. Visit www.samsung.com/bixby for more information.

Bixby is only available in some languages, and it may not be available depending on the region.

Starting Bixby

Press and hold the Side key to launch Bixby. The Bixby intro page will appear. After you select the language to use with Bixby, sign in to your Samsung account, and complete the setup by following the on-screen instructions, the Bixby screen will appear.

Using Bixby

While pressing and holding the Side key, say what you want to Bixby. Alternatively, say the wake-up phrase and say what you want.

For example, while pressing and holding the Side key, say "How's the weather today?" The weather information will appear on the screen.

If Bixby asks you a question during a conversation, you can continue to talk to Bixby without pressing the Side key or tapping .

Waking up Bixby using your voice

You can start a conversation with Bixby by saying "Hi, Bixby" or "Bixby". Register your voice so that Bixby will respond to your voice.

1 Open the **Bixby** app and tap → **Voice wake-up**.

2 Tap the switch to turn it on.

3 Select a wake-up phrase you want under **Wake-up phrase**.

4 Tap the **Respond to my voice** switch to turn it on.

5 Follow the on-screen instructions to complete the setup.
Now you can say the wake-up phrase and start a conversation.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

Communicating by typing text

If your voice is not recognized because of noisy environments or if you are in a situation where speaking is difficult, you can communicate with Bixby through text.

Open the **Bixby** app, tap ⌨, and then type what you want.

During the communication, Bixby also will answer you through text instead of voice feedback.

Bixby Vision

Introduction

Bixby Vision is a service that provides various features based on image recognition. You can use Bixby Vision to search for information by recognizing objects.

- This feature may not be available or you might not get correct search results depending on the image size, format, or resolution.
- Samsung is not responsible for the product information provided by Bixby Vision.

Launching Bixby Vision

Launch Bixby Vision using one of these methods.

- In the **Camera** app, tap **MORE** on the shooting modes list and tap **BIXBY VISION**.
- In the **Gallery** app, select an image and tap 👁.
- In the **Samsung Internet** app, touch and hold an image and tap **Search with Bixby Vision**.
- If you added the Bixby Vision app icon to the Apps screen, open the **Bixby Vision** app.

Using Bixby Vision

1 Launch Bixby Vision.

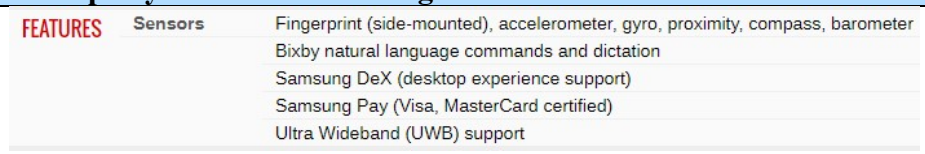
2 Select a feature you want to use.

- **TRANSLATE**: Recognize text from documents or images and translate it.
- **TEXT**: Recognize text from documents or images and extract it.
- **DISCOVER**: Search for images similar to the recognized object online and related information.

The available features and search results may vary depending on the region or carrier.

Galaxy S23 Series User Guide at pg. 88-90.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement



FEATURES	Sensors	Fingerprint (side-mounted), accelerometer, gyro, proximity, compass, barometer
		Bixby natural language commands and dictation
		Samsung DeX (desktop experience support)
		Samsung Pay (Visa, MasterCard certified)
		Ultra Wideband (UWB) support

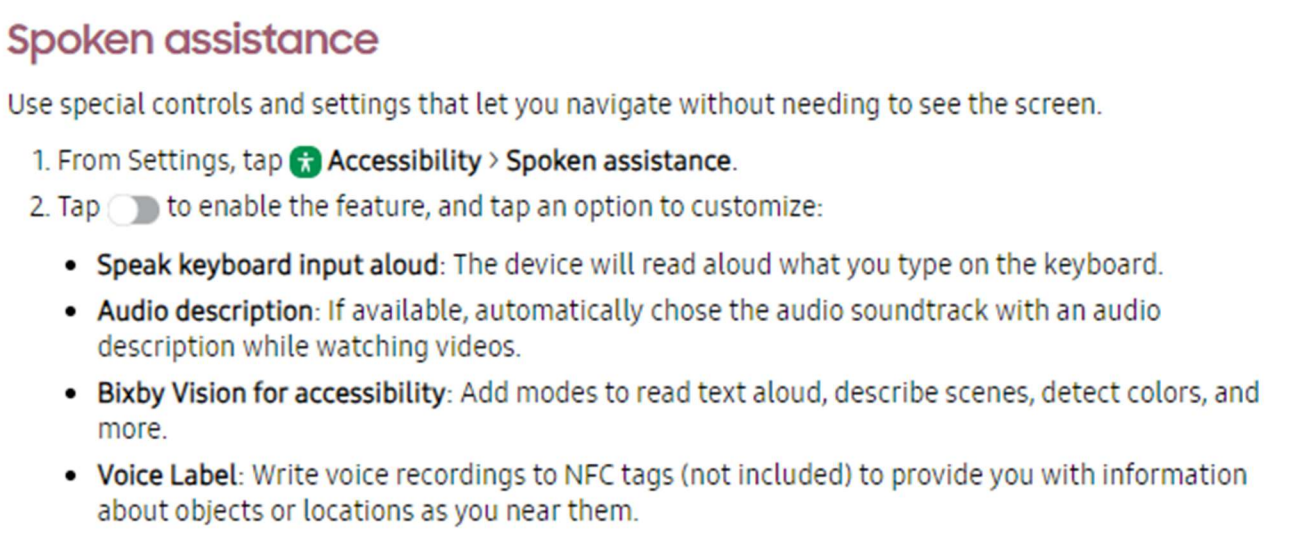
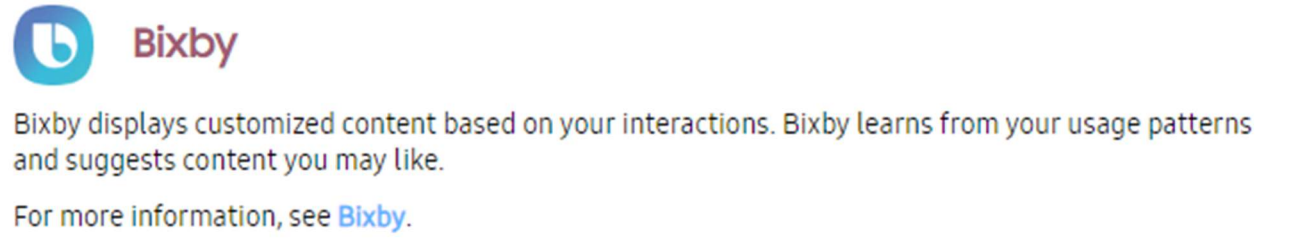
Galaxy Z Fold4 technical specifications; https://www.gsmarena.com/samsung_galaxy_z_fold4-11737.php.

Hearing enhancements

You can configure settings to help you interact with your device's sounds, including captioning, sound balance, and hearing aid support.

- From Settings, tap **Accessibility** > **Hearing enhancements** and tap an option:
  - **Real time text**: Activate real-time text (RTT) calling.
  - **Live Transcribe**: Use the microphone to record speech and convert it to text.
  - **Live Caption**: Automatically caption speech in media played on your device.
  - **Caption preference**: Configure closed caption and subtitle services.
  - Sound notifications: Receive alerts when the device detects a baby crying or a doorbell.
  - **Hearing aid support**: Improve the sound quality to work better with hearing aids.
  - **Amplify ambient sound**: Enable this feature and connect headphones to your device to amplify the sounds of conversations.
  - **Adapt sound**: Customize the sound for each ear and enhance your listening experience. See Adapt sound.
  - **Mute all sounds**: Turn off all notifications and audio for privacy.
  - **Mono audio**: Switch audio from stereo to mono.
  - **Left/right sound balance**: Use the sliders to adjust the left and right balance for connected audio and device speakers.

Galaxy Z Fold4 and Z Flip4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/hearing_enhancements_d1e11918.html.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Fold4 and Z Flip4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/accessibility_d1e11683.html#d1e11766.  Galaxy Z Fold4 and Z Flip4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/samsung_apps_d1e4429.html#d1e4524; https://www.samsung.com/us/apps/bixby/; https://www.samsung.com/us/apps/bixby/bixby-user-guide/.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Bixby Bixby is a virtual assistant that learns, evolves, and adapts to you. It learns your routines, helps you set up reminders based on time and location, and is built in to your favorite apps. Visit **samsung.com/us/support/owners/app/Bixby** for more information. • From a Home screen, press and hold the **Side** key. **TIP** You can also access Bixby from the Apps list. **Bixby Vision** Bixby is integrated with your Camera, Gallery, and Internet apps to give you a deeper understanding of what you see. It provides contextual icons for translation, QR code detection, landmark recognition, or shopping. **Camera** Bixby Vision is available on the Camera viewfinder to help understand what you see. • From **Camera**, tap **More** > **Bixby Vision** and follow the prompts. **Gallery** Bixby Vision can be used on pictures and images saved in the Gallery app. 1. From **Gallery**, tap a picture to view it. 2. Tap **Bixby Vision** and follow the prompts. **Internet** Bixby Vision can help you find out more about an image you find in the Internet app. 1. From **Internet**, touch and hold an image until a pop-up menu is displayed. 2. Tap **Search with Bixby Vision** and follow the prompts. Galaxy Z Fold4 and Z Flip4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/bixby_d1e1993.html#d1e2011.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

Hearing enhancements

You can configure settings to help you interact with your device's sounds, including captioning, sound balance, and hearing aid support.

The devices covered by this User manual are hearing aid compatible, and have these Hearing Aid Compatibility (HAC) rating(s):

Device	FCC ID	HAC Rating
Galaxy A54 5G	A3LSMA546U, A3LSMA546V	M3/T3 (2011)

From Settings, tap **Accessibility** > **Hearing enhancements** and tap an option:

- **Real time text**: Activate real-time text (RTT) calling.
- **Live Transcribe**: Use the microphone to record speech and convert it to text.
- **Live Caption**: Automatically caption speech in media played on your device.
- **Caption preference**: Configure closed caption and subtitle services.
- **Sound notifications**: Receive alerts when the device detects a baby crying or a doorbell.
- **Hearing aid support**: Improve the sound quality to work better with hearing aids.
- **Amplify ambient sound**: Enable this feature and connect headphones to your device to amplify the sounds of conversations.
- **Adapt sound**: Customize the sound for each ear and enhance your listening experience. See Adapt sound.
- **Mute all sounds**: Turn off all notifications and audio for privacy.
- **Mono audio**: Switch audio from stereo to mono.
- **Left/right sound balance**: Use the sliders to adjust the left and right balance for connected audio and device speakers.

Galaxy A54 5G technical specifications; https://downloadcenter.samsung.com/content/UM/202304/20230407022332214/SAM_A546_EN_UM_OS13_040523_FINAL at 152.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

Spoken assistance

Use special controls and settings that let you navigate without needing to see the screen.

1. From Settings, tap **Accessibility** > **Spoken assistance**.
2. Tap to enable the feature, and tap an option to customize:
   - **Speak keyboard input aloud**: The device will read aloud what you type on the keyboard.
   - **Audio description**: If available, automatically chose the audio soundtrack with an audio description while watching videos.
   - **Bixby Vision for accessibility**: Add modes to read text aloud, describe scenes, detect colors, and more.
   - **Voice Label**: Write voice recordings to NFC tags (not included) to provide you with information about objects or locations as you near them.

Id. at 150.

Bixby

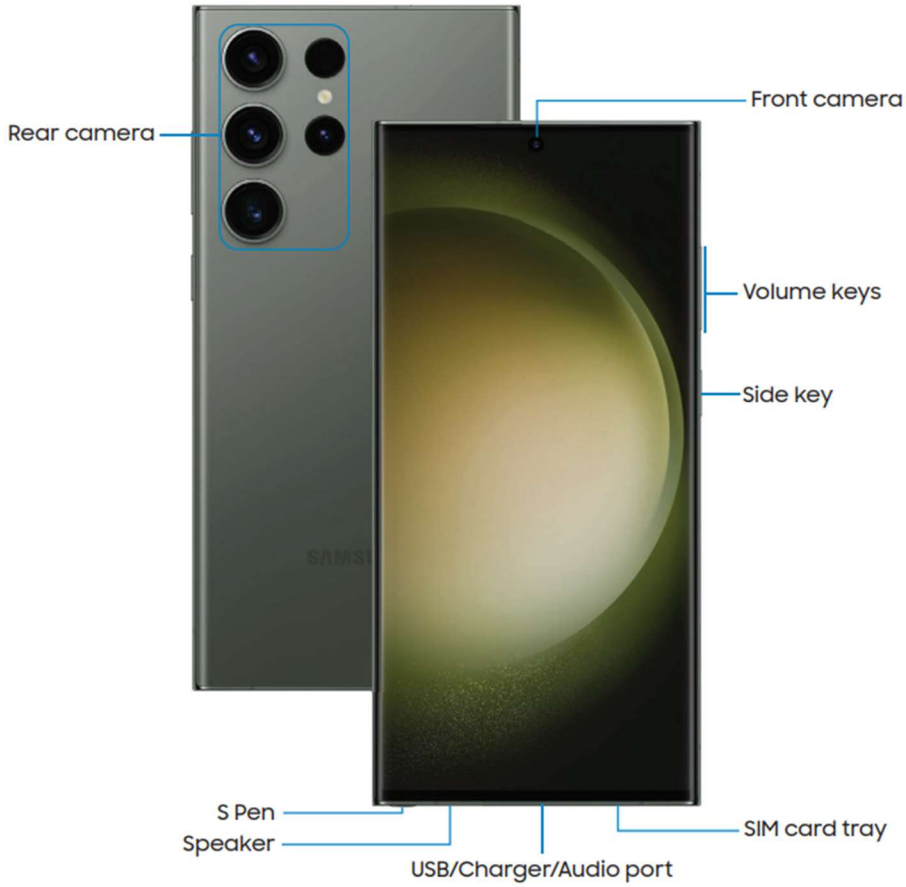
Bixby displays customized content based on your interactions. Bixby learns from your usage patterns and suggests content you may like.

For more information, see Bixby.

Id. at 55; https://www.samsung.com/us/apps/bixby/; https://www.samsung.com/us/apps/bixby/bixby-user-guide/.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Bixby Bixby is a virtual assistant that learns, evolves, and adapts to you. It learns your routines, helps you set up reminders based on time and location, and is built in to your favorite apps. Visit **samsung.com/us/support/owners/app/Bixby** for more information. ○ From a Home screen, press and hold the **Side** key. Bixby Vision Bixby is integrated with your Camera, Gallery, and Internet apps to give you a deeper understanding of what you see. It provides contextual icons for translation, QR code detection, landmark recognition, or shopping. Camera Bixby Vision is available on the Camera viewfinder to help understand what you see. ○ From **Camera**, tap **More** > **Bixby Vision** and follow the prompts. Gallery Bixby Vision can be used on pictures and images saved in the Gallery app. 1. From **Gallery**, tap a picture to view it. 2. Tap **Bixby Vision** and follow the prompts. Internet Bixby Vision can help you find out more about an image you find in the Internet app. 1. From **Internet**, touch and hold an image until a pop-up menu is displayed. 2. Tap **Search with Bixby Vision** and follow the prompts. *Id.* at 24.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	See also Appendix 8 showing that the remaining Accused Samsung '757 Products include an audio input interface configured to receive a command voice. Specifically, the remaining Accused Samsung '757 Products, including Galaxy smartphones and Galaxy tablets have one or more microphones or audio ports for receiving command voice to interact with the image recording device or plurality of cameras using Bixby. *See e.g.*, https://www.samsung.com/us/support/answer/ANS00089063/; *see also* https://www.samsung.com/us/apps/bixby/.
[1.b] a touch display arranged on a first surface of the image recording device and configured to display an image signal and receive a touch operation instruction;	Each of the Accused Samsung '757 Products includes a touch display arranged on a first surface of the image recording device and configured to display an image signal and receive a touch operation instruction. *See e.g.*, Technical Specifications of each of the Accused Samsung '757 Products available at Samsung's website showing that each of the devices includes a touch display arranged on a first surface of the image recording device and configured to display an image signal and receive a touch operation instruction (https://www.samsung.com/us/mobile/ and https://www.samsung.com/us/tablets/). As a non-limiting example of a touch display, each of the Accused Samsung '757 Products is a smartphone and/or tablet having a touch display arranged on a first surface. For example, the Accused Samsung '757 Products include a front facing touch display screen of a smartphone or tablet that is on the same side as the front facing camera:

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Galaxy S23 Ultra 

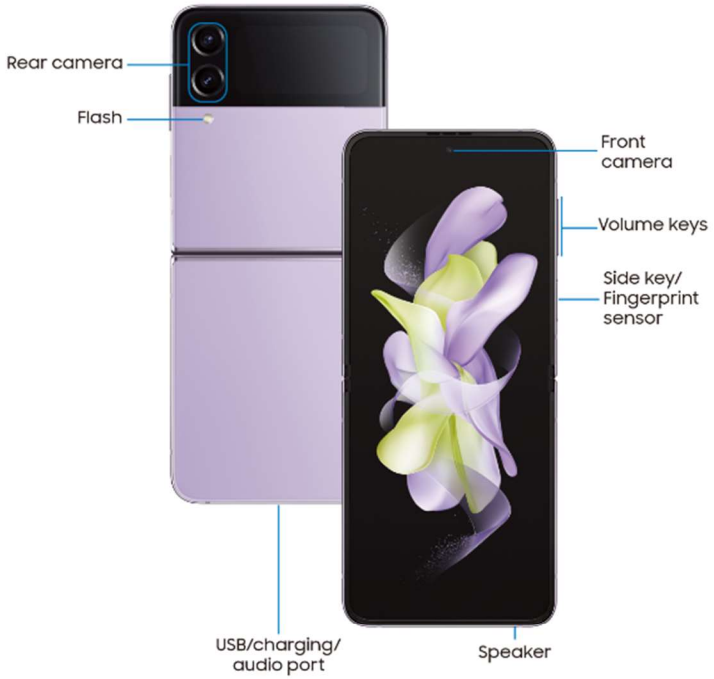
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	DISPLAY Type: Dynamic AMOLED 2X, 120Hz, HDR10+, 1200 nits (HBM), 1750 nits (peak) Size: 6.8 inches, 114.7 cm^2 (~89.9% screen-to-body ratio) Resolution: 1440 x 3088 pixels, 19.3:9 ratio (~500 ppi density) Protection: Corning Gorilla Glass Victus 2 Always-on display Galaxy S23 Ultra technical specifications; https://downloadcenter.samsung.com/content/UM/202302/20230228053129621/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL_AC_022023.pdf at 5; https://www.gsmarena.com/samsung_galaxy_s23_ultra-12024.php.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	DISPLAY 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 Galaxy Z Fold4 technical specification; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_fold4_d1e605.html; https://www.gsmarena.com/samsung_galaxy_z_fold4-11737.php.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

Galaxy Z Flip4

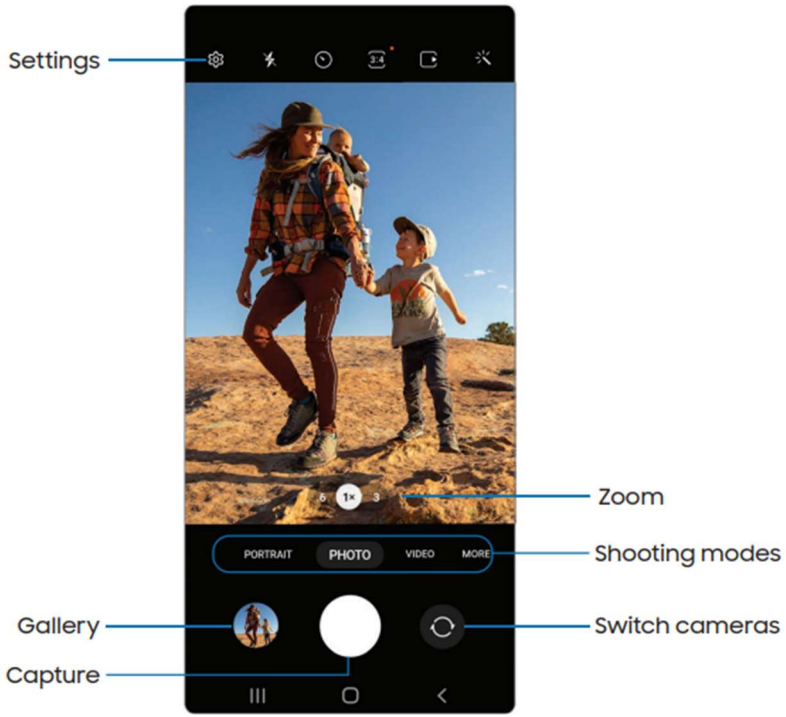


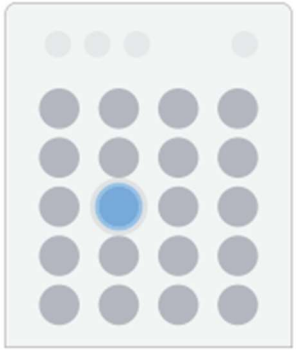
DISPLAY	Type	Foldable Dynamic AMOLED 2X, 120Hz, HDR10+, 1200 nits (peak)
	Size	6.7 inches, 101.5 cm^2 (~85.4% screen-to-body ratio)
	Resolution	1080 x 2640 pixels (~426 ppi density)
		Cover display:
		Super AMOLED, 1.9 inches, 260 x 512 pixels (Gorilla Glass Victus+)

Galaxy Z Flip4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_flip4_d1e661.html; https://www.gsmarena.com/samsung_galaxy_z_flip4-11538.php.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Galaxy A54 5G  DISPLAY Type: Super AMOLED, 120Hz, HDR10+, 1000 nits (HBM) Size: 6.4 inches, 100.5 cm^2 (~82.9% screen-to-body ratio) Resolution: 1080 x 2340 pixels, 19.5:9 ratio (~403 ppi density) Protection: Corning Gorilla Glass 5 Galaxy A54 5G technical specifications; https://downloadcenter.samsung.com/content/UM/202304/20230407022332214/SAM_A546_EN_UM_OS13_040523_FINAL.pdf at 5; https://www.gsmarena.com/samsung_galaxy_a54-12070.php.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Further, as a non-limiting example of a touch display, each of the Accused Samsung '757 Products' touch display are configured to display an image signal and receive a touch operation instruction. For example, the Accused Samsung '757 Products' touch display can receive a touch operation to display an image signal as a still-image via the "capture" icon:

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Camera Enjoy a full kit of pro lenses and pro-grade video modes and settings. ○ From Apps, tap Camera. TIP Quickly press the Side key twice to open the Camera app.  Galaxy S23 Ultra technical specification; https://downloadcenter.samsung.com/content/UM/202302/20230228053129621/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL_AC_022023.pdf at 58.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Navigation A touch screen responds best to a light touch from the pad of your finger or a capacitive stylus. Using excessive force or a metallic object on the touch screen may damage the surface of the screen and the damage will not be covered by the warranty. Tap  Lightly touch items to select or launch them. • Tap an item to select it. • Double-tap an image to zoom in or out. *Id.* at 17.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Touch settings You can adjust your screen to be less sensitive to taps and touches. ○ From Settings, tap **Accessibility** > **Interaction and dexterity** and tap an option: • **Touch and hold delay**: Select a time interval for this action. • **Tap duration**: Set how long an interaction must be held to be recognized as a tap. • **Ignore repeated touches**: Set a time duration in which to ignore repeated touches. *Id.* at 171.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Navigate the camera screen Take stunning pictures with your device's front and rear cameras. 1. From Camera, set up your shot with the following features: • Tap the screen where you want the camera to focus. – When you tap the screen, a brightness scale appears. Drag the slider to adjust the brightness. • To quickly switch between the front and rear cameras, swipe the screen up or down. • To zoom at a precise level, tap 1x and tap an option at the bottom of the screen. (Only available when using the rear camera.) • To change to a different shooting mode, swipe the screen right or left. • To change camera settings, tap Settings. 2. Tap Capture. *Id.* at 59.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

Galaxy Z Fold4 Camera features

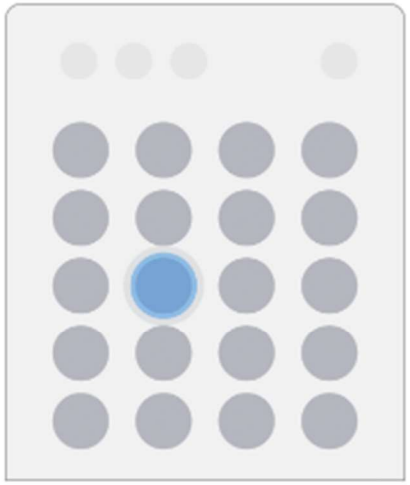


Capture and view

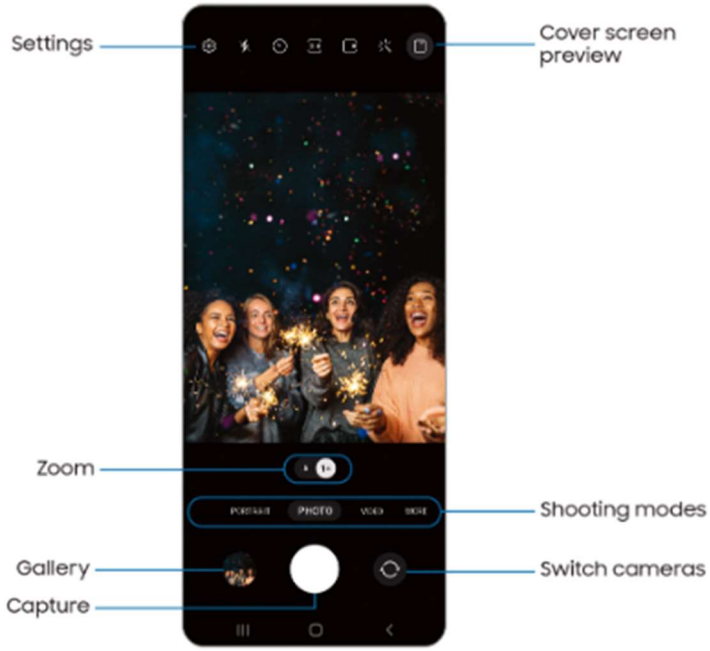
View the pictures and videos you capture while still using your camera. Images will be shown on the side panel until the Camera app is closed. This feature is only available when the device is open.

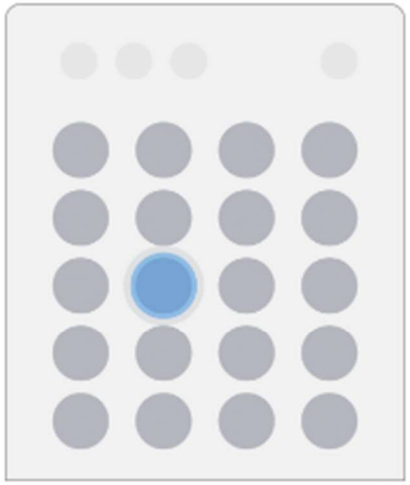
- From **Camera**, tap **Capture View**.

Galaxy Z Fold4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_fold4_camera_features_d1e3185.

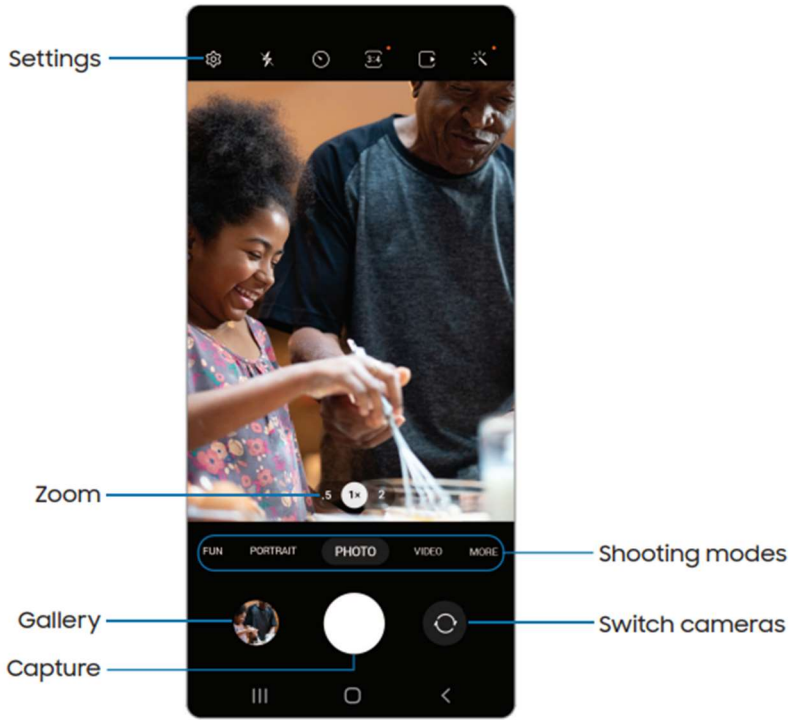
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Navigation A touch screen responds best to a light touch from the pad of your finger or a capacitive stylus. Using excessive force or a metallic object on the touch screen may damage the surface of the screen and the damage will not be covered by the warranty. Tap  Lightly touch items to select or launch them. • Tap an item to select it. • Double-tap an image to zoom in or out. Galaxy Z Fold4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/navigation_d1e1242.html.

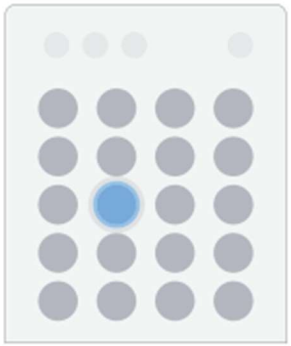
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Touch settings You can adjust your screen to be less sensitive to taps and touches. ○ From Settings, tap **Accessibility** > **Interaction and dexterity** and tap an option: • **Touch and hold delay**: Select a time interval for this action. • **Tap duration**: Set how long an interaction must be held to be recognized as a tap. • **Ignore repeated touches**: Set a time duration in which to ignore repeated touches. Galaxy Z Fold4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/interaction_and_dexterity_d1e11982.html#d1e13816. **Navigate the camera screen** Take stunning pictures with your device's front and rear cameras. 1. From **Camera**, set up your shot with the following features: • Tap the screen where you want the camera to focus. - When you tap the screen, a brightness scale appears. Drag the slider to adjust the brightness. • To quickly switch between the front and rear cameras, swipe the screen up or down. • To zoom at a precise level, tap **1x** and tap an option at the bottom of the screen. (Only available when using the rear camera.) • To change to a different shooting mode, swipe the screen right or left. • To change camera settings, tap **Settings**. 2. Tap **Capture**. Galaxy Z Fold4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/navigate_the_camera_screen_d1e3147.html.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Galaxy Z Flip4 Camera features  **Selfies in Flex mode** Use your camera in Flex mode for hands-free selfies. 1. Place your phone on a flat surface in table top view. 2. From **Camera**, tap **Portrait**. 3. Tap or to move the camera preview to the top or bottom half of the screen. Galaxy Z Flip4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_flip4_camera_features_d1e3206.html.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Navigation A touch screen responds best to a light touch from the pad of your finger or a capacitive stylus. Using excessive force or a metallic object on the touch screen may damage the surface of the screen and the damage will not be covered by the warranty. **Tap**  Lightly touch items to select or launch them. • Tap an item to select it. • Double-tap an image to zoom in or out. Galaxy Z Flip4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/navigation_d1e1242.html.

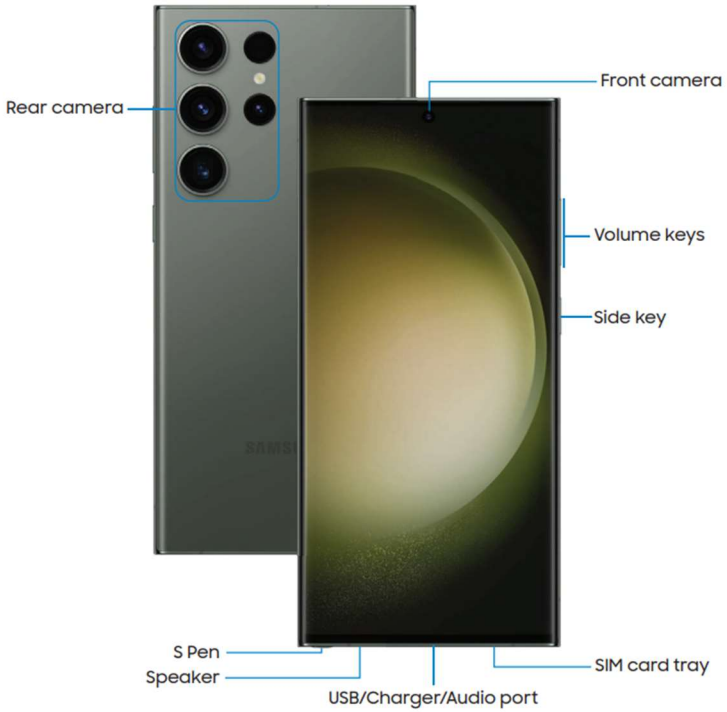
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Touch settings You can adjust your screen to be less sensitive to taps and touches. ○ From Settings, tap **Accessibility** > **Interaction and dexterity** and tap an option: • **Touch and hold delay**: Select a time interval for this action. • **Tap duration**: Set how long an interaction must be held to be recognized as a tap. • **Ignore repeated touches**: Set a time duration in which to ignore repeated touches. Galaxy Z Flip4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/interaction_and_dexterity_d1e11982.html#d1e13816. **Navigate the camera screen** Take stunning pictures with your device's front and rear cameras. 1. From **Camera**, set up your shot with the following features: • Tap the screen where you want the camera to focus. - When you tap the screen, a brightness scale appears. Drag the slider to adjust the brightness. • To quickly switch between the front and rear cameras, swipe the screen up or down. • To zoom at a precise level, tap **1x** and tap an option at the bottom of the screen. (Only available when using the rear camera.) • To change to a different shooting mode, swipe the screen right or left. • To change camera settings, tap **Settings**. 2. Tap **Capture**. Galaxy Z Flip4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/navigate_the_camera_screen_d1e3147.html.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Camera Enjoy a full kit of pro lenses and pro-grade video modes and settings. ○ From Apps, tap Camera. TIP Quickly press the Side key twice to open the Camera app.  Galaxy A54 5G technical specifications; https://downloadcenter.samsung.com/content/UM/202304/20230407022332214/SAM_A546_EN_UM_OS13_040523_FINAL.pdf at 40.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Navigation A touch screen responds best to a light touch from the pad of your finger or a capacitive stylus. Using excessive force or a metallic object on the touch screen may damage the surface of the screen and the damage will not be covered by the warranty. Tap  Lightly touch items to select or launch them. • Tap an item to select it. • Double-tap an image to zoom in or out. *Id.* at 12.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Touch settings You can adjust your screen to be less sensitive to taps and touches. ○ From Settings, tap **Accessibility** > **Interaction and dexterity** and tap an option: • **Touch and hold delay**: Select a time interval for this action. • **Tap duration**: Set how long an interaction must be held to be recognized as a tap. • **Ignore repeated touches**: Set a time duration in which to ignore repeated touches. *Id.* at 154.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Navigate the camera screen Take stunning pictures with your device's front and rear cameras. 1. From **Camera**, set up your shot with the following features: • Tap the screen where you want the camera to focus. – When you tap the screen, a brightness scale appears. Drag the slider to adjust the brightness. • To quickly switch between the front and rear cameras, swipe the screen up or down. • To zoom at a precise level, tap **1x** and tap an option at the bottom of the screen. (Only available when using the rear camera.) • To change to a different shooting mode, swipe the screen right or left. • To change camera settings, tap **Settings**. 2. Tap **Capture**. *Id.* at 41. *See also* Appendix 8 showing that the remaining Accused Samsung '757 Products include a touch display arranged on a first surface of the image recording device and configured to display an image signal and receive a touch operation instruction. Specifically, the remaining Accused Samsung '757 Products, including Galaxy smartphones and Galaxy tablets have a touch screen to display still-images according to the touch operation performed on the display screen's "capture" icon. *See* https://www.samsung.com/us/support/answer/ANS00089063/.
[1.c] a first camera arranged on a same side of the touch display and configured to photograph an object and acquire a first image signal;	Each of the Accused Samsung '757 Products includes a first camera arranged on a same side of the touch display and configured to photograph an object and acquire a first image signal. *See e.g.*, Technical Specifications of each of the Accused Samsung '757 Products available at Samsung's website showing that each of the devices includes a first camera arranged on a same side of the touch

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	display and configured to photograph an object and acquire a first image signal (https://www.samsung.com/us/mobile/ and https://www.samsung.com/us/tablets/). As a non-limiting example of a first camera, each of the Accused Samsung '757 Products is a smartphone and/or tablet having one or more cameras arranged on the same side of the touch display. For example, the Accused Samsung '757 Products include a front facing camera that is on the same side as the front facing touch display screen: Galaxy S23 Ultra 

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

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

DISPLAY	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

Galaxy S23 Ultra technical specifications; https://downloadcenter.samsung.com/content/UM/202302/20230228053129621/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL_AC_022023.pdf at 5; https://www.gsmarena.com/samsung_galaxy_s23_ultra-12024.php.

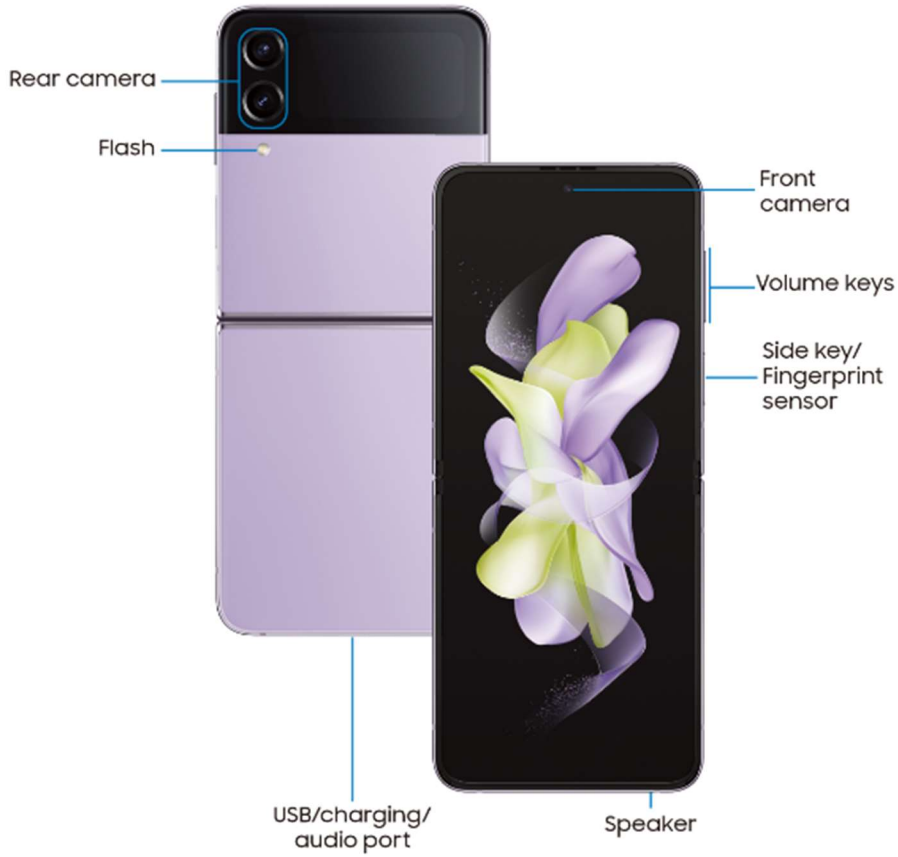
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Galaxy Z Fold4 

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

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

DISPLAY	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

Galaxy Z Fold4 technical specification; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_fold4_d1e605.html; https://www.gsmarena.com/samsung_galaxy_z_fold4-11737.php.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Galaxy Z Flip4 

APPENDIX 4: MARCH 7, 2024 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1–11 OF U.S. PATENT NO. 11,223,757 TO ACCUSED SAMSUNG '757 PRODUCTS

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

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

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+)

Galaxy Z Flip4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_flip4_d1e661.html; https://www.gsmarena.com/samsung_galaxy_z_flip4-11538.php.

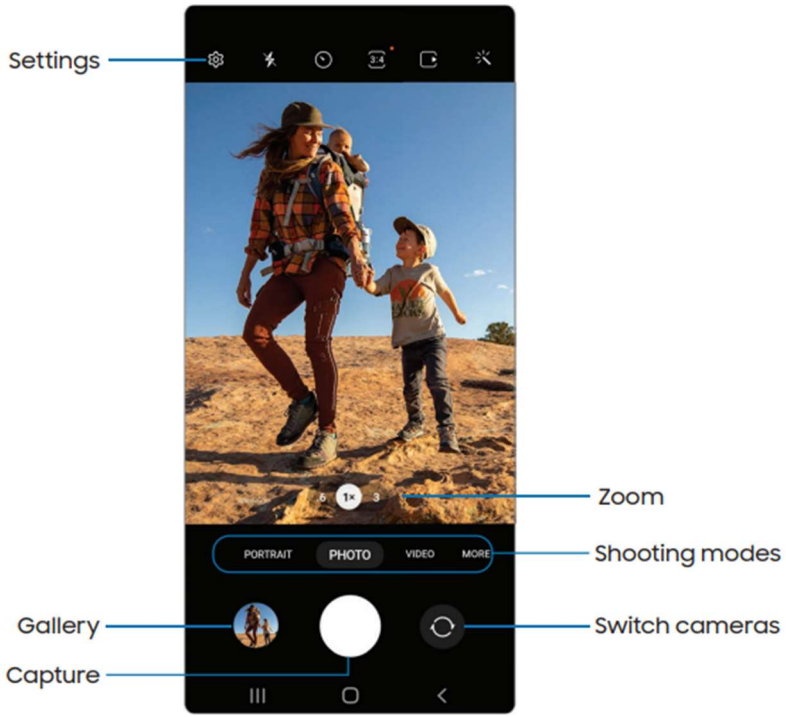
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Galaxy A54 5G 

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

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
DISPLAY	Type	Super AMOLED, 120Hz, HDR10+, 1000 nits (HBM)
	Size	6.4 inches, 100.5 cm^2 (~82.9% screen-to-body ratio)
	Resolution	1080 x 2340 pixels, 19.5:9 ratio (~403 ppi density)
	Protection	Corning Gorilla Glass 5

Galaxy A54 5G technical specifications; https://downloadcenter.samsung.com/content/UM/202304/20230407022332214/SAM_A546_EN_UM_OS13_040523_FINAL.pdf at 5; https://www.gsmarena.com/samsung_galaxy_a54-12070.php.

Further, as a non-limiting example of a first camera, each of the Accused Samsung '757 Products' first camera is configured to photograph an object and acquire a first image signal. For example, the Accused Samsung '757 Products' one or more front facing cameras are configured to receive a first image signal being a photographed object as a still-image, which is taken by the first camera:

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Camera Enjoy a full kit of pro lenses and pro-grade video modes and settings. ○ From Apps, tap Camera. TIP Quickly press the Side key twice to open the Camera app.  Galaxy S23 Ultra technical specification; https://downloadcenter.samsung.com/content/UM/202302/20230228053129621/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL_AC_022023.pdf at 58.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

Configure shooting mode

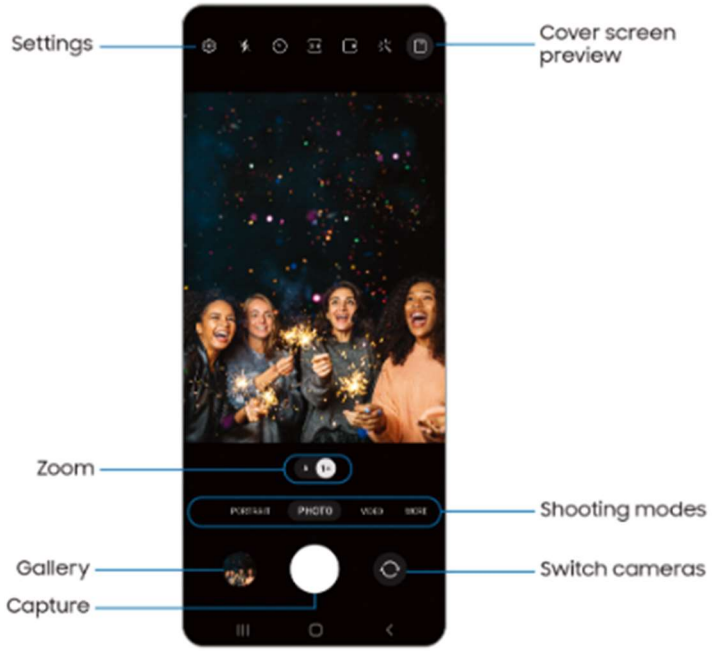
Allow the camera to determine the ideal mode for your pictures or choose from several shooting modes.

- From **Camera**, swipe the screen right and left to change shooting modes.
  - **Portrait**: Adjust the background of your shots for portrait photos.
  - **Photo**: Allow the camera to determine the ideal settings for pictures.
  - **Video**: Allow the camera to determine the ideal settings for videos.
  - **More**: Choose other available shooting modes. Tap **Add** to drag modes into or out of the shooting modes tray at the bottom of the Camera screen.
    - **Expert RAW**: Download the Expert RAW shooting mode.
    - **Pro**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while taking pictures.
    - **Pro video**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while recording videos.
    - **Single take**: Capture multiple pictures and video clips from different angles.
    - **Panorama**: Create a linear image by taking pictures in either a horizontal or vertical direction.
    - **Night**: Use this to take photos in low-light conditions, without using the flash.
    - **Food**: Take pictures that emphasize the vivid colors of food.
    - **Super slow-mo**: Record videos at an extremely high frame rate for viewing in high quality slow motion. You can play a specific section of each video in slow motion after recording it.
    - **Slow motion**: Record videos at a high frame rate for viewing in slow motion.
    - **Hyperlapse**: Create a time lapse video by recording at various frame rates. The frame rate is adjusted depending on the scene being recorded and the movement of the device.
    - **Portrait video**: Adjust the background of your shots for portrait videos.
    - **Director's view**: Access advanced features such as lock onto a subject in view, change between different rear camera lenses, and more.

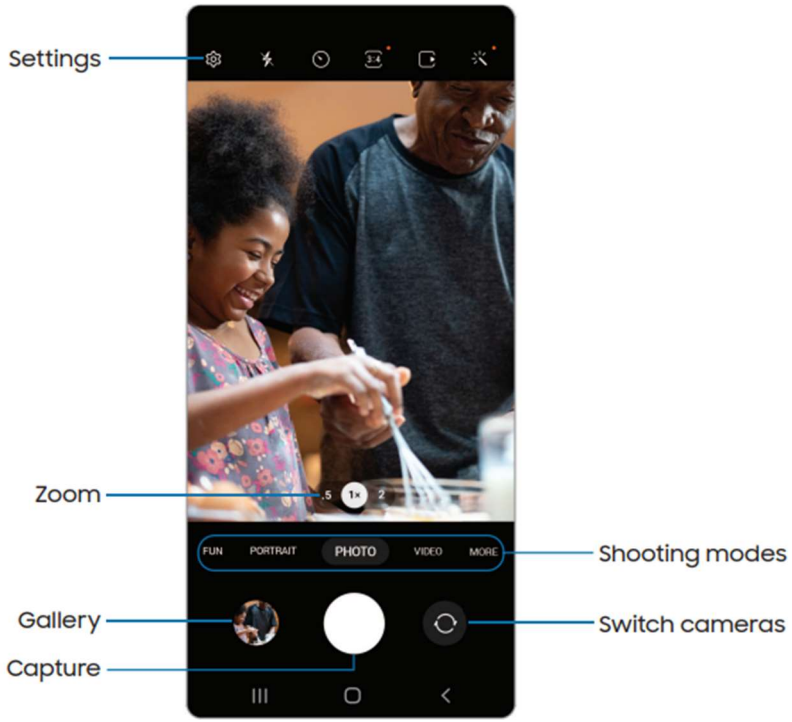
Id. at 59–60.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Galaxy Z Fold4 Camera features  Capture and view View the pictures and videos you capture while still using your camera. Images will be shown on the side panel until the Camera app is closed. This feature is only available when the device is open. ◦ From Camera, tap Capture View. Galaxy Z Fold4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_fold4_camera_features_d1e3185.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Configure shooting mode Allow the camera to determine the ideal mode for your pictures or choose from several shooting modes. ◦ From **Camera**, swipe the screen right and left to change shooting modes. • **Portrait**: Adjust the background of your shots for portrait photos. • **Photo**: Allow the camera to determine the ideal settings for pictures. • **Video**: Allow the camera to determine the ideal settings for videos. • **More**: Choose other available shooting modes. Tap **Add** to drag modes into or out of the shooting modes tray at the bottom of the Camera screen. - **Pro**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while taking pictures. - **Pro video**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while recording videos. - **Single take**: Capture multiple pictures and video clips from different angles. - **Panorama**: Create a linear image by taking pictures in either a horizontal or vertical direction. - **Night**: Use this to take photos in low-light conditions, without using the flash. - **Food**: Take pictures that emphasize the vivid colors of food. - **Super slow-mo**: Record videos at an extremely high frame rate for viewing in high quality slow motion. You can play a specific section of each video in slow motion after recording it. - **Slow motion**: Record videos at a high frame rate for viewing in slow motion. - **Hyperlapse**: Create a time lapse video by recording at various frame rates. The frame rate is adjusted depending on the scene being recorded and the movement of the device. - **Portrait video**: Adjust the background of your shots for portrait videos. - **Director's view**: Access advanced features such as lock onto a subject in view, change between different rear camera lenses, and more. Galaxy Z Fold4 technical specification; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/configure_shooting_mode_d1e3233.html.

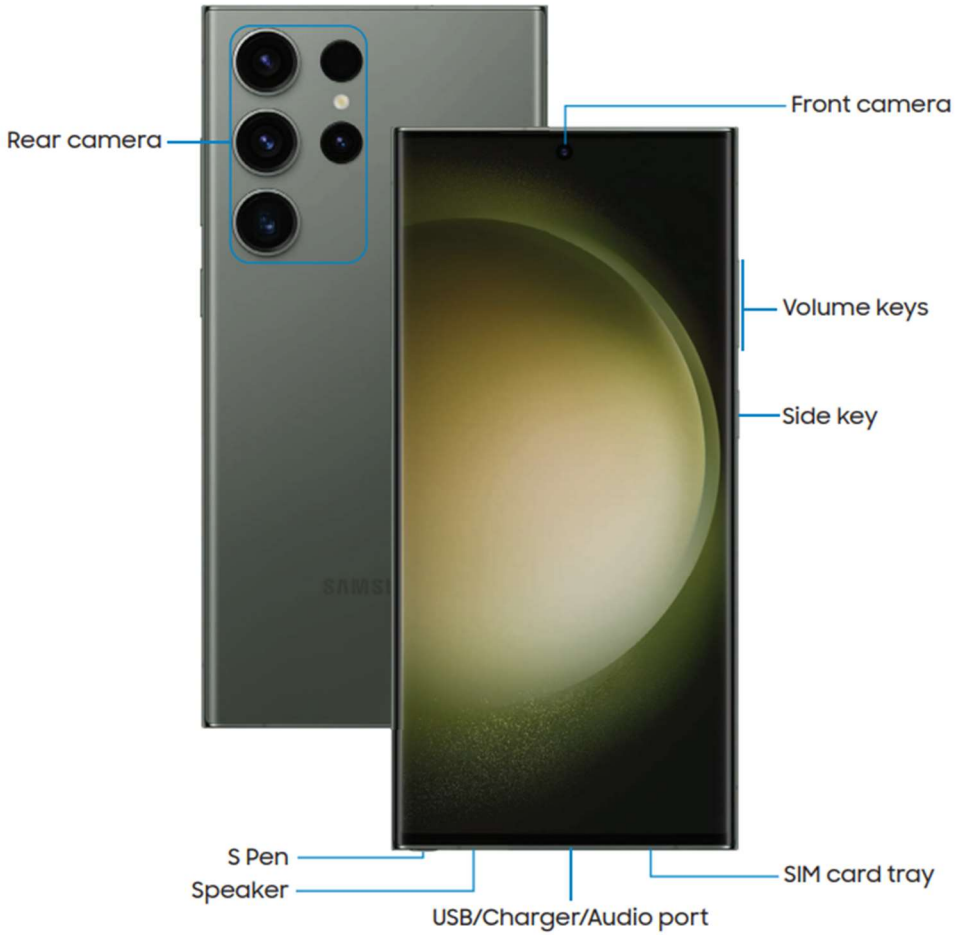
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Galaxy Z Flip4 Camera features  **Selfies in Flex mode** Use your camera in Flex mode for hands-free selfies. 1. Place your phone on a flat surface in table top view. 2. From **Camera**, tap **Portrait**. 3. Tap or to move the camera preview to the top or bottom half of the screen. Galaxy Z Flip4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_flip4_camera_features_d1e3206.html.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Configure shooting mode Allow the camera to determine the ideal mode for your pictures or choose from several shooting modes. ◦ From **Camera**, swipe the screen right and left to change shooting modes. • **Portrait**: Adjust the background of your shots for portrait photos. • **Photo**: Allow the camera to determine the ideal settings for pictures. • **Video**: Allow the camera to determine the ideal settings for videos. • **More**: Choose other available shooting modes. Tap **Add** to drag modes into or out of the shooting modes tray at the bottom of the Camera screen. - **Pro**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while taking pictures. - **Pro video**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while recording videos. - **Single take**: Capture multiple pictures and video clips from different angles. - **Panorama**: Create a linear image by taking pictures in either a horizontal or vertical direction. - **Night**: Use this to take photos in low-light conditions, without using the flash. - **Food**: Take pictures that emphasize the vivid colors of food. - **Super slow-mo**: Record videos at an extremely high frame rate for viewing in high quality slow motion. You can play a specific section of each video in slow motion after recording it. - **Slow motion**: Record videos at a high frame rate for viewing in slow motion. - **Hyperlapse**: Create a time lapse video by recording at various frame rates. The frame rate is adjusted depending on the scene being recorded and the movement of the device. - **Portrait video**: Adjust the background of your shots for portrait videos. - **Director's view**: Access advanced features such as lock onto a subject in view, change between different rear camera lenses, and more. Galaxy Z Flip4 technical specification; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/configure_shooting_mode_d1e3233.html.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Camera Enjoy a full kit of pro lenses and pro-grade video modes and settings. ○ From Apps, tap Camera. TIP Quickly press the Side key twice to open the Camera app.  Galaxy A54 5G technical specifications; https://downloadcenter.samsung.com/content/UM/202304/20230407022332214/SAM_A546_EN_UM_OS13_040523_FINAL.pdf at 40.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Configure shooting mode Allow the camera to determine the ideal mode for your pictures or choose from several shooting modes. ○ From Camera, swipe the screen right and left to change shooting modes. • **Fun**: Change your look and reimagine your world with unique Snapchat Lenses. • **Portrait**: Adjust the background of your shots for portrait photos. • **Photo**: Allow the camera to determine the ideal settings for pictures. • **Video**: Allow the camera to determine the ideal settings for videos. • **More**: Choose other available shooting modes. Tap ⊕ **Add** to drag modes into or out of the shooting modes tray at the bottom of the Camera screen. - **Pro**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while taking pictures. - **Macro**: Capture close-up images of objects from 3-5 cm away. - **Pro video**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while recording videos. - **Single take**: Capture multiple pictures and video clips from different angles. - **Panorama**: Create a linear image by taking pictures in either a horizontal or vertical direction. - **Night**: Use this to take photos in low-light conditions, without using the flash. - **Food**: Take pictures that emphasize the vivid colors of food. - **Super slow-mo**: Record videos at an extremely high frame rate for viewing in high quality slow motion. You can play a specific section of each video in slow motion after recording it. - **Slow motion**: Record videos at a high frame rate for viewing in slow motion. - **Hyperlapse**: Create a time lapse video by recording at various frame rates. The frame rate is adjusted depending on the scene being recorded and the movement of the device. *Id.* at 40–41.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	See also Appendix 8 showing that the remaining Accused Samsung '757 Products include a first camera arranged on the same side of the touch display and configured to photograph an object and acquire a first image signal. Specifically, the remaining Accused Samsung '757 Products, including Galaxy smartphones and Galaxy tablets are image recording devices that have one or more cameras arranged on the same side of the touch display, which is on the front face of the image recording device, and the first camera is configured to photograph an object and acquire a first image signal, which is a still-image taken by the first camera. *See* https://www.samsung.com/us/support/answer/ANS00089063/.
[1.d] a second camera arranged on an opposite side of the touch display and configured to photograph an object and acquire a second image signal;	Each of the Accused Samsung '757 Products includes a second camera arranged on an opposite side of the touch display and configured to photograph an object and acquire a second image signal. *See e.g.*, Technical Specifications of each of the Accused Samsung '757 Products available at Samsung's website showing that each of the devices includes a second camera arranged on an opposite side of the touch display and configured to photograph an object and acquire a second image signal (https://www.samsung.com/us/mobile/ and https://www.samsung.com/us/tablets/). As a non-limiting example of a second camera, each of the Accused Samsung '757 Products is a smartphone and/or tablet having one or more cameras arranged on the opposite side of the touch display. For example, the Accused Samsung '757 Products include one or more rear facing cameras located on the opposed side of the front facing touch display screen:

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Galaxy S23 Ultra 

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

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

DISPLAY	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

Galaxy S23 Ultra technical specifications; https://downloadcenter.samsung.com/content/UM/202302/20230228053129621/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL_AC_022023.pdf at 5; https://www.gsmarena.com/samsung_galaxy_s23_ultra-12024.php.

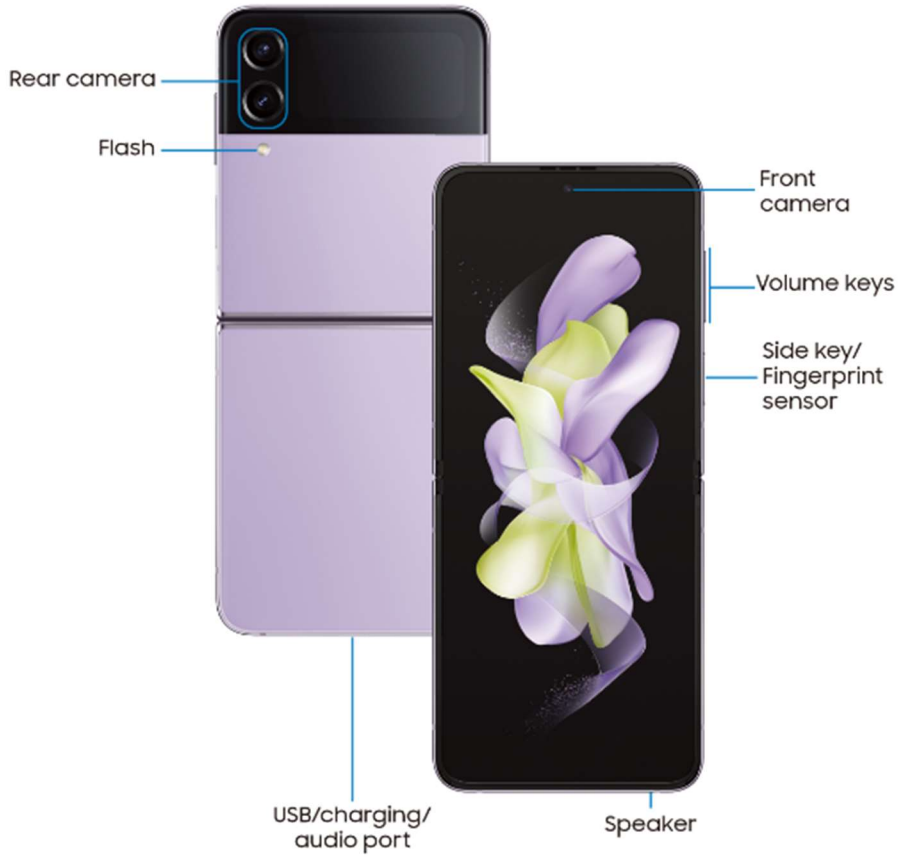
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

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

DISPLAY	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

Galaxy Z Fold4 technical specification; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_fold4_d1e605.html; https://www.gsmarena.com/samsung_galaxy_z_fold4-11737.php.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Galaxy Z Flip4 

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

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

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+)

Galaxy Z Flip4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_flip4_d1e661.html; https://www.gsmarena.com/samsung_galaxy_z_flip4-11538.php.

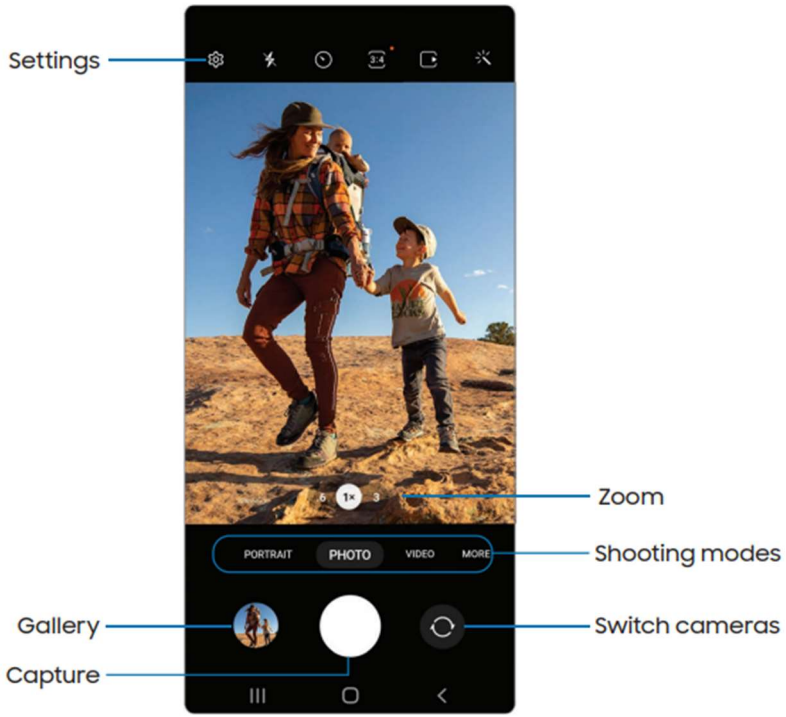
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

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
DISPLAY	Type	Super AMOLED, 120Hz, HDR10+, 1000 nits (HBM)
	Size	6.4 inches, 100.5 cm^2 (~82.9% screen-to-body ratio)
	Resolution	1080 x 2340 pixels, 19.5:9 ratio (~403 ppi density)
	Protection	Corning Gorilla Glass 5

Galaxy A54 5G technical specifications; https://downloadcenter.samsung.com/content/UM/202304/20230407022332214/SAM_A546_EN_UM_OS13_040523_FINAL.pdf at 5; https://www.gsmarena.com/samsung_galaxy_a54-12070.php.

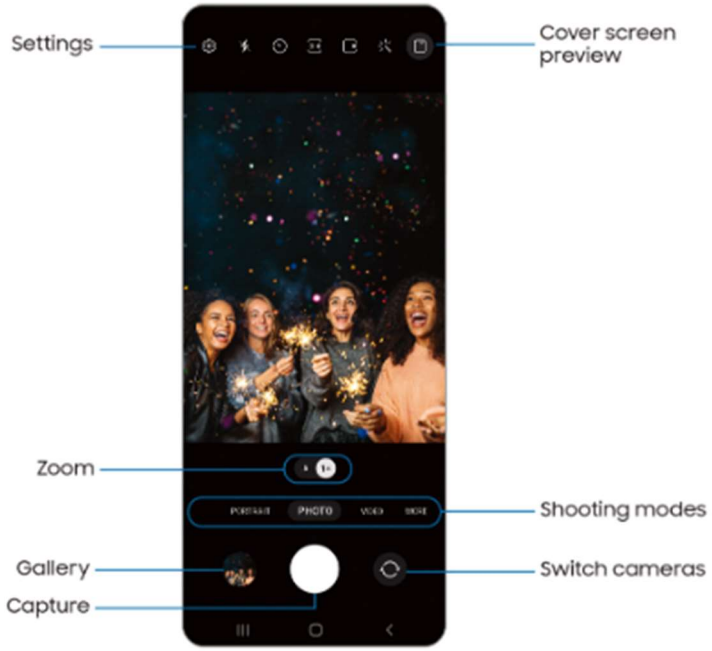
Further, as a non-limiting example of a second camera, each of the Accused Samsung '757 Products' second camera is configured to photograph an object and acquire a second image signal. For example, the Accused Samsung '757 Products' one or more rear facing cameras are configured to receive a second image signal being a photographed object as a still-image, which is taken by the second camera:

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Camera Enjoy a full kit of pro lenses and pro-grade video modes and settings. ○ From Apps, tap Camera. TIP Quickly press the Side key twice to open the Camera app.  Galaxy S23 Ultra technical specification; https://downloadcenter.samsung.com/content/UM/202302/20230228053129621/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL_AC_022023.pdf at 58.

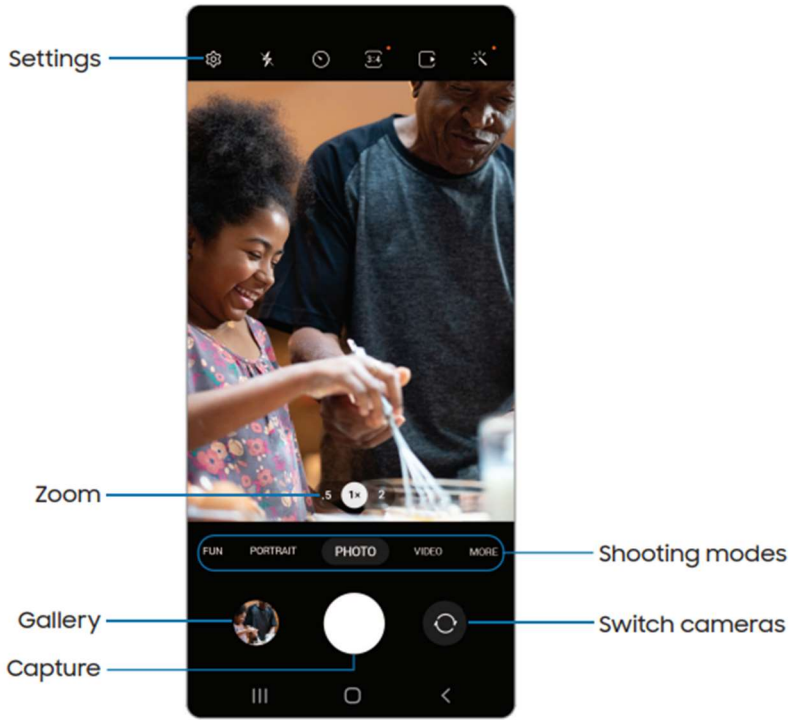
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Configure shooting mode Allow the camera to determine the ideal mode for your pictures or choose from several shooting modes. ○ From Camera, swipe the screen right and left to change shooting modes. • **Portrait**: Adjust the background of your shots for portrait photos. • **Photo**: Allow the camera to determine the ideal settings for pictures. • **Video**: Allow the camera to determine the ideal settings for videos. • **More**: Choose other available shooting modes. Tap ⊕ **Add** to drag modes into or out of the shooting modes tray at the bottom of the Camera screen. - **Expert RAW**: Download the Expert RAW shooting mode. - **Pro**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while taking pictures. - **Pro video**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while recording videos. - **Single take**: Capture multiple pictures and video clips from different angles. - **Panorama**: Create a linear image by taking pictures in either a horizontal or vertical direction. - **Night**: Use this to take photos in low-light conditions, without using the flash. - **Food**: Take pictures that emphasize the vivid colors of food. - **Super slow-mo**: Record videos at an extremely high frame rate for viewing in high quality slow motion. You can play a specific section of each video in slow motion after recording it. - **Slow motion**: Record videos at a high frame rate for viewing in slow motion. - **Hyperlapse**: Create a time lapse video by recording at various frame rates. The frame rate is adjusted depending on the scene being recorded and the movement of the device. - **Portrait video**: Adjust the background of your shots for portrait videos. - **Director's view**: Access advanced features such as lock onto a subject in view, change between different rear camera lenses, and more. *Id.* at 59–60.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Galaxy Z Fold4 Camera features  Capture and view View the pictures and videos you capture while still using your camera. Images will be shown on the side panel until the Camera app is closed. This feature is only available when the device is open. ◦ From Camera, tap Capture View. Galaxy Z Fold4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_fold4_camera_features_d1e3185.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Configure shooting mode Allow the camera to determine the ideal mode for your pictures or choose from several shooting modes. ◦ From **Camera**, swipe the screen right and left to change shooting modes. • **Portrait**: Adjust the background of your shots for portrait photos. • **Photo**: Allow the camera to determine the ideal settings for pictures. • **Video**: Allow the camera to determine the ideal settings for videos. • **More**: Choose other available shooting modes. Tap **Add** to drag modes into or out of the shooting modes tray at the bottom of the Camera screen. - **Pro**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while taking pictures. - **Pro video**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while recording videos. - **Single take**: Capture multiple pictures and video clips from different angles. - **Panorama**: Create a linear image by taking pictures in either a horizontal or vertical direction. - **Night**: Use this to take photos in low-light conditions, without using the flash. - **Food**: Take pictures that emphasize the vivid colors of food. - **Super slow-mo**: Record videos at an extremely high frame rate for viewing in high quality slow motion. You can play a specific section of each video in slow motion after recording it. - **Slow motion**: Record videos at a high frame rate for viewing in slow motion. - **Hyperlapse**: Create a time lapse video by recording at various frame rates. The frame rate is adjusted depending on the scene being recorded and the movement of the device. - **Portrait video**: Adjust the background of your shots for portrait videos. - **Director's view**: Access advanced features such as lock onto a subject in view, change between different rear camera lenses, and more. Galaxy Z Fold4 technical specification; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/configure_shooting_mode_d1e3233.html.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Galaxy Z Flip4 Camera features  **Selfies in Flex mode** Use your camera in Flex mode for hands-free selfies. 1. Place your phone on a flat surface in table top view. 2. From **Camera**, tap **Portrait**. 3. Tap or to move the camera preview to the top or bottom half of the screen. Galaxy Z Flip4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_flip4_camera_features_d1e3206.html.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Configure shooting mode Allow the camera to determine the ideal mode for your pictures or choose from several shooting modes. ◦ From **Camera**, swipe the screen right and left to change shooting modes. • **Portrait**: Adjust the background of your shots for portrait photos. • **Photo**: Allow the camera to determine the ideal settings for pictures. • **Video**: Allow the camera to determine the ideal settings for videos. • **More**: Choose other available shooting modes. Tap **Add** to drag modes into or out of the shooting modes tray at the bottom of the Camera screen. - **Pro**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while taking pictures. - **Pro video**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while recording videos. - **Single take**: Capture multiple pictures and video clips from different angles. - **Panorama**: Create a linear image by taking pictures in either a horizontal or vertical direction. - **Night**: Use this to take photos in low-light conditions, without using the flash. - **Food**: Take pictures that emphasize the vivid colors of food. - **Super slow-mo**: Record videos at an extremely high frame rate for viewing in high quality slow motion. You can play a specific section of each video in slow motion after recording it. - **Slow motion**: Record videos at a high frame rate for viewing in slow motion. - **Hyperlapse**: Create a time lapse video by recording at various frame rates. The frame rate is adjusted depending on the scene being recorded and the movement of the device. - **Portrait video**: Adjust the background of your shots for portrait videos. - **Director's view**: Access advanced features such as lock onto a subject in view, change between different rear camera lenses, and more. Galaxy Z Flip4 technical specification; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/configure_shooting_mode_d1e3233.html.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Camera Enjoy a full kit of pro lenses and pro-grade video modes and settings. ○ From Apps, tap Camera. TIP Quickly press the Side key twice to open the Camera app.  Galaxy A54 5G technical specifications; https://downloadcenter.samsung.com/content/UM/202304/20230407022332214/SAM_A546_EN_UM_OS13_040523_FINAL.pdf at 40.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

Configure shooting mode

Allow the camera to determine the ideal mode for your pictures or choose from several shooting modes.

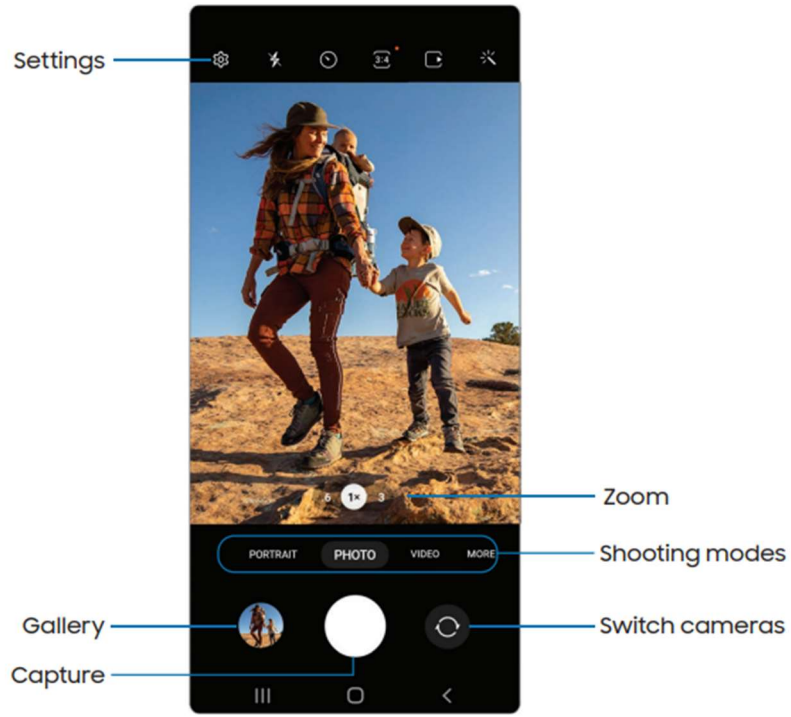
- From **Camera**, swipe the screen right and left to change shooting modes.
  - **Fun**: Change your look and reimagine your world with unique Snapchat Lenses.
  - **Portrait**: Adjust the background of your shots for portrait photos.
  - **Photo**: Allow the camera to determine the ideal settings for pictures.
  - **Video**: Allow the camera to determine the ideal settings for videos.
  - **More**: Choose other available shooting modes. Tap **Add** to drag modes into or out of the shooting modes tray at the bottom of the Camera screen.
    - **Pro**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while taking pictures.
    - **Macro**: Capture close-up images of objects from 3-5 cm away.
    - **Pro video**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while recording videos.
    - **Single take**: Capture multiple pictures and video clips from different angles.
    - **Panorama**: Create a linear image by taking pictures in either a horizontal or vertical direction.
    - **Night**: Use this to take photos in low-light conditions, without using the flash.
    - **Food**: Take pictures that emphasize the vivid colors of food.
    - **Super slow-mo**: Record videos at an extremely high frame rate for viewing in high quality slow motion. You can play a specific section of each video in slow motion after recording it.
    - **Slow motion**: Record videos at a high frame rate for viewing in slow motion.
    - **Hyperlapse**: Create a time lapse video by recording at various frame rates. The frame rate is adjusted depending on the scene being recorded and the movement of the device.

Id. at 40–41.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	See also Appendix 8 showing that the remaining Accused Samsung '757 Products include a second camera arranged on an opposite side of the touch display and configured to photograph an object and acquire a second image signal. Specifically, the remaining Accused Samsung '757 Products, including Galaxy smartphones and Galaxy tablets are image recording devices that have one or more cameras arranged on the opposite side of the touch display, which is on the rear face of the image recording device, and the second camera is configured to photograph an object and acquire a second image signal, which is a still-image taken by the second camera. *See* https://www.samsung.com/us/support/answer/ANS00089063/.
[1.e] a recorder configured to record at least one of the first image signal or the second image signal on a storage; and	In each of the Accused Samsung '757 Products is a recorder configured to record at least one of the first image signal or the second image signal on a storage. *See e.g.*, Technical Specifications of each of the Accused Samsung '757 Products available at Samsung's website showing that each of the devices includes a recorder configured to record at least one of the first image signal or the second image signal on a storage (https://www.samsung.com/us/mobile/ and https://www.samsung.com/us/tablets/). As a non-limiting example of a recorder configured to record at least one of the first image signal or the second image signal, each of the Accused Samsung '757 Products is a smartphone and/or tablet having a recorder configured to record the first camera's image signal and/or second camera's image signal. For example, the Accused Samsung '757 Products include a recorder having one or more processors (chipset) for executing software or applications to operate the first camera and the second camera including recording the first image signal and/or the second image signal. In addition, for example, the one or more processors (chipset) execute software or applications to process the touch operation instruction and to process the command voice using Bixby for executing a recording process of still-images: Processor  Qualcomm Snapdragon 8 Gen2 Mobile Platform for Galaxy

APPENDIX 4: MARCH 7, 2024 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1–11 OF U.S. PATENT NO. 11,223,757 TO ACCUSED SAMSUNG '757 PRODUCTS

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	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 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.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Camera Enjoy a full kit of pro lenses and pro-grade video modes and settings. ○ From Apps, tap Camera. TIP Quickly press the Side key twice to open the Camera app.  Galaxy S23 Ultra technical specification; https://downloadcenter.samsung.com/content/UM/202302/20230228053129621/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL_AC_022023.pdf at 58.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Configure shooting mode Allow the camera to determine the ideal mode for your pictures or choose from several shooting modes. ○ From Camera, swipe the screen right and left to change shooting modes. • **Portrait**: Adjust the background of your shots for portrait photos. • **Photo**: Allow the camera to determine the ideal settings for pictures. • **Video**: Allow the camera to determine the ideal settings for videos. • **More**: Choose other available shooting modes. Tap ⊕ **Add** to drag modes into or out of the shooting modes tray at the bottom of the Camera screen. - **Expert RAW**: Download the Expert RAW shooting mode. - **Pro**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while taking pictures. - **Pro video**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while recording videos. - **Single take**: Capture multiple pictures and video clips from different angles. - **Panorama**: Create a linear image by taking pictures in either a horizontal or vertical direction. - **Night**: Use this to take photos in low-light conditions, without using the flash. - **Food**: Take pictures that emphasize the vivid colors of food. - **Super slow-mo**: Record videos at an extremely high frame rate for viewing in high quality slow motion. You can play a specific section of each video in slow motion after recording it. - **Slow motion**: Record videos at a high frame rate for viewing in slow motion. - **Hyperlapse**: Create a time lapse video by recording at various frame rates. The frame rate is adjusted depending on the scene being recorded and the movement of the device. - **Portrait video**: Adjust the background of your shots for portrait videos. - **Director's view**: Access advanced features such as lock onto a subject in view, change between different rear camera lenses, and more. *Id.* at 59–60.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Bixby displays customized content based on your interactions. Bixby learns from your usage patterns and suggests content you may like. For more information, see Bixby. *Id.* at 74; https://www.samsung.com/us/apps/bixby/; https://www.samsung.com/us/apps/bixby/bixby-user-guide/.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Bixby Bixby is a virtual assistant that learns, evolves, and adapts to you. It learns your routines, helps you set up reminders based on time and location, and is built in to your favorite apps. Visit **samsung.com/us/support/owners/app/Bixby** for more information. ○ From a Home screen, press and hold the **Side** key. **TIP** You can also access Bixby from the Apps list. Bixby Vision Bixby is integrated with your Camera, Gallery, and Internet apps to give you a deeper understanding of what you see. It provides contextual icons for translation, QR code detection, landmark recognition, or shopping. Camera Bixby Vision is available on the Camera viewfinder to help understand what you see. ○ From **Camera**, tap **More** > **Bixby Vision** and follow the prompts. Gallery Bixby Vision can be used on pictures and images saved in the Gallery app. 1. From **Gallery**, tap a picture to view it. 2. Tap **Bixby Vision** and follow the prompts. Internet Bixby Vision can help you find out more about an image you find in the Internet app. 1. From **Internet**, touch and hold an image until a pop-up menu is displayed. 2. Tap **Search with Bixby Vision** and follow the prompts. *Id.* at 41.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

Bixby

Introduction

Bixby is a user interface that helps you use your device more conveniently.

You can talk to Bixby or type text. Bixby will launch a feature you request or show the information you want. Visit www.samsung.com/bixby for more information.

Bixby is only available in some languages, and it may not be available depending on the region.

Starting Bixby

Press and hold the Side key to launch Bixby. The Bixby intro page will appear. After you select the language to use with Bixby, sign in to your Samsung account, and complete the setup by following the on-screen instructions, the Bixby screen will appear.

Using Bixby

While pressing and holding the Side key, say what you want to Bixby. Alternatively, say the wake-up phrase and say what you want.

For example, while pressing and holding the Side key, say "How's the weather today?" The weather information will appear on the screen.

If Bixby asks you a question during a conversation, you can continue to talk to Bixby without pressing the Side key or tapping .

Waking up Bixby using your voice

You can start a conversation with Bixby by saying "Hi, Bixby" or "Bixby". Register your voice so that Bixby will respond to your voice.

1 Open the **Bixby** app and tap → **Voice wake-up**.

2 Tap the switch to turn it on.

3 Select a wake-up phrase you want under **Wake-up phrase**.

4 Tap the **Respond to my voice** switch to turn it on.

5 Follow the on-screen instructions to complete the setup.
Now you can say the wake-up phrase and start a conversation.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

Communicating by typing text

If your voice is not recognized because of noisy environments or if you are in a situation where speaking is difficult, you can communicate with Bixby through text.

Open the **Bixby** app, tap , and then type what you want.

During the communication, Bixby also will answer you through text instead of voice feedback.

Bixby Vision

Introduction

Bixby Vision is a service that provides various features based on image recognition. You can use Bixby Vision to search for information by recognizing objects.

- This feature may not be available or you might not get correct search results depending on the image size, format, or resolution.
- Samsung is not responsible for the product information provided by Bixby Vision.

Launching Bixby Vision

Launch Bixby Vision using one of these methods.

- In the **Camera** app, tap **MORE** on the shooting modes list and tap **BIXBY VISION**.
- In the **Gallery** app, select an image and tap .
- In the **Samsung Internet** app, touch and hold an image and tap **Search with Bixby Vision**.
- If you added the Bixby Vision app icon to the Apps screen, open the **Bixby Vision** app.

Using Bixby Vision

1 Launch Bixby Vision.

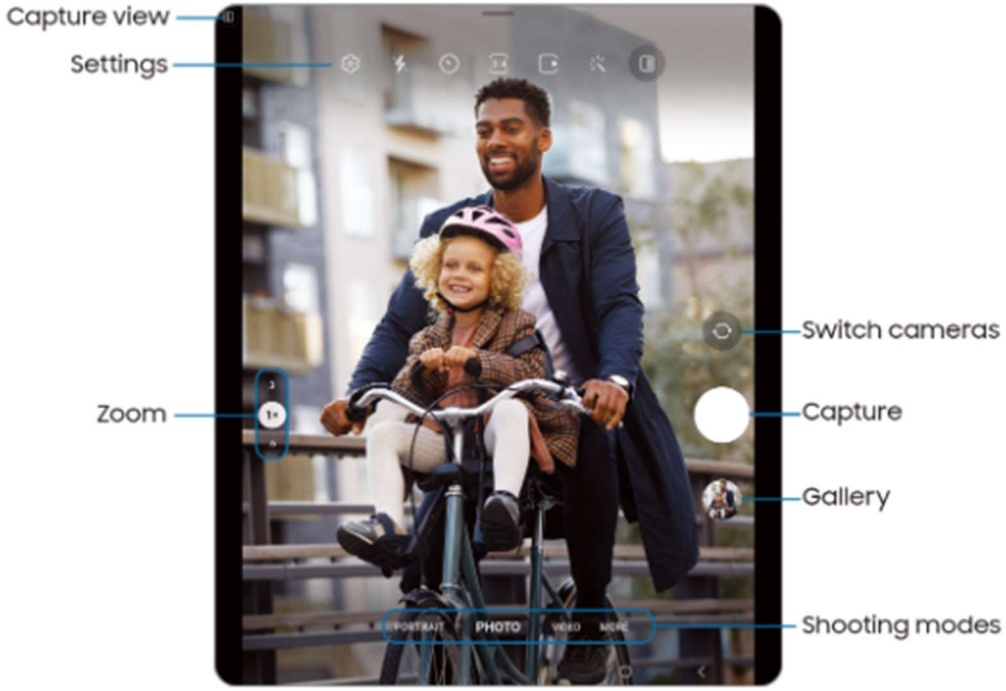
2 Select a feature you want to use.

- **TRANSLATE**: Recognize text from documents or images and translate it.
- **TEXT**: Recognize text from documents or images and extract it.
- **DISCOVER**: Search for images similar to the recognized object online and related information.

The available features and search results may vary depending on the region or carrier.

Galaxy S23 Series User Guide at pg. 88-90.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 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.

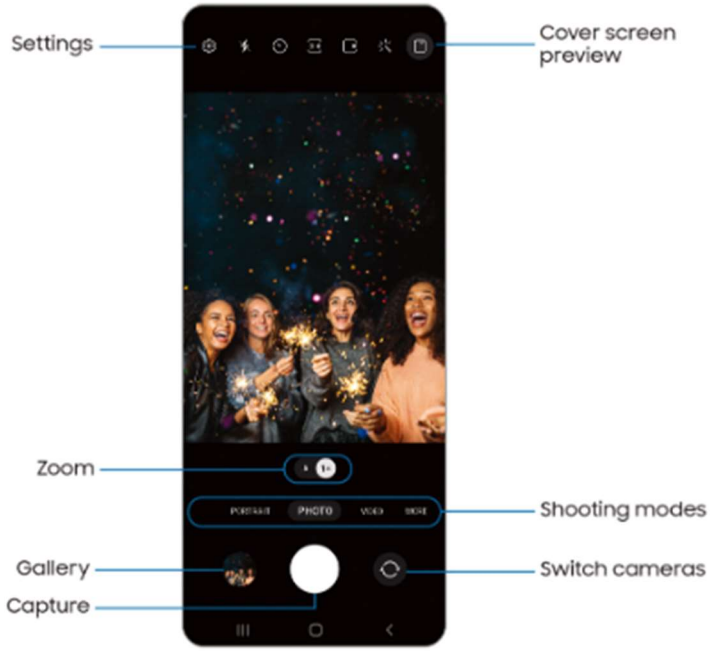
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Galaxy Z Fold4 Camera features  **Capture and view** View the pictures and videos you capture while still using your camera. Images will be shown on the side panel until the Camera app is closed. This feature is only available when the device is open. ○ From **Camera**, tap **Capture View**. Galaxy Z Fold4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_fold4_camera_features_d1e3185.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Configure shooting mode Allow the camera to determine the ideal mode for your pictures or choose from several shooting modes. ○ From **Camera**, swipe the screen right and left to change shooting modes. • **Portrait**: Adjust the background of your shots for portrait photos. • **Photo**: Allow the camera to determine the ideal settings for pictures. • **Video**: Allow the camera to determine the ideal settings for videos. • **More**: Choose other available shooting modes. Tap **Add** to drag modes into or out of the shooting modes tray at the bottom of the Camera screen. - **Pro**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while taking pictures. - **Pro video**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while recording videos. - **Single take**: Capture multiple pictures and video clips from different angles. - **Panorama**: Create a linear image by taking pictures in either a horizontal or vertical direction. - **Night**: Use this to take photos in low-light conditions, without using the flash. - **Food**: Take pictures that emphasize the vivid colors of food. - **Super slow-mo**: Record videos at an extremely high frame rate for viewing in high quality slow motion. You can play a specific section of each video in slow motion after recording it. - **Slow motion**: Record videos at a high frame rate for viewing in slow motion. - **Hyperlapse**: Create a time lapse video by recording at various frame rates. The frame rate is adjusted depending on the scene being recorded and the movement of the device. - **Portrait video**: Adjust the background of your shots for portrait videos. - **Director's view**: Access advanced features such as lock onto a subject in view, change between different rear camera lenses, and more. Galaxy Z Fold4 technical specification; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/configure_shooting_mode_d1e3233.html.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Bixby Bixby displays customized content based on your interactions. Bixby learns from your usage patterns and suggests content you may like. For more information, see Bixby. Galaxy Z Fold4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/samsung_apps_d1e4429.html#d1e4524; https://www.samsung.com/us/apps/bixby/; https://www.samsung.com/us/apps/bixby/bixby-user-guide/.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Bixby Bixby is a virtual assistant that learns, evolves, and adapts to you. It learns your routines, helps you set up reminders based on time and location, and is built in to your favorite apps. Visit **samsung.com/us/support/owners/app/Bixby** for more information. • From a Home screen, press and hold the **Side** key. **TIP** You can also access Bixby from the Apps list. **Bixby Vision** Bixby is integrated with your Camera, Gallery, and Internet apps to give you a deeper understanding of what you see. It provides contextual icons for translation, QR code detection, landmark recognition, or shopping. **Camera** Bixby Vision is available on the Camera viewfinder to help understand what you see. • From **Camera**, tap **More** > **Bixby Vision** and follow the prompts. **Gallery** Bixby Vision can be used on pictures and images saved in the Gallery app. 1. From **Gallery**, tap a picture to view it. 2. Tap **Bixby Vision** and follow the prompts. **Internet** Bixby Vision can help you find out more about an image you find in the Internet app. 1. From **Internet**, touch and hold an image until a pop-up menu is displayed. 2. Tap **Search with Bixby Vision** and follow the prompts. Galaxy Z Fold4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/bixby_d1e1993.html#d1e2011.

U.S. Patent No. 11,223,757	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.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Galaxy Z Flip4 Camera features  **Selfies in Flex mode** Use your camera in Flex mode for hands-free selfies. 1. Place your phone on a flat surface in table top view. 2. From **Camera**, tap **Portrait**. 3. Tap or to move the camera preview to the top or bottom half of the screen. Galaxy Z Flip4 technical specifications; https://downloadcenter.samsung.com/content/PM/202303/20230313225909630/EB/SAM_F936_F721_EN_FINAL_230201/galaxy_z_flip4_camera_features_d1e3206.html.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
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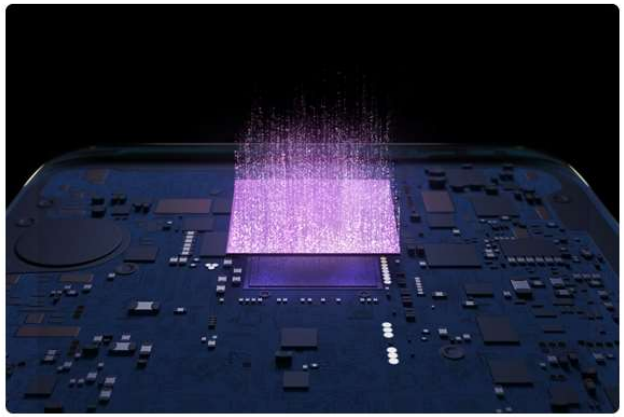
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
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U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

Processor

CPU Type	CPU Speed
Octa-Core	2.4GHz,2GHz

Performance

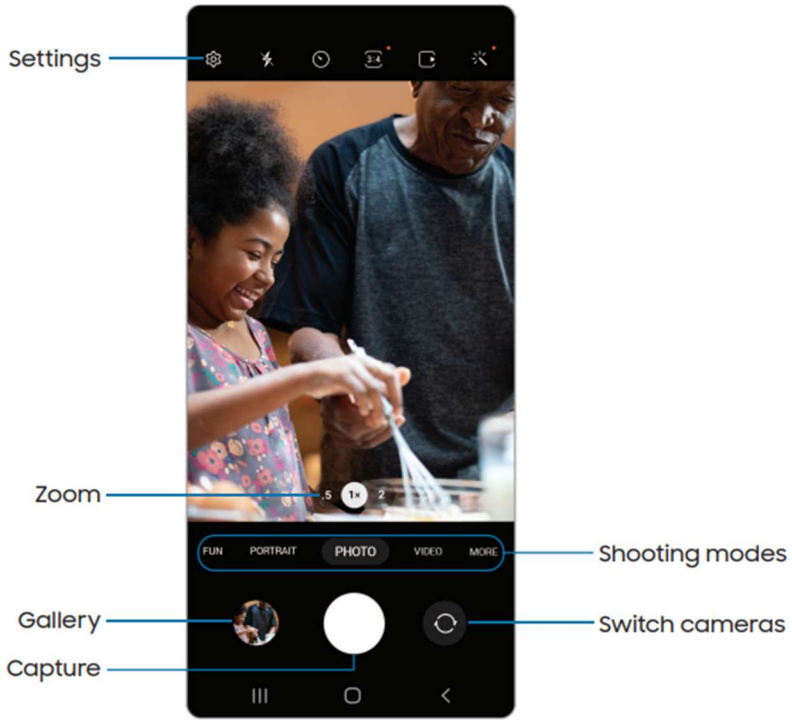


Impressive speed. Powerful processor

The powerful Octa-core processor opens up a new range of possibilities with heightened performance and capacity.

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

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.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Camera Enjoy a full kit of pro lenses and pro-grade video modes and settings. ○ From Apps, tap Camera. TIP Quickly press the Side key twice to open the Camera app.  Galaxy A54 5G technical specifications; https://downloadcenter.samsung.com/content/UM/202304/20230407022332214/SAM_A546_EN_UM_OS13_040523_FINAL.pdf at 40.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

Configure shooting mode

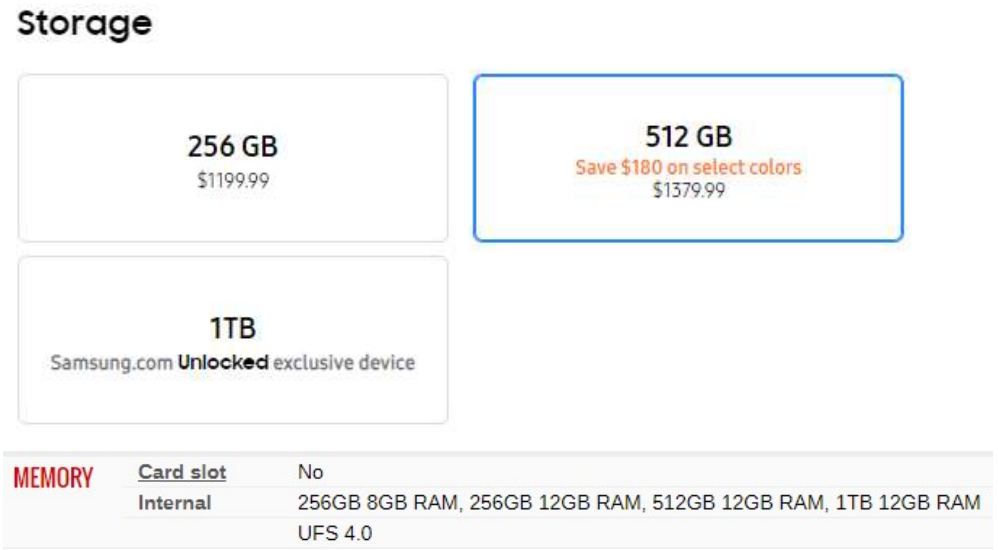
Allow the camera to determine the ideal mode for your pictures or choose from several shooting modes.

- From **Camera**, swipe the screen right and left to change shooting modes.
  - **Fun**: Change your look and reimagine your world with unique Snapchat Lenses.
  - **Portrait**: Adjust the background of your shots for portrait photos.
  - **Photo**: Allow the camera to determine the ideal settings for pictures.
  - **Video**: Allow the camera to determine the ideal settings for videos.
  - **More**: Choose other available shooting modes. Tap **Add** to drag modes into or out of the shooting modes tray at the bottom of the Camera screen.
    - **Pro**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while taking pictures.
    - **Macro**: Capture close-up images of objects from 3-5 cm away.
    - **Pro video**: Manually adjust the ISO sensitivity, exposure value, white balance, and color tone while recording videos.
    - **Single take**: Capture multiple pictures and video clips from different angles.
    - **Panorama**: Create a linear image by taking pictures in either a horizontal or vertical direction.
    - **Night**: Use this to take photos in low-light conditions, without using the flash.
    - **Food**: Take pictures that emphasize the vivid colors of food.
    - **Super slow-mo**: Record videos at an extremely high frame rate for viewing in high quality slow motion. You can play a specific section of each video in slow motion after recording it.
    - **Slow motion**: Record videos at a high frame rate for viewing in slow motion.
    - **Hyperlapse**: Create a time lapse video by recording at various frame rates. The frame rate is adjusted depending on the scene being recorded and the movement of the device.

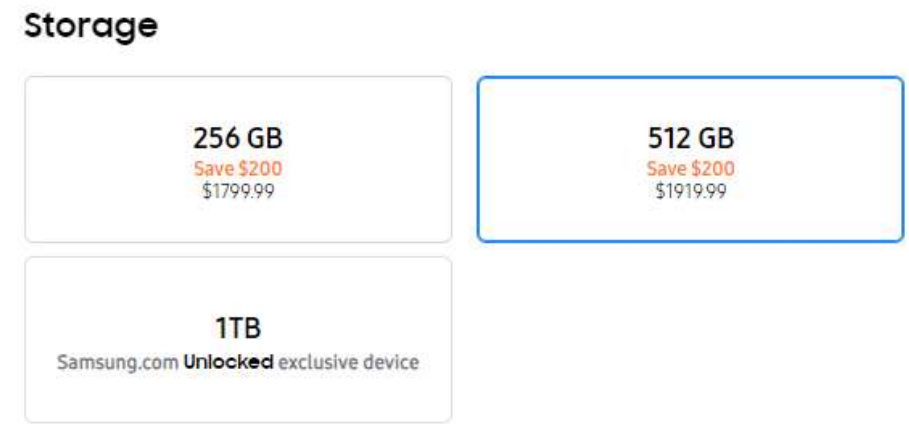
Id. at 40–41.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Bixby displays customized content based on your interactions. Bixby learns from your usage patterns and suggests content you may like. For more information, see Bixby. *Id.* at 55; https://www.samsung.com/us/apps/bixby/; https://www.samsung.com/us/apps/bixby/bixby-user-guide/.

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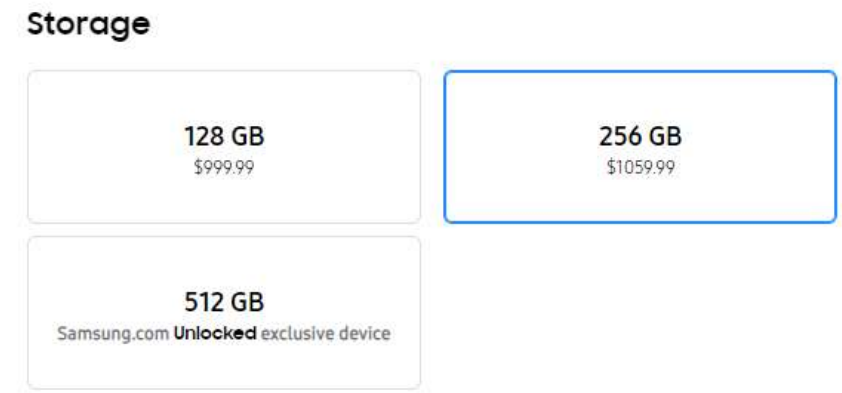
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Further, as a non-limiting example of a storage, each of the Accused Samsung '757 Products is a smartphone and/or tablet including a storage for storing at least one of the first image signal or the second image signal. For example, the Accused Samsung '757 Products include one or more processors (chipset) configured to store the first image signal and/or the second image signal generated during the recording process unto an internal RAM storage or memory device:  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.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement



MEMORY	Card slot	No
	Internal	256GB 12GB RAM, 512GB 12GB RAM, 1TB 12GB RAM
		UFS 3.1

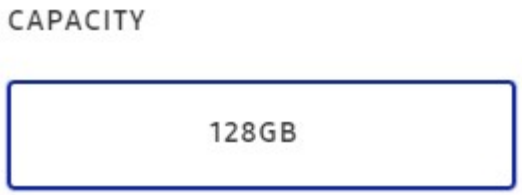
Galaxy Z Fold4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzeeatt/; https://www.gsmarena.com/samsung_galaxy_z_fold4-11737.php.

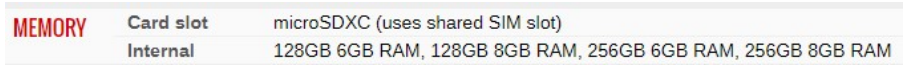


U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

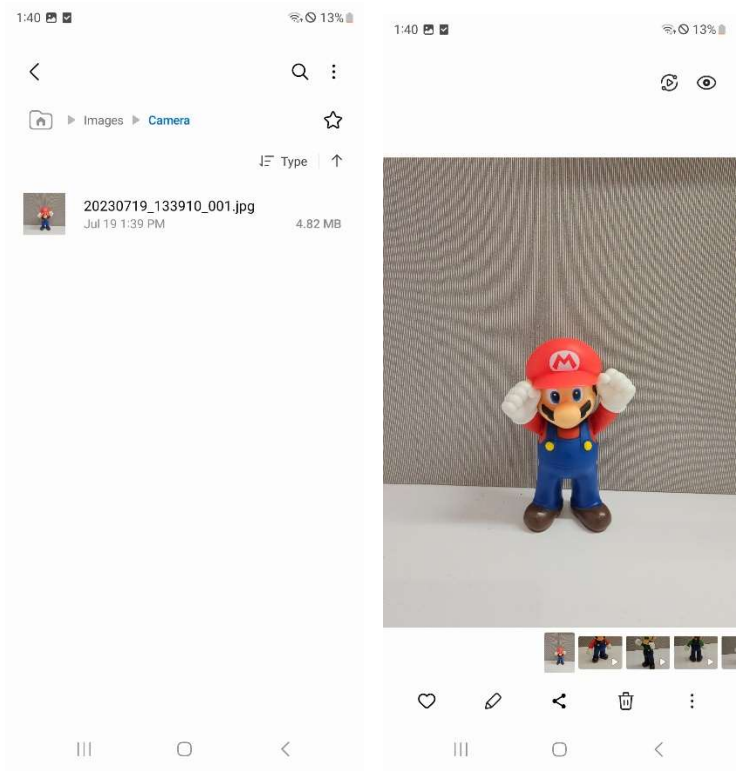


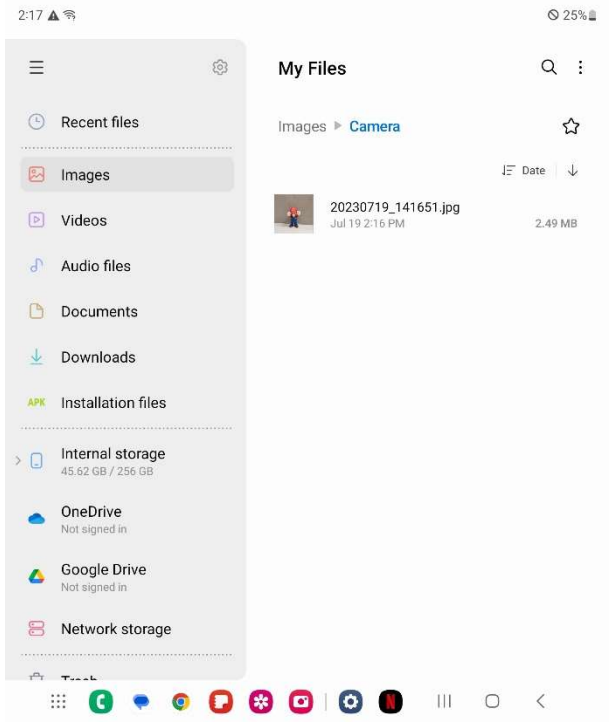
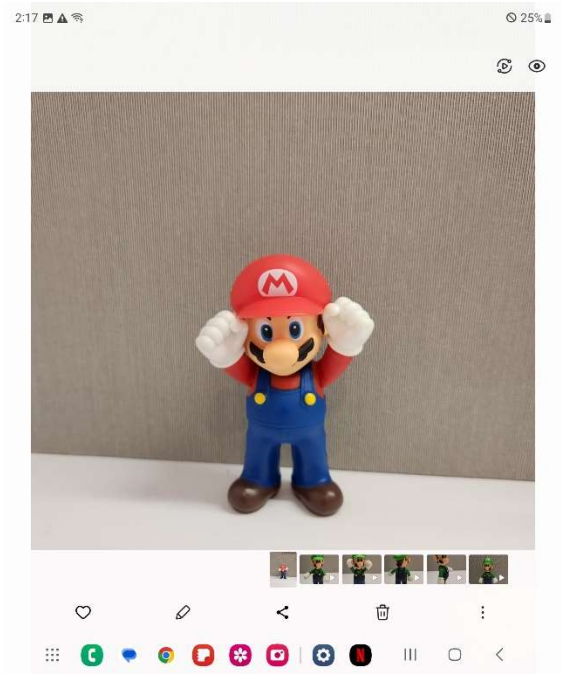
Galaxy Z Flip4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-flip4/buy/galaxy-z-flip4-256gb-t-mobile-sm-f721uzdexau/; https://www.gsmarena.com/samsung_galaxy_z_flip4-11538.php.

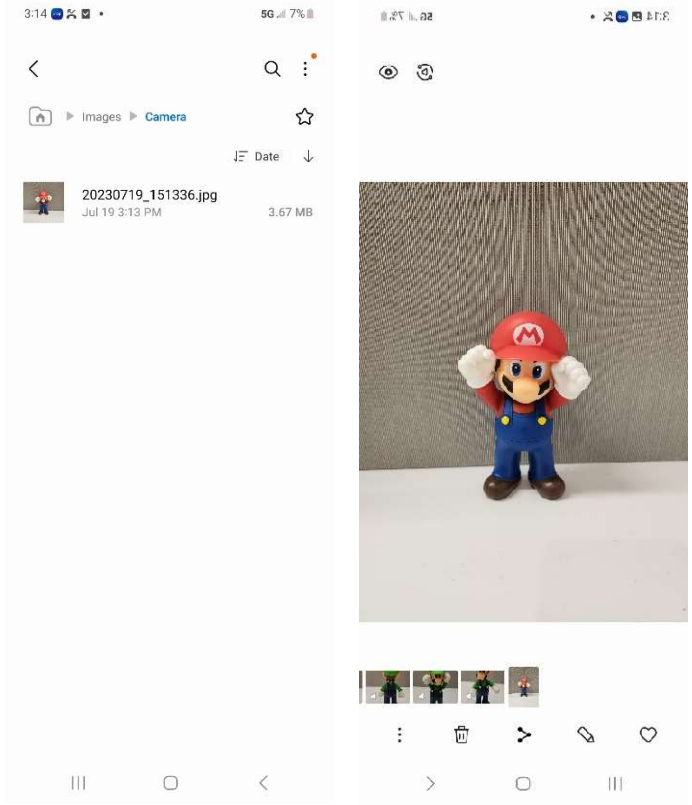


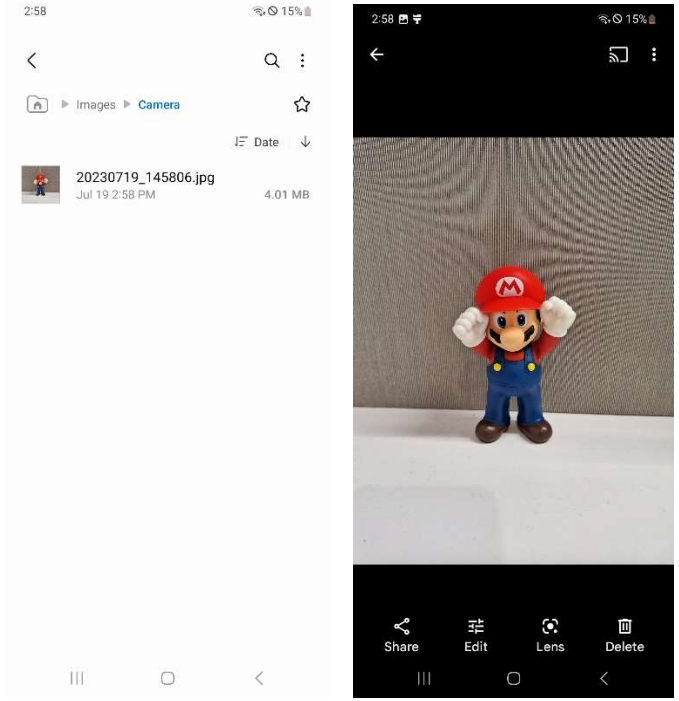


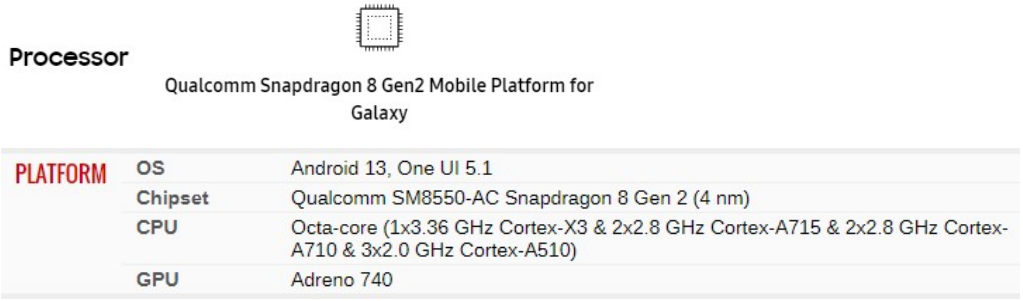
Galaxy A54 5G technical specifications; https://www.samsung.com/us/mobile/phones/galaxy-a/galaxy-a54-5g-128gb-verizon-sm-a546vzkbvzw/; https://www.gsmarena.com/samsung_galaxy_a54-12070.php.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Image storage (Samsung Galaxy S23 Ultra) 

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Image storage (Samsung Galaxy Z Fold4)  

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Image storage (Samsung Galaxy Z Flip4) 

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Image storage (Samsung Galaxy A54 5G)  *See also* Appendix 8 showing that the remaining Accused Samsung '757 Products include a recorder configured to record at least one of the first image signal or the second image signal on a storage. Specifically, the remaining Accused Samsung '757 Products, including Galaxy smartphones and Galaxy tablets are image recording devices that have memory. *See* https://www.samsung.com/us/support/answer/ANS00079026/. Doctrine of Equivalents: To the extent Samsung argues that this limitation is not literally met in the Accused Samsung '757 Products, Maxell asserts that this limitation is met under the doctrine of equivalents because the identified structure matches the function, way, and result of the claimed element and, to the extent

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	there is a difference, the difference is insubstantial. For example, to the extent that Samsung argues that the Accused Samsung '757 Products does not have a recorder configured to record at least one of the first image signal or the second image signal on a storage, such as by using one or more processors and interfaces that work alone or in conjunction to function as a recorder. Using software, hardware, or combination of the two, the Accused Samsung '757 Products perform substantially the same function (for example, recording at least one of the first image signal or the second image signal on a storage) in substantially the same way as claimed (by using video signal processing unit and/or video processing unit). The performance of this function achieve substantially the same result, for example, recording videos from the first camera or the second camera.
[1.f] a controller,	In each of the Accused Samsung '757 Products is a controller. *See e.g.*, Technical Specifications of each of the Accused Samsung '757 Products available at Samsung's website showing that each of the devices includes a controller (https://www.samsung.com/us/mobile/ and https://www.samsung.com/us/tablets/). As a non-limiting example of a controller, each of the Accused Samsung '757 Products is a smartphone and/or tablet having one or more processors (chipset) for controlling, operating, processing, and executing the overall operation of the image recording device including specific hardware and software relating to the recording process. The chipsets includes one or more of CPUs, DSPs, ISPs and/or additional processors for performing control operations:  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.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

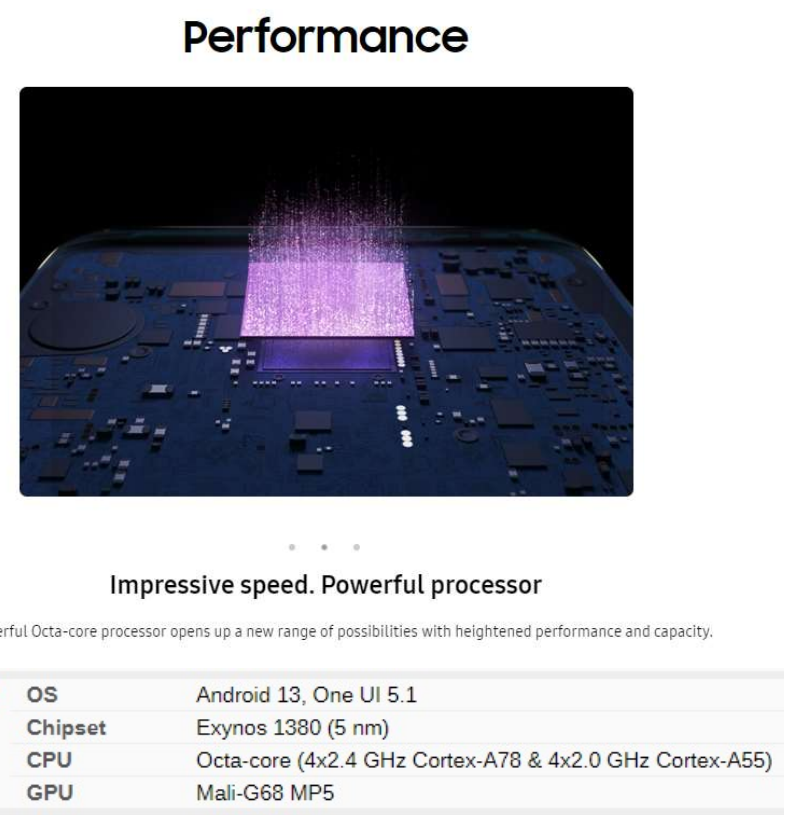


Galaxy Z Fold4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzeeatt/; https://www.gsmarena.com/samsung_galaxy_z_fold4-11737.php.



Galaxy Z Flip4 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.

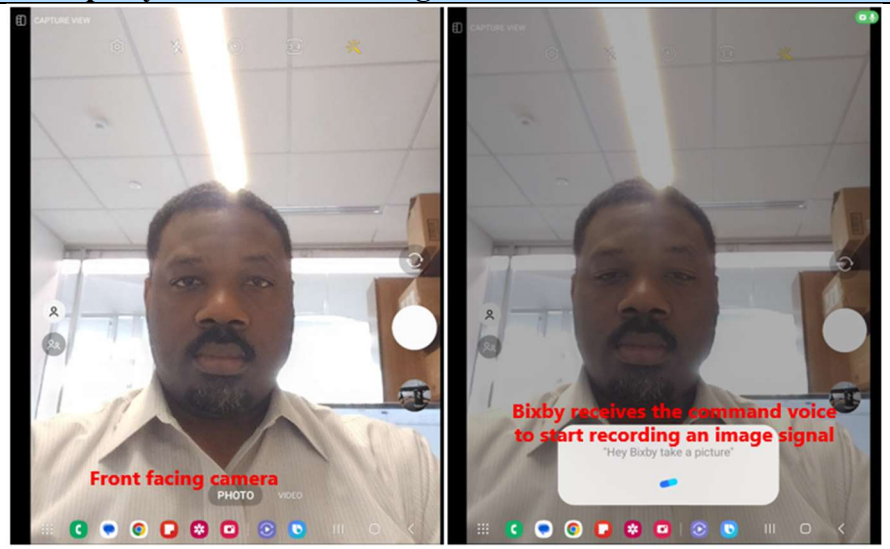


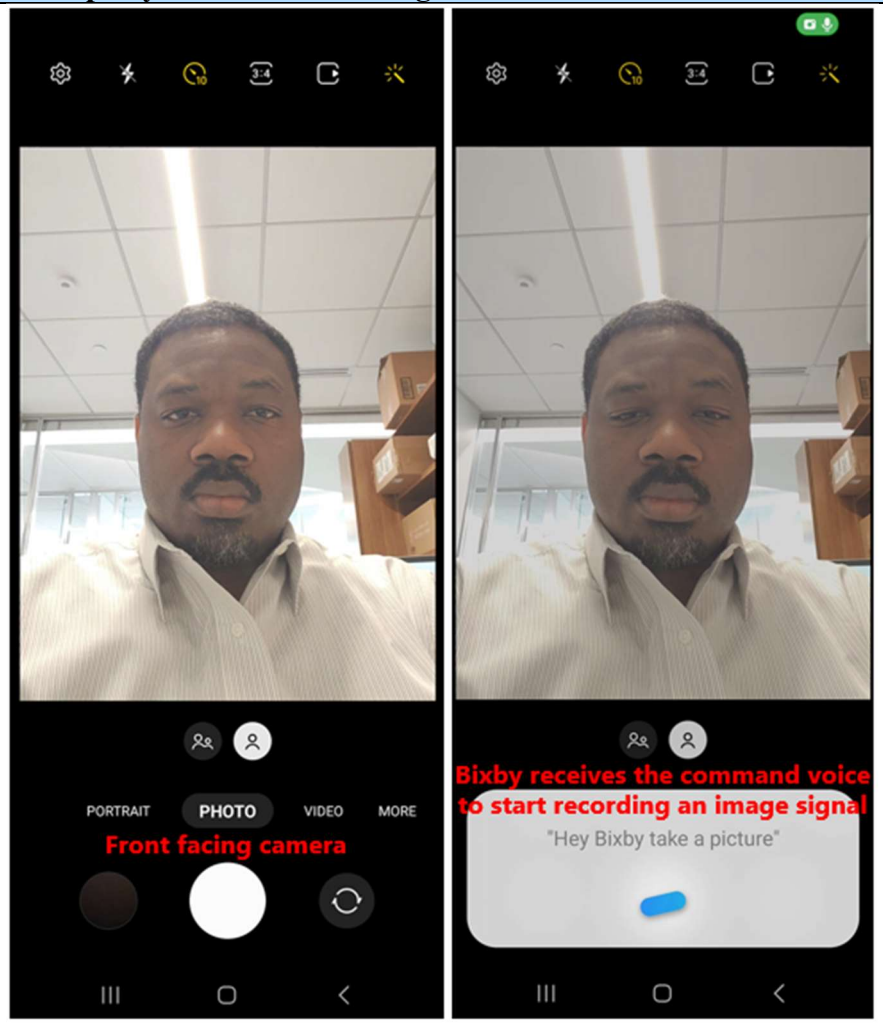
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy A54 5G technical specifications; https://www.samsung.com/us/mobile/phones/galaxy-a/galaxy-a54-5g-128gb-verizon-sm-a546vzkbvzw/; https://www.gsmarena.com/samsung_galaxy_a54-12070.php. *See also* Appendix 8 showing that the remaining Accused Samsung '757 Products include a controller. Specifically, the remaining Accused Samsung '757 Products, including Galaxy smartphones and Galaxy tablets have one or more processors (chipset) for controlling, operating, processing, and/or executing the overall operation of the image recording device including specific hardware and software relating to the recording process.

APPENDIX 4: MARCH 7, 2024 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1–11 OF U.S. PATENT NO. 11,223,757 TO ACCUSED SAMSUNG '757 PRODUCTS

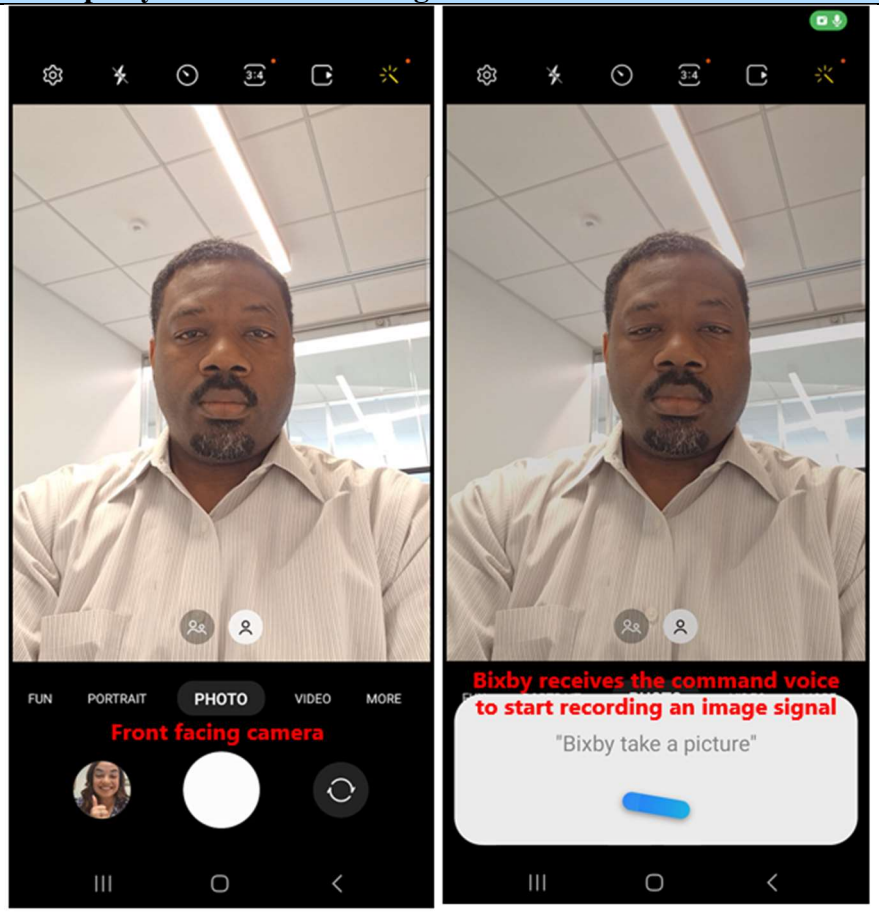
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
[1.g] wherein the controller is configured to: control such that, when the audio input interface receives the command voice giving a first instruction to start a recording of an image signal, the recorder starts a recording of the first image signal acquired by the first camera on the storage in response to the first instruction,	In each of the Accused Samsung '757 Products, the controller is configured to: control such that, when the audio input interface receives the command voice giving a first instruction to start a recording of an image signal, the recorder starts a recording of the first image signal acquired by the first camera on the storage in response to the first instruction. *See e.g.*, Technical Specifications of each of the Accused Samsung '757 Products available at Samsung's website showing that each of the devices includes a controller configured to control such that, when the audio input interface receives the command voice giving a first instruction to start a recording of an image signal, the recorder starts a recording of the first image signal acquired by the first camera on the storage in response to the first instruction (https://www.samsung.com/us/mobile/ and https://www.samsung.com/us/tablets/). As a non-limiting example of the controller, each of the Accused Samsung '757 Products is a smartphone and/or tablet having one or more processors (chipset), as a controller, to control when the audio input interface receives the command voice giving a first instruction to start a recording of an image signal. For example, the Accused Samsung '757 Products' one or more processors (chipset) control such that the front facing camera records an image signal upon user giving a first instruction being a command voice to the audio port for Bixby to start the recording process for a still-image. The following exemplary annotated screenshots show the implementation of control when the audio input interface receives the first instruction being a command voice to Bixby to start a recording of an image signal (still-image) from the front facing camera:

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy S23 Ultra annotated figures.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Fold4 annotated figures.

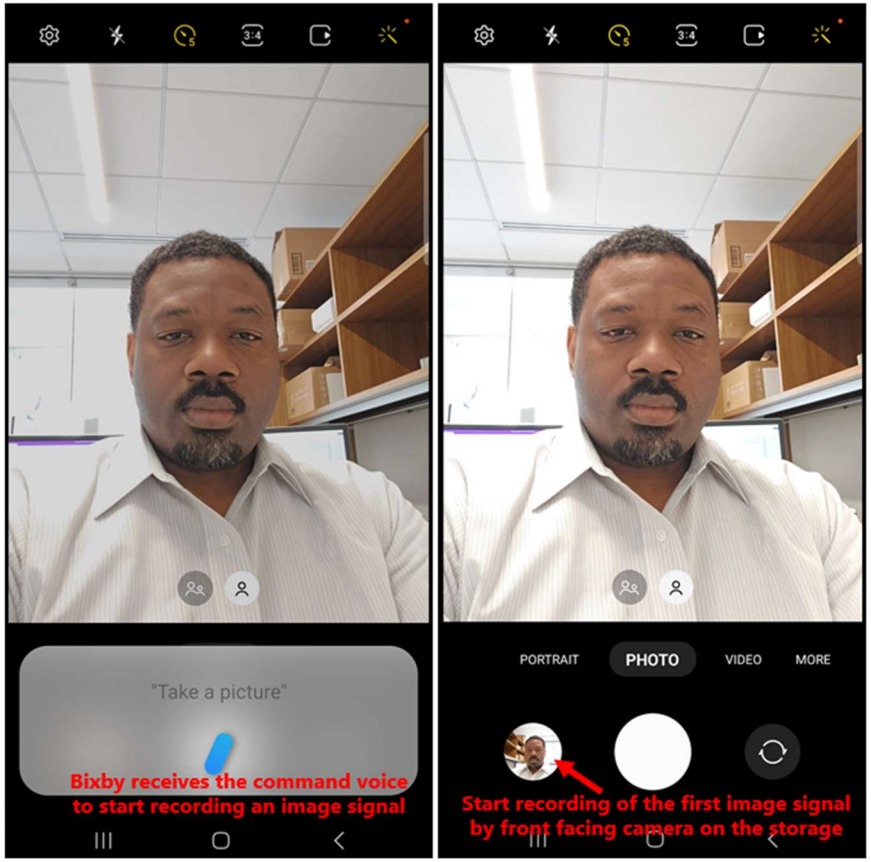
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Flip4 annotated figures.

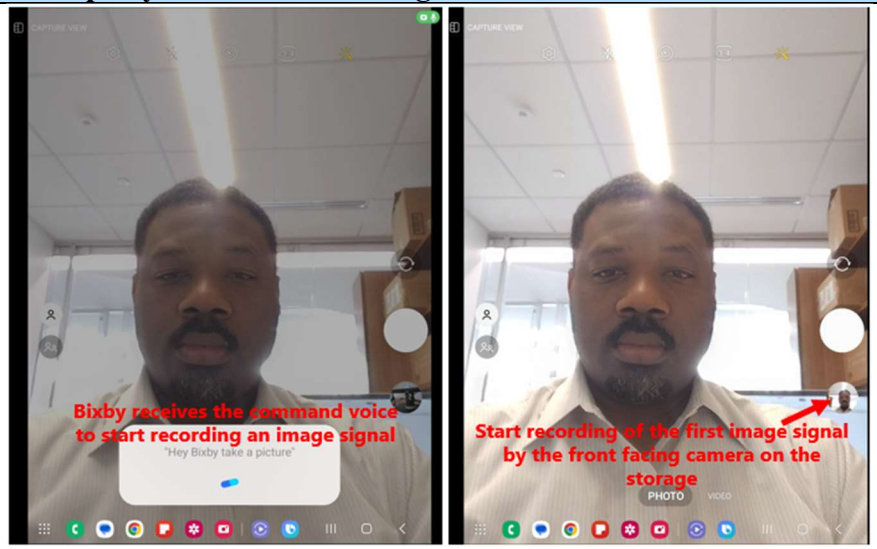
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

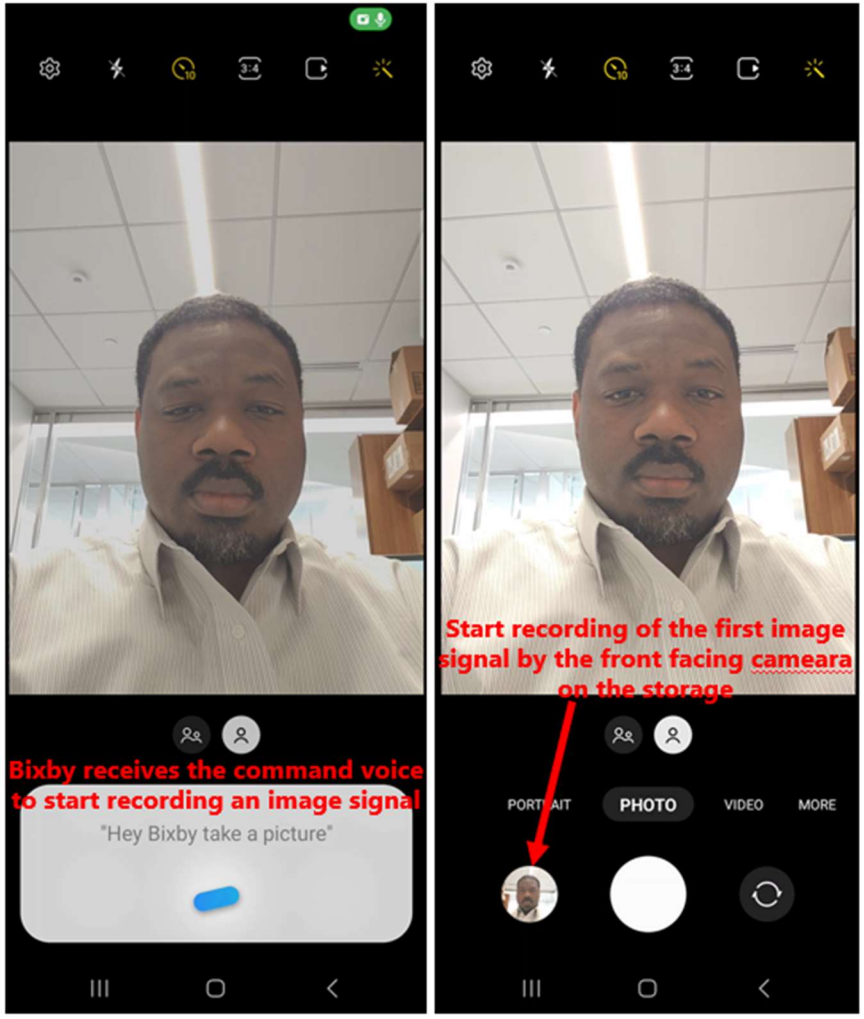


Galaxy A54 5G annotated figures.

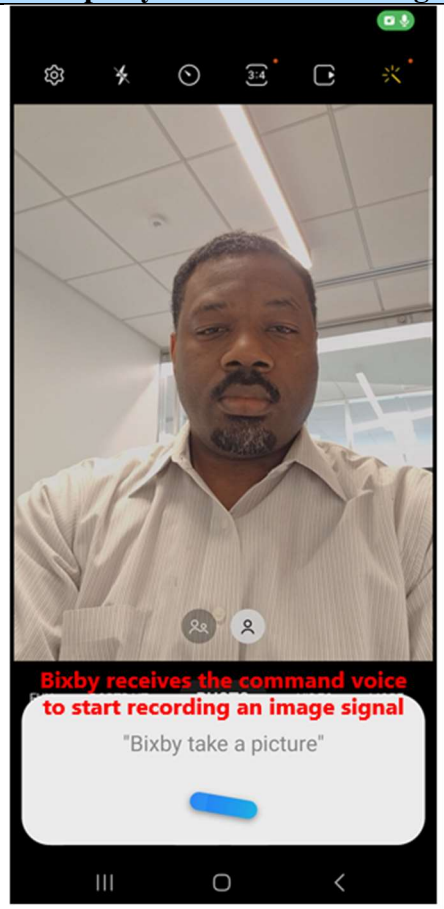
Further, as a non-limiting example of the controller, each of the Accused Samsung '757 Products is a smartphone and/or tablet having one or more processors (chipset), as a controller, to control such that the recorder starts a recording of the first image signal acquired from the front facing camera on the storage in response to the first instruction being a command voice. For example, the Accused Samsung '757 Products' one or more processors (chipset) control such that the recorder starts a

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	recording of the first image signal (still-image) from the front facing camera on the storage in response to the first instruction being a command voice to Bixby:  Galaxy S23 Ultra annotated figures.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Fold4 annotated figures.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Flip4 annotated figures.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

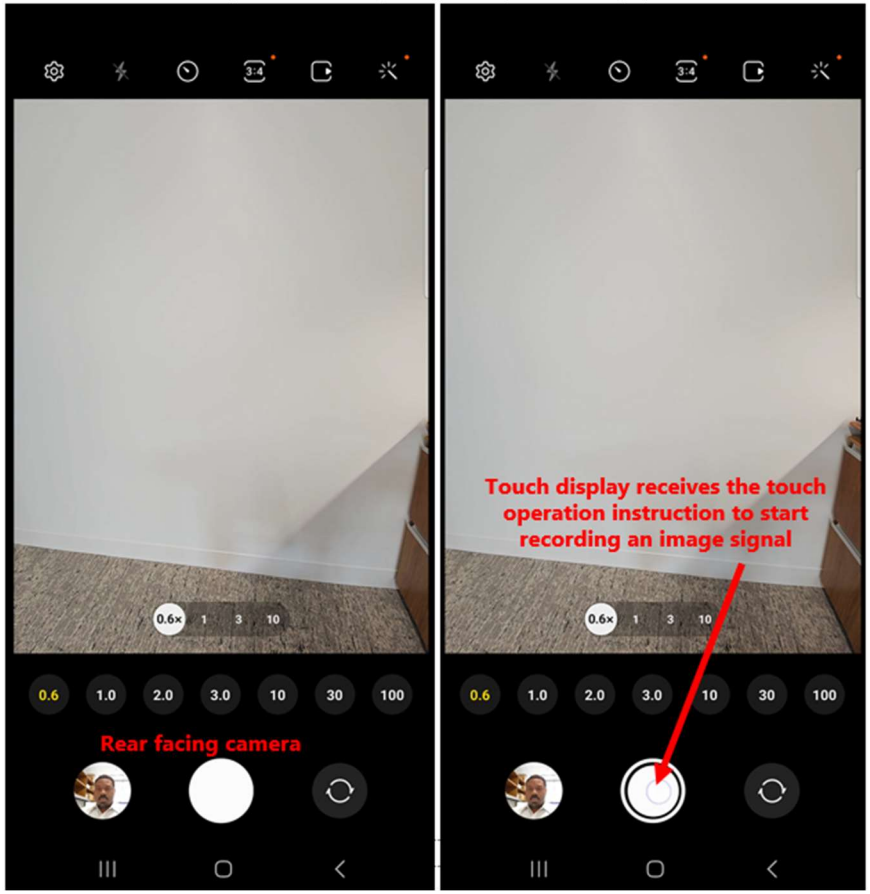


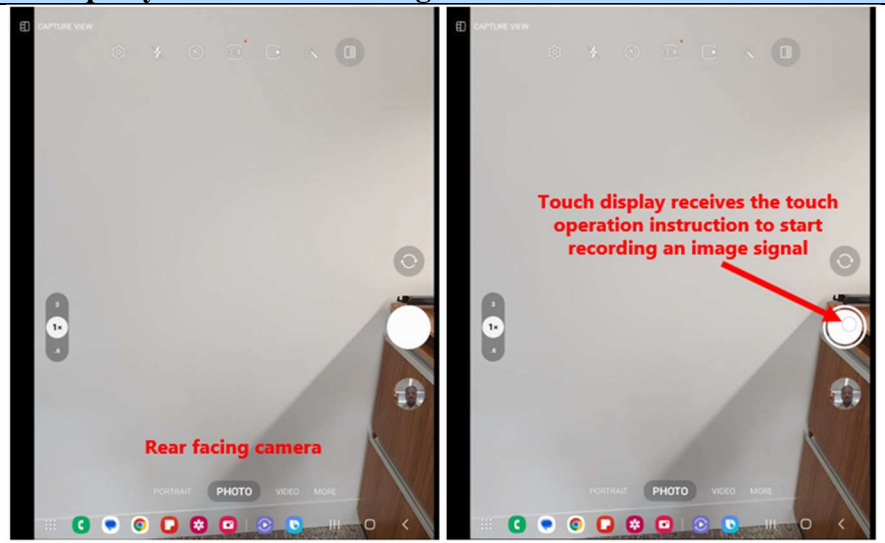


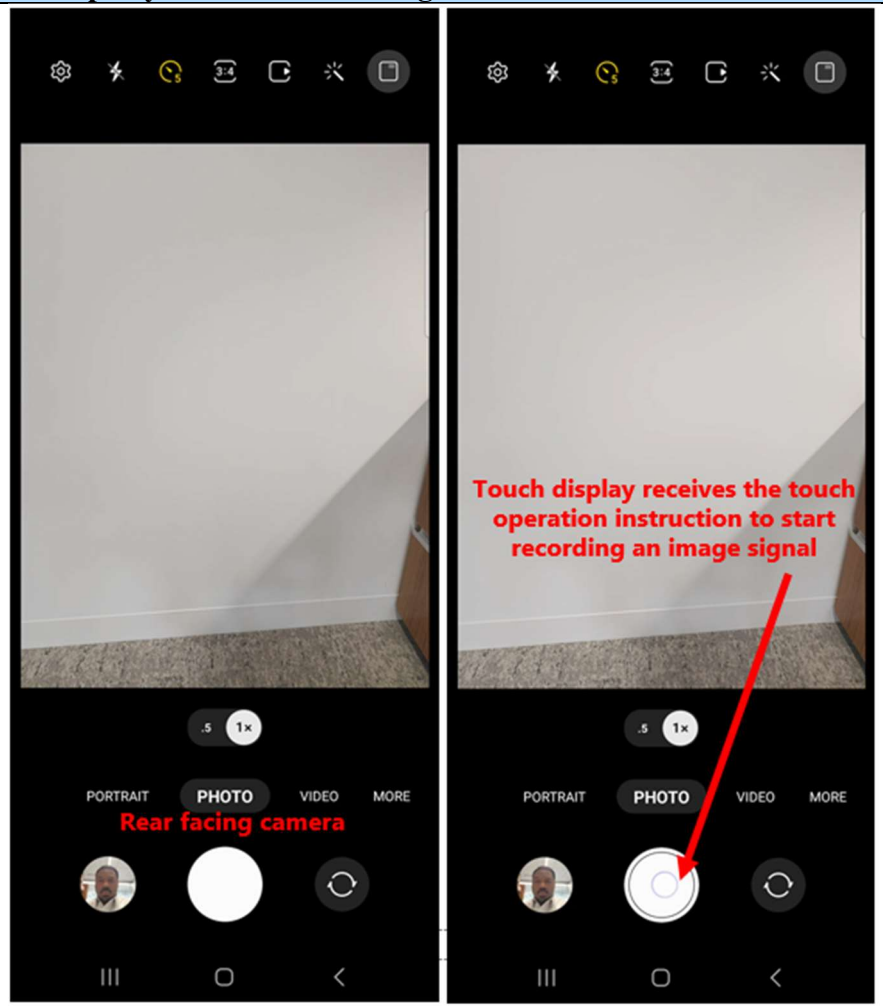
Galaxy A54 5G annotated figures.

See also Appendix 8 showing that the remaining Accused Samsung '757 Products' controller are configured to control such that, when the audio input interface receives the command voice giving a first instruction to start a recording of an image signal, the recorder starts a recording of the first image signal acquired by the first camera on the storage in response to the first instruction. Specifically, the remaining Accused Samsung '757 Products also include camera application and Bixby for providing an audio instruction to record an image. *See e.g.*,

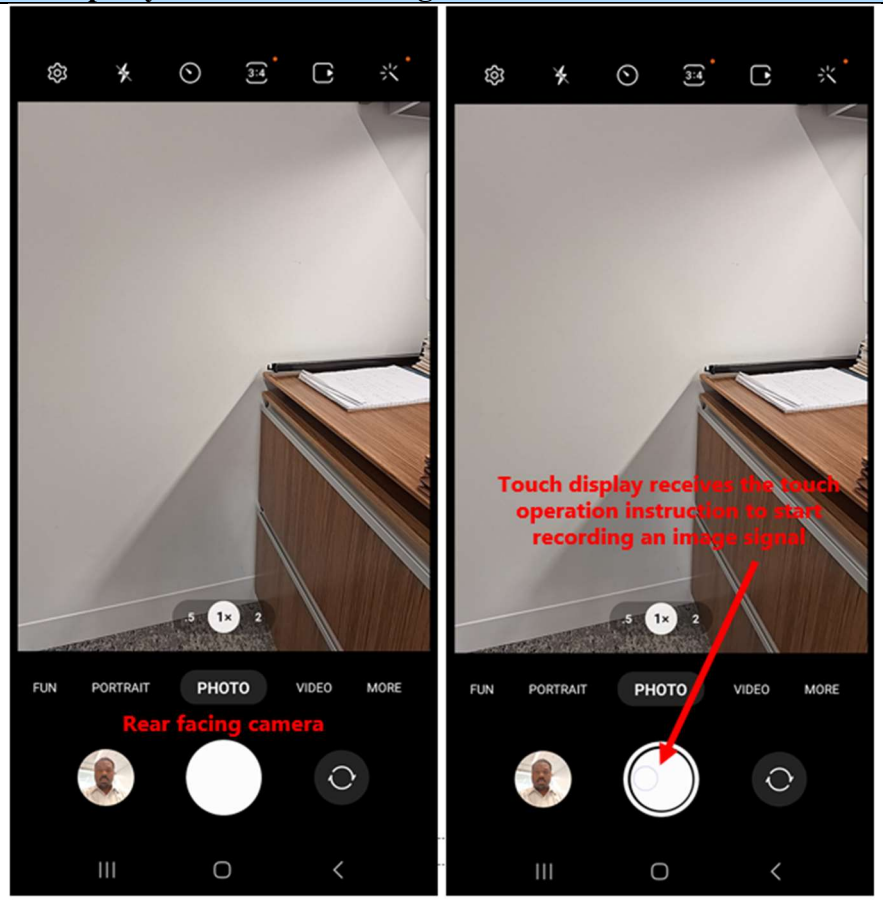
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	https://www.samsung.com/us/support/answer/ANS00089063/; *see also* https://www.samsung.com/us/apps/bixby/. Doctrine of Equivalents: To the extent Samsung argues that this limitation is not literally met in the Accused Samsung '757 Products, Maxell asserts that this limitation is met under the doctrine of equivalents because the identified structure matches the function, way, and result of the claimed element and, to the extent there is a difference, the difference is insubstantial. For example, to the extent that Samsung argues that the Accused Samsung '757 Products does not have a controller configured to control such that, when the audio input interface receives the command voice giving a first instruction to start a recording of an image signal, the recorder starts a recording of the first image signal acquired by the first camera on the storage in response to the first instruction. Using software, hardware, or combination of the two, the Accused Samsung '757 Products perform substantially the same function (for example, controlling the start of a recording of an image signal upon the receipt of a command voice giving a first instruction) in substantially the same way as claimed (by using audio processing unit, video processing unit, and/or main control unit). The performance of this function achieve substantially the same result, for example, recording a video upon the receipt of a command voice instruction.
[1.h] control such that, when the touch display receives the touch operation instruction giving a second instruction to start a recording of an image signal, the recorder starts a recording of the second image signal acquired by the second camera on the storage in response to the second instruction, and	In each of the Accused Samsung '757 Products the controller is configured to control such that, when the touch display receives the touch operation instruction giving a second instruction to start a recording of an image signal, the recorder starts a recording of the second image signal acquired by the second camera on the storage in response to the second instruction. *See e.g.*, Technical Specifications of each of the Accused Samsung '757 Products available at Samsung's website showing that each of the devices includes a controller configured to control such that, when the touch display receives the touch operation instruction giving a second instruction to start a recording of an image signal, the recorder starts a recording of the second image signal acquired by the second camera on the storage in response to the second instruction (https://www.samsung.com/us/mobile/ and https://www.samsung.com/us/tablets/). As a non-limiting example of the controller, each of the Accused Samsung '757 Products is a smartphone and/or tablet having one or more processors (chipset), as a controller, to control when the touch display receives the touch operation instruction giving a second instruction to start a recording

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	of an image signal. For example, the Accused Samsung '757 Products' one or more processors (chipset) control such that the rear camera records an image signal (still-image) upon a user giving touch operation instruction giving a second instruction on the touch display to start the recording process for a still-image. The following exemplary annotated screenshots show the implementation of control when the touch display receives the touch operation instruction giving a second instruction to start a recording of an image signal (still-image) from the rear facing camera:  Galaxy S23 Ultra annotated figures.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Fold4 annotated figures.

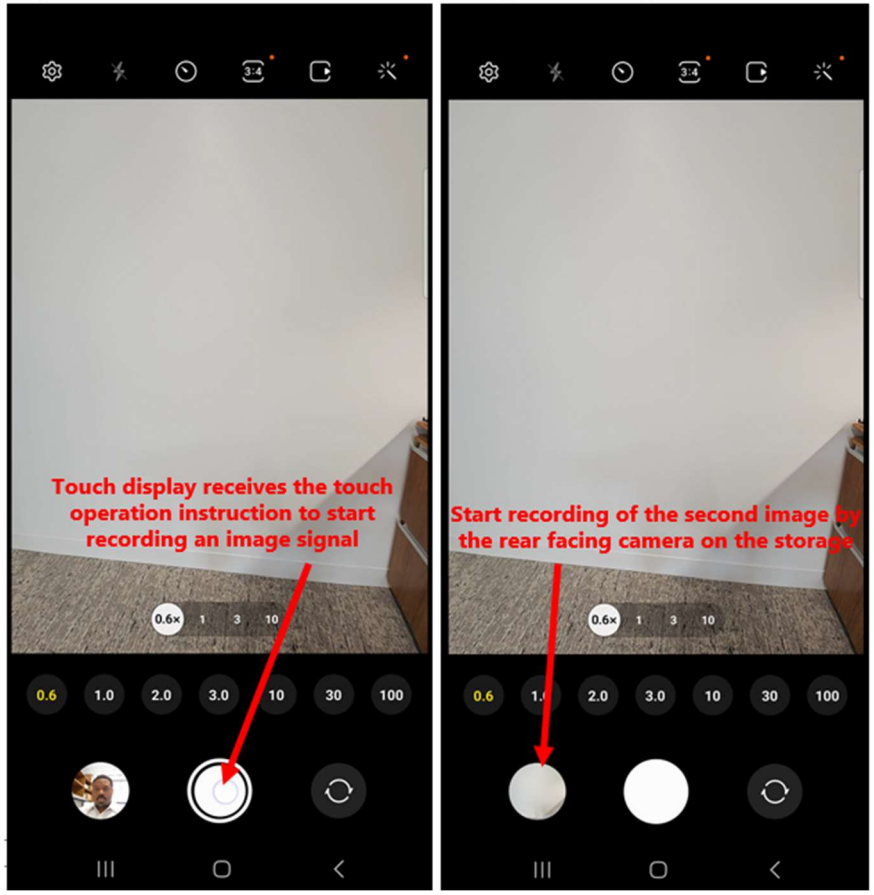
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Flip4 annotated figures.

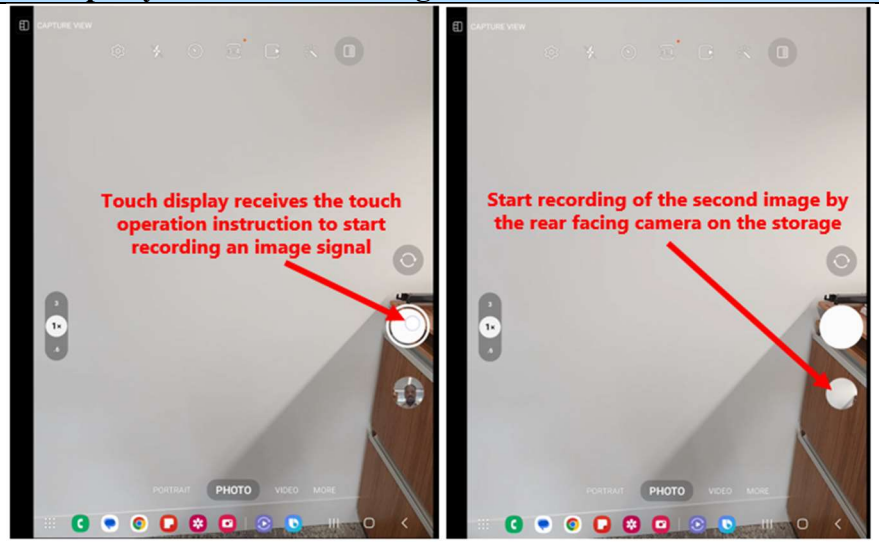
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

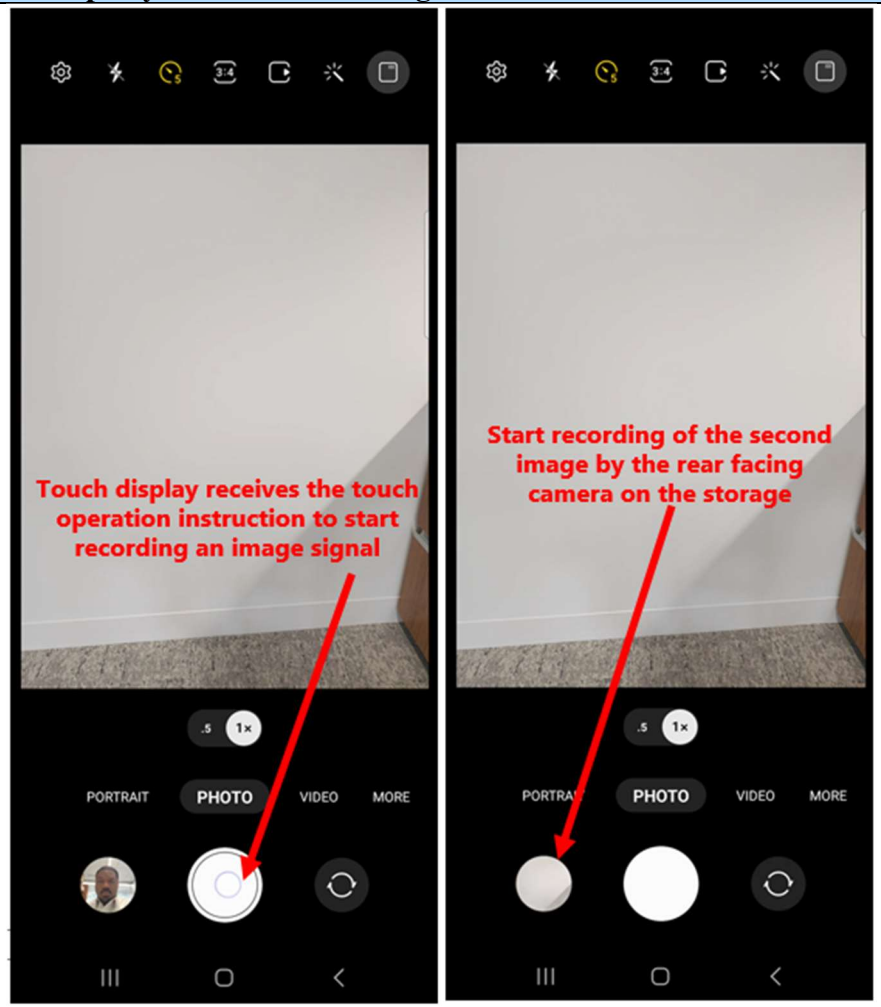


Galaxy A54 5G annotated figures.

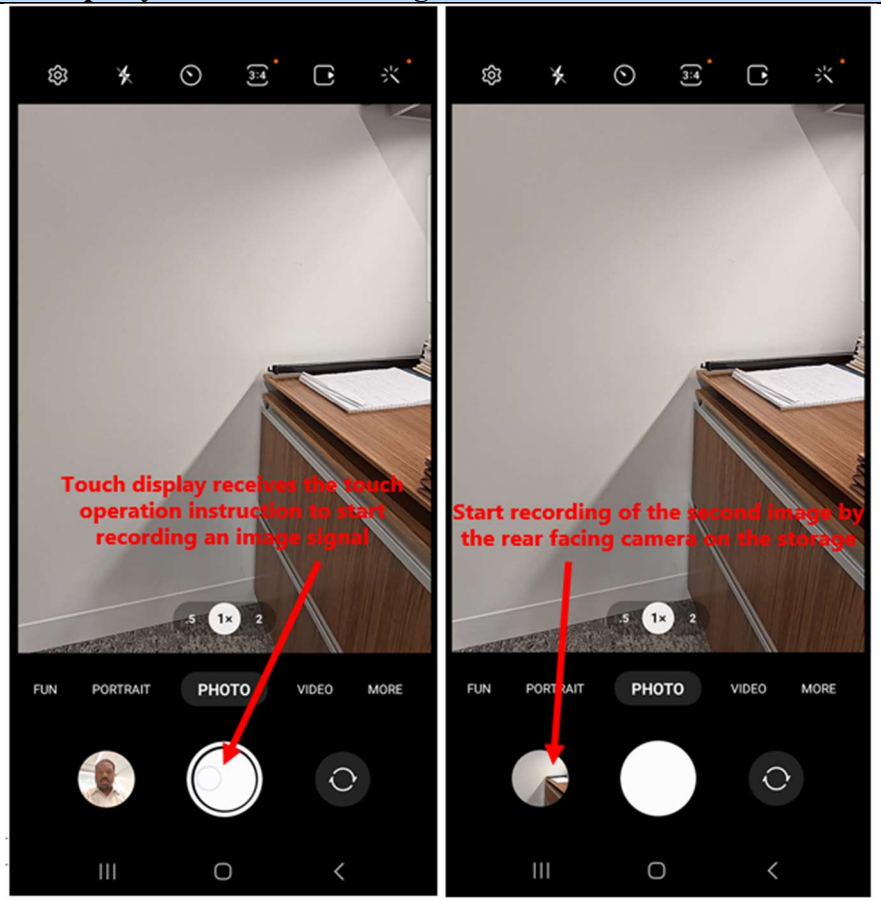
Further, as a non-limiting example of the controller, each of the Accused Samsung '757 Products is a smartphone and/or tablet having one or more processors (chipset), as a controller, to control such that the recorder start a recording of the second image signal from the rear facing camera on the storage in response to the second instruction being a touch operation instruction. For example, the Accused Samsung '757 Products' one or more processors (chipset) control such that the recorder starts a

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	recording of the second image signal (still-image) from the rear facing camera on the storage in response to the second instruction being a touch operation instruction to the touch display:  Galaxy S23 Ultra annotated figures.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Fold4 annotated figures.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Flip4 annotated figures.

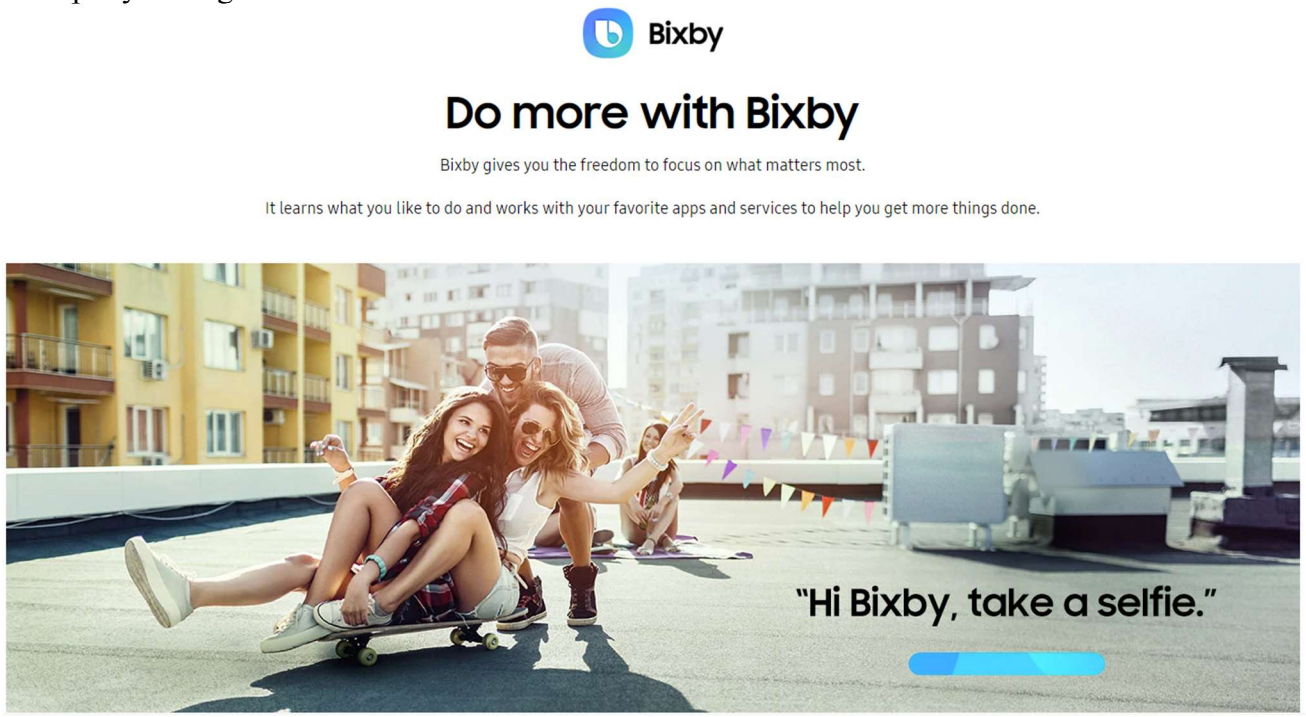
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

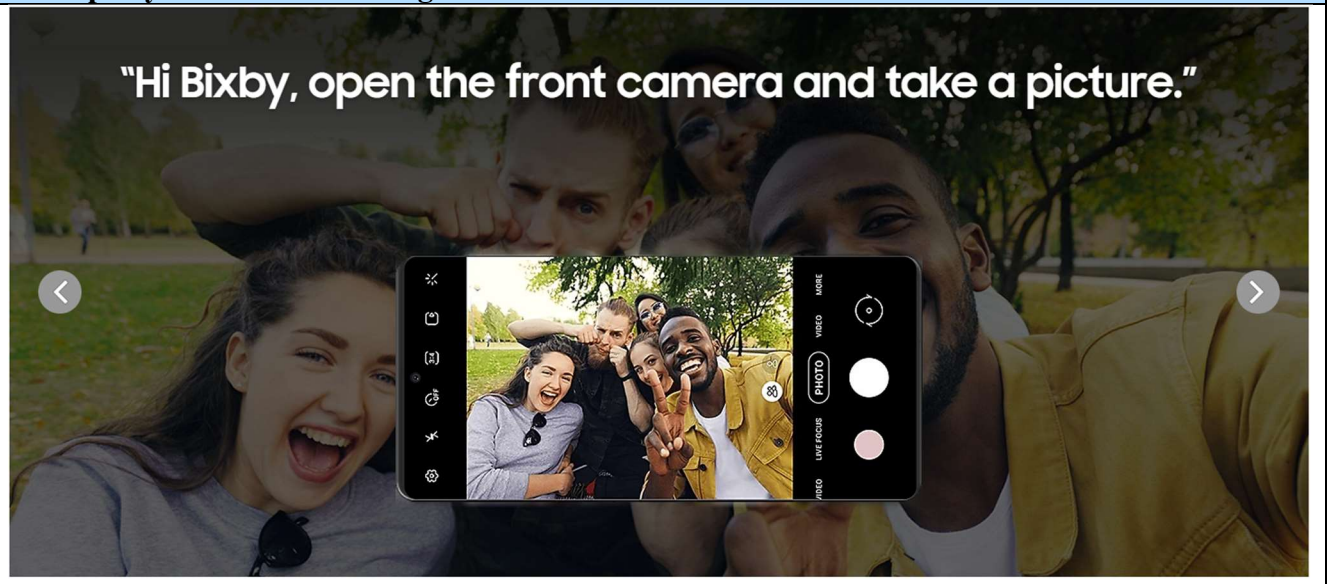


Galaxy A54 5G annotated figures.

See also Appendix 8 showing that the remaining Accused Samsung '757 Products' controller are configured to control such that, when the touch display receives the touch operation instruction giving a second instruction to start a recording of an image signal, the recorder starts a recording of the second image signal acquired by the second camera on the storage in response to the second instruction. Specifically, the remaining Accused Samsung '757 Products also include a touch

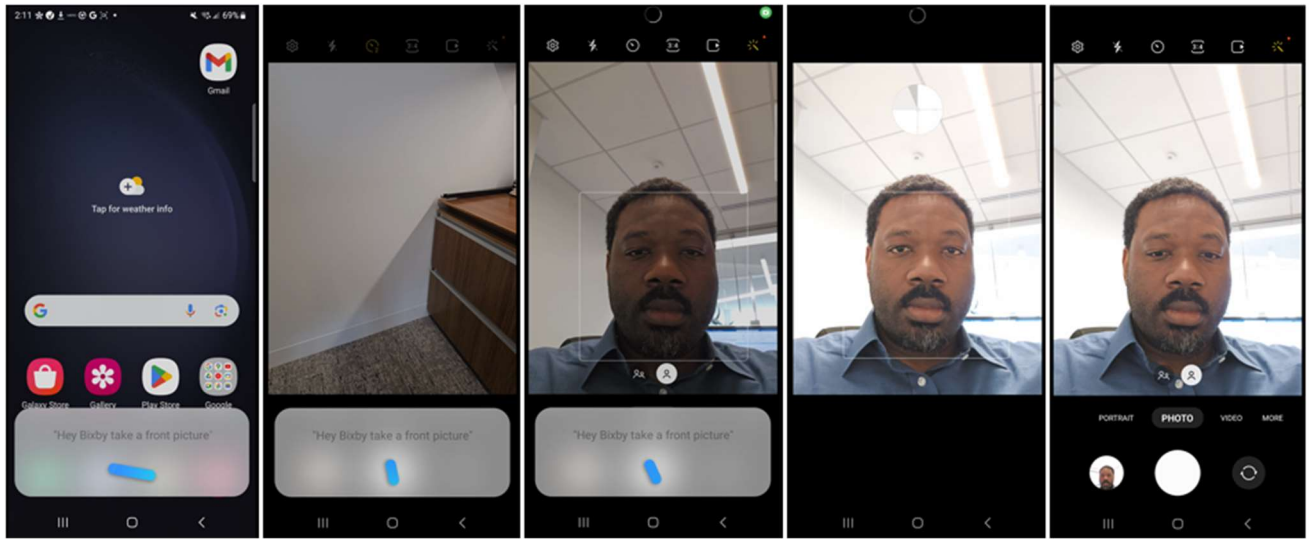
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	interface and a camera such that a user can provide an instruction via touch to record an image from the camera application. *See* https://www.samsung.com/us/support/answer/ANS00089063/. Doctrine of Equivalents: To the extent Samsung argues that this limitation is not literally met in the Accused Samsung '757 Products, Maxell asserts that this limitation is met under the doctrine of equivalents because the identified structure matches the function, way, and result of the claimed element and, to the extent there is a difference, the difference is insubstantial. For example, to the extent that Samsung argues that the Accused Samsung '757 Products does not have a controller configured to control such that, when the touch display receives the touch operation instruction giving a second instruction to start a recording of an image signal, the recorder starts a recording of the second image signal acquired by the second camera on the storage in response to the second instruction. Using software, hardware, or combination of the two, the Accused Samsung '757 Products perform substantially the same function (for example, controlling the start of a recording of an image signal upon the receipt of a touch display operation instruction giving a second instruction) in substantially the same way as claimed (by using display unit, video processing unit, and/or main control unit). The performance of this function achieve substantially the same result, for example, recording a video upon the receipt of a touch display operation instruction.
[1.i] control such that a first standby time of a case where the first camera is enabled and the second camera is disabled is longer than a second standby time of a case where the second camera is enabled and the first camera is disabled,	In each of the Accused Samsung '757 Products, the controller is configured to control such that a first standby time of a case where the first camera is enabled and the second camera is disabled is longer than a second standby time of a case where the second camera is enabled and the first camera is disabled. *See e.g.*, Technical Specifications of each of the Accused Samsung '757 Products available at Samsung's website showing that each of the devices includes a controller configured to control such that a first standby time of a case where the first camera is enabled and the second camera is disabled is longer than a second standby time of a case where the second camera is enabled and the first camera is disabled (https://www.samsung.com/us/mobile/ and https://www.samsung.com/us/tablets/). As a non-limiting example of the controller, each of the Accused Samsung '757 Products is a smartphone and/or tablet having one or more processors (chipset), as a controller, to a first standby time of a case where the first camera is enabled and the second camera is disabled is longer than a second standby time of a case where the second camera is enabled and the first camera is disabled.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	For example, the Accused Samsung '757 Products' one or more processors (chipset) control the image recording process by establishing a first standby time associated with the front facing camera being longer than a second standby time associated with the rear facing camera under three (3) exemplary infringement theories:  https://www.samsung.com/us/apps/bixby/

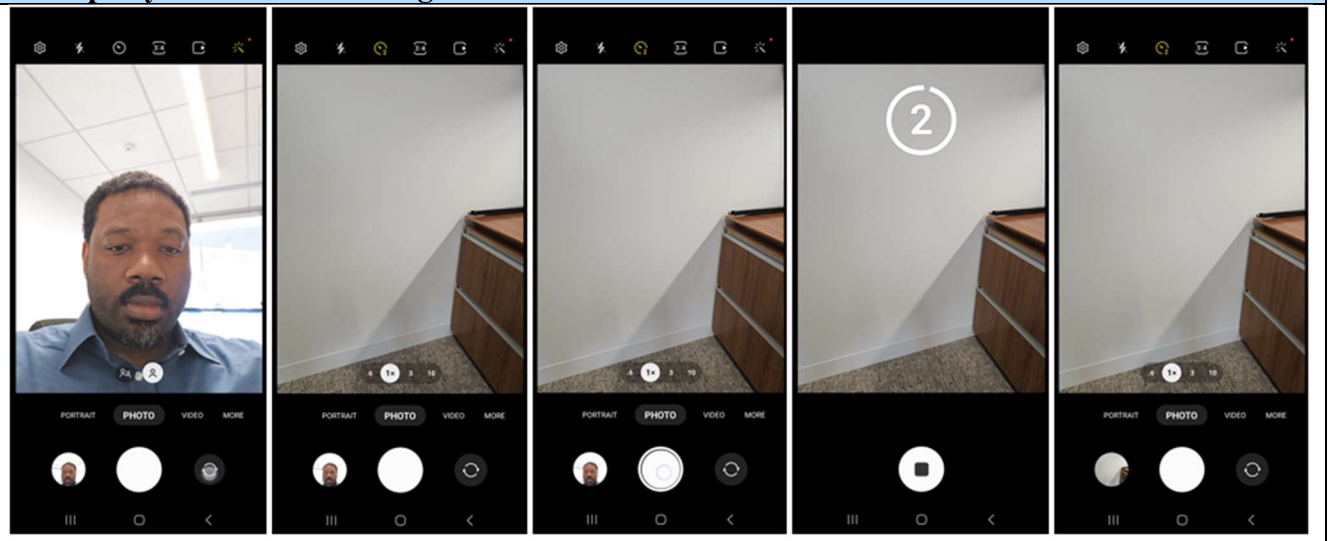
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 *Id.*

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Take the best selfies with your Galaxy phone  Selfies: you know you love 'em. Luckily, your Galaxy phone comes with special features like a front-facing camera, built-in filters, and different camera modes so you can take the best possible selfies. **Note:** Available screens and settings may vary by wireless service provider, software version, and phone model. Set up for the perfect selfie › Adjust selfie camera settings › Camera modes › https://www.samsung.com/us/support/answer/ANS00062594/

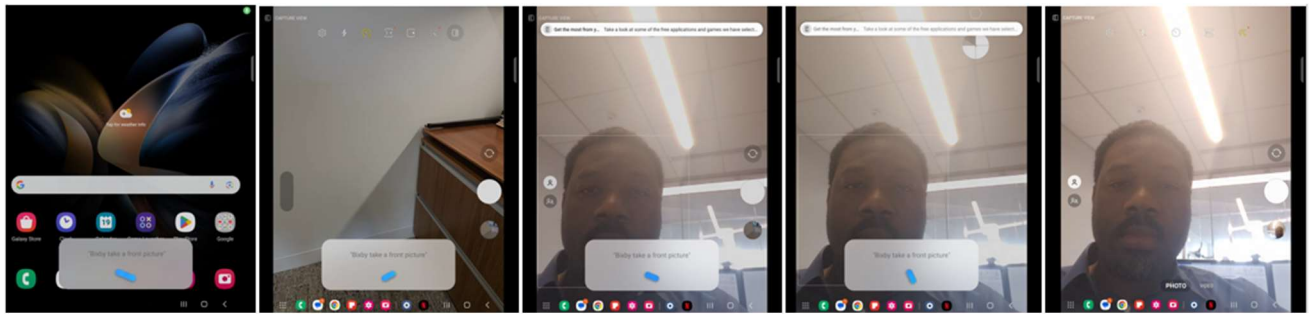
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Adjust selfie camera settings  You can also adjust the different settings for your selfies, such as your preferred shooting method, selfie colors, and filters. For example, you can set the color tone of your photos to bright or natural. Just navigate to the **Camera** app on your phone, tap **Settings**, and then swipe to and tap **Selfie color tone**. This way, you can select from **Natural** or **Bright** before you take a selfie, rather than after. Snapping a photo of yourself can be easy, especially if you do not have to adjust the grip on your phone. Better shooting methods can be accessed from your Camera settings page. Swipe to and tap **Shooting methods**, and then tap **Press Volume keys to** or **Voice commands** to take a photo or video. Or, add a floating shutter button that can be moved around the screen. If you're taking a group selfie, it might be easier to simply show your palm to the screen to take the photo.  You can also set up automatic Camera modes that appear when launching the app. Tap **Settings to keep**, and then tap **Selfie angle** to use your previous angle again or tap **Filters** to reapply the same filters you have applied in the past. You can also select additional options such as Camera mode, Super steady, and Portrait zoom. *Id.*

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	First Infringement Theory:  Galaxy S23 Ultra annotated figures showing a first standby time associated with the front facing camera being longer than a second standby time associated with the rear facing camera. For example, the rear facing camera is disabled after a user provides a command voice to Bixby to take a front facing picture, which enables the front facing camera as evidenced by the display displaying image signals from the front facing camera after switching from the rear camera to the front camera and then taking a pictured after a first standby time.

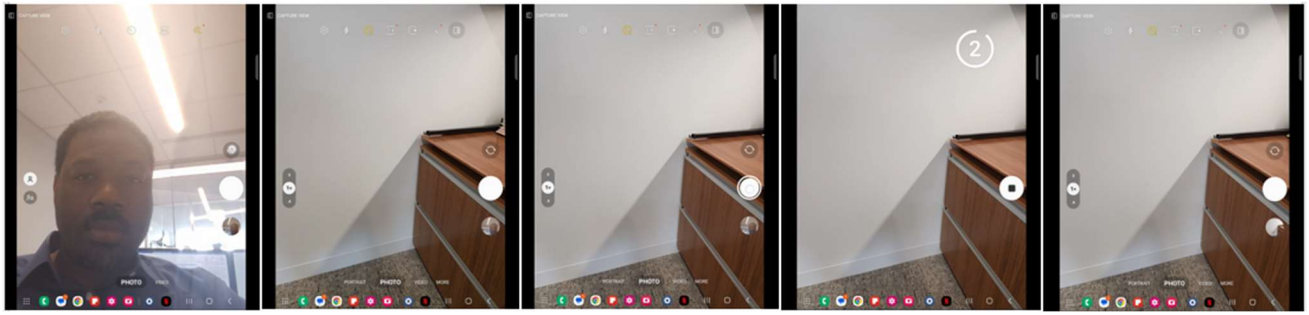
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

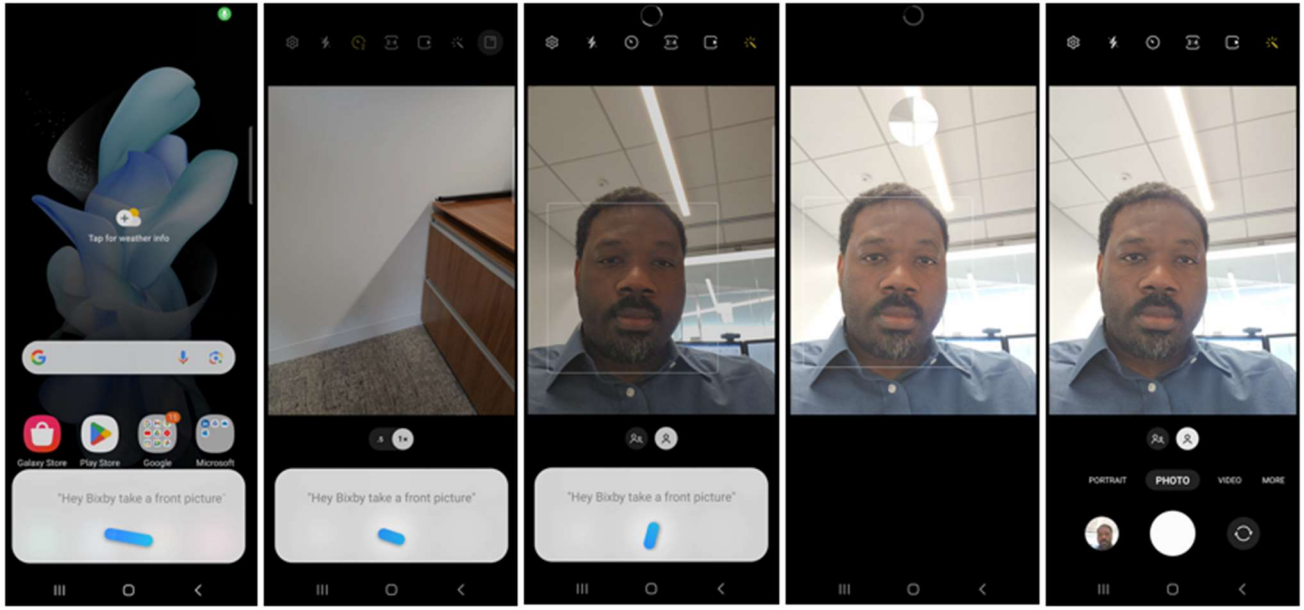


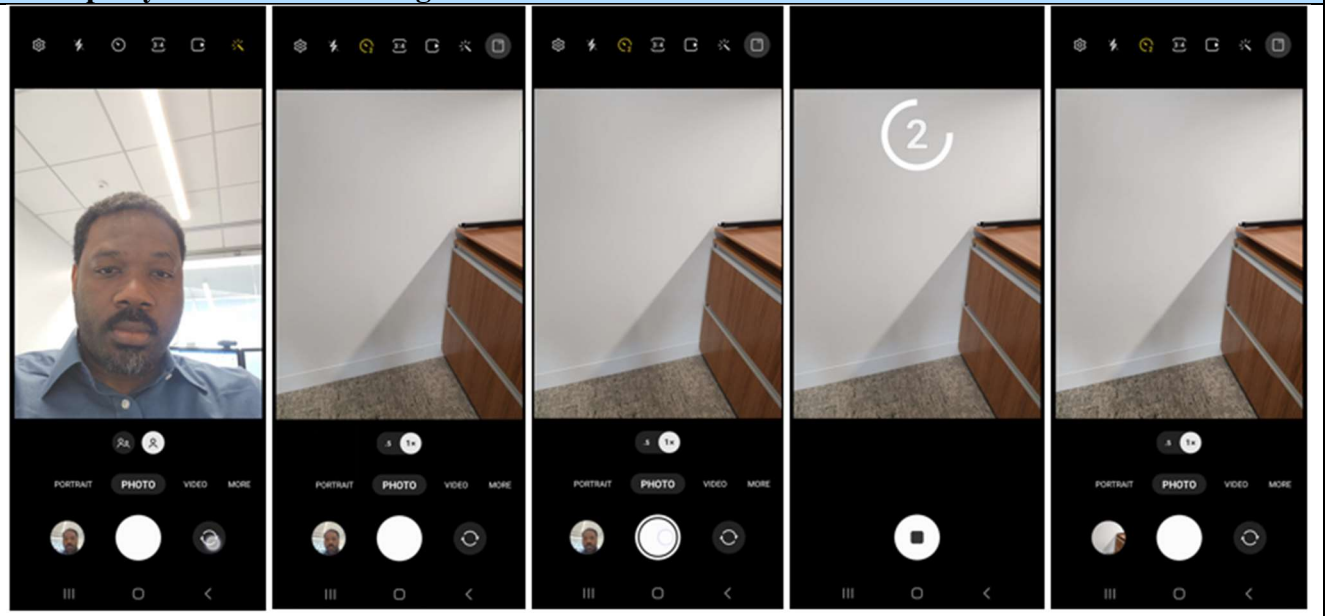
In contrast, the second standby time is shorter as the front facing camera is disabled after a user provides a touch operation instruction to use the rear facing camera and take a rear facing picture via the touch interface. This will enable the rear facing camera as evidenced by the display displaying image signals from the rear facing camera and then taking a picture after a second standby time.

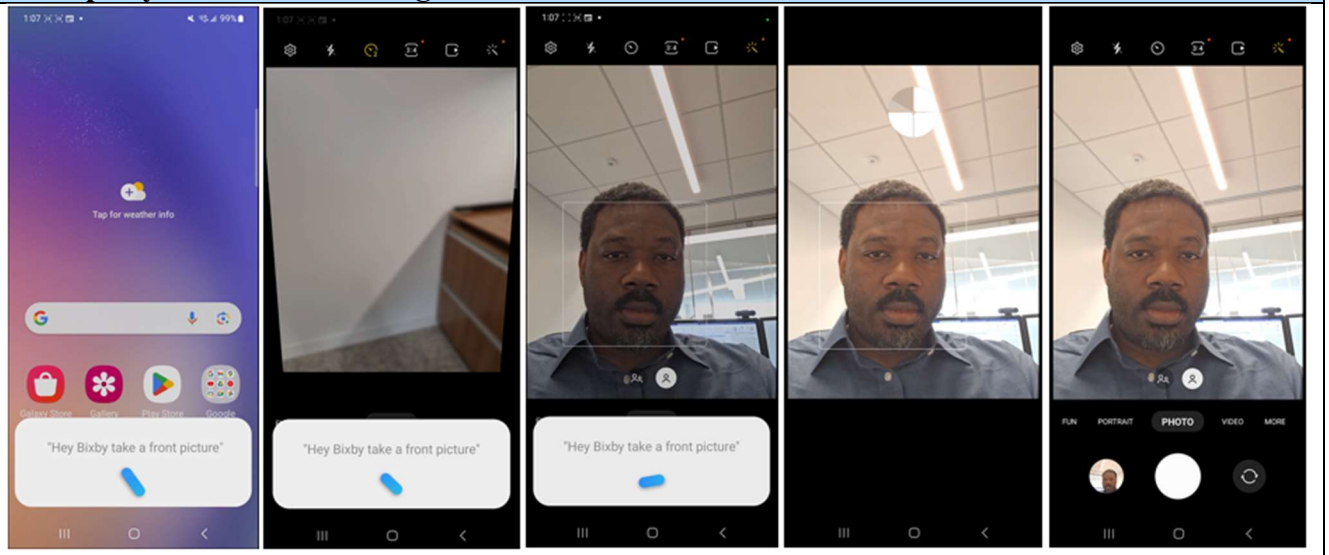


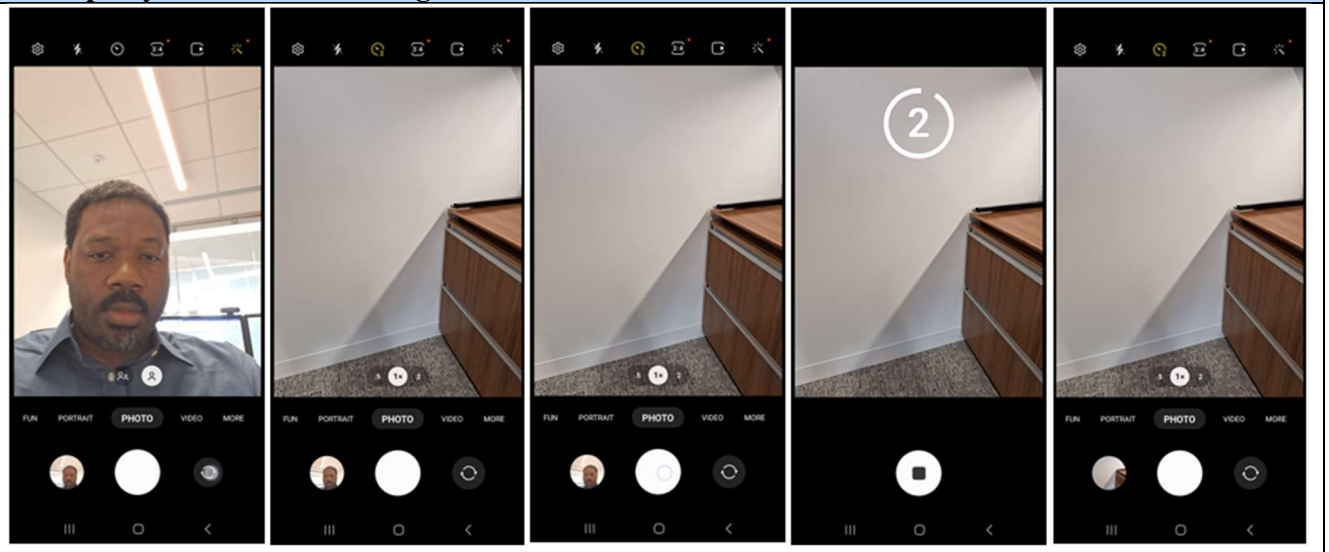
Galaxy Z Fold4 annotated figures showing a first standby time associated with the front facing camera being longer than a second standby time associated with the rear facing camera. For example, the rear facing camera is disabled after a user provides a command voice to Bixby to take a front facing picture, which enables the front facing camera as evidenced by the display displaying

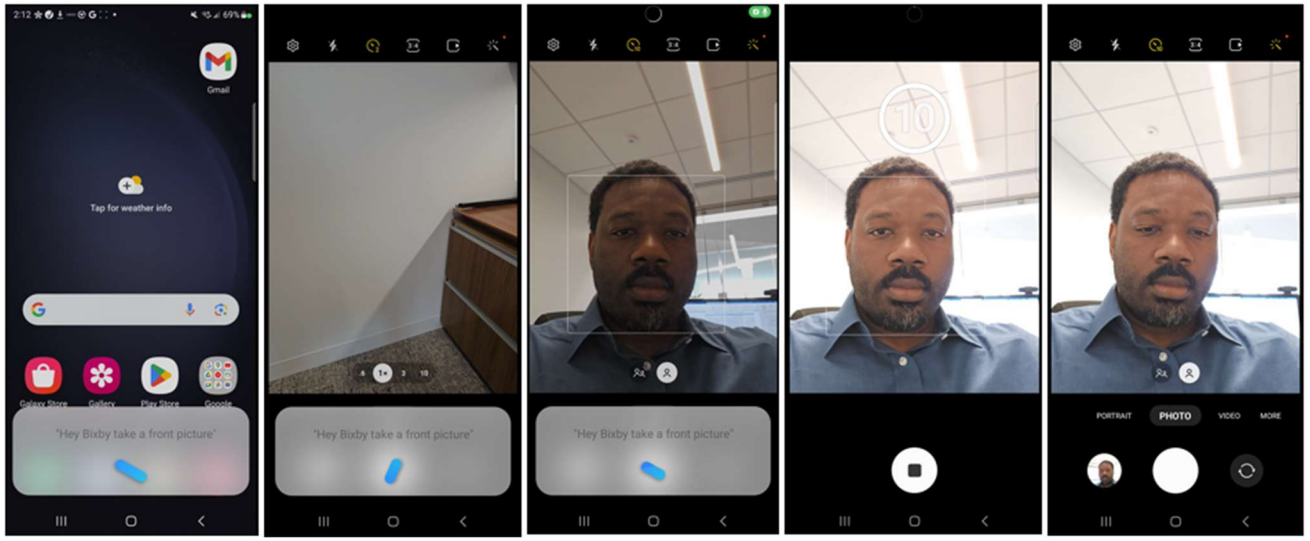
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	image signals from the front facing camera after switching from the rear camera to the front camera and then taking a pictured after a first standby time.  In contrast, the second standby time is shorter as the front facing camera is disabled after a user provides a touch operation instruction to use the rear facing camera and take a rear facing picture via the touch interface. This will enable the rear facing camera as evidenced by the display displaying image signals from the rear facing camera and then taking a picture after a second standby time.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Flip4 annotated figures showing a first standby time associated with the front facing camera being longer than a second standby time associated with the rear facing camera. For example, the rear facing camera is disabled after a user provides a command voice to Bixby to take a front facing picture, which enables the front facing camera as evidenced by the display displaying image signals from the front facing camera after switching from the rear camera to the front camera and then taking a pictured after a first standby time.

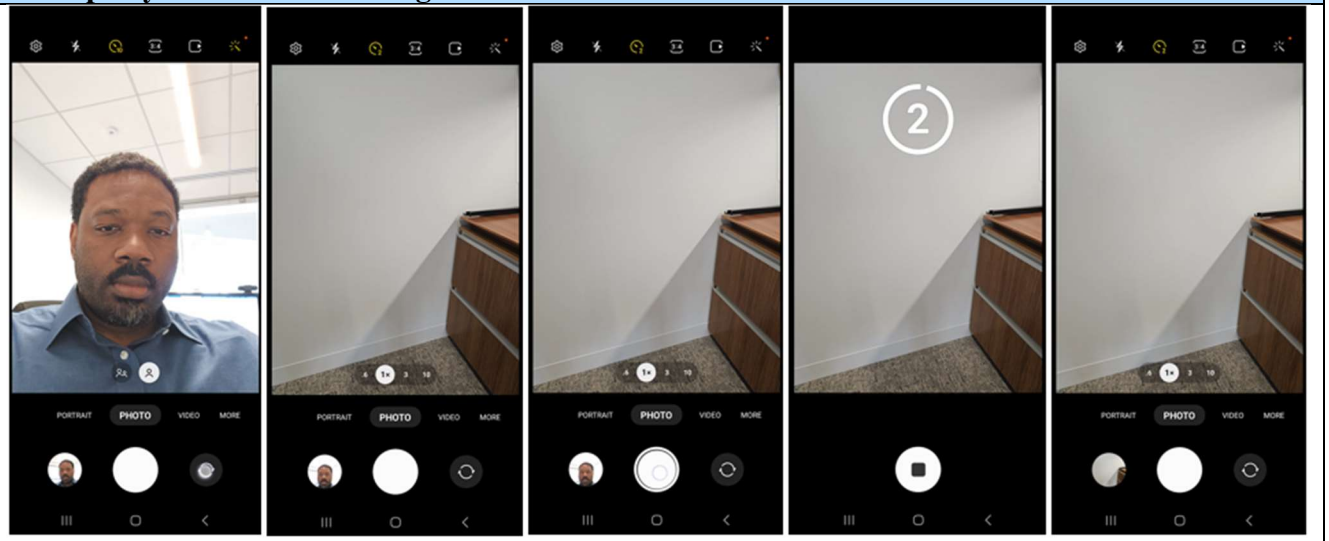
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 In contrast, the second standby time is shorter as the front facing camera is disabled after a user provides a touch operation instruction to use the rear facing camera and take a rear facing picture via the touch interface. This will enable the rear facing camera as evidenced by the display displaying image signals from the rear facing camera and then taking a picture after a second standby time.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy A54 5G annotated figures showing a first standby time associated with the front facing camera being longer than a second standby time associated with the rear facing camera. For example, the rear facing camera is disabled after a user provides a command voice to Bixby to take a front facing picture, which enables the front facing camera as evidenced by the display displaying image signals from the front facing camera after switching from the rear camera to the front camera and then taking a pictured after a first standby time.

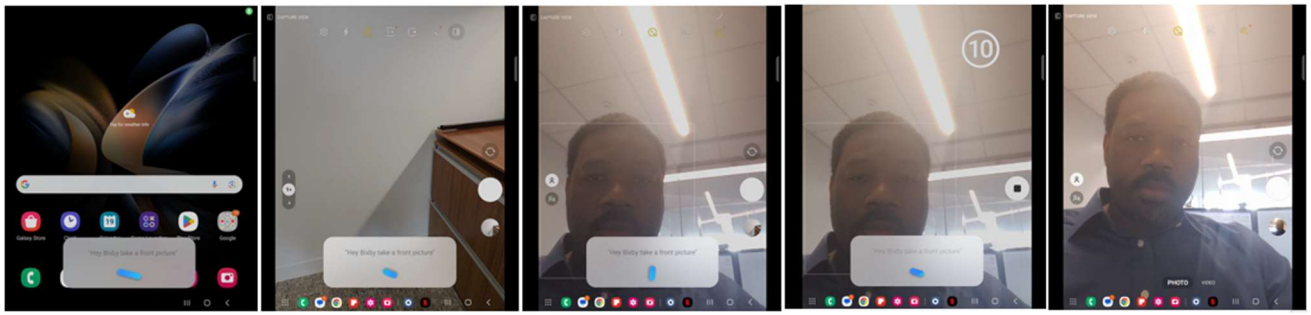
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 In contrast, the second standby time is shorter as the front facing camera is disabled after a user provides a touch operation instruction to use the rear facing camera and take a rear facing picture via the touch interface. This will enable the rear facing camera as evidenced by the display displaying image signals from the rear facing camera and then taking a picture after a second standby time.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Second Infringement Theory:  Galaxy S23 Ultra annotated figures showing a first standby time associated with the front facing camera being longer than a second standby time associated with the rear facing camera. For example, the user sets a timer of 10 second for the front facing camera. In addition, the rear facing camera is disabled after a user provides a command voice to Bixby to take a front facing picture, which enables the front facing camera as evidenced by the display displaying image signals from the front facing camera after switching from the rear camera to the front camera and taking a picture after a first standby time.

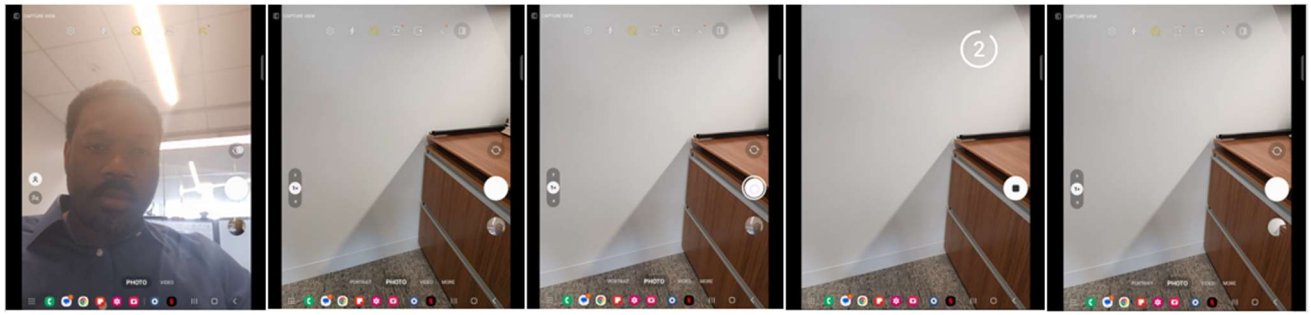
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

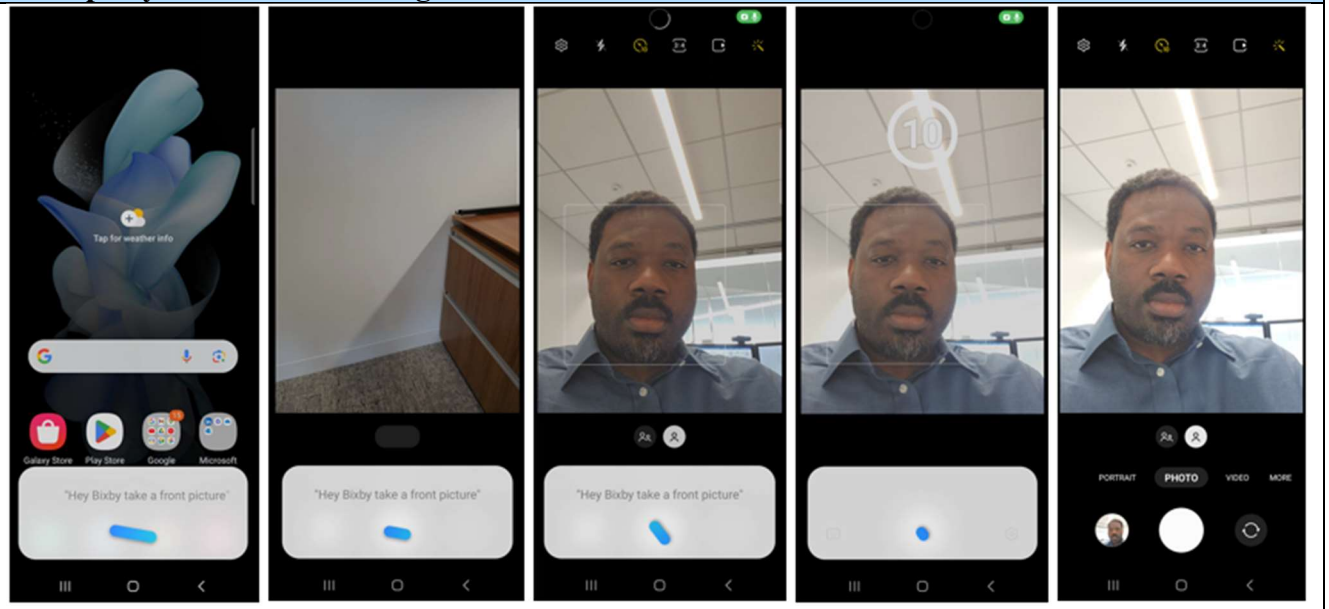


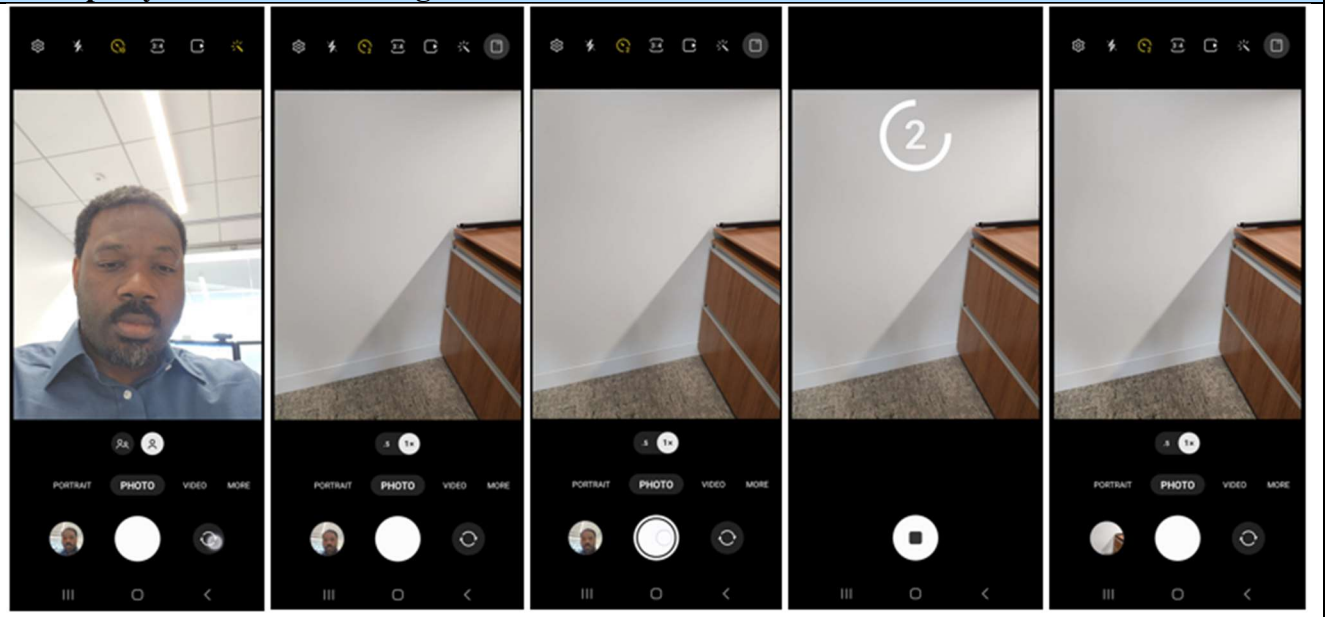
In contrast, the second standby time is shorter as the front facing camera is disabled after a user provides a touch operation instruction to use the rear facing camera and take a rear facing picture via the touch interface. This will enable the rear facing camera as evidenced by the display displaying image signals from the rear facing camera and taking a picture after a second standby time.

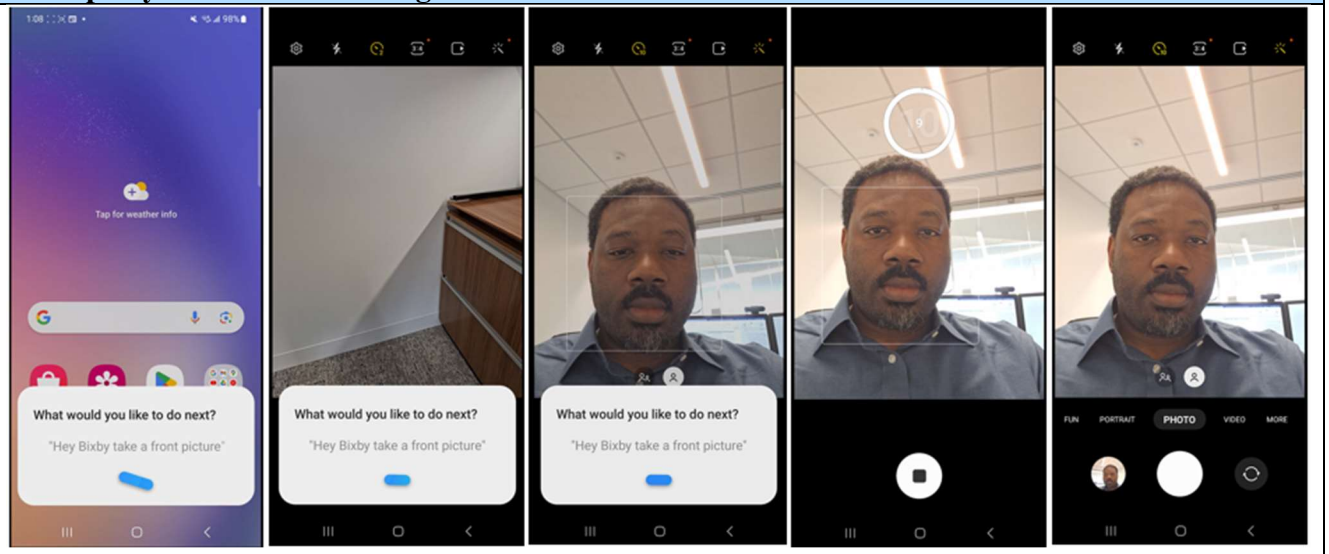


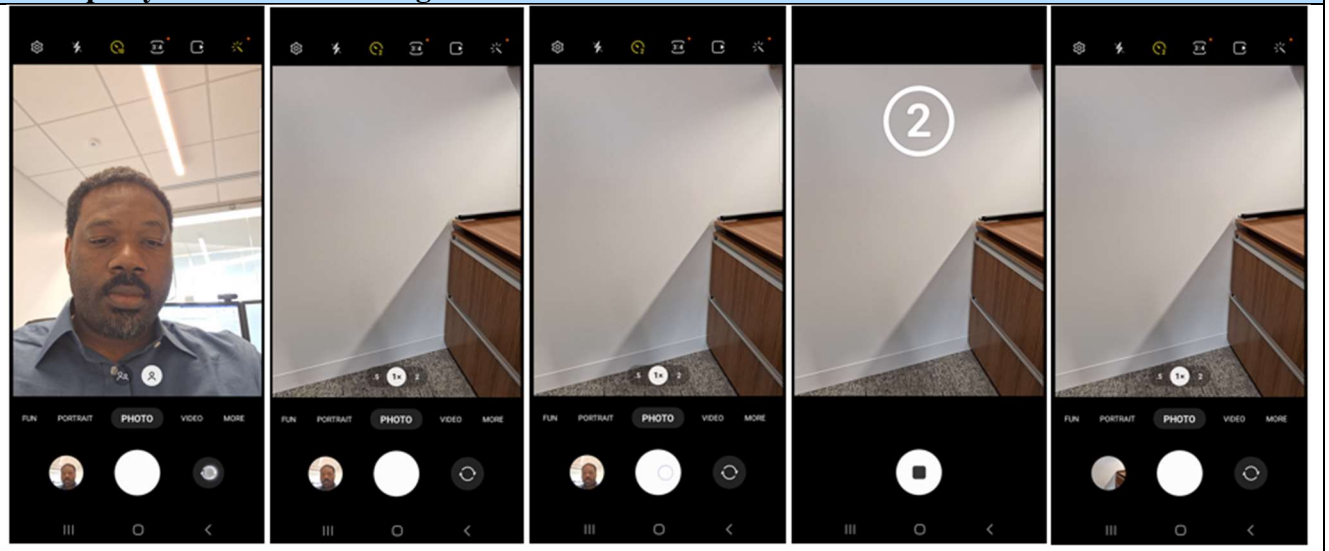
Galaxy Z Fold4 annotated figures showing a first standby time associated with the front facing camera being longer than a second standby time associated with the rear facing camera. For example, the user sets a timer of 10 second for the front facing camera. In addition, the rear facing camera is disabled after a user provides a command voice to Bixby to take a front facing picture,

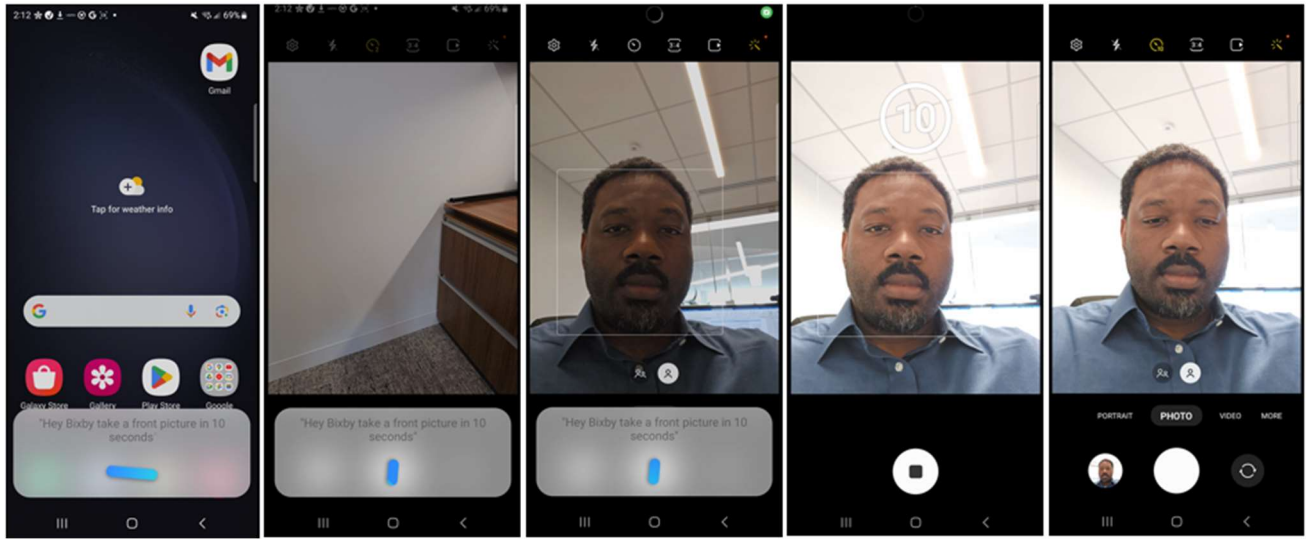
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	which enables the front facing camera as evidenced by the display displaying image signals from the front facing camera after switching from the rear camera to the front camera and taking a picture after a first standby time.  In contrast, the second standby time is shorter as the front facing camera is disabled after a user provides a touch operation instruction to use the rear facing camera and take a rear facing picture via the touch interface. This will enable the rear facing camera as evidenced by the display displaying image signals from the rear facing camera and taking a picture after a second standby time.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Flip4 annotated figures showing a first standby time associated with the front facing camera being longer than a second standby time associated with the rear facing camera. For example, the user sets a timer of 10 second for the front facing camera. In addition, the rear facing camera is disabled after a user provides a command voice to Bixby to take a front facing picture, which enables the front facing camera as evidenced by the display displaying image signals from the front facing camera after switching from the rear camera to the front camera and taking a picture after a first standby time.

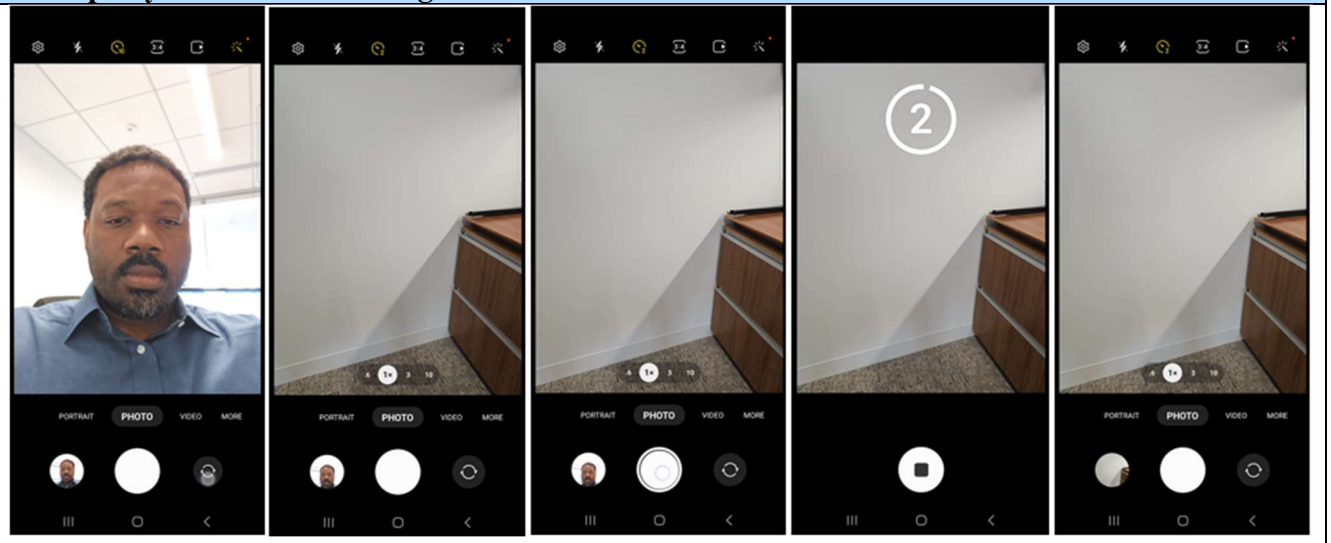
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 In contrast, the second standby time is shorter as the front facing camera is disabled after a user provides a touch operation instruction to use the rear facing camera and take a rear facing picture via the touch interface. This will enable the rear facing camera as evidenced by the display displaying image signals from the rear facing camera and taking a picture after a second standby time.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy A54 5G annotated figures showing a first standby time associated with the front facing camera being longer than a second standby time associated with the rear facing camera. For example, the user sets a timer of 10 second for the front facing camera. In addition, the rear facing camera is disabled after a user provides a command voice to Bixby to take a front facing picture, which enables the front facing camera as evidenced by the display displaying image signals from the front facing camera after switching from the rear camera to the front camera and taking a picture after a first standby time.

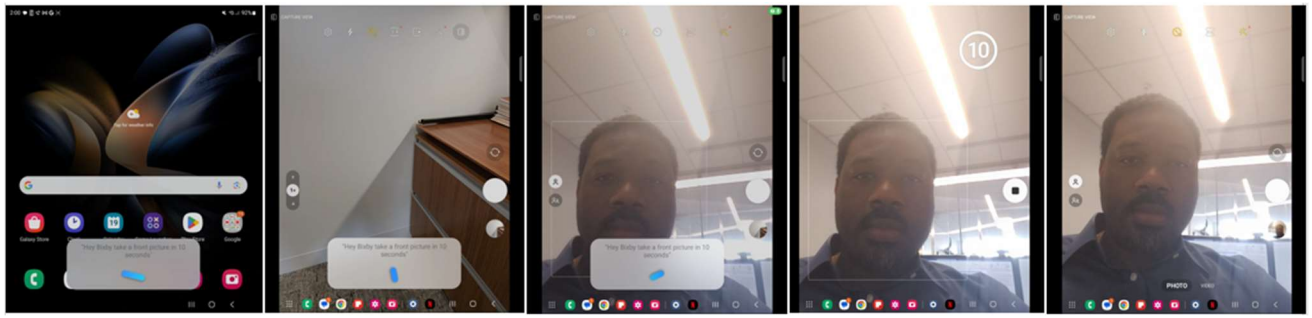
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 In contrast, the second standby time is shorter as the front facing camera is disabled after a user provides a touch operation instruction to use the rear facing camera and take a rear facing picture via the touch interface. This will enable the rear facing camera as evidenced by the display displaying image signals from the rear facing camera and taking a picture after a second standby time.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Third Infringement Theory:  Galaxy S23 Ultra annotated figures showing a first standby time associated with the front facing camera being longer than a second standby time associated with the rear facing camera. For example, the rear facing camera is disabled after a user provides a command voice to Bixby to take a front facing picture after 10 seconds, which enables the front facing camera as evidenced by the display displaying image signals from the front facing camera after switching from the rear camera to the front camera and taking a picture after a first standby time.

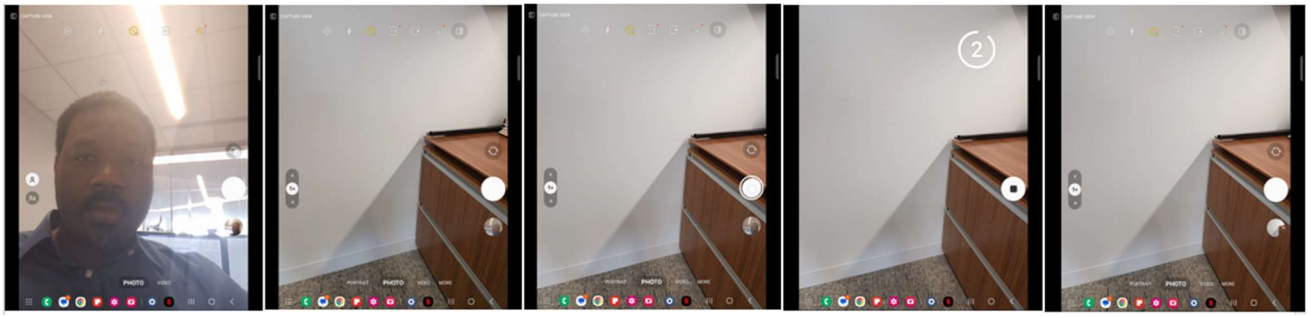
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

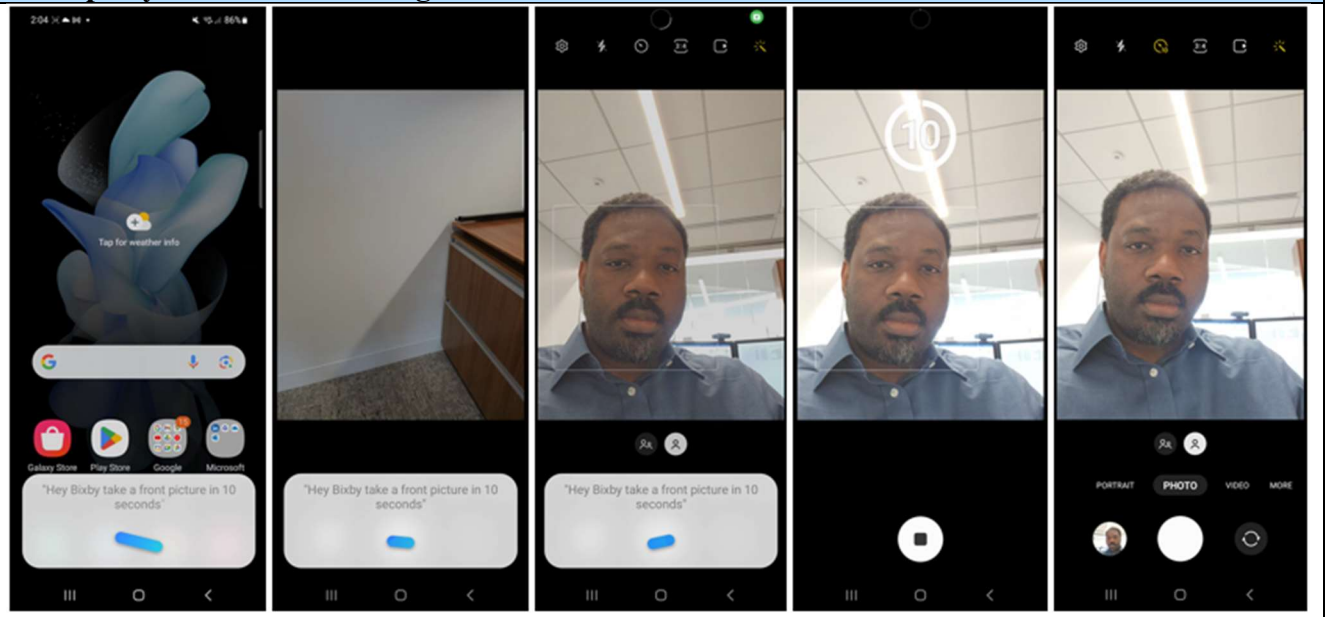


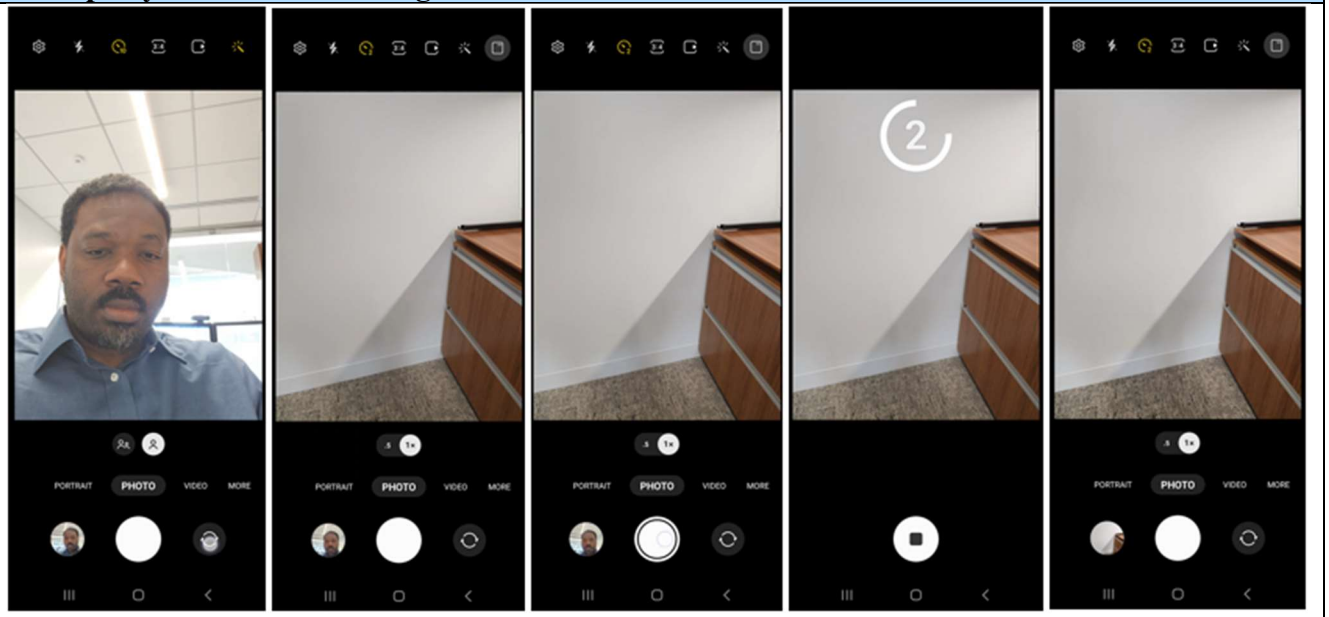
In contrast, the second standby time is shorter as the front facing camera is disabled after a user provides a touch operation instruction to use the rear facing camera and take a rear facing picture via the touch interface. This will enable the rear facing camera as evidenced by the display displaying image signals from the rear facing camera and taking a picture after a second standby time.

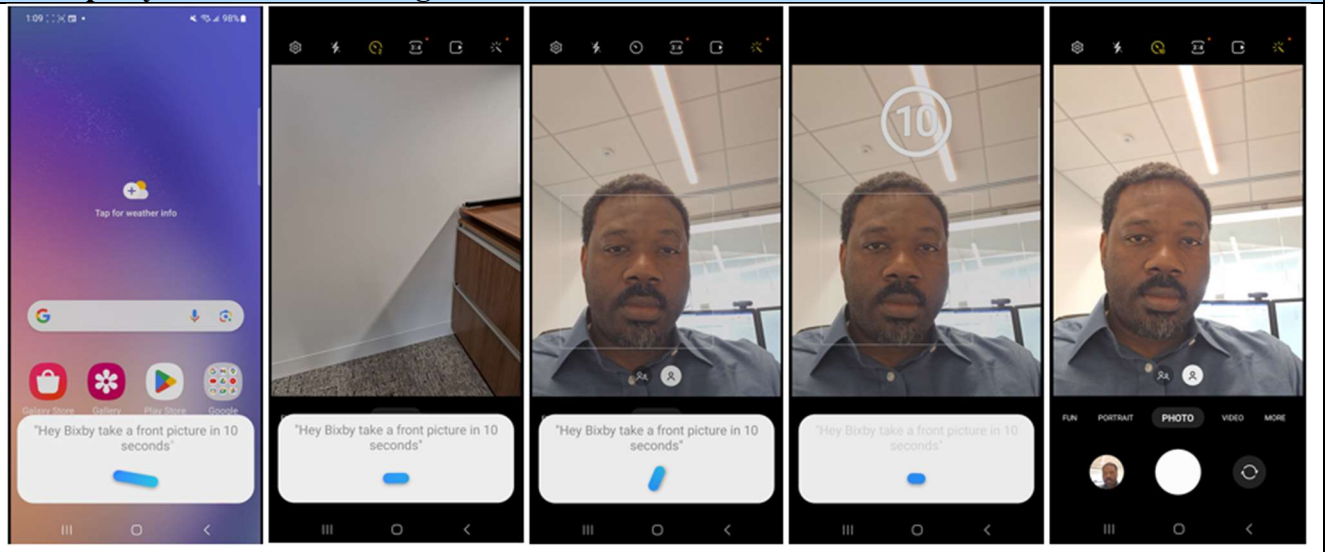


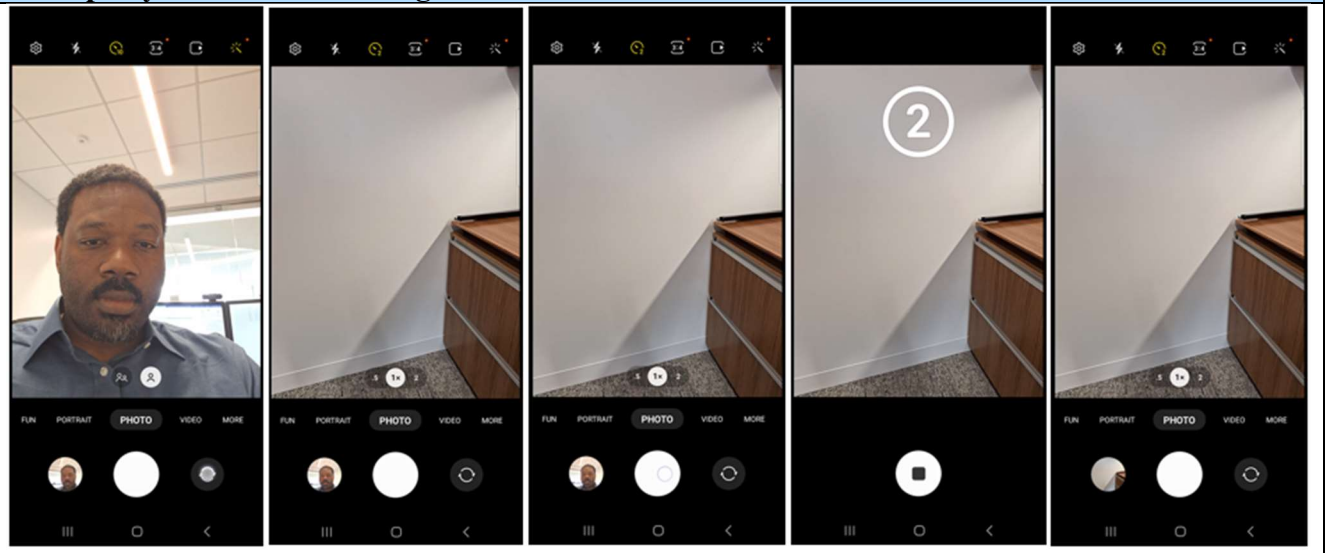
Galaxy Z Fold4 annotated figures showing a first standby time associated with the front facing camera being longer than a second standby time associated with the rear facing camera. For example, the rear facing camera is disabled after a user provides a command voice to Bixby to take a front facing picture after 10 seconds, which enables the front facing camera as evidenced by the

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	display displaying image signals from the front facing camera after switching from the rear camera to the front camera and taking a picture after a first standby time.  In contrast, the second standby time is shorter as the front facing camera is disabled after a user provides a touch operation instruction to use the rear facing camera and take a rear facing picture via the touch interface. This will enable the rear facing camera as evidenced by the display displaying image signals from the rear facing camera and taking a picture after a second standby time.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Flip4 annotated figures showing a first standby time associated with the front facing camera being longer than a second standby time associated with the rear facing camera. For example, the rear facing camera is disabled after a user provides a command voice to Bixby to take a front facing picture after 10 seconds, which enables the front facing camera as evidenced by the display displaying image signals from the front facing camera after switching from the rear camera to the front camera and taking a picture after a first standby time.

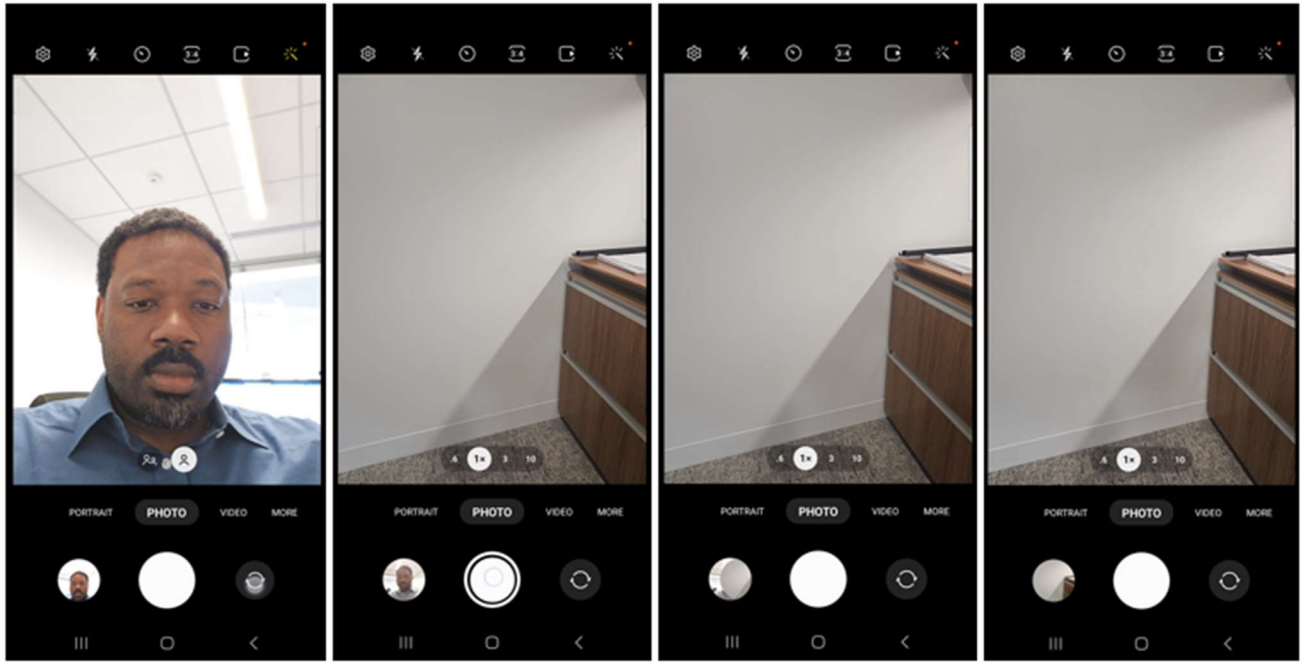
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 In contrast, the second standby time is shorter as the front facing camera is disabled after a user provides a touch operation instruction to use the rear facing camera and take a rear facing picture via the touch interface. This will enable the rear facing camera as evidenced by the display displaying image signals from the rear facing camera and taking a picture after a second standby time.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy A54 5G annotated figures showing a first standby time associated with the front facing camera being longer than a second standby time associated with the rear facing camera. For example, the rear facing camera is disabled after a user provides a command voice to Bixby to take a front facing picture after 10 seconds, which enables the front facing camera as evidenced by the display displaying image signals from the front facing camera after switching from the rear camera to the front camera and taking a picture after a first standby time.

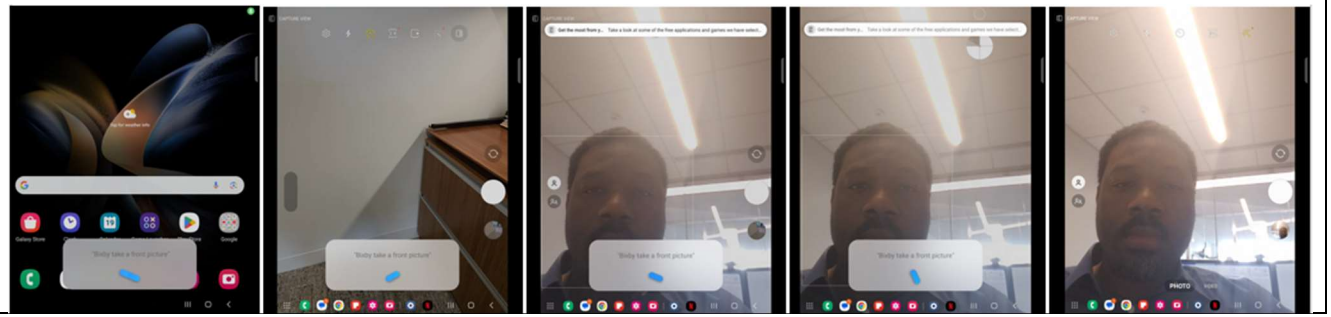
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 In contrast, the second standby time is shorter as the front facing camera is disabled after a user provides a touch operation instruction to use the rear facing camera and take a rear facing picture via the touch interface. This will enable the rear facing camera as evidenced by the display displaying image signals from the rear facing camera and taking a picture after a second standby time. **Fourth Infringement Theory:**

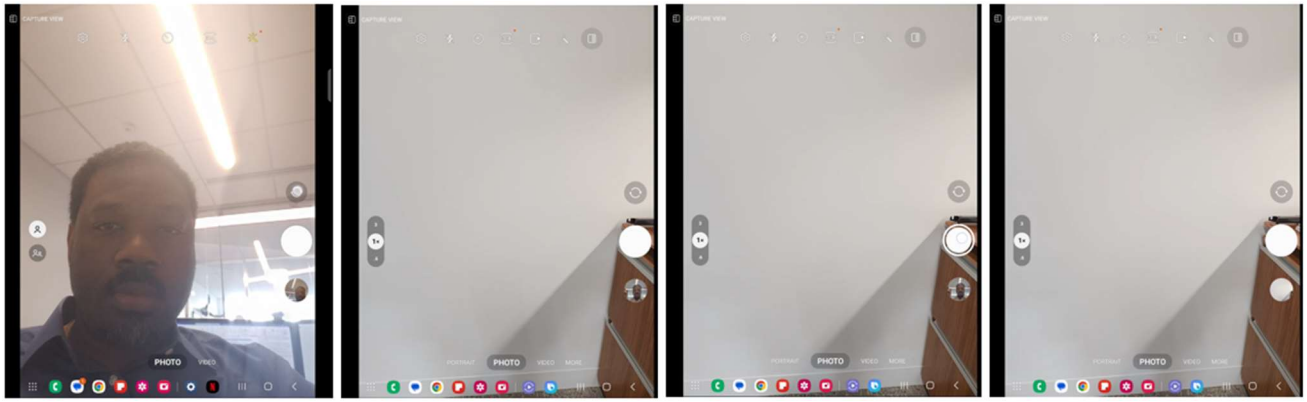
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy S23 Ultra annotated figures showing a first standby time associated with the front facing camera being longer than a second standby time associated with the rear facing camera. For example, the rear facing camera is disabled after a user provides a command voice to Bixby to take a front facing picture, which enables the front facing camera as evidenced by the display displaying image signals from the front facing camera after switching from the rear camera to the front camera and then taking a pictured after a first standby time.

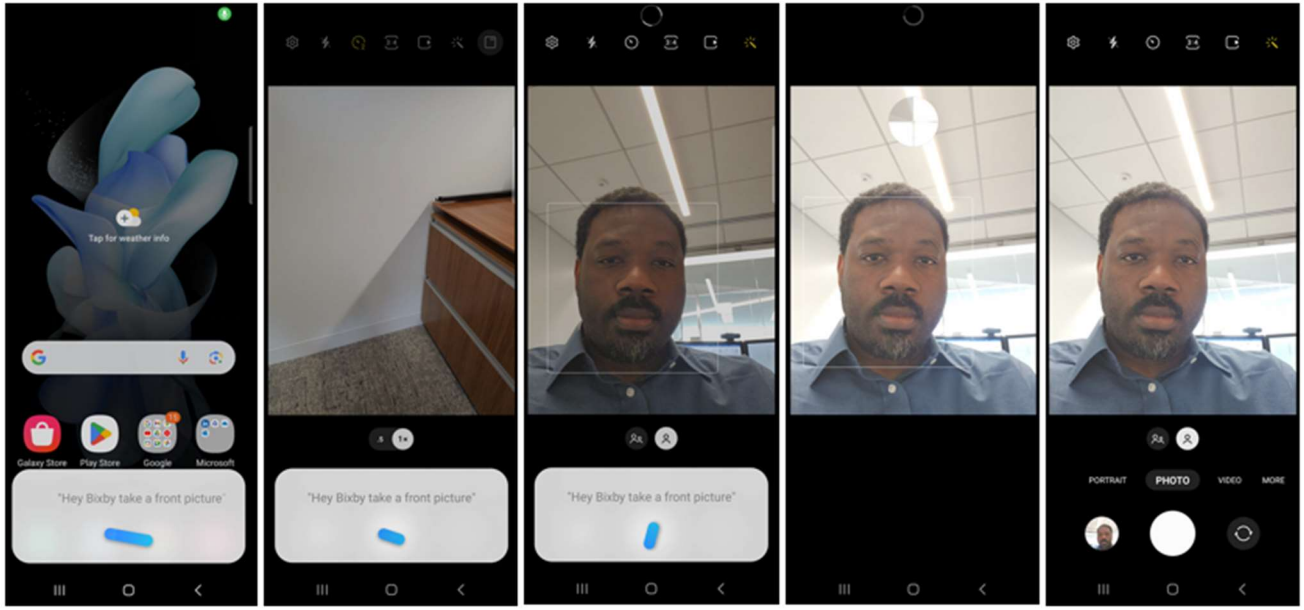
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

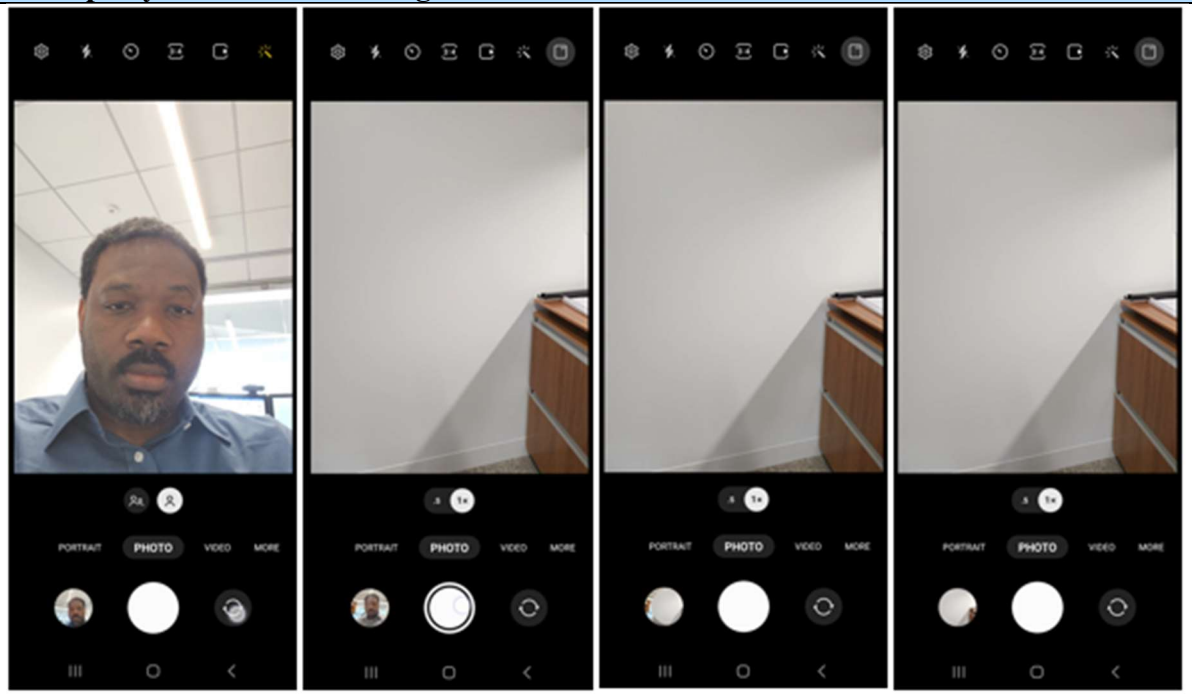


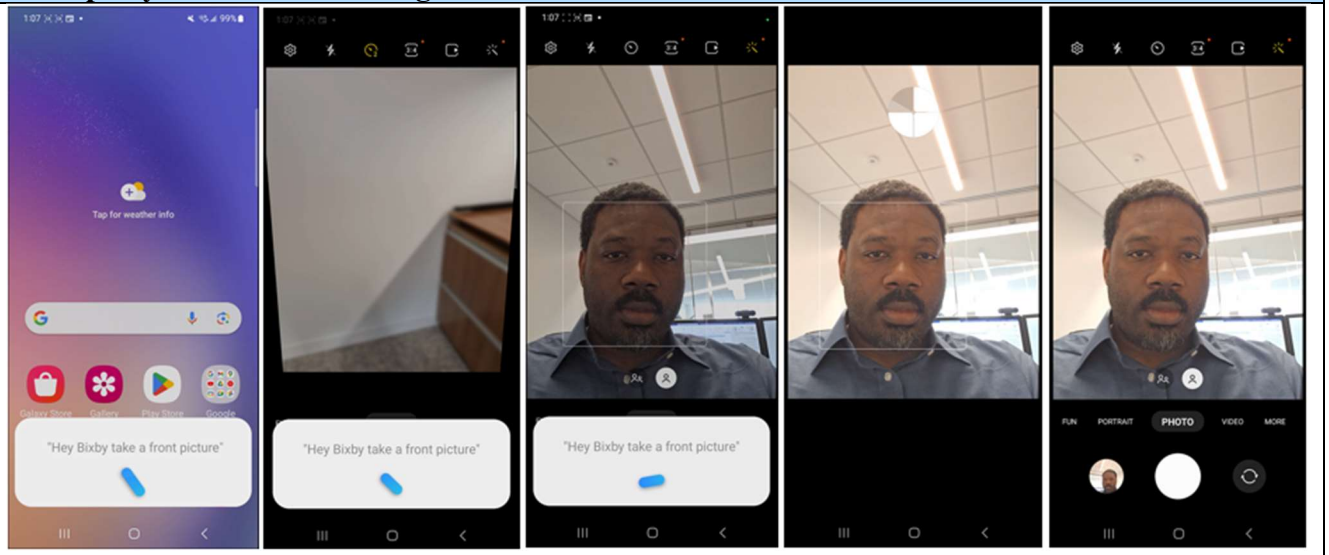
In contrast, the second standby time is shorter as the front facing camera is disabled after a user provides a touch operation instruction to use the rear facing camera and take a rear facing picture via the touch interface. This will enable the rear facing camera as evidenced by the display displaying image signals from the rear facing camera and then taking a picture after a second standby time.

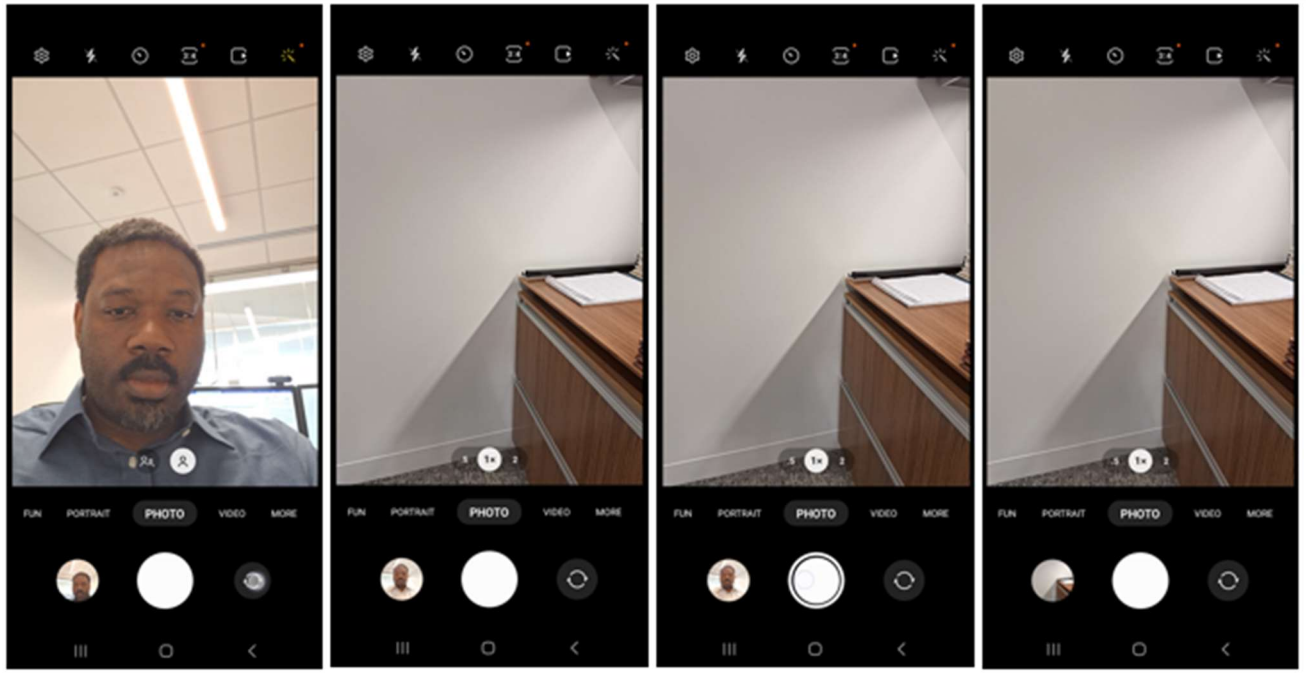


U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Galaxy Z Fold4 annotated figures showing a first standby time associated with the front facing camera being longer than a second standby time associated with the rear facing camera. For example, the rear facing camera is disabled after a user provides a command voice to Bixby to take a front facing picture, which enables the front facing camera as evidenced by the display displaying image signals from the front facing camera after switching from the rear camera to the front camera and then taking a pictured after a first standby time.  In contrast, the second standby time is shorter as the front facing camera is disabled after a user provides a touch operation instruction to use the rear facing camera and take a rear facing picture via the touch interface. This will enable the rear facing camera as evidenced by the display displaying image signals from the rear facing camera and then taking a picture after a second standby time.

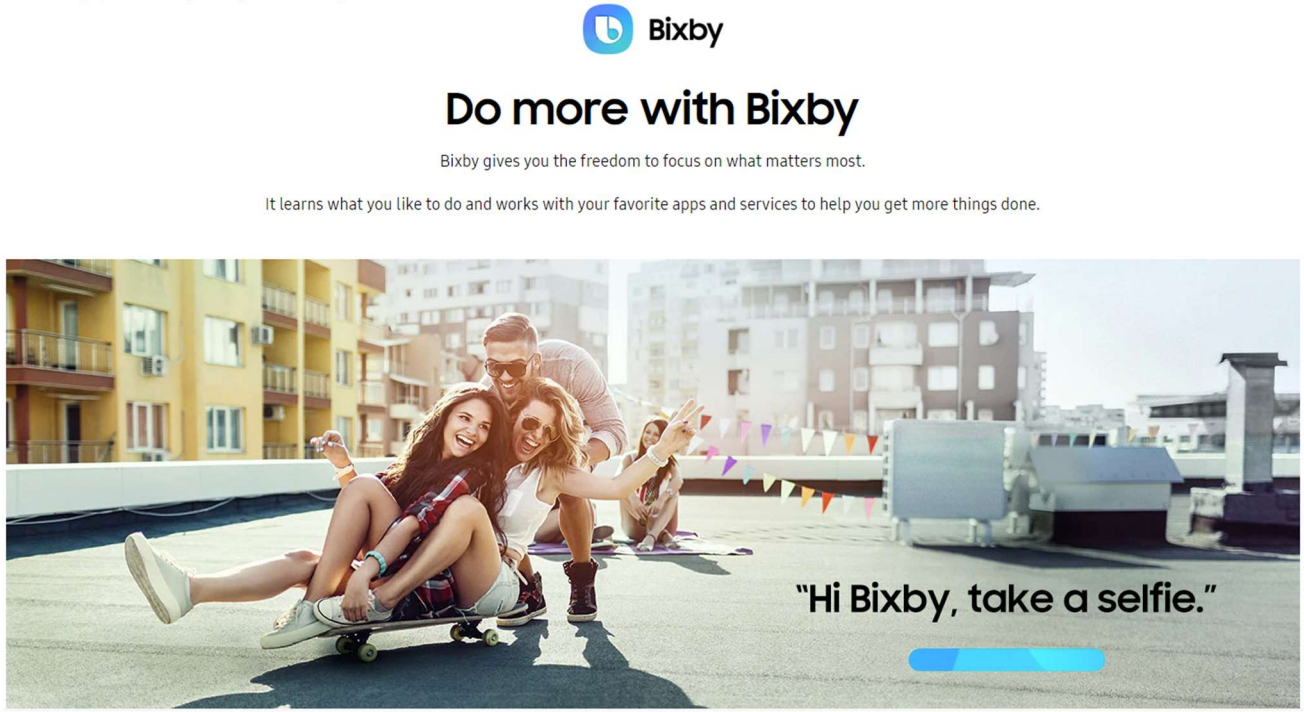
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Flip4 annotated figures showing a first standby time associated with the front facing camera being longer than a second standby time associated with the rear facing camera. For example, the rear facing camera is disabled after a user provides a command voice to Bixby to take a front facing picture, which enables the front facing camera as evidenced by the display displaying image signals from the front facing camera after switching from the rear camera to the front camera and then taking a pictured after a first standby time.

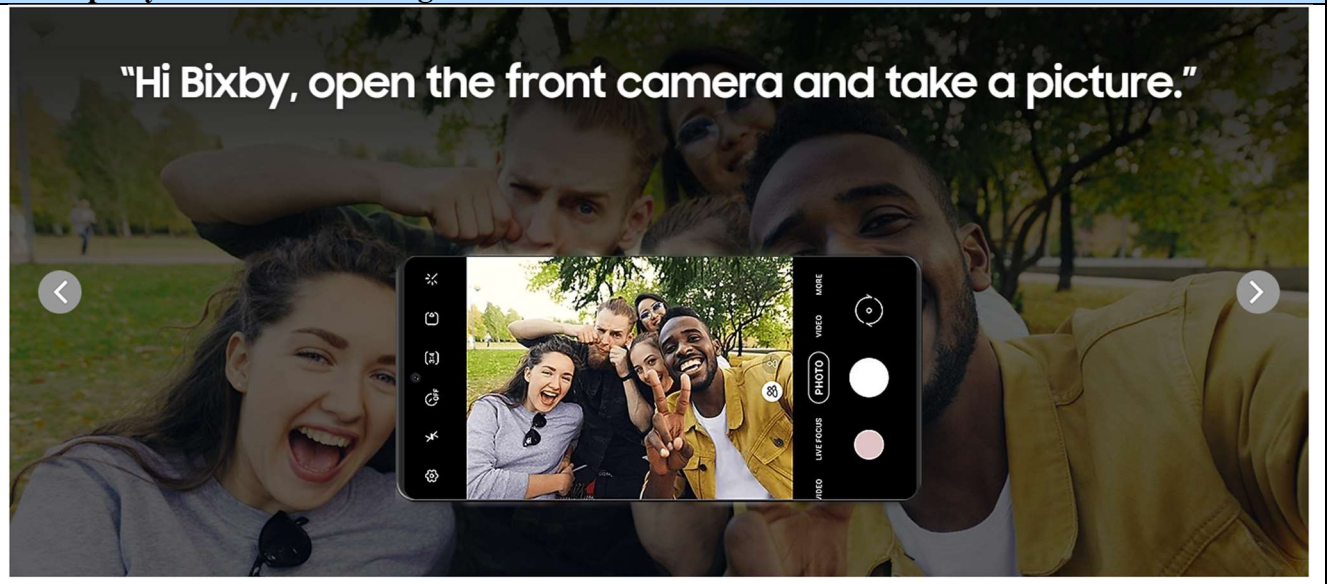
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 In contrast, the second standby time is shorter as the front facing camera is disabled after a user provides a touch operation instruction to use the rear facing camera and take a rear facing picture via the touch interface. This will enable the rear facing camera as evidenced by the display displaying image signals from the rear facing camera and then taking a picture after a second standby time.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy A54 5G annotated figures showing a first standby time associated with the front facing camera being longer than a second standby time associated with the rear facing camera. For example, the rear facing camera is disabled after a user provides a command voice to Bixby to take a front facing picture, which enables the front facing camera as evidenced by the display displaying image signals from the front facing camera after switching from the rear camera to the front camera and then taking a pictured after a first standby time.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 In contrast, the second standby time is shorter as the front facing camera is disabled after a user provides a touch operation instruction to use the rear facing camera and take a rear facing picture via the touch interface. This will enable the rear facing camera as evidenced by the display displaying image signals from the rear facing camera and then taking a picture after a second standby time. *See also* Appendix 8 showing that the remaining Accused Samsung '757 Products' controller are configured to control such that a first standby time of a case where the first camera is enabled and the second camera is disabled is longer than a second standby time of a case where the second camera is enabled and the first camera is disabled. Specifically, the remaining Accused Samsung '757 Products also include a camera application, touch interface, and Bixby such that they record images using both the front facing camera and rear facing camera using different standby times as shown in the above examples. *See e.g.*, https://www.samsung.com/us/support/answer/ANS00089063/; *see also* https://www.samsung.com/us/apps/bixby/.

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	Doctrine of Equivalents: To the extent Samsung argues that this limitation is not literally met in the Accused Samsung '757 Products, Maxell asserts that this limitation is met under the doctrine of equivalents because the identified structure matches the function, way, and result of the claimed element and, to the extent there is a difference, the difference is insubstantial. For example, to the extent that Samsung argues that the Accused Samsung '757 Products does not have a controller configured to control such that a first standby time of a case where the first camera is enabled and the second camera is disabled is longer than a second standby time of a case where the second camera is enabled and the first camera is disabled. Using software, hardware, or combination of the two, the Accused Samsung '757 Products perform substantially the same function (for example, controlling a first standby time when the first camera is enabled and the second camera is disabled to be longer than a second standby time when the second camera is enabled and the first camera is disabled) in substantially the same way as claimed (by using operation unit, video processing unit, and/or main control unit). The performance of this function achieve substantially the same result, for example, controlling a first standby time, which enables a first camera and disables a second camera, to be longer than a second standby time, which enables a second camera and disables a first camera.
[1.j] wherein the first standby time is a time from a recognition of the first instruction to a start of the recording of the first image signal acquired by the first camera, and the second standby time is a time from a recognition of the second instruction to a start of the recording of the second image signal acquired by the second camera.	In each of the Accused Samsung '757 Products, the first standby time is a time from a recognition of the first instruction to a start of the recording of the first image signal acquired by the first camera, and the second standby time is a time from a recognition of the second instruction to a start of the recording of the second image signal acquired by the second camera. *See e.g.*, Technical Specifications of each of the Accused Samsung '757 Products available at Samsung's website showing that each of the devices includes the first standby time that is a time from a recognition of the first instruction to a start of the recording of the first image signal acquired by the first camera, and the second standby time is a time from a recognition of the second instruction to a start of the recording of the second image signal acquired by the second camera (https://www.samsung.com/us/mobile/ and https://www.samsung.com/us/tablets/). As a non-limiting example of the first standby time and the second standby time, each of the Accused Samsung '757 Products is a smartphone and/or tablet having the first standby time being from a recognition of the command voice to Bixby to start the recording of the first image signal associated with the front facing camera and the second standby time being a recognition of a touch operation

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	instruction to start recording of the second image signal associated with the rear facing camera under three (3) exemplary infringement theories:  https://www.samsung.com/us/apps/bixby/

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	 *Id.*

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	Take the best selfies with your Galaxy phone  Selfies: you know you love 'em. Luckily, your Galaxy phone comes with special features like a front-facing camera, built-in filters, and different camera modes so you can take the best possible selfies. **Note:** Available screens and settings may vary by wireless service provider, software version, and phone model. Set up for the perfect selfie › Adjust selfie camera settings › Camera modes › https://www.samsung.com/us/support/answer/ANS00062594/

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Adjust selfie camera settings

You can also adjust the different settings for your selfies, such as your preferred shooting method, selfie colors, and filters.

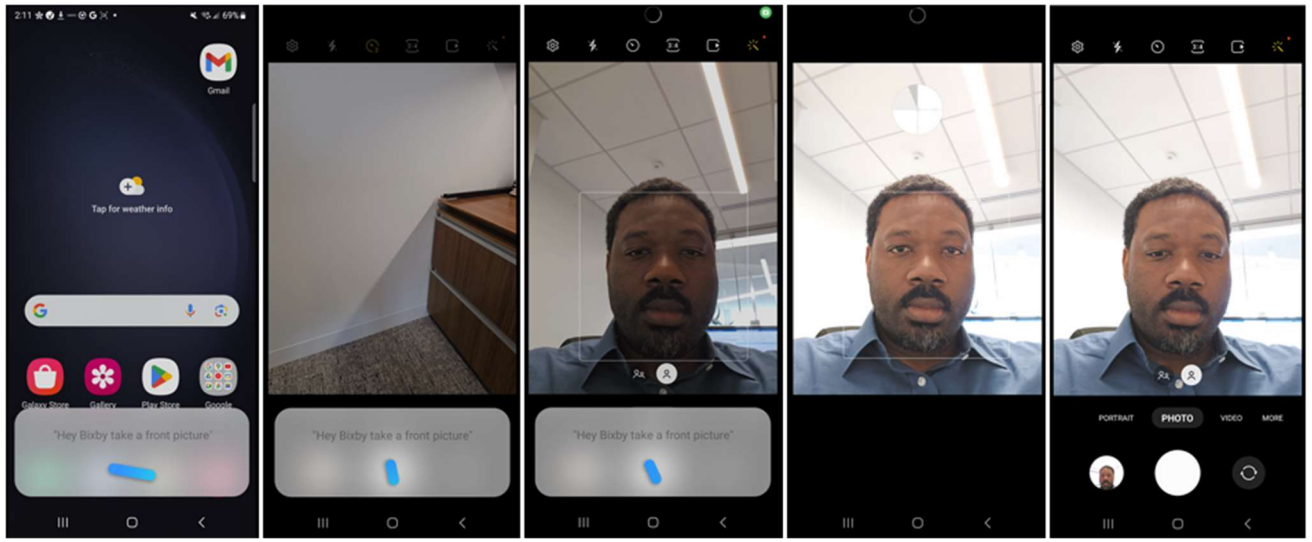
For example, you can set the color tone of your photos to bright or natural. Just navigate to the **Camera** app on your phone, tap **Settings**, and then swipe to and tap **Selfie color tone**. This way, you can select from **Natural** or **Bright** before you take a selfie, rather than after.

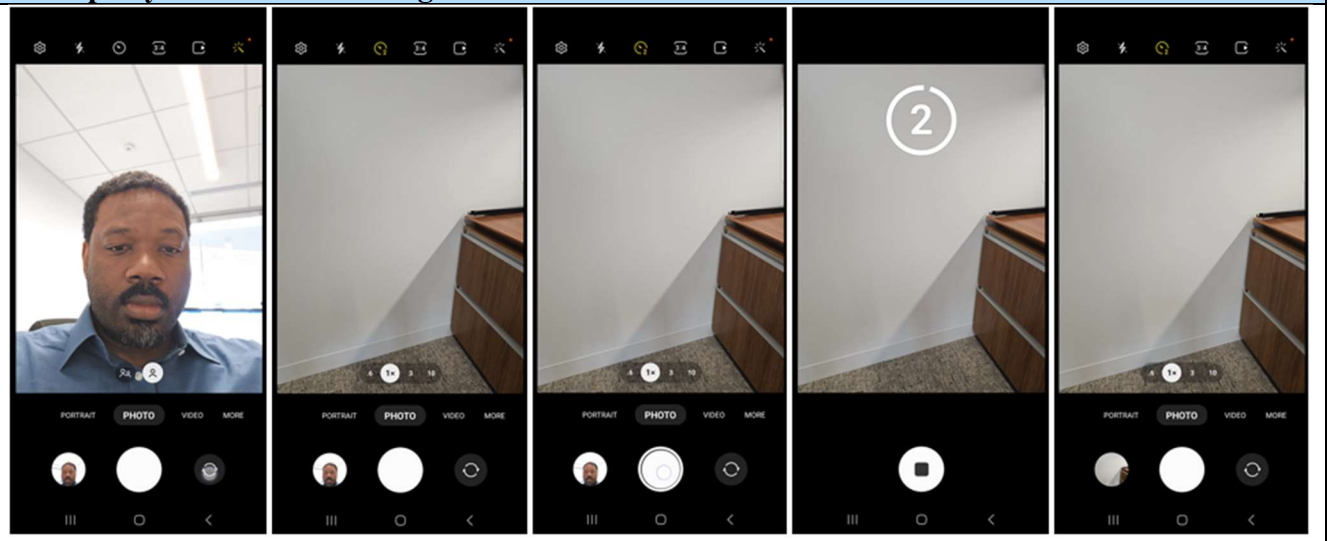
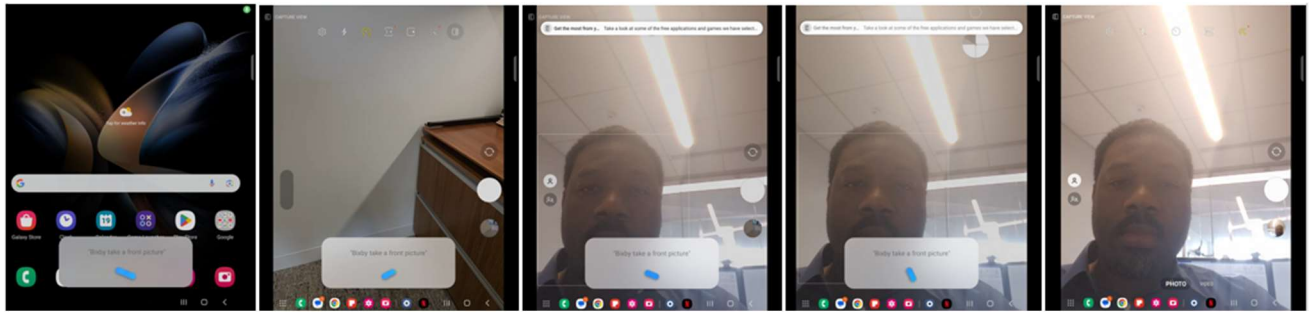
Snapping a photo of yourself can be easy, especially if you do not have to adjust the grip on your phone. Better shooting methods can be accessed from your Camera settings page. Swipe to and tap **Shooting methods**, and then tap **Press Volume keys to** or **Voice commands** to take a photo or video. Or, add a floating shutter button that can be moved around the screen. If you're taking a group selfie, it might be easier to simply show your palm to the screen to take the photo.



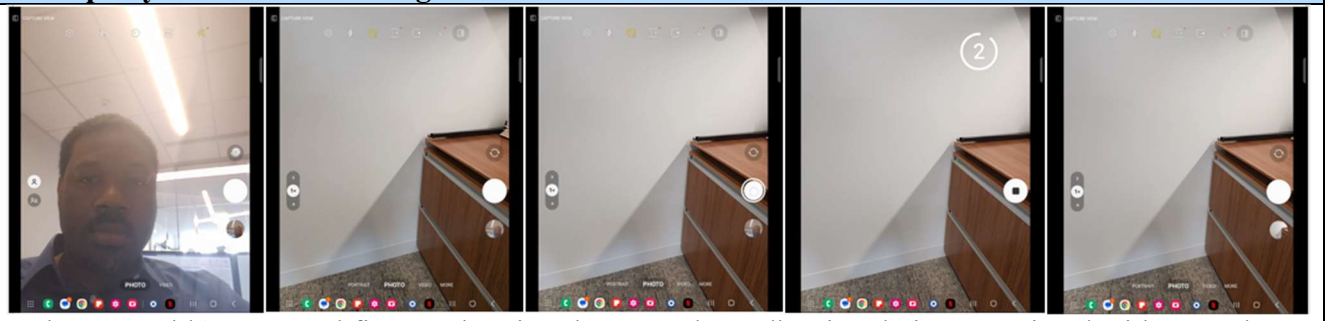
You can also set up automatic Camera modes that appear when launching the app. Tap **Settings to keep**, and then tap **Selfie angle** to use your previous angle again or tap **Filters** to reapply the same filters you have applied in the past. You can also select additional options such as Camera mode, Super steady, and Portrait zoom.

Id.

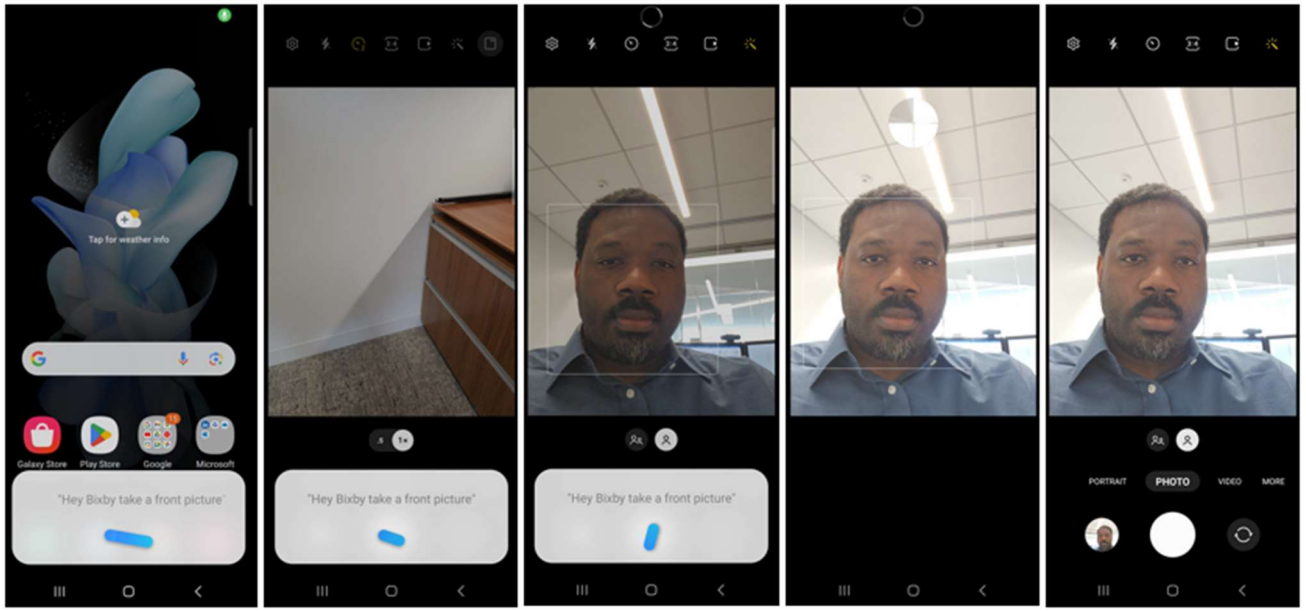
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	First Infringement Theory:  Galaxy S23 Ultra annotated figures showing the first standby time being associated with a command voice to Bixby and starting from recognition of instruction to taking a picture.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy S23 Ultra annotated figures showing the second standby time being associated with a touch operation instruction and starting from recognition of instruction to taking a picture.  Galaxy Z Fold4 annotated figures showing the first standby time being associated with a command voice to Bixby and starting from recognition of instruction to taking a picture.

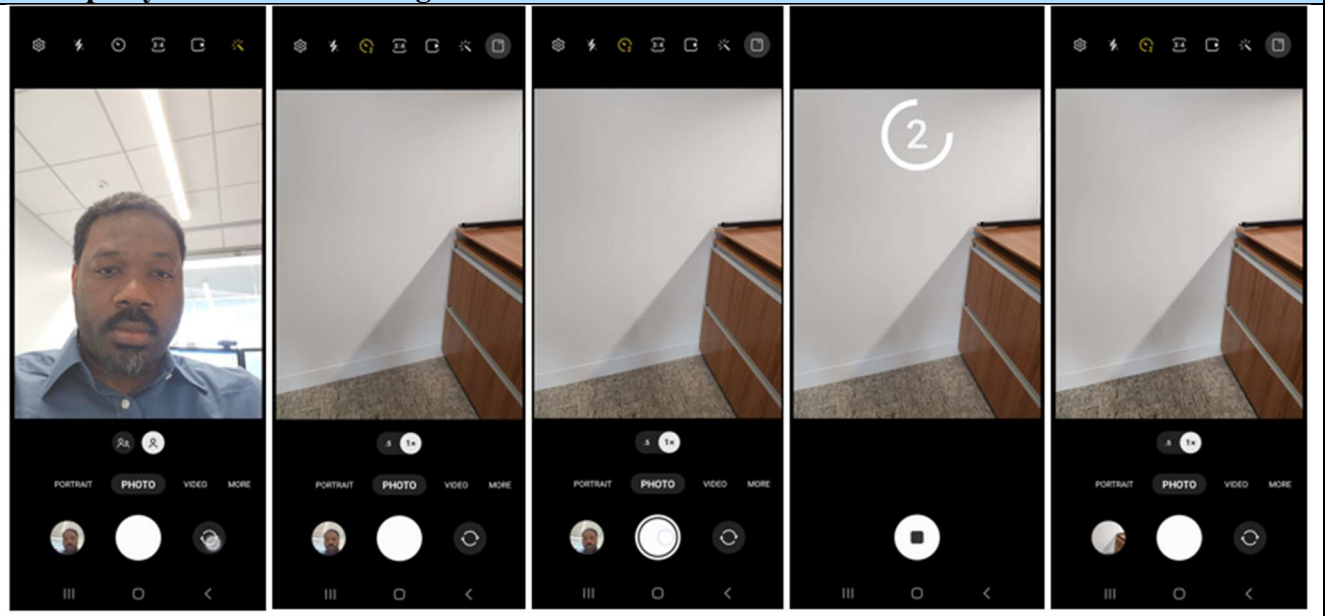
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement



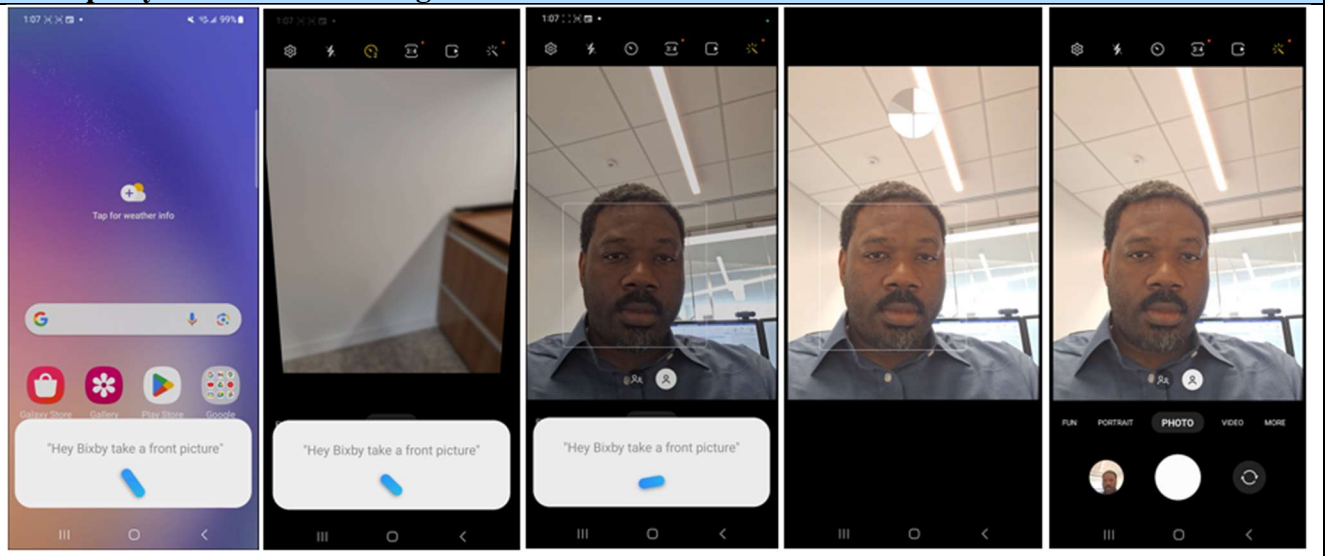
Galaxy Z Fold4 annotated figures showing the second standby time being associated with a touch operation instruction and starting from recognition of instruction to taking a picture.



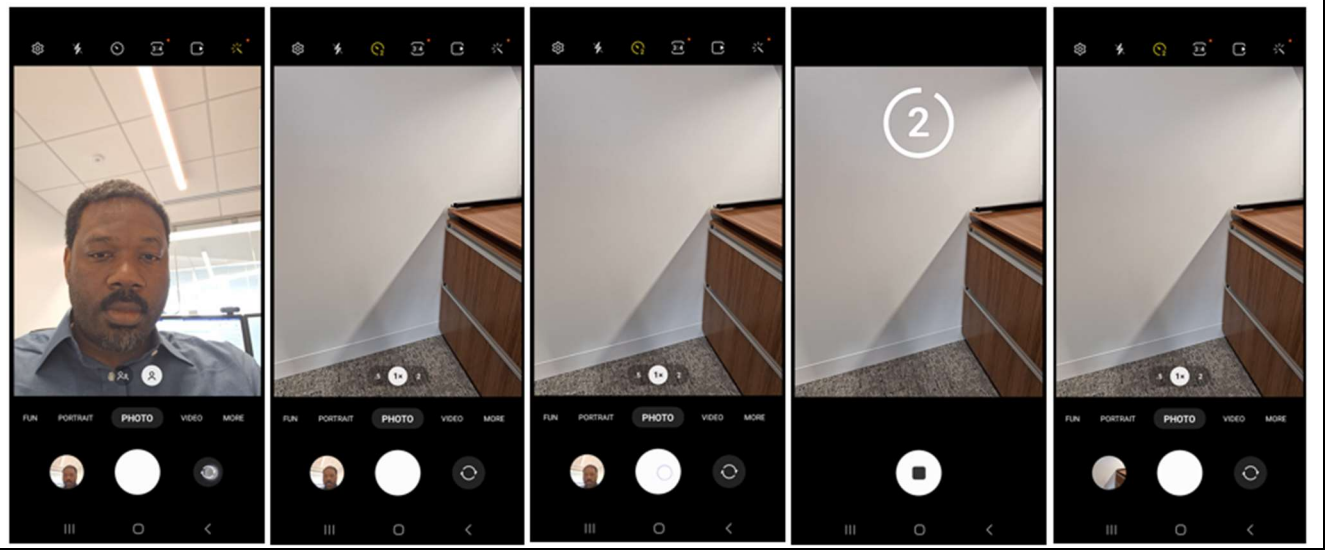
Galaxy Z Flip4 annotated figures showing the first standby time being associated with a command voice to Bixby and starting from recognition of instruction to taking a picture.

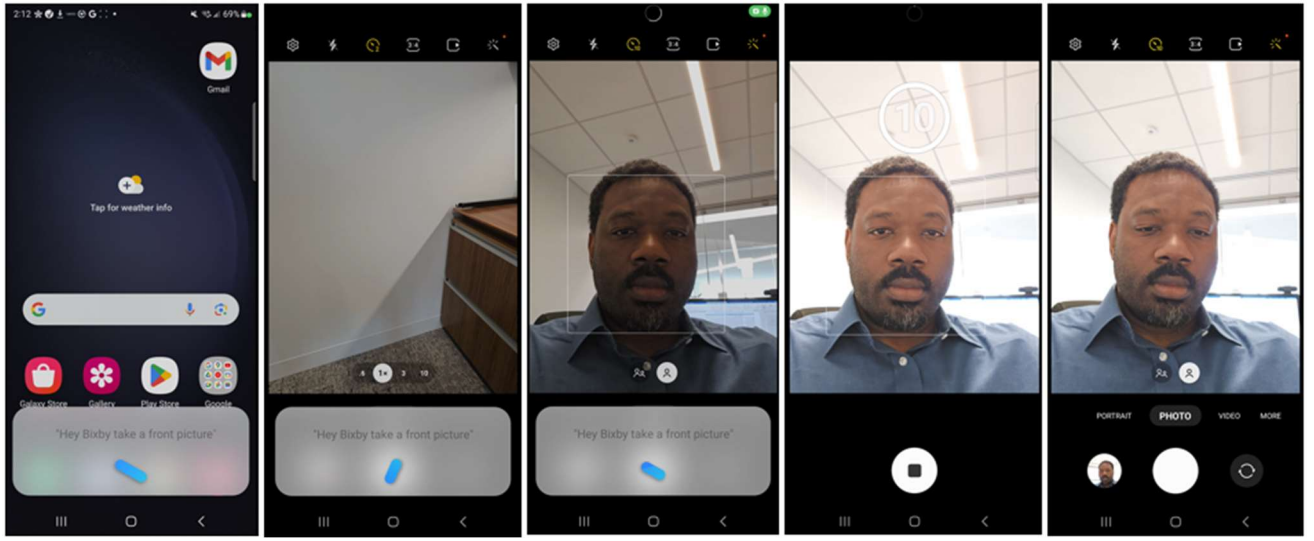
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Flip4 annotated figures showing the second standby time being associated with a touch operation instruction and starting from recognition of instruction to taking a picture.

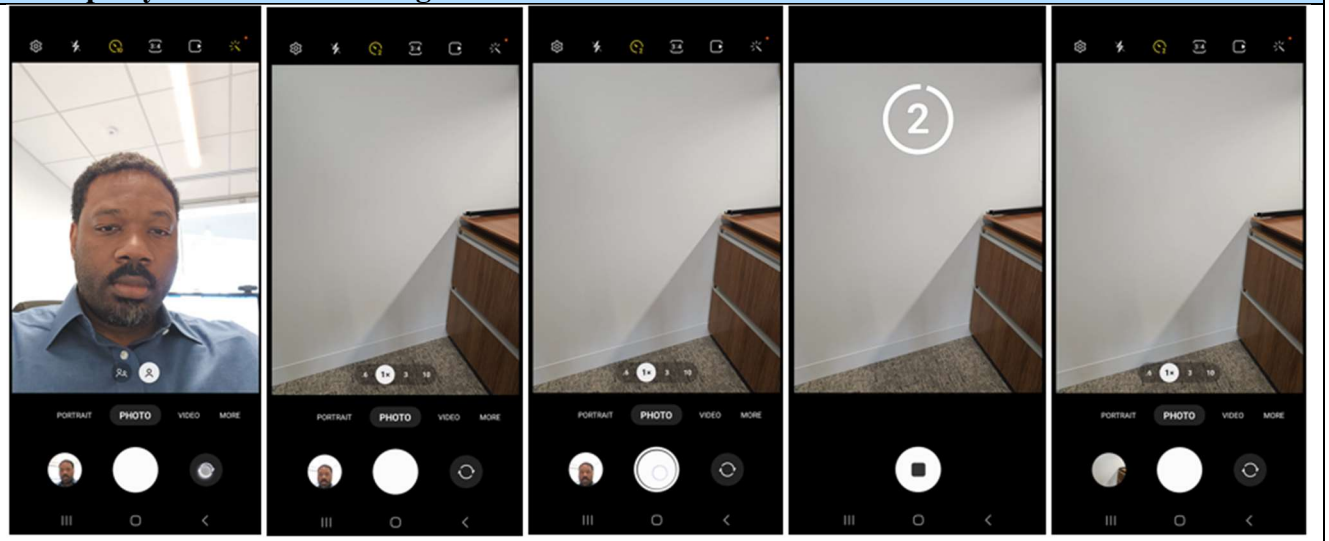
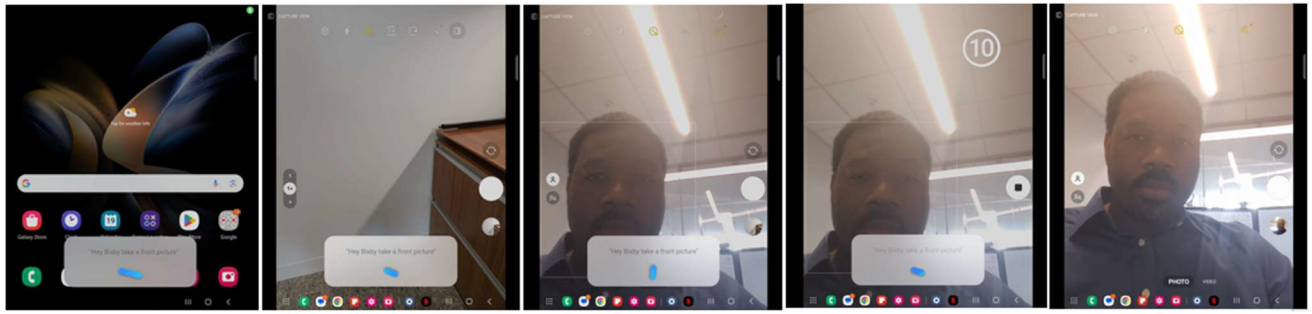
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

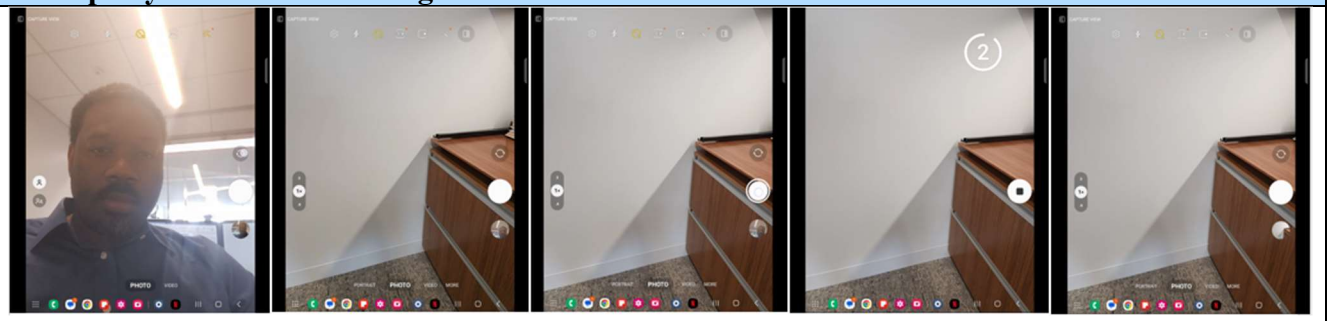
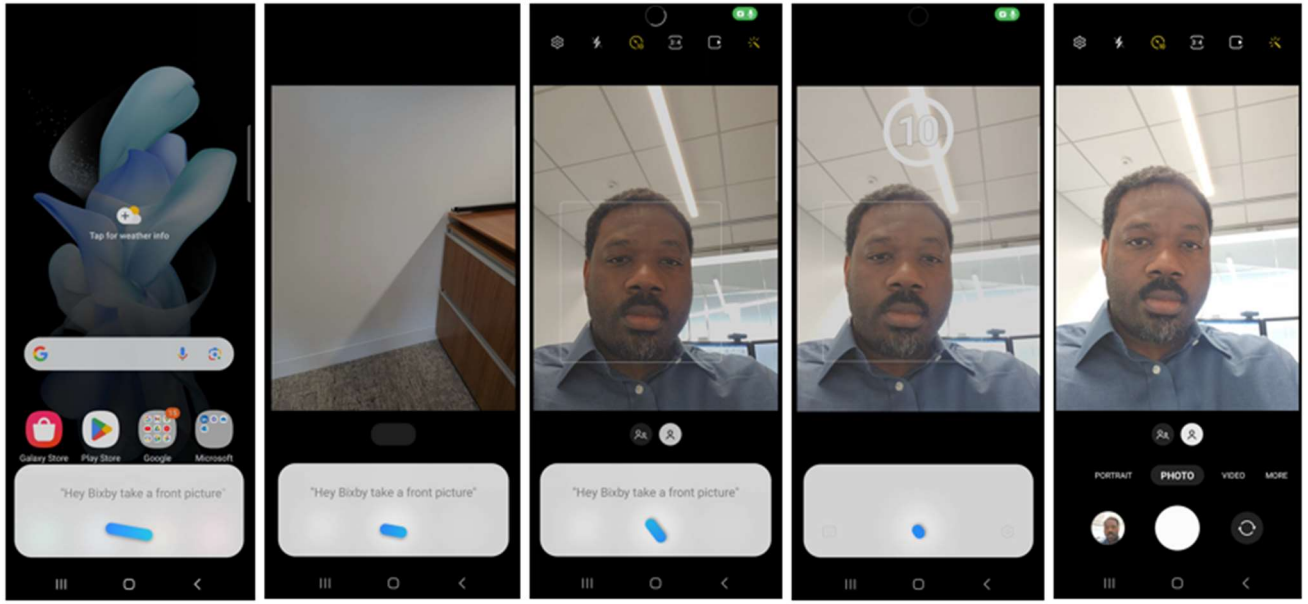


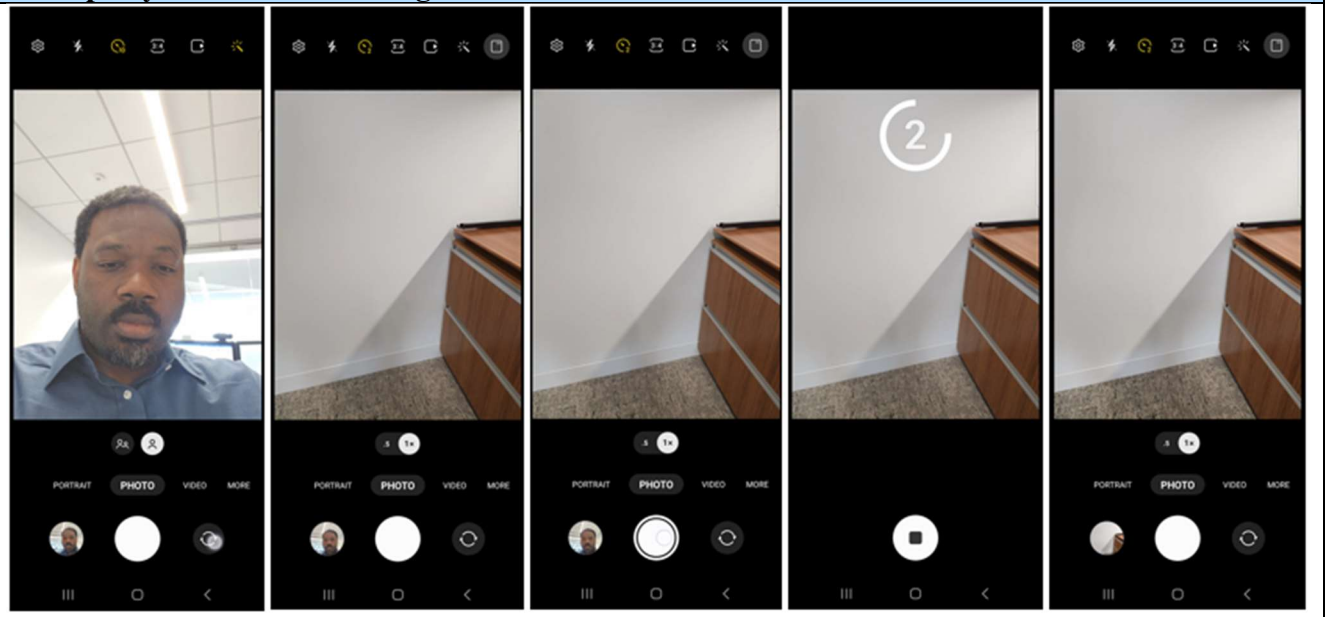
Galaxy A54 5G annotated figures showing the first standby time being associated with a command voice to Bixby and starting from recognition of instruction to taking a picture.

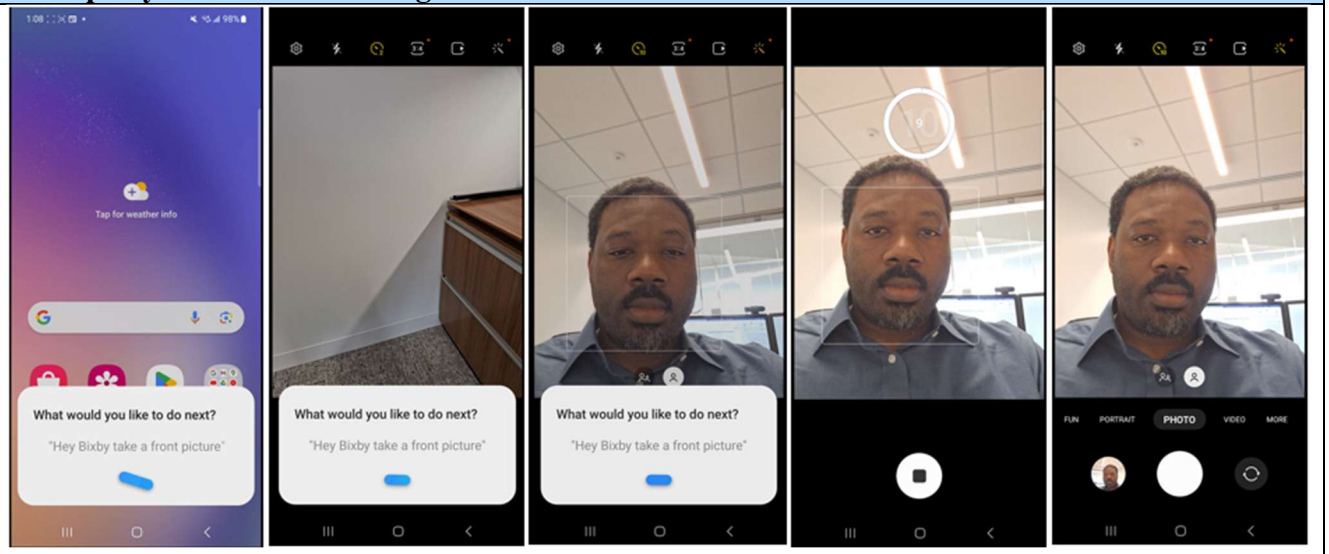


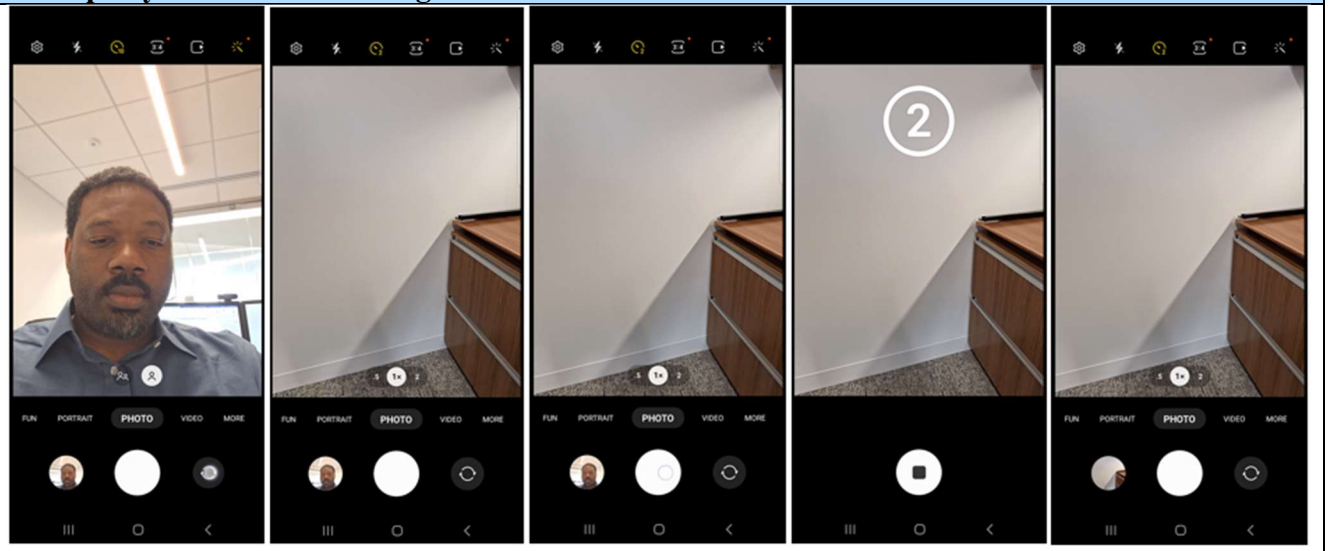
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Galaxy A54 5G annotated figures showing the second standby time being associated with a touch operation instruction and starting from recognition of instruction to taking a picture. **Second Infringement Theory:**  Galaxy S23 Ultra annotated figures showing the first standby time being associated with a command voice to Bixby after a timer of 10 seconds has been set for the front facing camera and starting from recognition of instruction to taking a picture.

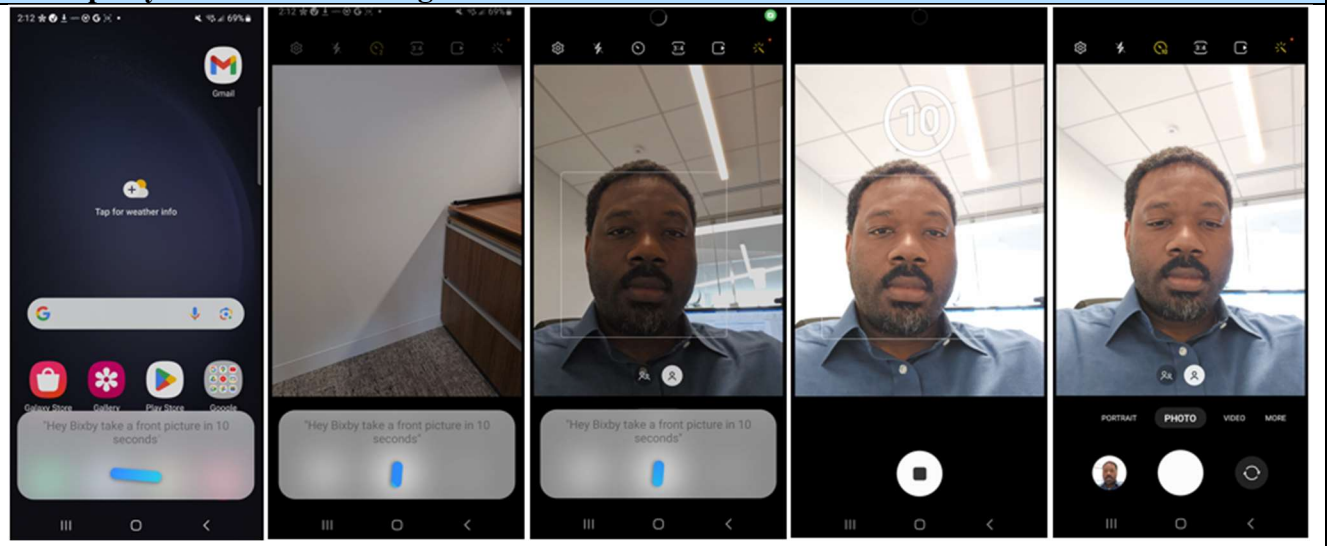
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy S23 Ultra annotated figures showing the second standby time being associated with a touch operation instruction and starting from recognition of instruction to taking a picture.  Galaxy Z Fold4 annotated figures showing the first standby time being associated with a command voice to Bixby after a timer of 10 seconds has been set for the front facing camera and starting from recognition of instruction to taking a picture.

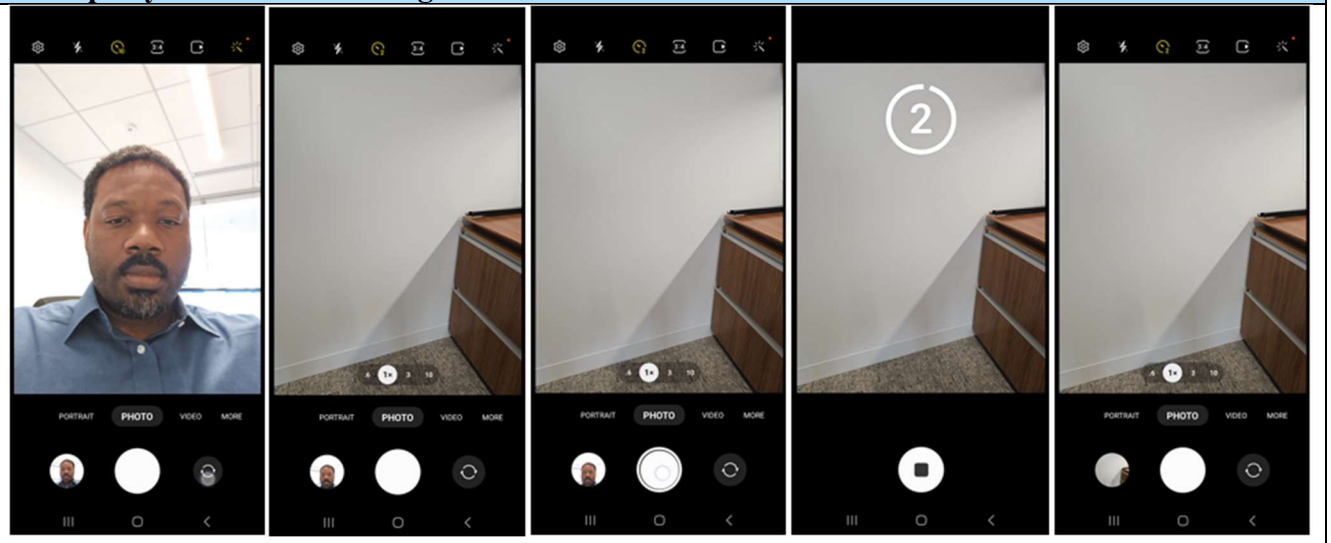
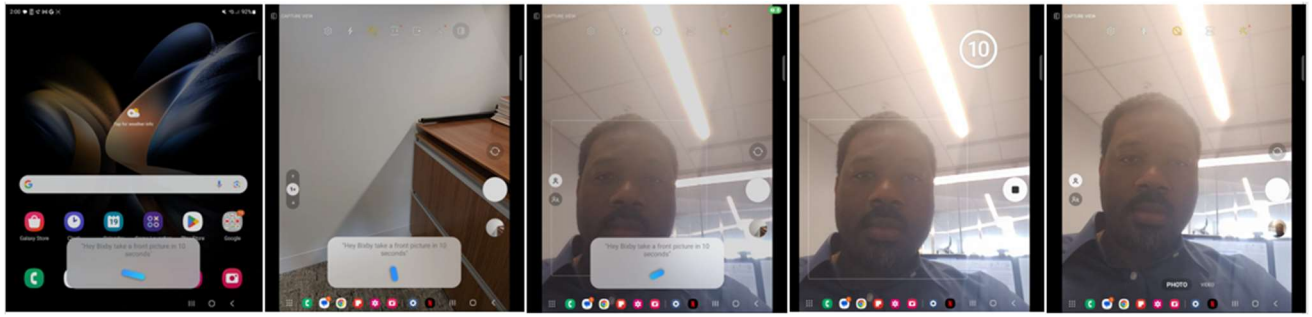
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Fold4 annotated figures showing the second standby time being associated with a touch operation instruction and starting from recognition of instruction to taking a picture.  Galaxy Z Flip4 annotated figures showing the first standby time being associated with a command voice to Bixby after a timer of 10 seconds has been set for the front facing camera and starting from recognition of instruction to taking a picture.

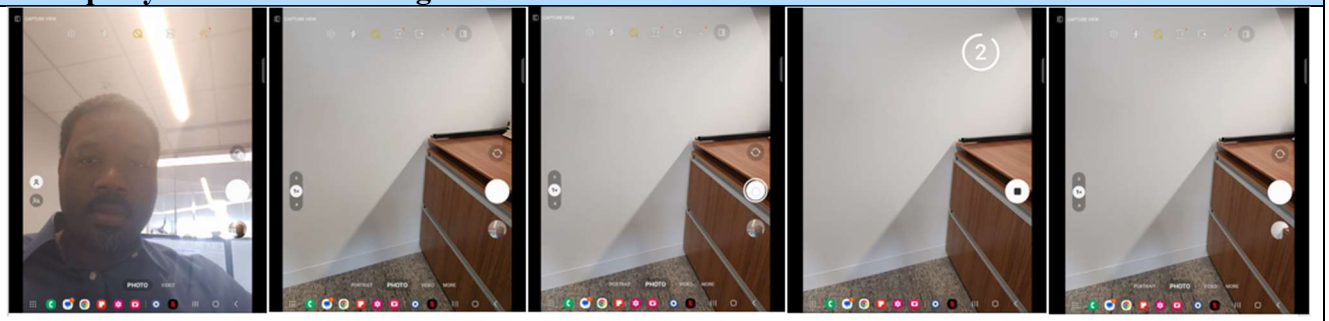
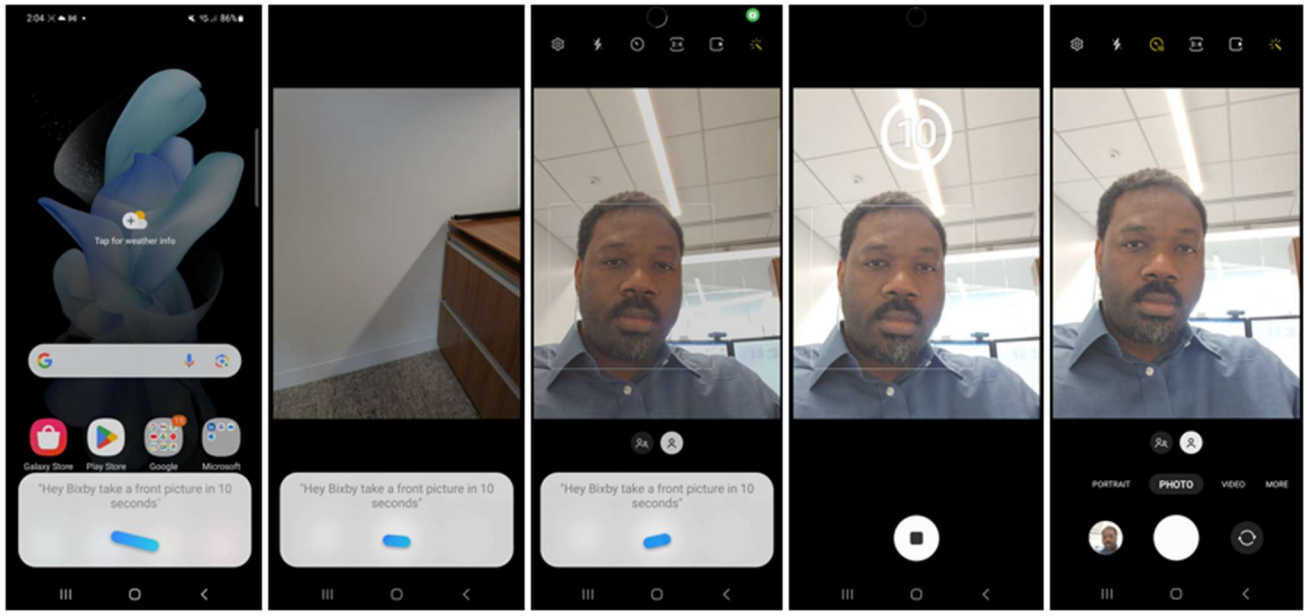
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Flip4 annotated figures showing the second standby time being associated with a touch operation instruction and starting from recognition of instruction to taking a picture.

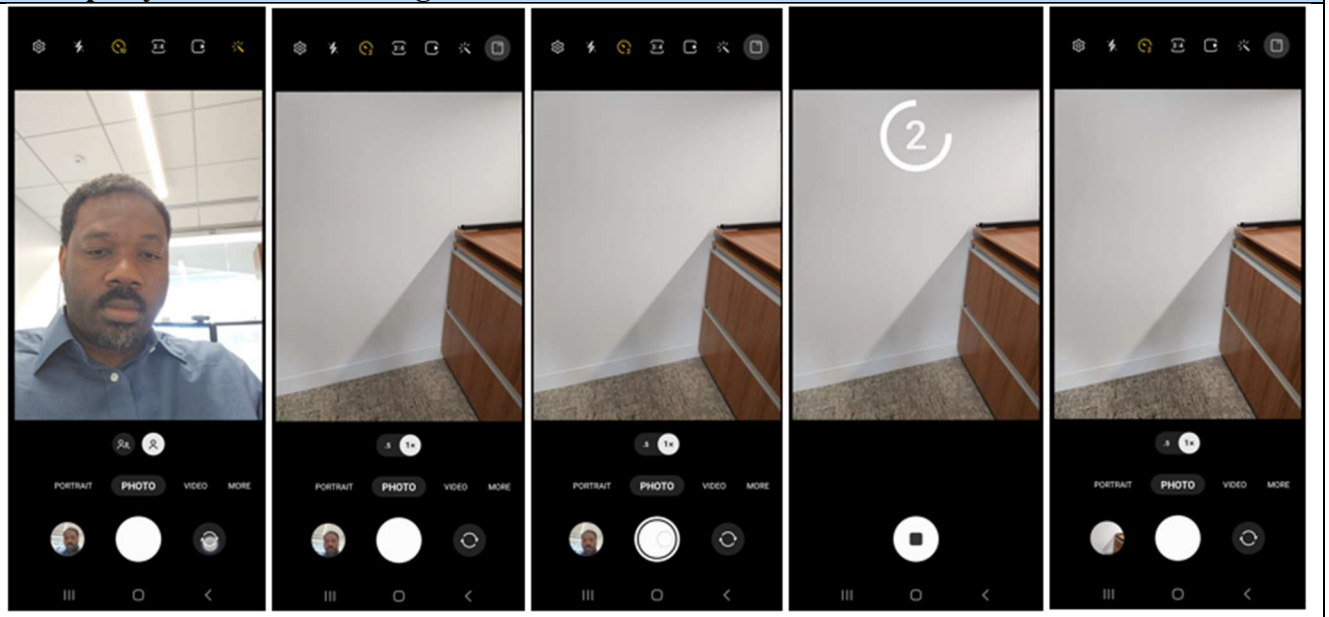
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy A54 5G annotated figures showing the first standby time being associated with a command voice to Bixby after a timer of 10 seconds has been set for the front facing camera and starting from recognition of instruction to taking a picture.

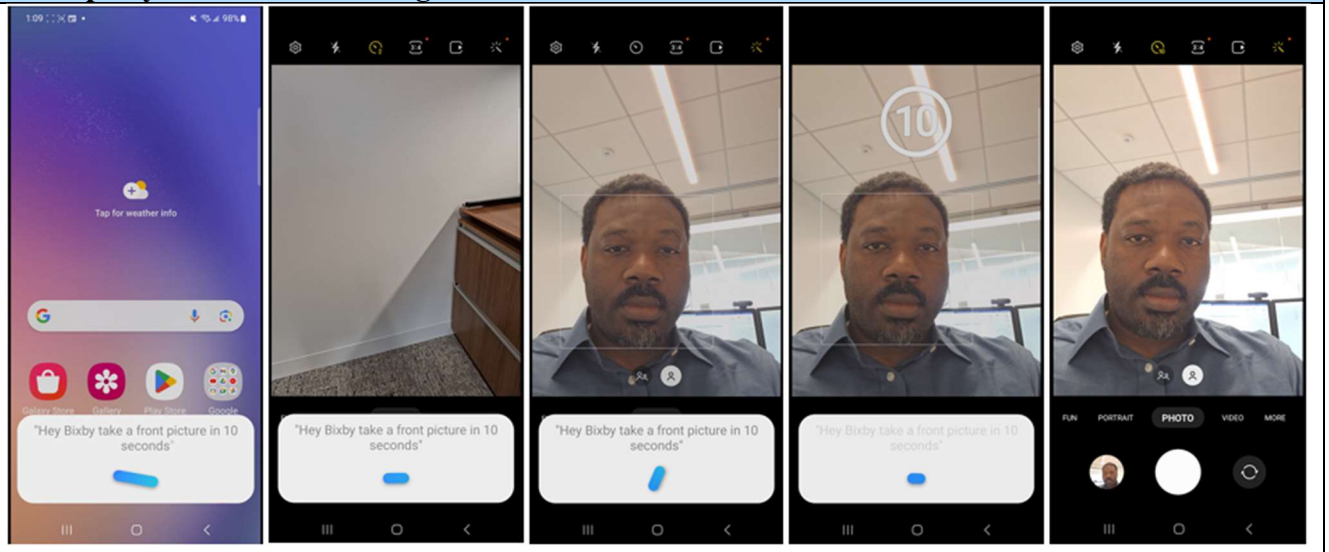
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy A54 5G annotated figures showing the second standby time being associated with a touch operation instruction and starting from recognition of instruction to taking a picture. **Third Infringement Theory:**

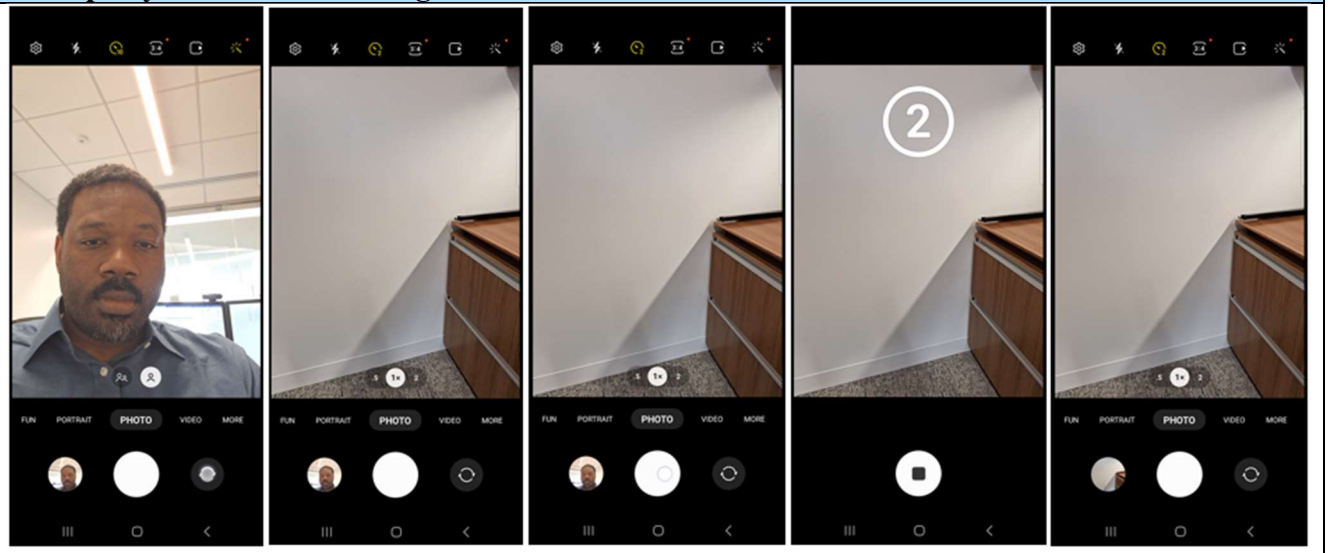
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy S23 Ultra annotated figures showing the first standby time being associated with a command voice to Bixby including setting a timer of 10 seconds for the front facing camera and starting from recognition of instruction to taking a picture.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy S23 Ultra annotated figures showing the second standby time being associated with a touch operation instruction and starting from recognition of instruction to taking a picture.  Galaxy Z Fold4 annotated figures showing the first standby time being associated with a command voice to Bixby including setting a timer of 10 seconds for the front facing camera and starting from recognition of instruction to taking a picture.

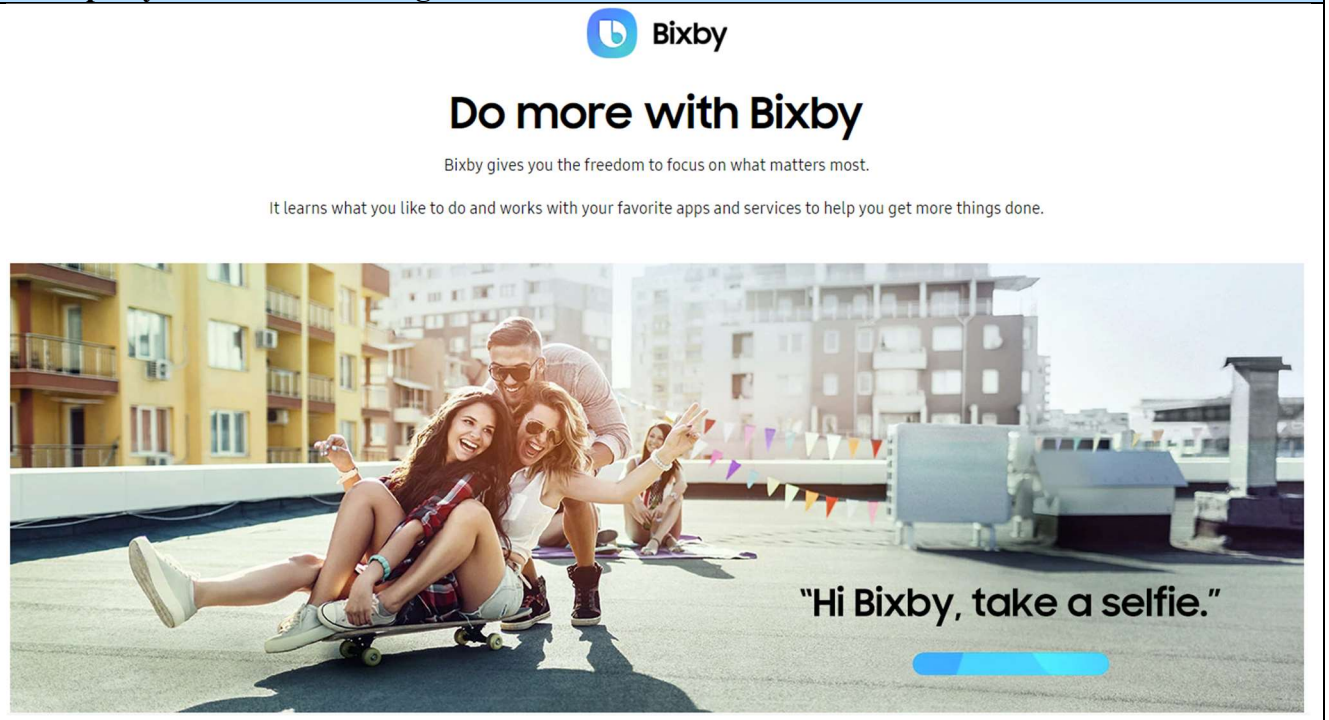
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Fold4 annotated figures showing the second standby time being associated with a touch operation instruction and starting from recognition of instruction to taking a picture.  Galaxy Z Flip4 annotated figures showing the first standby time being associated with a command voice to Bixby including setting a timer of 10 seconds for the front facing camera and starting from recognition of instruction to taking a picture.

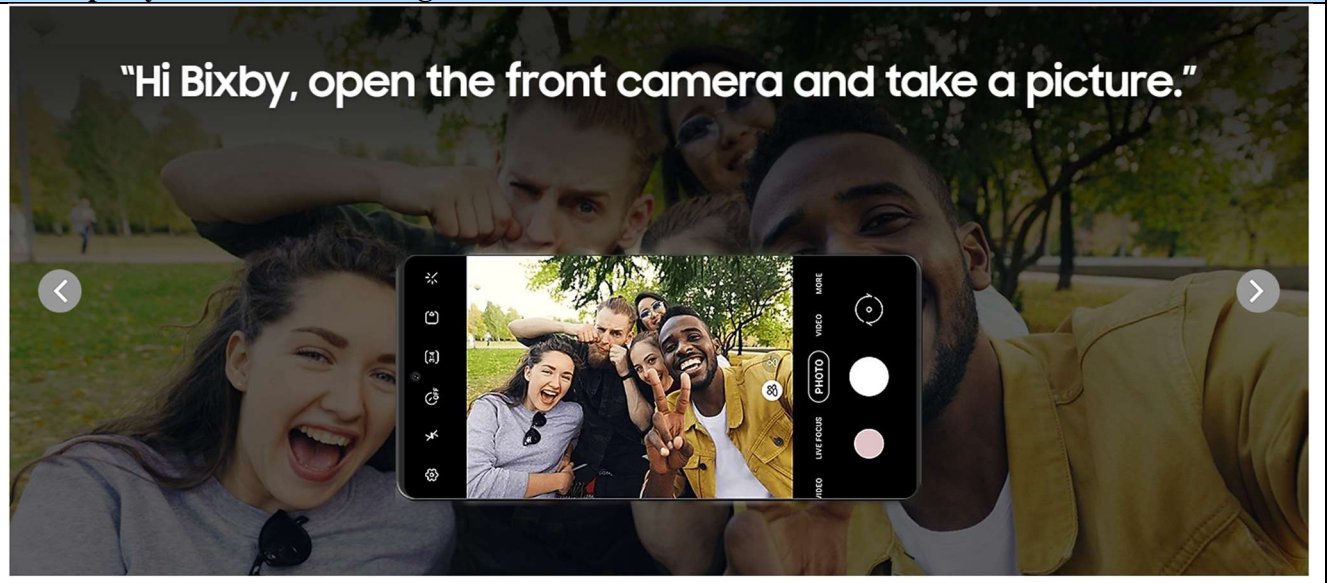
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Flip4 annotated figures showing the second standby time being associated with a touch operation instruction and starting from recognition of instruction to taking a picture.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy A54 5G annotated figures showing the first standby time being associated with a command voice to Bixby including setting a timer of 10 seconds for the front facing camera and starting from recognition of instruction to taking a picture.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy A54 5G annotated figures showing the second standby time being associated with a touch operation instruction and starting from recognition of instruction to taking a picture. *See also* Appendix 8 showing that the remaining Accused Samsung '757 Products include the first standby time as a time from a recognition of the first instruction to a start of the recording of the first image signal acquired by the first camera and the second standby time as a time from a recognition of the second instruction to a start of the recording of the second image signal acquired by the second camera. Specifically, the remaining Accused Samsung '757 Products also include a camera application, touch interface, and Bixby such that they record images using both the front facing camera and rear facing camera using different standby times as shown in the above examples. *See e.g.*, https://www.samsung.com/us/support/answer/ANS00089063/; *see also* https://www.samsung.com/us/apps/bixby/. Doctrine of Equivalents: To the extent Samsung argues that this limitation is not literally met in the Accused Samsung '757 Products, Maxell asserts that this limitation is met under the doctrine of equivalents because the identified structure matches the function, way, and result of the claimed element and, to the extent

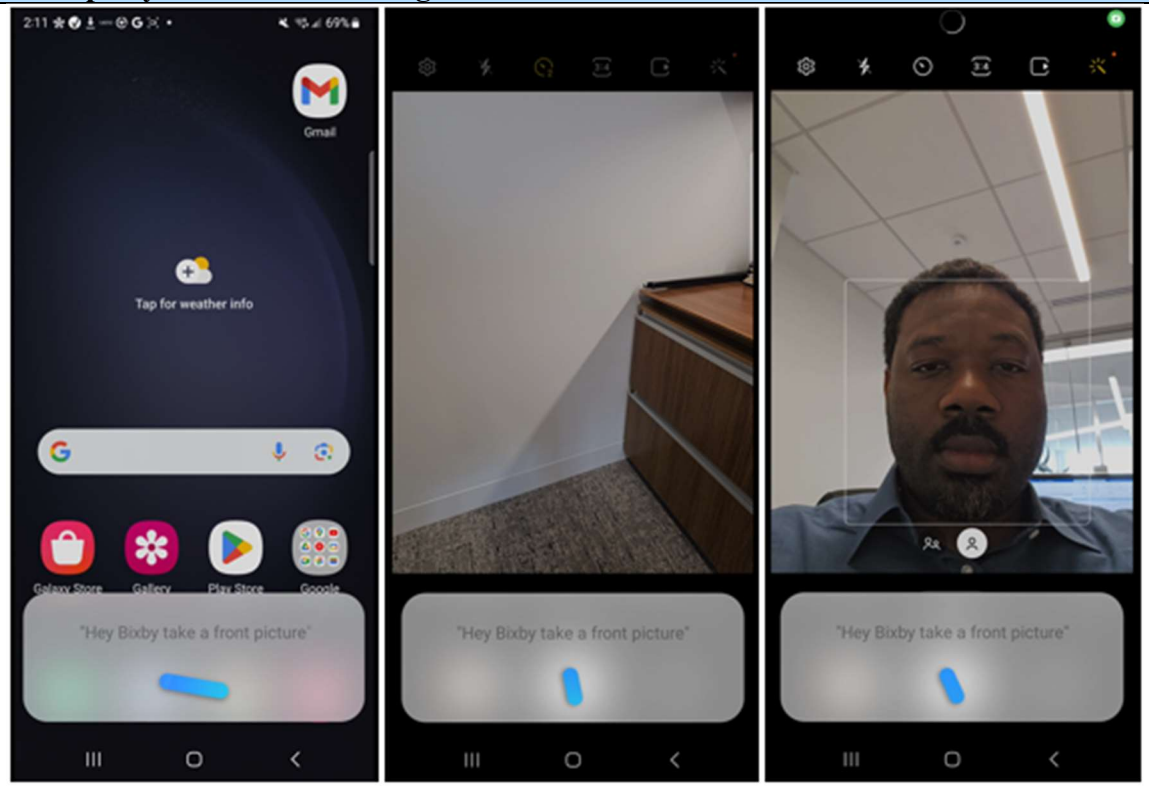
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	there is a difference, the difference is insubstantial. For example, to the extent that Samsung argues that the Accused Samsung '757 Products does not have a first standby time and a second standby time. Using software, hardware, or combination of the two, the Accused Samsung '757 Products perform substantially the same function (for example, the first standby time being the time from a recognition of the first instruction to a start of the recording of the first image signal, and the second standby time being the time from a recognition of the second instruction to a start of the recording of the second image signal) in substantially the same way as claimed (by using operation unit, video processing unit, and/or main control unit). The performance of this function achieve substantially the same result, for example, having a first standby time starting from recognizing a first instruction to starting to record from the first camera, and the second standby time starting from recognizing a second instruction to starting to record from the second camera.
[2] The image recording device according to claim 1, wherein the first camera is enabled in accordance with the command voice.	In each of the Accused Samsung '757 Products, the first camera is enabled in accordance with the command voice. *See e.g.*, Technical Specifications of each of the Accused Samsung '757 Products available at Samsung's website showing that each of the devices' first camera is enabled in accordance with the command voice (https://www.samsung.com/us/mobile/ and https://www.samsung.com/us/tablets/). As a non-limiting example of the controller, each of the Accused Samsung '757 Products' front facing camera is enabled after a user gives a command voice to Bixby. For example, the Accused Samsung '757 Products' front facing camera are enabled when a user provides a command voice to take a front facing picture to Bixby:

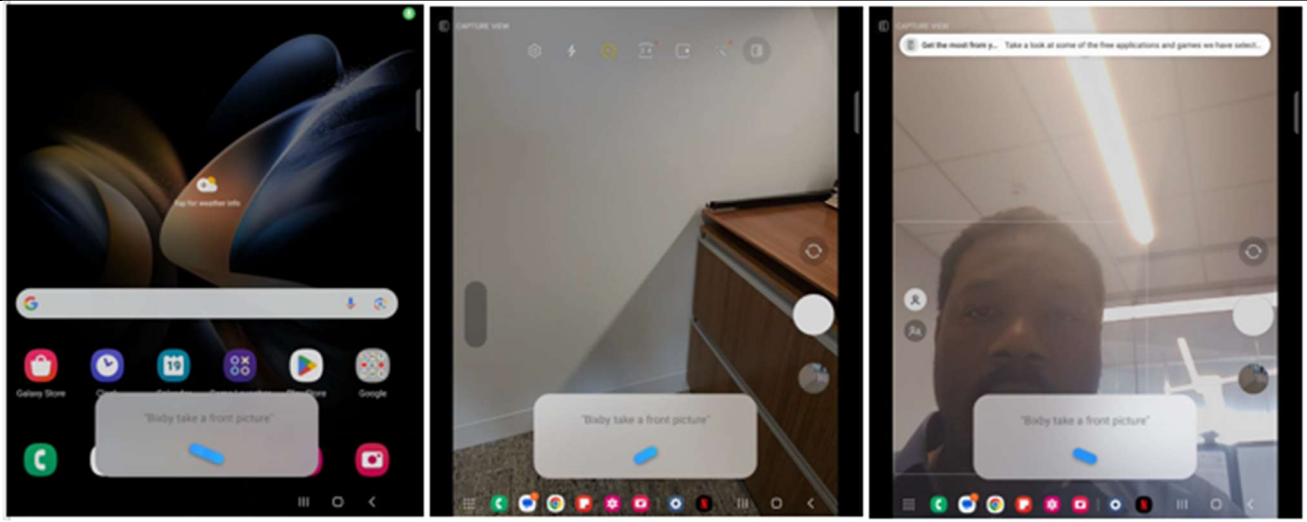
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 https://www.samsung.com/us/apps/bixby/

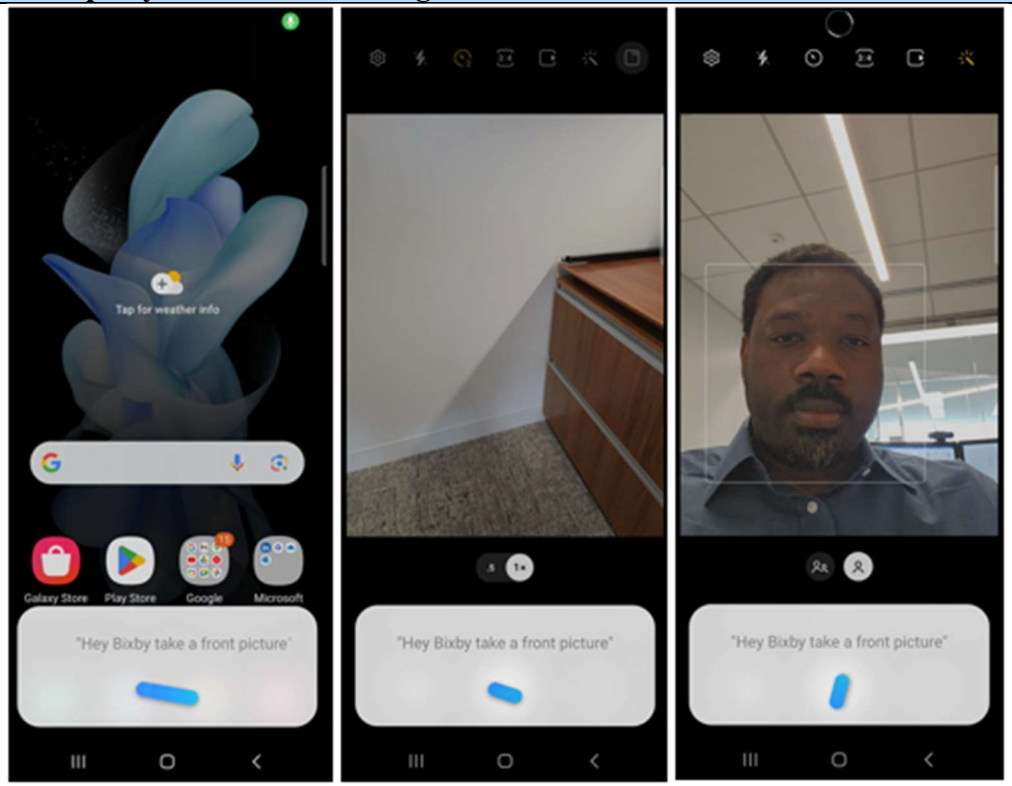
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 *Id.*

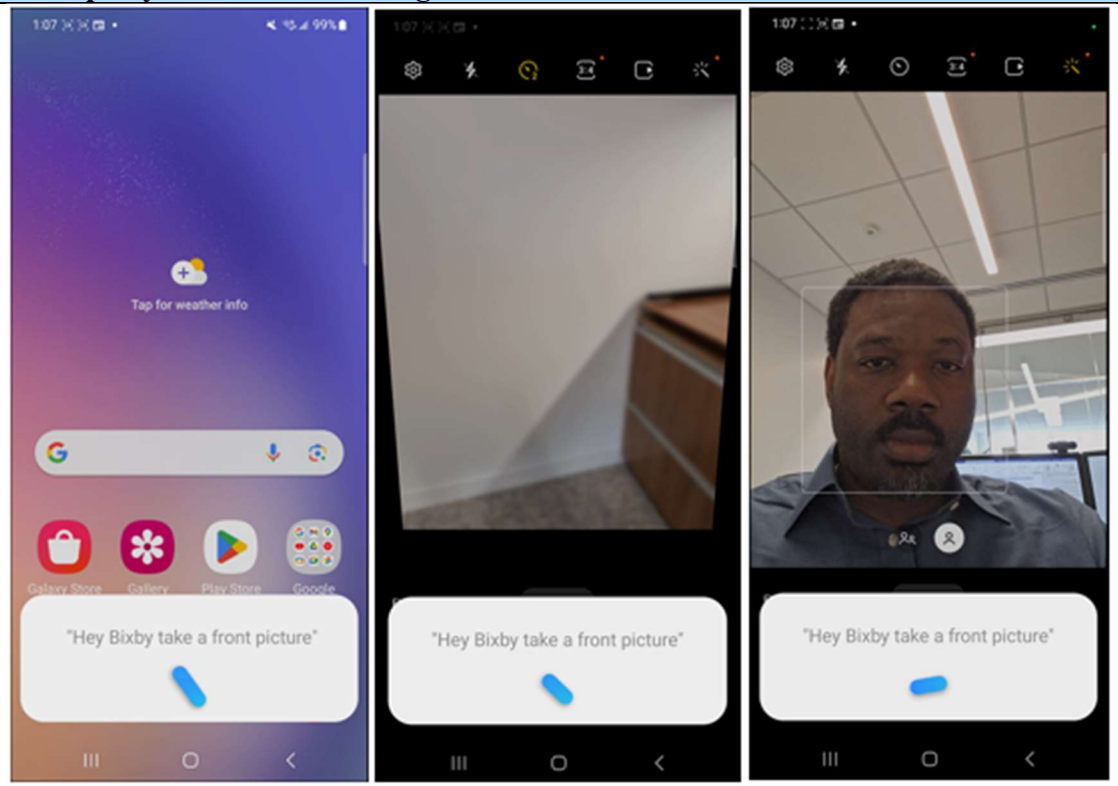
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Take the best selfies with your Galaxy phone  Selfies: you know you love 'em. Luckily, your Galaxy phone comes with special features like a front-facing camera, built-in filters, and different camera modes so you can take the best possible selfies. **Note:** Available screens and settings may vary by wireless service provider, software version, and phone model. Set up for the perfect selfie › Adjust selfie camera settings › Camera modes › https://www.samsung.com/us/support/answer/ANS00062594/

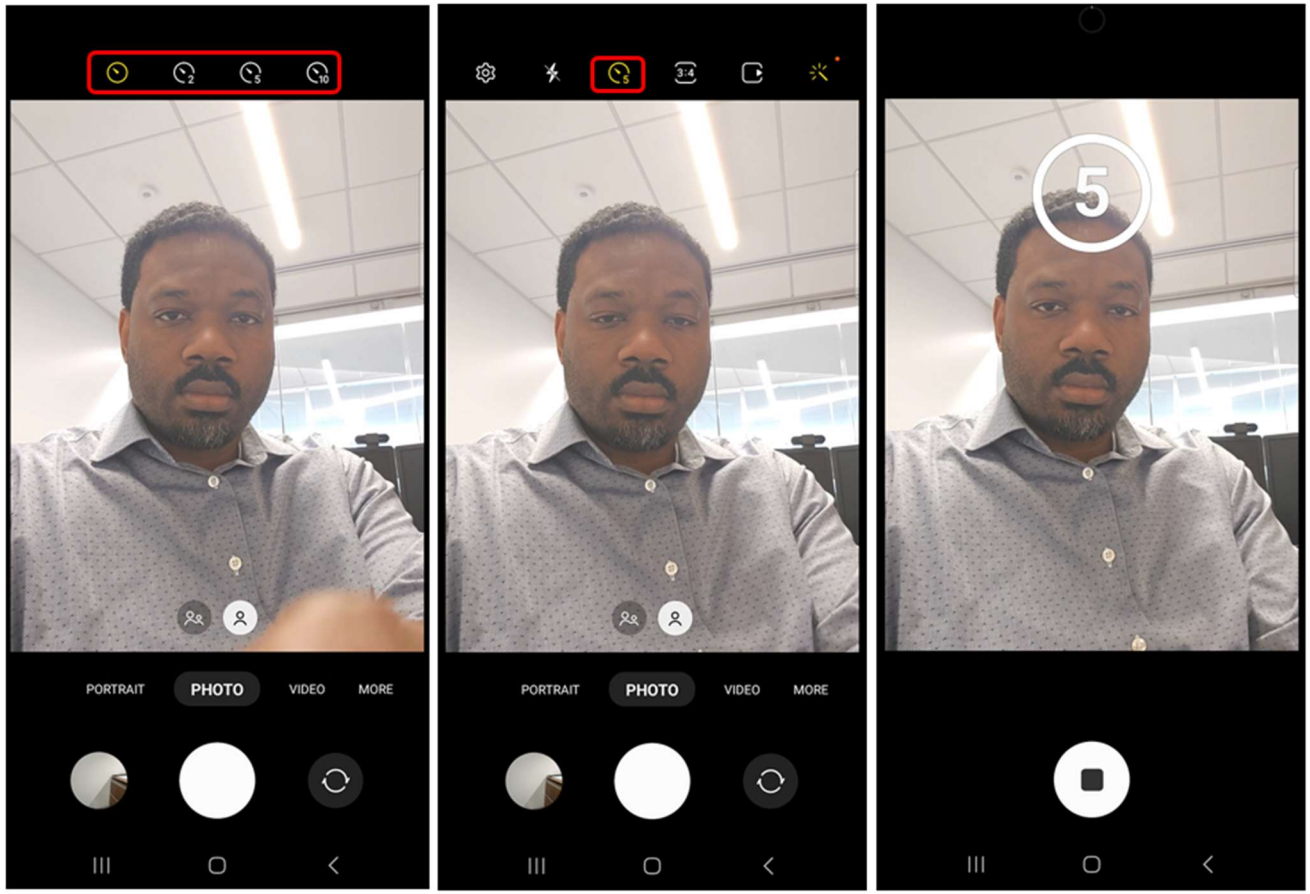
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Adjust selfie camera settings You can also adjust the different settings for your selfies, such as your preferred shooting method, selfie colors, and filters. For example, you can set the color tone of your photos to bright or natural. Just navigate to the **Camera** app on your phone, tap **Settings**, and then swipe to and tap **Selfie color tone**. This way, you can select from **Natural** or **Bright** before you take a selfie, rather than after. Snapping a photo of yourself can be easy, especially if you do not have to adjust the grip on your phone. Better shooting methods can be accessed from your Camera settings page. Swipe to and tap **Shooting methods**, and then tap **Press Volume keys to** or **Voice commands** to take a photo or video. Or, add a floating shutter button that can be moved around the screen. If you're taking a group selfie, it might be easier to simply show your palm to the screen to take the photo.  You can also set up automatic Camera modes that appear when launching the app. Tap **Settings to keep**, and then tap **Selfie angle** to use your previous angle again or tap **Filters** to reapply the same filters you have applied in the past. You can also select additional options such as Camera mode, Super steady, and Portrait zoom. *Id.*

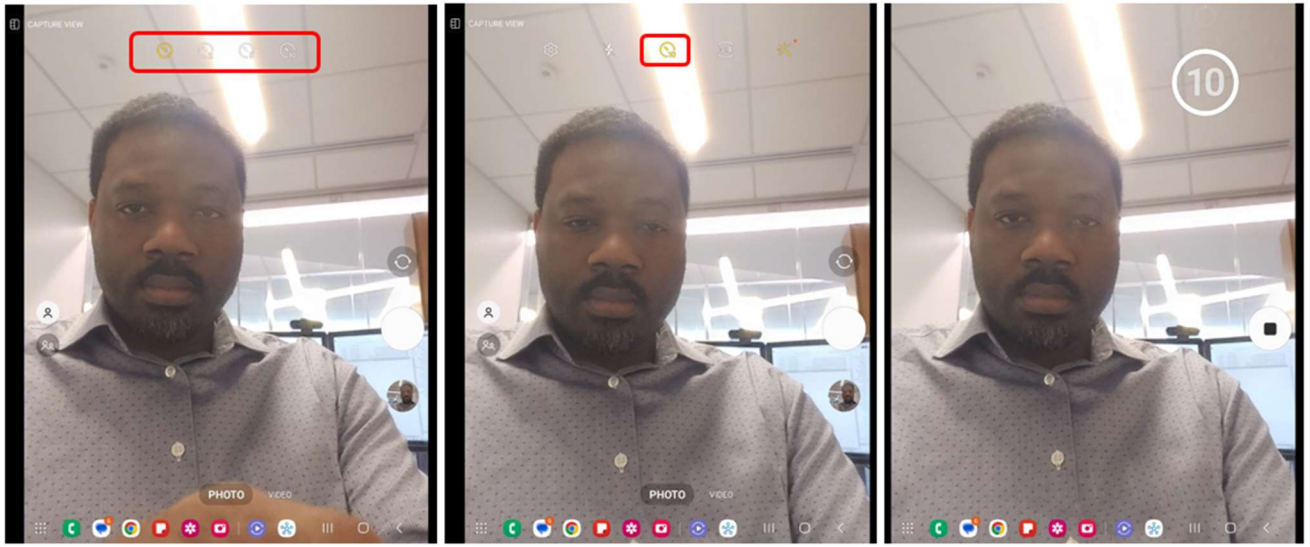
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy S23 Ultra figures showing the front facing camera being enabled by the command voice to Bixby.

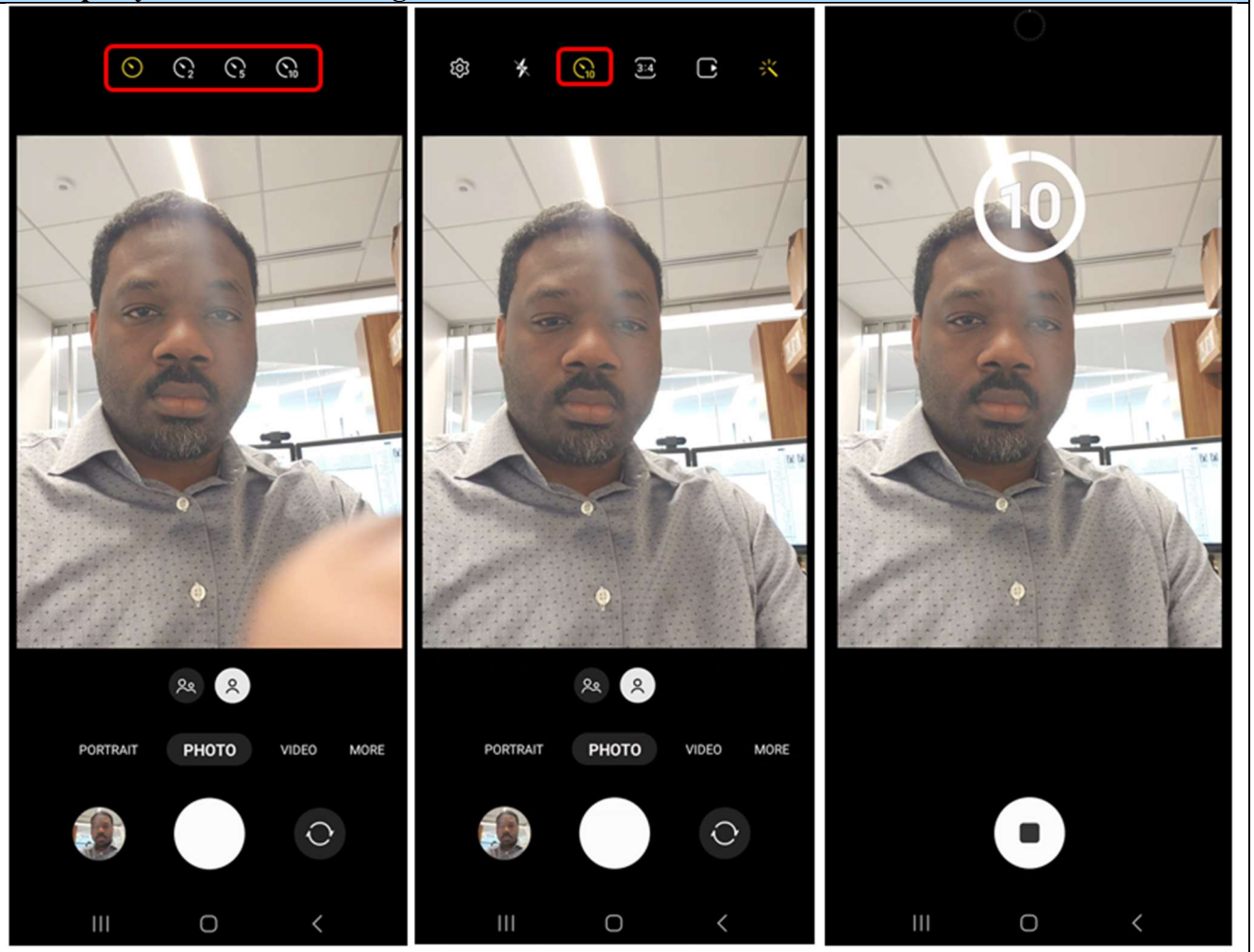
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Fold4 figures showing the front facing camera being enabled by the command voice to Bixby.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Flip4 figures showing the front facing camera being enabled by the command voice to Bixby.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy A54 5G figures showing the front facing camera being enabled by the command voice to Bixby. *See also* Appendix 8 showing that the remaining Accused Samsung '757 Products' first camera is enabled in accordance with the command voice. For example, the Accused Samsung '757 Products' have a front facing camera and Bixby to receive voice command instruction to enable the front facing camera. *See e.g.*, https://www.samsung.com/us/support/answer/ANS00089063/; *see also* https://www.samsung.com/us/apps/bixby/.
[3] The image recording device according to claim 1, wherein the first standby	In each of the Accused Samsung '757 Products, the first standby time is settable or selectable by a user. *See e.g.*, Technical Specifications of each of the Accused Samsung '757 Products available at Samsung's website showing that each of the devices includes the first standby time being settable or

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
time is settable or selectable by a user.	selectable by a user (https://www.samsung.com/us/mobile/ and https://www.samsung.com/us/tablets/). As a non-limiting example of the standby time, each of the Accused Samsung '757 Products is a smartphone and/or tablet having a timer settable or selectable by a user. For example, the Accused Samsung '757 Products include a timer selection that allows a user to set a standby time to various times, such as 2s, 5s, or 10s via touch or voice: **First Infringement Theory:** 

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Galaxy S23 Ultra annotated figures showing the first standby time settable or selectable via a touch operation instruction.  Galaxy Z Fold4 annotated figures showing the first standby time settable or selectable via a touch operation instruction.

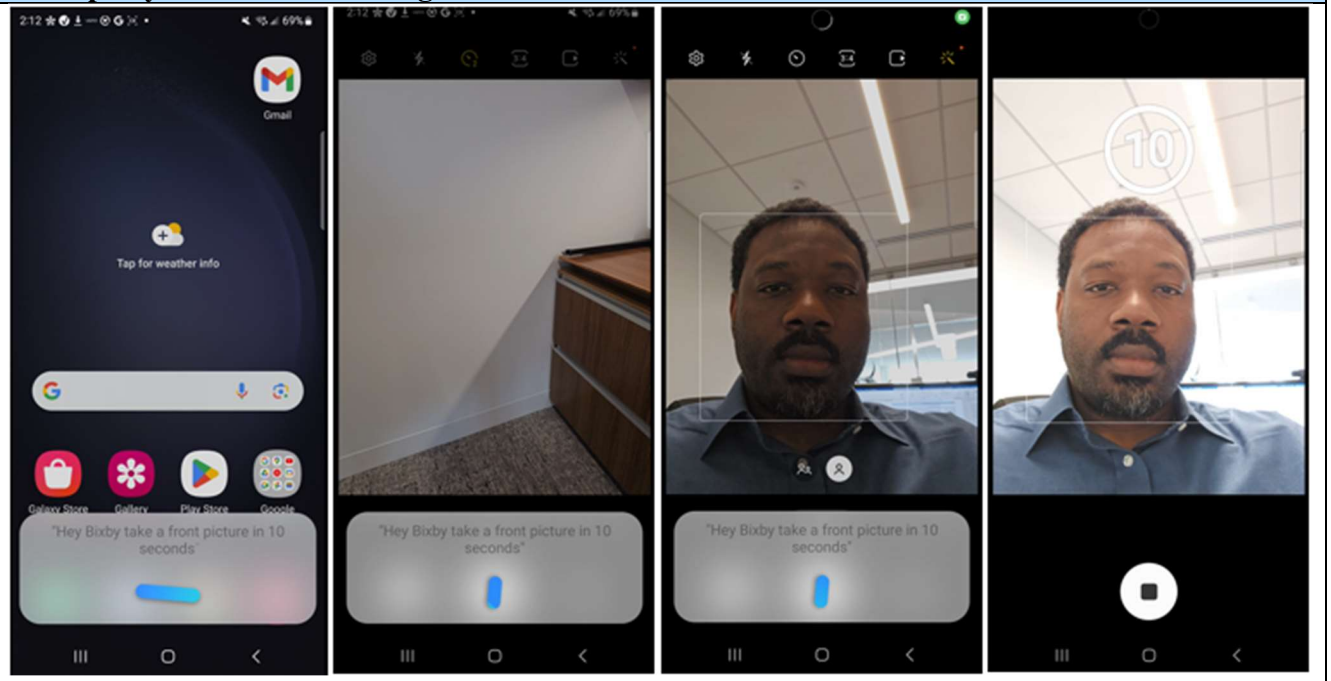
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Flip4 annotated figures showing the first standby time settable or selectable via a touch operation instruction.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy A54 5G annotated figures showing the first standby time settable or selectable via a touch operation instruction.

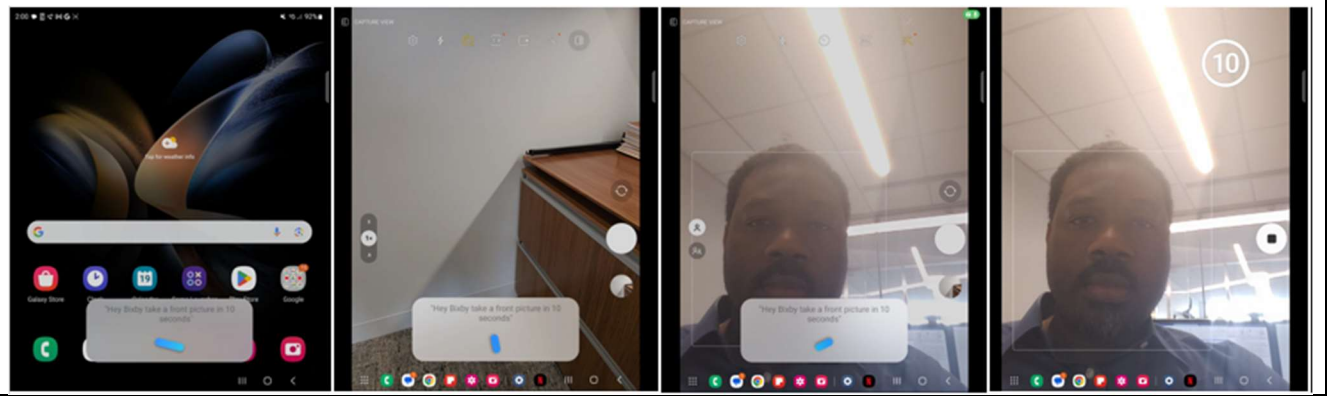
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Infringement Theory Two: Take the best selfies with your Galaxy phone  Selfies: you know you love 'em. Luckily, your Galaxy phone comes with special features like a front-facing camera, built-in filters, and different camera modes so you can take the best possible selfies. **Note:** Available screens and settings may vary by wireless service provider, software version, and phone model. Set up for the perfect selfie › Adjust selfie camera settings › Camera modes › https://www.samsung.com/us/support/answer/ANS00062594/

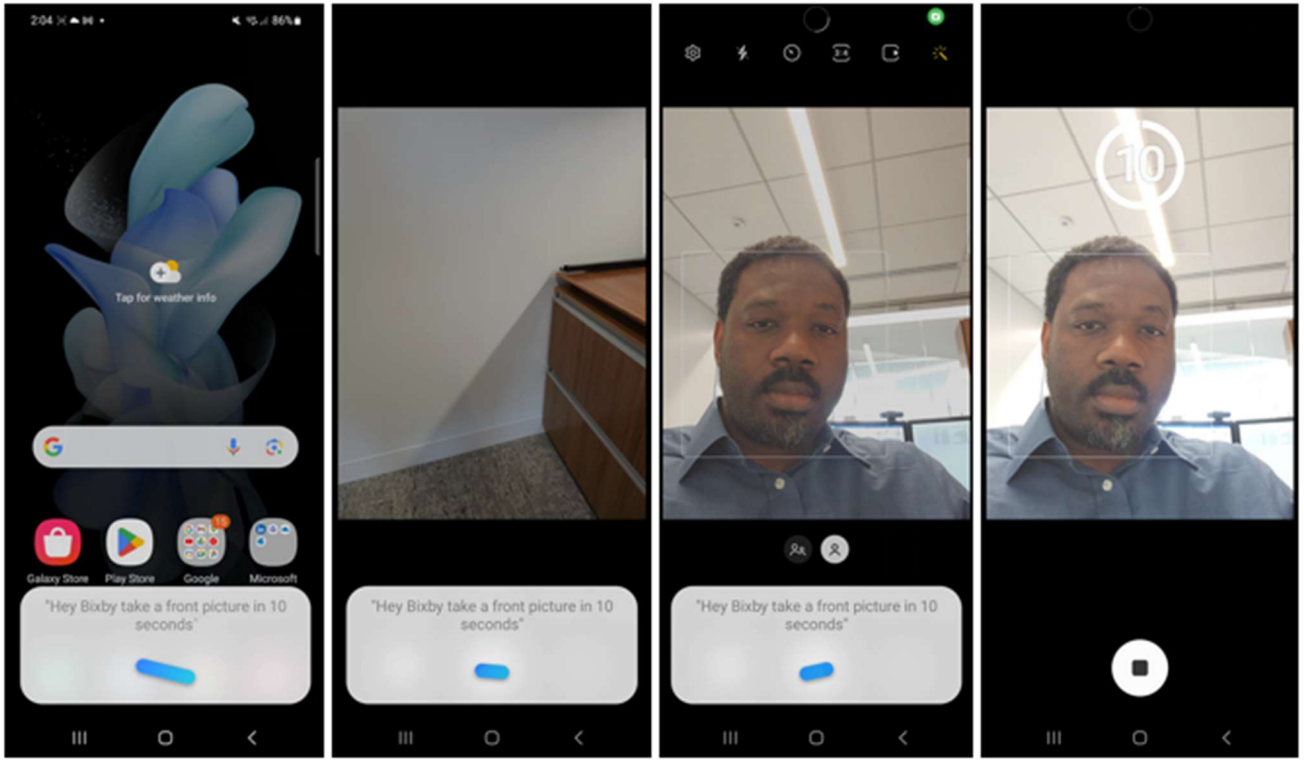
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Adjust selfie camera settings  You can also adjust the different settings for your selfies, such as your preferred shooting method, selfie colors, and filters. For example, you can set the color tone of your photos to bright or natural. Just navigate to the **Camera** app on your phone, tap **Settings**, and then swipe to and tap **Selfie color tone**. This way, you can select from **Natural** or **Bright** before you take a selfie, rather than after. Snapping a photo of yourself can be easy, especially if you do not have to adjust the grip on your phone. Better shooting methods can be accessed from your Camera settings page. Swipe to and tap **Shooting methods**, and then tap **Press Volume keys to** or **Voice commands** to take a photo or video. Or, add a floating shutter button that can be moved around the screen. If you're taking a group selfie, it might be easier to simply show your palm to the screen to take the photo.  You can also set up automatic Camera modes that appear when launching the app. Tap **Settings to keep**, and then tap **Selfie angle** to use your previous angle again or tap **Filters** to reapply the same filters you have applied in the past. You can also select additional options such as Camera mode, Super steady, and Portrait zoom. *Id.*

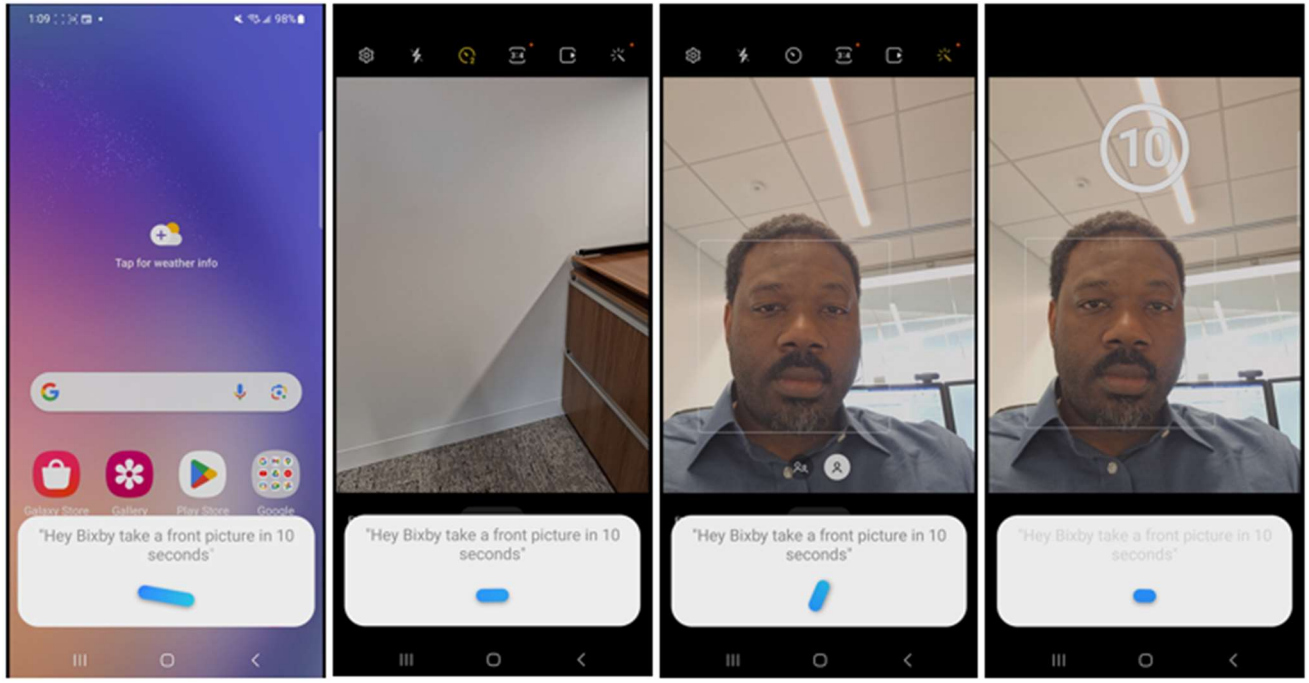
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

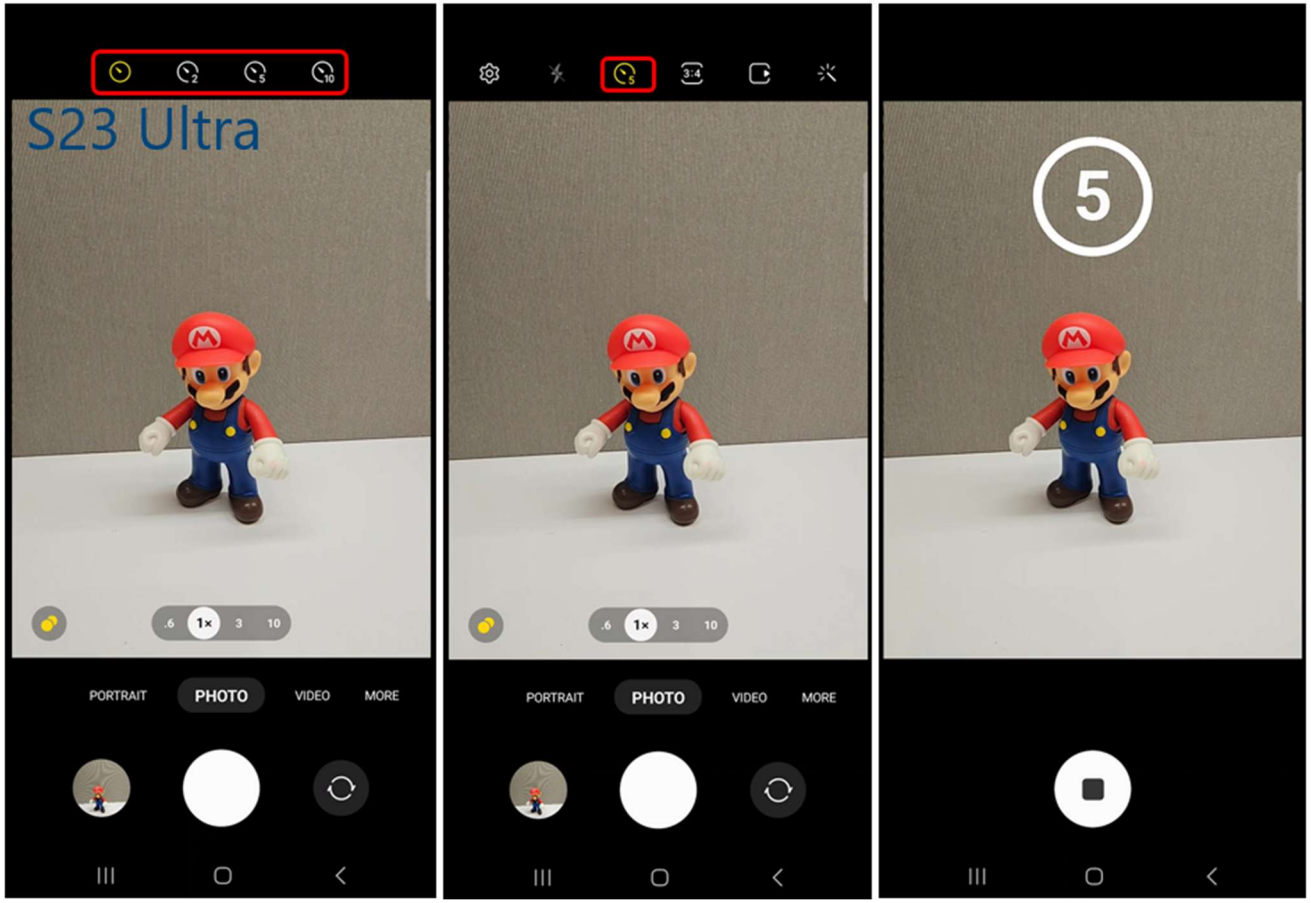


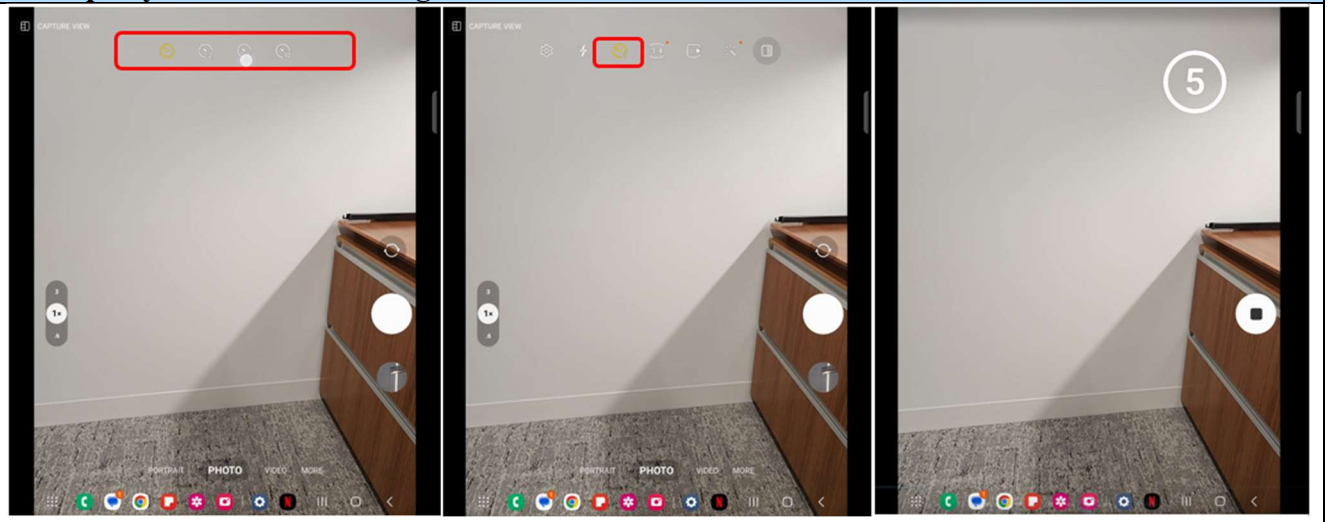
Galaxy S23 Ultra annotated figures showing the first standby time settable or selectable via a command voice to Bixby.

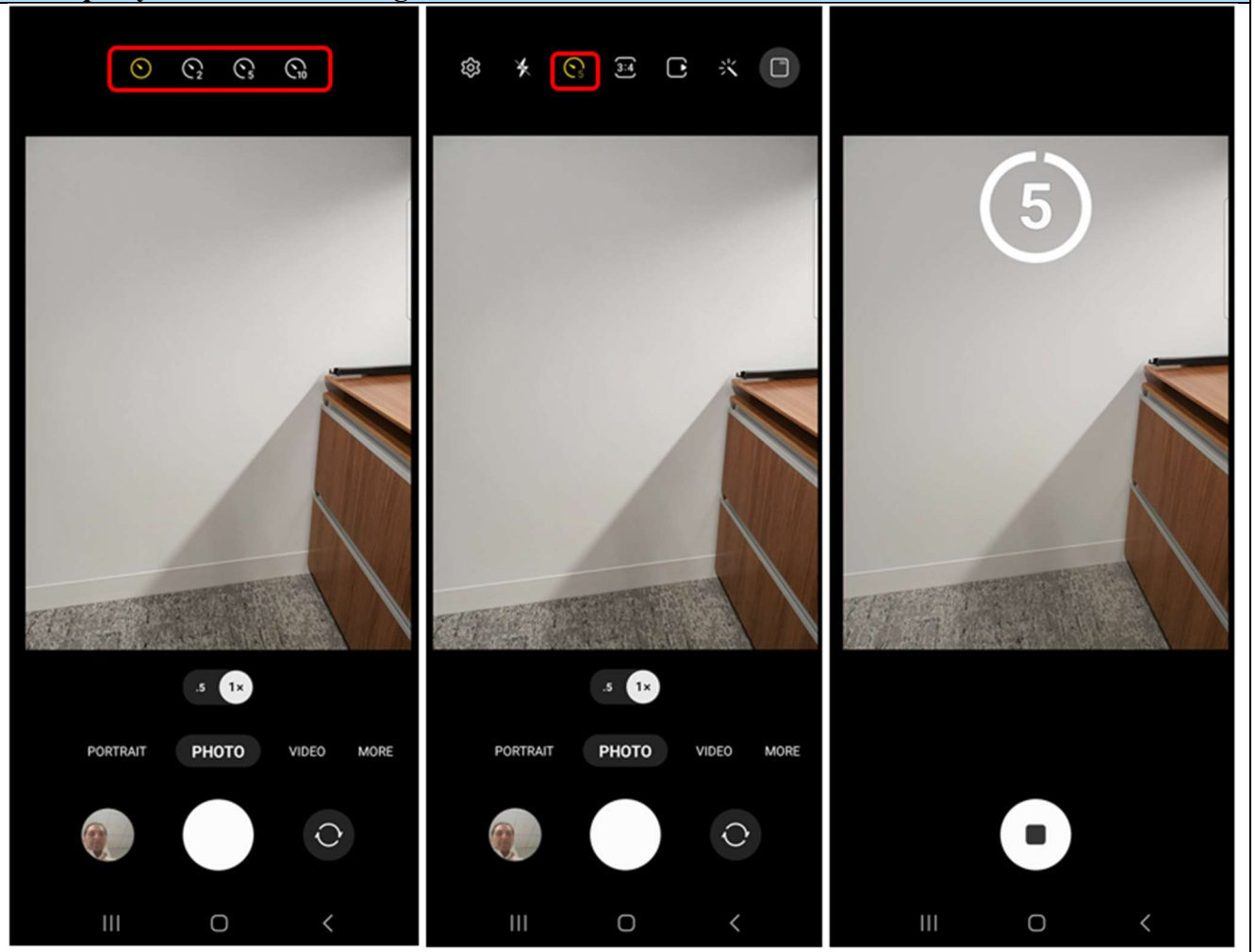


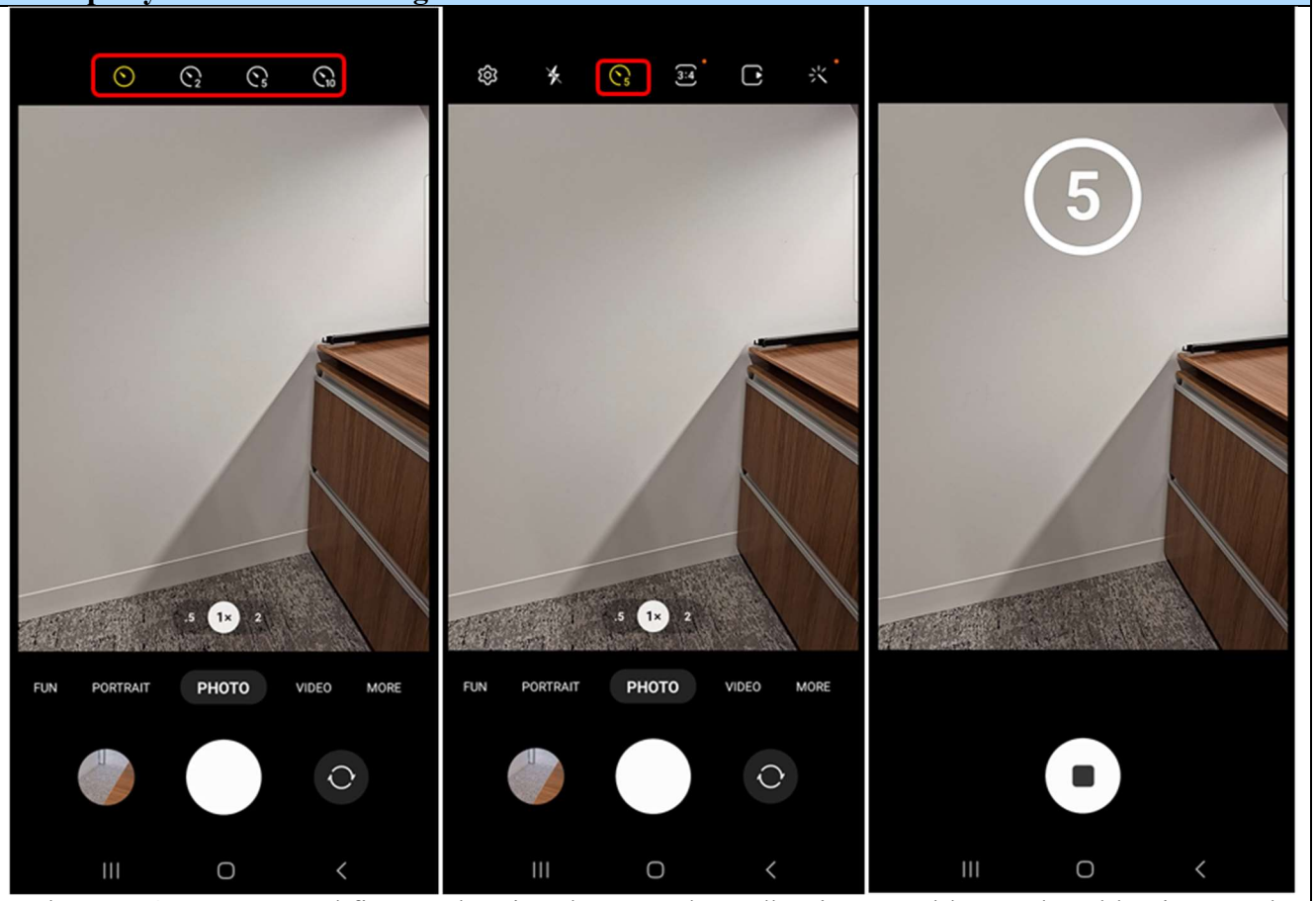
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Galaxy Z Fold4 annotated figures showing the first standby time settable or selectable via a command voice to Bixby.  Galaxy Z Flip4 annotated figures showing the first standby time settable or selectable via a command voice to Bixby.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy A54 5G annotated figures showing the first standby time settable or selectable via a command voice to Bixby. *See also* Appendix 8 showing that the remaining Accused Samsung '757 Products' first standby time is settable or selectable by a user. Specifically, the remaining Accused Samsung '757 Products, including Galaxy smartphones and Galaxy tablets also include cameras with a camera application where the timer is settable or selectable by a user.
[4] The image recording device according to claim 1, wherein the second standby time is settable or selectable by a user.	In each of the Accused Samsung '757 Products, the second standby time is settable or selectable by a user. *See e.g.*, Technical Specifications of each of the Accused Samsung '757 Products available at Samsung's website showing that each of the devices includes the second standby time is settable or selectable by a user (https://www.samsung.com/us/mobile/ and https://www.samsung.com/us/tablets/).

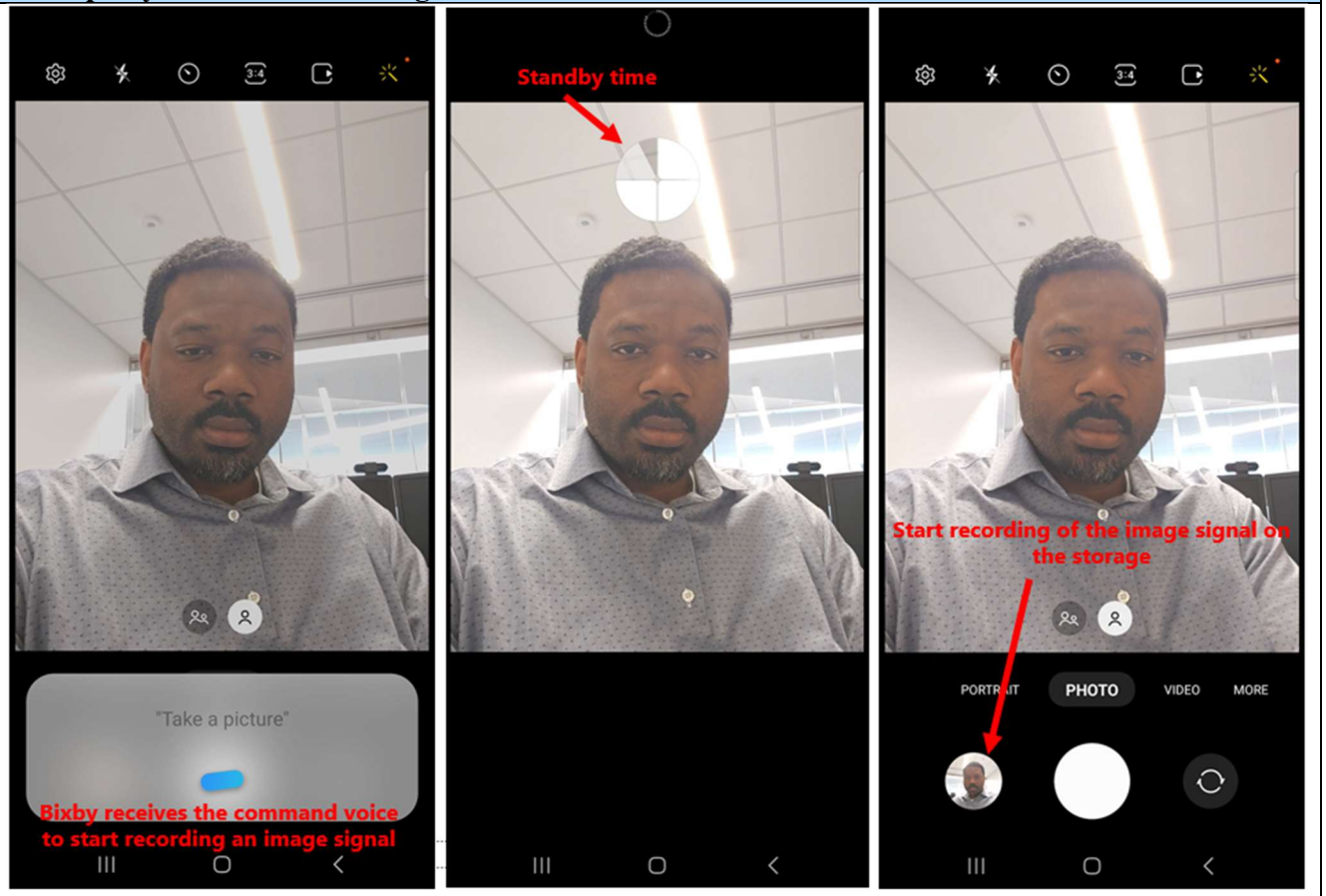
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	As a non-limiting example of the standby time, each of the Accused Samsung '757 Products is a smartphone and/or tablet having a timer settable or selectable by a user. For example, the Accused Samsung '757 Products include a timer selection that allows a user to set a standby time to various times, such as 2s, 5s, or 10s using touch interface:  Galaxy S23 Ultra annotated figures showing the second standby time settable or selectable via a touch operation instruction.

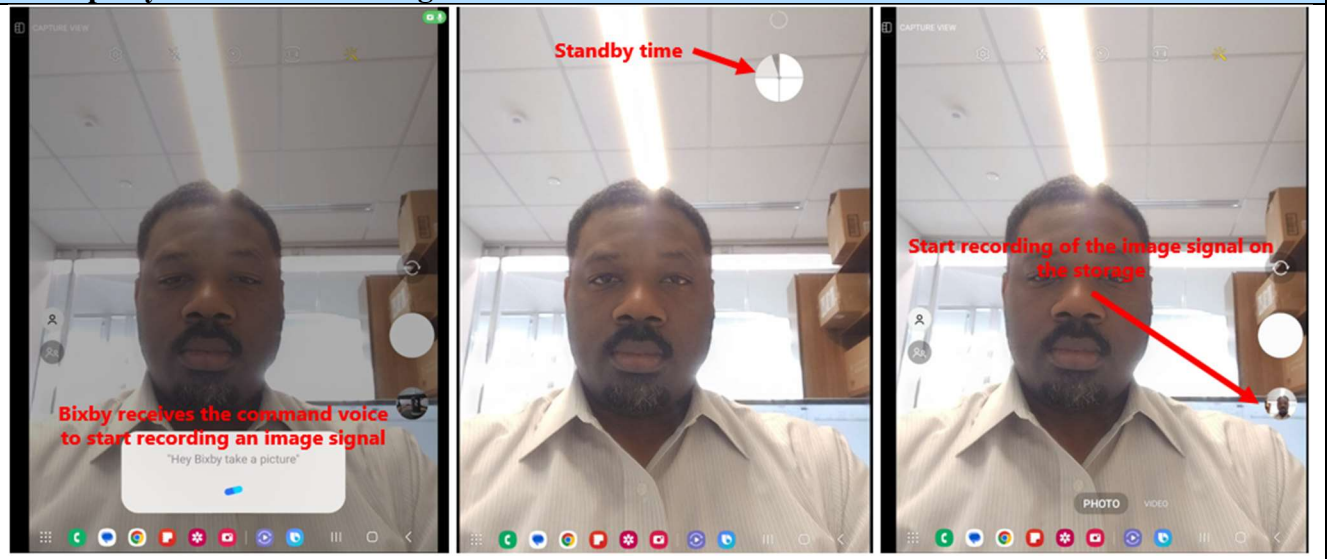
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Fold4 annotated figures showing the second standby time settable or selectable via a touch operation instruction.

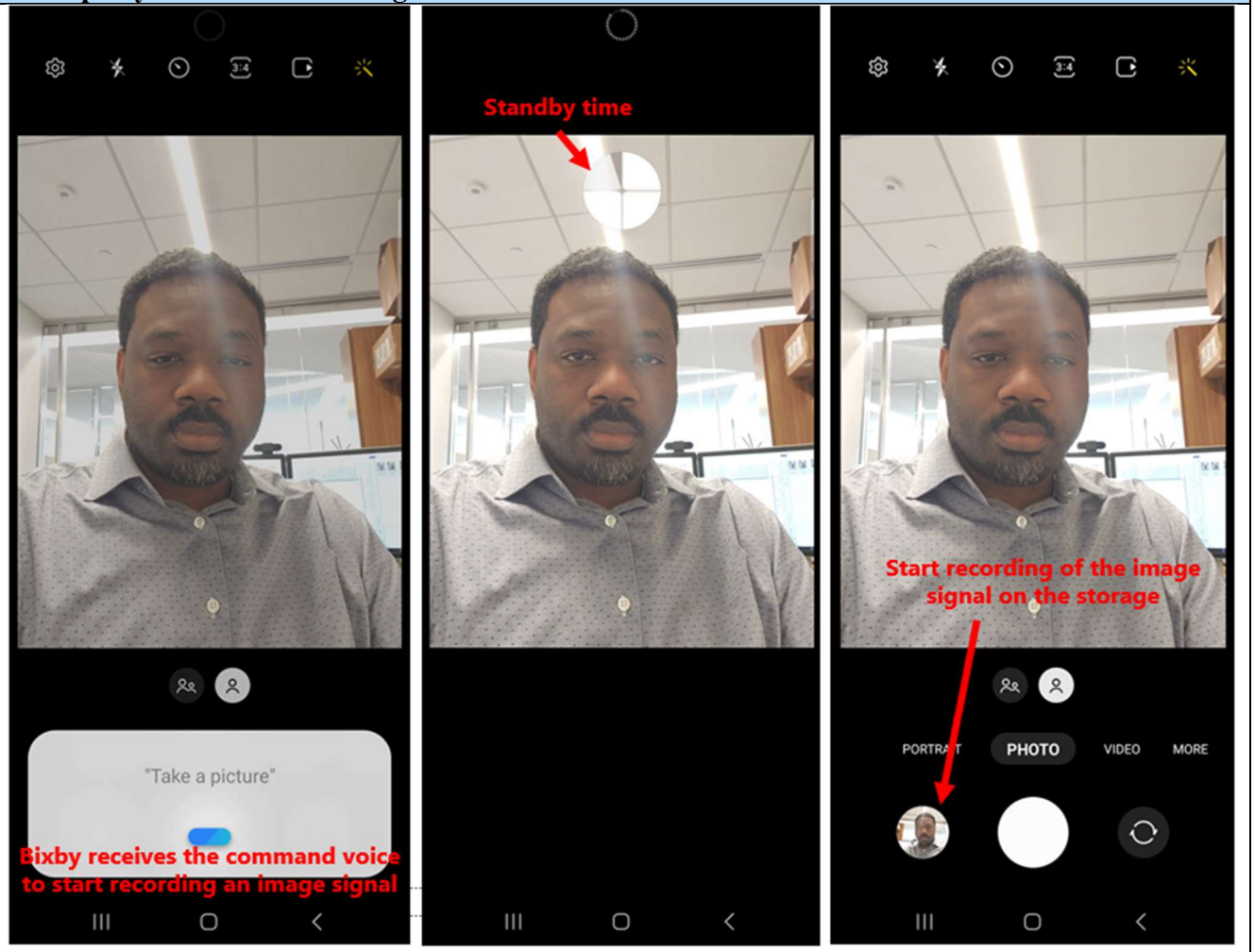
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Flip4 annotated figures showing the second standby time settable or selectable via a touch operation instruction.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy A54 5G annotated figures showing the second standby time settable or selectable via a touch operation instruction. *See also* Appendix 8 showing that the remaining Accused Samsung '757 Products' first standby time is settable or selectable by a user. Specifically, the remaining Accused Samsung '757 Products, including Galaxy smartphones and Galaxy tablets also include cameras with a camera application where the timer is settable or selectable by a user.

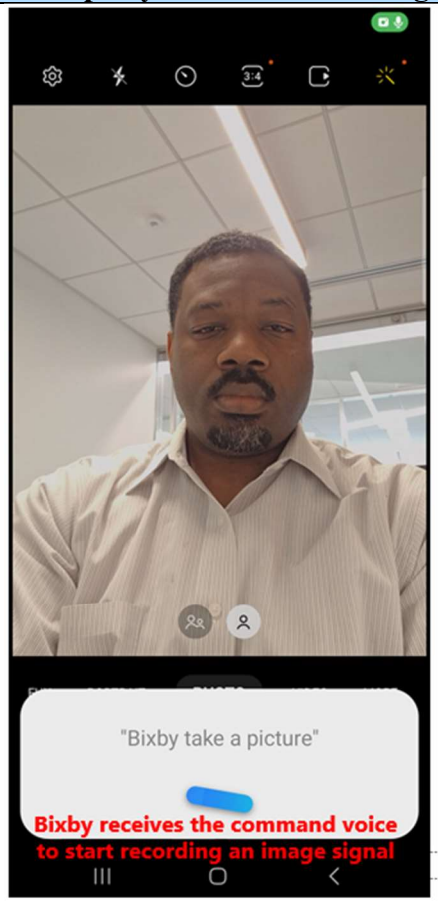
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
[5] The image recording device according to claim 1, wherein the controller causes an elapse state of the first standby time from the photographing trigger to the recording start of the image signal to the recorder to be displayed on the touch display.	In each of the Accused Samsung '757 Products the controller causes an elapse state of the first standby time from the photographing trigger to the recording start of the image signal to the recorder to be displayed on the touch display. *See e.g.*, Technical Specifications of each of the Accused Samsung '757 Products available at Samsung's website showing that each of the devices includes a controller causes an elapse state of the first standby time from the photographing trigger to the recording start of the image signal to the recorder to be displayed on the touch display (https://www.samsung.com/us/mobile/ and https://www.samsung.com/us/tablets/). As a non-limiting example of the controller causing an elapse state of the standby time to be displayed on the touch display, each of the Accused Samsung '757 Products is a smartphone and/or tablet having one or more processors (chipset) that causes an icon representative of the elapse state of the first standby time from the voice command to Bixby to one or more processors (chipset), as the recorder unit, to store the image signal (still-image) on the storage to be displayed on the touch display. For example, the Accused Samsung '757 Products include the first standby time icon displayed from the from the voice command to Bixby to one or more processors (chipset), as the recorder unit, to store the image signal (still-image) on the storage to be displayed on the touch display, the photographing trigger corresponding to the voice recognition or the time that the camera is enabled and instructed to capture an image after the voice command is recognized and communicated to the camera:

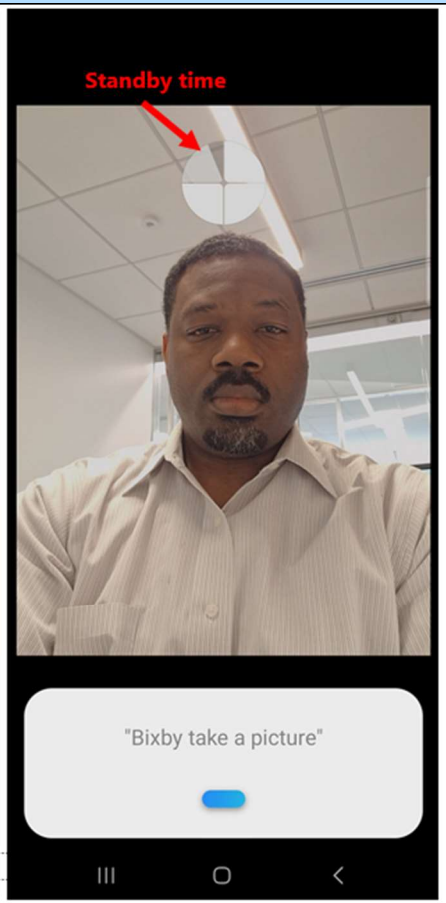
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy S23 Ultra annotated figures.

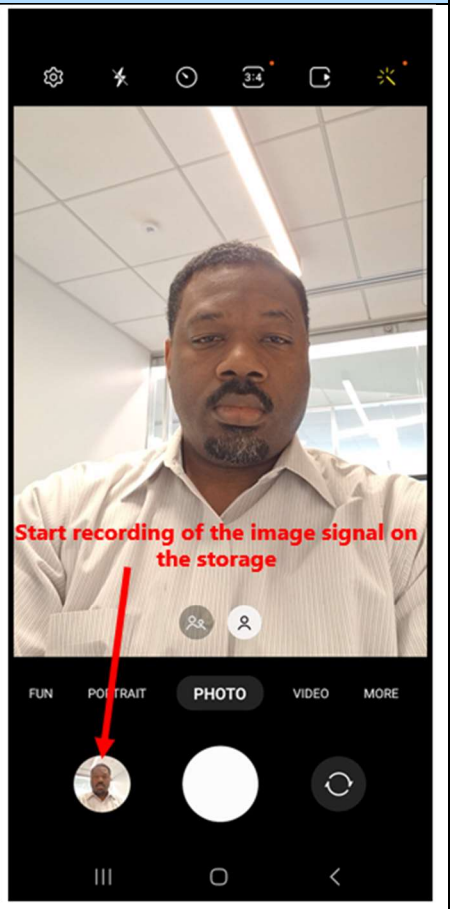
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Fold4 annotated figures.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Flip4 annotated figures.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement



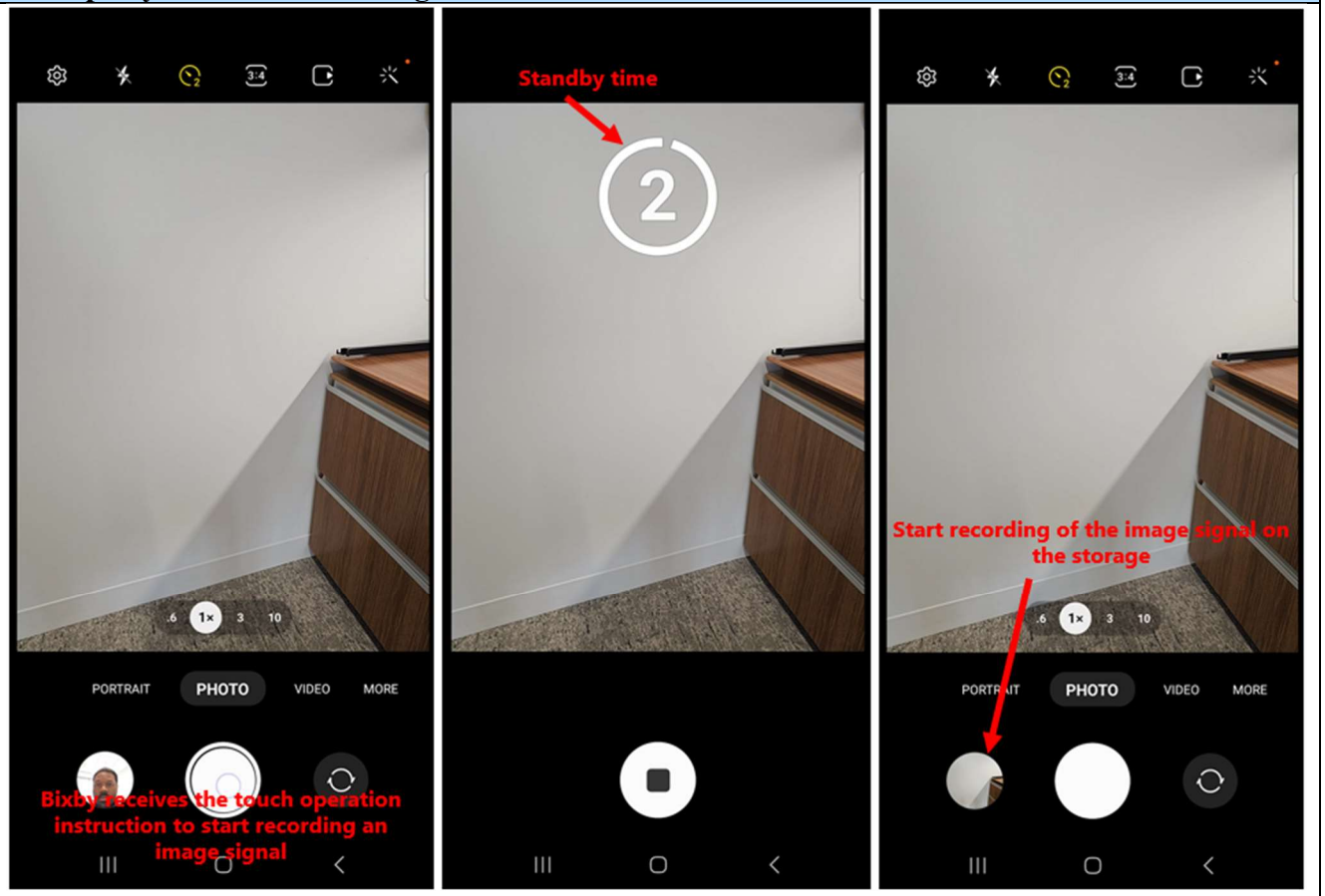


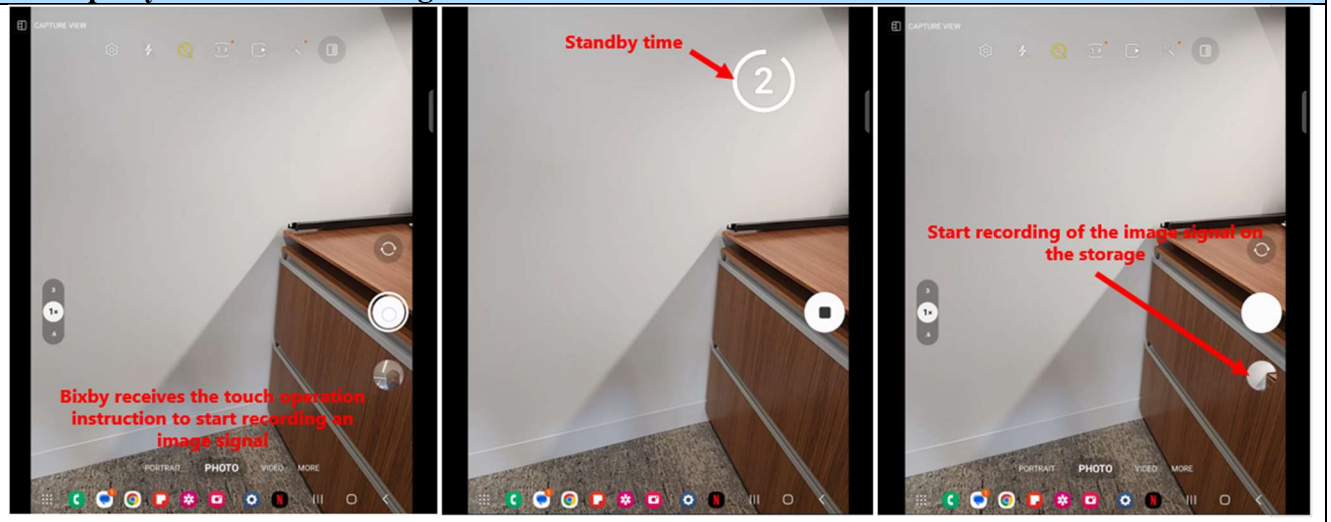


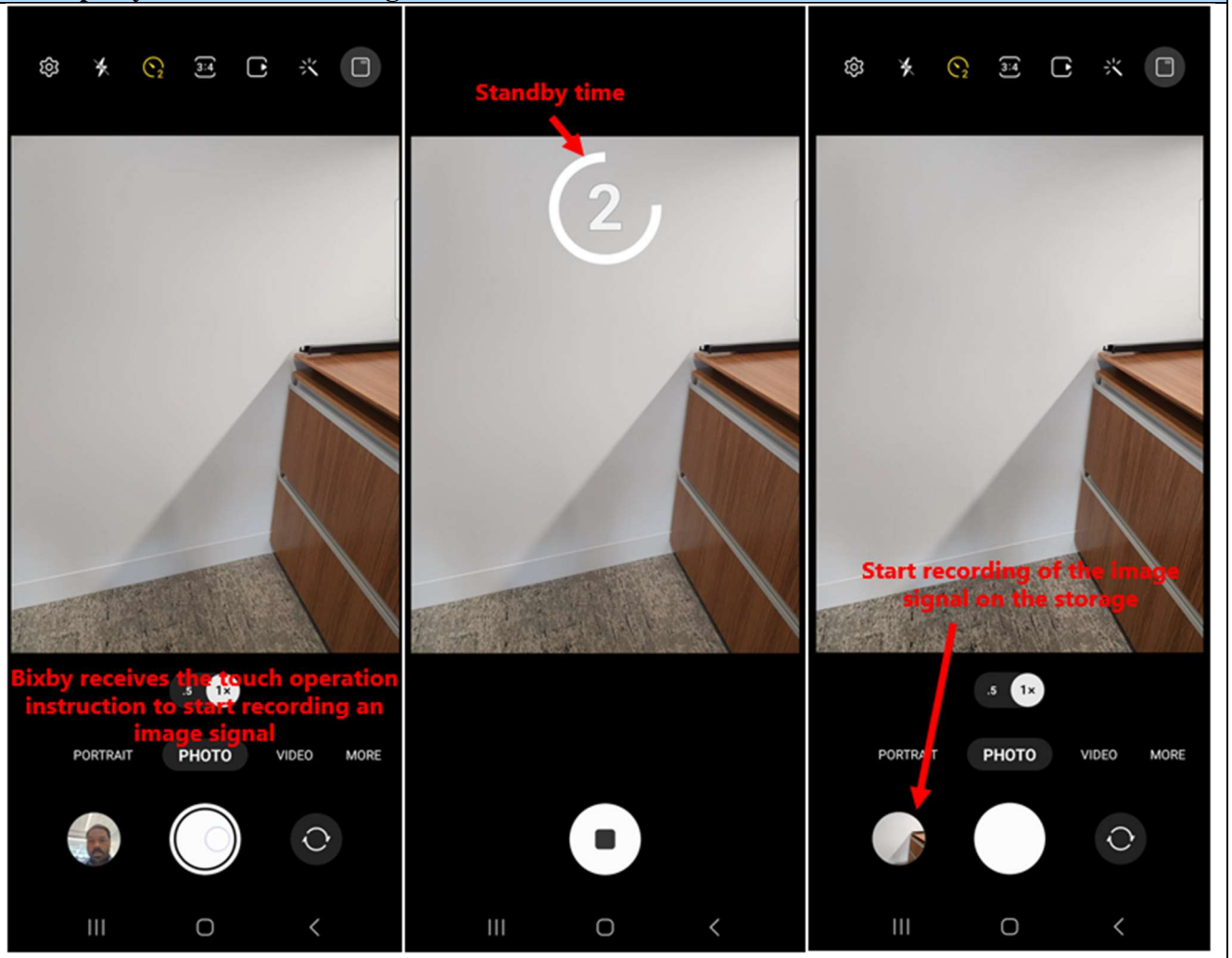
Galaxy A54 5G annotated figures.

See also Appendix 8 showing that the remaining Accused Samsung '757 Products' controller causes an elapse state of the first standby time from the photographing trigger to the recording start of the image signal to the recorder unit to be displayed on the touch display. Specifically, the remaining Accused Samsung '757 Products, including Galaxy smartphones and Galaxy tablets also include cameras with a camera application and implement Bixby to control cameras. *See e.g.*,

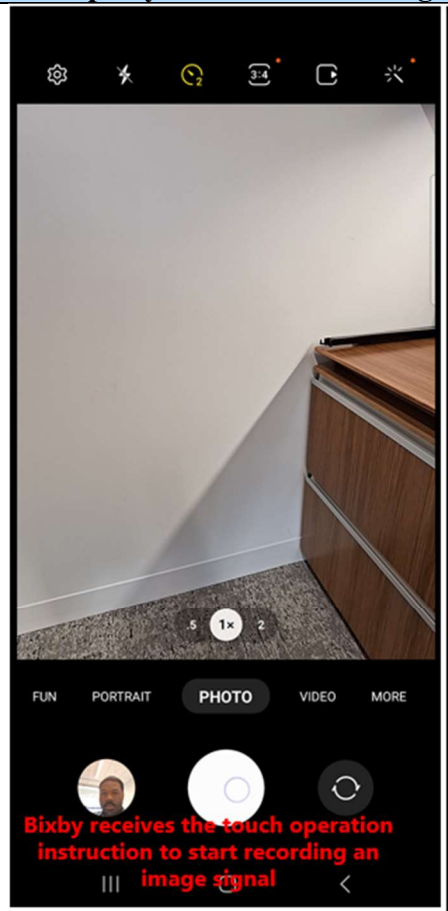
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	https://www.samsung.com/us/support/answer/ANS00089063/; *see also* https://www.samsung.com/us/apps/bixby/.
[6] The image recording device according to claim 1, wherein the controller causes an elapse state of the second standby time from the photographing trigger to the recording start of the image signal to the recorder to be displayed on the touch display.	In each of the Accused Samsung '757 Products the controller causes an elapse state of the second standby time from the photographing trigger to the recording start of the image signal to the recorder to be displayed on the touch display. *See e.g.*, Technical Specifications of each of the Accused Samsung '757 Products available at Samsung's website showing that each of the devices includes a controller causes an elapse state of the second standby time from the photographing trigger to the recording start of the image signal to the recorder to be displayed on the touch display (https://www.samsung.com/us/mobile/ and https://www.samsung.com/us/tablets/). As a non-limiting example of the controller causing an elapse state of the second standby time to be displayed on the touch display, each of the Accused Samsung '757 Products is a smartphone and/or tablet having one or more processors (chipset) that causes an icon representative of the elapse state of the second standby time from the touch operation instruction on the display screen to one or more processors (chipset), as the recorder unit, to store the image signal (still-image) on the storage to be displayed on the touch display. For example, the Accused Samsung '757 Products include the second standby time icon displayed from the from the touch operation instruction on the display screen to one or more processors (chipset), as the recorder unit, to store the image signal (still-image) on the storage to be displayed on the touch display:

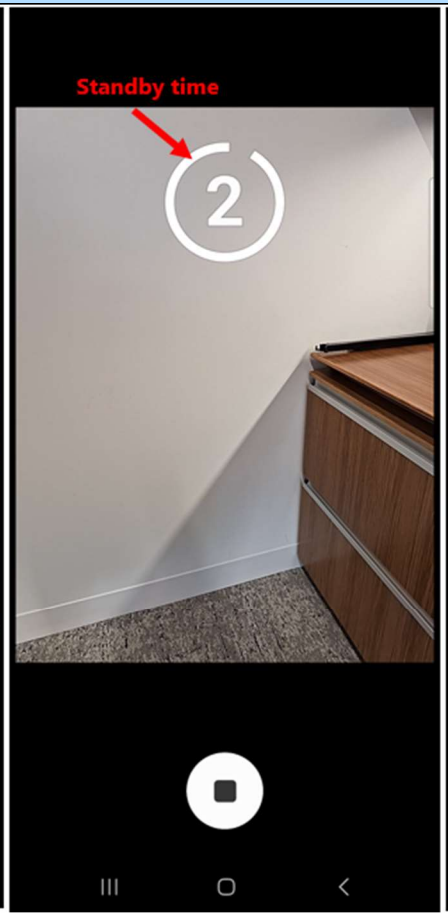
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy S23 Ultra annotated figures.

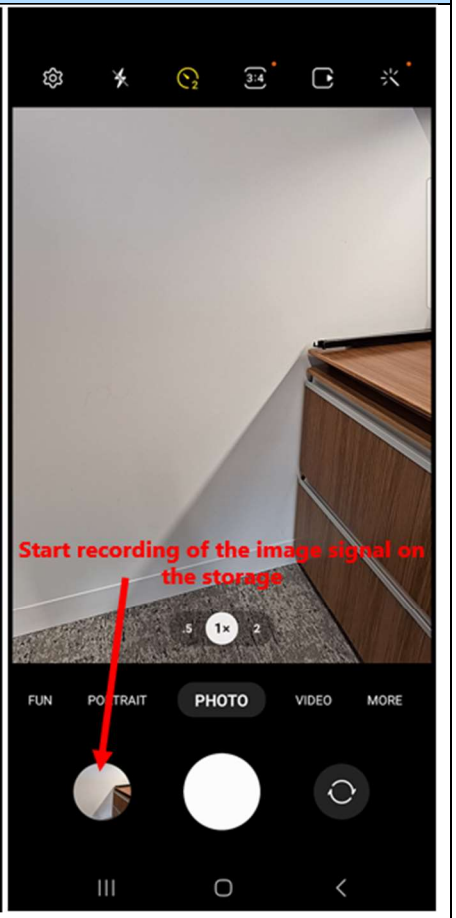
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Fold4 annotated figures.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Flip4 annotated figures.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

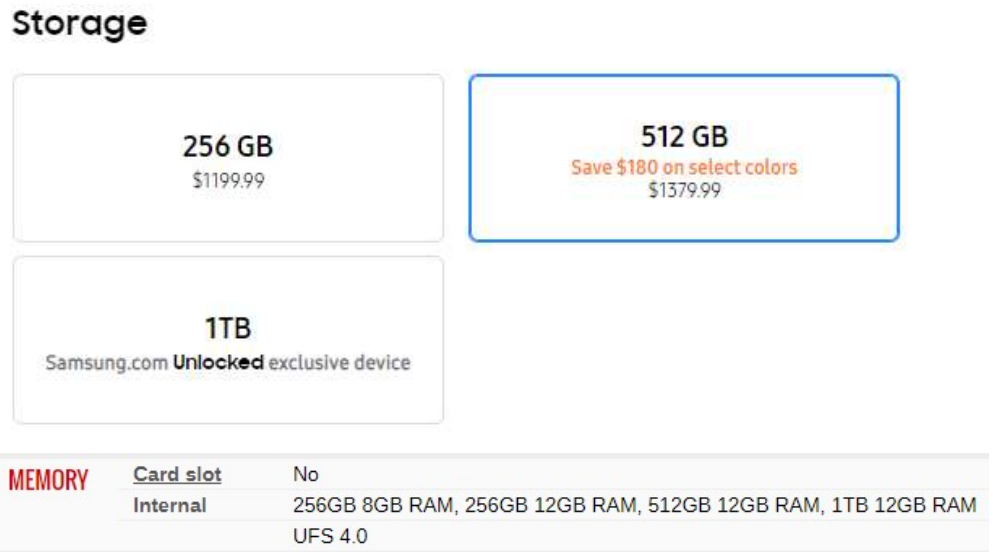


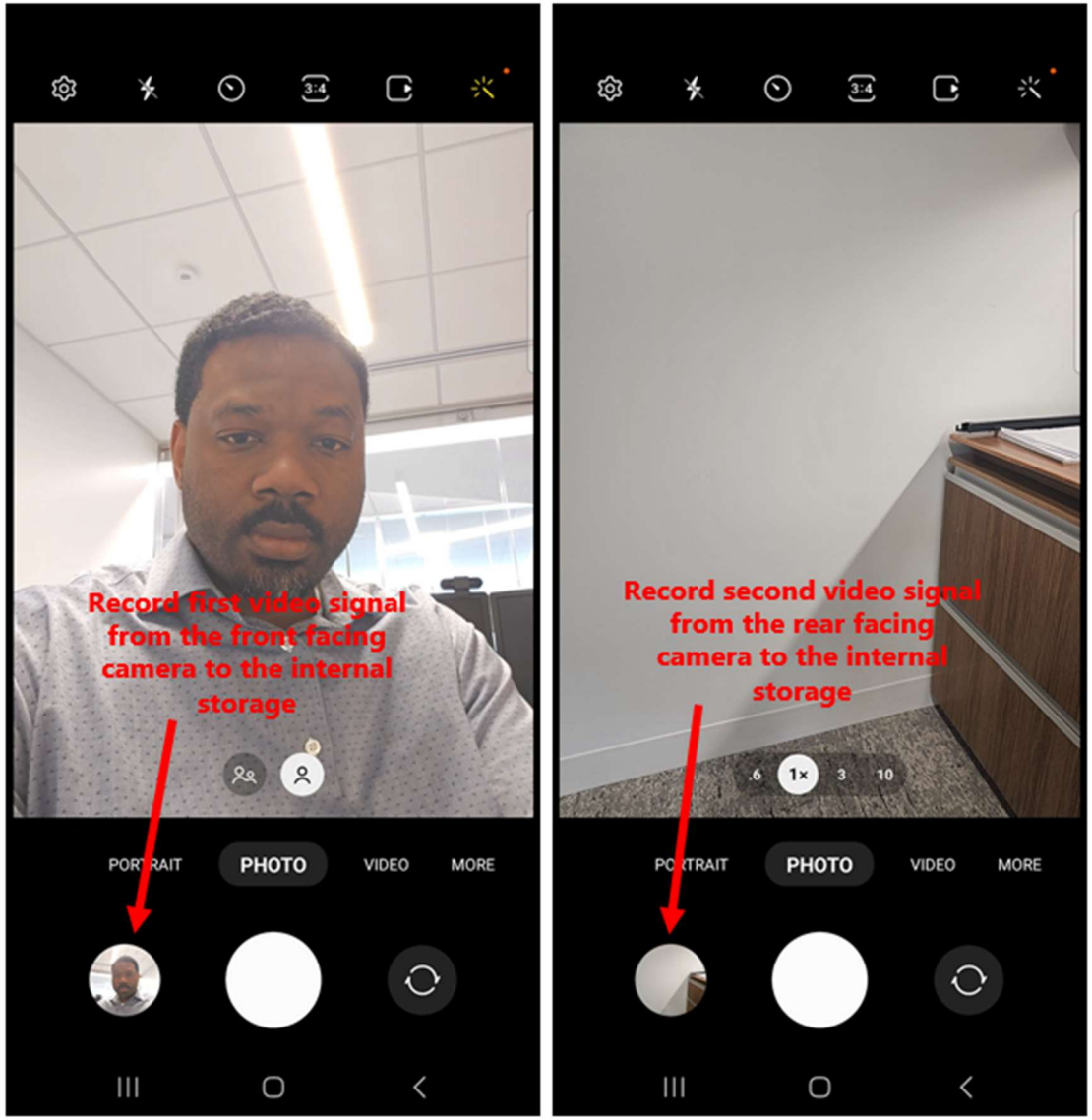


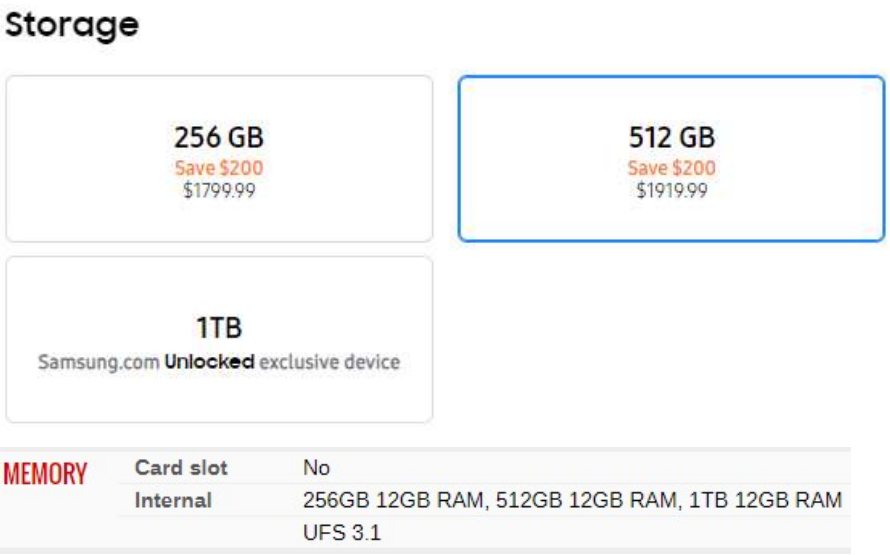


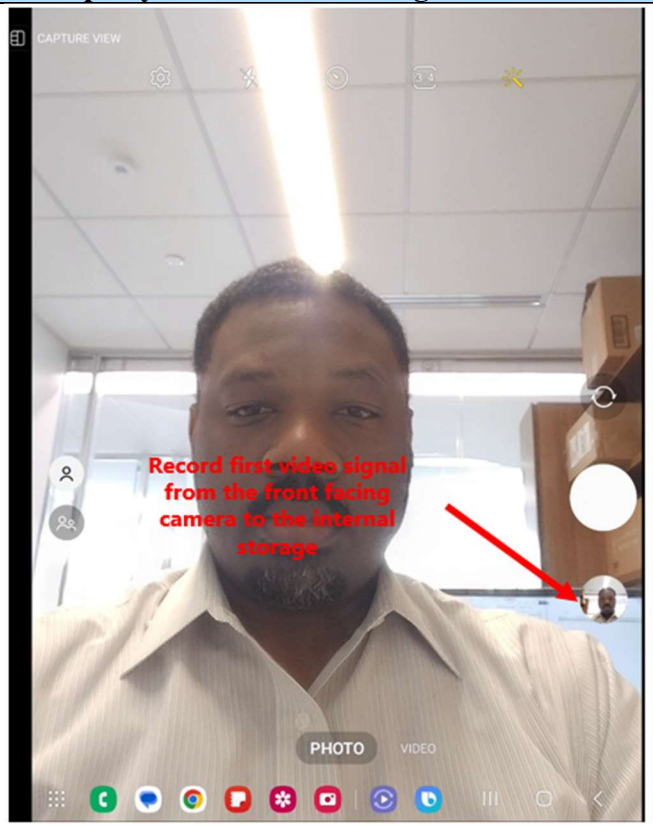
Galaxy A54 5G annotated figures.

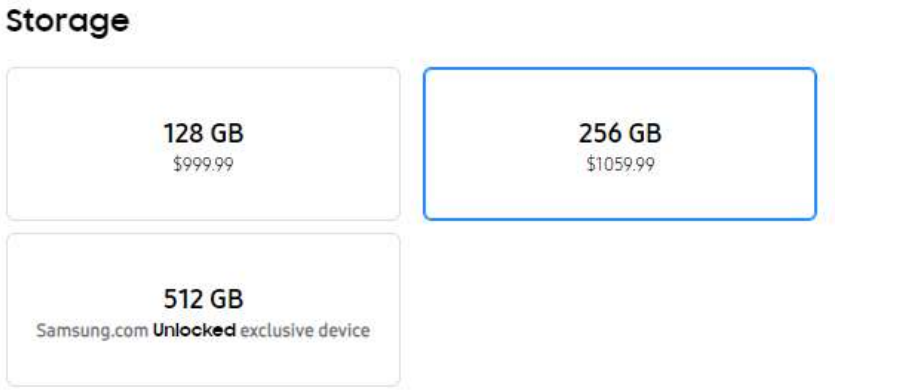
See also Appendix 8 showing that the remaining Accused Samsung '757 Products' controller causes an elapse state of the second standby time from the photographing trigger to the recording start of the image signal to the recorder to be displayed on the touch display. Specifically, the remaining Accused Samsung '757 Products, including Galaxy smartphones and Galaxy tablets also include cameras with a camera application and display interface to control cameras. *See e.g.*, https://www.samsung.com/us/support/answer/ANS00089063/.

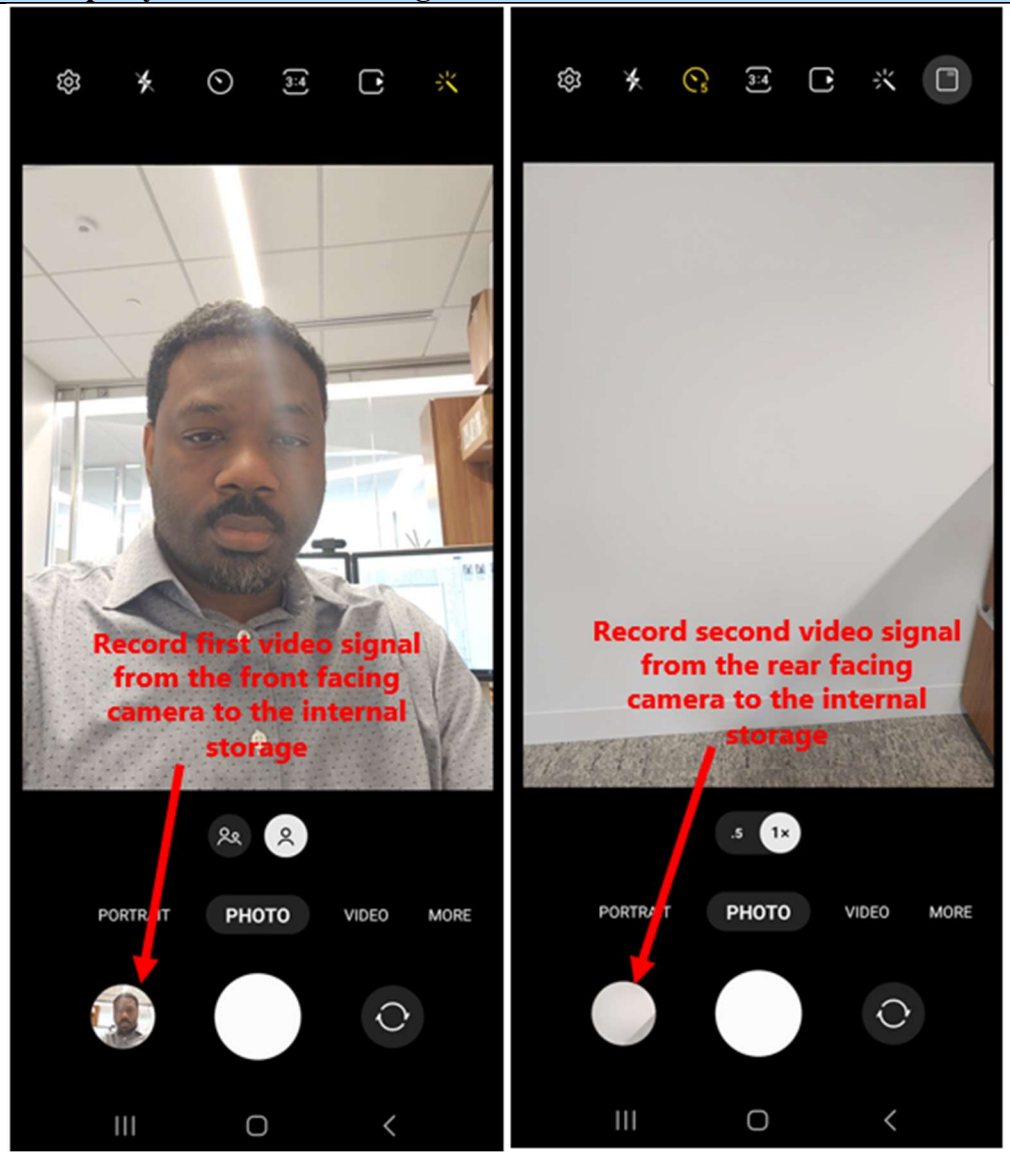
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
[7] The image recording device according to claim 1, wherein the storage is an internal storage of the image recording device.	In each of the Accused Samsung '757 Products, the storage is an internal storage of the image recording device. *See e.g.*, Technical Specifications of each of the Accused Samsung '757 Products available at Samsung's website showing that in each of the devices the storage is an internal storage of the image recording device (https://www.samsung.com/us/mobile/ and https://www.samsung.com/us/tablets/). As a non-limiting example of the storage, each of the Accused Samsung '757 Products is a smartphone and/or tablet having an internal storage to store still-images. For example, the Accused Samsung '757 Products include internal RAM storage devices to store still-images:  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.

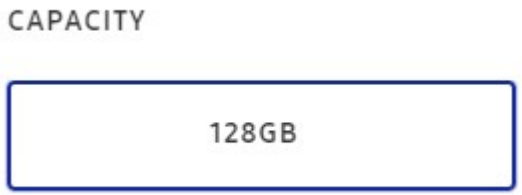
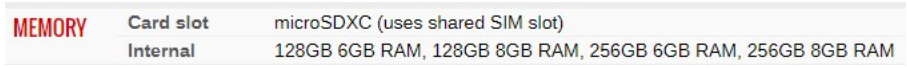
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy S23 Ultra annotated figures.

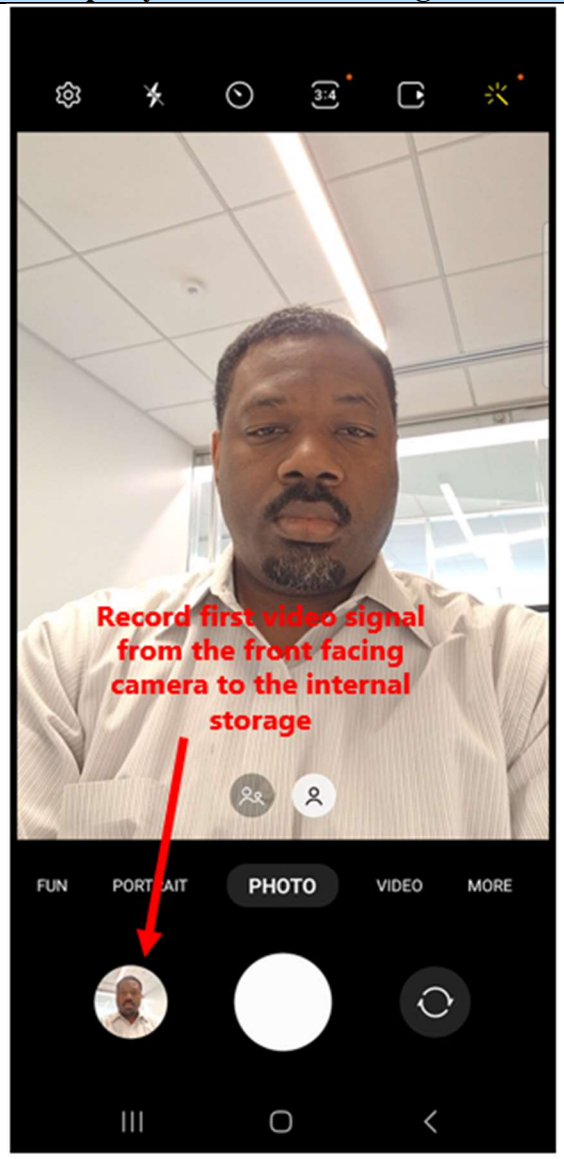
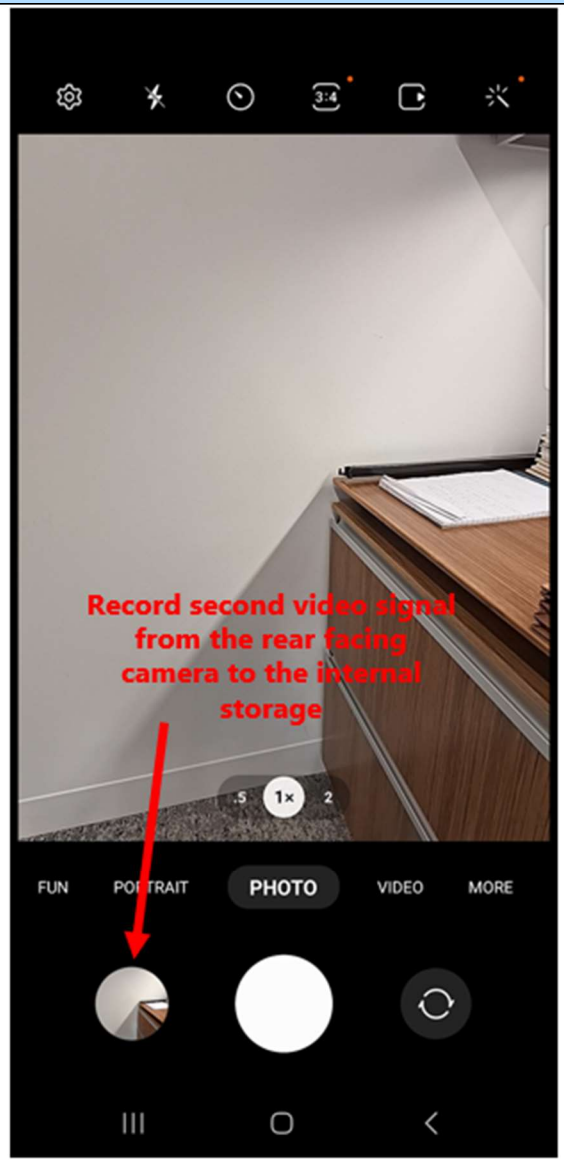
U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Fold4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzeeatt/; https://www.gsmarena.com/samsung_galaxy_z_fold4-11737.php.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Fold4 annotated figures.

U.S. Patent No. 11,223,757	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.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	 Galaxy Z Flip4 annotated figures.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	  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.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	  Galaxy A54 5G annotated figures.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	See also Appendix 8 showing that the remaining Accused Samsung '757 Products' have internal storage devices to store the image. Specifically, the remaining Accused Samsung '757 Products, including Galaxy smartphones and Galaxy tablets memory.
[8] The image recording device according to claim 1, wherein the storage is an external storage connected to the image recording device.	In each of the Accused Samsung '757 Products, the storage is an external storage connected to the image recording device. *See e.g.*, Technical Specifications of each of the Accused Samsung '757 Products available at Samsung's website showing that in each of the devices the storage is an external storage connected to the image recording device (https://www.samsung.com/us/mobile/ and https://www.samsung.com/us/tablets/). As a non-limiting example of the storage, each of the Accused Samsung '757 Products is a smartphone and/or tablet having a cloud server as an external storage device connected to the recording device to store still-images. For example, the Accused Samsung '757 Products connect to Samsung Cloud and/or OneDrive to store still-images:

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

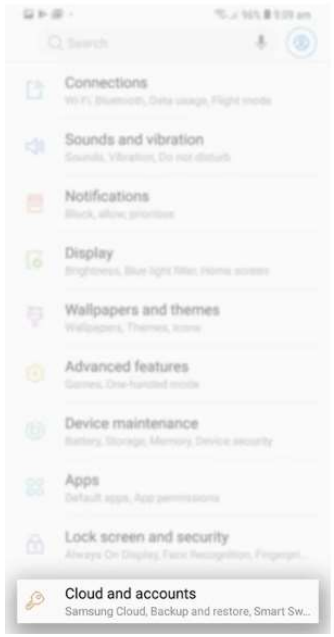
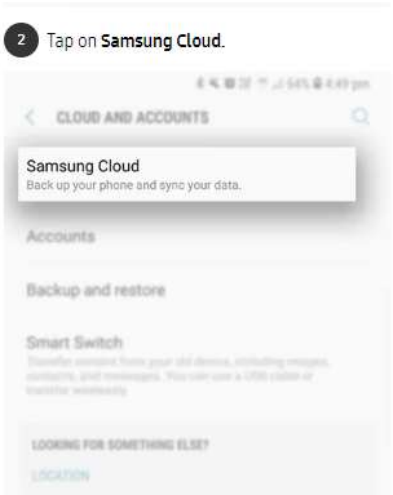
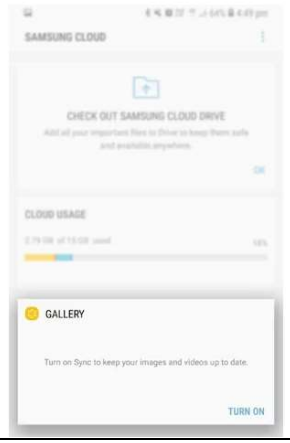
Galaxy Smartphones: Back Up the Gallery app to Samsung Cloud

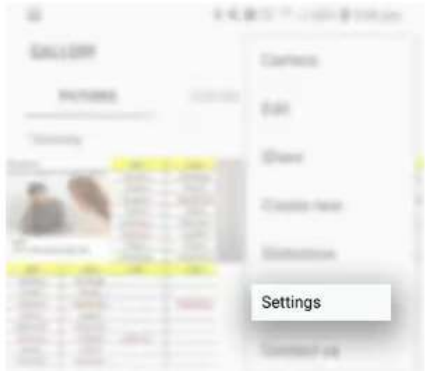
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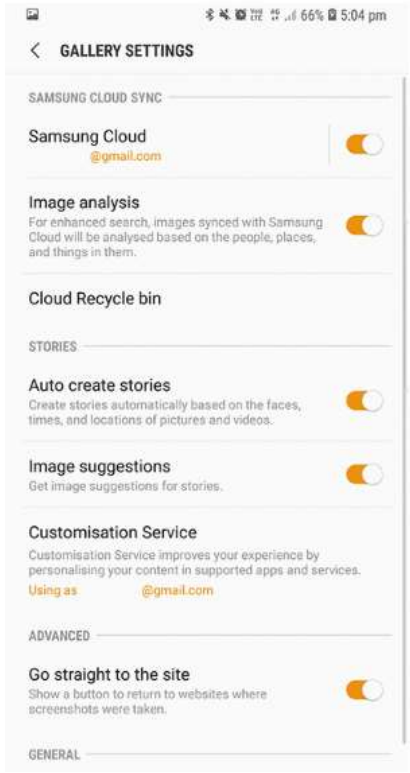


Turn on Gallery Sync in the Samsung Gallery app to make sure your photos are all saved and backed up. Your precious moments will be right there when you need it in the Samsung Cloud, and if anything ever happens to your mobile device or tablet, your photos will be safe and sound.

From the **Samsung Galaxy S9** running **Android OS Version 8.0 (Oreo)**, the **Gallery sync** option is disabled by default. If the Gallery sync option has been disabled, images which have been already uploaded to Samsung Cloud, will not be displayed in your Gallery until the Gallery sync option has been enabled.

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	1 Go into the **Settings** menu > **Cloud and accounts**.  2 Tap on **Samsung Cloud**.  3 In the Gallery tile, tap on **Turn on** to enable Gallery sync. 

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	https://www.samsung.com/in/support/mobile-devices/galaxy-smartphones-back-up-the-gallery-app-to-samsung-cloud/ 1 Open the **Gallery** app.  3 Tap **Settings**. 

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	4 Toggle the switch to enable Gallery sync.  https://www.samsung.com/in/support/mobile-devices/galaxy-smartphones-back-up-the-gallery-app-to-samsung-cloud/

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement

Access and manage the Cloud from a Galaxy phone or tablet

Note: All data stored in Samsung Cloud will be deleted if it has not been used for more than 12 months. This includes data stored in its respective category, such as contacts, calendar, and more. You will not be able to recover that specific data; however, Samsung will provide an advanced notice prior to deletion. To prevent your files from being deleted, **sync your data**.

Samsung Cloud is integrated directly into your Samsung account, so you can access it easily from your phone or tablet's settings.

1. Navigate to and open **Settings**.
2. Tap **your name** at the top of the screen, and then tap **Samsung Cloud**.
3. From here, you can access the following options:



- **Sync:** Choose which apps or settings you'd like to **automatically sync** to Samsung Cloud, such as Contacts or Samsung Notes.
- **Back up data:** Create a **device backup** that you can access later in case something happens to your phone.
- **Restore:** Download a previous device backup to **restore data** you may have lost.

To make accessing Samsung Cloud easier, you can add a shortcut icon to your Apps screen. Tap **More options** (the three vertical dots) in the top right corner, then tap **Settings**. Next, tap the **switch** next to "Show Samsung Cloud on Apps screen."

https://www.samsung.com/us/support/answer/ANS00060518/

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	Access the Cloud from a web browser on a PC  You can view your Cloud data on a PC using almost any web browser, but we recommend using Chrome for the best results. You will be guided through setting up and using 2-step verification for your Samsung account. If you are having any trouble signing in or accessing your data, please see the section about 2-step verification. 1. To access Samsung Cloud on your computer, open your desired web browser, and then go to **support.samsungcloud.com**. 2. Click **Sign in**, enter your Samsung account information, and then click **Sign in** again.  3. If you're unsure of your account information, click **Find ID or Reset password** after you click Sign in. 4. Once you are signed in, you can see all of your synced data. To make accessing Samsung Cloud easier, you can bookmark the URL in your browser by clicking the **Bookmark** (star) icon in the address bar. To sign out, just hover over your name in the upper right corner of the page, and then click **Sign out**. *See* https://www.samsung.com/us/support/answer/ANS00060518/

U.S. Patent No. 11,223,757	Exemplary Evidence of Infringement
	