

Claim Chart for U.S Patent 11,610,587 B2
“Personalized Sound Management and Method,” Steven Goldstein and John P. Keady
Filed May 4, 2022 and Issued March 21, 2023

Claim	Claim Language	Accused Products
[1P]	A system comprising:	To the extent the preamble is limiting, each Accused Product is “[a] system.” For example, Samsung phones, tablets, watches, earbuds, smart TVs, and smart appliances are exemplary audio systems and devices that can be controlled using the Bixby user interface. Get the most out of Bixby Conveniently control all of your Galaxy devices such as Phone, Tab, Watch, Buds, Book and many more, with Bixby.¹²³ https://www.samsung.com/us/apps/bixby/ Pairs well with your favorites⁴ Experience smarter life with Galaxy. Galaxy S23 S23+  Learn More Galaxy Buds2 Pro  Learn More Galaxy Watch5 Pro  Learn More https://www.samsung.com/us/apps/bixby/

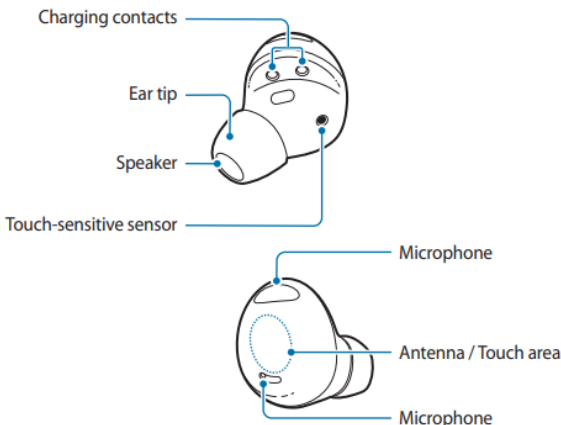
Claim	Claim Language	Accused Products
		Device layout and functions Earbud  Samsung-Galaxy-Buds-2-Pro-User-Manual.pdf https://www.sammobile.com/wp-content/uploads/2022/08/Samsung-Galaxy-Buds-2-Pro-User-Manual.pdf Samsung marketing materials indicate that Bixby is available with at least the following products: Galaxy S23, S23+, S23 Ultra, S22, S22+, S22 Ultra, S21, S21+, S21 Ultra, S21 FE, S20, S20+, S20 Ultra, S20 FE, S10, S10+, S10e, S10 Lite, S8, S8+, S8 Active, A73 5G, A53, A33 5G, A71, A72, A54 5G, A53x, A52, A52 5G, A52s, A51, A51 5G, A90, A80, A82, A71 5G, A70, A70s, A60, A50, A50s, A8s, A9 2018, A9 Pro A8 Star, A34 5G, A33 5G, A Star, F52, F62, M52, M54 5G, M62, Note20, Note20+, Note20 Ultra, Note10, Note10+, Note10 Lite, Note9, S9, S9+, Note8, Xcover Pro, Xcover Pro2, Fold, Z Fold 2, Z Fold 3, Z Fold 4, Z

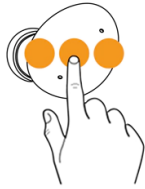
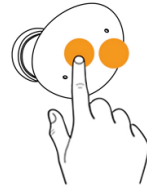
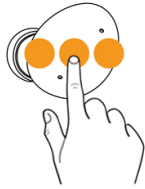
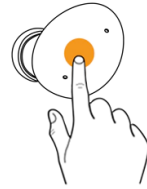
Exhibit A-01

Claim	Claim Language	Accused Products
		Flip, Z Flip 5G, Z Flip 3, Z Flip 4, Tab S8, Tab S8+, Tab S8 Ultra, Tab S7, Tab S7+, Tab S7 Lite, Tab S6, Tab S6 Lite, Tab S5e, Tab S4, Tab A 10.5", Tab Active Pro, Tab A2, Tab A4, Tab Active3, Tab Active Pro, Tab Active, Gear S3, Gear S4, Gear Sport, Watch, Watch Active, Watch Active2, Watch 3, Watch 4, Watch 4 Classic, Watch 5, Watch 5 Pro, Buds Pro, Buds Live, Buds 2, Buds 2 Pro, Book2 HDD, Book2, Book2 360, Book2 Pro 15, Book2 Pro13, Book2 Pro 360, Book, Book Biz, Book Pro, Book Pro 360, Book Odyssey, Book Go, Book Go 5G, Book Flex 2α, Book Flex 2, Book Flex 2 5G, Book Ion 2, Book Flex, Book Ion, Book Flex α, Book S, Notebook+, Notebook+2, Notebook Pen, Notebook 9 Pro, Notebook 9, Notebook 7 Spin, Notebook 7 Pro, Notebook 7, Notebook 5, Notebook 3, and Notebook Odyssey. https://www.samsung.com/us/apps/bixby/, Fn. 4. Bixby also runs on Samsung’s Smart Appliances, including its Family Hub™ refrigerators, and its Smart TVs, including the Neo QLED 8K TV. https://www.androidauthority.com/bixby-879091/; https://www.samsung.com/levant/support/tv-audio-video/how-to-use-bixby-on-a-samsung-smart-tv/)
[1A]	a user interface; and	Each Accused Product comprises “<i>a user interface.</i>” For example, Samsung phones, tablets, watches, earbuds, smart TVs, and smart appliances are exemplary audio systems and devices that can be controlled using the Bixby user interface.

Exhibit A-01

Claim	Claim Language	Accused Products
		Touchpad commands for your Samsung earbuds   Your earbuds have several built-in commands to enhance your user experience when connected to a phone or tablet with the Galaxy Wearable app. With just a swipe or a quick tap, you can play music, skip songs, answer calls from a connected phone, and much more. You can also customize the touchpad commands for adjusting the volume, using voice commands, and enabling Ambient sound. You can even launch Spotify on most Galaxy Bud models, including the new Galaxy Buds2 Pro. Note: These features will vary by device and software version. Launching Spotify from the earbuds is not available on iOS devices or on the original Galaxy Buds. https://www.samsung.com/us/support/answer/ANS00078137/

Exhibit A-01

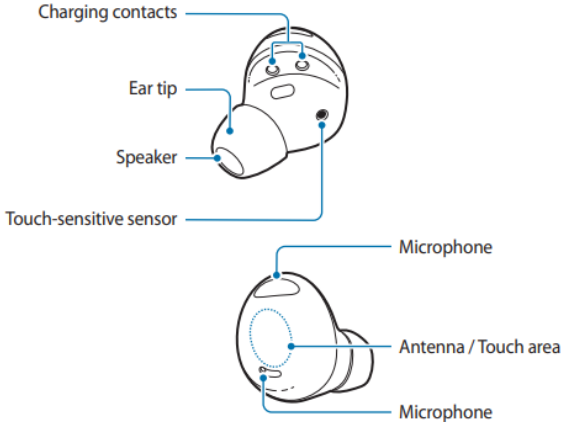
Claim	Claim Language	Accused Products
		Galaxy Buds2, Galaxy Buds2 Pro, and Galaxy Buds Pro touchpad command gestures ✓ Review the guide below to understand how to control your Galaxy Buds2, Galaxy Buds2 Pro, or Galaxy Buds Pro whether you need to play a song or answer an incoming call. Tap and hold  User's choice (change in settings) or Decline call Tap twice  Play next track or Answer/end call Tap three times  Previous song Tap once  Play/pause https://www.samsung.com/us/support/answer/ANS00078137/ What Does Bixby Do? Bixby is a smart assistant that lets you voice control your phone, but it can do a lot more. Bixby Voice, Bixby Vision, and Bixby Routines are Bixby's main features that you should get acquainted with. These handy tools allow you to interact with Bixby by speaking, opening your camera, or tapping your screen.

Claim	Claim Language	Accused Products
		https://www.makeuseof.com/tag/what-is-bixby-how-to-use-bixby/#:~:text=Bixby%20is%20a%20smart%20assistant,camera%2C%20or%20tapping%20your%20screen. Get the most out of Bixby Conveniently control all of your Galaxy devices such as Phone, Tab, Watch, Buds, Book and many more, with Bixby.¹²³ https://www.samsung.com/us/apps/bixby/ <i>Bixby-powered TVs, fridges, and other products are available as well.</i> In addition to smartphones and tablets, Bixby runs on Samsung's <u>Family Hub refrigerators</u> and some other products, like Galaxy Watches and TVs. Bixby understands English (British, American, and Indian), Korean, Mandarin Chinese, Brazilian Portuguese, French, German, Italian, and Spanish. For comparison, Google Assistant supports at least 44 languages on smartphones and 13 languages on smart speakers and displays. https://www.androidauthority.com/bixby-879091/ Samsung marketing materials indicate that Bixby is available with at least the following products: Galaxy S23, S23+, S23 Ultra, S22, S22+, S22 Ultra, S21, S21+, S21 Ultra, S21 FE, S20, S20+, S20 Ultra, S20 FE, S10, S10+, S10e, S10 Lite, S8, S8+, S8 Active, A73 5G, A53, A33 5G, A71, A72, A54 5G, A53x, A52, A52 5G, A52s, A51, A51 5G, A90, A80, A82, A71 5G, A70, A70s, A60, A50, A50s, A8s, A9 2018, A9 Pro A8 Star, A34 5G, A33 5G, A Star,

Exhibit A-01

Claim	Claim Language	Accused Products
		F52, F62, M52, M54 5G, M62, Note20, Note20+, Note20 Ultra, Note10, Note10+, Note10 Lite, Note9, S9, S9+, Note8, Xcover Pro, Xcover Pro2, Fold, Z Fold 2, Z Fold 3, Z Fold 4, Z Flip, Z Flip 5G, Z Flip 3, Z Flip 4, Tab S8, Tab S8+, Tab S8 Ultra, Tab S7, Tab S7+, Tab S7 Lite, Tab S6, Tab S6 Lite, Tab S5e, Tab S4, Tab A 10.5", Tab Active Pro, Tab A2, Tab A4, Tab Active3, Tab Active Pro, Tab Active, Gear S3, Gear S4, Gear Sport, Watch, Watch Active, Watch Active2, Watch 3, Watch 4, Watch 4 Classic, Watch 5, Watch 5 Pro, Buds Pro, Buds Live, Buds 2, Buds 2 Pro, Book2 HDD, Book2, Book2 360, Book2 Pro 15, Book2 Pro13, Book2 Pro 360, Book, Book Biz, Book Pro, Book Pro 360, Book Odyssey, Book Go, Book Go 5G, Book Flex 2α, Book Flex 2, Book Flex 2 5G, Book Ion 2, Book Flex, Book Ion, Book Flex α, Book S, Notebook+, Notebook+2, Notebook Pen, Notebook 9 Pro, Notebook 9, Notebook 7 Spin, Notebook 7 Pro, Notebook 7, Notebook 5, Notebook 3, and Notebook Odyssey. https://www.samsung.com/us/apps/bixby/, Fn. 4. Bixby also runs on Samsung’s Smart Appliances, including its Family Hub™ refrigerators, and its Smart TVs, including the Neo QLED 8K TV. https://www.androidauthority.com/bixby-879091/; https://www.samsung.com/levant/support/tv-audio-video/how-to-use-bixby-on-a-samsung-smart-tv/)
[1B]	an audio device comprising:	Each Accused Product comprises “<i>an audio device.</i>” Samsung phones, tablets, watches, earbuds, smart TVs, and smart appliances are exemplary audio devices that can be controlled using the Bixby user interface.

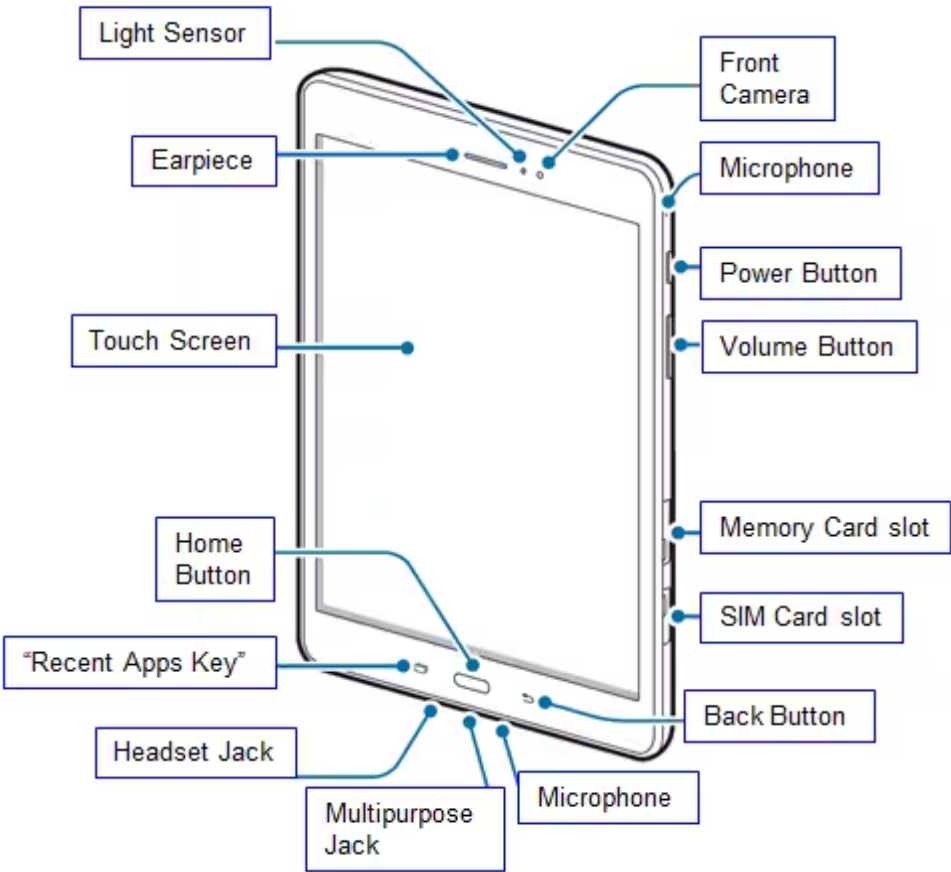
Claim	Claim Language	Accused Products
		Get the most out of Bixby Conveniently control all of your Galaxy devices such as Phone, Tab, Watch, Buds, Book and many more, with Bixby.¹²³ https://www.samsung.com/us/apps/bixby/ Pairs well with your favorites⁴ Experience smarter life with Galaxy. Galaxy S23 S23+  Learn More Galaxy Buds2 Pro  Learn More Galaxy Watch5 Pro  Learn More https://www.samsung.com/us/apps/bixby/

Claim	Claim Language	Accused Products
		Device layout and functions Earbud  Samsung-Galaxy-Buds-2-Pro-User-Manual.pdf https://www.sammobile.com/wp-content/uploads/2022/08/Samsung-Galaxy-Buds-2-Pro-User-Manual.pdf Samsung marketing materials indicate that Bixby is available with at least the following products: Galaxy S23, S23+, S23 Ultra, S22, S22+, S22 Ultra, S21, S21+, S21 Ultra, S21 FE, S20, S20+, S20 Ultra, S20 FE, S10, S10+, S10e, S10 Lite, S8, S8+, S8 Active, A73 5G, A53, A33 5G, A71, A72, A54 5G, A53x, A52, A52 5G, A52s, A51, A51 5G, A90, A80, A82, A71 5G, A70, A70s, A60, A50, A50s, A8s, A9 2018, A9 Pro A8 Star, A34 5G, A33 5G, A Star, F52, F62, M52, M54 5G, M62, Note20, Note20+, Note20 Ultra, Note10, Note10+, Note10 Lite, Note9, S9, S9+, Note8, Xcover Pro, Xcover Pro2, Fold, Z Fold 2, Z Fold 3, Z Fold 4, Z Flip, Z Flip 5G, Z Flip 3, Z Flip 4, Tab S8, Tab S8+, Tab S8 Ultra, Tab S7, Tab S7+, Tab S7 Lite, Tab S6, Tab S6 Lite, Tab S5e, Tab S4, Tab A 10.5", Tab Active Pro, Tab A2, Tab A4,

Claim	Claim Language	Accused Products
		Tab Active3, Tab Active Pro, Tab Active, Gear S3, Gear S4, Gear Sport, Watch, Watch Active, Watch Active2, Watch 3, Watch 4, Watch 4 Classic, Watch 5, Watch 5 Pro, Buds Pro, Buds Live, Buds 2, Buds 2 Pro, Book2 HDD, Book2, Book2 360, Book2 Pro 15, Book2 Pro13, Book2 Pro 360, Book, Book Biz, Book Pro, Book Pro 360, Book Odyssey, Book Go, Book Go 5G, Book Flex 2α, Book Flex 2, Book Flex 2 5G, Book Ion 2, Book Flex, Book Ion, Book Flex α, Book S, Notebook+, Notebook+2, Notebook Pen, Notebook 9 Pro, Notebook 9, Notebook 7 Spin, Notebook 7 Pro, Notebook 7, Notebook 5, Notebook 3, and Notebook Odyssey. https://www.samsung.com/us/apps/bixby/, Fn. 4. Bixby also runs on Samsung’s Smart Appliances, including its Family Hub™ refrigerators, and its Smart TVs, including the Neo QLED 8K TV. https://www.androidauthority.com/bixby-879091/; https://www.samsung.com/levant/support/tv-audio-video/how-to-use-bixby-on-a-samsung-smart-tv/)
[1B.1]	a microphone configured to measure ambient sound and generate a microphone signal;	Each Accused Product comprises “<i>a microphone configured to measure ambient sound and generate a microphone signal.</i>” Samsung Galaxy phones, tablets, watches, earbuds, smart TVs, and smart appliances all have a microphone configured to measure ambient sound and generate a microphone signal. The microphones in the Galaxy products sense sound pressure and use sensed sound pressure to generate microphone signals.

Exhibit A-01

Claim	Claim Language	Accused Products
		#19. Microphone (bottom) The microphone on the bottom of the Galaxy S23 is the “main” microphone. By default, most apps will use this microphone instead of the top one (#4). Some apps may use both of them concurrently. For example, when you are on a phone call, the top microphone will be used for noise-canceling and the bottom one to pick up your voice. Voice Memo also can use two microphones in the interview mode. https://gadgetguideonline.com/s23/layout-of-galaxy-s23-s23-plus-s23-ultra/#19-microphone-bottom

Claim	Claim Language	Accused Products
		Please see the layout descriptions of the Galaxy Tab A device below.  https://www.samsung.com/uk/support/mobile-devices/where-are-the-main-buttons-ports-and-sensors-on-my-samsung-galaxy-tab-a/

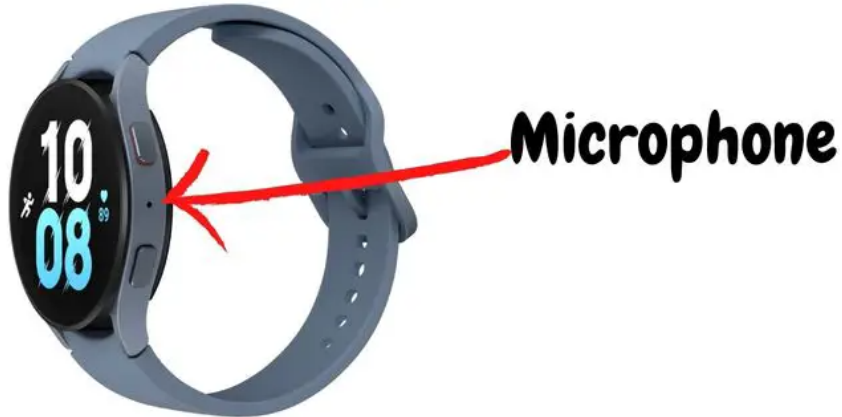
Claim	Claim Language	Accused Products
		Where is the Microphone on Samsung Watch 5 and Watch 5 Pro? Knowing the location of the microphone is as important as learning new features. Yes, Samsung Watch 5 and Samsung Watch 5 Pro come with an in-built microphone. The Microphone can be used for many purposes, not to mention, to talk on calls, give inputs to Virtual Assistants like Google Assistant and Bixby, and depending on functionality, different apps use microphone for multiple purposes. The Microphone in Samsung Watch 5 and Samsung Watch 5 Pro is in between two buttons; structured in a way that even if you give commands from distance, it could listen and give outputs within time.  https://seektogeek.com/where-is-microphone-speaker-on-samsung-watch-5-watch-5-pro/

Exhibit A-01

Claim	Claim Language	Accused Products			
		Galaxy Buds Pro Ambient sound can be used on Galaxy Buds Pro when you need to hear what's going on around you. You can also use the new Detect conversations feature to easily hear if someone is speaking to you. https://www.samsung.com/us/support/answer/ANS00078084/ <table border="1"> <tr> <td>Smart Service Operating System Tizen™ Smart TV</td><td>Bixby US English, UK English, India English, Korean, French, German, Italian, Spanish, BR Portuguese (features vary by language)</td><td>Far-Field Voice Interaction Yes</td></tr> </table> https://www.samsung.com/us/televisions-home-theater/tvs/samsung-neo-qled-8k/75-class-qn800c-samsung-neo-qled-8k-smart-tv-2023-qn75qn800cfxza/ Does Samsung Smart TV have microphone? Yes! A built-in camera and microphone are now a common feature on many most recent Samsung Smart TV models, as these features can be quite useful in meetings and facial recognition feature. Aug 13, 2023  automatelife.net https://automatelife.net › do-smart-tvs-have-cameras	Smart Service Operating System Tizen™ Smart TV	Bixby US English, UK English, India English, Korean, French, German, Italian, Spanish, BR Portuguese (features vary by language)	Far-Field Voice Interaction Yes
Smart Service Operating System Tizen™ Smart TV	Bixby US English, UK English, India English, Korean, French, German, Italian, Spanish, BR Portuguese (features vary by language)	Far-Field Voice Interaction Yes			

Claim	Claim Language	Accused Products
		How Do I switch on the voice controls on my Samsung Family Hub Fridge Freezer? Last Update date : Nov 23, 2020 To use the voice controls on the Samsung Family Hub Fridge Freezer, say 'Hi Samsung'. Don't forget to make sure the microphone is switched on. The microphone icon turns red when it is turned off. https://www.samsung.com/za/support/home-appliances/how-do-i-switch-on-the-voice-controls-on-my-samsung-family-hub-fridge-freezer/#:~:text=To%20use%20the%20voice%20controls,when%20it%20is%20turned%20of f. For example, Samsung Galaxy Buds+ includes an ear canal (inner) microphone and two outer microphones. One of the two outer microphones is configured to measure ambient sound and generate a microphone signal.

Claim	Claim Language	Accused Products
		2-way dynamic speaker Tweeter (Clear High notes) Woofer (Rich and Powerful Bass)  https://web.archive.org/web/20201212191031/https://www.samsung.com/us/mobile/audio/galaxy-buds-plus/ Samsung Galaxy Buds2, Buds2 Pro, and Buds Live have three microphones: 2 outer microphones and 1 inner microphone. One of the outer microphones is configured to measure ambient sound and generate a microphone signal.

Claim	Claim Language	Accused Products		
		Galaxy Buds2 Pro  Bora Purple²² Features Enhanced 360 audio 24-bit Hi-Fi Intelligent ANC Battery Up to 29hrs with case (ANC Off) Speaker Dynamic 2-way Woofer & tweeter Microphone 3 Mics + VPU Ambient sound ○ Voice Detect ○	Galaxy Buds2  Olive²² Features 360 audio 16-bit Hi-Fi ANC Battery Up to 20hrs with case (ANC Off) Speaker Dynamic 2-way Woofer & tweeter Microphone 3 Mics + VPU Ambient sound ○ Voice Detect -	Galaxy Buds Live  Mystic Bronze²² Features 360 audio 16-bit Hi-Fi ANC Battery Up to 28hrs with case (ANC Off) Speaker Dynamic 2-way Woofer & tweeter Microphone 3 Mics + VPU Ambient sound - Voice Detect -

Claim	Claim Language	Accused Products
		https://www.samsung.com/us/mobile-audio/galaxy-buds2-pro/#design For example, Galaxy Buds Live has 2 outer microphones and 1 inner microphone. One of the outer microphones is configured to measure ambient sound and generate a microphone signal. Weighing just 5.6g, each earbud has a 12mm speaker with 2 outer and 1 inner microphone. There's also a dedicated Voice Pickup Unit to further improve the call quality. There's a 60mAh battery in the earbuds while the case has a 472mAh battery.  https://www.sammobile.com/samsung/galaxy-buds-live/

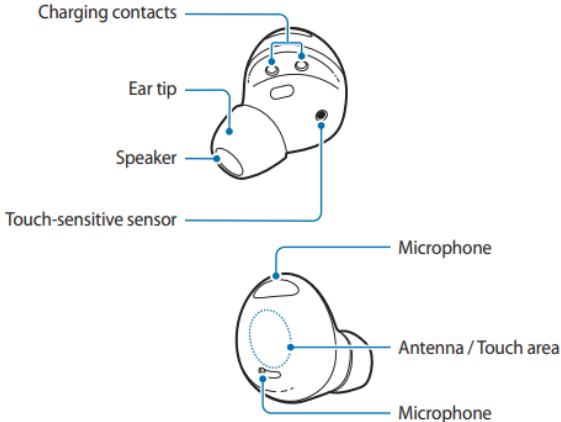
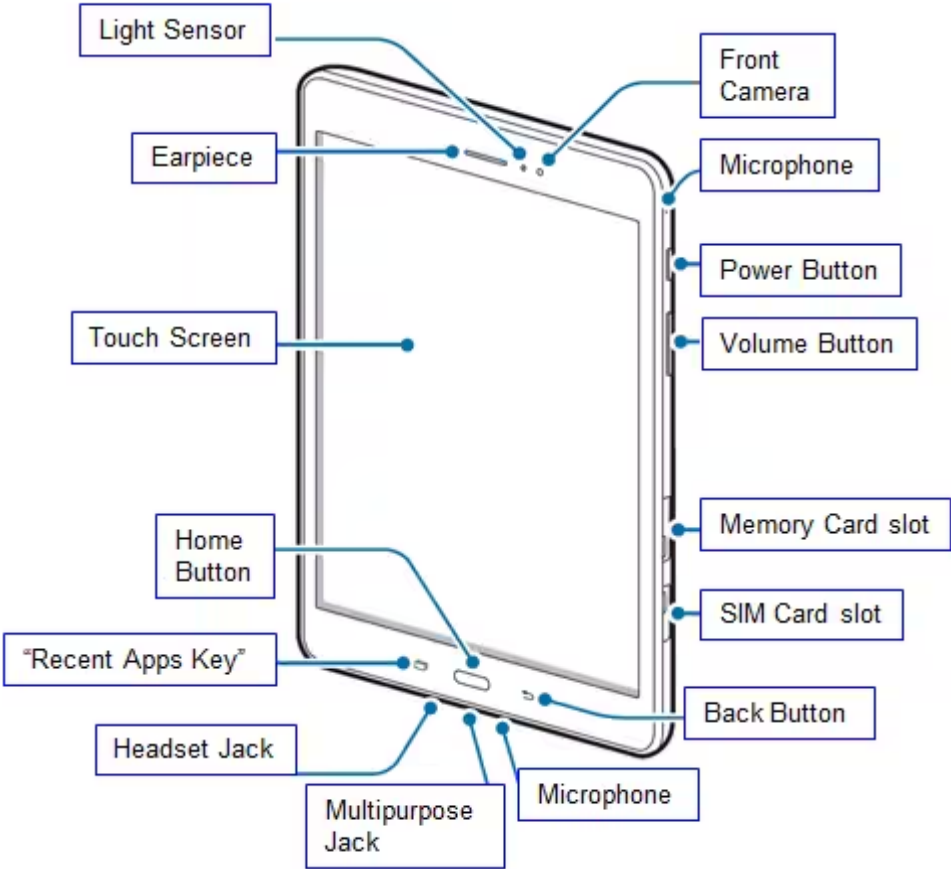
Claim	Claim Language	Accused Products
		Device layout and functions Earbud  Samsung-Galaxy-Buds-2-Pro-User-Manual.pdf https://www.sammobile.com/wp-content/uploads/2022/08/Samsung-Galaxy-Buds-2-Pro-User-Manual.pdf Source code is required to fully understand the functionality of these elements of the accused products
[1B.2]	a speaker configured to emit an audio signal;	Each Accused Product comprises “a <i>speaker configured to emit an audio signal.</i>” Samsung Galaxy phones, tablets, watches, earbuds, smart TVs, and smart appliances all have a speaker configured to emit an audio signal.

Exhibit A-01

Claim	Claim Language	Accused Products
		#3. Top speaker (earpiece) <u>Galaxy S23 new features guides</u>. Galaxy S23 new features guides explain the new features of Galaxy S23 and show you how to use them. The top speaker has dual functions: • As an earpiece when you are on a call. • As one of the speakers of the stereo pair (with the bottom speaker, read on) when playing music. On the official Galaxy S23 flip covers, e.g., the Clear View Wallet cover, there is a long and narrow cutout for the top speaker. <u>https://gadgetguideonline.com/s23/layout-of-galaxy-s23-s23-plus-s23-ultra/#3-top-speaker-earpiece-gwmw-style-display-none-gwmw</u>

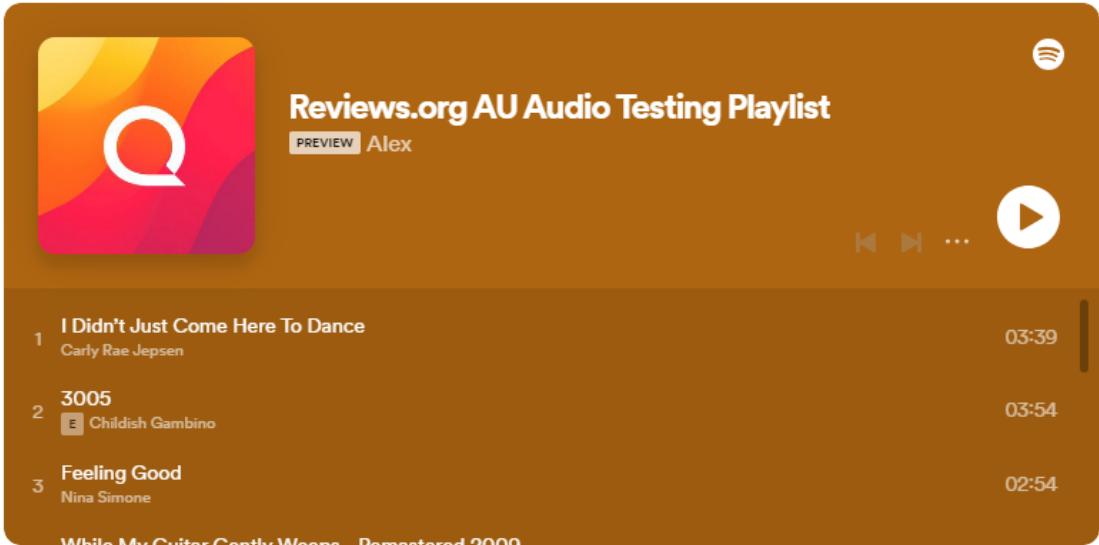
Claim	Claim Language	Accused Products
		Please see the layout descriptions of the Galaxy Tab A device below.  https://www.samsung.com/uk/support/mobile-devices/where-are-the-main-buttons-ports-and-sensors-on-my-samsung-galaxy-tab-a/

Claim	Claim Language	Accused Products
		Where is Speaker on Samsung Watch 5 and Watch 5 Pro? On the other side (opposite side of two buttons) of the Samsung Watch 5 and Samsung Watch 5 Pro, you can find the in-built Speaker. That speaker plays when you receive any phone calls, notifications from different apps, the Smart Assistants' responses, and much more. Without the Microphone and Speaker, the Samsung Watch won't be interactive and will just act on your commands and actions, rather than speaking itself. https://seektogeek.com/where-is-microphone-speaker-on-samsung-watch-5-watch-5-pro/

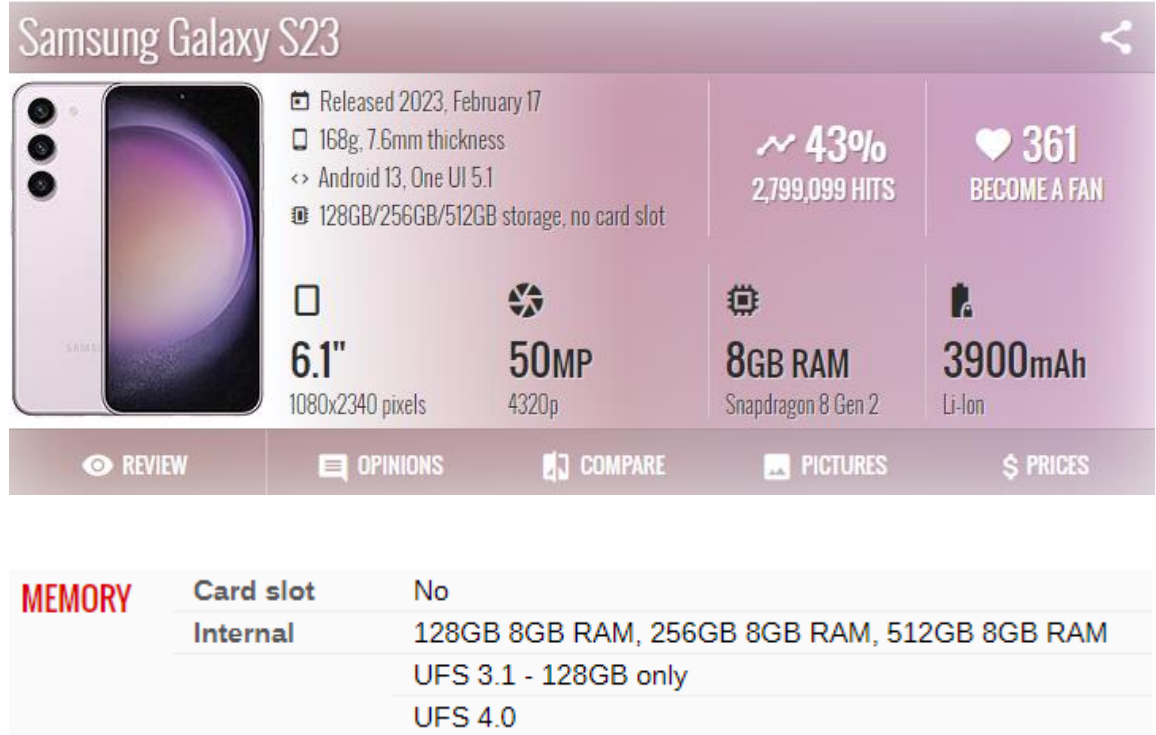
Exhibit A-01

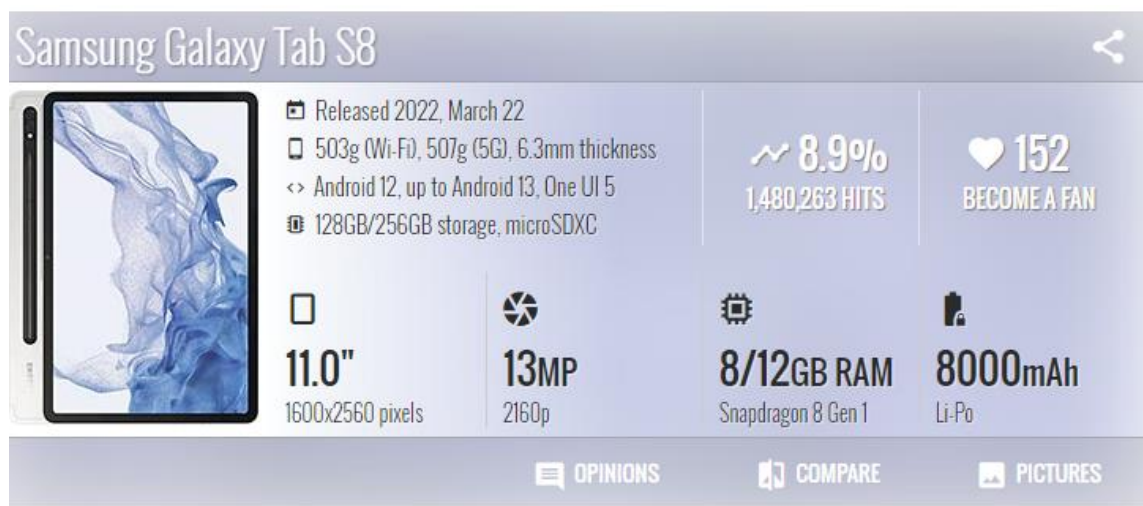
Claim	Claim Language	Accused Products
		Galaxy Buds Pro GALAXY BUDS PRO INTELLIGENT ANC PROFESSIONAL SOUND CONVENIENCE DESIGN BATTERY COMPARE SPECS Air vent reduces occlusion for spacious audio  2-way speakers with bigger driver for balanced sound and wide frequency response • 11mm woofer for full bass • 6.5mm tweeter with low distortion for silky treble, clean sound and a wide sound stage https://www.samsung.com/global/galaxy/galaxy-buds-pro/#professional-sound

Exhibit A-01

		If you want to avoid the Spotify app on the fridge - or use a different streaming service - the Family Hub lets you connect to it as a Bluetooth speaker. Firstly, it's very funny thinking of your fridge as a Bluetooth speaker. Secondly, it's a surprisingly good Bluetooth speaker. You get clear, balanced audio that does justice to the more challenging songs on our Audio Testing playlist, like Opeth's "The Funeral Portrait". Bass can be a little recessed but is still present in the mix. Unsurprisingly, the Family Hub speaker barely handles sub-bass. You don't quite get a muted thud, but you get very little impact from ultra-low frequencies.  The Family Hub also lacks any discernible stereo separation when you're not right in front of the fridge. You can tell there's a left and right channel if you get up close and put on a track like "Light My Fire" by The Doors where instruments have a hard pan, but that's not exactly how you listen to music in the kitchen. Otherwise, the Family Hub sounds pretty great. It's not audiophile quality, but I didn't expect to a fridge to make this good a speaker.
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Claim	Claim Language	Accused Products
		https://www.reviews.org/au/smart-home/samsung-family-hub-srs656mbfh4-review/#:~:text=Firstly%2C%20it's%20an%20amazing%20fridge,could%20do%20so%20much%20more. Redefining the dynamic duo Q-Symphony 3.0 Amp up your audio with the greatest duo of all time— Samsung TVs paired with a Samsung soundbar. With Q-Symphony, your TV speakers paired with Q-Series and S-Series soundbar operate as one. Together, they can optimize all the channels to bring you a masterfully orchestrated sound experience.² https://www.samsung.com/us/televisions-home-theater/tvs/samsung-neo-qled-8k/75-class-qn800c-samsung-neo-qled-8k-smart-tv-2023-qn75qn800cfxza/ Source code is required to fully understand the functionality of these elements of the accused products.

Claim	Claim Language	Accused Products
[1B.3]	a memory configured to store instructions;	Each Accused Product includes memory to store instructions. The Samsung Galaxy phones include memory for storing instructions.  https://www.gsmarena.com/samsung_galaxy_s23-12082.php Samsung Tablets include memory for storing instructions.

Claim	Claim Language	Accused Products									
		 <table border="1"> <thead> <tr> <th>MEMORY</th> <th>Card slot</th> <th>microSDXC (dedicated slot)</th> </tr> </thead> <tbody> <tr> <td></td> <td>Internal</td> <td>128GB 8GB RAM, 256GB 8GB RAM, 256GB 12GB RAM</td> </tr> <tr> <td></td> <td></td> <td>UFS</td> </tr> </tbody> </table> https://www.gsmarena.com/samsung_galaxy_tab_s8-11343.php Samsung's Galaxy watches include memory for storing instructions.	MEMORY	Card slot	microSDXC (dedicated slot)		Internal	128GB 8GB RAM, 256GB 8GB RAM, 256GB 12GB RAM			UFS
MEMORY	Card slot	microSDXC (dedicated slot)									
	Internal	128GB 8GB RAM, 256GB 8GB RAM, 256GB 12GB RAM									
		UFS									

Claim	Claim Language	Accused Products
		 https://www.gsmarena.com/samsung_galaxy_watch5-11748.php The Samsung earbuds pro 2 devices include memory (RAM and ROM) for storing instructions.

Exhibit A-01

Claim	Claim Language	Accused Products
		Processors Model Number(s) SM-R510 Clock Speed @ 0.00 GHz Memory RAM/ROM sizes RAM with ROM https://www.sammobile.com/samsung/galaxy-buds-2-pro/specs/ Samsung smart TVs have memory for storing instructions.

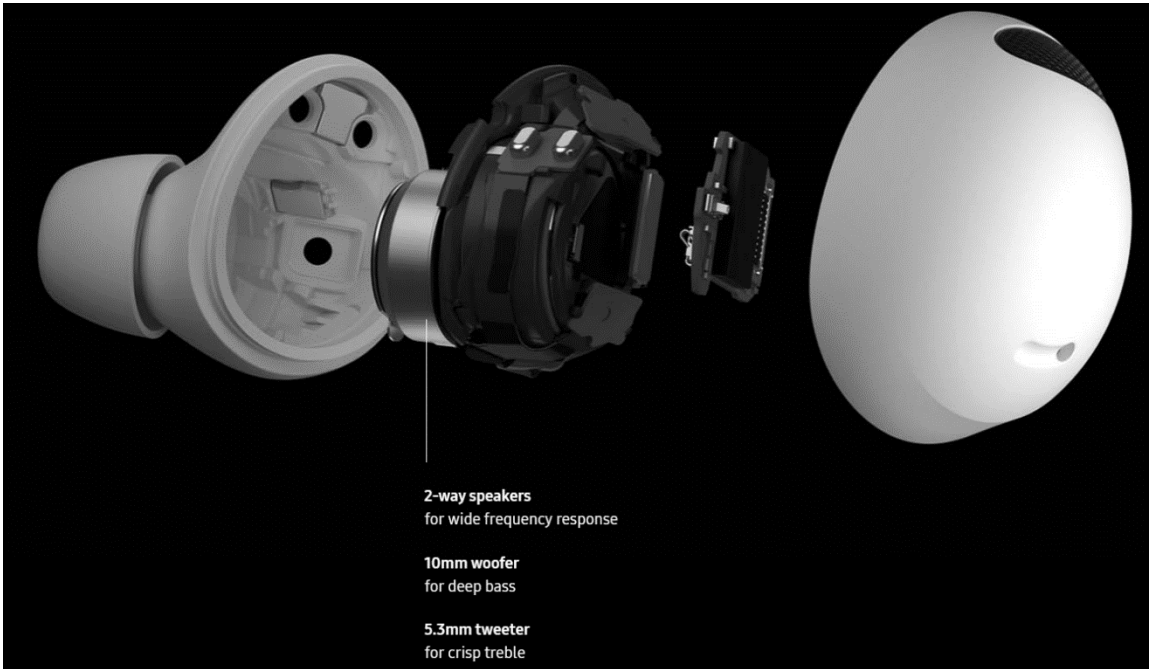
Exhibit A-01

Claim	Claim Language	Accused Products
		Samsung QP85A-8K Clock Speed 1.66GHz Main Memory Interface 5GB LPDDR4 1866MHz 128bit Graphics Graphic resolution : 3840x2160 Output resolution : 7680x4320 (Scale up from graphic processing result.) Storage (FDM) 16GB (5.8GB Occupied by O/S, 10.2GB Available) 53 more rows DS DigitalDisplayStore.com https://www.digitaldisplaystore.com › Samsung-QP85A-8K Samsung QP85A - Neo QLED 8K - DigitalDisplayStore.com https://www.google.com/search?q=memory+provided+in+neo+qled+8k+smart+tv&sca_esv=564367827&source=hp&ei=HE_ZNaPIaSgptQP9ueJuAg&iflsig=AD69kcEAAAAAZP9dLPkS2A52sghfTE16ZyDnEfG-2HCN&oq=memory+provided+in+neo+qled+8k&gs_lp=Egdnd3Mtd2l6lh5tZ;https://www.digitaldisplaystore.com/Samsung-QP85A-8K.asp Samsung smart appliances have memory for storing instructions.

Claim	Claim Language	Accused Products
		• Window material: LCD • Display resolution: Full HD (1080x1920) • Display touch type: C-Type • Processor: 1.7GHz quad • RAM: 2.5GB • Flash memory: LPDDR4 2.5 GB, eMMC 8.0GB • Connectivity: Yes • Operating system: Tizen 4.0 https://www.wayfair.com/appliances/pdp/samsung-36-side-by-side-267-cu-ft-smart-refrigerator-with-family-hub-custom-panels-not-included-smsg1222.html For example, Samsung Galaxy Buds+ includes a 2-way dynamic speaker.

Claim	Claim Language	Accused Products
		2-way dynamic speaker Tweeter (Clear High notes) Woofer (Rich and Powerful Bass)  1 Inner Mic 2 Outer Mics https://web.archive.org/web/20201212191031/https://www.samsung.com/us/mobile/audio/galaxy-buds-plus/ Samsung Galaxy Buds2, Bud2 Pro, and Buds Live all include a dynamic 2-way speaker for wide frequency response.

Claim	Claim Language	Accused Products		
		Galaxy Buds2 Pro  Bora Purple²² Features Enhanced 360 audio 24-bit Hi-Fi Intelligent ANC Battery Up to 29hrs with case (ANC Off) Speaker Dynamic 2-way Woofer & tweeter Microphone 3 Mics + VPU Ambient sound ○ Voice Detect ○	Galaxy Buds2  Olive²² Features 360 audio 16-bit Hi-Fi ANC Battery Up to 20hrs with case (ANC Off) Speaker Dynamic 2-way Woofer & tweeter Microphone 3 Mics + VPU Ambient sound ○ Voice Detect -	Galaxy Buds Live  Mystic Bronze²² Features 360 audio 16-bit Hi-Fi ANC Battery Up to 28hrs with case (ANC Off) Speaker Dynamic 2-way Woofer & tweeter Microphone 3 Mics + VPU Ambient sound - Voice Detect -

Claim	Claim Language	Accused Products
		https://www.samsung.com/us/mobile-audio/galaxy-buds2-pro/#design  2-way speakers for wide frequency response 10mm woofer for deep bass 5.3mm tweeter for crisp treble https://www.samsung.com/us/mobile-audio/galaxy-buds2-pro/#design Source code is required to fully understand the functionality of these elements of the accused products.
[1B.4]	an audio buffer configured to store at least a portion of the microphone signal;	Each Accused Product includes a portion of memory, i.e., an audio buffer, for storing at least a portion of a microphone signal. On information and belief, Bixby enabled devices include a portion of memory, i.e., an audio buffer, for storing at least a portion of a microphone signal.

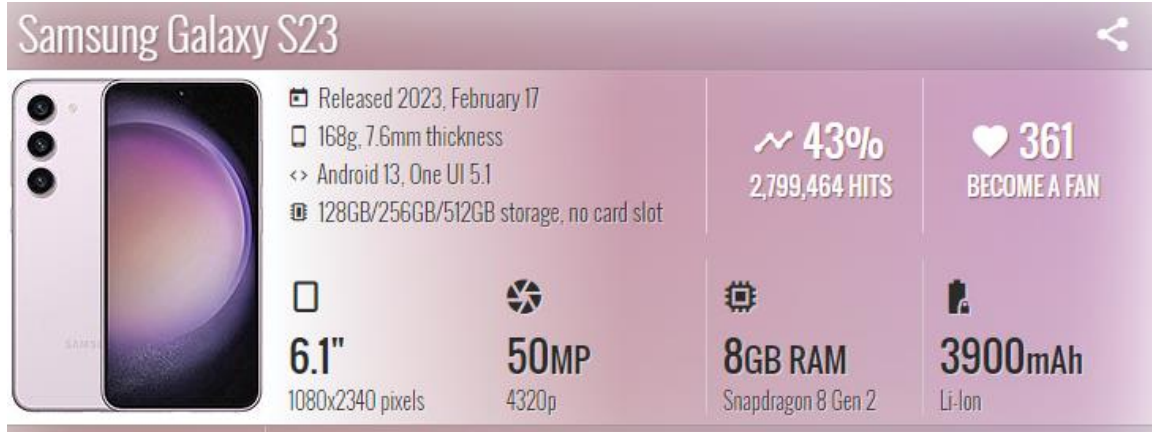
Claim	Claim Language	Accused Products
		Source code is required to fully understand the functionality of these elements of the accused products.
[1B.5]	a data buffer;	Each Accused Product includes a portion of memory, i.e., an audio buffer, for storing at least a portion of a microphone signal. On information and belief, Bixby enabled devices include a portion of memory, i.e., a data buffer, for storing data. Source code is required to fully understand the functionality of these elements of the accused products.
[1B.6]	a processor operatively coupled to the memory, the processor operatively coupled to the audio buffer, the processor operatively coupled to the data buffer, wherein the processor is configured to execute the instructions to perform operations comprising:	Each Accused Product comprises “a processor operatively coupled to the memory, the processor operatively coupled to the audio buffer, the processor operatively coupled to the data buffer, wherein the processor is configured to execute the instructions to perform operations.” For example, Samsung Galaxy phones have a processor operatively coupled to memory. 

Exhibit A-01

Claim	Claim Language	Accused Products																								
		<table> <tr> <td>PLATFORM</td><td>OS</td><td>Android 13, One UI 5.1</td></tr> <tr> <td></td><td>Chipset</td><td>Qualcomm SM8550-AC Snapdragon 8 Gen 2 (4 nm)</td></tr> <tr> <td></td><td>CPU</td><td>Octa-core (1x3.36 GHz Cortex-X3 & 2x2.8 GHz Cortex-A715 & 2x2.8 GHz Cortex-A710 & 3x2.0 GHz Cortex-A510)</td></tr> <tr> <td></td><td>GPU</td><td>Adreno 740</td></tr> </table> https://www.gsmarena.com/samsung_galaxy_s23-12082.php Samsung Galaxy tablets have a processor operatively coupled to memory.  <table> <tr> <td>PLATFORM</td><td>OS</td><td>Android 9.0 (Pie), upgradable to Android 11</td></tr> <tr> <td></td><td>Chipset</td><td>Qualcomm SDM429 Snapdragon 429 (12 nm)</td></tr> <tr> <td></td><td>CPU</td><td>Quad-core 2.0 GHz Cortex-A53</td></tr> <tr> <td></td><td>GPU</td><td>Adreno 504</td></tr> </table>	PLATFORM	OS	Android 13, One UI 5.1		Chipset	Qualcomm SM8550-AC Snapdragon 8 Gen 2 (4 nm)		CPU	Octa-core (1x3.36 GHz Cortex-X3 & 2x2.8 GHz Cortex-A715 & 2x2.8 GHz Cortex-A710 & 3x2.0 GHz Cortex-A510)		GPU	Adreno 740	PLATFORM	OS	Android 9.0 (Pie), upgradable to Android 11		Chipset	Qualcomm SDM429 Snapdragon 429 (12 nm)		CPU	Quad-core 2.0 GHz Cortex-A53		GPU	Adreno 504
PLATFORM	OS	Android 13, One UI 5.1																								
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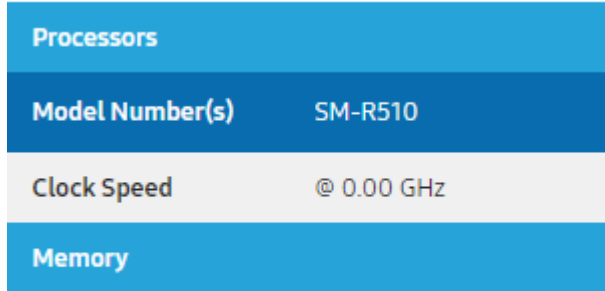
Claim	Claim Language	Accused Products
		https://www.gsmarena.com/samsung_galaxy_tab_a_8_0_(2019)-9760.php Samsung Galaxy watches have a processor operatively coupled to memory.  https://www.gsmarena.com/samsung_galaxy_watch5-11748.php Samsung Galaxy earbuds have a processor operatively coupled to memory.

Claim	Claim Language	Accused Products
		Broadcom Wireless Audio Chip Powers Samsung Galaxy Buds Broadcom BCM43014 delivers premium Bluetooth sound and unmatched battery life in ultra-compact footprint SAN JOSE, Calif., Feb. 28, 2019 (GLOBE NEWSWIRE) -- Broadcom Inc. (NASDAQ: AVGO) today unveiled the BCM43014 chip enabling the Samsung Galaxy Buds to deliver a premium audio experience. The BCM43014 is a highly-integrated low power SoC that brings together unique innovations in Bluetooth, audio DSP and sensor hub technology to render rich audio while delivering up to six hours of Bluetooth streaming or five hours of voice calls. A superior in-ear audio experience requires the sound to be high-quality, robust and synchronized across the listener's ears. Wireless earbuds like the Galaxy Buds also must have long battery life, low latency, uncompromising audio quality and user mobility. For a seamless wireless experience, it is equally important that wireless earbuds instantly connect or switch across devices just like a wired pair of earbuds would when plugged into the phone. Built on Broadcom's unique combination of deep semiconductor expertise and wireless audio engineering, the BCM43014 is engineered to meet the design requirements for in-ear wireless devices. In addition to Bluetooth 5, the chip is packed with innovative features and capabilities that: • Allows for seamless integration of advanced acoustic algorithms that reduce background noise to deliver rich sound. • Delivers synchronized audio to both the earbuds for various daily user scenarios using Broadcom's InConcert® technology to create a truly wireless experience. • Innovates with a holistic low power system-level design that spans radio design, protocol optimization and software techniques. • Seamlessly connects both Buds with phone and quickly switches between devices with Broadcom's advanced Bluetooth pairing technology to deliver continuity of content for the consumer. • Enables the integration of the multi-dimensional sensors behind the convenient and intuitive user interface on the Buds. • Facilitates slim earbud design by integrating multiple audio components into a single chip and reducing the of materials. https://www.broadcom.com/company/news/product-releases/52201

Exhibit A-01

Claim	Claim Language	Accused Products
		Galaxy Buds Pro GALAXY BUDS PRO INTELLIGENT ANC PROFESSIONAL SOUND CONVENIENCE DESIGN BATTERY COMPARE SPECS Performance Chipset BCM 43015 OS RTOS Speaker 2 way (11mm Woofer & 6.5mm Tweeter) Mic Main Mic (High SNR), Sub Mic, Inner Mic *Dual mic array for superior beaming performance *Mic mesh and chamber for minimizing wind noise

Exhibit A-01

Claim	Claim Language	Accused Products
		https://www.samsung.com/global/galaxy/galaxy-buds-pro/specs/  https://www.sammobile.com/samsung/galaxy-buds-2-pro/specs/ Bixby enabled smart appliances have a processor operatively coupled to memory.

Claim	Claim Language	Accused Products
		• Window material: LCD • Display resolution: Full HD (1080x1920) • Display touch type: C-Type • Processor: 1.7GHz quad • RAM: 2.5GB • Flash memory: LPDDR4 2.5 GB, eMMC 8.0GB • Connectivity: Yes • Operating system: Tizen 4.0 https://www.wayfair.com/appliances/pdp/samsung-36-side-by-side-267-cu-ft-smart-refrigerator-with-family-hub-custom-panels-not-included-smsg1222.html Samsung smart TVs have a processor coupled to memory.

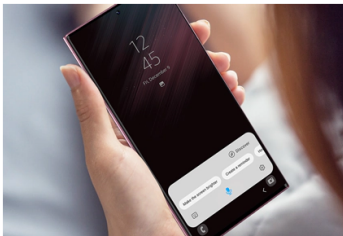
Claim	Claim Language	Accused Products
		The brains behind the 8K beauty Neural Quantum Processor 8K This brainy tech serves up crisp detail, stunning depth, shading and textures that result in a better-than-the-theater home theater experience, in addition to enhancing your audio and total TV performance.² https://www.samsung.com/us/televisions-home-theater/tvs/samsung-neo-qled-8k/85-class-qn900c-samsung-neo-qled-8k-smart-tv-2023-qn85qn900cfxza/ On information and belief, the processors of Bixby enabled devices are operatively coupled to audio buffers and to data buffers. It is well known and understood that processors execute instructions to perform operations.

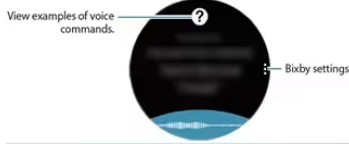
Claim	Claim Language	Accused Products
		Operation [edit] The fundamental operation of most CPUs, regardless of the physical form they take, is to execute a sequence of stored instructions that is called a program. The instructions to be executed are kept in some kind of computer memory. Nearly all CPUs follow the fetch, decode and execute steps in their operation, which are collectively known as the instruction cycle. https://en.wikipedia.org/wiki/Central_processing_unit#Operation Source code is required to fully understand the functionality of these elements of the accused products.
[1B.6.a]	receiving the microphone signal;	On information and belief, the processors of Bixby enabled devices receive microphone signals. Source code is required to fully understand the functionality of these elements of the accused products.
[1B.6.b]	sending a portion of the microphone signal to the audio buffer;	On information and belief, at least a portion of a microphone signal received by the processor of a Bixby enabled device will be sent to an audio buffer in memory. Source code is required to fully understand the functionality of these elements of the accused products.
[1B.6.c]	analyzing the audio buffer for detecting a sonic signature;	Each Accused Product comprises a processor configured to perform “<i>analyzing the audio buffer for detecting a sonic signature.</i>” For example, Bixby enabled devices to detect a sonic signature such as “Hi Bixby” or a voice command. Launching Bixby and providing commands on a Galaxy phone or tablet.

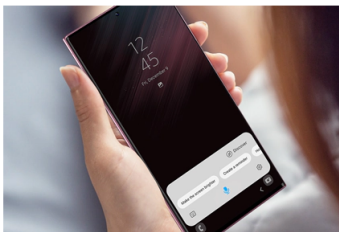
Claim	Claim Language	Accused Products
		Smartphone/Tablet  How to talk to Bixby • Say "Hi Bixby" "Hi Bixby" is all you need to get things done • Press & hold side key Press & hold the side key on your Mobile or Tablet and start talking • Tap the Bixby app icon Tap the Bixby app icon to start talking to Bixby https://www.samsung.com/us/apps/bixby/bixby-user-guide/ Launching Bixby and providing commands on a Galaxy watch. Using Bixby 1 Quickly press the Home key twice. Alternatively, say "Hi Bixby". You can also launch Bixby by tapping Bixby on the Apps screen. The Galaxy Watch will start voice recognition.  View examples of voice commands. Bixby settings 2 Say a voice command. If the Galaxy Watch recognises the command, the Galaxy Watch will perform the corresponding action with voice feedback. To repeat a voice command or say a different command, tap

Claim	Claim Language	Accused Products
		https://www.samsung.com/ph/support/mobile-devices/how-to-utilize-bixby-on-galaxy-watch/ Watch  How to talk to Bixby • Say "Hi Bixby" Say "Hi Bixby" whenever the Watch screen is on to get things done • Press & hold Home key Press & hold the Home key on your Watch and start talking • Tap the Bixby app icon Tap the Bixby app icon to start talking to Bixby • Run complications on your watch face Add complications on your watch face and tap the complication image to give a command to Bixby https://www.samsung.com/us/apps/bixby/bixby-user-guide/ Launching Bixby and providing commands on earbuds.

Claim	Claim Language	Accused Products
		Buds  Sound by AKG How to talk to Bixby With your buds connected, you don't need to take your phone out to talk to Bixby • Say "Hi Bixby" "Hi Bixby" is all you need to get things done • Long press on the touch pad Press and hold the touch pad on the Buds to talk to Bixby https://www.samsung.com/us/apps/bixby/bixby-user-guide/

Claim	Claim Language	Accused Products
		Talk to Bixby using Voice wake-up on your Galaxy device  You don't need to press a button when you want to call Bixby on your Galaxy phone or tablet; you can do it hands-free with Voice wake-up. Once this feature is set up, all you have to do is say "Hi, Bixby," and Bixby will be at your service. You can ask a question or give a command. https://www.samsung.com/us/support/answer/ANS00080448/#:~:text=Turn%20on%20Bixby%20Voice%20wake%20Dup&text=You%20can%20do%20it%20any,then%20tap%20Voice%20wake%20Dup. Source code is required to fully understand the functionality of these elements of the accused products.
[1B.6.d]	notifying a user when the sonic signature is detected;	Each Accused Product comprises a processor configured to perform “<i>notifying a user when the sonic signature is detected.</i>” For example, Bixby notifies users when its functionality has been requested and commands are performed. The notifications can be visually depicted on a display screen or delivered audibly. Bixby voice notification of command performance on a Galaxy watch.

Claim	Claim Language	Accused Products
		Using Bixby 1 Quickly press the Home key twice. Alternatively, say “Hi Bixby”. You can also launch Bixby by tapping Bixby on the Apps screen. The Galaxy Watch will start voice recognition.  2 Say a voice command. If the Galaxy Watch recognises the command, the Galaxy Watch will perform the corresponding action with voice feedback. To repeat a voice command or say a different command, tap https://www.samsung.com/ph/support/mobile-devices/how-to-utilize-bixby-on-galaxy-watch/ How to set the Bixby's Voice response according to the situation Last Update date : Sep 15, 2022 One of the features of the Bixby Voice app is the ability to adapt its responses to the type of situation the user is experiencing in the moment. This way, Bixby will adapt to your needs in real time. You can set Bixby's voice responses to “Always” or “Hands-free only”. To select your preferred option, follow the next steps: https://www.samsung.com/levant/support/apps-services/how-to-set-the-bixbys-voice-response-according-to-the-

Claim	Claim Language	Accused Products
		situation/#:~:text=You%20can%20set%20Bixby's%20voice,%E2%80%9CHands%2Dfree%20only%E2%80%9D. Talk to Bixby using Voice wake-up on your Galaxy device  You don't need to press a button when you want to call Bixby on your Galaxy phone or tablet; you can do it hands-free with Voice wake-up. Once this feature is set up, all you have to do is say "Hi, Bixby," and Bixby will be at your service. You can ask a question or give a command. https://www.samsung.com/us/support/answer/ANS00080448/#:~:text=Turn%20on%20Bixby%20Voice%20wake%2Dup&text=You%20can%20do%20it%20any,then%20tap%20Voice%20wake%2Dup. Source code is required to fully understand the functionality of these elements of the accused products.
[1B.6.e]	sending a modified microphone signal to the data buffer replacing or adding to previous data stored in the data buffer; and	Each Accused Product comprises a processor configured to perform “<i>sending a modified microphone signal to the data buffer replacing or adding to previous data stored in the data buffer.</i>” On information and belief, the microphones in Bixby enabled products have output signals that are filtered and, therefore, modified before being sent to any data buffer.

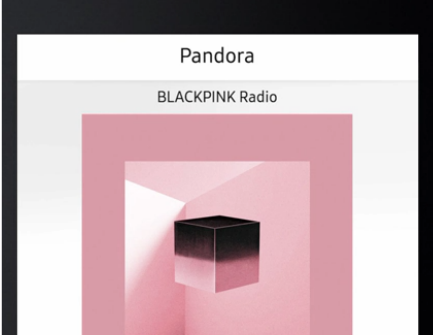
Claim	Claim Language	Accused Products
		The Bixby voice app also has a voice filter. The updated Bixby Voice app also comes with a feature called Voice Filter. As the name suggests, it improves speech recognition performance in noise environments by filtering out other people’s voices and background noise. According to the changelog, the Voice Filter is automatically activated when you turn on ‘Respond to my voice’ and ‘On-device mode’ in the app’s settings. The update also offers a few bug fixes, but Samsung hasn’t mentioned anything about them. https://www.sammobile.com/news/bixby-voice-updated-new-features-improved-speech-recognition/ Source code is required to fully understand the functionality of these elements of the accused products.
[1B.6.f]	sending a portion of the data stored in the data buffer, spanning a time period, to the speaker in response to a user request,	The Accused Product(s) comprises a processor is configured to perform “<i>sending a portion of the data stored in the data buffer, spanning a time period, to the speaker in response to a user request.</i>” On information and belief, Bixby enabled devices send music and recorded audio (including audio recorded with videos) that has been stored in a data buffer to a speaker in response to a user request.

Claim	Claim Language	Accused Products
		Galaxy S10 / S10+: Use Bixby Voice Command to Start Voice ... YouTube · ITJungles · Nov 8, 2019  In this video 00:03 Voice Command 00:21 Voice Recording 00:28 Start Recording 00:51 Speech to Text https://www.google.com/search?q=bixby+voice+playback&spell=1&sa=X&ved=2ahUKEwjql5us7tL_AhUQATQIHfYfkAA0QBSgAegQICBAB&biw=1280&bih=657&dpr=1.5#fpstate=ive&vld=cid:8a9cfccb,vid:nVflhqmLoD0; https://www.youtube.com/watch?v=nVflhqmLoD0 How to use the call recording feature on your Samsung smartphone? Last Update date : Jan 13, 2023 You can record important calls on your Samsung Galaxy Smartphone, and play them back from your audio library whenever you want. Follow the easy steps shown in the below video to learn how to record calls when needed.

Claim	Claim Language	Accused Products
		https://www.samsung.com/in/support/mobile-devices/how-to-use-the-call-recording-feature-on-your-samsung-smartphone/ Have Bixby play music on your Galaxy phone  Bixby Voice is your preferred AI assistant because it's always helping you out. And did you know that it can also double as a DJ? Just say a voice command and Bixby will start playing all of your favorite songs from Spotify, Samsung Music, or another music app. https://www.samsung.com/us/support/answer/ANS00078788/#:~:text=If%20you%20prefer%20Samsung%20Music,Bixby%20will%20perform%20the%20command.

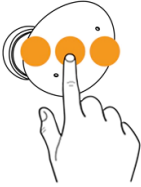
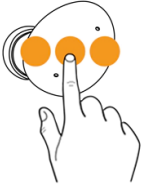
Exhibit A-01

Claim	Claim Language	Accused Products
		 Samsung Bixby Camera Commands Tutorial How to control the camera with your voice https://www.youtube.com/watch?v=LzR3m2PYVKU

Claim	Claim Language	Accused Products
		Play music on your Family Hub smart fridge Play music using Pandora  Are you a frequent Pandora user? If so, you'll be happy to know Pandora is available on Family Hub. Tap Apps, and then open the Pandora app. Enter your account information, and then tap Sign-In. Now you can use Pandora the way you normally would. You can also create a Pandora widget for easy access or control Pandora through Bixby. Note: You cannot create a new Pandora account from the Family Hub. You will need to use the Pandora website or app. https://www.samsung.com/us/support/answer/ANS00062814/ 

Claim	Claim Language	Accused Products
		Music controls Using the Google Play Music app or Pandora (or any future supported Bixby Labs apps -- Spotify isn't on the list at time of writing) you can use Bixby to control your tunes. Here are some useful commands: • "Play music" • "Stop the music" • "Play next song" • "Start this song over" • "What's the name of this song?" • "Whose song is this?" • "Set sleep timer for X minutes" • "Show new releases" • "Play [artist/genre] radio station in [Play Music/Pandora]" https://www.cnet.com/tech/mobile/most-useful-bixby-voice-commands/ Source code is required to fully understand the functionality of these elements of the accused products.
[1B.6.g]	wherein the user request is one of the sonic signature that is a voice command or a manual input from the user interface.	Each Accused Product comprises a processor configured to perform sending a portion of the data to the speaker in response to a user request, <i>"wherein the user request is one of the sonic signature that is a voice command or a manual input from the user interface."</i> For example, Samsung Galaxy earbuds allow a user to send a manual input from the touchpad with tap and hold actions.

Claim	Claim Language	Accused Products
		Touchpad commands for your Samsung earbuds   Your earbuds have several built-in commands to enhance your user experience when connected to a phone or tablet with the Galaxy Wearable app. With just a swipe or a quick tap, you can play music, skip songs, answer calls from a connected phone, and much more. You can also customize the touchpad commands for adjusting the volume, using voice commands, and enabling Ambient sound. You can even launch Spotify on most Galaxy Bud models, including the new Galaxy Buds2 Pro. Note: These features will vary by device and software version. Launching Spotify from the earbuds is not available on iOS devices or on the original Galaxy Buds. https://www.samsung.com/us/support/answer/ANS00078137/

Claim	Claim Language	Accused Products
		Galaxy Buds2, Galaxy Buds2 Pro, and Galaxy Buds Pro touchpad command gestures ✓ Review the guide below to understand how to control your Galaxy Buds2, Galaxy Buds2 Pro, or Galaxy Buds Pro whether you need to play a song or answer an incoming call. Tap and hold  User's choice (change in settings) or Decline call Tap twice  Play next track or Answer/end call Tap three times  Previous song Tap once  Play/pause https://www.samsung.com/us/support/answer/ANS00078137/ Bixby allows a user to send a voice command for user request. What Does Bixby Do? Bixby is a smart assistant that lets you voice control your phone, but it can do a lot more. Bixby Voice, Bixby Vision, and Bixby Routines are Bixby's main features that you should get acquainted with. These handy tools allow you to interact with Bixby by speaking, opening your camera, or tapping your screen.

Claim	Claim Language	Accused Products
		https://www.makeuseof.com/tag/what-is-bixby-how-to-use-bixby/#:~:text=Bixby%20is%20a%20smart%20assistant,camera%2C%20or%20tapping%20your%20screen. Get the most out of Bixby Conveniently control all of your Galaxy devices such as Phone, Tab, Watch, Buds, Book and many more, with Bixby.¹²³ https://www.samsung.com/us/apps/bixby/ <i>Bixby-powered TVs, fridges, and other products are available as well.</i> In addition to smartphones and tablets, Bixby runs on Samsung's <u>Family Hub refrigerators</u> and some other products, like Galaxy Watches and TVs. Bixby understands English (British, American, and Indian), Korean, Mandarin Chinese, Brazilian Portuguese, French, German, Italian, and Spanish. For comparison, Google Assistant supports at least 44 languages on smartphones and 13 languages on smart speakers and displays. https://www.androidauthority.com/bixby-879091/ Samsung marketing materials indicate that Bixby is available with at least the following products: Galaxy S23, S23+, S23 Ultra, S22, S22+, S22 Ultra, S21, S21+, S21 Ultra, S21 FE, S20, S20+, S20 Ultra, S20 FE, S10, S10+, S10e, S10 Lite, S8, S8+, S8 Active, A73 5G, A53, A33 5G, A71, A72, A54 5G, A53x, A52, A52 5G, A52s, A51, A51 5G, A90, A80, A82, A71 5G, A70, A70s, A60, A50, A50s, A8s, A9 2018, A9 Pro A8 Star, A34 5G, A33 5G, A Star,

Claim	Claim Language	Accused Products
		F52, F62, M52, M54 5G, M62, Note20, Note20+, Note20 Ultra, Note10, Note10+, Note10 Lite, Note9, S9, S9+, Note8, Xcover Pro, Xcover Pro2, Fold, Z Fold 2, Z Fold 3, Z Fold 4, Z Flip, Z Flip 5G, Z Flip 3, Z Flip 4, Tab S8, Tab S8+, Tab S8 Ultra, Tab S7, Tab S7+, Tab S7 Lite, Tab S6, Tab S6 Lite, Tab S5e, Tab S4, Tab A 10.5", Tab Active Pro, Tab A2, Tab A4, Tab Active3, Tab Active Pro, Tab Active, Gear S3, Gear S4, Gear Sport, Watch, Watch Active, Watch Active2, Watch 3, Watch 4, Watch 4 Classic, Watch 5, Watch 5 Pro, Buds Pro, Buds Live, Buds 2, Buds 2 Pro, Book2 HDD, Book2, Book2 360, Book2 Pro 15, Book2 Pro13, Book2 Pro 360, Book, Book Biz, Book Pro, Book Pro 360, Book Odyssey, Book Go, Book Go 5G, Book Flex 2α, Book Flex 2, Book Flex 2 5G, Book Ion 2, Book Flex, Book Ion, Book Flex α, Book S, Notebook+, Notebook+2, Notebook Pen, Notebook 9 Pro, Notebook 9, Notebook 7 Spin, Notebook 7 Pro, Notebook 7, Notebook 5, Notebook 3, and Notebook Odyssey. https://www.samsung.com/us/apps/bixby/, Fn. 4. Source code is required to fully understand the functionality of these elements of the accused products.
[2P]	The system according to claim 1,	See claim element [1P].
[2A]	wherein the sonic signature is a voice command, and	The Accused Product(s) is a system “<i>wherein the sonic signature is a voice command.</i>” For example, Bixby allows a user to send a voice command for user request What Does Bixby Do? Bixby is a smart assistant that lets you voice control your phone, but it can do a lot more. Bixby Voice, Bixby Vision, and Bixby Routines are Bixby’s main features that you should get acquainted with. These handy tools allow you to interact with Bixby by speaking, opening your camera, or tapping your screen.

Claim	Claim Language	Accused Products
		https://www.makeuseof.com/tag/what-is-bixby-how-to-use-bixby/#:~:text=Bixby%20is%20a%20smart%20assistant,camera%2C%20or%20tapping%20your%20screen. Source code is required to fully understand the functionality of these elements of the accused products.
[2B]	where the voice command is to replay audio.	The Accused Product(s) is a system wherein “<i>the voice command is to replay audio.</i>” On information and belief, Bixby enabled devices send music and recorded audio (including audio recorded with videos) that has been stored in a data buffer to a speaker in response to a user request. Galaxy S10 / S10+: Use Bixby Voice Command to Start Voice ... YouTube YouTube · ITJungles · Nov 8, 2019  In this video 00:03 Voice Command 00:21 Voice Recording 00:28 Start Recording 00:51 Speech to Text https://www.google.com/search?q=bixby+voice+playback&spell=1&sa=X&ved=2ahUKEwjql5us7tL_AhUQATQIHfYfkAA0QBSgAegQICBAB&biw=1280&bih=657&dpr=1.5#fpstate=ive&vld=cid:8a9cfccb,vid:nVflhqmLoD0; https://www.youtube.com/watch?v=nVflhqmLoD0

Claim	Claim Language	Accused Products
		How to use the call recording feature on your Samsung smartphone? Last Update date : Jan 13, 2023 You can record important calls on your Samsung Galaxy Smartphone, and play them back from your audio library whenever you want. Follow the easy steps shown in the below video to learn how to record calls when needed. https://www.samsung.com/in/support/mobile-devices/how-to-use-the-call-recording-feature-on-your-samsung-smartphone/ Have Bixby play music on your Galaxy phone  Bixby Voice is your preferred AI assistant because it's always helping you out. And did you know that it can also double as a DJ? Just say a voice command and Bixby will start playing all of your favorite songs from Spotify, Samsung Music, or another music app. https://www.samsung.com/us/support/answer/ANS00078788/#:~:text=If%20you%20prefer%20Samsung%20Music,Bixby%20will%20perform%20the%20command.

Claim	Claim Language	Accused Products
		 Samsung Bixby Camera Commands Tutorial How to control the camera with your voice https://www.youtube.com/watch?v=LzR3m2PYVKU Source code is required to fully understand the functionality of these elements of the accused products.

Claim	Claim Language	Accused Products
[3]	The system according to claim 1, wherein the time period is less than 30 minutes.	The Accused Product(s) is a system “<i>wherein the time period is less than 30 minutes.</i>” Virtually all songs are less than 30 minutes, and many voice and other recordings will be less than 30 minutes.  In early October, Lil Yachty uploaded the 83-second track “Poland” to SoundCloud along with a grumpy message: “STOP LEAKING MY SHIT.” “Poland” consists of two keening hooks and some slack rhymes; a veteran publishing executive calls it “an idea, almost a tweet,” more than a song. Either way, it’s a hit — it reached No. 40 on the Billboard Hot 100 — and it’s part of a larger trend: The average length of popular songs has been shrinking steadily for years. A 2018 study by San Francisco-based engineer Michael Tauberg concluded that songs on the Billboard Hot 100 shed around 40 seconds since 2000, falling from 4:10-ish to roughly 3:30. The average length of the top 50 tracks on <i>Billboard’s</i> year-end Hot 100 in 2021 was even less, a mere 3:07. (Though this is a simple average, whereas Tauberg’s calculation was weighted by weeks spent on the chart.) https://www.billboard.com/pro/songs-getting-shorter-tiktok-streaming/ Source code is required to fully understand the functionality of these elements of the accused products.

Claim	Claim Language	Accused Products
[4]	The system according to claim 1, wherein the time period is less than 15 minutes.	The Accused Product(s) is a system “<i>wherein the time period is less than 15 minutes.</i>” Virtually all songs are less than 15 minutes, and many voice and other recordings will be less than 15 minutes.  In early October, Lil Yachty uploaded the 83-second track “Poland” to SoundCloud along with a grumpy message: “STOP LEAKING MY SHIT.” “Poland” consists of two keening hooks and some slack rhymes; a veteran publishing executive calls it “an idea, almost a tweet,” more than a song. Either way, it’s a hit — it reached No. 40 on the Billboard Hot 100 — and it’s part of a larger trend: The average length of popular songs has been shrinking steadily for years. A 2018 study by San Francisco-based engineer Michael Tauberg concluded that songs on the Billboard Hot 100 shed around 40 seconds since 2000, falling from 4:10-ish to roughly 3:30. The average length of the top 50 tracks on <i>Billboard’s</i> year-end Hot 100 in 2021 was even less, a mere 3:07. (Though this is a simple average, whereas Tauberg’s calculation was weighted by weeks spent on the chart.) https://www.billboard.com/pro/songs-getting-shorter-tiktok-streaming/ Source code is required to fully understand the functionality of these elements of the accused products.

[5]	The system according to claim 1, wherein the audio device is wirelessly connected to an earpiece.	The Accused Product(s) is a system “<i>wherein the audio device is wirelessly connected to an earpiece.</i>” Bixby enabled phones, tablets, and other devices wirelessly connect to earpieces. Have Bixby play music on your Galaxy phone  Bixby Voice is your preferred AI assistant because it's always helping you out. And did you know that it can also double as a DJ? Just say a voice command and Bixby will start playing all of your favorite songs from Spotify, Samsung Music, or another music app. https://www.samsung.com/us/support/answer/ANS00078788/#:~:text=If%20you%20prefer%20Samsung%20Music,Bixby%20will%20perform%20the%20command.
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		Buds  How to talk to Bixby With your buds connected, you don't need to take your phone out to talk to Bixby • Say "Hi Bixby" "Hi Bixby" is all you need to get things done • Long press on the touch pad Press and hold the touch pad on the Buds to talk to Bixby https://www.samsung.com/us/apps/bixby/bixby-user-guide/
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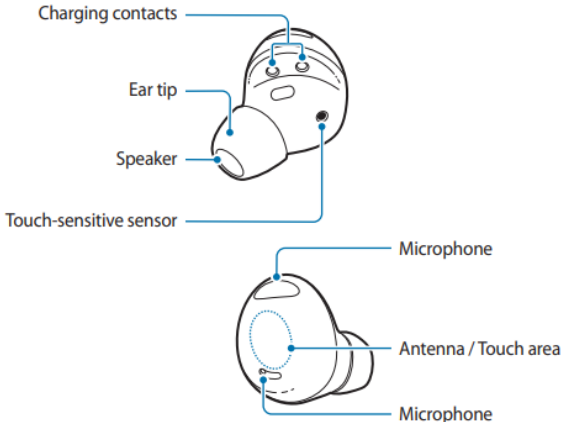
Claim	Claim Language	Accused Products
[6P]	The system according to claim 5, wherein the earpiece includes:	See claim 5.
[6A]	an ambient sound microphone;	The Accused Product(s) comprises “<i>an ambient sound microphone.</i>” For example, Samsung Galaxy Buds+ includes an ear canal (inner) microphone and two outer microphones. One of the two outer microphones is configured to measure ambient sound and generate a microphone signal. 2-way dynamic speaker Tweeter (Clear High notes) Woofer (Rich and Powerful Bass)  https://web.archive.org/web/20201212191031/https://www.samsung.com/us/mobile/audio/galaxy-buds-plus/

Exhibit A-01

Claim	Claim Language	Accused Products
		Samsung Galaxy Buds2, Buds2 Pro, and Buds Live have three microphones: 2 outer microphones and 1 inner microphone. One of the outer microphones is configured to measure ambient sound and generate a microphone signal.

Claim	Claim Language	Accused Products		
		Galaxy Buds2 Pro  Bora Purple²² Features Enhanced 360 audio 24-bit Hi-Fi Intelligent ANC Battery Up to 29hrs with case (ANC Off) Speaker Dynamic 2-way Woofer & tweeter Microphone 3 Mics + VPU Ambient sound ○ Voice Detect ○	Galaxy Buds2  Olive²² Features 360 audio 16-bit Hi-Fi ANC Battery Up to 20hrs with case (ANC Off) Speaker Dynamic 2-way Woofer & tweeter Microphone 3 Mics + VPU Ambient sound ○ Voice Detect -	Galaxy Buds Live  Mystic Bronze²² Features 360 audio 16-bit Hi-Fi ANC Battery Up to 28hrs with case (ANC Off) Speaker Dynamic 2-way Woofer & tweeter Microphone 3 Mics + VPU Ambient sound - Voice Detect -

Claim	Claim Language	Accused Products
		https://www.samsung.com/us/mobile-audio/galaxy-buds2-pro/#design For example, Galaxy Buds Live has 2 outer microphones and 1 inner microphone. One of the outer microphones is configured to measure ambient sound and generate a microphone signal. Weighing just 5.6g, each earbud has a 12mm speaker with 2 outer and 1 inner microphone. There's also a dedicated Voice Pickup Unit to further improve the call quality. There's a 60mAh battery in the earbuds while the case has a 472mAh battery.  https://www.sammobile.com/samsung/galaxy-buds-live/

Claim	Claim Language	Accused Products
		Device layout and functions Earbud  Samsung-Galaxy-Buds-2-Pro-User-Manual.pdf https://www.sammobile.com/wp-content/uploads/2022/08/Samsung-Galaxy-Buds-2-Pro-User-Manual.pdf Galaxy Buds Pro Ambient sound can be used on Galaxy Buds Pro when you need to hear what's going on around you. You can also use the new Detect conversations feature to easily hear if someone is speaking to you. https://www.samsung.com/us/support/answer/ANS00078084/
[6B]	and an ear canal receiver.	The Accused Product(s) comprises “ <i>an ear canal receiver.</i> ”

Claim	Claim Language	Accused Products
		For example, Samsung Galaxy Buds+ includes a 2-way dynamic speaker that acts as the ear canal receiver. 2-way dynamic speaker Tweeter (Clear High notes) Woofer (Rich and Powerful Bass)  1 Inner Mic 2 Outer Mics https://web.archive.org/web/20201212191031/https://www.samsung.com/us/mobile/audio/galaxy-buds-plus/ Samsung Galaxy Buds2, Bud2 Pro, and Buds Live all include a dynamic 2-way speaker that acts as the ear canal receiver.

Claim	Claim Language	Accused Products		
		Galaxy Buds2 Pro  Bora Purple²² Features Enhanced 360 audio 24-bit Hi-Fi Intelligent ANC Battery Up to 29hrs with case (ANC Off) Speaker Dynamic 2-way Woofer & tweeter Microphone 3 Mics + VPU Ambient sound ○ Voice Detect ○	Galaxy Buds2  Olive²² Features 360 audio 16-bit Hi-Fi ANC Battery Up to 20hrs with case (ANC Off) Speaker Dynamic 2-way Woofer & tweeter Microphone 3 Mics + VPU Ambient sound ○ Voice Detect -	Galaxy Buds Live  Mystic Bronze²² Features 360 audio 16-bit Hi-Fi ANC Battery Up to 28hrs with case (ANC Off) Speaker Dynamic 2-way Woofer & tweeter Microphone 3 Mics + VPU Ambient sound - Voice Detect -

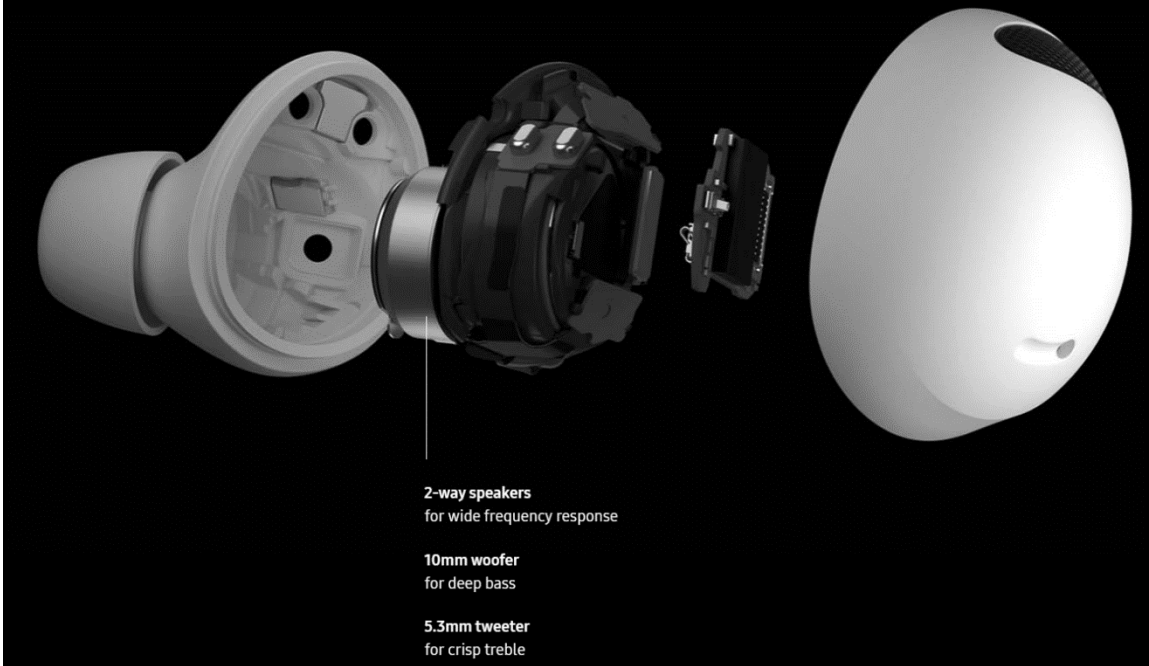
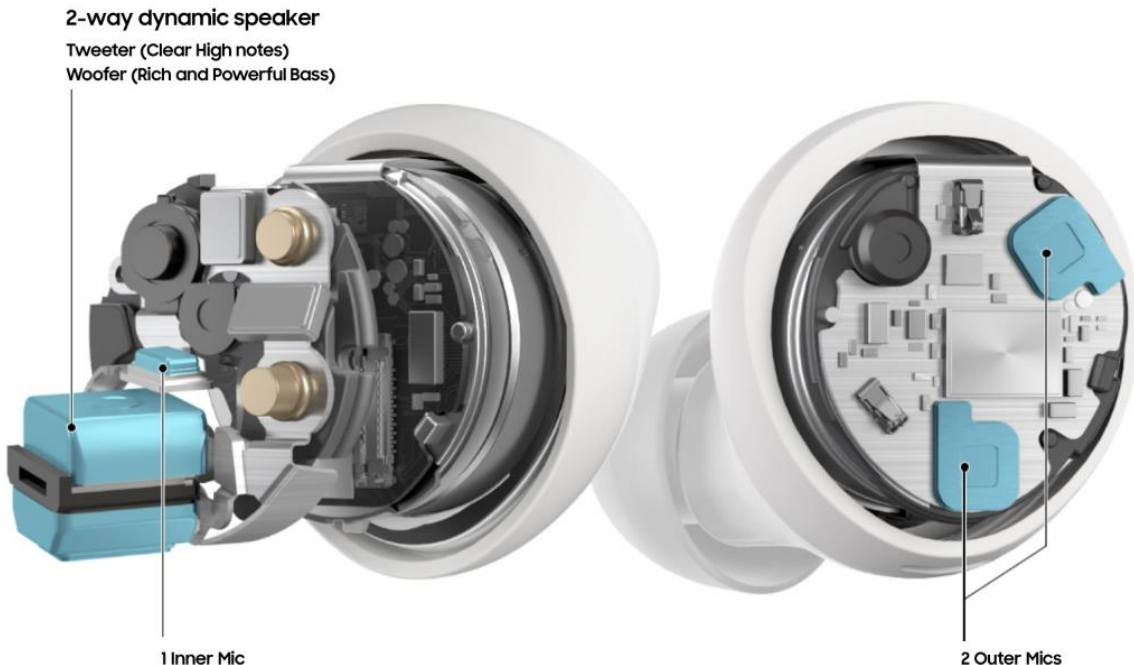
Claim	Claim Language	Accused Products
		https://www.samsung.com/us/mobile-audio/galaxy-buds2-pro/#design  2-way speakers for wide frequency response 10mm woofer for deep bass 5.3mm tweeter for crisp treble https://www.samsung.com/us/mobile-audio/galaxy-buds2-pro/#design

Exhibit A-01

Claim	Claim Language	Accused Products
		Galaxy Buds Pro GALAXY BUDS PRO INTELLIGENT ANC PROFESSIONAL SOUND CONVENIENCE DESIGN BATTERY COMPARE SPECS Air vent reduces occlusion for spacious audio  2-way speakers with bigger driver for balanced sound and wide frequency response • 11mm woofer for full bass • 6.5mm tweeter with low distortion for silky treble, clean sound and a wide sound stage https://www.samsung.com/global/galaxy/galaxy-buds-pro/#professional-sound

Claim	Claim Language	Accused Products
[7]	The system according to claim 6, wherein the earpiece further includes: an ear canal microphone.	The Accused Product(s) comprises “an ear canal microphone.” For example, Samsung Galaxy Buds+ includes an ear canal (inner) microphone.  2-way dynamic speaker Tweeter (Clear High notes) Woofer (Rich and Powerful Bass) 1 Inner Mic 2 Outer Mics https://web.archive.org/web/20201212191031/https://www.samsung.com/us/mobile/audio/galaxy-buds-plus/ Samsung Galaxy Buds2, Buds2 Pro, and Buds Live have three microphones: 2 outer microphones and 1 inner microphone. The inner microphone is the ear canal microphone.

Claim	Claim Language	Accused Products		
		Galaxy Buds2 Pro  Bora Purple²² Features Enhanced 360 audio 24-bit Hi-Fi Intelligent ANC Battery Up to 29hrs with case (ANC Off) Speaker Dynamic 2-way Woofer & tweeter Microphone 3 Mics + VPU Ambient sound ○ Voice Detect ○	Galaxy Buds2  Olive²² Features 360 audio 16-bit Hi-Fi ANC Battery Up to 20hrs with case (ANC Off) Speaker Dynamic 2-way Woofer & tweeter Microphone 3 Mics + VPU Ambient sound ○ Voice Detect -	Galaxy Buds Live  Mystic Bronze²² Features 360 audio 16-bit Hi-Fi ANC Battery Up to 28hrs with case (ANC Off) Speaker Dynamic 2-way Woofer & tweeter Microphone 3 Mics + VPU Ambient sound - Voice Detect -

Claim	Claim Language	Accused Products
		https://www.samsung.com/us/mobile-audio/galaxy-buds2-pro/#design For example, Galaxy Buds Live has 2 outer microphones and 1 inner microphone. The inner microphone is the ear canal microphone. Weighing just 5.6g, each earbud has a 12mm speaker with 2 outer and 1 inner microphone. There's also a dedicated Voice Pickup Unit to further improve the call quality. There's a 60mAh battery in the earbuds while the case has a 472mAh battery.  https://www.sammobile.com/samsung/galaxy-buds-live/

[8]	The system according to claim 7, wherein the operation of notifying the user sends a notification signal to the ear canal receiver.	The Accused Product(s) is configured to perform “<i>the operation of notifying the user sends a notification signal to the ear canal receiver.</i>” Bixby notifies users when its functionality has been requested and commands are performed. The notifications can be visually depicted on a display screen or delivered audibly. Bixby voice notification of command performance on a Galaxy watch. Using Bixby 1 Quickly press the Home key twice. Alternatively, say “Hi Bixby”. You can also launch Bixby by tapping Bixby on the Apps screen. The Galaxy Watch will start voice recognition.  2 Say a voice command. If the Galaxy Watch recognises the command, the Galaxy Watch will perform the corresponding action with voice feedback. To repeat a voice command or say a different command, tap https://www.samsung.com/ph/support/mobile-devices/how-to-utilize-bixby-on-galaxy-watch/
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How to set the Bixby's Voice response according to the situation

Last Update date : Sep 15, 2022

One of the features of the Bixby Voice app is the ability to adapt its responses to the type of situation the user is experiencing in the moment. This way, Bixby will adapt to your needs in real time.

You can set Bixby's voice responses to "Always" or "Hands-free only". To select your preferred option, follow the next steps:

<https://www.samsung.com/levant/support/apps-services/how-to-set-the-bixbys-voice-response-according-to-the-situation/#:~:text=You%20can%20set%20Bixby's%20voice,%E2%80%9CHands%2Dfree%20only%E2%80%9D.>

Talk to Bixby using Voice wake-up on your Galaxy device



You don't need to press a button when you want to call Bixby on your Galaxy phone or tablet; you can do it hands-free with Voice wake-up. Once this feature is set up, all you have to do is say "Hi, Bixby," and Bixby will be at your service. You can ask a question or give a command.

Exhibit A-01

	https://www.samsung.com/us/support/answer/ANS00080448/#:~:text=Turn%20on%20Bixby%20Voice%20wake%2Dup&text=You%20can%20do%20it%20any,then%20tap%20Voice%20wake%2Dup. Source code is required to fully understand the functionality of these elements of the accused products.
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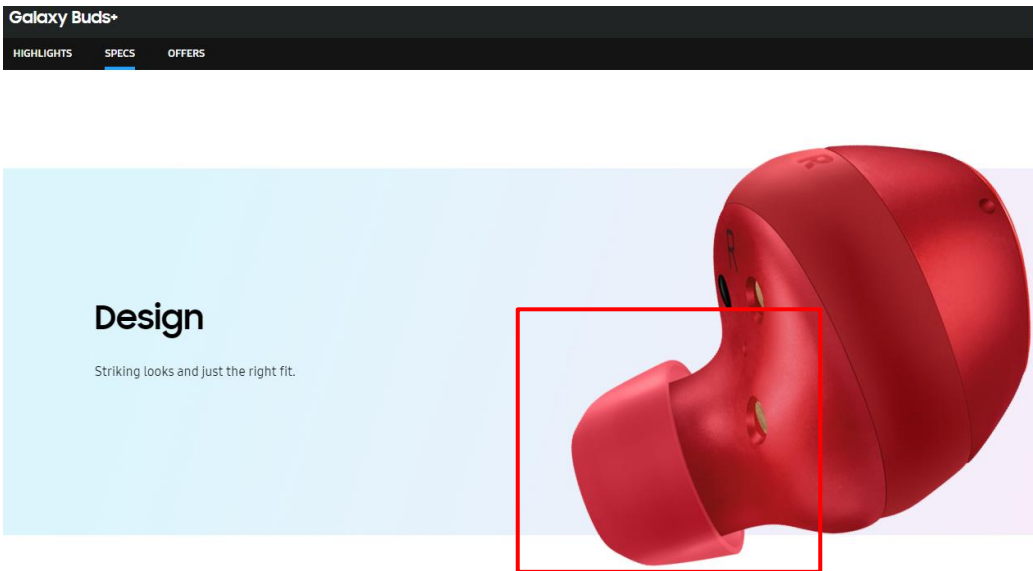
Claim	Claim Language	Accused Products
[9]	The system according to claim 5 wherein the earpiece further includes: a sealing section.	The Accused Product(s) further comprises “a sealing section.” For example, Samsung Galaxy earbuds (e.g., Galaxy Buds+, Buds2, Buds2 Pro, and Buds Live) comprises ear tips, which are the sealing sections.  The screenshot shows the Samsung Galaxy Buds+ product page. At the top, there is a navigation bar with 'HIGHLIGHTS', 'SPECS', and 'OFFERS'. Below this, the word 'Design' is prominently displayed, followed by the tagline 'Striking looks and just the right fit.' To the right of the text is a 3D rendering of a red Galaxy Buds+ earbud. A red rectangular box is drawn around the ear tip of the earbud, highlighting it as the 'sealing section' mentioned in the claim. https://www.samsung.com/us/mobile/audio/galaxy-buds-plus/specs/

Exhibit A-01

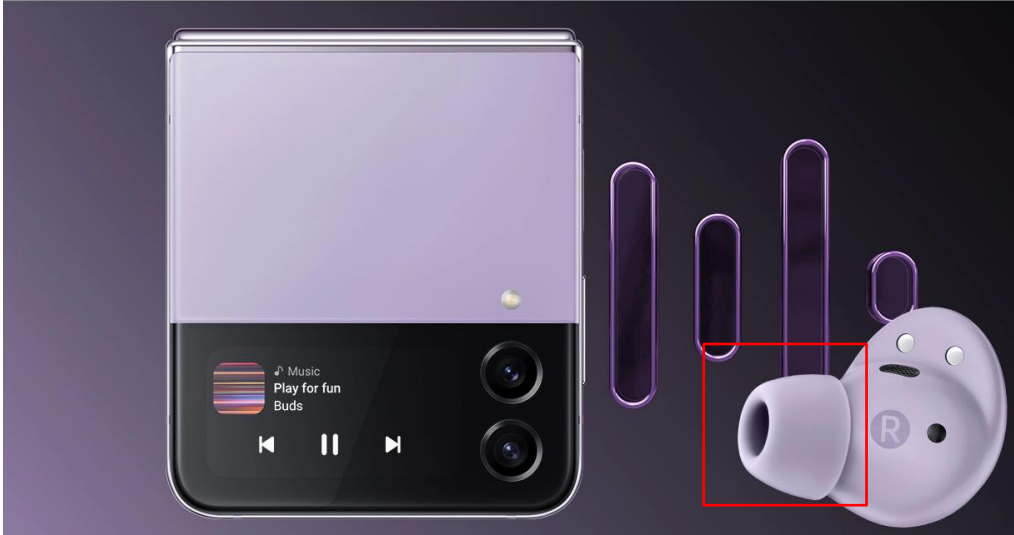
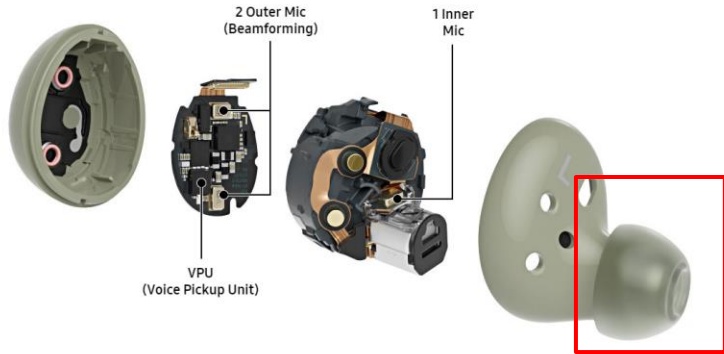
Claim	Claim Language	Accused Products
		Galaxy Buds2 Pro, Bora Purple SM-R510NLVAXAR Pricing before trade-in Total With Samsung Financing Get \$75 instant trade-in credit \$189.99 \$229.99⁹ \$7.92/mo (\$18.99/mo for 24 mos) BENEFITS SPECS REVIEWS SUPPORT RELATED PRE_FOOTER Chat about E Price includes \$40 instant savings - 17% off. Limited time only.  https://www.samsung.com/us/mobile/audio/headphones/galaxy-buds2-pro-bora-purple-sm-r510nlvaxar/

Exhibit A-01

Claim	Claim Language	Accused Products
		Galaxy Buds2 HIGHLIGHTS SOUND NOISE CANCELLATION DESIGN ECOSYSTEM COMPARE/SPECS OFFERS FOR BUSINESS With three microphones, a curved design to cut down on wind noise and a machine-learning based solution to filter unwanted sound, Galaxy Buds2 are designed to deliver every word crisply and clearly, whether you're chatting with a friend or leading a high-stakes conference call.  https://www.samsung.com/us/mobile-audio/galaxy-buds2/

Claim	Claim Language	Accused Products
		Galaxy Buds Live, Mystic Black SM-R180NZKAXAR BENEFITS SPECS REVIEWS SUPPORT RELATED  https://www.samsung.com/us/mobile/audio/headphones/galaxy-buds-live-mystic-black-sm-r180nzkaxar/ The ear tips of Samsung earbuds are sealing sections.

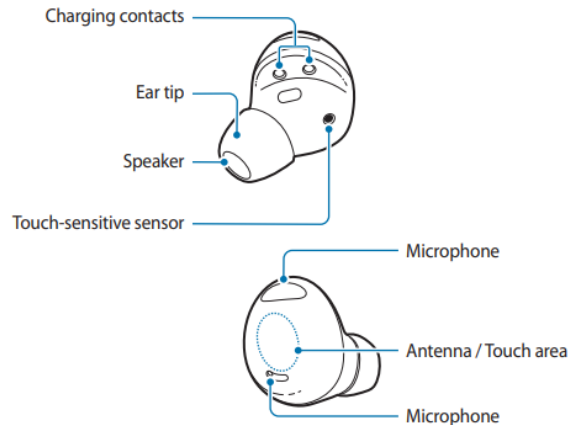
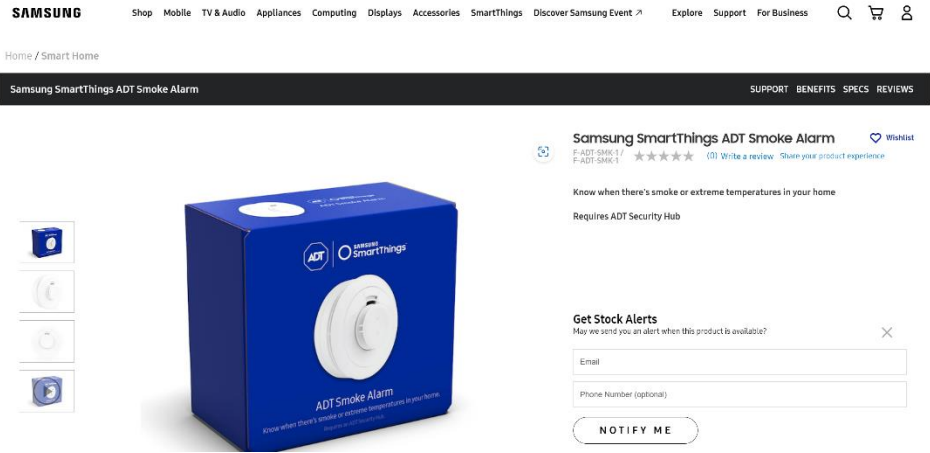
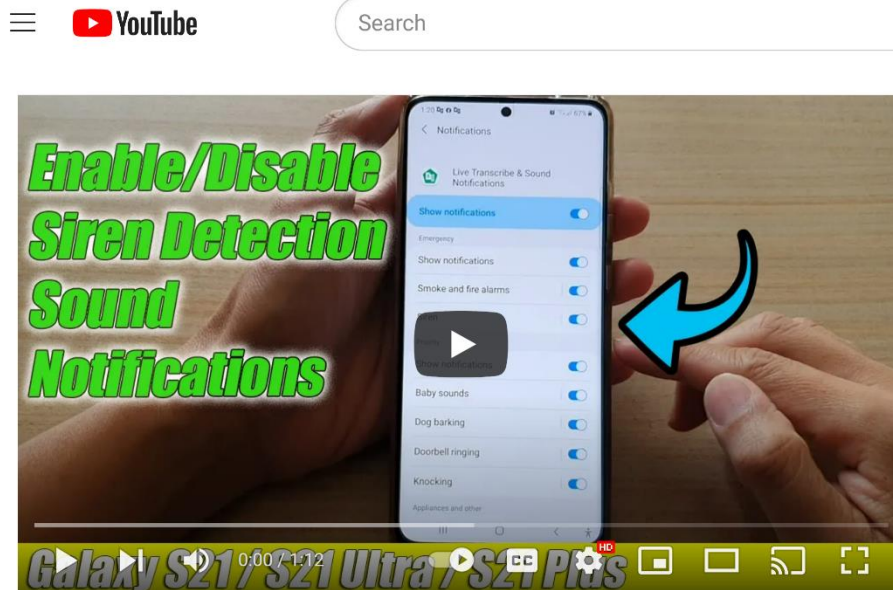
Claim	Claim Language	Accused Products
		Device layout and functions Earbud  The diagram illustrates the layout and functions of the Samsung Galaxy Buds 2 Pro earbuds. It shows two earbuds: one from a top-down perspective and one from a side profile. Labels with leader lines point to various components: 'Charging contacts' on the top of the earbud, 'Ear tip' on the front, 'Speaker' on the side, 'Touch-sensitive sensor' on the side, 'Microphone' on the top, and 'Antenna / Touch area' on the side. The side view also shows another 'Microphone' at the bottom. Samsung-Galaxy-Buds-2-Pro-User-Manual.pdf https://www.sammobile.com/wp-content/uploads/2022/08/Samsung-Galaxy-Buds-2-Pro-User-Manual.pdf

Exhibit A-01

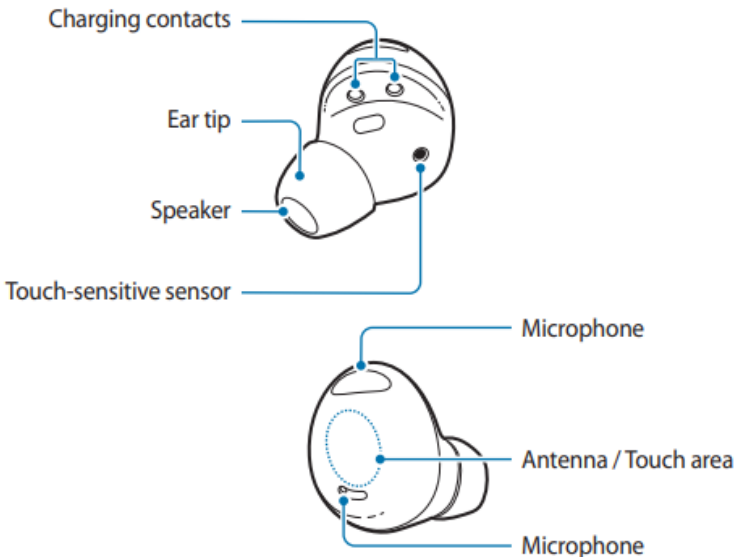
[10]	The system according to claim 1, wherein the sonic signature detected is one of a siren or an alarm.	The Accused Product(s) is configured for detecting a sonic signature “<i>wherein the sonic signature detected is one of a siren or an alarm.</i>”  https://www.samsung.com/us/smart-home/security/security-systems/samsung-smarththings-adt-smoke-alarm-f-adt-smk-1/ How to Use Samsung Galaxy Smartphones as Sound Detector for Crying Baby and Doorbell - YouTube https://www.youtube.com/watch?v=Bu83BJu56ZE
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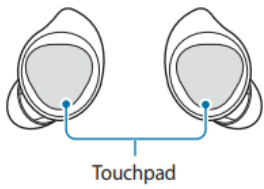


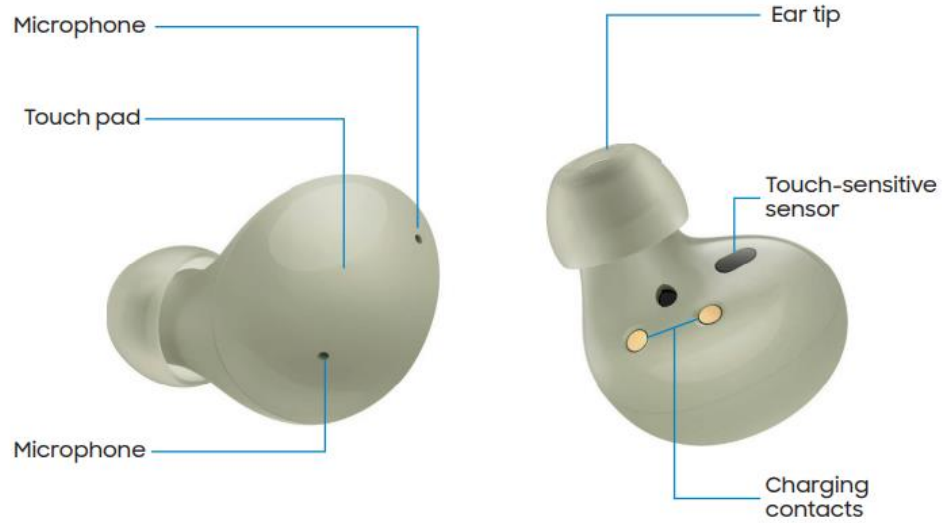
Galaxy S21/Ultra/Plus: How to Enable/Disable Siren Detection Sound Notifications

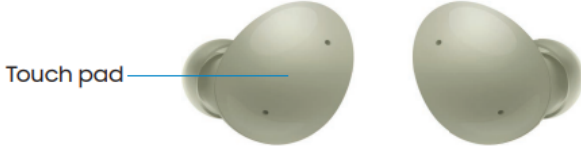
<https://www.youtube.com/watch?v=3IceUe1OxSY>

Source code is required to fully understand the functionality of these elements of the accused products.

Claim	Claim Language	Accused Products
[11]	The system according to claim 10, wherein the user interface is a button.	The Accused Product(s) further comprises a user interaction “<i>wherein the interaction interface is a button.</i>” For example, Samsung Galaxy earbuds (e.g., Galaxy Buds+, Buds2, Buds2 Pro, and Buds Live) each comprises a touchpad or touch area. The touchpad or touch area works like a button. Earbud  https://www.sammobile.com/wp-content/uploads/2022/08/Samsung-Galaxy-Buds-2-Pro-User-Manual.pdf

Claim	Claim Language	Accused Products
		Using the touchpad You can control music playback, answer or reject calls, and start a conversation with Bixby by using the touchpad.  Touchpad • To avoid hurting your ears, do not apply excessive pressure to the touchpad with your fingertips. • To avoid damaging the touchpad, do not tap it with anything sharp. https://downloadcenter.samsung.com/content/UM/202111/2021117205804377/SM-R175_UM_LTN_Eng_Rev.1.2_200713.pdf

Claim	Claim Language	Accused Products
		Galaxy Buds2  The diagram shows two views of the Galaxy Buds2 earbuds. The left view shows the back of the earbud with two microphones and a touch pad. The right view shows the front of the earbud with an ear tip, a touch-sensitive sensor, and charging contacts. https://downloadcenter.samsung.com/content/UM/202108/20210817072111129/WEA_R177_EN_UM_UDJ_071521_FINAL_AC.pdf

Claim	Claim Language	Accused Products
		Use touch controls Use the touch area on the earbuds to control your music, phone calls, and other useful shortcuts without getting out your phone.  NOTE The earbuds' touch actions are set to single tap and tap and hold by default. To use all the earbuds' touch actions, launch the Galaxy Wearable app, and tap Touch controls to activate the related features.  Single tap Lightly tap the touch pad one time for the following options: • Play a track. • Pause a track. Double tap Quickly tap the touch pad two times for the following options: • Play the next track. • Answer or end a call. • Place the current call on hold and answer a second incoming call. • Switch between a current call and a call placed on hold. https://downloadcenter.samsung.com/content/UM/202108/20210817072111129/WEA_R177_EN_UM_UDJ_071521_FINAL_AC.pdf

Claim	Claim Language	Accused Products
		Device layout https://downloadcenter.samsung.com/content/UM/202008/20200821033444906/WEA_SM-R180_Galaxy_Buds_Live_EN_UM_072720_FINAL_AC.pdf

Claim	Claim Language	Accused Products
		Use touch controls Use the touch area on the earbuds to control your music, phone calls, and other useful shortcuts without getting out your phone.  Single tap Lightly tap the touch pad one time for the following options: • Play a track. • Pause a track. Double tap Quickly tap the touch pad two times for the following options: • Play the next track. • Answer or end a call. • Place the current call on hold and answer a second incoming call. • Switch between a current call and a call placed on hold.

Exhibit A-01

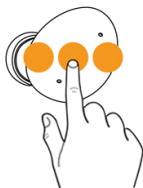
Claim	Claim Language	Accused Products
		https://downloadcenter.samsung.com/content/UM/202008/20200821033444906/WEA_S M-R180_Galaxy_Buds_Live_EN_UM_072720_FINAL_AC.pdf Galaxy Buds2, Galaxy Buds2 Pro, and Galaxy Buds Pro touchpad command gestures Review the guide below to understand how to control your Galaxy Buds2, Galaxy Buds2 Pro, or Galaxy Buds Pro whether you need to play a song or answer an incoming call. Tap and hold  User's choice (change in settings) or Decline call Tap twice  Play next track or Answer/end call Tap three times  Previous song Tap once  Play/pause https://www.samsung.com/us/support/answer/ANS00078137/

Exhibit A-01

Claim	Claim Language	Accused Products
[12]	The system according to claim 1, wherein the time period is less than 1 minute.	The Accused Product(s) is a system “<i>wherein the time period is less than 1 minute.</i>” For example, many online recordings last less than a minute. TikTok: video duration 2022-2023, by video views Published by L. Ceci, Mar 17, 2023  From August 2022 to January 2023, TikTok accounts with up to 500 views produced videos of approximately 32.4 seconds on average. Small accounts produced videos of around 36.4 seconds in length. Huge accounts, which presented over 25,001 views, produced content with a duration of around 42 seconds on average as of the examined period. https://www.statista.com/statistics/1372569/tiktok-video-duration-by-number-of-views/#:~:text=Small%20accounts%20produced%20videos%20of,as%20of%20the%20examined%20period. Source code is required to fully understand the functionality of these elements of the accused products.