**APPENDIX 5: AUGUST 12, 2025 INFRINGEMENT CONTENTIONS APPLYING CLAIMS 1-3, 6, 7, 10, 13-17, AND 20 OF U.S. PATENT NO. 11,812,091 TO ACCUSED SAMSUNG '091 PRODUCTS**

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
|---|---|
| [1.pre] A digital content reproducing apparatus, comprising: | Each of the Accused Samsung '091 Products [1]is a digital content reproducing apparatus. *See* User Guide and Technical Specifications of each of the Accused Samsung '091 Products available at Samsung's website showing that each device is a digital content reproducing apparatus.<br><br>For example, the Samsung Galaxy S25 is a digital content reproducing apparatus, such as a smartphone capable of reproducing digital content like videos and music. |

[1] The Accused Samsung '091 Products include the Galaxy A Quantum, Galaxy A03s, Galaxy A04s, Galaxy A10s, Galaxy A11, Galaxy A12, Galaxy A12s (aka Nacho), Galaxy A13, Galaxy A13 5G, Galaxy A14, Galaxy A14 5G, Galaxy A20, Galaxy A20e, Galaxy A20s, Galaxy A21, Galaxy A21s, Galaxy A22, Galaxy A22s 5G, Galaxy A23, Galaxy A23 5G, Galaxy A24 4G, Galaxy A30, Galaxy A30s, Galaxy A32, Galaxy A32 5G, Galaxy A33 5G, Galaxy A34, Galaxy A36 5G, Galaxy A40, Galaxy A42 5G, Galaxy A50, Galaxy A50s, Galaxy A51, Galaxy A51 5G, Galaxy A51 5G UW, Galaxy A52, Galaxy A52 5G, Galaxy A53 5G, Galaxy A54 5G, Galaxy A60, Galaxy A70, Galaxy A70s, Galaxy A71, Galaxy A71 5G, Galaxy A71 5G UW, Galaxy A72, Galaxy A73 5G, Galaxy A8, Galaxy A8+, Galaxy A80, Galaxy A90 5G, Galaxy Fold, Galaxy Fold 5G, Galaxy Note10, Galaxy Note10 5G, Galaxy Note10 Lite, Galaxy Note10+, Galaxy Note10+ 5G, Galaxy Note20, Galaxy Note20 5G, Galaxy Note20 Ultra, Galaxy Note20 Ultra 5G, Galaxy Note9, Galaxy S10, Galaxy S10 5G, Galaxy S10 Lite, Galaxy S10+, Galaxy S10e, Galaxy S20, Galaxy S20 5G, Galaxy S205G UW, Galaxy S20 FE, Galaxy S20 FE 5G, Galaxy S20 Ultra, Galaxy S20 Ultra 5G, Galaxy S20+, Galaxy S20+ 5G, Galaxy S21 5G, Galaxy S21 FE 5G, Galaxy S21 Ultra 5G, Galaxy S21+ 5G, Galaxy S22 5G, Galaxy S22 Ultra 5G, Galaxy S22+ 5G, Galaxy S23, Galaxy S23 FE, Galaxy S23 Ultra, Galaxy S23+, Galaxy S24, Galaxy S24+, Galaxy S24 Ultra, Galaxy S25, Galaxy S25+, Galaxy S25 Ultra, Galaxy S9, Galaxy S9+, Galaxy Xcover FieldPro, Galaxy Xcover Pro, Galaxy Xcover6 Pro, Galaxy Z Flip, Galaxy Z Flip 5G, Galaxy Z Flip3 5G, Galaxy Z Flip4, Galaxy Z Flip5, Galaxy Z Flip6, Galaxy Z Fold2 5G, Galaxy Z Fold3 5G, Galaxy Z Fold4, Galaxy Z Fold5, Galaxy Z Fold6, Galaxy A15 5G, Galaxy A25 5G, Galaxy A35 5G, Galaxy Z Fold7, Galaxy Z Flip7, Galaxy Z Flip7 FE; Galaxy Tab Active Pro, Galaxy Tab Active3, Galaxy Tab Active4 Pro, Galaxy Tab S5e, Galaxy Tab S6, Galaxy Tab S6 5G, Galaxy Tab S7, Galaxy Tab S7+, Galaxy Tab S8, Galaxy Tab S8 Ultra, Galaxy Tab S8+, Galaxy Tab S9, Galaxy Tab S9 FE, Galaxy Tab S9 FE+, Galaxy Tab S9 Ultra, Galaxy Tab S9+, Galaxy Tab A9+ 5G, Galaxy Tab Active5 5G, Galaxy Tab S10 Ultra, Galaxy Tab S10+, Galaxy Tab S10 FE+, Galaxy Tab S10 FE. Maxell reserves the right to accuse additional products as discovery proceeds in this investigation.

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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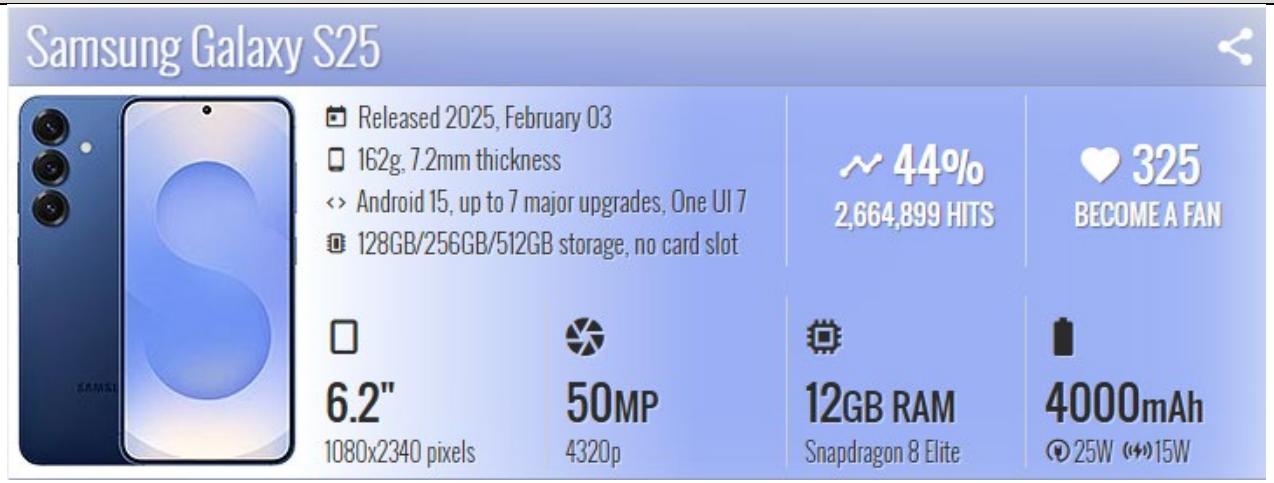


| | | |
|---|---|---|
| DISPLAY | Type | Dynamic LTPO AMOLED 2X, 120Hz, HDR10+, 2600 nits (peak) |
| | Size | 6.2 inches, 94.4 $cm^2$ (~91.1% screen-to-body ratio) |
| | Resolution | 1080 x 2340 pixels, 19.5:9 ratio (~416 ppi density) |
| | Protection | Corning Gorilla Glass Victus 2 |
| | | Always-on display |
| PLATFORM | OS | Android 15, up to 7 major Android upgrades, One UI 7 |
| | Chipset | Qualcomm SM8750-AB Snapdragon 8 Elite (3 nm) |
| | CPU | Octa-core (2x4.47 GHz Oryon V2 Phoenix L + 6x3.53 GHz Oryon V2 Phoenix M) |
| | GPU | Adreno 830 |
| COMMS | WLAN | Wi-Fi 802.11 a/b/g/n/ac/6e/7, tri-band, Wi-Fi Direct |
| | Bluetooth | 5.4, A2DP, LE |
| | Positioning | GPS, GLONASS, BDS, GALILEO, QZSS |
| | NFC | Yes |
| | Radio | No |
| | USB | USB Type-C 3.2, DisplayPort 1.2, OTG |

https://www.gsmarena.com/samsung_galaxy_s25-13610.php

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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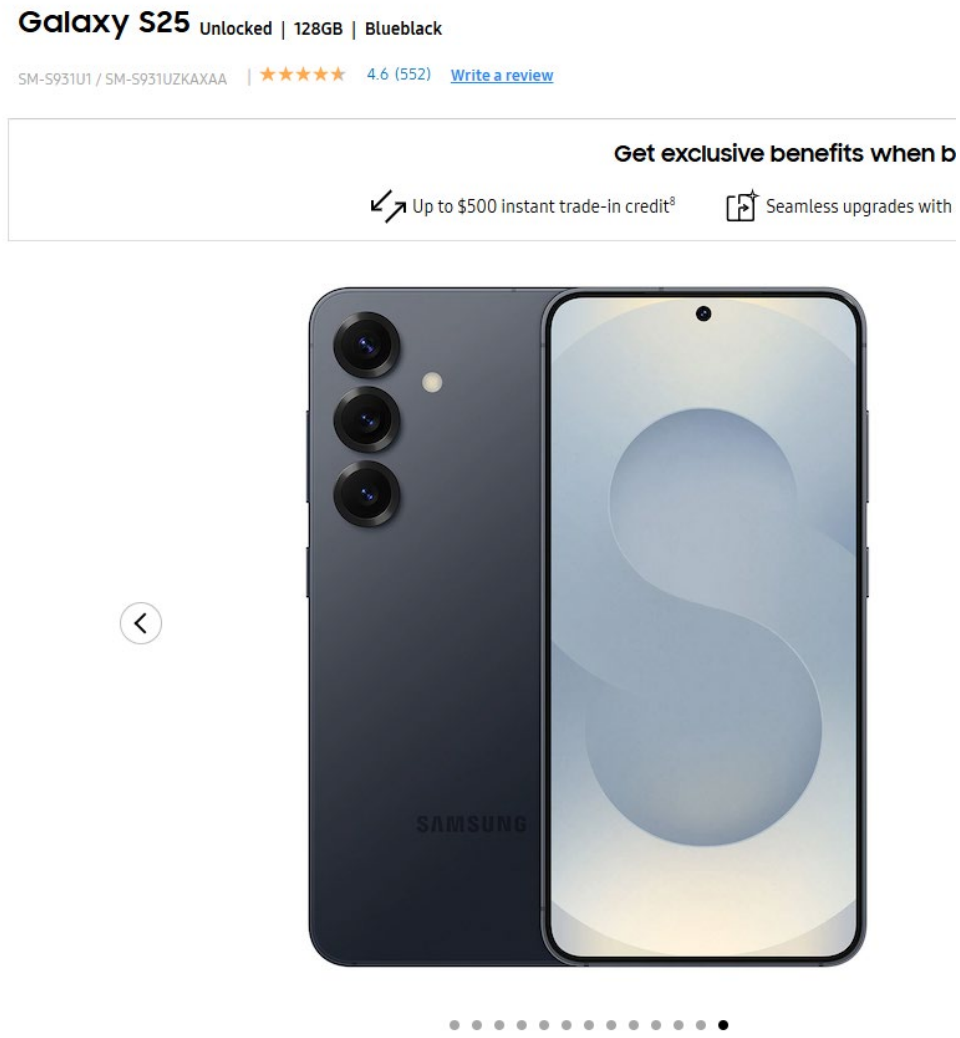
| |  |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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| | Display<br>**Resolution (Main Display)**<br>2340 x 1080 (FHD+)<br>**Main Display Size**<br>156.4mm (6.2" full rectangle) / 152.3mm (6.0" rounded corners)<br>**Technology (Main Display)**<br>Dynamic AMOLED 2X<br><br>Processor<br>**CPU Type**<br>Octa-Core<br>**CPU Speed**<br>4.47GHz,3.5GHz<br><br>Network<br>**2G GSM**<br>GSM850,GSM900,DCS1800,PCS1900<br>**3G UMTS**<br>B1(2100),B2(1900),B4(AWS),B5(850),B8(900)<br>**4G FDD LTE**<br>B1(2100),B2(1900),B3(1800),B4(AWS),B5(850),B7(2600),B8(900),B12(700),B13(700),B14(700),B18(800),B19(800),B20(800),B25(1900),B26(850),B28(700),B29(700),B30(2300),B66(AWS-3),B71(600)<br>**4G TDD LTE**<br>B38(2600),B39(1900),B40(2300),B41(2500),B48(3600)<br>**SIM Slot Type**<br>SIM 1 + eSIM / Dual eSIM<br>**5G FDD Sub6**<br>N1(2100),N2(1900),N5(850),N7(2600),N25(1900),N28(700),N66(AWS-3),N71(600) |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
|---|---|
| | Connectivity<br>**Wi-Fi Connectivity**<br>802.11a/b/g/n/ac/ax/be 2.4GHz+5GHz+6GHz, EHT320, MIMO, 4096-QAM<br>**USB**<br>USB 3.2 Gen 1<br>**Bluetooth®**<br>Bluetooth v5.4<br>**Location Technology**<br>GPS,Glonass,Beidou,Galileo<br>**Earjack**<br>USB Type-C<br>**MHL**<br>No<br>**Wi-Fi Direct**<br>Yes<br>**NFC**<br>Yes<br>**PC Sync.**<br>Smart Switch (PC version)<br>**USB Interface**<br>USB Type-C<br>OS<br>**OS**<br>Android<br>Samsung Galaxy S25 Technical Spec: https://www.samsung.com/us/smartphones/galaxy-s25/buy/galaxy-s25-128gb-unlocked-sm-s931uzkaxaa/ |
| [1.a] a network communication circuitry configured to receive digital contents and related information from an outside server; | Each of the Accused Samsung ’091 Products comprises a network communication circuitry configured to receive digital contents and related information from an outside server. See User Guide and Technical Specifications of each of the Accused Samsung ’091 Products available at Samsung’s website showing that each device comprises a network communication circuitry configured to receive digital contents and related information from an outside server.<br>For example, the Samsung Galaxy S25 includes network communication circuitry, such as Wi-Fi and cellular modem chipsets. This circuitry is configured to receive digital contents (like streaming video or music) and related information (like metadata, user account information, or content attributes) from outside servers, such as those operated by streaming services or content providers. |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
|---|---|
| | COMMS<br>WLAN: Wi-Fi 802.11 a/b/g/n/ac/6e/7, tri-band, Wi-Fi Direct<br>Bluetooth: 5.4, A2DP, LE<br>Positioning: GPS, GLONASS, BDS, GALILEO, QZSS<br>NFC: Yes<br>Radio: No<br>USB: USB Type-C 3.2, DisplayPort 1.2, OTG<br><br>https://www.gsmarena.com/samsung_galaxy_s25-13610.php<br><br>Network<br>2G GSM: GSM850,GSM900,DCS1800,PCS1900<br>3G UMTS: B1(2100),B2(1900),B4(AWS),B5(850),B8(900)<br>4G FDD LTE: B1(2100),B2(1900),B3(1800),B4(AWS),B5(850),B7(2600),B8(900),B12(700),B13(700),B14(700),B18(800),B19(800),B20(800),B25(1900),B26(850),B28(700),B29(700),B30(2300),B66(AWS-3),B71(600)<br>4G TDD LTE: B38(2600),B39(1900),B40(2300),B41(2500),B48(3600)<br>SIM Slot Type: SIM 1 + eSIM / Dual eSIM<br>5G FDD Sub6: N1(2100),N2(1900),N5(850),N7(2600),N25(1900),N28(700),N66(AWS-3),N71(600) |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
|---|---|
| | Connectivity<br>**Wi-Fi Connectivity**<br>802.11a/b/g/n/ac/ax/be 2.4GHz+5GHz+6GHz, EHT320, MIMO, 4096-QAM<br>**USB**<br>USB 3.2 Gen 1<br>**Bluetooth®**<br>Bluetooth v5.4<br>**Location Technology**<br>GPS,Glonass,Beidou,Galileo<br>**Earjack**<br>USB Type-C<br>**MHL**<br>No<br>**Wi-Fi Direct**<br>Yes<br>**NFC**<br>Yes<br>**PC Sync.**<br>Smart Switch (PC version)<br>**USB Interface**<br>USB Type-C<br>OS<br>**OS**<br>Android<br>Samsung Galaxy S25 Technical Spec: https://www.samsung.com/us/smartphones/galaxy-s25/buy/galaxy-s25-128gb-unlocked-sm-s931uzkaxaa/ |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
|---|---|
| | **Wi-Fi**<br>Turn on the Wi-Fi feature to connect to a Wi-Fi network and access the internet or other network devices.<br>**Connecting to a Wi-Fi network**<br>1 On the Settings screen, tap **Connections** → **Wi-Fi** and tap the switch to turn it on.<br>2 Select a network from the Wi-Fi networks list.<br>Networks with a lock icon require a password.<br>• Once the device connects to a Wi-Fi network, the device will reconnect to that network each time it is available without requiring a password. To prevent the device from connecting to the network automatically, tap ⚙ next to the network and tap the **Auto reconnect** switch to turn it off.<br>• If you cannot connect to a Wi-Fi network properly, restart your device's Wi-Fi feature or the wireless router.<br>**Sharing Wi-Fi network passwords**<br>If you make a request to a person who is connected to a secured Wi-Fi network to share its password, you can connect to the network without entering the password. This feature is available between the devices which have contacts each other and the screen of the other device must be turned on.<br>1 On the Settings screen, tap **Connections** → **Wi-Fi** and tap the switch to turn it on.<br>2 Select a network from the Wi-Fi networks list.<br>3 Tap **Request password**.<br>4 Accept the share request on the other device.<br>The Wi-Fi password is entered on your device and it is connected to the network. |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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| | Samsung Galaxy S25 User Manual at 115: https://www.galaxys25userguide.com/wp-content/uploads/pdf/galaxy-s25-user-guide-SM-S93X-EU-15-English.pdf<br><br>**Galaxy S23 Ultra:**<br><br>NETWORK<br>Technology: GSM / CDMA / HSPA / EVDO / LTE / 5G (COLLAPSE ▲)<br>2G bands: GSM 850 / 900 / 1800 / 1900 - SIM 1 & SIM 2 (Dual SIM model only)<br>CDMA 800 / 1900 & TD-SCDMA<br>3G bands: HSDPA 850 / 900 / 1700(AWS) / 1900 / 2100<br>CDMA2000 1xEV-DO<br>4G bands: 1, 2, 3, 4, 5, 7, 8, 12, 13, 17, 18, 19, 20, 25, 26, 28, 32, 38, 39, 40, 41, 66 - International<br>1, 2, 3, 4, 5, 7, 8, 12, 13, 14, 18, 19, 20, 25, 26, 28, 29, 30, 38, 39, 40, 41, 46, 48, 66, 71 - USA<br>5G bands: 1, 2, 3, 5, 7, 8, 12, 20, 25, 28, 38, 40, 41, 66, 75, 77, 78 SA/NSA/Sub6 - International<br>1, 7, 28, 41, 66, 71, 78, 258, 260, 261 SA/NSA/Sub6/mmWave - USA<br>Speed: HSPA, LTE-A (up to 7CA), 5G<br><br>COMMS<br>WLAN: Wi-Fi 802.11 a/b/g/n/ac/6e, tri-band, Wi-Fi Direct<br>Bluetooth: 5.3, A2DP, LE<br>Positioning: GPS, GLONASS, BDS, GALILEO<br>NFC: Yes<br>Radio: No<br>USB: USB Type-C 3.2, OTG<br><br>Galaxy S23 Ultra technical specifications; https://www.gsmarena.com/samsung_galaxy_s23_ultra-12024.php<br><br>**Galaxy Z Flip4:** |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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| | NETWORK — Technology: GSM / CDMA / HSPA / EVDO / LTE / 5G (COLLAPSE ▲)<br>2G bands: GSM 850 / 900 / 1800 / 1900<br>CDMA 800 / 1900<br>3G bands: HSDPA 850 / 900 / 1700(AWS) / 1900 / 2100<br>HSDPA 850 / 900 / 1900 / 2100<br>CDMA2000 1xEV-DO<br>4G bands: 1, 2, 3, 4, 5, 7, 8, 12, 13, 17, 18, 19, 20, 25, 26, 28, 32, 38, 39, 40, 41, 66<br>5G bands: 1, 2, 3, 5, 7, 8, 12, 20, 25, 28, 38, 40, 41, 66, 75, 77, 78 SA/NSA/Sub6 - International<br>SA/NSA/Sub6/mmWave - USA<br>Speed: HSPA, LTE-A (6CA), 5G<br>COMMS — WLAN: Wi-Fi 802.11 a/b/g/n/ac/6, dual-band, Wi-Fi Direct<br>Bluetooth: 5.2, A2DP, LE<br>Positioning: GPS, GLONASS, GALILEO, BDS<br>NFC: Yes<br>Radio: No<br>USB: USB Type-C 2.0, OTG<br>Galaxy Z Flip4 technical specifications; https://www.gsmarena.com/samsung_galaxy_z_flip4-11538.php.<br>**Galaxy Z Fold4:** |

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| NETWORK | | | COLLAPSE ▲ |
|---|---|---|---|
| | Technology | GSM / CDMA / HSPA / EVDO / LTE / 5G | |
| | 2G bands | GSM 850 / 900 / 1800 / 1900 | |
| | | CDMA 800 / 1900 | |
| | 3G bands | HSDPA 850 / 900 / 1700(AWS) / 1900 / 2100 | |
| | | CDMA2000 1xEV-DO | |
| | 4G bands | 1, 2, 3, 4, 5, 7, 8, 12, 13, 17, 18, 19, 20, 25, 26, 28, 32, 38, 39, 40, 41, 66 - International | |
| | | 1, 2, 3, 4, 5, 7, 8, 12, 13, 14, 18, 19, 20, 25, 26, 28, 29, 30, 38, 39, 40, 41, 46, 48, 66, 71 - USA | |
| | 5G bands | 1, 2, 3, 5, 7, 8, 12, 20, 25, 28, 38, 40, 41, 66, 75, 77, 78 SA/NSA/Sub6 - International | |
| | | 2, 5, 7, 12, 25, 30, 38, 41, 48, 66, 71, 77, 78, 258, 260, 261 SA/NSA/Sub6/mmWave - USA | |
| | Speed | HSPA 42.2/5.76 Mbps, LTE (7CA) Cat20 2000/200 Mbps, 5G | |

| COMMS | | |
|---|---|---|
| | WLAN | Wi-Fi 802.11 a/b/g/n/ac/6e, dual-band, Wi-Fi Direct |
| | Bluetooth | 5.2, A2DP, LE, aptX HD |
| | Positioning | GPS, GLONASS, GALILEO, BDS |
| | NFC | Yes |
| | Radio | No |
| | USB | USB Type-C 3.2, OTG |

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

**Galaxy A54 5G:**

| NETWORK | | | COLLAPSE ▲ |
|---|---|---|---|
| | Technology | GSM / HSPA / LTE / 5G | |
| | 2G bands | GSM 850 / 900 / 1800 / 1900 - SIM 1 & SIM 2 (dual-SIM model only) | |
| | 3G bands | HSDPA 850 / 900 / 1700(AWS) / 1900 / 2100 | |
| | 4G bands | 1, 2, 3, 4, 5, 7, 8, 12, 17, 20, 26, 28, 32, 38, 40, 41, 66 - International | |
| | | 1, 2, 3, 4, 5, 7, 12, 13, 14, 20, 25, 26, 29, 30, 38, 39, 40, 41, 46, 48, 66, 71 - USA | |
| | 5G bands | 1, 3, 7, 8, 20, 28, 38, 40, 41, 77, 78 SA/NSA/Sub6 - International | |
| | | 25, 41, 66, 71 SA/NSA/Sub6/mmWave - USA | |
| | Speed | HSPA, LTE-A, 5G | |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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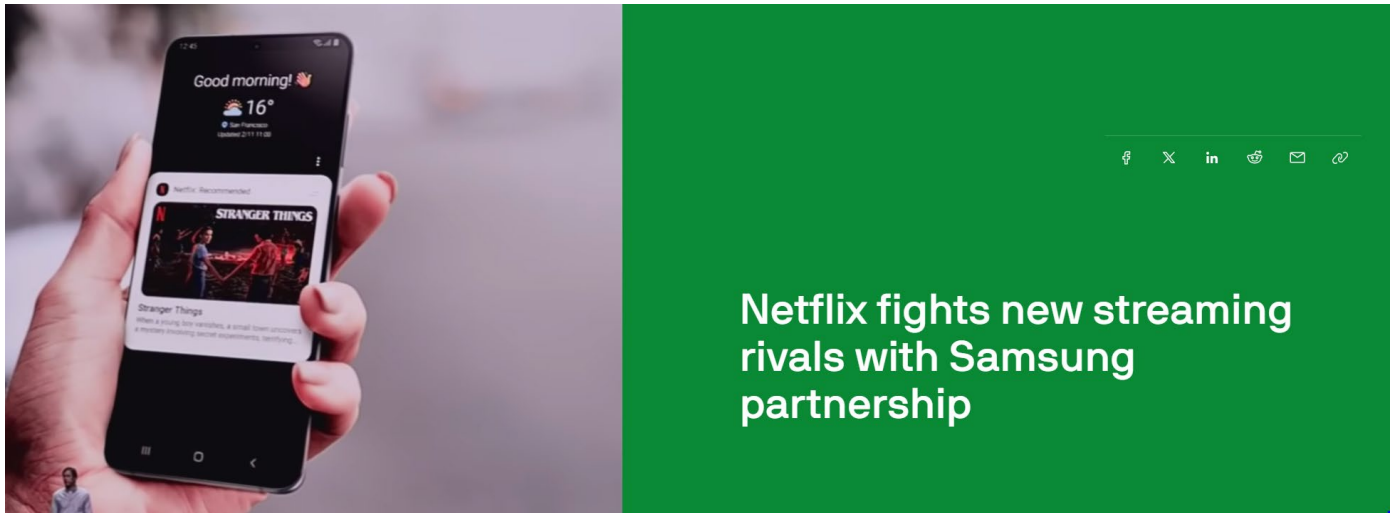
| COMMS | | |
|---|---|---|
| | WLAN | Wi-Fi 802.11 a/b/g/n/ac/6, dual-band, Wi-Fi Direct |
| | Bluetooth | 5.3, A2DP, LE |
| | Positioning | GPS, GLONASS, GALILEO, BDS |
| | NFC | Yes (market/region dependent) |
| | Radio | No |
| | USB | USB Type-C 2.0, OTG |

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.

Upon information and belief Netflix comes preinstalled on the Accused Samsung '091Products and/or Samsung induces users to download Netflix application at setup. Further, Samsung infringes based on contributory infringement by knowingly downloading/including Netflix application at setup.




https://techcrunch.com/2020/02/13/netflix-fends-off-new-streaming-rivals-by-way-of-samsung-partnership/

Further, the Accused Samsung '091 Products include the Samsung TV application:

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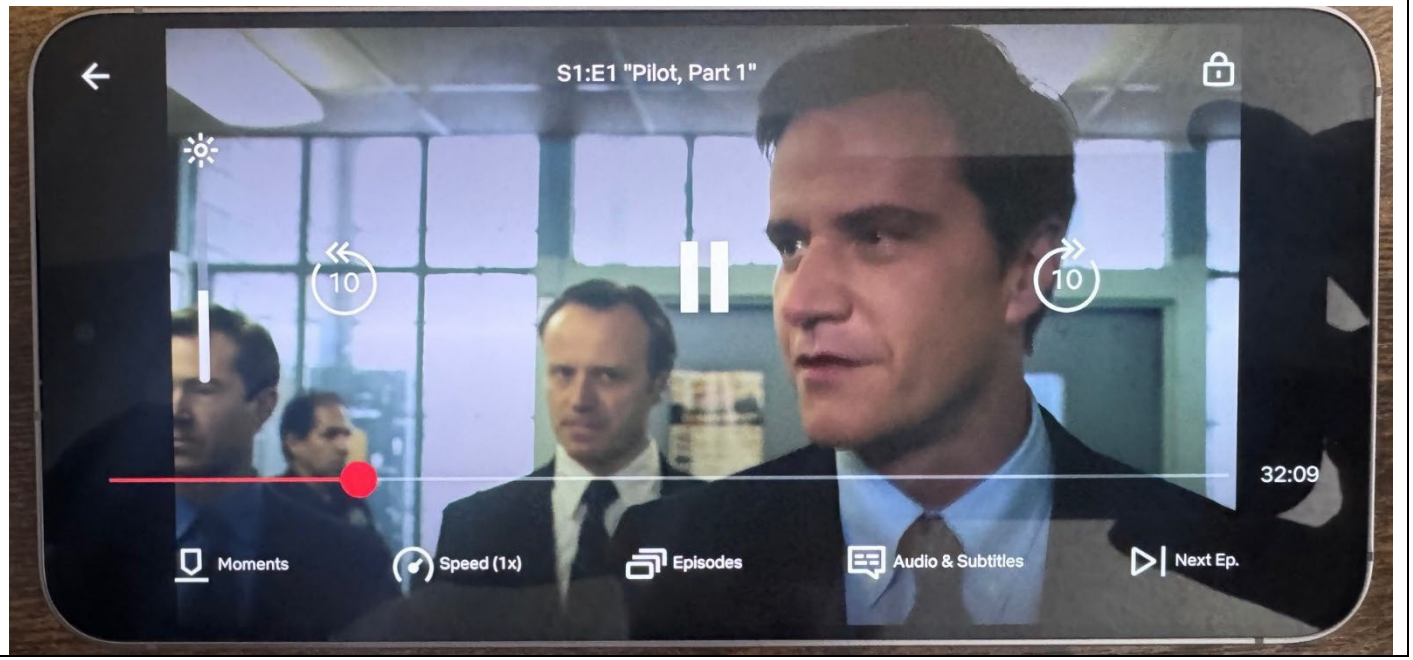
| | Apps<br><br>TV<br>Enjoy free news, entertainment, and more on your Samsung TV and mobile devices.<br><br>In the Accused Samsung '091 Products, both applications receive digital contents and related information from an outside server (e.g., Samsung TV server or Netflix server) using Wi-Fi or cellular circuits.<br><br>**Netflix**<br><br>  |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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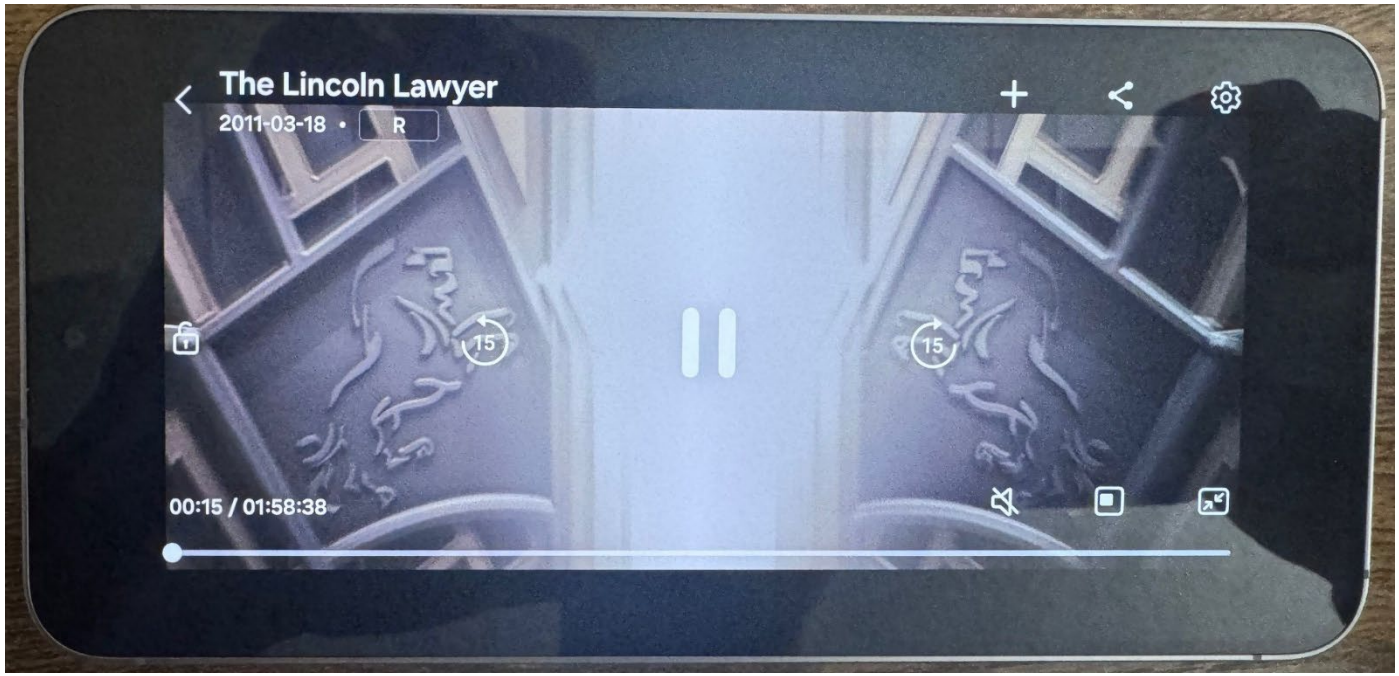
| | **Samsung TV Plus**<br>  <br><br>**How to download titles to watch offline**<br>To watch TV shows and movies offline at any time, download them from the Netflix app. Learn more about finding, downloading, and watching downloaded TV shows and movies below. |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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| | **Find and download a TV show or movie**<br><br>Tap on any TV show or movie and look for the **Downloads** icon to see whether it can be downloaded, or filter by what is available for download. Not all titles are available for download.<br><br>1. Open the Netflix app and tap **Downloads**.<br>  ◦ On a device running Windows 10 or Windows 11, open the Netflix app and select **Menu**.<br>2. Select **See What You Can Download**, **Find Something to Download**, **Find More to Download**, or **Available for Download**, depending on your device.<br>3. Select a TV show or movie.<br>4. From the description page, tap **Download**.<br>  ◦ For TV shows, **Download** will appear next to each available episode. Android users will also see a **Download Season** option to download all episodes in the selected season.<br>  ◦ To save on data usage, download over Wi-Fi.<br><br>You can have up to 100 active downloads at a time per device on as many devices included in your membership plan.<br><br>If you cancel your account, TV shows and movies you've downloaded will be deleted from your device. You will need to download them again if you rejoin in the future. |

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| | **Watch downloaded TV shows and movies**<br>To make sure you always have access to your downloads, we recommend remaining signed in to the Netflix app.<br>1. Sign in to the Netflix app and select **Downloads** ⭳.<br>∘ On a device running Windows 10 or Windows 11, open the Netflix app and select **Menu** ☰, then **My Downloads**.<br>2. Find the title you want to watch and select **Play** ▶.<br>∘ For TV shows, select a show, then tap **Play** ▶ next to the episode you want to watch.<br>> **NOTE:** Kids profiles may not be able to watch all downloaded TV shows and movies based on the maturity rating of the title.<br>Downloaded TV shows and movies are available on the device that was used to download them and can be viewed from any profile in your account. Downloads will expire after a period of time, and some have a limit on how many times they can be downloaded per year. Once you're done watching, delete downloads from your device.<br>https://help.netflix.com/en/node/54816 |
| [1.b] a decoder configured to decode the digital contents received via the network communication circuitry | Each of the Accused Samsung '091 Products comprises a decoder configured to decode the digital contents received via the network communication circuitry. *See* User Guide and Technical Specifications of each of the Accused Samsung '091 Products available at Samsung's website showing that each device comprises a decoder configured to decode digital contents received via network communication circuitry.<br>For example, the Samsung Galaxy S25 includes hardware and software components that function as a decoder. This decoder is configured to process and decode digital contents, such as streaming video and audio data (e.g., H.264, H.265, AAC), which are received via its network communication circuitry. For example, upon information and belief, the system on a chip (SoC) with processor and/or additional circuity such as a digital signal processor of each Accused Samsung '091 Products acts to decode, during playback, |

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| | the mp4 digital video information and audio information stored on the device to be able to render it for playback.<br><br>Video<br><br>**Video Playing Format**: MP4,M4V,3GP,3G2,AVI,FLV,MKV,WEBM<br>**Video Playing Resolution**: UHD 8K (7680 x 4320)@60fps<br>**Stereo Support**: Yes<br><br>Samsung Galaxy S25 Technical Spec: https://www.samsung.com/us/smartphones/galaxy-s25/buy/galaxy-s25-128gb-unlocked-sm-s931uzkaxaa/ |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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## Video support

### Video formats

| Format | Encoder | Decoder | File Types Container Formats | | Details |
|---|---|---|---|---|---|
| | | | Extractor | Muxer | |
| H.263 | YES | YES | • 3GPP (.3gp)<br>• MPEG-4 (.mp4)<br>• Matroska (.mkv) | • 3GPP (.3gp)<br>• MPEG-4 (.mp4) | Support for H.263 is optional in Android 7.0+ |
| H.264 AVC Baseline Profile (BP) | Android 3.0+ | YES | • 3GPP (.3gp)<br>• MPEG-4 (.mp4)<br>• MPEG-TS (.ts, AAC audio only, not seekable, Android 3.0+)<br>• Matroska (.mkv) | • 3GPP (.3gp)<br>• MPEG-4 (.mp4) | |
| H.264 AVC Main Profile (MP) | Android 6.0+ | YES | | | The decoder is required, the encoder is recommended. |
| H.265 HEVC | | Android 5.0+ | • MPEG-4 (.mp4)<br>• Matroska (.mkv) | • MPEG-4 (.mp4) | Main Profile Level 3 for mobile devices and Main Profile Level 4.1 for Android TV |
| MPEG-4 SP | | YES | • MPEG-4 (.mp4) | • MPEG-4 (.mp4) | |

https://developer.android.com/media/platform/supported-formats

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
|---|---|
| [1.c] a display; and | Each of the Accused Samsung '091 Products includes a display. *See* User Guide and Technical Specifications of each of the Accused Samsung '091 Products available at Samsung's website showing that each of the devices includes a display.<br><br>For example, the Samsung Galaxy S25 includes a screen that functions as a display.<br><br>**DISPLAY**<br>**Type**: Dynamic LTPO AMOLED 2X, 120Hz, HDR10+, 2600 nits (peak)<br>**Size**: 6.2 inches, 94.4 $cm^2$ (~91.1% screen-to-body ratio)<br>**Resolution**: 1080 x 2340 pixels, 19.5:9 ratio (~416 ppi density)<br>**Protection**: Corning Gorilla Glass Victus 2<br>Always-on display<br>https://www.gsmarena.com/samsung_galaxy_s25-13610.php |

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| | Galaxy S25 Unlocked \| 128GB \| Blueblack<br>SM-S931U1 / SM-S931UZKAXAA \| ★★★★★ 4.6 (552) Write a review<br>Get exclusive benefits when b<br>Up to $500 instant trade-in credit[8] Seamless upgrades with<br> <br>Display<br>**Resolution (Main Display)**<br>2340 x 1080 (FHD+)<br>**Main Display Size**<br>156.4mm (6.2" full rectangle) / 152.3mm (6.0" rounded corners)<br>**Technology (Main Display)**<br>Dynamic AMOLED 2X |

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| | Samsung Galaxy S25 Technical Spec: https://www.samsung.com/us/smartphones/galaxy-s25/buy/galaxy-s25-128gb-unlocked-sm-s931uzkaxaa/<br><br>**Display**<br><br>**Options**<br><br>Change the display and the Home screen settings.<br>On the Settings screen, tap **Display**.<br>• **Light / Dark**: Turn Dark mode on or off.<br>• **Dark mode settings**: Reduce eye strain by applying the dark theme when using the device at night or in a dark place. You can set a schedule for applying Dark mode.<br>The dark theme may not be applied in some apps.<br>• **Brightness**: Adjust the brightness of the display.<br>• **Adaptive brightness**: Set the device to keep track of your brightness adjustments and apply them automatically in similar lighting conditions.<br>• **Extra brightness**: Set the display to be brighter than the maximum brightness. This feature is available when you turn off the **Adaptive brightness** feature.<br><br>Samsung Galaxy S25 User Manual at 127: https://www.galaxys25userguide.com/wp-content/uploads/pdf/galaxy-s25-user-guide-SM-S93X-EU-15-English.pdf |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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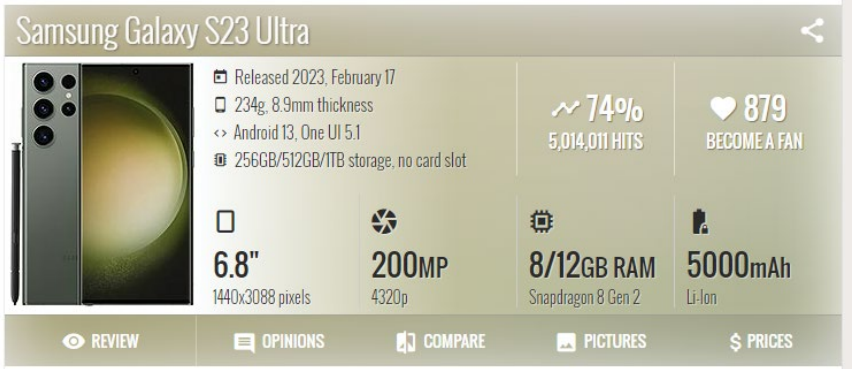
| | **Galaxy S23 Ultra:**<br>  <br><br>DISPLAY<br>Type: Dynamic AMOLED 2X, 120Hz, HDR10+, 1200 nits (HBM), 1750 nits (peak)<br>Size: 6.8 inches, 114.7 $cm^2$ (~89.9% screen-to-body ratio)<br>Resolution: 1440 x 3088 pixels, 19.3:9 ratio (~500 ppi density)<br>Protection: Corning Gorilla Glass Victus 2<br>Always-on display |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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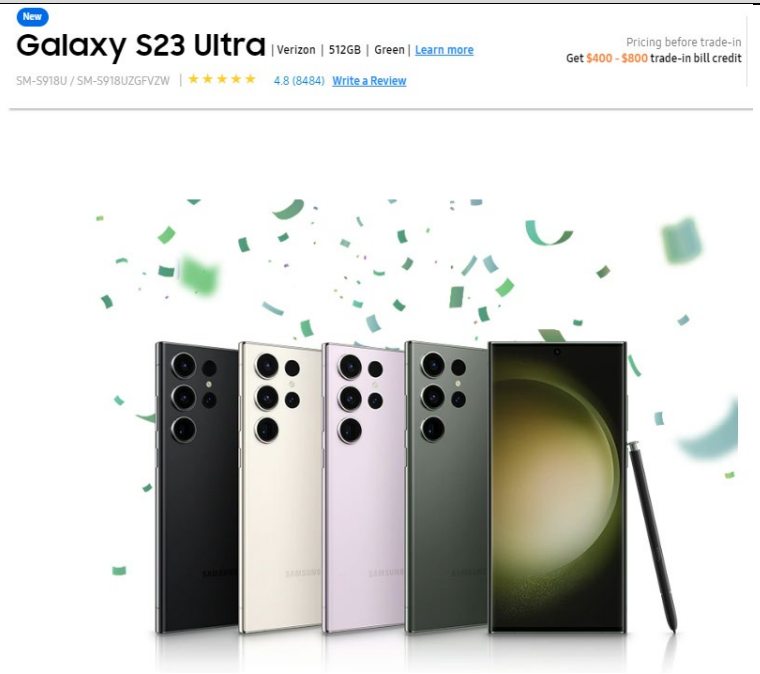
| |  <br>Galaxy S23 Ultra technical specifications; https://www.samsung.com/us/smartphones/galaxy-s23-ultra/buy/galaxy-s23-ultra-512gb-verizon-sm-s918uzgfvzw/?modelCode=SM-S918UZGFXAU; https://www.gsmarena.com/samsung_galaxy_s23_ultra-12024.php |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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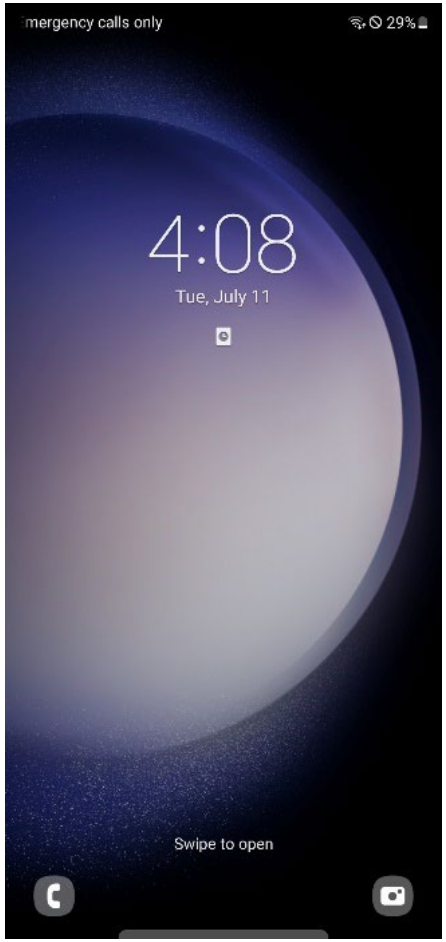
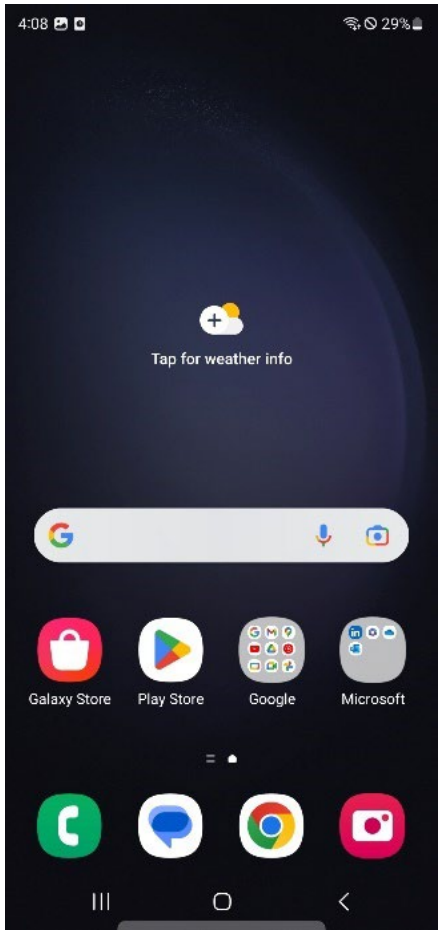
| |     Screenshots of home screen from an exemplary S23 Ultra.<br><br>**Galaxy Z Fold4:** |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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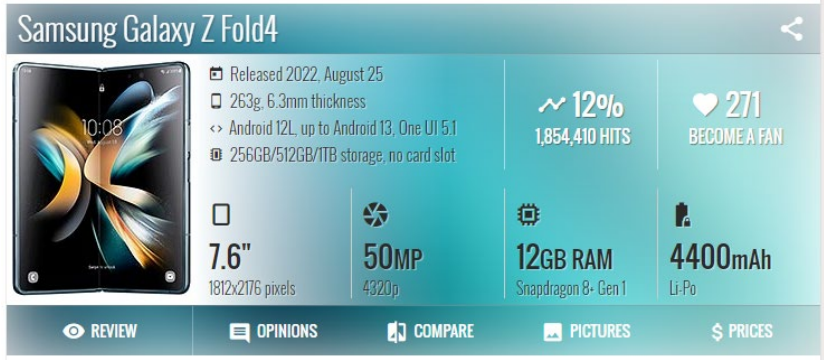
| |  <br>**DISPLAY**<br>**Type**: Foldable Dynamic AMOLED 2X, 120Hz, HDR10+, 1200 nits (peak)<br>**Size**: 7.6 inches, 183.2 $cm^2$ (~90.9% screen-to-body ratio)<br>**Resolution**: 1812 x 2176 pixels (~373 ppi density)<br>Cover display:<br>Dynamic AMOLED 2X, 120Hz, Corning Gorilla Glass Victus+<br>6.2 inches, 904 x 2316 pixels, 23.1:9 ratio |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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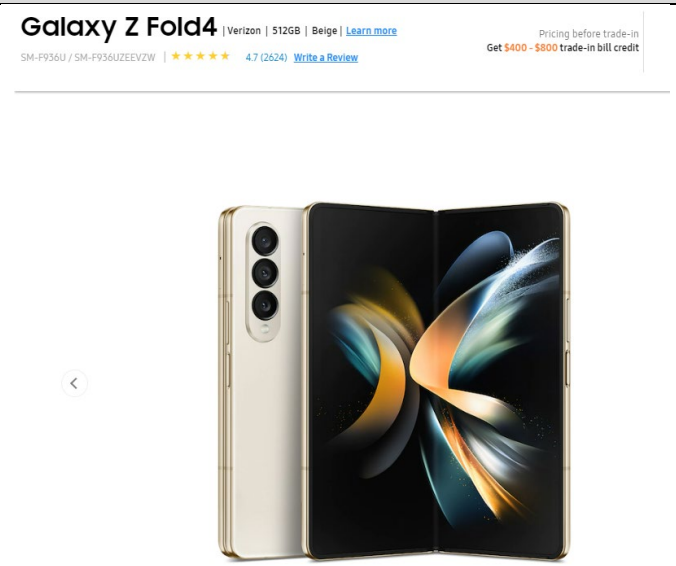
| |  <br>Galaxy Z Fold4 technical specifications; https://www.samsung.com/us/smartphones/galaxy-z-fold4/buy/galaxy-z-fold4-512gb-att-sm-f936uzeeatt/; https://www.gsmarena.com/samsung_galaxy_z_fold4-11737.php<br>: |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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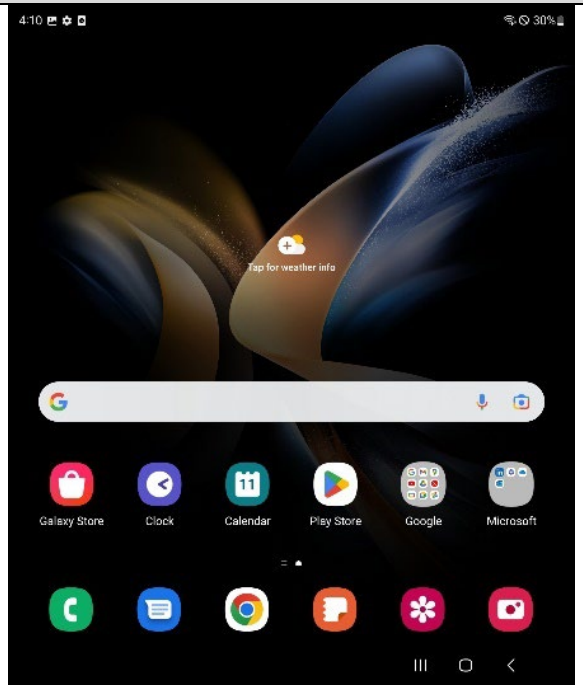
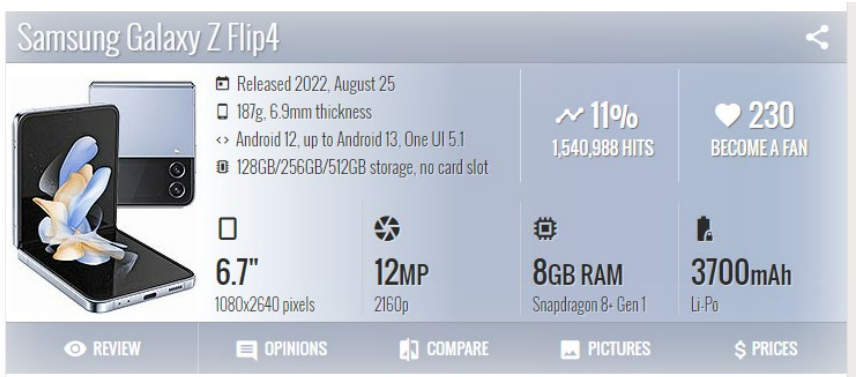
| |   Screenshots of home screen of an exemplary Z Fold4.<br>**Galaxy Z Flip4:**<br>   |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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| | DISPLAY<br>Type: Foldable Dynamic AMOLED 2X, 120Hz, HDR10+, 1200 nits (peak)<br>Size: 6.7 inches, 101.5 $cm^2$ (~85.4% screen-to-body ratio)<br>Resolution: 1080 x 2640 pixels (~426 ppi density)<br>Cover display:<br>Super AMOLED, 1.9 inches, 260 x 512 pixels (Gorilla Glass Victus+)<br><br>Galaxy Z Flip4 \| Verizon \| 256GB \| Pink Gold \| Learn more<br>SM-F721U / SM-F721UZDEVZW \| ★★★★★ 4.3 (2007) Write a Review<br>Pricing before trade-in<br>Get $400 - $800 trade-in bill credit<br>Get $100 off on select Tmobile Galaxy ZFlip4. Plus save up t<br>Save more with carrier offers<br>Compare offers<br>AT&T Up to $1,000 bill credit with eligible trade-in<br><br> <br>Galaxy Z Flip4 technical specifications; https://www.samsung.com/in/multistore/incs/feature.SM-F721B4SEINU/ |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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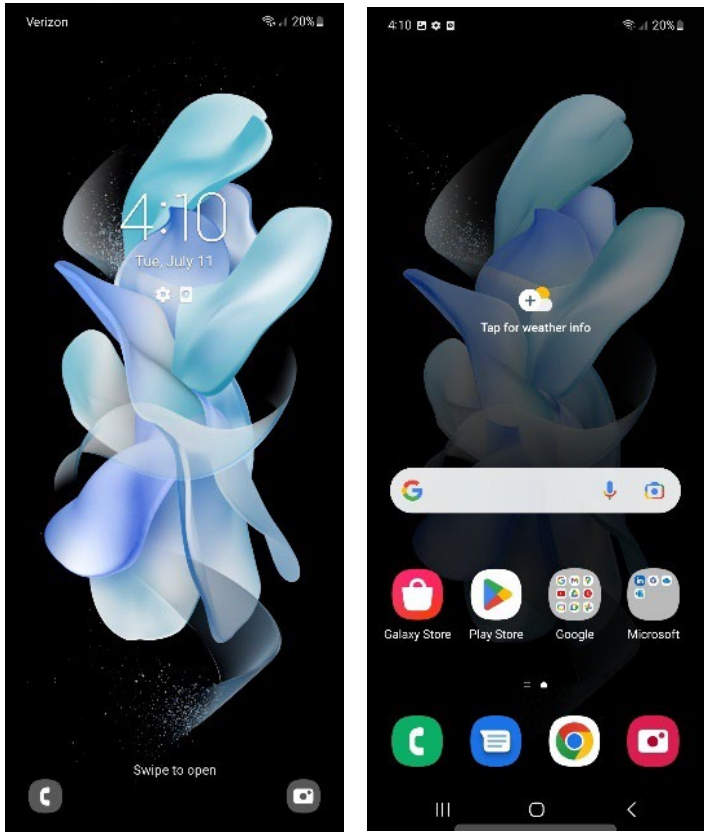
| |  <br>Screenshots of home screen from an exemplary Z Flip4.<br><br>**Galaxy A54:** |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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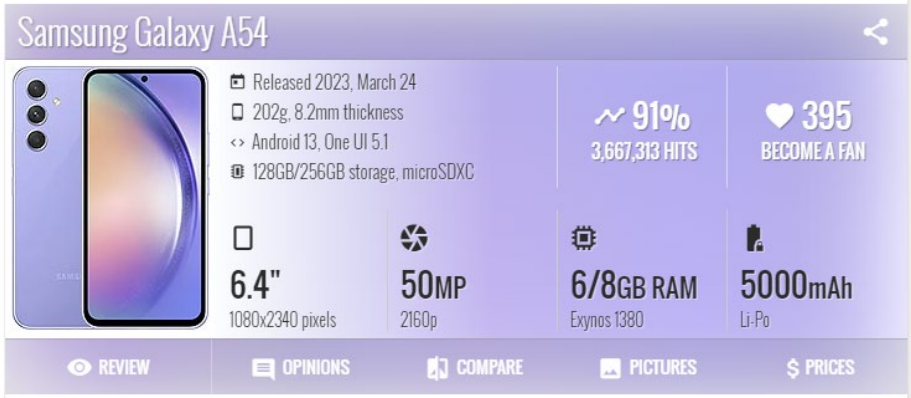
| |  <br>**DISPLAY**<br>**Type**: Super AMOLED, 120Hz, HDR10+, 1000 nits (HBM)<br>**Size**: 6.4 inches, 100.5 $cm^2$ (~82.9% screen-to-body ratio)<br>**Resolution**: 1080 x 2340 pixels, 19.5:9 ratio (~403 ppi density)<br>**Protection**: Corning Gorilla Glass 5 |

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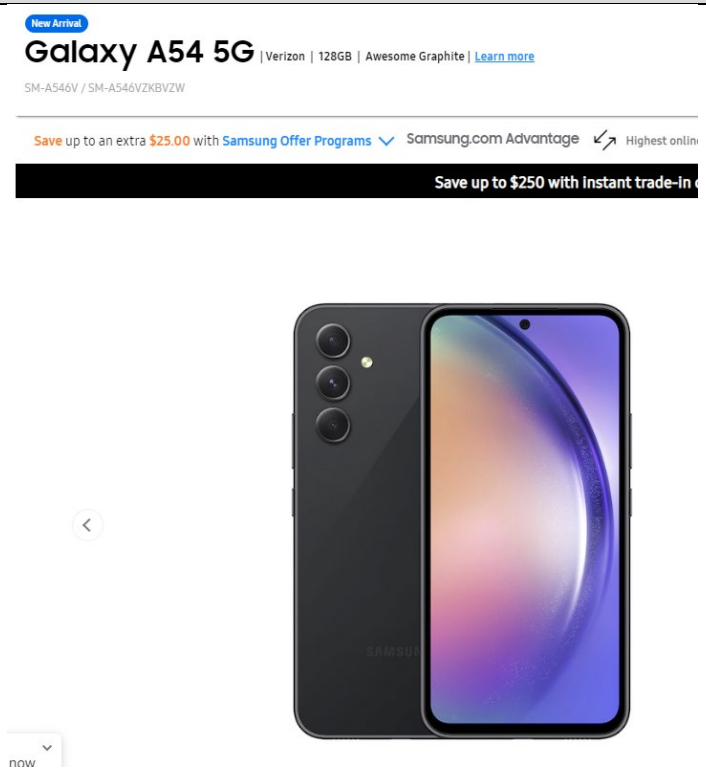
| |  <br>Galaxy A54 5G technical specifications; https://www.samsung.com/uk/smartphones/galaxy-a/galaxy-a54-5g-green-256gb-sm-a546blgdeub/; https://www.gsmarena.com/samsung_galaxy_a54-12070.php |

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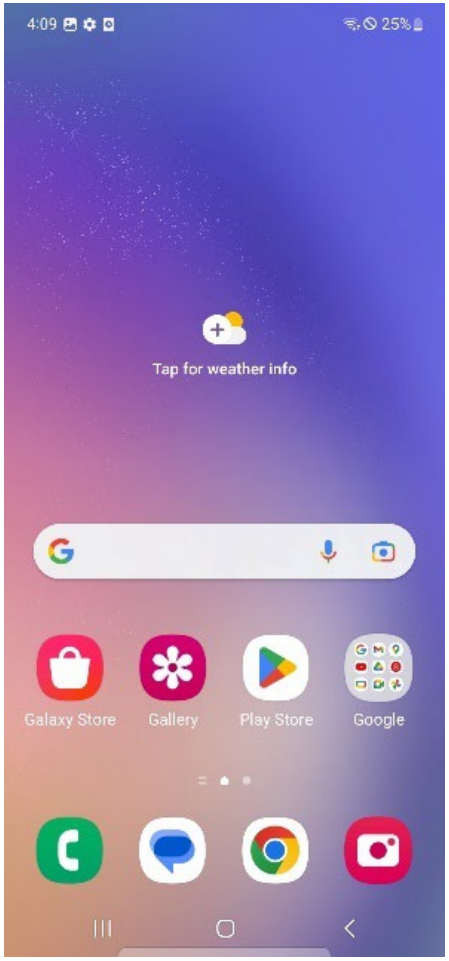
| |   Screenshots of home screen of an exemplary A54 5G. |
| [1.d] a controller configured to control reproduction of the digital contents decoded by the decoder and | Each of the Accused Samsung ’091 Products comprises a controller configured to control reproduction of the digital contents decoded by the decoder and display of the reproduced digital contents on the display. *See* User Guide and Technical Specifications of each of the Accused Samsung ’091 Products available at |

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| display of the reproduced digital contents on the display | Samsung's website showing that each device comprises a controller configured to control reproduction of decoded digital contents and their display.<br><br>For example, the Samsung Galaxy S25 includes one or more processors and associated software which, on information and belief, function as the claimed controller. On information and belief, this controller is configured to manage and control the reproduction of digital contents (e.g., videos or music streams) that have been decoded by the device's decoder, and also controls the display of these reproduced digital contents on the device's screen. For instance, when a user plays a video in an application like Netflix or Samsung TV Plus, on information and belief, the controller manages the playback (play, pause, seek) and ensures the video is rendered on the display.<br><br>PLATFORM<br>OS: Android 15, up to 7 major Android upgrades, One UI 7<br>Chipset: Qualcomm SM8750-AB Snapdragon 8 Elite (3 nm)<br>CPU: Octa-core (2x4.47 GHz Oryon V2 Phoenix L + 6x3.53 GHz Oryon V2 Phoenix M)<br>GPU: Adreno 830<br><br>https://www.gsmarena.com/samsung_galaxy_s25-13610.php |

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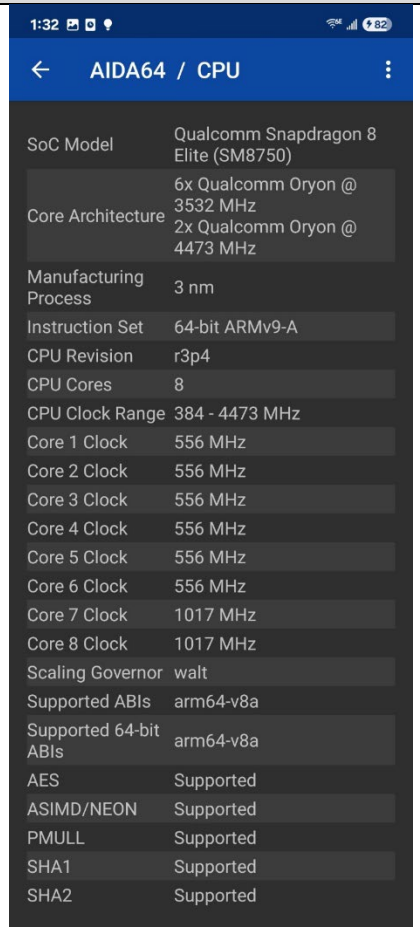
| |  <br>Samsung Galaxy S25 AIDA 64 report |

| | |
|---|---|
| SoC Model | Qualcomm Snapdragon 8 Elite (SM8750) |
| Core Architecture | 6x Qualcomm Oryon @ 3532 MHz<br>2x Qualcomm Oryon @ 4473 MHz |
| Manufacturing Process | 3 nm |
| Instruction Set | 64-bit ARMv9-A |
| CPU Revision | r3p4 |
| CPU Cores | 8 |
| CPU Clock Range | 384 - 4473 MHz |
| Core 1 Clock | 556 MHz |
| Core 2 Clock | 556 MHz |
| Core 3 Clock | 556 MHz |
| Core 4 Clock | 556 MHz |
| Core 5 Clock | 556 MHz |
| Core 6 Clock | 556 MHz |
| Core 7 Clock | 1017 MHz |
| Core 8 Clock | 1017 MHz |
| Scaling Governor | walt |
| Supported ABIs | arm64-v8a |
| Supported 64-bit ABIs | arm64-v8a |
| AES | Supported |
| ASIMD/NEON | Supported |
| PMULL | Supported |
| SHA1 | Supported |
| SHA2 | Supported |

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| | Processor<br><br>**CPU Type**: Octa-Core<br>**CPU Speed**: 4.47GHz,3.5GHz<br><br>Samsung Galaxy S25 Technical Spec: https://www.samsung.com/us/smartphones/galaxy-s25/buy/galaxy-s25-128gb-unlocked-sm-s931uzkaxaa/<br><br>The AIDA64 Reports and tech specs show that the Accused Samsung '091 Products contain one or more controllers within the chipset that executes the various applications and/or operating system. |

| Product | AIDA 64 Report- Processor |
|---|---|
| Galaxy S23 Ultra | SoC Model: Qualcomm Snapdragon 8 Gen 2 (SM8550)<br>Core Architecture: 3x ARM Cortex-A510 @ 2016 MHz<br><br>2x ARM Cortex-A715 @ 2803 MHz<br>2x ARM Cortex-A710 @ 2803 MHz<br>ARM Cortex-X3 @ 3360 MHz<br>Manufacturing Process: 4 nm<br>Instruction Set: 64-bit ARMv9-A<br>CPU Revision: r1p0<br>CPU Cores: 8<br>CPU Clock Range: 307 - 3360 MHz |
| Galaxy Z Fold4 | SoC Model: Qualcomm Snapdragon 8+ Gen 1 (SM8475)<br>Core Architecture: 4x ARM Cortex-A510 @ 2016 MHz<br>3x ARM Cortex-A710 @ 2745 MHz<br>ARM Cortex-X2 @ 3187 MHz<br>Manufacturing Process: 4 nm<br>Instruction Set: 64-bit ARMv9-A<br>CPU Revision: r2p0<br>CPU Cores: 8<br>CPU Clock Range: 300 - 3187 MHz |

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|---|---|---|
| | Galaxy Z Flip4 | SoC Model: Qualcomm Snapdragon 8+ Gen 1 (SM8475)<br>Core Architecture: 4x ARM Cortex-A510 @ 2016 MHz<br>3x ARM Cortex-A710 @ 2745 MHz<br>ARM Cortex-X2 @ 3187 MHz<br>Manufacturing Process: 4 nm<br>Instruction Set: 64-bit ARMv9-A<br>CPU Revision: r2p0<br>CPU Cores: 8<br>CPU Clock Range: 300 - 3187 MHz |
| | Galaxy A54 5G | Core Architecture: 4x ARM Cortex-A55 @ 2002 MHz<br>4x ARM Cortex-A78 @ 2400 MHz<br>Instruction Set: 64-bit ARMv8-A<br>CPU Revision: r1p1<br>CPU Cores: 8<br>CPU Clock Range: 533 - 2400 MHz |
| | For example, Accused Samsung '091 Products support receiving and playing Netflix video streams/Samsung TV streams that are encoded using various encoding methods, such as MPEG, DRM (Digital Right Management) and/or TLS (Transport Layer Security). Thus, in order to playback and display the video, they must perform a decoding process. | |

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| | ***Abstract*—In our 2015 paper, "Optimizing TLS for High–Bandwidth Applications in FreeBSD", we demonstrated the cost of TLS encryption on high–bandwidth video serving on Netflix's OpenConnect Appliance (OCA [1]) and explored methods for reducing that cost via in–kernel encryption. The results showed that such a concept is feasible, but only a small performance gain was achieved. In this paper we describe the improvements made since then to reduce the cost of encryption. We also compare the performance of several different bulk encryption implementations.**<br><br>I. INTRODUCTION<br><br>The importance of Transport Layer Security [2] (TLS) continues to grow as businesses and their customers come to appreciate the value of communication privacy. Netflix announced in 2015 that it would start on the path to encrypting the video and audio playback sessions of its streaming service in an attempt to help users protect their viewing privacy [3]. Enabling this comes with a significant computational cost to the OpenConnect serving platform, so work continues in exploring and implementing new ways to optimize TLS bulk encryption and thus lower capital and operational costs.<br>An OCA is a FreeBSD-based appliance that serves movies and television programming to Netflix subscribers. Confidential customer data like payment information, account authentication, and search queries are exchanged via an encrypted TLS session between the client and the various application servers that make up the Netflix infrastructure. The audio and video objects are statically encrypted by Digital Rights Management (DRM) that is pre-encoded into the objects prior to them being distributed to the OCA network for serving.<br><br>(Netflix, Improving High–Bandwidth TLS in the FreeBSD kernel, available at https://openconnect.netflix.com/publications/asiabsd_tls_improved.pdf (2015) |

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| | Netflix Adopts Efficient HTTPS Encryption For Its Video Streams<br>By Lucian Armasu published August 08, 2016<br>Comments (9)<br>Netflix announced that it has implemented efficient HTTPS encryption for its video streams. To this point, the company has used only HTTPS to protect user information.<br>Netflix has been reluctant to adopt HTTPS for its video streams so far because delivering video is already a bandwidth-heavy task, and adding encryption on top of that risked adding too much overhead. To solve this problem, the company searched for the ideal cipher and its fastest implementation. |

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| | **Cipher Evaluation**<br>Netflix eventually chose the the Advanced Encryption Standard (AES) cipher in Galois/Counter Mode (GCM), which is available only in TLS 1.2 and later. The company chose GCM over the Cipher Block Chaining (CBC) method because it can encrypt and authenticate the message simultaneously, whereas AES-CBC requires an additional pass over the data to generate keyed-hash message authentication code (HMAC). The latter can still be used as fallback for older browsers and client software that don't support TLS 1.2. However, it shouldn't be too long until virtually all Netflix users can play video streams over TLS 1.2 or later.<br>(See https://www.tomshardware.com/news/netflix-efficient-https-video-streams,32420.html (2016)) |

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| | **How Netflix brings safer and faster streaming experiences to the living room on crowded networks using TLS 1.3**<br><br>By Sekwon Choi<br><br>At Netflix, we are obsessed with the best streaming experiences. We want playback to start instantly and to never stop unexpectedly in any network environment. We are also committed to protecting users' privacy and service security without sacrificing any part of the playback experience.<br><br>To achieve that, we are efficiently using ABR (adaptive bitrate streaming) for a better playback experience, DRM (Digital Right Management) to protect our service and TLS (Transport Layer Security) to protect customer privacy and to create a safer streaming experience.<br><br>Netflix on consumer electronics devices such as TVs, set-top boxes and streaming sticks was until recently using TLS 1.2 for streaming traffic. Now we support TLS 1.3 for safer and faster experiences.<br>(https://netflixtechblog.com/how-netflix-brings-safer-and-faster-streaming-experience-to-the-living-room-on-crowded-networks-78b8de7f758c (2020)) |

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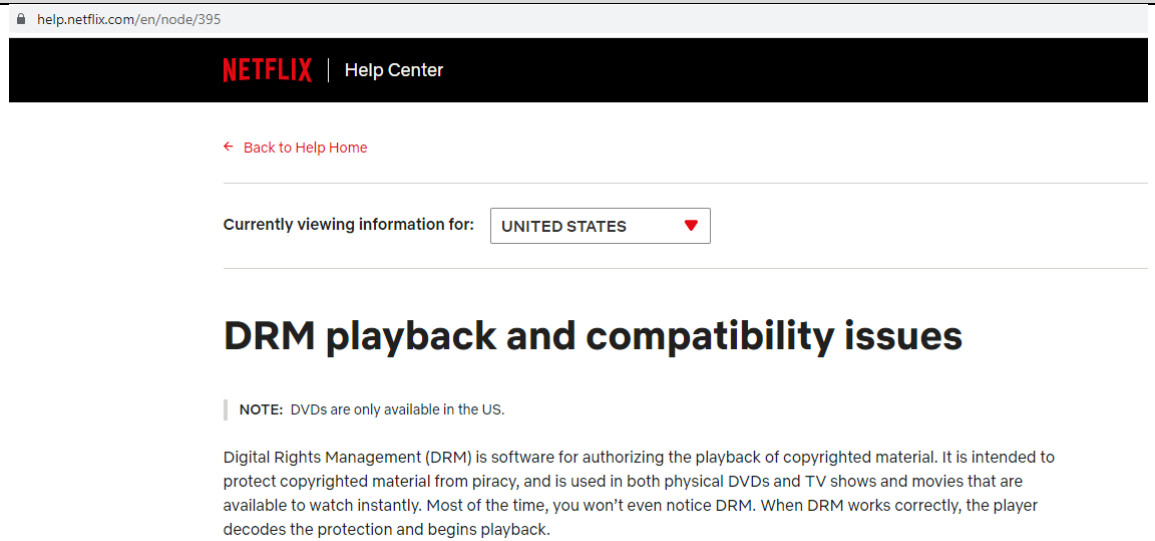
| |  <br>https://web.archive.org/web/20221108202657/https://help.netflix.com/en/node/395<br>For example, actual testing of the Accused Samsung '091 Products shows that the pre-installed Netflix app receives desired video information (e.g. the video "Avatar") and displays the decoded video information.<br><br>Galaxy S23 Ultra: |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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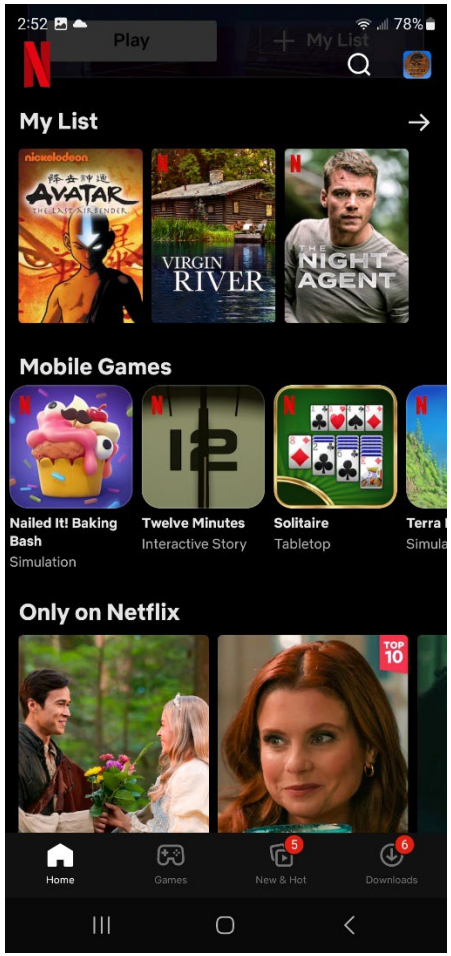
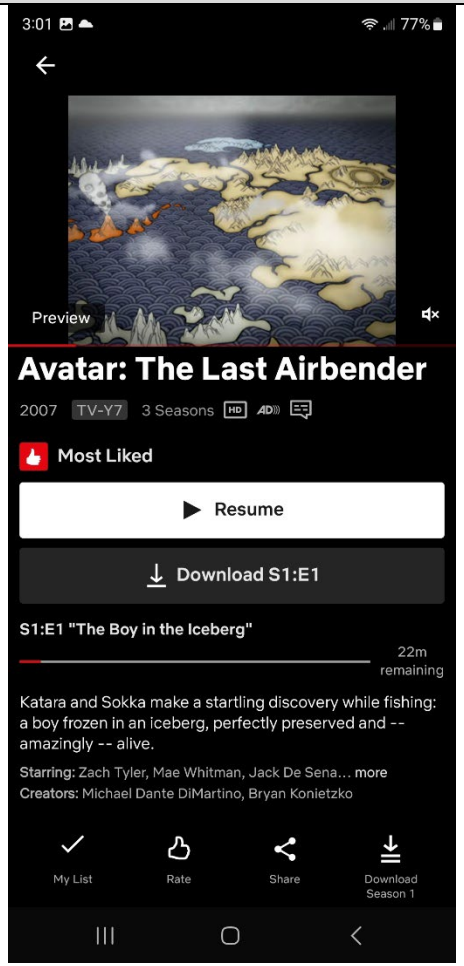
| |     |

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| | <br>Galaxy S25:<br><br>**<u>Netflix</u>** |

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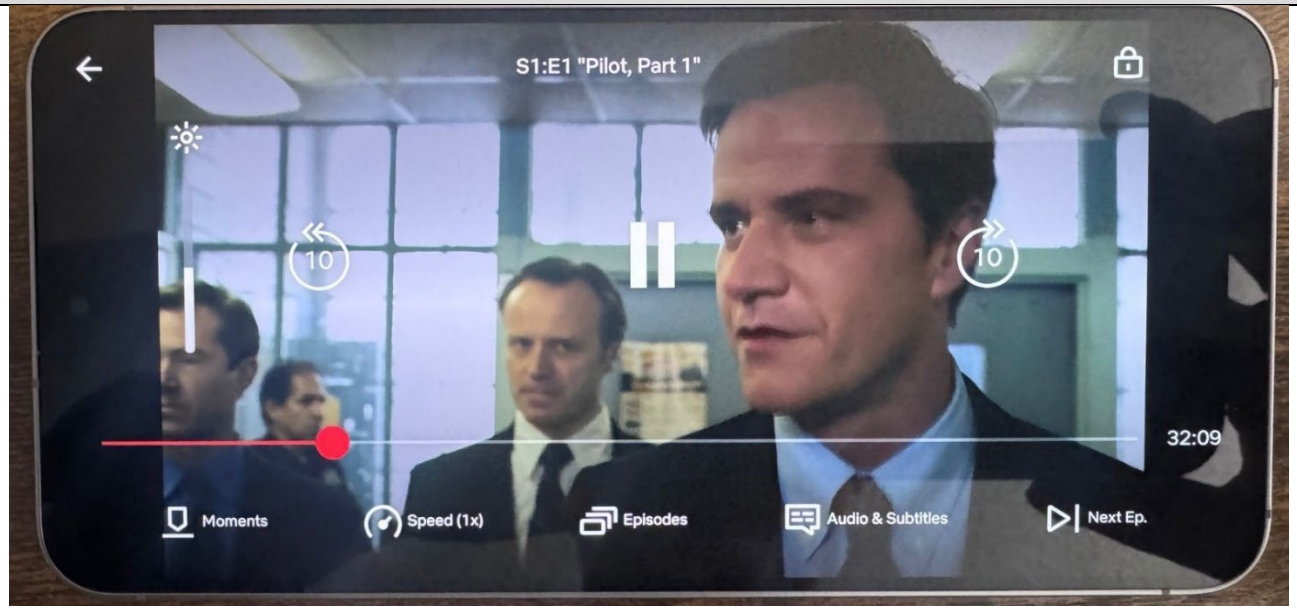
| |  <br><br>For example, the above screenshot of the Netflix application running on a Samsung Galaxy S25 demonstrates this element. The device includes one or more and associated software which, on information and belief, function as the claimed controller. The screenshot shows the controller managing the reproduction of digital contents and the display of these reproduced digital contents on the screen. Specifically, the controller, on information and belief, manages playback through the visible on-screen controls such as the Pause button, rewind and forward 10-second icons, playback speed adjustment, episode selection, and navigation to the next episode. The controller also ensures the video is rendered on the display and allows for adjustments to "Audio & Subtitles," further demonstrating its control over reproduction and display.<br><br>**<u>Samsung TV Plus</u>** |

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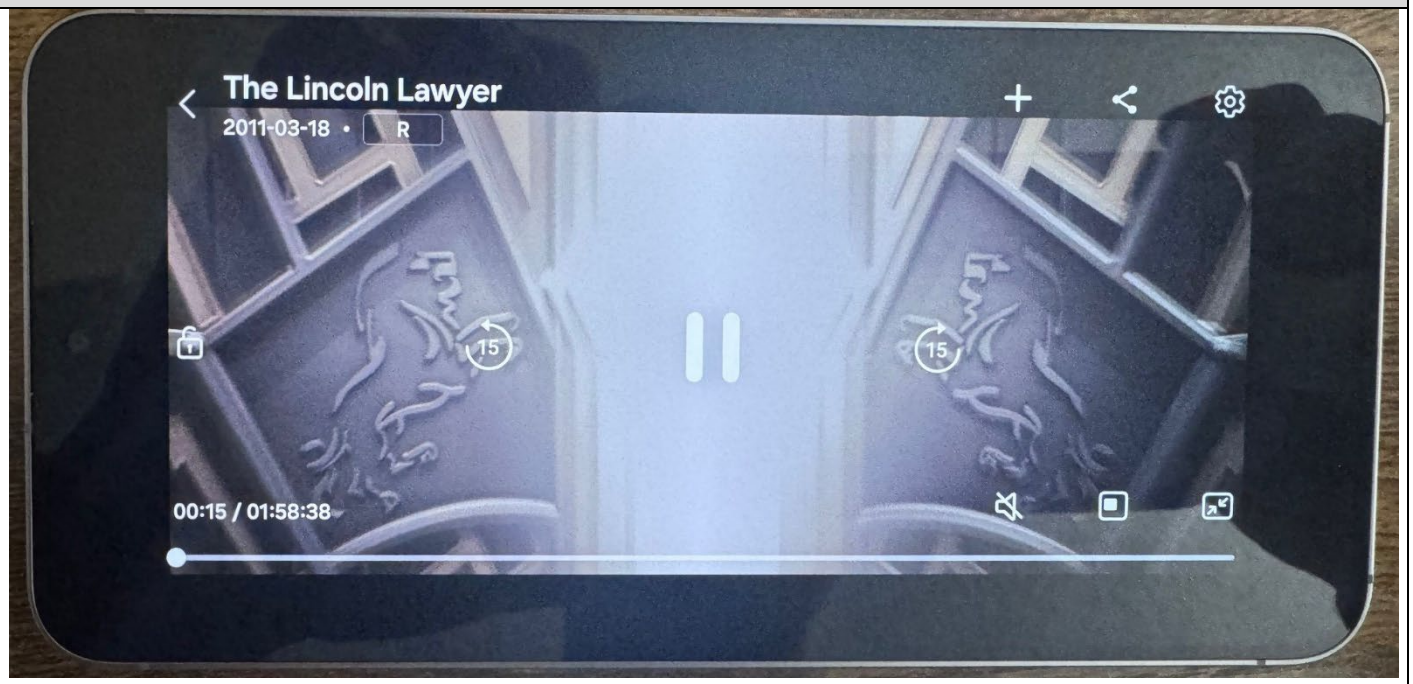
| |  <br>The screenshot of the Samsung TV Plus application running on a Samsung Galaxy S25 demonstrates this element. The device includes one or more processors and associated software which, on information and belief, function as the claimed controller. The screenshot shows the controller managing the reproduction of digital contents (the video titled “The Lincoln Lawyer”) and the display of these reproduced digital contents on the screen. Specifically, the controller, on information and belief, manages playback through the visible on-screen controls such as the Pause button, rewind and forward 15-second icons, and the playback timeline. The controller also ensures the video is rendered on the display and provides options such as subtitles/closed captions and screen aspect ratio adjustments, further demonstrating its control over reproduction and display. |
| [1.e] wherein the controller is configured to alternatively display either of a first operation panel | Each of the Accused Samsung ’091 Products includes a controller configured to alternatively display either of a first operation panel including at least one of linear operation buttons, receiving user-instructions regarding linear reproduction functions of the reproduced digital contents, or a second operation panel including at least one of interactive operation buttons, receiving user-instructions of interactive functions to |

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| including at least one of linear operation buttons, receiving user-instructions regarding linear reproduction functions of the reproduced digital contents, or a second operation panel including at least one of interactive operation buttons, receiving user-instructions of interactive functions to the outside server, together with the reproduced digital contents | the outside server, together with the reproduced digital contents. *See* User Guide and Technical Specifications of each of the Accused Samsung '091 Products available at Samsung's website showing that each device includes a controller configured to alternatively display either of a first operation panel including at least one of linear operation buttons, receiving user-instructions regarding linear reproduction functions of the reproduced digital contents, or a second operation panel including at least one of interactive operation buttons, receiving user-instructions of interactive functions to the outside server, together with the reproduced digital contents.<br><br>For exmple, the controller in the Samsung Galaxy S25, when an application such as Netflix or Samsung TV Plus is reproducing digital content, on information and belief, is configured to alternatively display different types of operation panels. During general playback, the controller displays a first operation panel that includes linear operation buttons such as the progress bar, pause button, and time-jump icons. However, at specific times, such as the conclusion of an episode, the controller is configured to remove this first panel and display a completely different second operation panel which contains only interactive buttons and no linear progress bar. As shown in the provided screenshots, this second panel contains interactive buttons like "Watch Credits" and "Next Episode" for Netflix or an interactive "Cancel" button for Samsung TV Plus. This demonstrates the controller's ability to "alternatively display" either the first panel with linear controls or the second, interactive-only panel.<br><br>**<u>Netflix</u>** |

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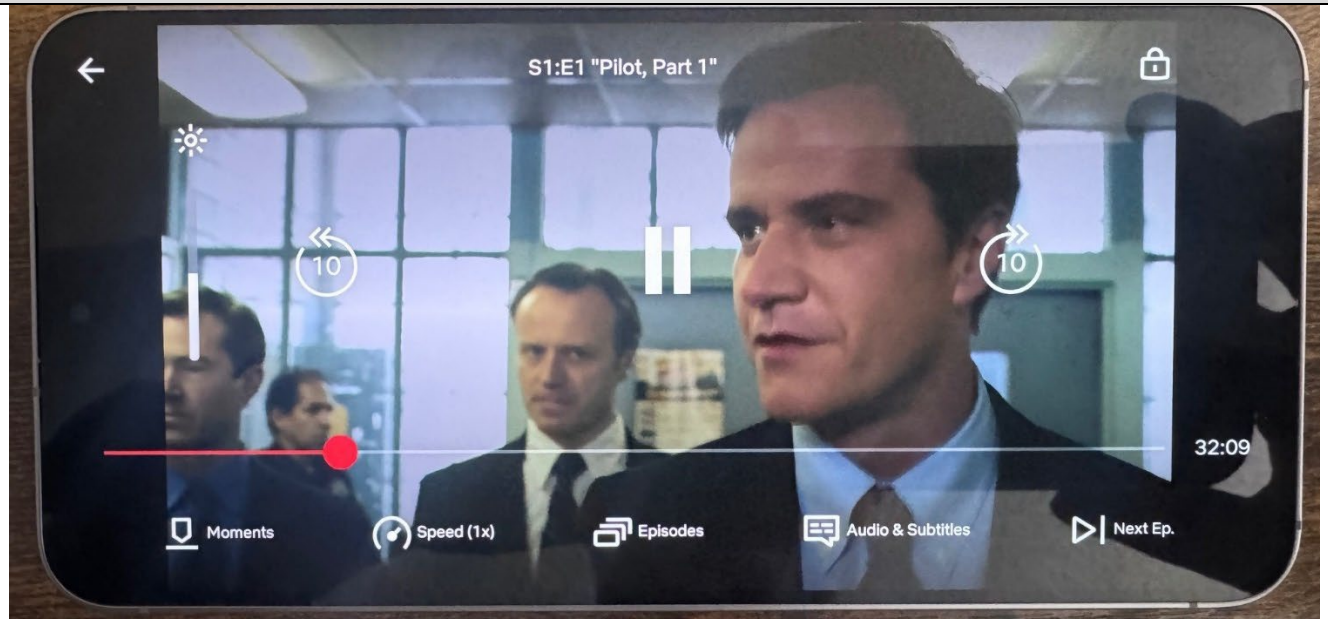
| |  <br>A screenshot of the Netflix application displaying the "first operation panel" during playback of an episodic show. The panel shows both linear controls, like the progress bar and pause button, and interactive controls, like the "Episodes" button. |

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| | <br><br>A screenshot of the Netflix application running on an Samsung Galaxy S25, showing the user interface at the conclusion of an episode. At this time, a second operation panel is displayed, containing the interactive buttons “Watch Credits” and “Next Episode.” This interactive panel is displayed while the “first operation panel” (containing the linear progress bar) is not visible. This demonstrates the controller’s ability to “alternatively display” a second, interactive-only panel in place of the first, linear panel.<br><br>**<u>Samsung TV Plus</u>** |

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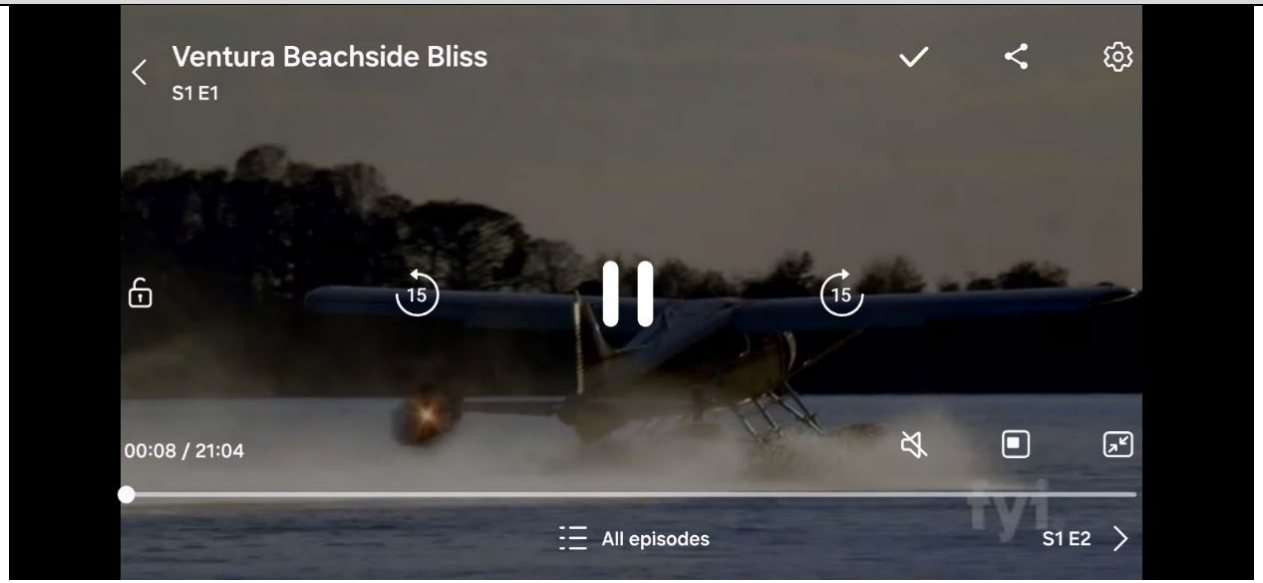
| |  <br>A screenshot of the Samsung TV Plus application displaying the "first operation panel" during playback of an episodic show. The panel shows linear controls, like the progress bar and pause button , and interactive controls, like the "All episodes" button and the next episode indicator. |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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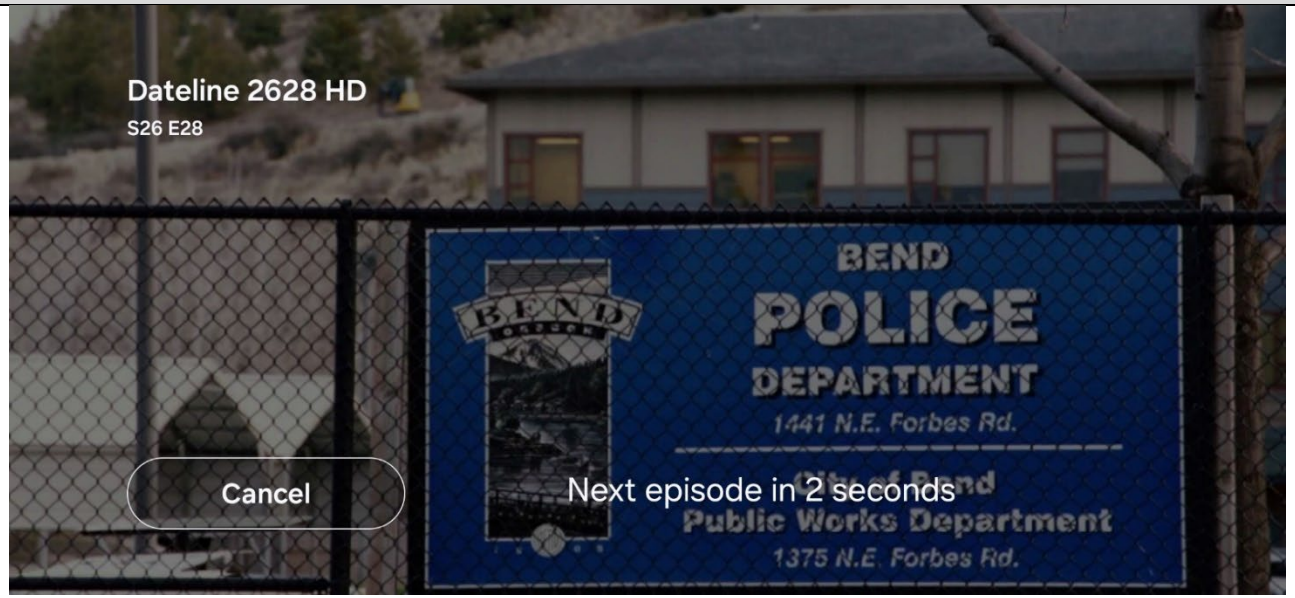
| |  <br>A screenshot of the Samsung TV Plus application running on an Samsung Galaxy S25, showing the user interface at the conclusion of an episode of the series “Dateline.” A second operation panel is displayed, containing an interactive “Cancel” button and a “Next episode in...” countdown timer. This interactive panel is displayed while the “first operation panel” (containing the linear progress bar) is not visible. This demonstrates the controller's ability to “alternatively display” a second, interactive-only panel in place of the first, linear panel. |
| [1.f] wherein the related information includes: time related information which represents a time during which the reproduced digital contents and at least one of the interactive operation buttons are displayed, and | Each of the Accused Samsung ’091 Products is configured wherein the related information includes time related information which represents a time during which the reproduced digital contents and at least one of the interactive operation buttons are displayed. *See* User Guide and Technical Specifications of each of the Accused Samsung ’091 Products available at Samsung’s website showing that each of the devices is configured wherein the related information includes time related information which represents a time during which the reproduced digital contents and at least one of the interactive operation buttons are displayed.<br><br>For example, applications like Netflix or Samsung TV Plus running on the Samsung Galaxy S25, the “related information” utilized by the controller, on information and belief, includes time related |

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| | information. An example is the "Skip Intro" feature. The precise start and end timestamps for a TV show's introduction sequence are unique to each specific piece of content. It is not feasible for the application to locally store this data for every video in the service's library. Therefore, this timing information must be received from the server as part of the "related information" for that particular video stream. This data represents the "time during which" the interactive "Skip Intro" button is displayed. Similarly, the appearance of a "Next Episode" button at the conclusion of a show is also based on server-provided time related information, as the start of the end-credits varies between different shows and episodes. The system's ability to display these interactive buttons only during specific periods that change from content to content is strong evidence of server-provided "time related information" being used. This time related information represents a specific duration or window during which at least one interactive operation button is displayed with the reproduced digital content. One example of this is the period when a prompt to play the next episode is active (e.g., during an end-of-episode countdown or an auto-play suggestion window). During such a defined time window, specific interactive operation buttons (e.g., a button to start the next episode or dismiss the prompt) are displayed. Another prominent example of such time related information is when the system detects the introductory sequence (e.g., theme music and opening credits) of a TV show. During this specific time segment of the content, an interactive operation button such as "Skip Intro" is often displayed, allowing the user to jump past the intro. The system's ability to display these types of interactive buttons only during specific, defined periods of the content playback indicates the use of "time related information."<br><br>**<u>Netflix</u>** |

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| | <br>screenshot of the Netflix application displaying an interactive "Skip Intro" button. This button appears only during a predetermined time period defined by server-provided "time related information" corresponding to the show's introductory sequence. |

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| | <br><br>A screenshot of the Netflix application displaying interactive operation buttons ("Watch Credits," "Next Episode") at the conclusion of an episode. The appearance of these buttons during a specific, predetermined time period demonstrates the use of server-provided "time related information" to control when interactive buttons are displayed.<br><br>**<u>Samsung TV Plus</u>** |

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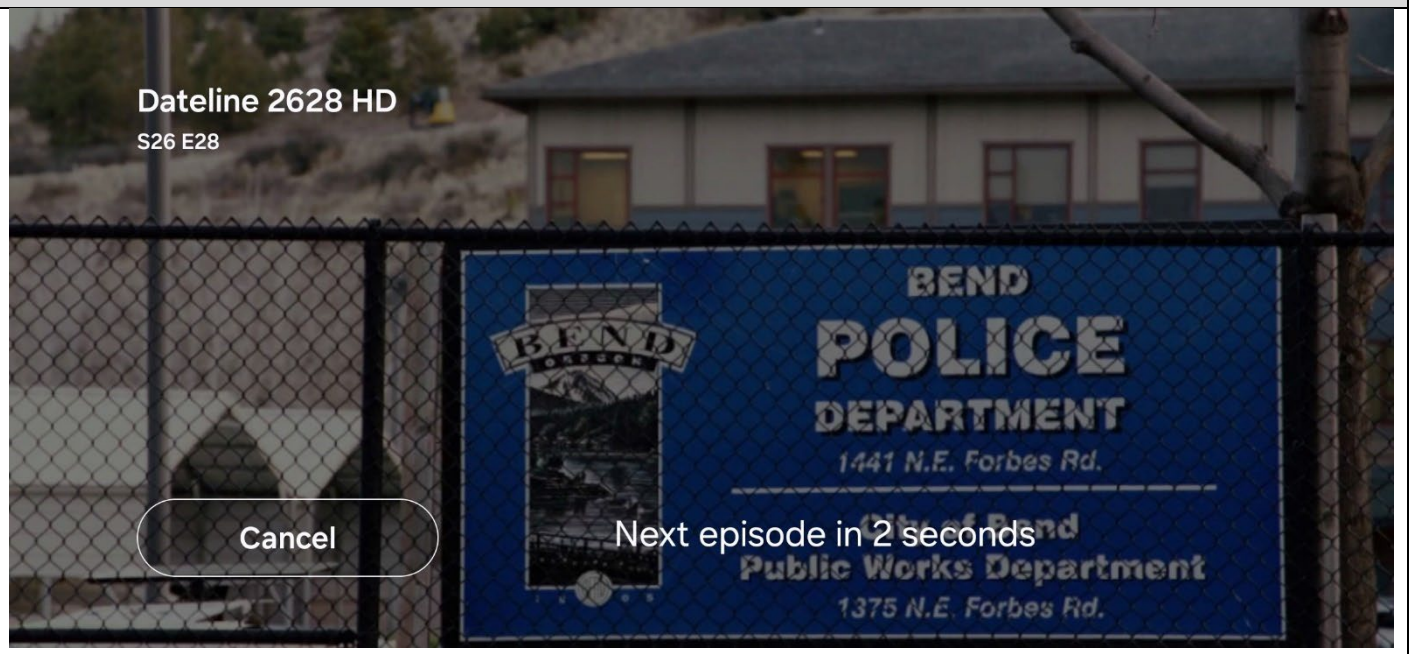
| |  <br>A screenshot of the Samsung TV Plus application on a Samsung Galaxy S25 displaying an interactive “Cancel” button alongside a “Next episode in X seconds” countdown at the conclusion of “Dateline 2628 HD S26 E28.” The appearance of the “Cancel” button during this specific, predetermined time period—indicated by the countdown timer—demonstrates that “time related information” is being used to display an “interactive operation button.” |
| [1.g] panel related information for deciding whether to display the first operation panel including at least one of the linear operation buttons or the second operation panel including at least one of the interactive operation buttons | Each of the Accused Samsung ’091 Products is configured wherein the related information includes panel related information for deciding whether displaying the first operation panel including at least one of the linear operation buttons or the second operation panel including at least one of the interactive operation buttons. *See* User Guide and Technical Specifications of each of the Accused Samsung ’091 Products available at Samsung’s website showing that each of the devices is configured wherein the related information includes panel related information for deciding whether displaying the first operation panel including at least one of the linear operation buttons or the second operation panel including at least one of the interactive operation buttons. |

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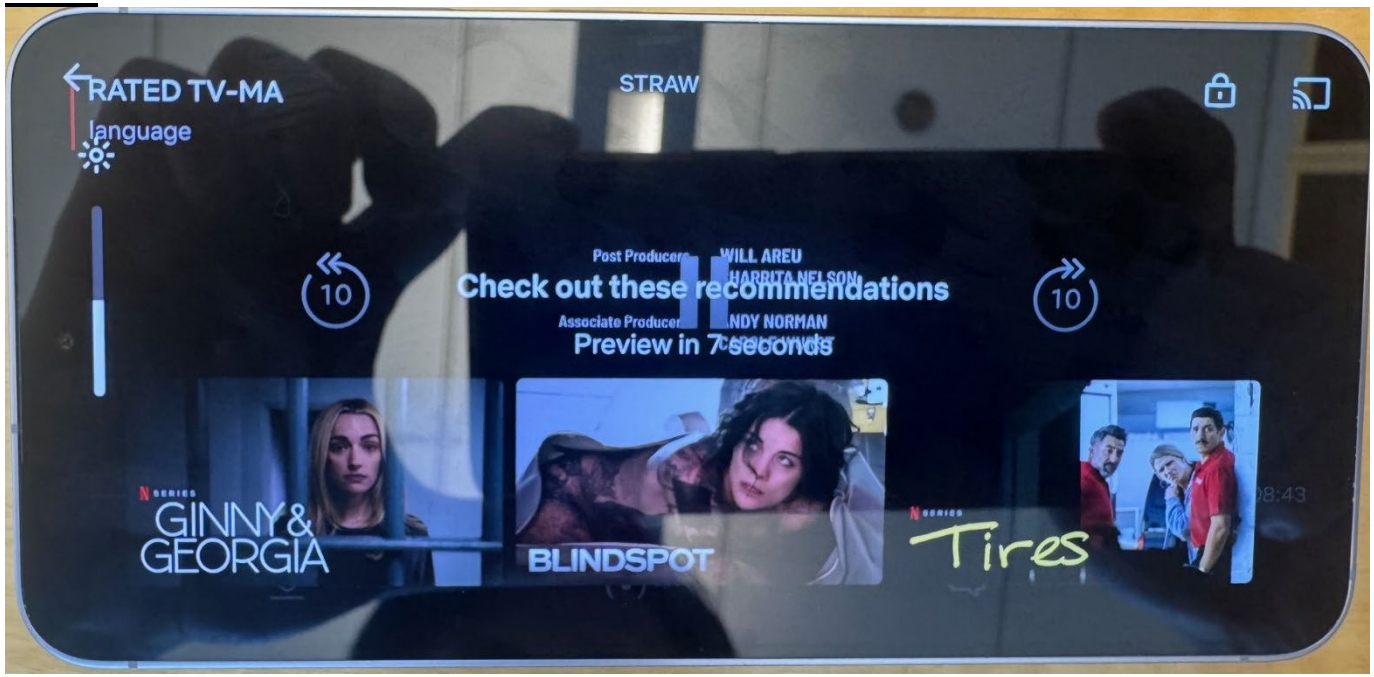
| | For example, the controller on the Samsung Galaxy S25 uses the content's type (e.g., movie vs. episodic series) as "panel related information" to decide which interactive panel, if any, to display at the conclusion of the content. This is consistent with the patent's description of controlling display based on "digital content attributes." The applications demonstrate this in different ways. In the Netflix app, the controller decides which type of interactive panel to show. As shown in the evidence, it displays a "Recommendations" panel after a movie, but displays a different "Next Episode" panel after a TV show episode. The Samsung TV Plus app provides an even clearer example of the controller deciding whether to display a panel. As shown in the provided screenshots, the controller displays no interactive panel at the end of a movie. In contrast, it does display a second operation panel with a "Cancel" button and a "Next episode" countdown at the end of a TV show episode.<br><br>**Netflix**<br>  <br><br>Self-contained Movie Content |

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| | A screenshot of the Netflix application at the conclusion of a self-contained movie. It shows the display of an interactive "Recommendations" panel.<br> <br><br>Episodic Content<br><br>A screenshot of the Netflix application at the conclusion of an episode from a TV series. It shows the display of an interactive panel containing a "Next Episode" button.<br><br>**<u>Samsung TV Plus</u>** |

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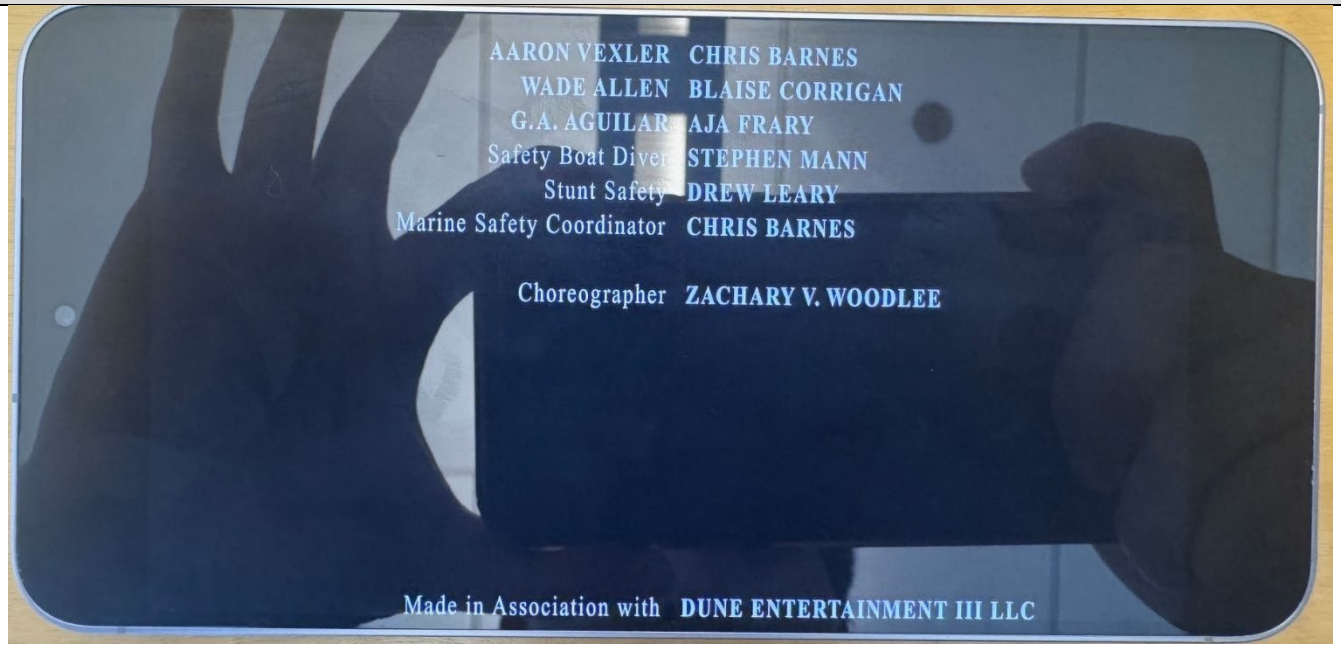
| |  <br>Self-contained Movie Content<br><br>A screenshot of the Samsung TV Plus application at the conclusion of a self-contained movie. The image shows the video credits playing without any on-screen operation panel displayed. |

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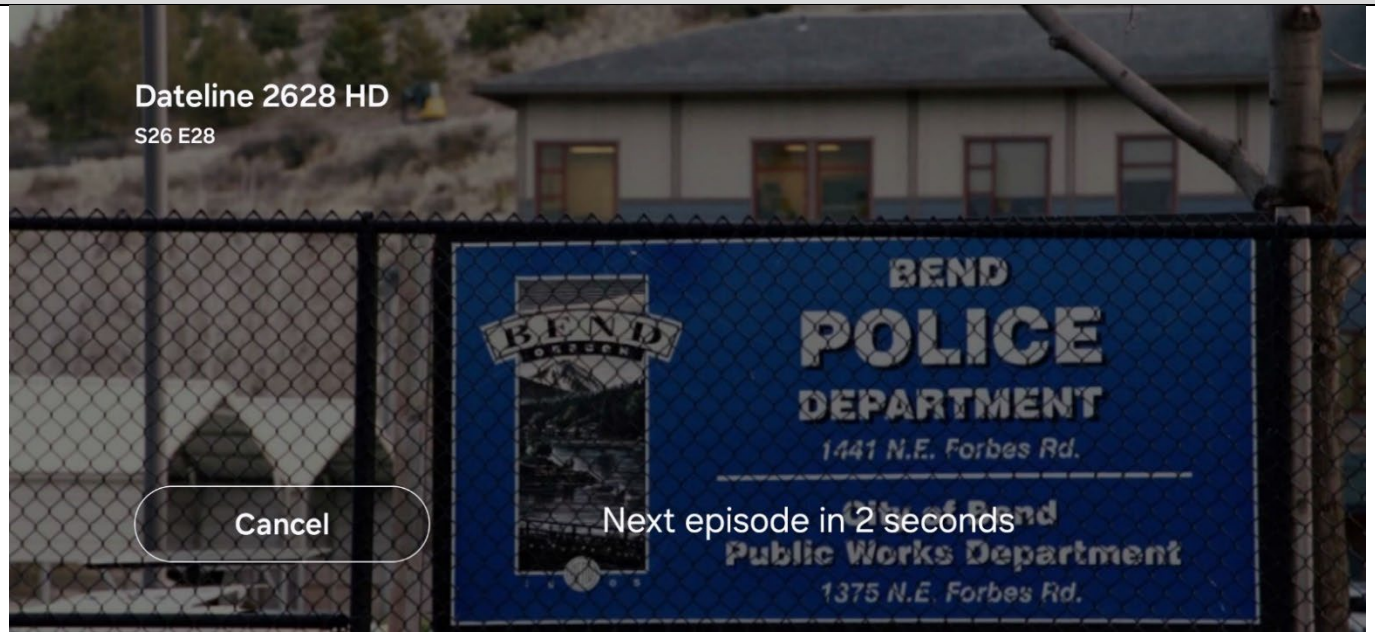
| |  <br>Episodic Content<br><br>A screenshot of the Samsung TV Plus application at the conclusion of a episodic content. It shows the display of an interactive panel containing a “Cancel” button. |
| [1.h] wherein the controller, when controlling reproduction of the digital contents, is further configured to: display at least one of the interactive operation buttons during the time represented by the time related information, and | Each of the Accused Samsung ’091 Products includes a controller that, when controlling reproduction of the digital contents, is further configured to display at least one of the interactive operation buttons during the time represented by the time related information. *See* User Guide and Technical Specifications of each of the Accused Samsung ’091 Products available at Samsung’s website showing that each of the devices includes a controller that, when controlling reproduction of the digital contents, is further configured to display at least one of the interactive operation buttons during the time represented by the time related information.<br><br>For example, the controller in the Samsung Galaxy S25, when controlling reproduction of digital content in applications like Netflix or Samsung TV Plus, is further configured to display at least one of the interactive |

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| | operation buttons during the time represented by the time related information (as defined in element [1.f]). This is demonstrated, for instance, by the display of an interactive "Skip Intro" button specifically during the introductory sequence of a TV show; the "time related information" here is the defined duration of that intro. Similarly, interactive buttons such as "Next Episode" and "Watch Credits" are displayed during the time represented by the end-credits sequence of an episode. The "time related information" is the period at the conclusion of the main program content. In both scenarios, specific interactive buttons are displayed only during a time period defined by the time related information associated with the content.<br><br>**<u>Netflix</u>**<br><br> <br><br>Screenshot of a Netflix video on a Samsung Galaxy S25 displaying interactive operation buttons, specifically "Watch Credits" and "Next Episode." These buttons are shown during the time represented by the conclusion of an episode (as credits are rolling), illustrating the controller displaying at least one interactive operation button during a time represented by "time related information." |

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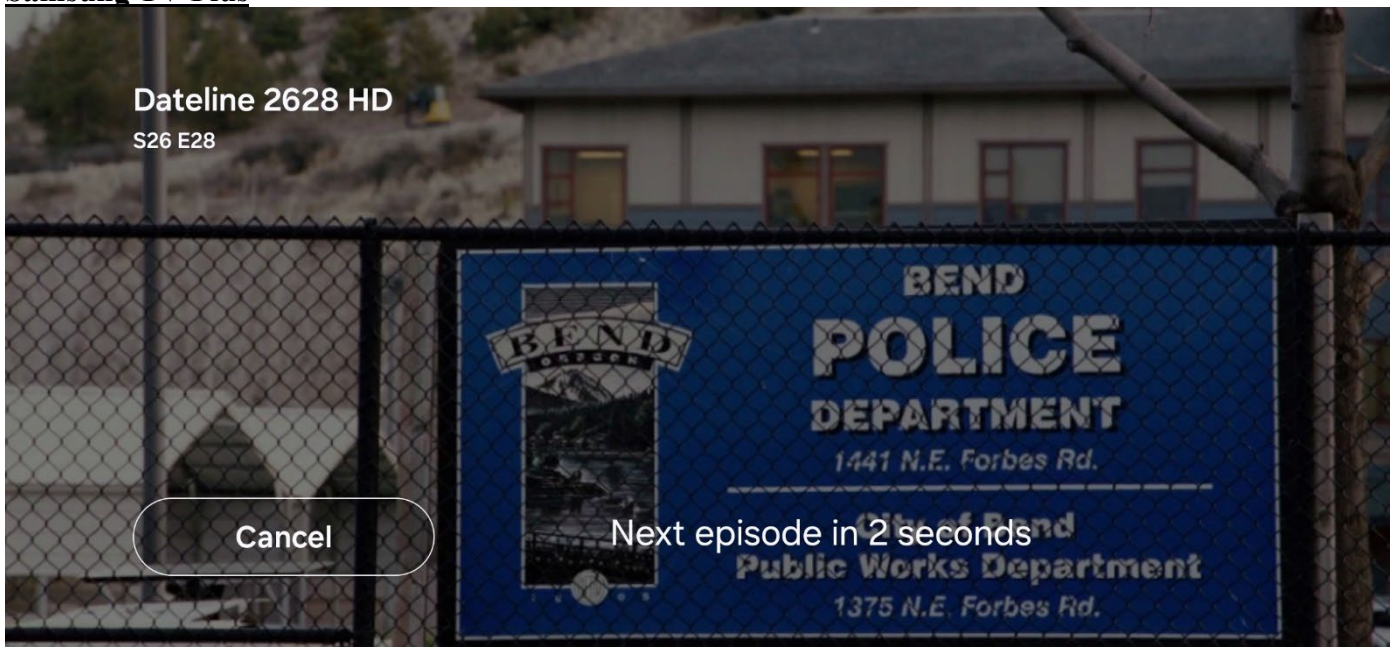
| | **Samsung TV Plus**<br>  <br><br>Screenshot of the Samsung TV Plus application on a Samsung Galaxy S25. The image displays an interactive “Cancel” button alongside a “Next episode in 2 seconds” countdown, presented as an overlay at the conclusion of “Dateline 2628 HD S26 E28.” The appearance of the “Cancel” button during this specific end-of-episode time frame illustrates the controller displaying at least one interactive operation button during a time represented by “time related information.” |
| [1.i] other than the time represented by the time related information, display at least one of the linear operation buttons or at least one of the interactive operation buttons based on the panel related information. | Each of the Accused Samsung ’091 Products includes a controller that, when controlling reproduction of the digital contents, is further configured to, other than the time represented by the time related information, display at least one of the linear operation buttons or at least one of the interactive operation buttons based on the panel related information. *See* User Guide and Technical Specifications of each of the Accused Samsung ’091 Products available at Samsung’s website showing that each of the devices includes a controller that, when controlling reproduction of the digital contents, is further configured to, other than the time represented by the time related information, display at least one of the linear operation buttons or at least one of the interactive operation buttons based on the panel related information. |

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| | For example, this element describes the system's behavior during general playback, outside of special timed events like an end-of-episode prompt. During this time, the controller displays an operation panel chosen based on "panel related information" (i.e., the content's attributes). This is demonstrated by comparing the operation panel displayed for a self-contained movie versus an episodic TV show. When playing a movie, the controller displays a panel that includes linear control button but lacks series-specific interactive buttons. In contrast, as shown in the provided screenshots of an episodic show, the controller displays a different panel that includes series-specific interactive buttons like "Next Episode" and "Episodes."<br><br>**Netflix**<br> <br><br>Self-contained Movie Content |

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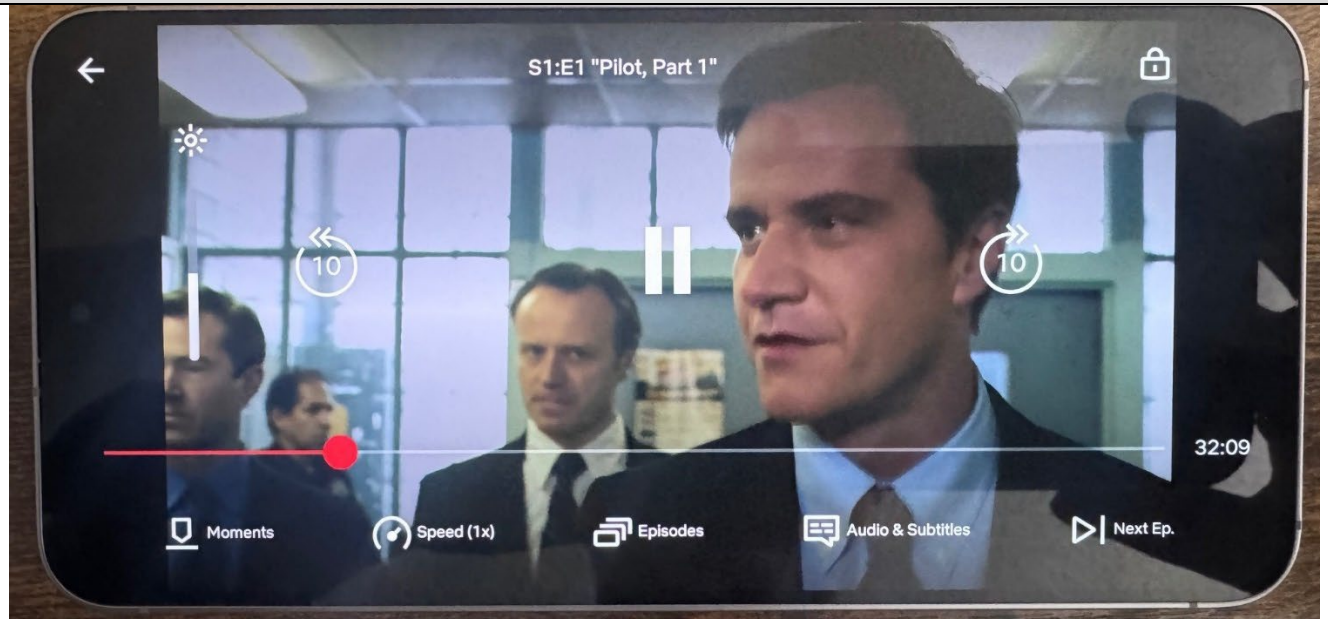
| |  <br>Episodic Content<br><br>When playing a self-contained movie, the "panel related information" indicates non-episodic content. In such a case, the controller displays an operation panel that typically includes linear playback controls (play, pause, seek bar, speed adjustment) and some general interactive buttons, but notably omits series-specific interactive buttons such as "Next Episode" or an "Episodes" list button. In contrast, when playing an episode of a TV series, the "panel related information" indicates episodic content. The controller displays an operation panel that, in addition to similar linear controls, also includes series-specific interactive operation buttons such as "Next Episode" and an "Episodes" list button. The controller's decision to include or exclude these particular interactive buttons based on whether the content is a standalone movie or part of a series illustrates the display of operation buttons based on "panel related information" during general playback periods. |

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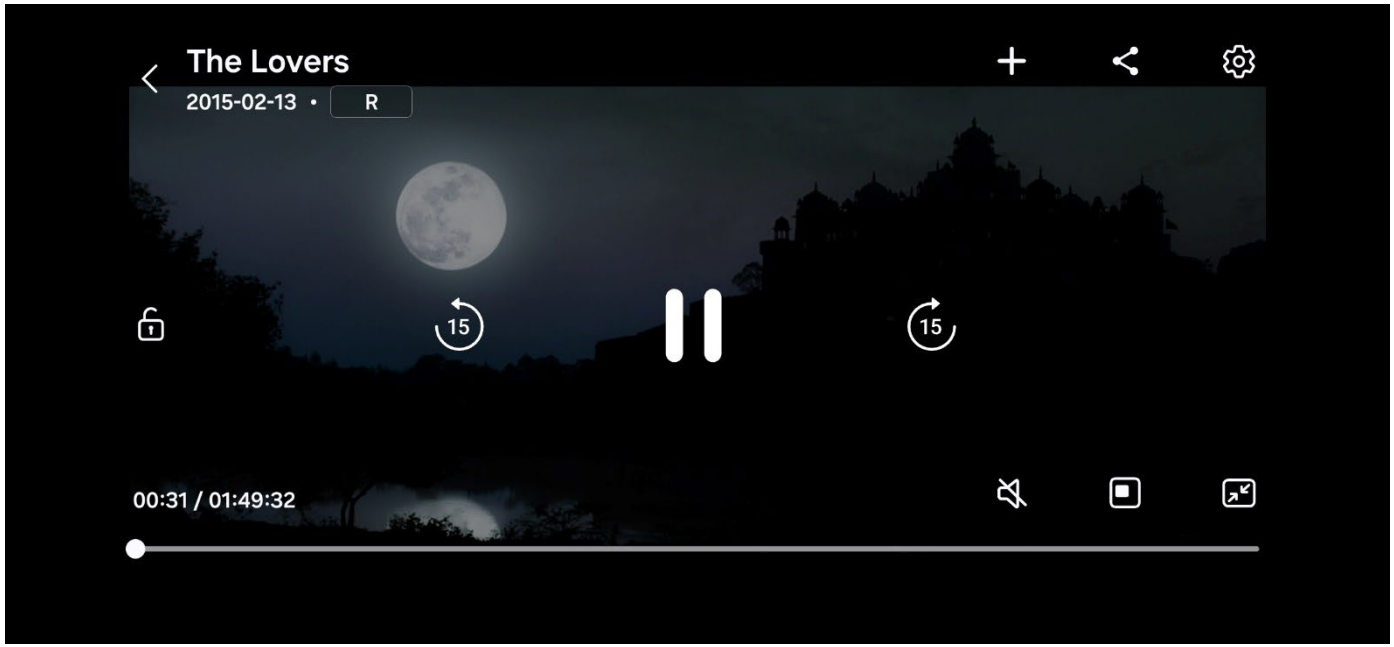
| | **Samsung TV Plus**<br>  <br><br>Self-contained Movie Content |

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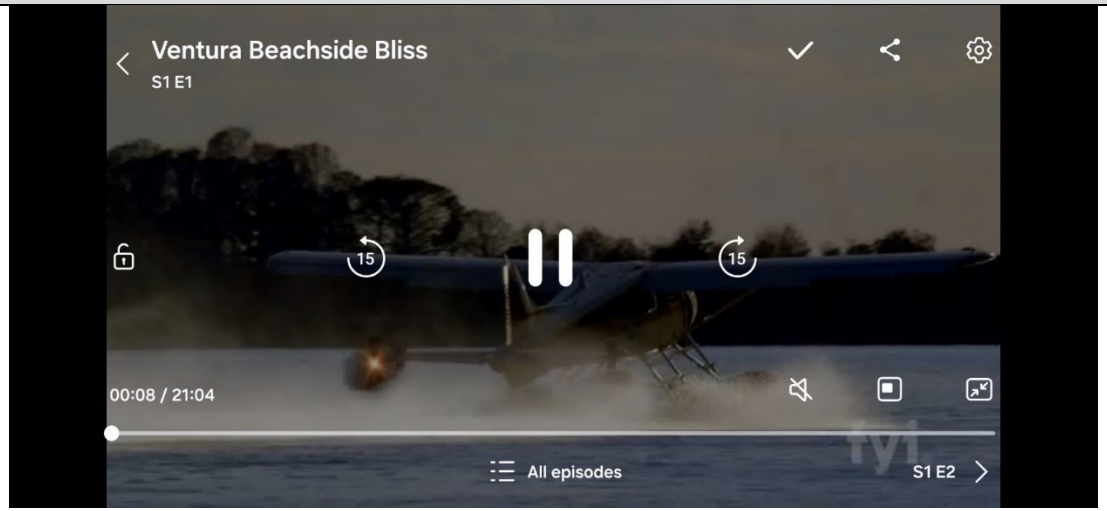
| |  <br>Episodic Content<br><br>When playing a self-contained movie, the “panel related information” indicates non-episodic content. In this situation, the controller displays an operation panel typically featuring linear playback controls and general interactive buttons, but it notably omits series-specific interactive buttons designed for navigating episodes. In contrast, when playing an episode of a TV series, where the “panel related information” indicates episodic content, the controller displays an operation panel that, in addition to similar linear and general interactive controls, also includes series-specific interactive operation buttons. Examples of these include an “All episodes” button and a “Next Episode” indicator. The controller’s decision to include or exclude these particular series-specific interactive buttons based on whether the content is a standalone movie or part of a series illustrates the display of operation buttons based on “panel related information” during general playback periods. |
| [2.] The digital content reproducing apparatus according to claim 1, wherein the controller is further configured to display either the first operation panel or the second operation panel in a substantially | Each of the Accused Samsung ’091 Products is a digital content reproducing apparatus according to claim 1, wherein the controller is further configured to display either the first operation panel or the second operation panel in a substantially same panel rendering area as alternative operation panels. *See* User Guide and Technical Specifications of each of the Accused Samsung ’091 Products available at Samsung's website showing that each of the devices includes a digital content reproducing apparatus, wherein the |

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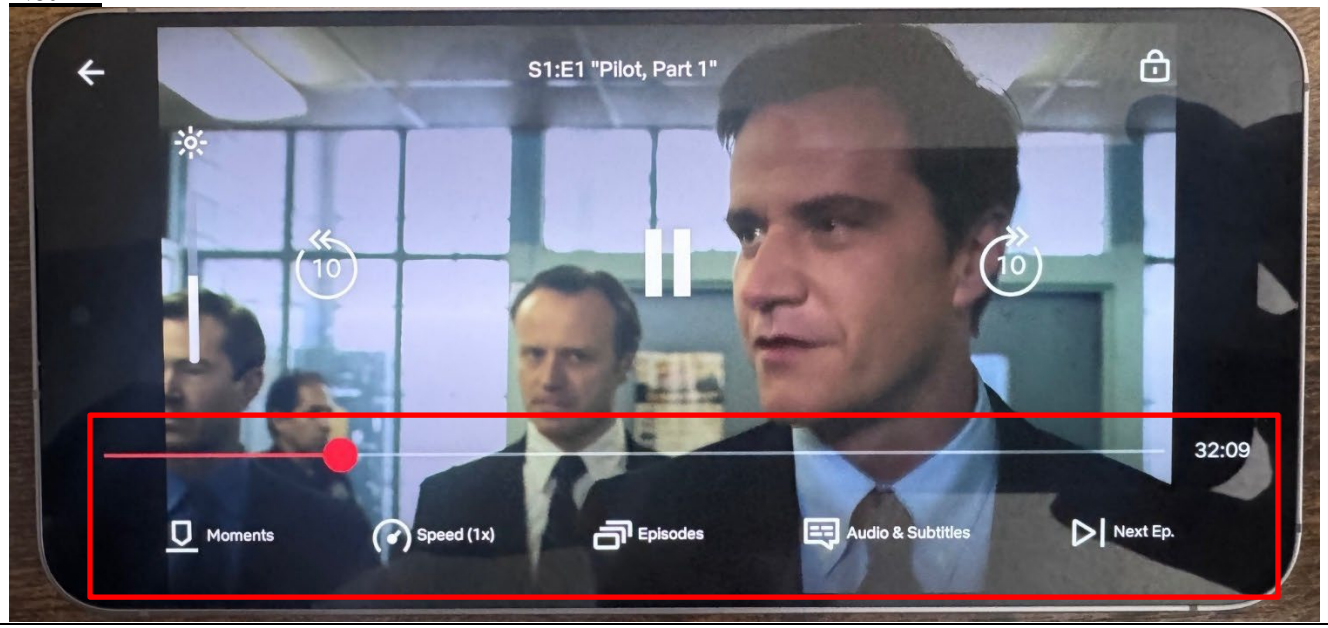
| same panel rendering area as alternative operation panels. | controller is further configured to display either the first operation panel or the second operation panel in a substantially same panel rendering area as alternative operation panels.<br><br>For example, on Netflix or Samsung TV Plus, the alternative operation panels are displayed in a substantially same panel rendering area, which is described as displaying the different user interfaces in the "same panel rendering area," which is the overlay region that typically appears on the bottom portion of the screen during playback. During general playback, a first operation panel with linear controls is displayed within this bottom overlay area, including the progress bar which facilitates linear reproduction functions. Alternatively, during a timed event like the end of an episode, a second operation panel with interactive buttons (like "Next Episode" or "Cancel") is displayed in the very same area.<br><br>.<br><br>**Netflix**<br>  <br> |

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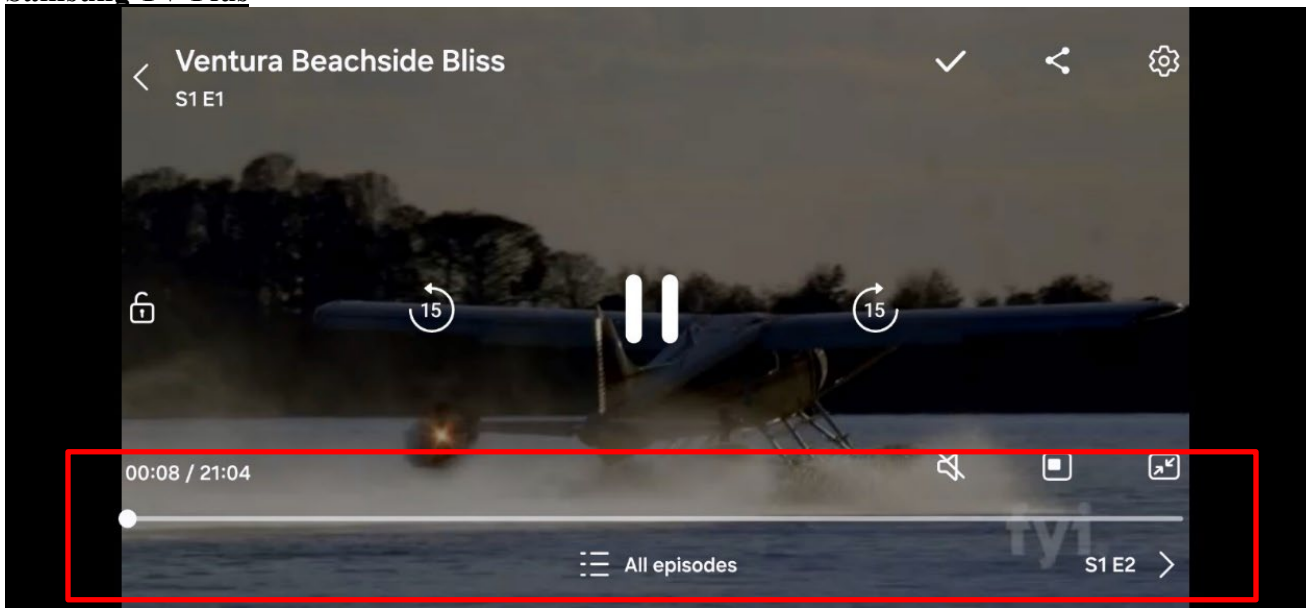
| | A screenshot of the Netflix application, showing the playback of an episodic television show. A red square highlights the operation panel, which is displayed as an overlay at the bottom of the screen. This highlighted panel contains both a key linear control (the playback progress bar) and multiple interactive controls.<br><br>**Samsung TV Plus**<br>  <br><br>A screenshot of the Samsung TV Plus application, showing the playback of an episodic television show. A red square highlights the operation panel, which is displayed as an overlay at the bottom of the screen. This highlighted panel contains both a key linear control (the playback progress bar) and multiple series-specific interactive controls. |
| [3.] The digital content reproducing apparatus according to claim 1, wherein the controller is further configured to display either the first operation panel or the second | Each of the Accused Samsung ’091 Products is a digital content reproducing apparatus according to claim 1, wherein the controller is further configured to display either the first operation panel or the second operation panel in a lower part of the display. *See* User Guide and Technical Specifications of each of the Accused Samsung ’091 Products available at Samsung's website showing that each of the devices includes a digital content reproducing apparatus, wherein the controller is further configured to display either the first operation panel or the second operation panel in a lower part of the display. |

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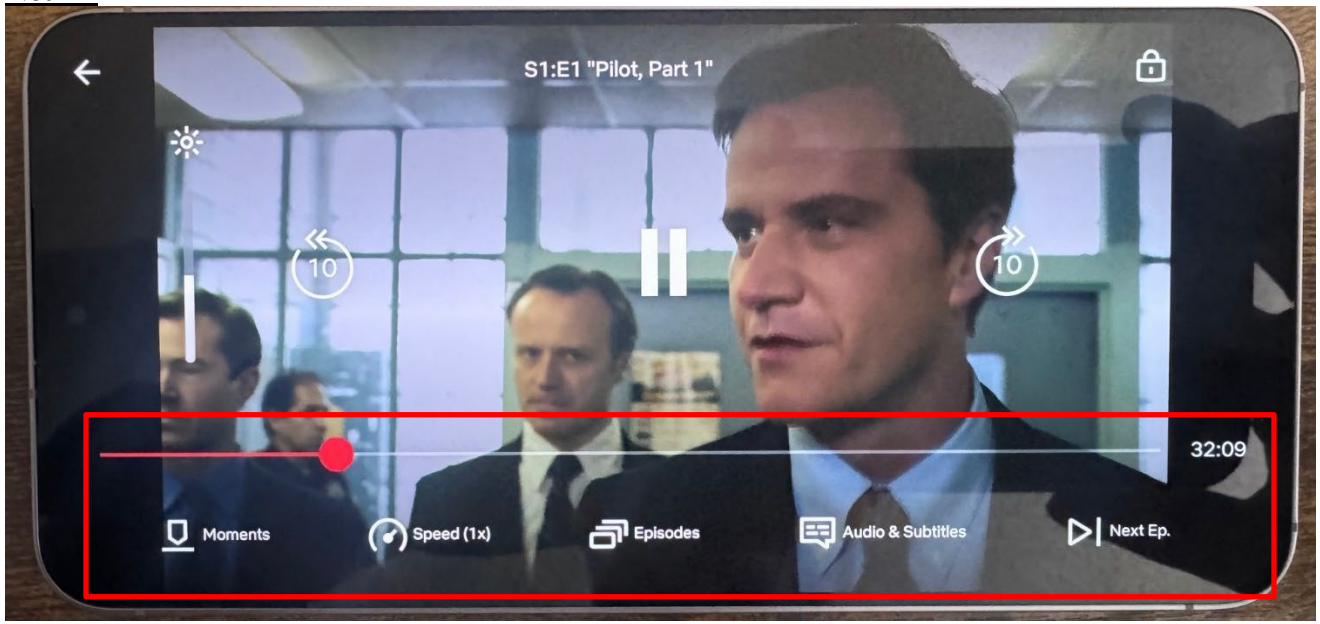
| operation panel in a lower part of the display. | For example, the operation panels for applications like Netflix and Samsung TV Plus are displayed in a lower part of the display. The below screenshots demonstrate this functionality. The operation panels appear as an overlay in the lower portion of the screen.<br><br>**Netflix**<br>  <br><br><br>**Samsung TV Plus** |

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| [6.] The digital content reproducing apparatus according to claim 1, wherein the controller is further configured to control to maintain a rendering area size of the reproduced digital contents, even when the first operation panel or the second operation panel is displayed. | Each of the Accused Samsung ’091 Products is a digital content reproducing apparatus according to claim 1, wherein the controller is further configured to control to maintain a rendering area size of the reproduced digital contents, even when the first operation panel or the second operation panel is displayed. *See* User Guide and Technical Specifications of each of the Accused Samsung ’091 Products available at Samsung's website showing that each of the devices includes a digital content reproducing apparatus, wherein the controller is further configured to control to maintain a rendering area size of the reproduced digital contents, even when the first operation panel or the second operation panel is displayed.<br><br>For example, when running applications like Netflix and Samsung TV Plus, the operation panels—both the the progress bar and the “Next Episode” interactive panels—are displayed as translucent overlays on top of the video content. When these panels appear, the video content in the background continues to occupy the full rendering area and does not shrink or change size.<br><br>**<u>Netflix</u>** |

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| | <br><br>A screenshot of the Netflix application running on an Samsung Galaxy S25, capturing the user interface at the conclusion of an episode. The controller displays a second operation panel containing the interactive buttons "Watch Credits" and "Next Episode." This panel is displayed as a translucent overlay, and the video content in the background continues to occupy the full rendering area without changing size.<br><br>**<u>Samsung TV Plus</u>** |

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| | <br>A screenshot of the Samsung TV Plus application running on an Samsung Galaxy S25, showing the user interface at the conclusion of an episode. The controller displays a second operation panel that includes an interactive “Cancel” button. This interactive panel is displayed as an overlay, and the video content in the background continues to occupy the full rendering area without changing size. |
| [7.] The digital content reproducing apparatus according to claim 1, wherein all of one or more linear operation buttons and one or more interactive operation buttons provide mutually differing functions from each other. | Each of the Accused Samsung ’091 Products is a digital content reproducing apparatus according to claim 1, wherein all of one or more linear operation buttons and one or more interactive operation buttons provide mutually differing functions from each other. *See* User Guide and Technical Specifications of each of the Accused Samsung ’091 Products available at Samsung's website showing that each of the devices includes a digital content reproducing apparatus, wherein all of one or more linear operation buttons and one or more interactive operation buttons provide mutually differing functions from each other.<br><br>For example, on the Samsung Galaxy S25, the buttons displayed on the operation panels in applications like Netflix and Samsung TV Plus all provide mutually differing functions. Screenshots below show that each button corresponds to a unique action. |

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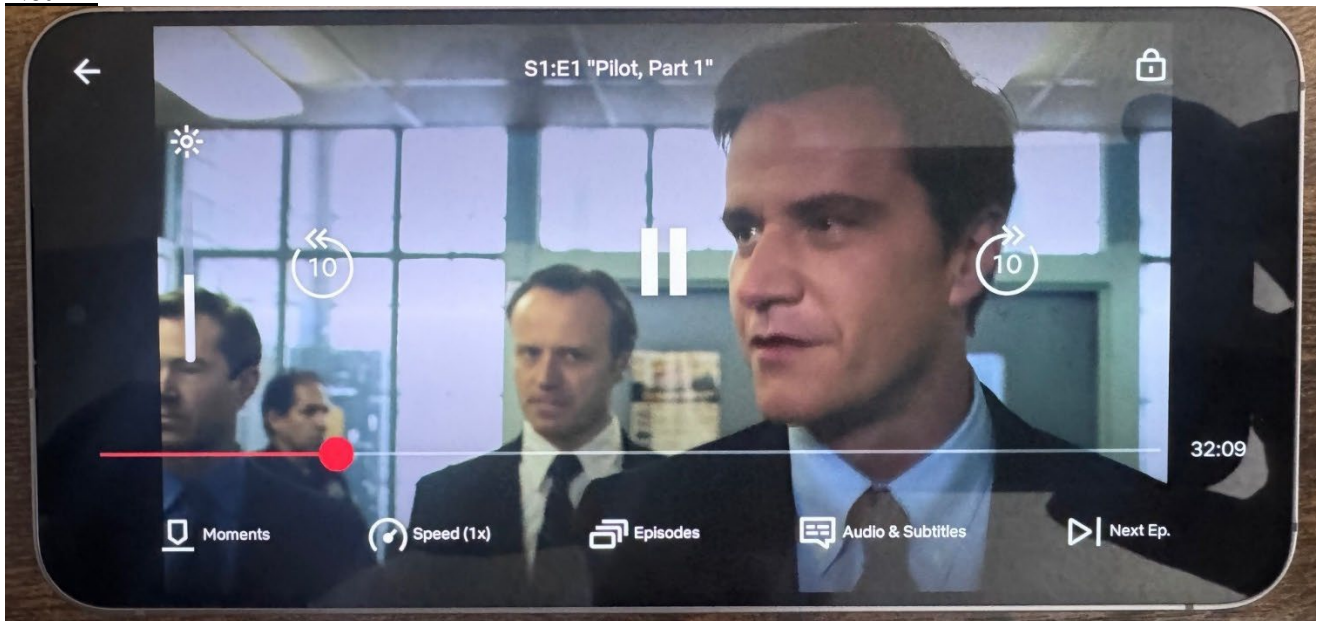
| | **Netflix**<br>  <br><br>The "Pause" button controls the play/stop state of the video, while the "rewind 10s" button performs a discrete time jump, and the "Episodes" button opens a separate navigation menu for the series. Each of these linear and interactive buttons initiates a distinct function that is different from all the others available on the panel. Because all the operation buttons provide mutually differing functions, the requirement of Claim 7 is met.<br><br>**Samsung TV Plus** |

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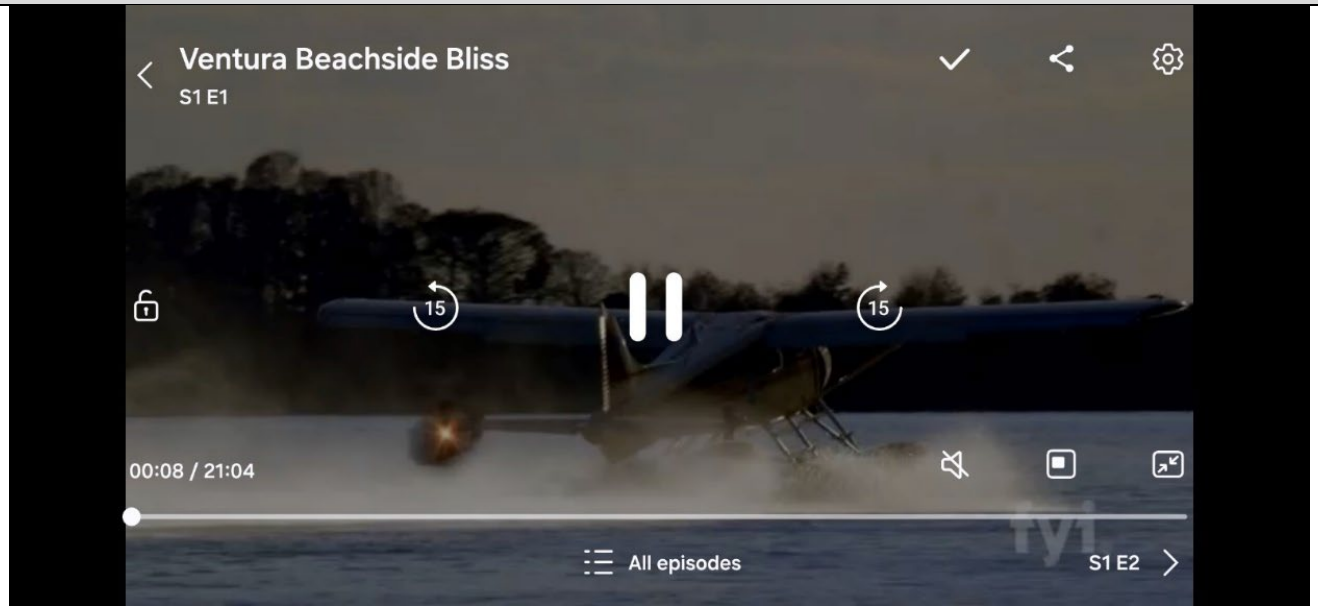
| |  <br>A screenshot of the Samsung TV Plus application running on an Samsung Galaxy S25. The image displays an operation panel containing numerous linear and interactive buttons, each initiating a unique function distinct from all others. For example, the linear “Pause” button controls the playback state, which is a different function from the “rewind 15s” button that performs a discrete time jump. Similarly, the interactive “All episodes” button for navigation has a different function from the “Share” button for sharing content and the “Settings” button for adjusting settings. |
| [10.] The digital content reproducing apparatus according to claim 2, wherein the controller further configured to: store the digital contents received from the outside server via the network communication circuitry into a | Each of the Accused Samsung ’091 Products is a digital content reproducing apparatus according to claim 2, wherein the controller is further configured to store the digital contents received from the outside server via the network communication circuitry into a storage, and reproduce the digital contents stored in the storage. *See* User Guide and Technical Specifications of each of the Accused Samsung ’091 Products available at Samsung's website showing that each of the devices includes a digital content reproducing apparatus, wherein the controller is further configured to store the digital contents received from the outside server via the network communication circuitry into a storage, and reproduce the digital contents stored in the storage. |

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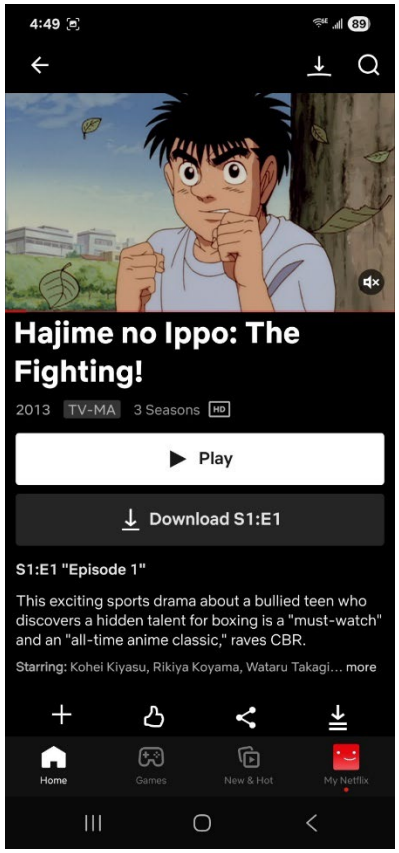
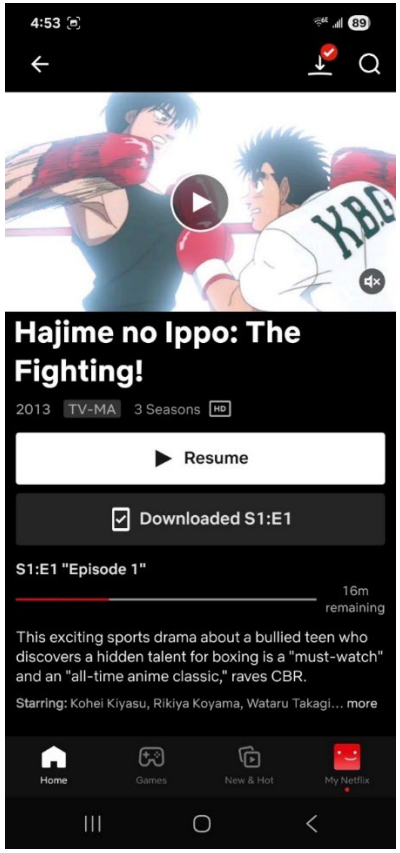
| storage; and reproduce the digital contents stored in the storage. | For example, this claim describes the download-for-offline-viewing feature present in applications like Netflix on the Samsung Galaxy S25. The screenshots below illustrate the two requirements of the claim being met in sequence.<br>  <br><br>  <br><br>First, the left screenshot shows the application presenting a " Download S1:E1" button. This provides the user the option to instruct the controller to "store the digital contents received from the outside server... into a storage." Second, the right screenshot shows the interface after the download is complete, indicated by the "Downloaded S1:E1" status. The call-to-action button has changed to " Resume," demonstrating the controller's configuration to "reproduce the digital contents stored in the storage." |

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| [13.] The digital content reproducing apparatus according to claim 1, wherein the outside server is a video on demand server. | Each of the Accused Samsung ’091 Products is a digital content reproducing apparatus according to claim 1, wherein the outside server is a video on demand server. *See* User Guide and Technical Specifications of each of the Accused Samsung ’091 Products available at Samsung's website showing that each of the devices includes a digital content reproducing apparatus, wherein the outside server is a video on demand server.<br><br>For example, the streaming services used on the Samsung Galaxy S25, such as Netflix and Samsung TV Plus, are examples of video on demand services. They provide users with a large library of digital content and allow them to select and watch specific titles at their convenience. |

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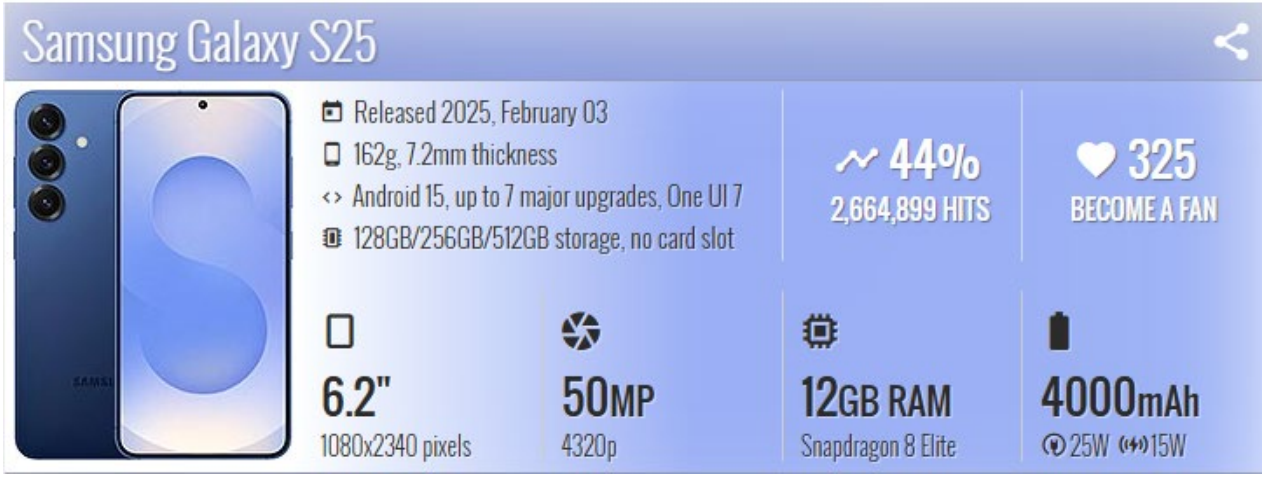
| | **Streaming Entertainment Apps**<br>The world's leading linear TV networks now offer their programming on-demand through apps that run on phones and smart TVs. These apps, such as Disney+, HBO Max, Paramount+, and BBC iPlayer enable binge viewing and catch-up viewing. Existing linear networks that offer compelling internet apps will generate more viewing and become more valuable. Those networks that fail to develop first-class apps will lose viewing and revenue.<br>https://ir.netflix.net/ir-overview/long-term-view/default.aspx |
| [14.pre] A digital content reproducing apparatus, comprising: | Each of the Accused Samsung '091 Products is a digital content reproducing apparatus. *See* User Guide and Technical Specifications of each of the Accused Samsung '091 Products available at Samsung's website showing that each device is a digital content reproducing apparatus.<br><br>For example, the Samsung Galaxy S25 is a digital content reproducing apparatus, such as a smartphone capable of reproducing digital content like videos and music.<br><br>  |

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| | **DISPLAY**<br>Type: Dynamic LTPO AMOLED 2X, 120Hz, HDR10+, 2600 nits (peak)<br>Size: 6.2 inches, 94.4 $cm^2$ (~91.1% screen-to-body ratio)<br>Resolution: 1080 x 2340 pixels, 19.5:9 ratio (~416 ppi density)<br>Protection: Corning Gorilla Glass Victus 2<br>Always-on display<br>**PLATFORM**<br>OS: Android 15, up to 7 major Android upgrades, One UI 7<br>Chipset: Qualcomm SM8750-AB Snapdragon 8 Elite (3 nm)<br>CPU: Octa-core (2x4.47 GHz Oryon V2 Phoenix L + 6x3.53 GHz Oryon V2 Phoenix M)<br>GPU: Adreno 830<br>**COMMS**<br>WLAN: Wi-Fi 802.11 a/b/g/n/ac/6e/7, tri-band, Wi-Fi Direct<br>Bluetooth: 5.4, A2DP, LE<br>Positioning: GPS, GLONASS, BDS, GALILEO, QZSS<br>NFC: Yes<br>Radio: No<br>USB: USB Type-C 3.2, DisplayPort 1.2, OTG<br>https://www.gsmarena.com/samsung_galaxy_s25-13610.php |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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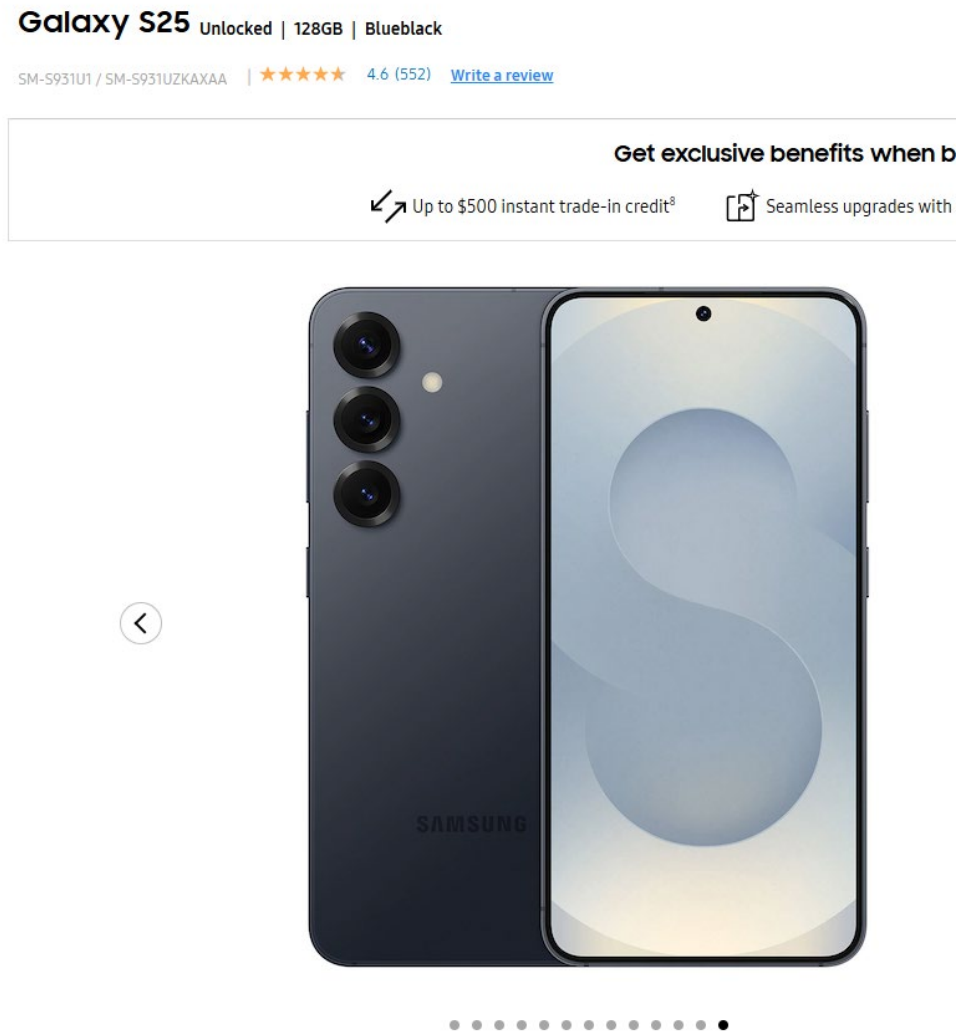
| |  |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
|---|---|
| | Display<br>**Resolution (Main Display)**<br>2340 x 1080 (FHD+)<br>**Main Display Size**<br>156.4mm (6.2" full rectangle) / 152.3mm (6.0" rounded corners)<br>**Technology (Main Display)**<br>Dynamic AMOLED 2X<br><br>Processor<br>**CPU Type**<br>Octa-Core<br>**CPU Speed**<br>4.47GHz,3.5GHz<br><br>Network<br>**2G GSM**<br>GSM850,GSM900,DCS1800,PCS1900<br>**3G UMTS**<br>B1(2100),B2(1900),B4(AWS),B5(850),B8(900)<br>**4G FDD LTE**<br>B1(2100),B2(1900),B3(1800),B4(AWS),B5(850),B7(2600),B8(900),B12(700),B13(700),B14(700),B18(800),B19(800),B20(800),B25(1900),B26(850),B28(700),B29(700),B30(2300),B66(AWS-3),B71(600)<br>**4G TDD LTE**<br>B38(2600),B39(1900),B40(2300),B41(2500),B48(3600)<br>**SIM Slot Type**<br>SIM 1 + eSIM / Dual eSIM<br>**5G FDD Sub6**<br>N1(2100),N2(1900),N5(850),N7(2600),N25(1900),N28(700),N66(AWS-3),N71(600) |

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| | Connectivity<br>**Wi-Fi Connectivity**<br>802.11a/b/g/n/ac/ax/be 2.4GHz+5GHz+6GHz, EHT320, MIMO, 4096-QAM<br>**USB**<br>USB 3.2 Gen 1<br>**Bluetooth®**<br>Bluetooth v5.4<br>**Location Technology**<br>GPS,Glonass,Beidou,Galileo<br>**Earjack**<br>USB Type-C<br>**MHL**<br>No<br>**Wi-Fi Direct**<br>Yes<br>**NFC**<br>Yes<br>**PC Sync.**<br>Smart Switch (PC version)<br>**USB Interface**<br>USB Type-C<br>OS<br>**OS**<br>Android<br>Samsung Galaxy S25 Technical Spec: https://www.samsung.com/us/smartphones/galaxy-s25/buy/galaxy-s25-128gb-unlocked-sm-s931uzkaxaa/ |
| [14.a] a network communication circuitry configured to receive digital contents and related information from a video on demand server | Each of the Accused Samsung ’091 Products comprises a network communication circuitry configured to receive digital contents and related information from a video on demand server. See User Guide and Technical Specifications of each of the Accused Samsung ’091 Products available at Samsung’s website showing that each device comprises a network communication circuitry configured to receive digital contents and related information from a video on demand server.<br><br>For example, the Samsung Galaxy S25 includes network communication circuitry, such as Wi-Fi and cellular modem chipsets. This circuitry is configured to receive digital contents (like streaming video or music) and related information (like metadata, user account information, or content attributes) from on-demand, such as those operated by streaming services or content providers. |

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| | COMMS<br>WLAN: Wi-Fi 802.11 a/b/g/n/ac/6e/7, tri-band, Wi-Fi Direct<br>Bluetooth: 5.4, A2DP, LE<br>Positioning: GPS, GLONASS, BDS, GALILEO, QZSS<br>NFC: Yes<br>Radio: No<br>USB: USB Type-C 3.2, DisplayPort 1.2, OTG<br><br>https://www.gsmarena.com/samsung_galaxy_s25-13610.php<br><br>Network<br>2G GSM: GSM850,GSM900,DCS1800,PCS1900<br>3G UMTS: B1(2100),B2(1900),B4(AWS),B5(850),B8(900)<br>4G FDD LTE: B1(2100),B2(1900),B3(1800),B4(AWS),B5(850),B7(2600),B8(900),B12(700),B13(700),B14(700),B18(800),B19(800),B20(800),B25(1900),B26(850),B28(700),B29(700),B30(2300),B66(AWS-3),B71(600)<br>4G TDD LTE: B38(2600),B39(1900),B40(2300),B41(2500),B48(3600)<br>SIM Slot Type: SIM 1 + eSIM / Dual eSIM<br>5G FDD Sub6: N1(2100),N2(1900),N5(850),N7(2600),N25(1900),N28(700),N66(AWS-3),N71(600) |

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

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| | **Wi-Fi**<br>Turn on the Wi-Fi feature to connect to a Wi-Fi network and access the internet or other network devices.<br>**Connecting to a Wi-Fi network**<br>1 On the Settings screen, tap **Connections** → **Wi-Fi** and tap the switch to turn it on.<br>2 Select a network from the Wi-Fi networks list.<br>Networks with a lock icon require a password.<br>• Once the device connects to a Wi-Fi network, the device will reconnect to that network each time it is available without requiring a password. To prevent the device from connecting to the network automatically, tap ⚙ next to the network and tap the **Auto reconnect** switch to turn it off.<br>• If you cannot connect to a Wi-Fi network properly, restart your device's Wi-Fi feature or the wireless router.<br>**Sharing Wi-Fi network passwords**<br>If you make a request to a person who is connected to a secured Wi-Fi network to share its password, you can connect to the network without entering the password. This feature is available between the devices which have contacts each other and the screen of the other device must be turned on.<br>1 On the Settings screen, tap **Connections** → **Wi-Fi** and tap the switch to turn it on.<br>2 Select a network from the Wi-Fi networks list.<br>3 Tap **Request password**.<br>4 Accept the share request on the other device.<br>The Wi-Fi password is entered on your device and it is connected to the network. |

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| | Samsung Galaxy S25 User Manual at 115: https://www.galaxys25userguide.com/wp-content/uploads/pdf/galaxy-s25-user-guide-SM-S93X-EU-15-English.pdf<br><br>**Galaxy S23 Ultra:**<br><br>NETWORK<br>Technology: GSM / CDMA / HSPA / EVDO / LTE / 5G (COLLAPSE ▲)<br>2G bands: GSM 850 / 900 / 1800 / 1900 - SIM 1 & SIM 2 (Dual SIM model only)<br>CDMA 800 / 1900 & TD-SCDMA<br>3G bands: HSDPA 850 / 900 / 1700(AWS) / 1900 / 2100<br>CDMA2000 1xEV-DO<br>4G bands: 1, 2, 3, 4, 5, 7, 8, 12, 13, 17, 18, 19, 20, 25, 26, 28, 32, 38, 39, 40, 41, 66 - International<br>1, 2, 3, 4, 5, 7, 8, 12, 13, 14, 18, 19, 20, 25, 26, 28, 29, 30, 38, 39, 40, 41, 46, 48, 66, 71 - USA<br>5G bands: 1, 2, 3, 5, 7, 8, 12, 20, 25, 28, 38, 40, 41, 66, 75, 77, 78 SA/NSA/Sub6 - International<br>1, 7, 28, 41, 66, 71, 78, 258, 260, 261 SA/NSA/Sub6/mmWave - USA<br>Speed: HSPA, LTE-A (up to 7CA), 5G<br><br>COMMS<br>WLAN: Wi-Fi 802.11 a/b/g/n/ac/6e, tri-band, Wi-Fi Direct<br>Bluetooth: 5.3, A2DP, LE<br>Positioning: GPS, GLONASS, BDS, GALILEO<br>NFC: Yes<br>Radio: No<br>USB: USB Type-C 3.2, OTG<br><br>Galaxy S23 Ultra technical specifications; https://www.gsmarena.com/samsung_galaxy_s23_ultra-12024.php<br><br>**Galaxy Z Flip4:** |

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| | | |
|---|---|---|
| NETWORK | Technology | GSM / CDMA / HSPA / EVDO / LTE / 5G COLLAPSE ▲ |
| | 2G bands | GSM 850 / 900 / 1800 / 1900 |
| | | CDMA 800 / 1900 |
| | 3G bands | HSDPA 850 / 900 / 1700(AWS) / 1900 / 2100 |
| | | HSDPA 850 / 900 / 1900 / 2100 |
| | | CDMA2000 1xEV-DO |
| | 4G bands | 1, 2, 3, 4, 5, 7, 8, 12, 13, 17, 18, 19, 20, 25, 26, 28, 32, 38, 39, 40, 41, 66 |
| | 5G bands | 1, 2, 3, 5, 7, 8, 12, 20, 25, 28, 38, 40, 41, 66, 75, 77, 78 SA/NSA/Sub6 - International |
| | | SA/NSA/Sub6/mmWave - USA |
| | Speed | HSPA, LTE-A (6CA), 5G |
| COMMS | WLAN | Wi-Fi 802.11 a/b/g/n/ac/6, dual-band, Wi-Fi Direct |
| | Bluetooth | 5.2, A2DP, LE |
| | Positioning | GPS, GLONASS, GALILEO, BDS |
| | NFC | Yes |
| | Radio | No |
| | USB | USB Type-C 2.0, OTG |

Galaxy Z Flip4 technical specifications; https://www.gsmarena.com/samsung_galaxy_z_flip4-11538.php.

**Galaxy Z Fold4:**

| | | |
|---|---|---|
| NETWORK | Technology | GSM / CDMA / HSPA / EVDO / LTE / 5G COLLAPSE ▲ |
| | 2G bands | GSM 850 / 900 / 1800 / 1900 |
| | | CDMA 800 / 1900 |
| | 3G bands | HSDPA 850 / 900 / 1700(AWS) / 1900 / 2100 |
| | | CDMA2000 1xEV-DO |
| | 4G bands | 1, 2, 3, 4, 5, 7, 8, 12, 13, 17, 18, 19, 20, 25, 26, 28, 32, 38, 39, 40, 41, 66 - International |
| | | 1, 2, 3, 4, 5, 7, 8, 12, 13, 14, 18, 19, 20, 25, 26, 28, 29, 30, 38, 39, 40, 41, 46, 48, 66, 71 - USA |
| | 5G bands | 1, 2, 3, 5, 7, 8, 12, 20, 25, 28, 38, 40, 41, 66, 75, 77, 78 SA/NSA/Sub6 - International |
| | | 2, 5, 7, 12, 25, 30, 38, 41, 48, 66, 71, 77, 78, 258, 260, 261 SA/NSA/Sub6/mmWave - USA |
| | Speed | HSPA 42.2/5.76 Mbps, LTE (7CA) Cat20 2000/200 Mbps, 5G |

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|---|---|
| | COMMS<br>WLAN: Wi-Fi 802.11 a/b/g/n/ac/6e, dual-band, Wi-Fi Direct<br>Bluetooth: 5.2, A2DP, LE, aptX HD<br>Positioning: GPS, GLONASS, GALILEO, BDS<br>NFC: Yes<br>Radio: No<br>USB: USB Type-C 3.2, OTG<br><br>Galaxy Z Fold4 technical specifications; https://www.gsmarena.com/samsung_galaxy_z_fold4-11737.php.<br><br>**Galaxy A54 5G:**<br><br>NETWORK<br>Technology: GSM / HSPA / LTE / 5G (COLLAPSE ▲)<br>2G bands: GSM 850 / 900 / 1800 / 1900 - SIM 1 & SIM 2 (dual-SIM model only)<br>3G bands: HSDPA 850 / 900 / 1700(AWS) / 1900 / 2100<br>4G bands: 1, 2, 3, 4, 5, 7, 8, 12, 17, 20, 26, 28, 32, 38, 40, 41, 66 - International<br>1, 2, 3, 4, 5, 7, 12, 13, 14, 20, 25, 26, 29, 30, 38, 39, 40, 41, 46, 48, 66, 71 - USA<br>5G bands: 1, 3, 7, 8, 20, 28, 38, 40, 41, 77, 78 SA/NSA/Sub6 - International<br>25, 41, 66, 71 SA/NSA/Sub6/mmWave - USA<br>Speed: HSPA, LTE-A, 5G<br><br>COMMS<br>WLAN: Wi-Fi 802.11 a/b/g/n/ac/6, dual-band, Wi-Fi Direct<br>Bluetooth: 5.3, A2DP, LE<br>Positioning: GPS, GLONASS, GALILEO, BDS<br>NFC: Yes (market/region dependent)<br>Radio: No<br>USB: USB Type-C 2.0, OTG<br><br>Samsung Galaxy A54 5G technical specifications; https://www.samsung.com/uk/smartphones/galaxy-a/galaxy-a54-5g-green-256gb-sm-a546blgdeub/; https://www.gsmarena.com/samsung_galaxy_a54-12070.php.<br><br>Upon information and belief Netflix comes preinstalled on the Accused Samsung '091Products and/or Samsung induces users to download Netflix application at setup. Further, Samsung infringes based on contributory infringement by knowingly downloading/including Netflix application at setup. |

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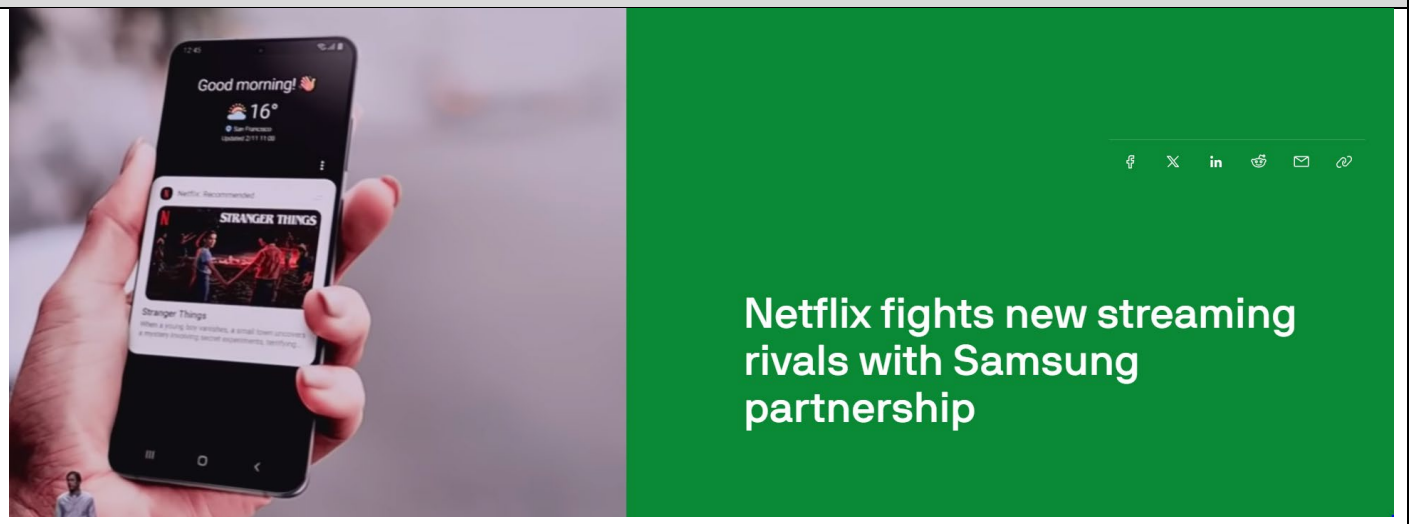
| |  <br>https://techcrunch.com/2020/02/13/netflix-fends-off-new-streaming-rivals-by-way-of-samsung-partnership/<br>Further, the Accused Samsung '091 Products include Samsung TV application:<br>Apps<br>TV<br>Enjoy free news, entertainment, and more on your Samsung TV and mobile devices.<br>In the Accused Samsung '091 Products, both applications receive digital contents and related information from an outside server (e.g., Samsung TV server or Netflix server) using Wi-Fi or cellular circuits.<br><br>**<u>Netflix</u>** |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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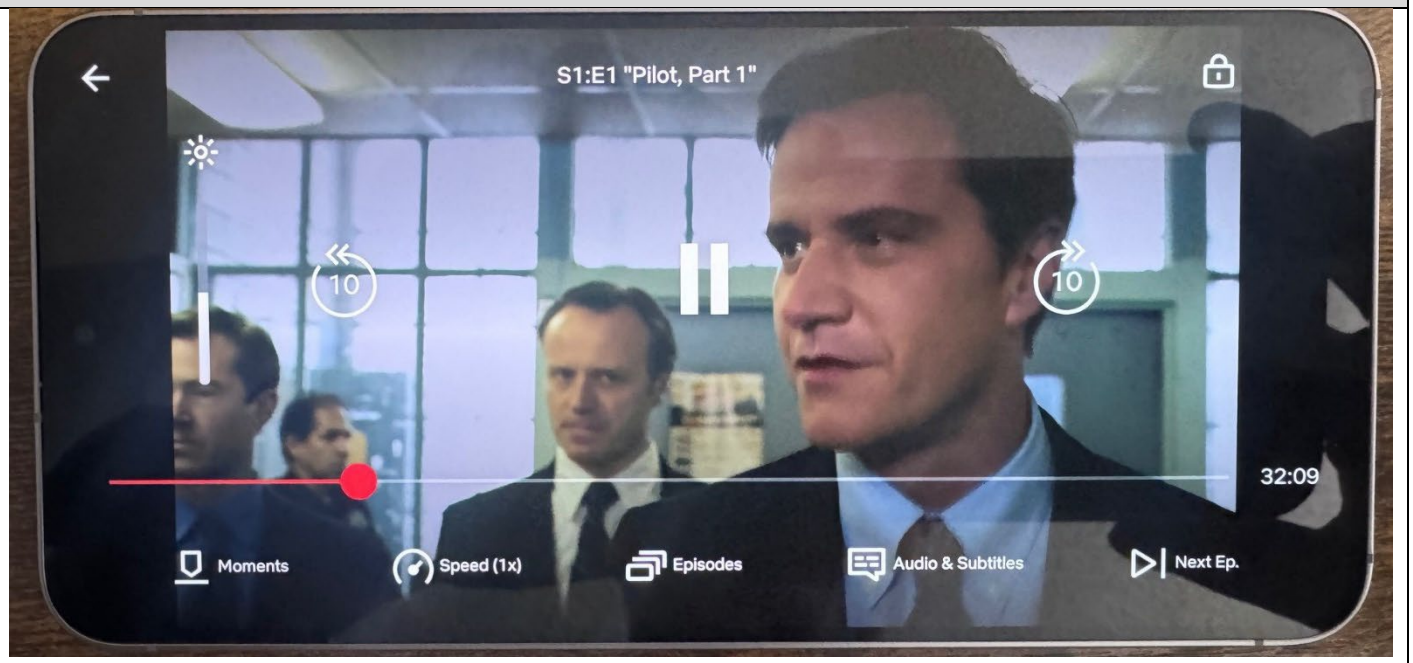
| |  <br>**Samsung TV Plus** |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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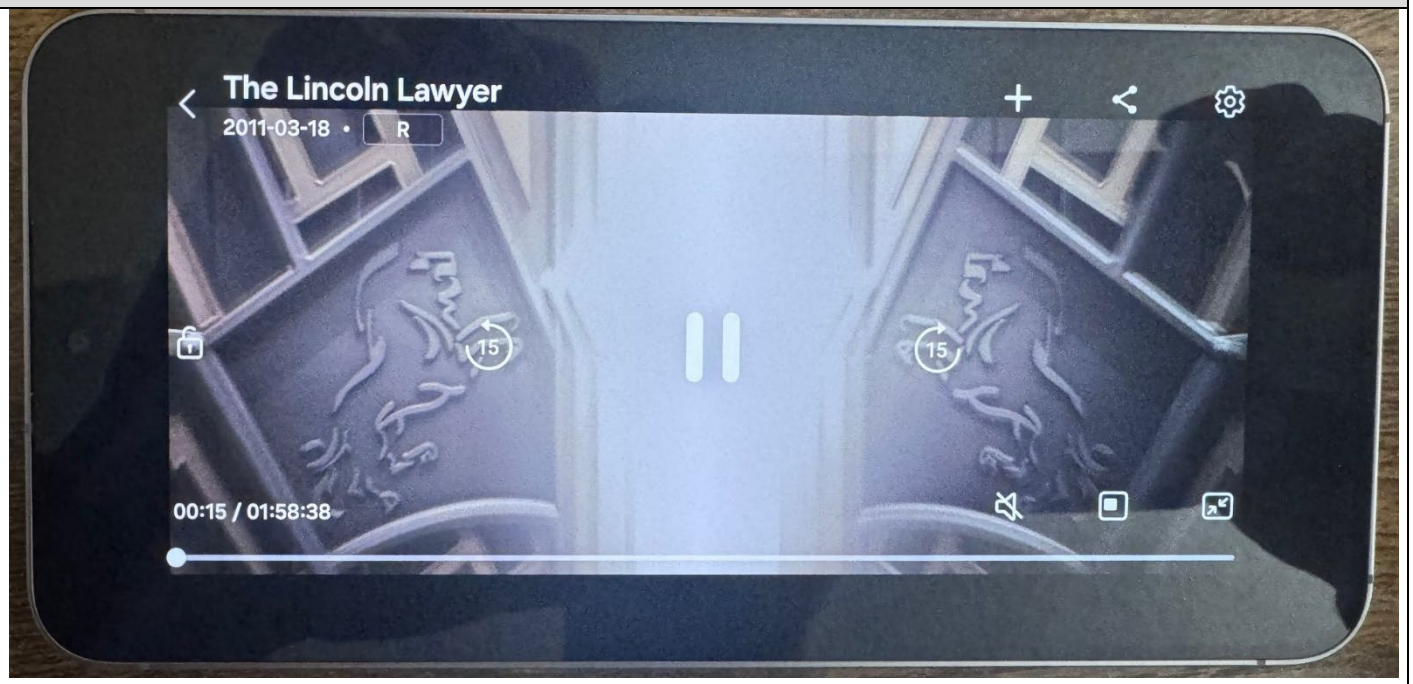
| |  <br>**How to download titles to watch offline**<br>To watch TV shows and movies offline at any time, download them from the Netflix app. Learn more about finding, downloading, and watching downloaded TV shows and movies below. |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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| | **Find and download a TV show or movie**<br><br>Tap on any TV show or movie and look for the **Downloads** icon to see whether it can be downloaded, or filter by what is available for download. Not all titles are available for download.<br><br>1. Open the Netflix app and tap **Downloads**.<br>  ◦ On a device running Windows 10 or Windows 11, open the Netflix app and select **Menu**.<br>2. Select **See What You Can Download**, **Find Something to Download**, **Find More to Download**, or **Available for Download**, depending on your device.<br>3. Select a TV show or movie.<br>4. From the description page, tap **Download**.<br>  ◦ For TV shows, **Download** will appear next to each available episode. Android users will also see a **Download Season** option to download all episodes in the selected season.<br>  ◦ To save on data usage, download over Wi-Fi.<br><br>You can have up to 100 active downloads at a time per device on as many devices included in your membership plan.<br><br>If you cancel your account, TV shows and movies you've downloaded will be deleted from your device. You will need to download them again if you rejoin in the future. |

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| | **Watch downloaded TV shows and movies**<br>To make sure you always have access to your downloads, we recommend remaining signed in to the Netflix app.<br>1. Sign in to the Netflix app and select **Downloads** ⭳.<br>∘ On a device running Windows 10 or Windows 11, open the Netflix app and select **Menu** ☰, then **My Downloads**.<br>2. Find the title you want to watch and select **Play** ▶.<br>∘ For TV shows, select a show, then tap **Play** ▶ next to the episode you want to watch.<br>> **NOTE:** Kids profiles may not be able to watch all downloaded TV shows and movies based on the maturity rating of the title.<br>Downloaded TV shows and movies are available on the device that was used to download them and can be viewed from any profile in your account. Downloads will expire after a period of time, and some have a limit on how many times they can be downloaded per year. Once you're done watching, delete downloads from your device.<br>https://help.netflix.com/en/node/54816 |
| [14.b] a decoder configured to decode the digital contents received via the network communication circuitry | Each of the Accused Samsung '091 Products comprises a decoder configured to decode the digital contents received via the network communication circuitry. *See* User Guide and Technical Specifications of each of the Accused Samsung '091 Products available at Samsung's website showing that each device comprises a decoder configured to decode digital contents received via network communication circuitry.<br>For example, the Samsung Galaxy S25 includes hardware and software components that function as a decoder. This decoder is configured to process and decode digital contents, such as streaming video and audio data (e.g., H.264, H.265, AAC), which are received via its network communication circuitry. For example, upon information and belief, the system on a chip (SoC) with processor and/or additional circuity such as a digital signal processor of each Accused Samsung '091 Products acts to decode, during playback, |

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| | the mp4 digital video information and audio information stored on the device to be able to render it for playback.<br><br>Video<br>**Video Playing Format**: MP4,M4V,3GP,3G2,AVI,FLV,MKV,WEBM<br>**Video Playing Resolution**: UHD 8K (7680 x 4320)@60fps<br>**Stereo Support**: Yes<br><br>Samsung Galaxy S25 Technical Spec: https://www.samsung.com/us/smartphones/galaxy-s25/buy/galaxy-s25-128gb-unlocked-sm-s931uzkaxaa/ |

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| | |

## Video support

### Video formats

| Format | Encoder | Decoder | File Types Container Formats | | Details |
|---|---|---|---|---|---|
| | | | Extractor | Muxer | |
| H.263 | YES | YES | • 3GPP (.3gp)<br>• MPEG-4 (.mp4)<br>• Matroska (.mkv) | • 3GPP (.3gp)<br>• MPEG-4 (.mp4) | Support for H.263 is optional in Android 7.0+ |
| H.264 AVC Baseline Profile (BP) | Android 3.0+ | YES | • 3GPP (.3gp)<br>• MPEG-4 (.mp4)<br>• MPEG-TS (.ts, AAC audio only, not seekable, Android 3.0+)<br>• Matroska (.mkv) | • 3GPP (.3gp)<br>• MPEG-4 (.mp4) | |
| H.264 AVC Main Profile (MP) | Android 6.0+ | YES | | | The decoder is required, the encoder is recommended. |
| H.265 HEVC | | Android 5.0+ | • MPEG-4 (.mp4)<br>• Matroska (.mkv) | • MPEG-4 (.mp4) | Main Profile Level 3 for mobile devices and Main Profile Level 4.1 for Android TV |
| MPEG-4 SP | | YES | • MPEG-4 (.mp4) | • MPEG-4 (.mp4) | |

https://developer.android.com/media/platform/supported-formats

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
|---|---|
| [14.c] a display; | Each of the Accused Samsung '091 Products includes a display. *See* User Guide and Technical Specifications of each of the Accused Samsung '091 Products available at Samsung's website showing that each of the devices includes a display.<br><br>For example, the Samsung Galaxy S25 includes a screen that functions as a display.<br><br>**DISPLAY**<br>**Type**: Dynamic LTPO AMOLED 2X, 120Hz, HDR10+, 2600 nits (peak)<br>**Size**: 6.2 inches, 94.4 $cm^2$ (~91.1% screen-to-body ratio)<br>**Resolution**: 1080 x 2340 pixels, 19.5:9 ratio (~416 ppi density)<br>**Protection**: Corning Gorilla Glass Victus 2<br>Always-on display<br><br>https://www.gsmarena.com/samsung_galaxy_s25-13610.php |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
|---|---|
| | Galaxy S25 Unlocked \| 128GB \| Blueblack<br>SM-S931U1 / SM-S931UZKAXAA \| ★★★★★ 4.6 (552) Write a review<br>Get exclusive benefits when b<br>Up to $500 instant trade-in credit[8] Seamless upgrades with<br> <br>Display<br>**Resolution (Main Display)**<br>2340 x 1080 (FHD+)<br>**Main Display Size**<br>156.4mm (6.2" full rectangle) / 152.3mm (6.0" rounded corners)<br>**Technology (Main Display)**<br>Dynamic AMOLED 2X |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
|---|---|
| | Samsung Galaxy S25 Technical Spec: https://www.samsung.com/us/smartphones/galaxy-s25/buy/galaxy-s25-128gb-unlocked-sm-s931uzkaxaa/<br><br>**Display**<br><br>**Options**<br><br>Change the display and the Home screen settings.<br>On the Settings screen, tap **Display**.<br>• **Light / Dark**: Turn Dark mode on or off.<br>• **Dark mode settings**: Reduce eye strain by applying the dark theme when using the device at night or in a dark place. You can set a schedule for applying Dark mode.<br>The dark theme may not be applied in some apps.<br>• **Brightness**: Adjust the brightness of the display.<br>• **Adaptive brightness**: Set the device to keep track of your brightness adjustments and apply them automatically in similar lighting conditions.<br>• **Extra brightness**: Set the display to be brighter than the maximum brightness. This feature is available when you turn off the **Adaptive brightness** feature.<br><br>Samsung Galaxy S25 User Manual at 127: https://www.galaxys25userguide.com/wp-content/uploads/pdf/galaxy-s25-user-guide-SM-S93X-EU-15-English.pdf |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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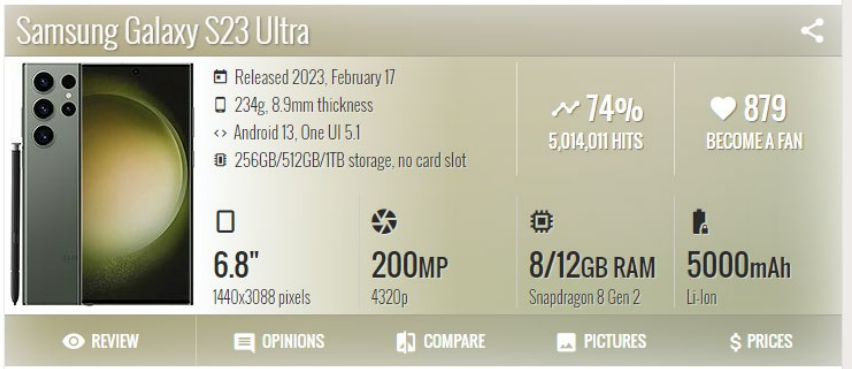
| | **Galaxy S23 Ultra:**<br>  <br><br>DISPLAY<br>Type: Dynamic AMOLED 2X, 120Hz, HDR10+, 1200 nits (HBM), 1750 nits (peak)<br>Size: 6.8 inches, 114.7 $cm^2$ (~89.9% screen-to-body ratio)<br>Resolution: 1440 x 3088 pixels, 19.3:9 ratio (~500 ppi density)<br>Protection: Corning Gorilla Glass Victus 2<br>Always-on display |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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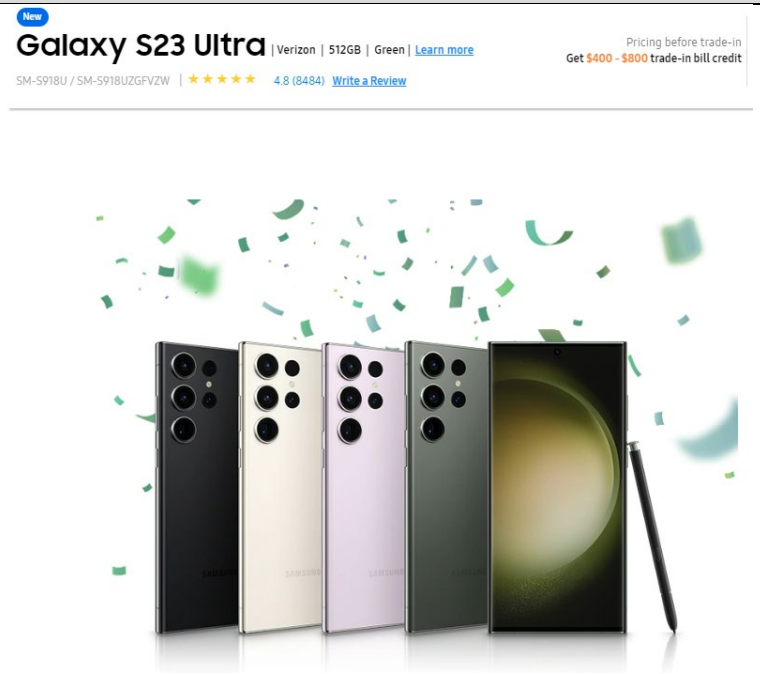
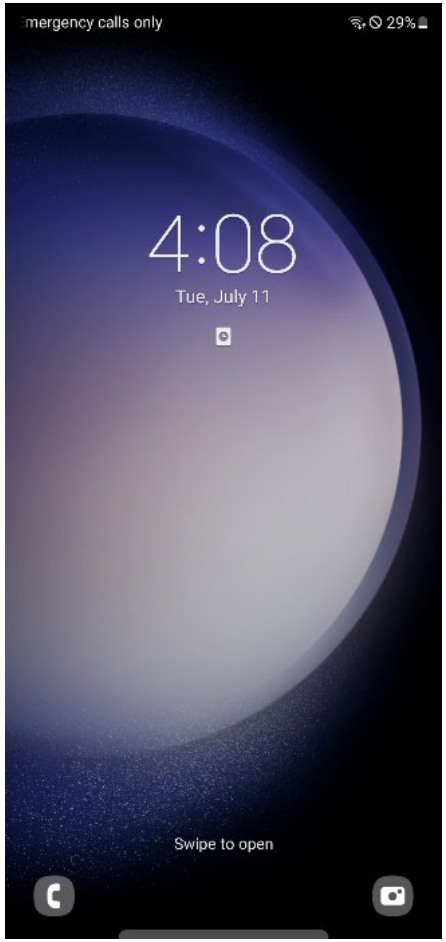
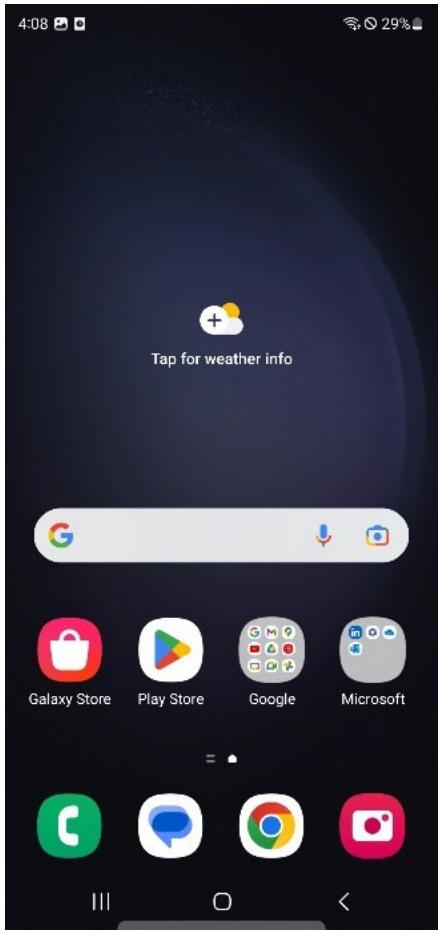
| |  <br>Galaxy S23 Ultra technical specifications; https://www.samsung.com/us/smartphones/galaxy-s23-ultra/buy/galaxy-s23-ultra-512gb-verizon-sm-s918uzgfvzw/?modelCode=SM-S918UZGFXAU; https://www.gsmarena.com/samsung_galaxy_s23_ultra-12024.php |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
|---|---|
| |     Screenshots of home screen of an exemplary S23.<br><br>**Galaxy Z Fold4:** |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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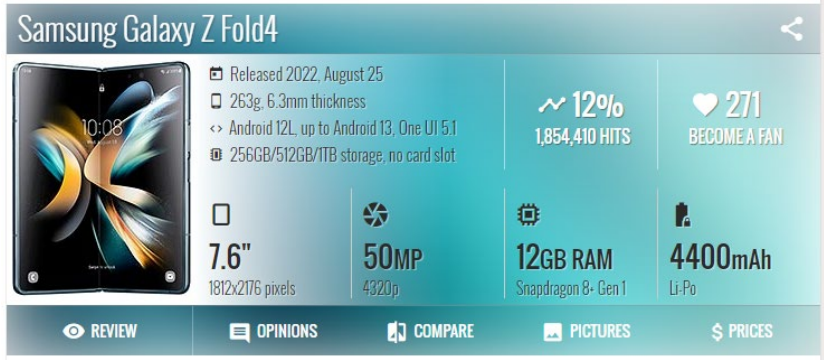
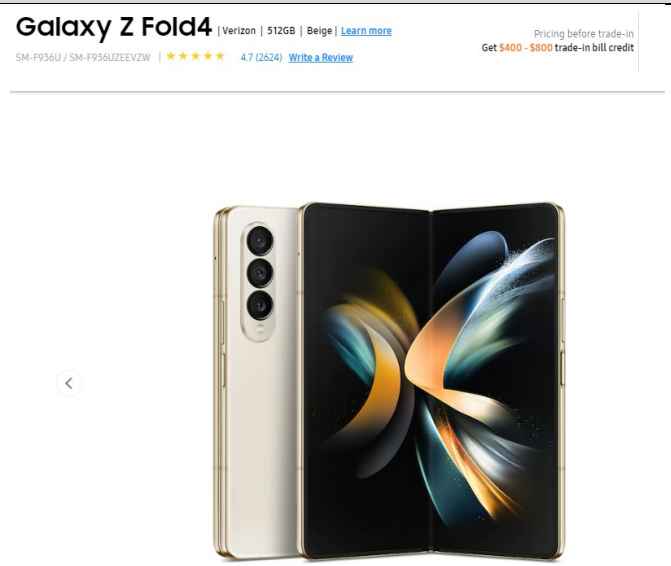
| |  <br>**DISPLAY**<br>**Type**: Foldable Dynamic AMOLED 2X, 120Hz, HDR10+, 1200 nits (peak)<br>**Size**: 7.6 inches, 183.2 $cm^2$ (~90.9% screen-to-body ratio)<br>**Resolution**: 1812 x 2176 pixels (~373 ppi density)<br>Cover display:<br>Dynamic AMOLED 2X, 120Hz, Corning Gorilla Glass Victus+<br>6.2 inches, 904 x 2316 pixels, 23.1:9 ratio |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
|---|---|
| |  <br>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<br>: |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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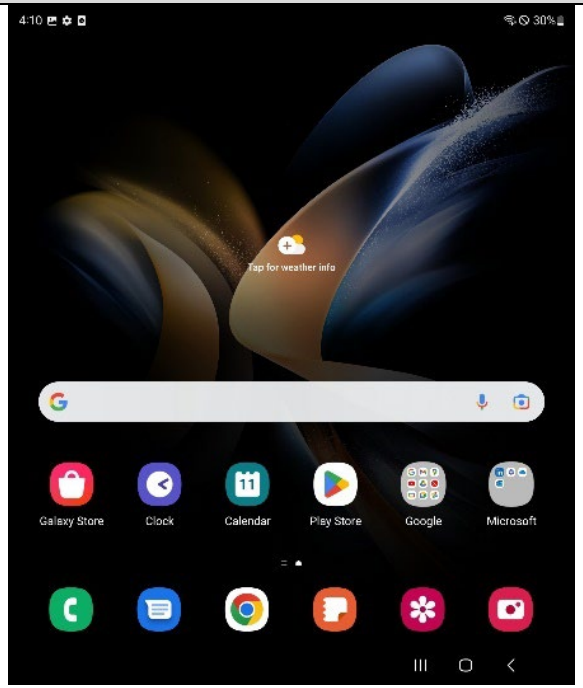
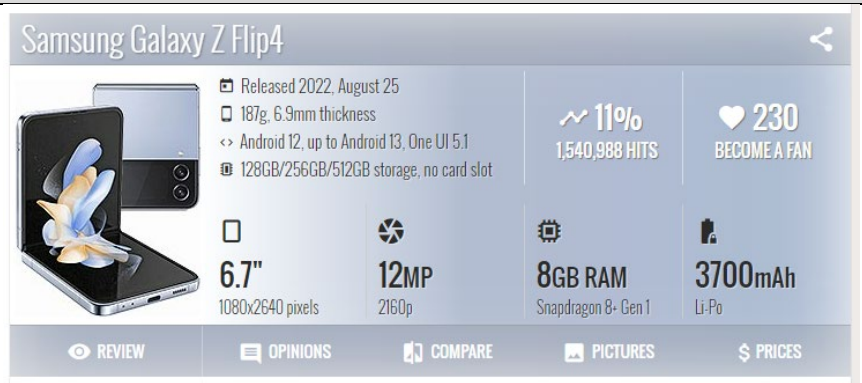
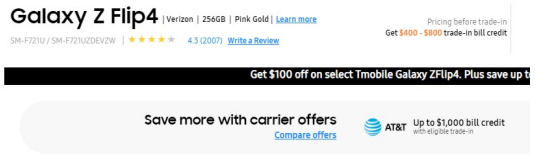
| |  <br>Screenshots of home screen of an exemplary Z Fold4.<br><br>**Galaxy Z Flip4:** |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
|---|---|
| |  <br>DISPLAY<br>Type: Foldable Dynamic AMOLED 2X, 120Hz, HDR10+, 1200 nits (peak)<br>Size: 6.7 inches, 101.5 cm$^2$ (~85.4% screen-to-body ratio)<br>Resolution: 1080 x 2640 pixels (~426 ppi density)<br>Cover display:<br>Super AMOLED, 1.9 inches, 260 x 512 pixels (Gorilla Glass Victus+)<br>  <br> <br>Galaxy Z Flip4 technical specifications; https://www.samsung.com/in/multistore/incs/feature.SM-F721B4SEINU/; https://www.gsmarena.com/samsung_galaxy_z_flip4-11538.php |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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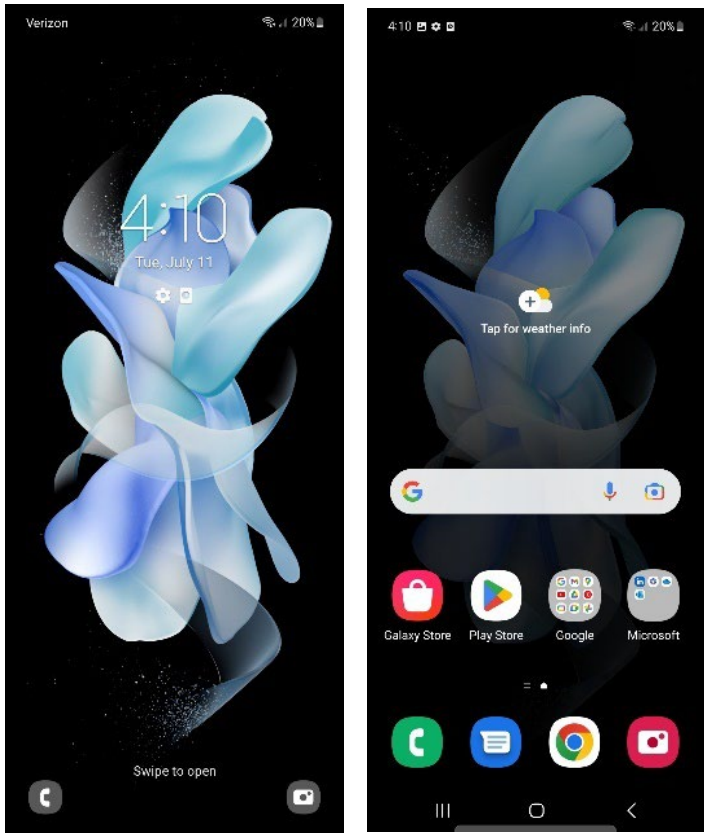
| |  <br>Screenshots of home screen of an exemplary Z Flip4 .<br><br>**Galaxy A54:** |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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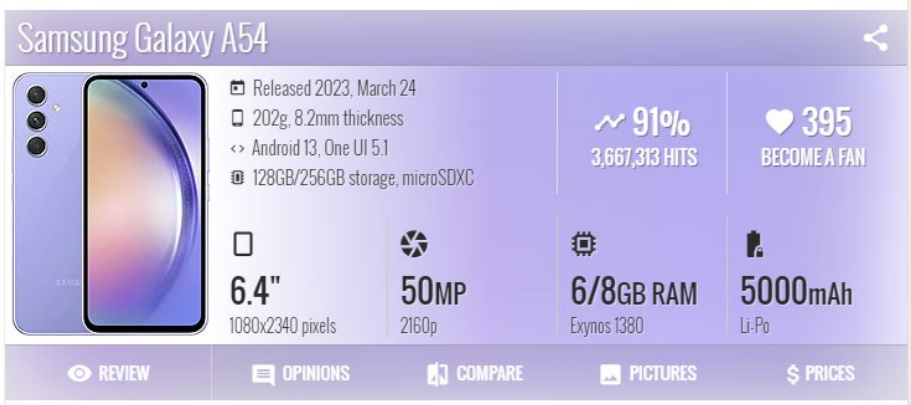
| |  <br>**DISPLAY**<br>Type: Super AMOLED, 120Hz, HDR10+, 1000 nits (HBM)<br>Size: 6.4 inches, 100.5 $cm^2$ (~82.9% screen-to-body ratio)<br>Resolution: 1080 x 2340 pixels, 19.5:9 ratio (~403 ppi density)<br>Protection: Corning Gorilla Glass 5 |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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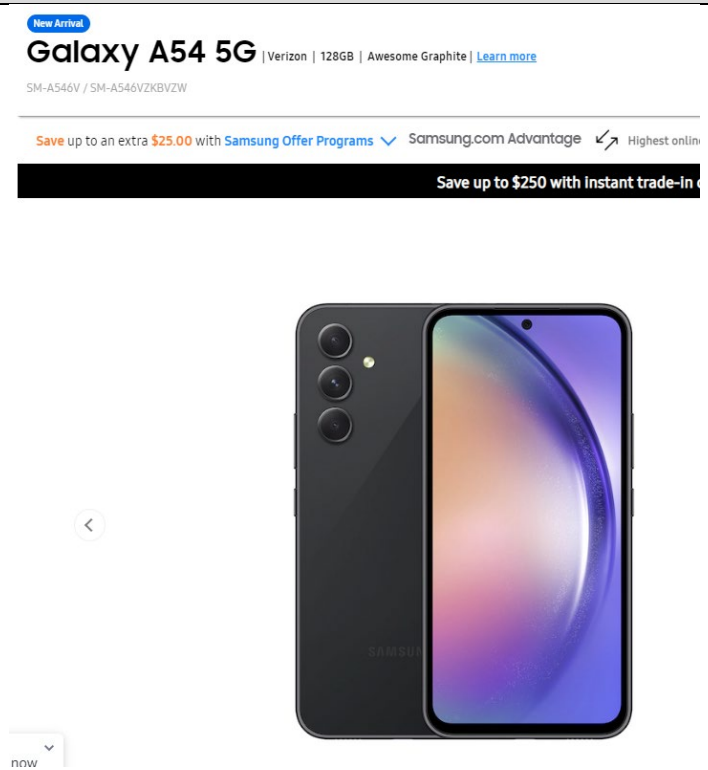
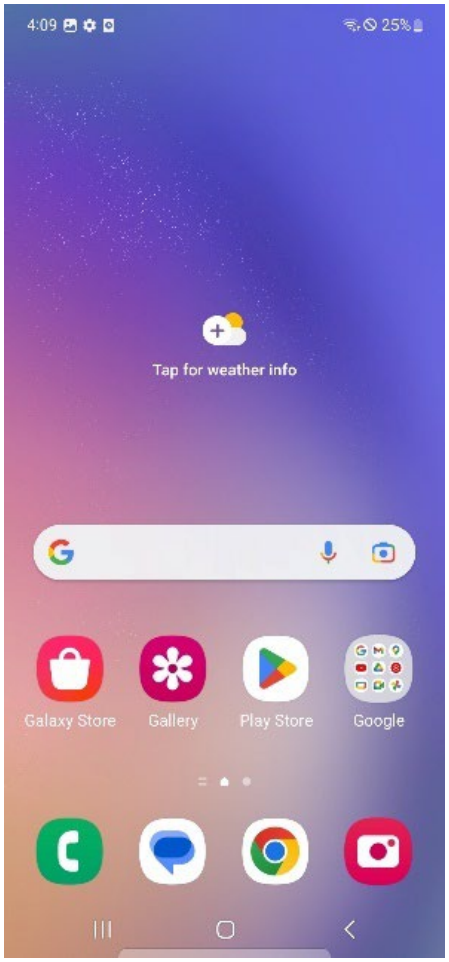
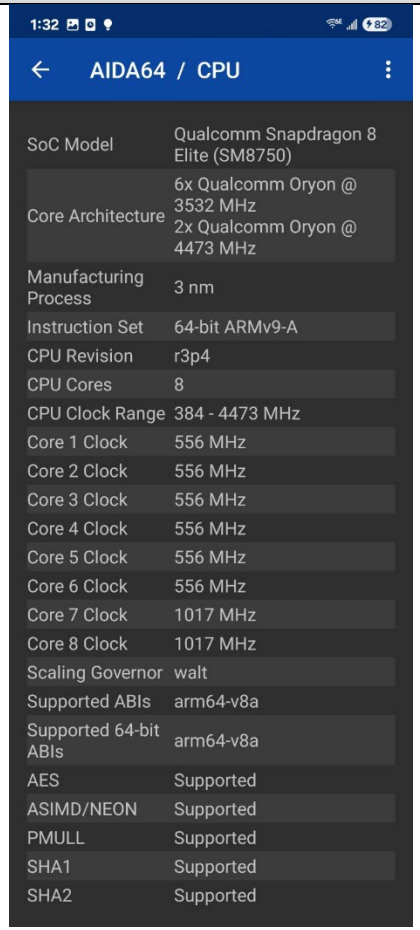
| |  <br>Galaxy A54 5G technical specifications; https://www.samsung.com/uk/smartphones/galaxy-a/galaxy-a54-5g-green-256gb-sm-a546blgdeub/; https://www.gsmarena.com/samsung_galaxy_a54-12070.php |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
|---|---|
| |   Screenshots of home screen of an exemplary A54 5G. |
| [14.d] and a controller configured to control reproduction of the digital contents decoded by the decoder and | Each of the Accused Samsung ’091 Products comprises a controller configured to control reproduction of the digital contents decoded by the decoder and display of the reproduced digital contents on the display. *See* User Guide and Technical Specifications of each of the Accused Samsung ’091 Products available at |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
|---|---|
| display of the reproduced digital contents on the display | Samsung's website showing that each device comprises a controller configured to control reproduction of decoded digital contents and their display.<br><br>For example, the Samsung Galaxy S25 includes one or more processors and associated software which, on information and belief, function as the claimed controller. On information and belief, this controller is configured to manage and control the reproduction of digital contents (e.g., videos or music streams) that have been decoded by the device's decoder, and also controls the display of these reproduced digital contents on the device's screen. For instance, when a user plays a video in an application like Netflix or Samsung TV Plus, on information and belief, the controller manages the playback (play, pause, seek) and ensures the video is rendered on the display.<br><br>PLATFORM<br>OS: Android 15, up to 7 major Android upgrades, One UI 7<br>Chipset: Qualcomm SM8750-AB Snapdragon 8 Elite (3 nm)<br>CPU: Octa-core (2x4.47 GHz Oryon V2 Phoenix L + 6x3.53 GHz Oryon V2 Phoenix M)<br>GPU: Adreno 830<br><br>https://www.gsmarena.com/samsung_galaxy_s25-13610.php |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
|---|---|
| |  <br>Samsung Galaxy S25 AIDA 64 report |

| | |
|---|---|
| SoC Model | Qualcomm Snapdragon 8 Elite (SM8750) |
| Core Architecture | 6x Qualcomm Oryon @ 3532 MHz<br>2x Qualcomm Oryon @ 4473 MHz |
| Manufacturing Process | 3 nm |
| Instruction Set | 64-bit ARMv9-A |
| CPU Revision | r3p4 |
| CPU Cores | 8 |
| CPU Clock Range | 384 - 4473 MHz |
| Core 1 Clock | 556 MHz |
| Core 2 Clock | 556 MHz |
| Core 3 Clock | 556 MHz |
| Core 4 Clock | 556 MHz |
| Core 5 Clock | 556 MHz |
| Core 6 Clock | 556 MHz |
| Core 7 Clock | 1017 MHz |
| Core 8 Clock | 1017 MHz |
| Scaling Governor | walt |
| Supported ABIs | arm64-v8a |
| Supported 64-bit ABIs | arm64-v8a |
| AES | Supported |
| ASIMD/NEON | Supported |
| PMULL | Supported |
| SHA1 | Supported |
| SHA2 | Supported |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
|---|---|
| | Processor<br><br>**CPU Type**: Octa-Core<br>**CPU Speed**: 4.47GHz,3.5GHz<br><br>Samsung Galaxy S25 Technical Spec: https://www.samsung.com/us/smartphones/galaxy-s25/buy/galaxy-s25-128gb-unlocked-sm-s931uzkaxaa/<br><br>The AIDA64 Reports and tech specs show that the Accused Samsung '091 Products contain one or more controllers within the chipset that executes the various applications and/or operating system. |

| Product | AIDA 64 Report- Processor |
|---|---|
| Galaxy S23 Ultra | SoC Model: Qualcomm Snapdragon 8 Gen 2 (SM8550)<br>Core Architecture: 3x ARM Cortex-A510 @ 2016 MHz<br><br>2x ARM Cortex-A715 @ 2803 MHz<br>2x ARM Cortex-A710 @ 2803 MHz<br>ARM Cortex-X3 @ 3360 MHz<br>Manufacturing Process: 4 nm<br>Instruction Set: 64-bit ARMv9-A<br>CPU Revision: r1p0<br>CPU Cores: 8<br>CPU Clock Range: 307 - 3360 MHz |
| Galaxy Z Fold4 | SoC Model: Qualcomm Snapdragon 8+ Gen 1 (SM8475)<br>Core Architecture: 4x ARM Cortex-A510 @ 2016 MHz<br>3x ARM Cortex-A710 @ 2745 MHz<br>ARM Cortex-X2 @ 3187 MHz<br>Manufacturing Process: 4 nm<br>Instruction Set: 64-bit ARMv9-A<br>CPU Revision: r2p0<br>CPU Cores: 8<br>CPU Clock Range: 300 - 3187 MHz |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement | |
|---|---|---|
| | Galaxy Z Flip4 | SoC Model: Qualcomm Snapdragon 8+ Gen 1 (SM8475)<br>Core Architecture: 4x ARM Cortex-A510 @ 2016 MHz<br>3x ARM Cortex-A710 @ 2745 MHz<br>ARM Cortex-X2 @ 3187 MHz<br>Manufacturing Process: 4 nm<br>Instruction Set: 64-bit ARMv9-A<br>CPU Revision: r2p0<br>CPU Cores: 8<br>CPU Clock Range: 300 - 3187 MHz |
| | Galaxy A54 5G | Core Architecture: 4x ARM Cortex-A55 @ 2002 MHz<br>4x ARM Cortex-A78 @ 2400 MHz<br>Instruction Set: 64-bit ARMv8-A<br>CPU Revision: r1p1<br>CPU Cores: 8<br>CPU Clock Range: 533 - 2400 MHz |
| | For example, Accused Samsung '091 Products support receiving and playing Netflix video streams/Samsung TV streams that are encoded using various encoding methods, such as MPEG, DRM (Digital Right Management) and/or TLS (Transport Layer Security). Thus, in order to playback and display the video, they must perform a decoding process. | |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
|---|---|
| | ***Abstract*—In our 2015 paper, "Optimizing TLS for High–Bandwidth Applications in FreeBSD", we demonstrated the cost of TLS encryption on high–bandwidth video serving on Netflix's OpenConnect Appliance (OCA [1]) and explored methods for reducing that cost via in–kernel encryption. The results showed that such a concept is feasible, but only a small performance gain was achieved. In this paper we describe the improvements made since then to reduce the cost of encryption. We also compare the performance of several different bulk encryption implementations.**<br><br>I. INTRODUCTION<br><br>The importance of Transport Layer Security [2] (TLS) continues to grow as businesses and their customers come to appreciate the value of communication privacy. Netflix announced in 2015 that it would start on the path to encrypting the video and audio playback sessions of its streaming service in an attempt to help users protect their viewing privacy [3]. Enabling this comes with a significant computational cost to the OpenConnect serving platform, so work continues in exploring and implementing new ways to optimize TLS bulk encryption and thus lower capital and operational costs.<br>An OCA is a FreeBSD-based appliance that serves movies and television programming to Netflix subscribers. Confidential customer data like payment information, account authentication, and search queries are exchanged via an encrypted TLS session between the client and the various application servers that make up the Netflix infrastructure. The audio and video objects are statically encrypted by Digital Rights Management (DRM) that is pre-encoded into the objects prior to them being distributed to the OCA network for serving.<br><br>(Netflix, Improving High–Bandwidth TLS in the FreeBSD kernel, available at https://openconnect.netflix.com/publications/asiabsd_tls_improved.pdf (2015) |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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| | Netflix Adopts Efficient HTTPS Encryption For Its Video Streams<br>By Lucian Armasu published August 08, 2016<br>Comments (9)<br>Netflix announced that it has implemented efficient HTTPS encryption for its video streams. To this point, the company has used only HTTPS to protect user information.<br>Netflix has been reluctant to adopt HTTPS for its video streams so far because delivering video is already a bandwidth-heavy task, and adding encryption on top of that risked adding too much overhead. To solve this problem, the company searched for the ideal cipher and its fastest implementation. |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
|---|---|
| | **Cipher Evaluation**<br>Netflix eventually chose the the Advanced Encryption Standard (AES) cipher in Galois/Counter Mode (GCM), which is available only in TLS 1.2 and later. The company chose GCM over the Cipher Block Chaining (CBC) method because it can encrypt and authenticate the message simultaneously, whereas AES-CBC requires an additional pass over the data to generate keyed-hash message authentication code (HMAC). The latter can still be used as fallback for older browsers and client software that don't support TLS 1.2. However, it shouldn't be too long until virtually all Netflix users can play video streams over TLS 1.2 or later.<br>(See https://www.tomshardware.com/news/netflix-efficient-https-video-streams,32420.html (2016)) |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
|---|---|
| | **How Netflix brings safer and faster streaming experiences to the living room on crowded networks using TLS 1.3**<br><br>By Sekwon Choi<br><br>At Netflix, we are obsessed with the best streaming experiences. We want playback to start instantly and to never stop unexpectedly in any network environment. We are also committed to protecting users' privacy and service security without sacrificing any part of the playback experience.<br><br>To achieve that, we are efficiently using ABR (adaptive bitrate streaming) for a better playback experience, DRM (Digital Right Management) to protect our service and TLS (Transport Layer Security) to protect customer privacy and to create a safer streaming experience.<br><br>Netflix on consumer electronics devices such as TVs, set-top boxes and streaming sticks was until recently using TLS 1.2 for streaming traffic. Now we support TLS 1.3 for safer and faster experiences.<br>(https://netflixtechblog.com/how-netflix-brings-safer-and-faster-streaming-experience-to-the-living-room-on-crowded-networks-78b8de7f758c (2020)) |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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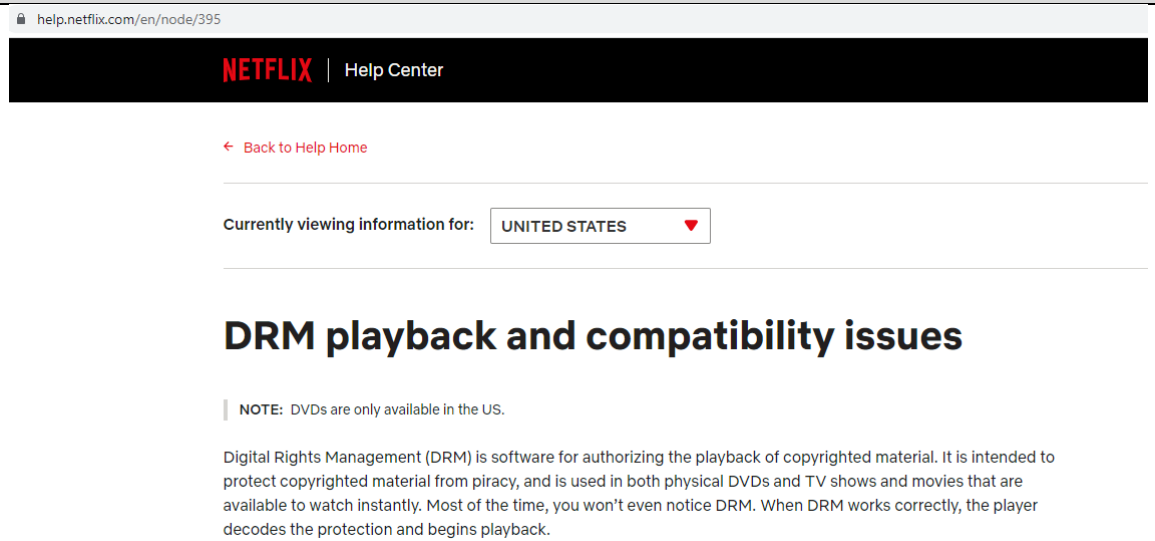
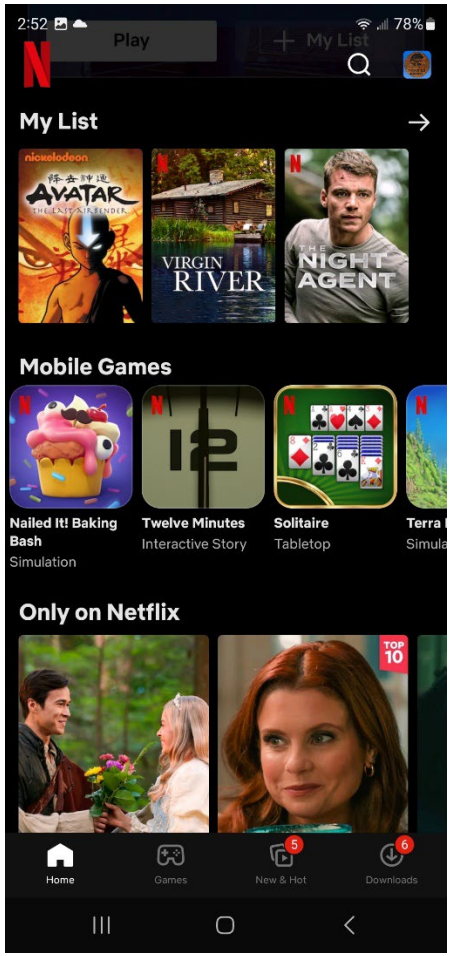
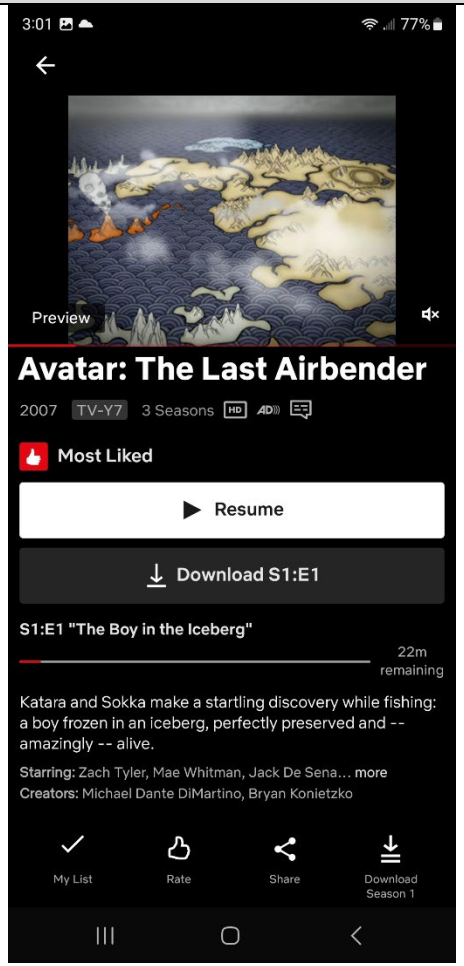
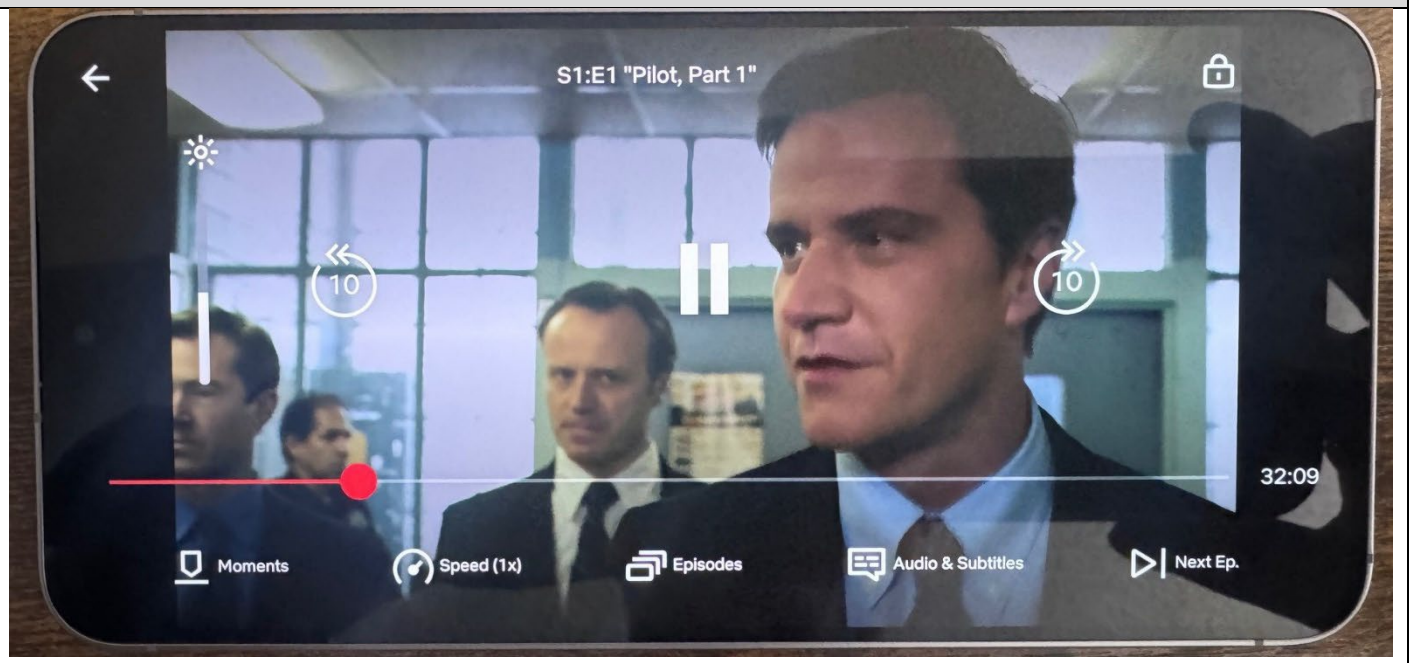
| |  <br>help.netflix.com/en/node/395<br>NETFLIX \| Help Center<br>← Back to Help Home<br>Currently viewing information for: UNITED STATES<br>DRM playback and compatibility issues<br>NOTE: DVDs are only available in the US.<br>Digital Rights Management (DRM) is software for authorizing the playback of copyrighted material. It is intended to protect copyrighted material from piracy, and is used in both physical DVDs and TV shows and movies that are available to watch instantly. Most of the time, you won't even notice DRM. When DRM works correctly, the player decodes the protection and begins playback.<br><br>https://web.archive.org/web/20221108202657/ https://help.netflix.com/en/node/395<br>For example, actual testing of the Accused Samsung '091 Products shows that the pre-installed Netflix app receives desired video information (e.g. the video "Avatar") and displays the decoded video information.<br><br>Galaxy S23 Ultra: |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
|---|---|
| |     |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
|---|---|
| | <br>Galaxy S25:<br><br>**<u>Netflix</u>** |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
|---|---|
| |  <br>For example, the above screenshot of the Netflix application running on a Samsung Galaxy S25 demonstrates this element. The device includes one or more and associated software which, on information and belief, function as the claimed controller. The screenshot shows the controller managing the reproduction of digital contents and the display of these reproduced digital contents on the screen. Specifically, the controller, on information and belief, manages playback through the visible on-screen controls such as the Pause button, rewind and forward 10-second icons, playback speed adjustment, episode selection, and navigation to the next episode. The controller also ensures the video is rendered on the display and allows for adjustments to "Audio & Subtitles," further demonstrating its control over reproduction and display.<br><br>**<u>Samsung TV Plus</u>** |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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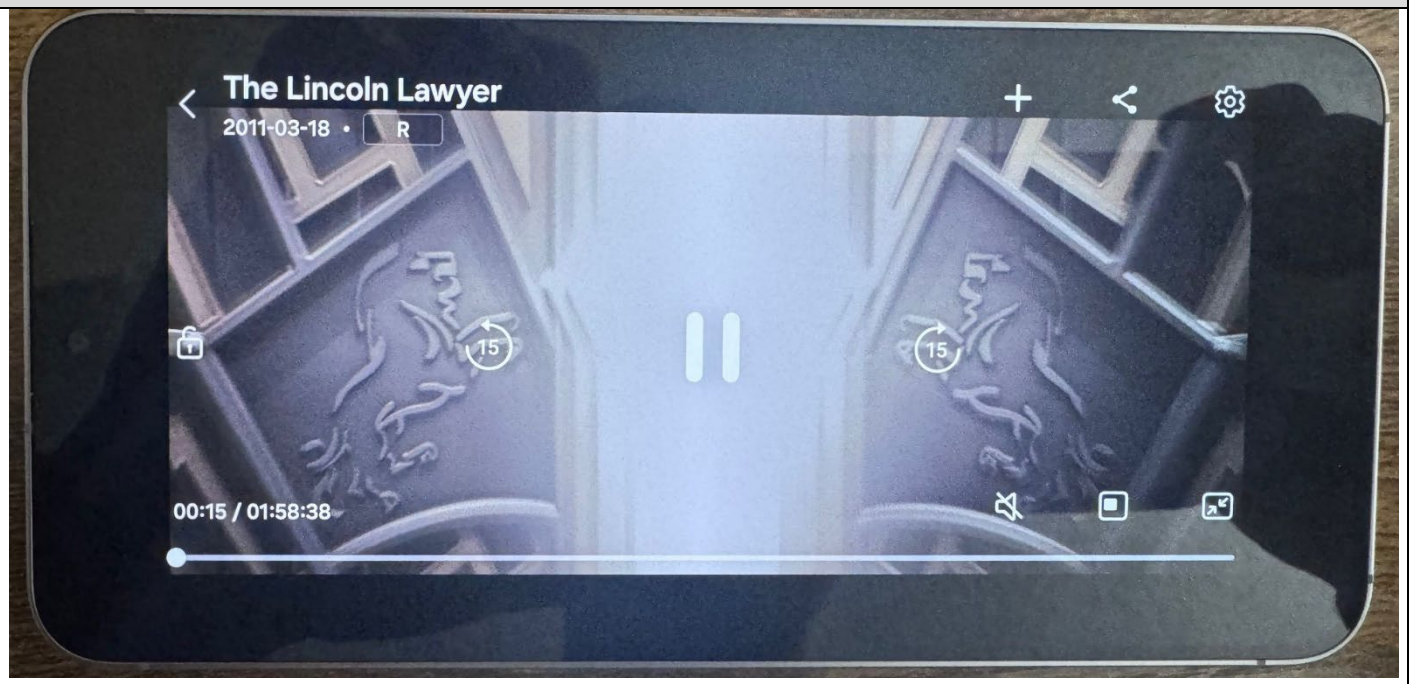
| |  <br>The screenshot of the Samsung TV Plus application running on a Samsung Galaxy S25 demonstrates this element. The device includes one or more processors and associated software which, on information and belief, function as the claimed controller. The screenshot shows the controller managing the reproduction of digital contents (the video titled “The Lincoln Lawyer”) and the display of these reproduced digital contents on the screen. Specifically, the controller, on information and belief, manages playback through the visible on-screen controls such as the Pause button, rewind and forward 15-second icons, and the playback timeline. The controller also ensures the video is rendered on the display and provides options such as subtitles/closed captions and screen aspect ratio adjustments, further demonstrating its control over reproduction and display. |
| [14.e] wherein the controller is configured to display at least one of linear operation buttons, receiving user-instructions regarding linear | Each of the Accused Samsung ’091 Products includes a controller configured to display at least one of linear operation buttons, receiving user-instructions regarding linear reproduction functions of the reproduced digital contents, or at least one of interactive operation buttons, receiving user-instructions of interactive functions to the video on demand server, together with the reproduced digital contents. *See* User Guide and Technical Specifications of each of the Accused Samsung ’091 Products available at Samsung’s |

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| reproduction functions of the reproduced digital contents, or at least one of interactive operation buttons, receiving user-instructions of interactive functions to the video on demand server, together with the reproduced digital contents | website showing that each device a controller configured to display at least one of linear operation buttons, receiving user-instructions regarding linear reproduction functions of the reproduced digital contents, or at least one of interactive operation buttons, receiving user-instructions of interactive functions to the video on demand server, together with the reproduced digital contents.<br><br>For exmple, the controller in the Samsung Galaxy S25, when an application such as Netflix or Samsung TV Plus is reproducing digital content is configured to display different types of operation panels. The controller displays a first operation panel which includes linear operation buttons (such as play, pause, and a seek bar) that receive user-instructions for linear reproduction functions of the displayed video. At other times or in other contexts, the controller displays a second operation panel which includes interactive operation buttons (such as "Next Episode" buttons or other controls for functions related to an outside server). Both types of operation panels are shown together with the reproduced digital contents on the screen, demonstrating the controller's capability for alternative panel display.<br><br>**Netflix** |

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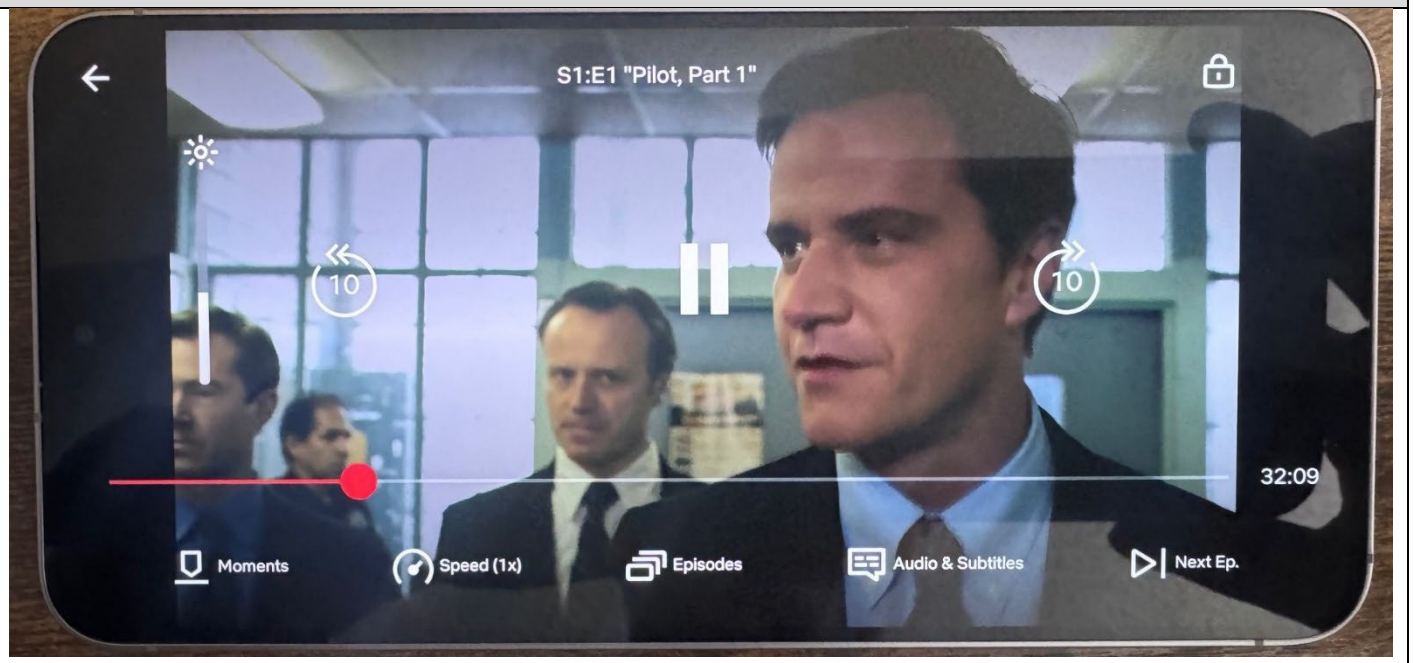
| |  <br>The controller in the Samsung Galaxy S25, when the Netflix application is reproducing digital content, on information and belief, is configured to display different operation panels or sets of buttons together with the reproduced digital contents (the video "S1:E1 'Pilot, Part 1'" shown playing). A first operation panel, indicated by red squares in the screenshot, is displayed. This panel includes clear linear operation buttons such as the on-screen Pause button, rewind and forward 10-second icons, and the playback progress bar. These buttons receive user-instructions regarding linear reproduction functions for controlling the direct playback and viewing experience of the video. Concurrently, a second operation panel, indicated by blue squares in the screenshot, is displayed. This panel comprises interactive operation buttons including the "Moments" button, and a set of buttons for "Episodes," "Audio & Subtitles," and "Next Ep." These buttons receive user-instructions for interactive functions, such as navigating content structure or accessing server-provided data options related to the video. The controller's ability to present these different types of controls, delineated by their functions and identified by the markings, demonstrates the claimed alternative display of operation panels. |

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| | **Samsung TV Plus**<br> <br><br>The screenshot of the Samsung TV Plus application running on an Accused Samsung '091 Product demonstrates this element. The screenshot shows the application, on information and belief controlled by the device's controller, displaying live TV content ("LiveNOW from FOX") together with on-screen controls. The controller is configured to display different operation panels or sets of buttons. A first operation panel is shown, including linear operation buttons such as the prominent Pause button visible in the center of the screen, and the playback timeline. These buttons receive user-instructions regarding linear reproduction functions. Concurrently, a second operation panel is displayed, comprising interactive operation buttons. Examples from the screenshot include the Favorite (star) icon, the Share icon, the Settings (gear) icon, the Subtitles/CC icon, and the channel navigation overlay at the bottom (allowing selection of channels like "1114 NBC News NOW" or Browse "All channels"). These buttons receive user-instructions for interactive functions, many of which involve communication with the Samsung TV Plus server. The controller's ability to present these distinct types of controls, suitable for either straightforward |

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| | playback or interactive channel navigation and feature access, demonstrates the claimed alternative display of operation panels. |
| [14.f] wherein the related information includes: time related information which represents a time during which the reproduced digital contents and at least one of the interactive operation buttons are displayed, and | Each of the Accused Samsung ’091 Products is configured wherein the related information includes time related information which represents a time during which the reproduced digital contents and at least one of the interactive operation buttons are displayed. *See* User Guide and Technical Specifications of each of the Accused Samsung ’091 Products available at Samsung’s website showing that each of the devices is configured wherein the related information includes time related information which represents a time during which the reproduced digital contents and at least one of the interactive operation buttons are displayed.<br><br>For example, applications like Netflix or Samsung TV Plus running on the Samsung Galaxy S25, the “related information” utilized by the controller, on information and belief, includes time related information. This time related information represents a specific duration or window during which at least one interactive operation button is displayed with the reproduced digital content. One example of this is the period when a prompt to play the next episode is active (e.g., during an end-of-episode countdown or an auto-play suggestion window). During such a defined time window, specific interactive operation buttons (e.g., a button to start the next episode or dismiss the prompt) are displayed. Another prominent example of such time related information is when the system detects the introductory sequence (e.g., theme music and opening credits) of a TV show. During this specific time segment of the content, an interactive operation button such as “Skip Intro” is often displayed, allowing the user to jump past the intro. The system’s ability to display these types of interactive buttons only during specific, defined periods of the content playback indicates the use of “time related information.”<br><br><u>Netflix</u> |

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| | <br>Screenshot of the Netflix application on a Samsung Galaxy S25 displaying interactive operation buttons (“Watch Credits,” “Next Episode”) at the conclusion of an episode. This demonstrates the use of “time related information.” |

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| | <br>Screenshot of the Netflix application on a Samsung Galaxy S25 displaying an interactive "SKIP INTRO" button during the introductory sequence of a video. The appearance of this button during a specific segment of the content demonstrates "time related information" being used to display an "interactive operation button."<br><br><u>Samsung TV Plus</u> |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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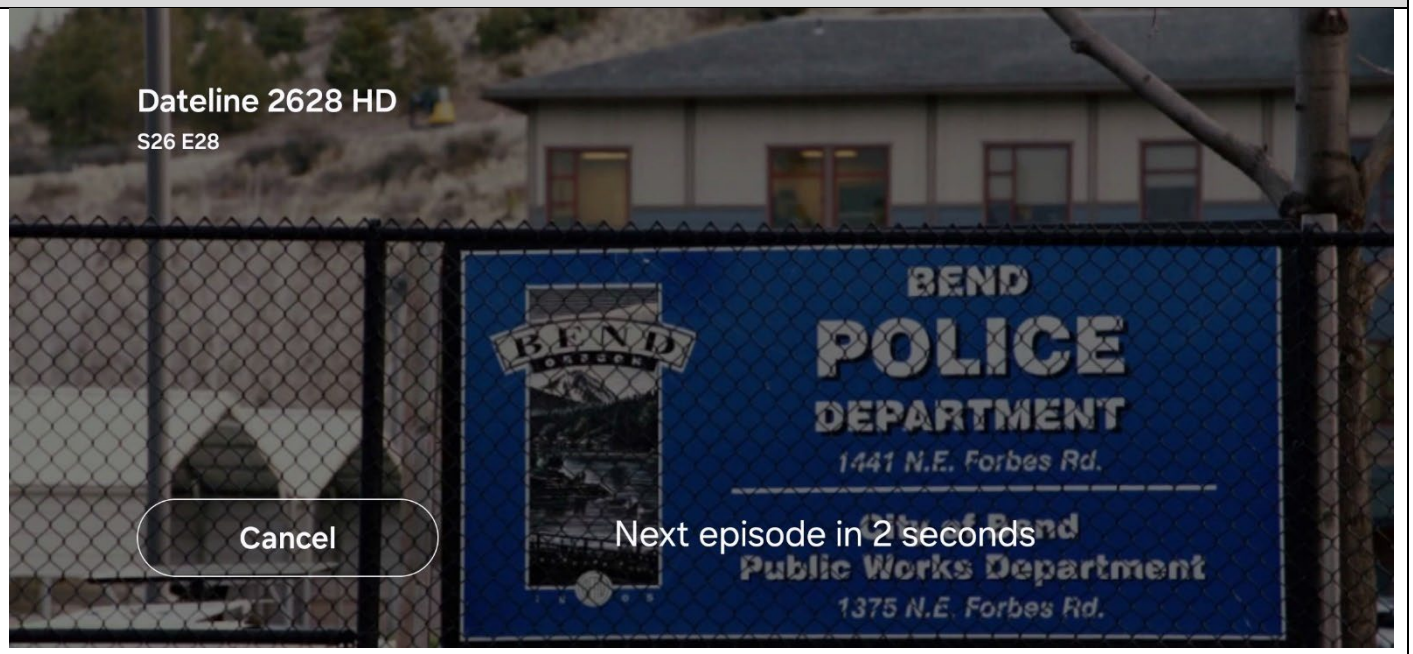
| |  <br>Screenshot of the Samsung TV Plus application on a Samsung Galaxy S25 displaying an interactive "Cancel" button alongside a "Next episode in X seconds" countdown at the conclusion of "Dateline 2628 HD S26 E28." The appearance of the "Cancel" button during this specific end-of-episode period demonstrates "time related information" being used to display an "interactive operation button." |
| [14.g] panel related information for deciding to display at least one of the linear operation buttons or at least one of the interactive operation buttons, | Each of the Accused Samsung '091 Products is configured wherein the related information includes panel related information for deciding to display at least one of the linear operation buttons or at least one of the interactive operation buttons. *See* User Guide and Technical Specifications of each of the Accused Samsung '091 Products available at Samsung's website showing that each of the devices is configured wherein the related information includes panel related information for deciding to display at least one of the linear operation buttons or at least one of the interactive operation buttons.<br><br>For example, for applications like Netflix or Samsung TV Plus running on the Samsung Galaxy S25, the "related information" utilized by the controller, on information and belief, also includes panel related information. This panel related information is used by the controller for deciding whether displaying the |

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| | linear operation button or interactive buttons. Panel related information include attributes of the digital content. For instance, one type of panel related information is showing different controls for downloaded versus not downloaded content is the download status of the digital content. If the content is streaming (not downloaded), one set or configuration of operation buttons might be presented. Conversely, if the content is downloaded, the controller might display a different set of operation buttons or alter the emphasis, potentially making certain interactive buttons like "Next Up" more prominent. Additionally, another type of panel related information could be whether the content is episodic versus self-contained, influencing which panel's functionalities are prioritized. The system's ability to adapt the displayed operation panel based on such distinct content attributes indicates the use of this "panel related information" to decide whether to display the first operation panel or the second operation panel.<br><br>**Netflix**<br> <br><br>Self-contained Movie Content |

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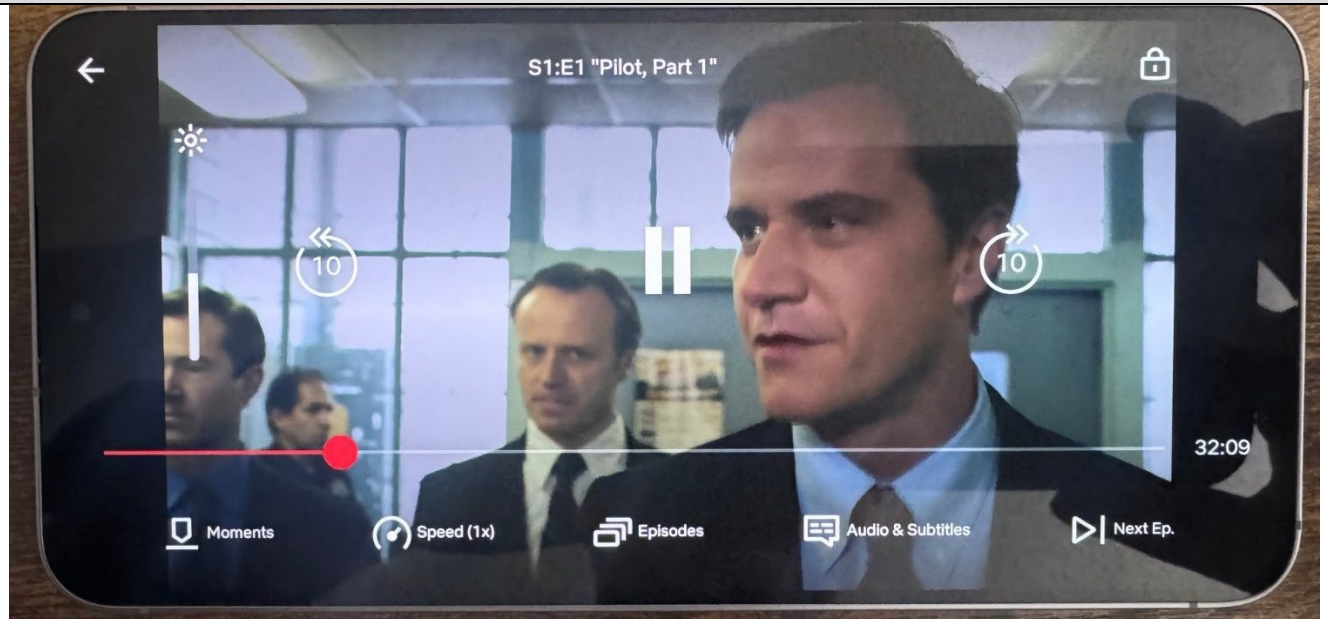
| |  <br>Episodic Content<br><br>The controller in the Samsung Galaxy S25, when the Netflix application is reproducing digital content, on information and belief, is configured to alternatively display different operation panels or sets of buttons together with the reproduced digital contents, based on "panel related information" such as whether the content is a self-contained movie or an episode of a series. A screenshot showing the playback of a self-contained movie (like "The Intern") would display a first operation panel primarily featuring linear operation buttons (such as Play/Pause, seek bar, speed controls) and some general interactive options like "Moments" or "Audio & Subtitles," but notably lacking series-specific interactive buttons. In contrast, the provided screenshot showing the playback of an episodic TV show ("S1:E1 'Pilot, Part 1'") displays an operation panel configuration that includes not only similar linear operation buttons but also prominent interactive operation buttons like "Next Episode" and "Episodes," which are specific to series navigation and constitute aspects of a second operation panel. The controller's presentation of these distinctly different sets of available interactive controls, varying with the nature of the content (self-contained movie versus episodic show), demonstrates the claimed alternative display of operation panels. |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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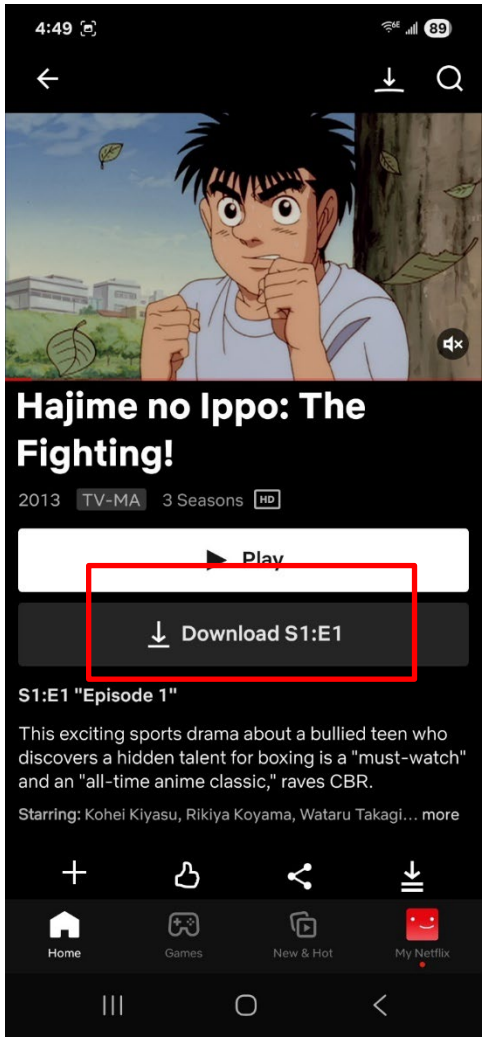
| |  <br>A screenshot of an episodic content, not downloaded. |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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| | <br>Screenshot of the Netflix application on a Samsung Galaxy S25 displaying an episode that is not downloaded. The on-screen operation panel includes linear controls (Pause button, rewind/forward 10-second icons, playback timeline) as well as a comprehensive set of interactive operation buttons. This configuration, rich with series-navigation and interactive options, is characteristic of the panel displayed when episodic content is streamed rather than played from a local download. |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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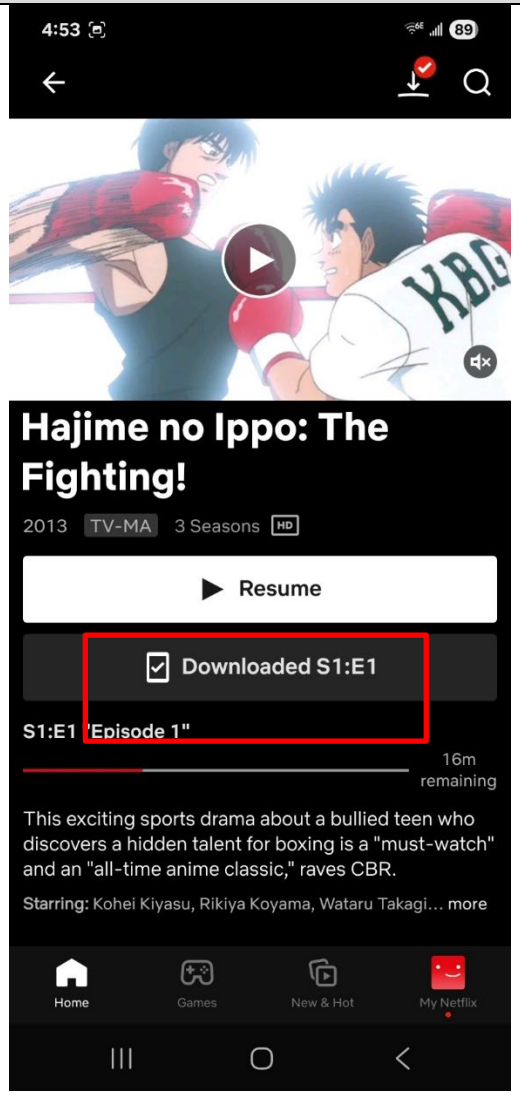
| |  <br>A screenshot of an episodic content, locally downloaded. |

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| | <br>Screenshot of the Netflix application on a Samsung Galaxy S25 displaying a downloaded episode. The on-screen operation panel features linear controls (e.g., Pause button, rewind/forward 10-second icons, timeline, "Speed (1x)" button) and some general interactive options like "Moments" and "Audio & Subtitles." Notably, certain series-specific navigation buttons such as "Next Episode" or an "Episodes" list button, which exist when streaming episodic content, are absent from this primary overlay for downloaded content. This difference in panel configuration illustrates how "panel related information" (specifically, the content's downloaded status) influences the alternative display of operation panels provided by the controller.<br><br>**<u>Samsung TV Plus</u>** |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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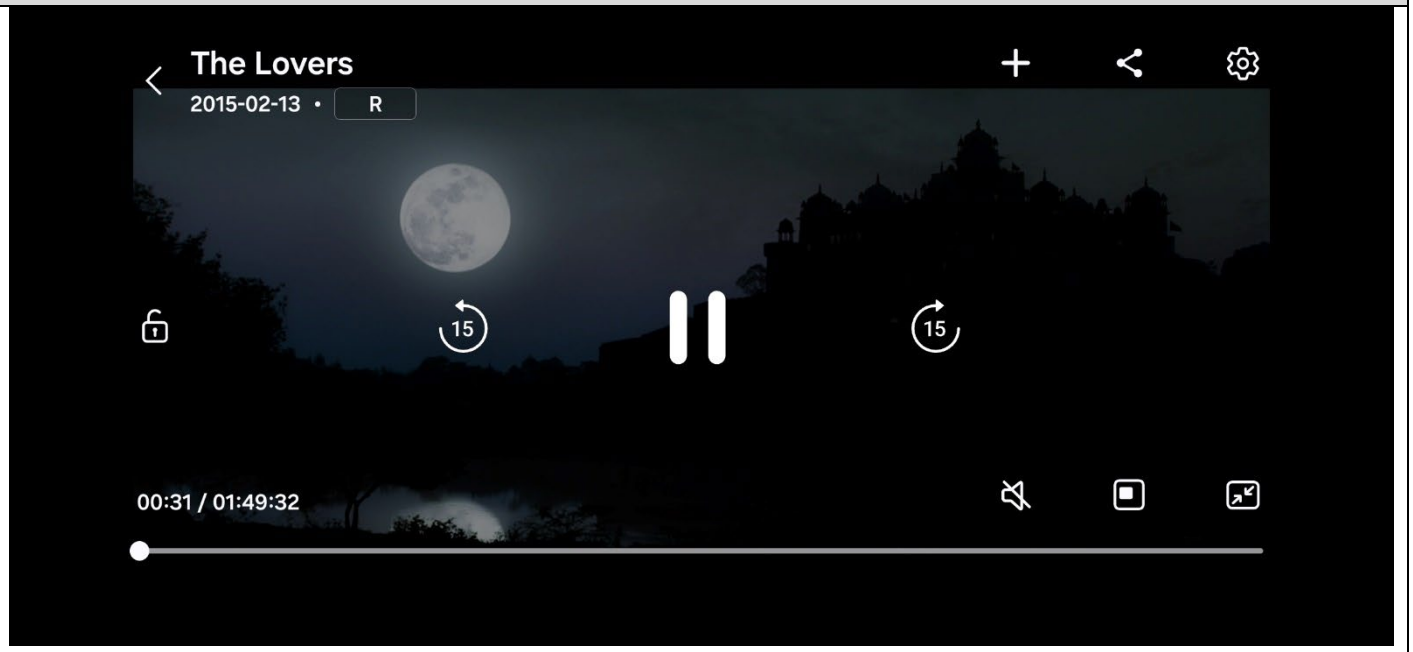
| |  <br>Self-contained Movie Content |

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| | <br>Episodic Content<br><br>Comparison of Samsung TV Plus operation panels on a Samsung Galaxy S25, illustrating alternative display based on content type. A screenshot displaying playback of a self-contained movie such as “The Lovers” shows an operation panel with linear controls (Pause, rewind/forward 15s, timeline) and general interactive buttons (e.g., “Watch list,” “Share,” “Settings”), but without series-specific navigation options. In contrast, a screenshot displaying playback of an episodic TV show such as “Ventura Beachside Bliss” S1 E1 presents an operation panel that, in addition to similar linear and general interactive controls, includes series-specific interactive buttons like “All episodes” and a “Next Episode” indicator (“S1 E2 >”). This variation in the displayed interactive components based on content type demonstrates the controller’s ability to alternatively display operation panels, influenced by “panel related information.” |
| [14.h] wherein the controller, when controlling reproduction of the digital contents, is further configured | Each of the Accused Samsung ’091 Products includes a controller that, when controlling reproduction of the digital contents, is further configured to display at least one of the interactive operation buttons during the time represented by the time related information. *See* User Guide and Technical Specifications of each of the Accused Samsung ’091 Products available at Samsung’s website showing that each of the devices |

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| to: display at least one of the interactive operation buttons during the time represented by the time related information, and | includes a controller that, when controlling reproduction of the digital contents, is further configured to display at least one of the interactive operation buttons during the time represented by the time related information.<br><br>For example, the controller in the Samsung Galaxy S25, when controlling reproduction of digital content in applications like Netflix or Samsung TV Plus, is further configured to display at least one of the interactive operation buttons during the time represented by the time related information (as defined in element [1.f]). This is demonstrated, for instance, by the display of an interactive "Skip Intro" button specifically during the introductory sequence of a TV show; the "time related information" here is the defined duration of that intro. Similarly, interactive buttons such as "Next Episode" and "Watch Credits" are displayed during the time represented by the end-credits sequence of an episode. The "time related information" is the period at the conclusion of the main program content. In both scenarios, specific interactive buttons are displayed only during a time period defined by the time related information associated with the content.<br><br>**<u>Netflix</u>** |

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| | <br>Screenshot of a Netflix video on a Samsung Galaxy S25 displaying interactive operation buttons, specifically "Watch Credits" and "Next Episode." These buttons are shown during the time represented by the conclusion of an episode (as credits are rolling), illustrating the controller displaying at least one interactive operation button during a time represented by "time related information." |

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| | <br>Screenshot of a Netflix video on a Samsung Galaxy S25. The screenshot shows the display of an interactive operation button, specifically "SKIP INTRO", during the time represented by the introductory sequence of "S1:E1 "Episode 1"". This illustrates the controller displaying at least one interactive operation button during a time represented by "time related information."<br><br>**<u>Samsung TV Plus</u>** |

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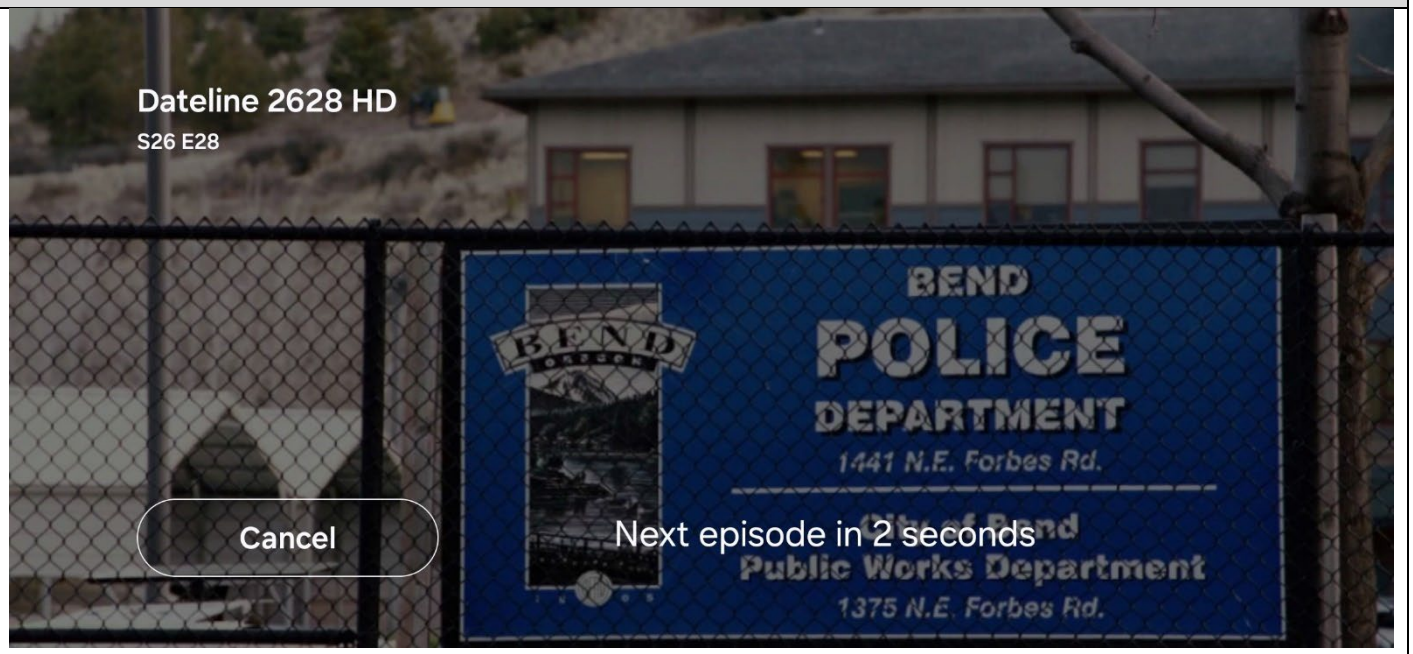
| |  <br>Screenshot of the Samsung TV Plus application on a Samsung Galaxy S25. The image displays an interactive “Cancel” button alongside a “Next episode in 2 seconds” countdown, presented as an overlay at the conclusion of “Dateline 2628 HD S26 E28.” The appearance of the “Cancel” button during this specific end-of-episode time frame illustrates the controller displaying at least one interactive operation button during a time represented by “time related information.” |
| [14.i] other than the time represented by the time related information, display at least one of the linear operation buttons or at least one of the interactive operation buttons based on the panel related information. | Each of the Accused Samsung ’091 Products includes a controller that, when controlling reproduction of the digital contents, is further configured to, other than the time represented by the time related information, display at least one of the linear operation buttons or at least one of the interactive operation buttons based on the panel related information. *See* User Guide and Technical Specifications of each of the Accused Samsung ’091 Products available at Samsung's website showing that each of the devices includes a controller that, when controlling reproduction of the digital contents, is further configured to, other than the time represented by the time related information, display at least one of the linear operation buttons or at least one of the interactive operation buttons based on the panel related information. |

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| | For example, the controller in the Samsung Galaxy S25, when controlling reproduction of digital content in applications like Netflix or Samsung TV Plus, and specifically other than the time represented by the time related information (i.e., not during special timed events like "Skip Intro" or "Next Episode" prompts as detailed in element [14.h]), is configured to display at least one of the linear operation buttons or at least one of the interactive operation buttons based on the panel related information (as defined in element [14.g]). This is demonstrated by how the displayed operation panel presented to the user changes based on attributes of the content. For instance, if the "panel related information" indicates that content is a self-contained movie, the controller may primarily display an operation panel with linear controls and general interactive buttons, omitting series-specific interactive buttons like "Next Episode." Conversely, if the "panel related information" indicates the content is an episode within a series, the controller may display an operation panel that includes such series-specific interactive buttons. Similarly, if "panel related information" pertains to the content's download status (downloaded vs. streaming), the controller may alter the set of displayed interactive buttons accordingly. The controller's selection of which type of buttons—be they predominantly linear or a particular set of interactive ones—to display during general playback periods is thus based on this "panel related information"<br><br><u>Netflix</u> |

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| | <br>Self-contained Movie Content |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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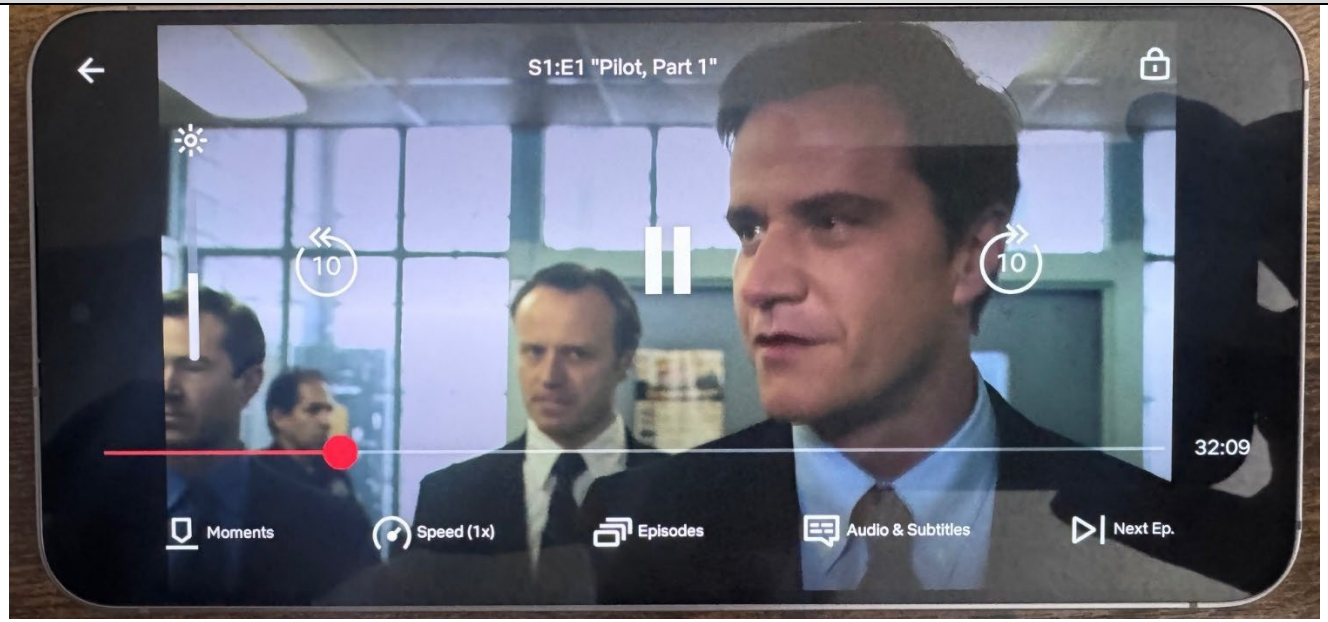
| |  <br>Episodic Content<br><br>The controller in the Samsung Galaxy S25, when controlling reproduction of digital content and specifically other than the time represented by the time related information (i.e., outside of timed events as detailed in element [14.h]), is configured to display at least one of the linear operation buttons or at least one of the interactive operation buttons based on the panel related information (as defined in element [14.g]). This is demonstrated by comparing the operation panels displayed by Netflix for different types of content, as would be shown in your comparative screenshots: When playing a self-contained movie, the "panel related information" indicates non-episodic content. In such a case, the controller displays an operation panel that typically includes linear playback controls (play, pause, seek bar, speed adjustment) and some general interactive buttons, but notably omits series-specific interactive buttons such as "Next Episode" or an "Episodes" list button. In contrast, when playing an episode of a TV series, the "panel related information" indicates episodic content. The controller displays an operation panel that, in addition to similar linear controls, also includes series-specific interactive operation buttons such as "Next Episode" and an "Episodes" list button. The controller's decision to include or exclude these particular interactive |

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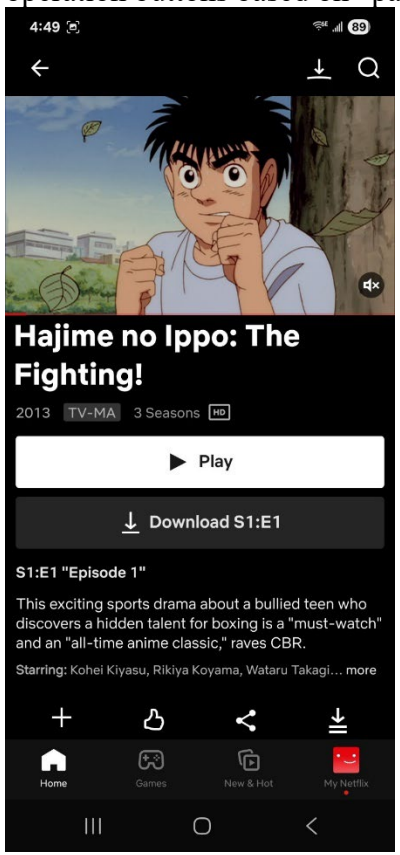
| | buttons based on whether the content is a standalone movie or part of a series illustrates the display of operation buttons based on "panel related information" during general playback periods.<br>  <br><br>A screenshot of an episodic content, not downloaded. |

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| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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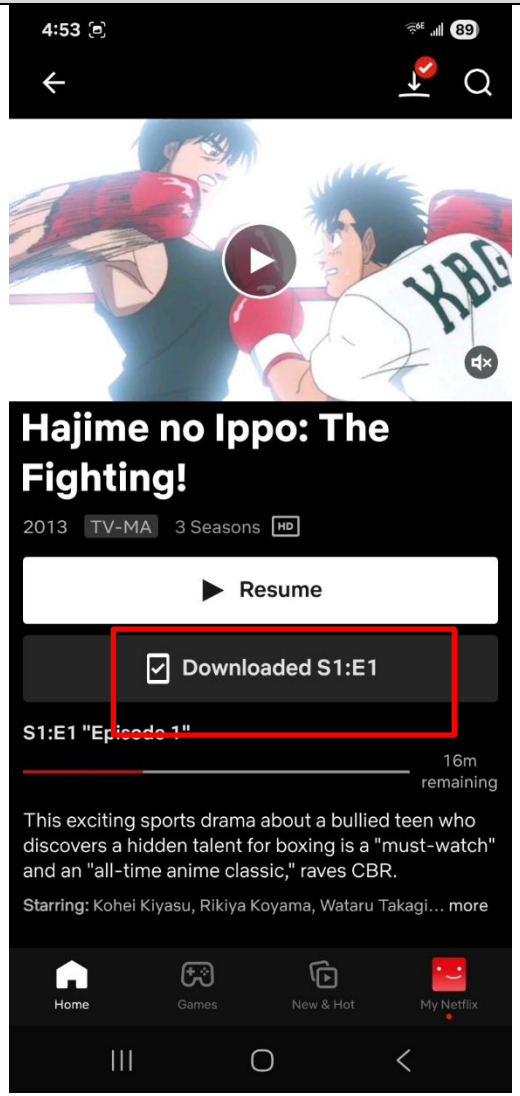
| |  <br>A screenshot of an episodic content, locally downloaded. |

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| | The controller in the Samsung Galaxy S25 further demonstrates its configuration to display operation buttons based on the panel related information when comparing playback of streamed versus downloaded content, specifically other than the time represented by the time related information. This distinction can be illustrated by comparing representative screenshots. When an episodic show is being streamed, the "panel related information" indicates an active connection and full server-side data availability. In this context, the controller displays an operation panel that includes a comprehensive set of interactive operation buttons alongside standard linear controls. In contrast, when the same or similar episodic content is played from a local download, the "panel related information" indicates an offline or local playback status. The displayed operation panel, while still providing linear controls and some general interactive may omit or alter certain server-dependent interactive buttons. For instance, "Next Episode" or a dynamic "Episodes" list might be absent if they rely on continuous server interaction that is unavailable for downloaded, offline content. This adjustment in the availability or configuration of interactive operation buttons, based on whether the content is streamed or downloaded, further illustrates the controller displaying buttons based on "panel related information."<br><br><u>Samsung TV Plus</u> |

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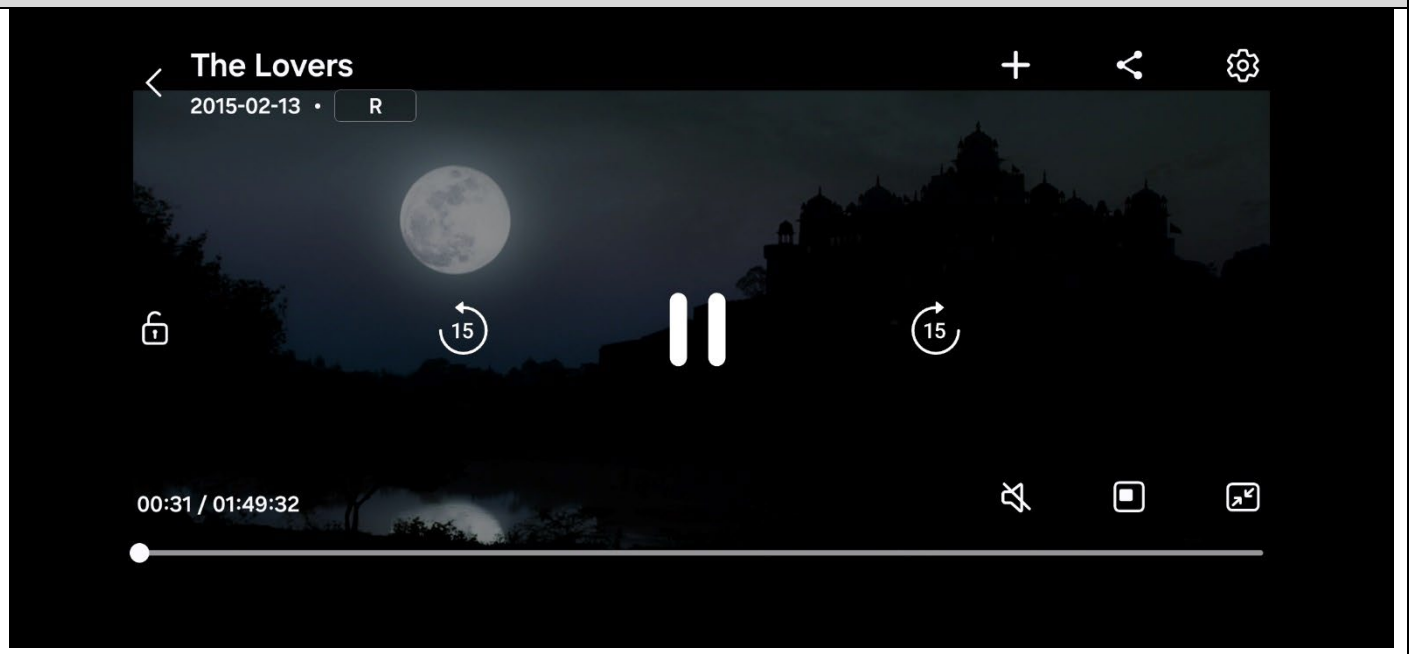
| |  <br>Self-contained Movie Content<br> |

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| | Episodic Content<br><br>The controller in the Samsung Galaxy S25 demonstrates its configuration to display operation buttons based on the panel related information when comparing playback of different content types, specifically other than the time represented by the time related information. This can be illustrated by comparing representative screenshots from the Samsung TV Plus application. When playing a self-contained movie, the “panel related information” indicates non-episodic content. In this situation, the controller displays an operation panel typically featuring linear playback controls and general interactive buttons, but it notably omits series-specific interactive buttons designed for navigating episodes. In contrast, when playing an episode of a TV series, where the “panel related information” indicates episodic content, the controller displays an operation panel that, in addition to similar linear and general interactive controls, also includes series-specific interactive operation buttons. Examples of these include an “All episodes” button and a “Next Episode” indicator. The controller’s decision to include or exclude these particular series-specific interactive buttons based on whether the content is a standalone movie or part of a series illustrates the display of operation buttons based on “panel related information” during general playback periods. |
| [15.] The digital content reproducing apparatus according to claim 14, wherein the controller is further configured to display at least one of the linear operation buttons or at least one of the interactive operation buttons in a lower part of the display. | Each of the Accused Samsung ’091 Products is a digital content reproducing apparatus according to claim 14, wherein the controller is further configured to display at least one of the linear operation buttons or at least one of the interactive operation buttons in a lower part of the display. *See* User Guide and Technical Specifications of each of the Accused Samsung ’091 Products available at Samsung's website showing that each of the devices includes a digital content reproducing apparatus, wherein the controller is further configured to display at least one of the linear operation buttons or at least one of the interactive operation buttons in a lower part of the display.<br><br>For example, both operation panels for applications like Netflix and Samsung TV Plus are displayed in a lower part of the display. The below screenshots demonstrate this functionality. The operation panels appear as an overlay in the lower portion of the screen.<br><br>**Netflix** |

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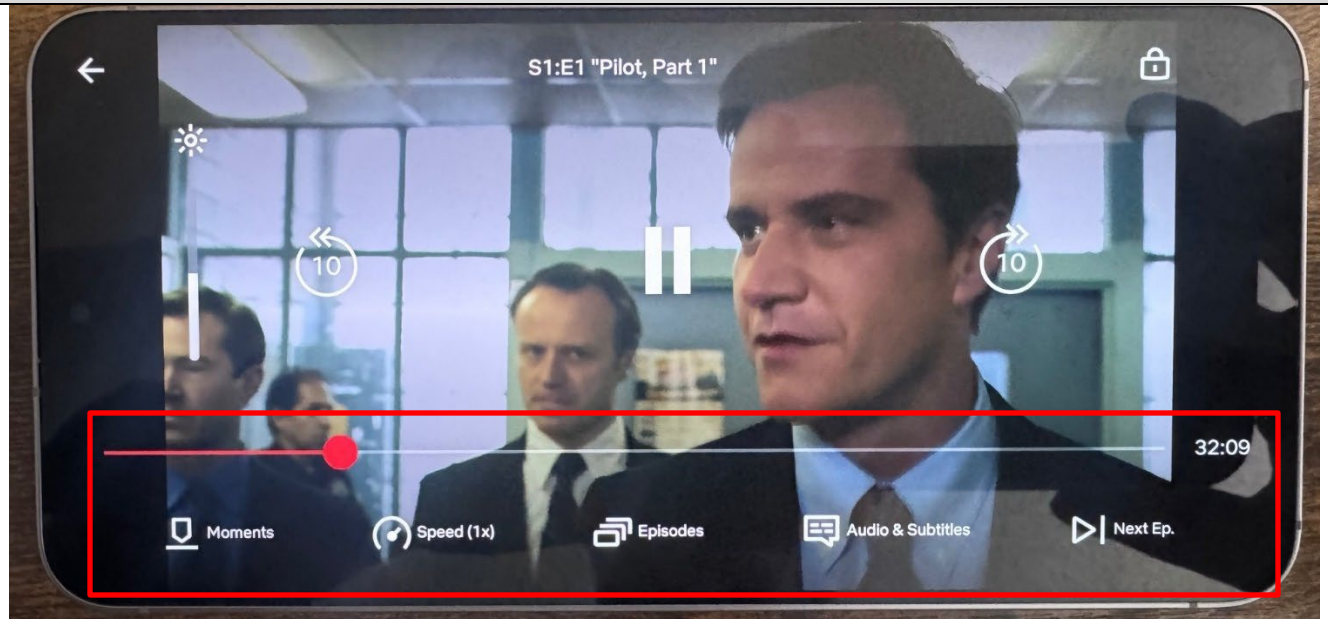
| |  <br>**Samsung TV Plus** |

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| | |
| [16.] The digital content reproducing apparatus according to claim 14, wherein the controller is further configured to control to maintain a rendering area size of the reproduced digital contents, even when at least one of the linear operation buttons or at least one of the interactive operation buttons are displayed. | Each of the Accused Samsung ’091 Products is a digital content reproducing apparatus according to claim 14, wherein the controller is further configured to control to maintain a rendering area size of the reproduced digital contents, even when at least one of the linear operation buttons or at least one of the interactive operation buttons are displayed. *See* User Guide and Technical Specifications of each of the Accused Samsung ’091 Products available at Samsung's website showing that each of the devices includes a digital content reproducing apparatus, wherein the controller is further configured to control to maintain a rendering area size of the reproduced digital contents, even when at least one of the linear operation buttons or at least one of the interactive operation buttons are displayed.<br><br>For example, the operation panels—both the linear panel and interactive panel—are displayed as translucent overlays on top of the video content. When these panels appear, the video content in the background continues to occupy the full rendering area and does not shrink or change size.<br><br>**<u>Netflix</u>** |

| U.S. Patent No. 11,812,091 | Exemplary Evidence of Infringement |
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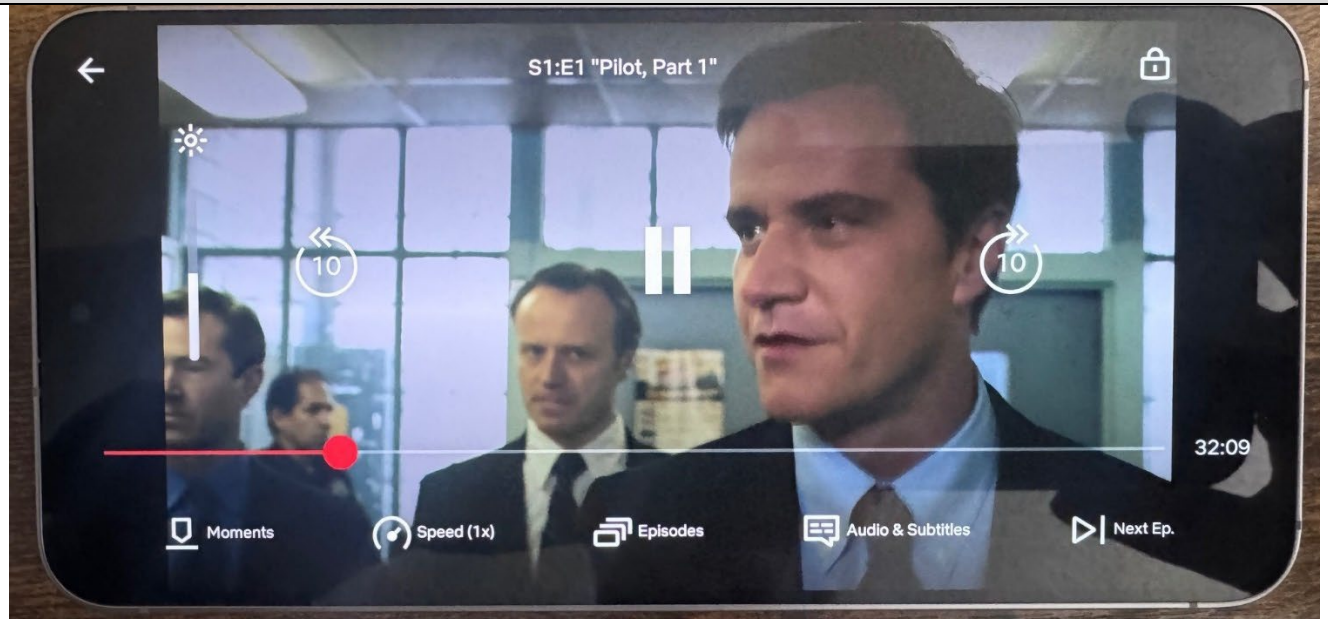
| |  <br>A screenshot of the Netflix application running on an Samsung Galaxy S25. The image shows the main operation panel displayed as a translucent overlay on top of the video content. When this panel is displayed, the video in the background continues to occupy the full rendering area without changing size. This demonstrates that the controller is configured to "maintain a rendering area size" of the reproduced digital contents when the operation buttons are displayed.<br><br>**<u>Samsung TV Plus</u>** |

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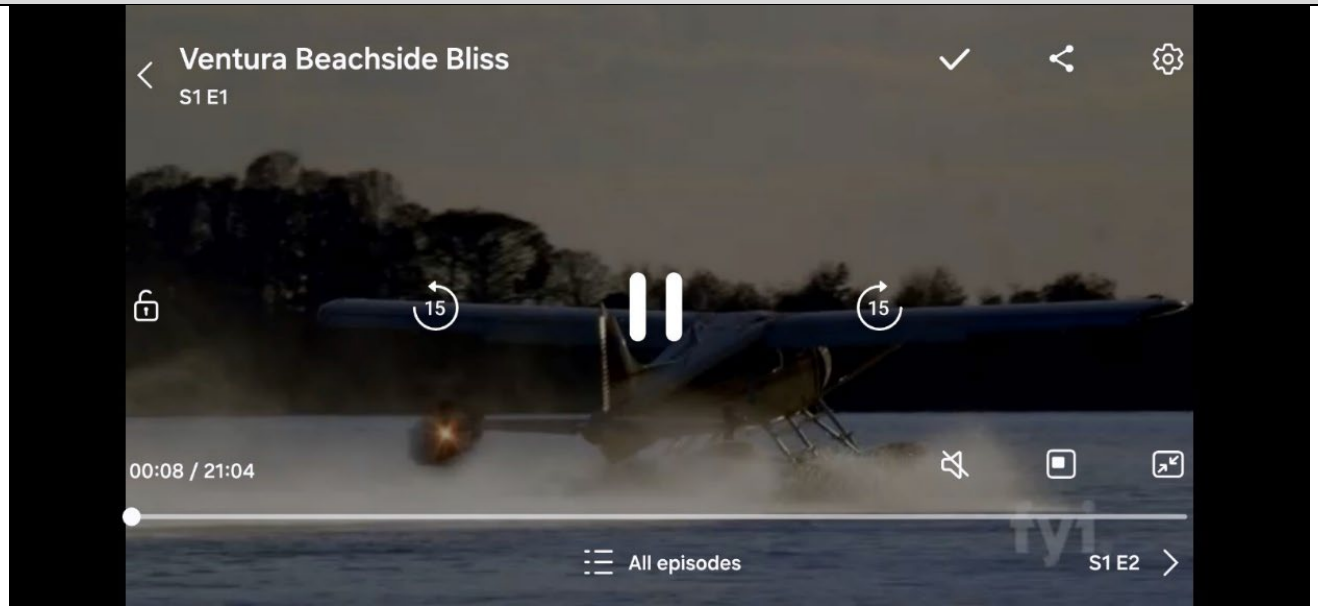
| |  <br>A screenshot of the Samsung TV Plus application running on an Samsung Galaxy S25. The image shows the main operation panel displayed as an overlay on top of the video content. When this panel, with its linear and interactive buttons, is displayed, the video content in the background continues to occupy the full screen. This demonstrates that the controller is configured to “maintain a rendering area size” of the reproduced digital contents. |
| [17.] The digital content reproducing apparatus according to claim 14, wherein all of one or more linear operation buttons and one or more interactive operation buttons provide mutually differing functions from each other. | Each of the Accused Samsung ’091 Products is a digital content reproducing apparatus according to claim 14, wherein all of one or more linear operation buttons and one or more interactive operation buttons provide mutually differing functions from each other. *See* User Guide and Technical Specifications of each of the Accused Samsung ’091 Products available at Samsung's website showing that each of the devices includes a digital content reproducing apparatus, wherein all of one or more linear operation buttons and one or more interactive operation buttons provide mutually differing functions from each other.<br><br>For example, on the Samsung Galaxy S25, the buttons displayed on the operation panels in applications like Netflix and Samsung TV Plus all provide mutually differing functions.<br><br>**<u>Netflix</u>** |

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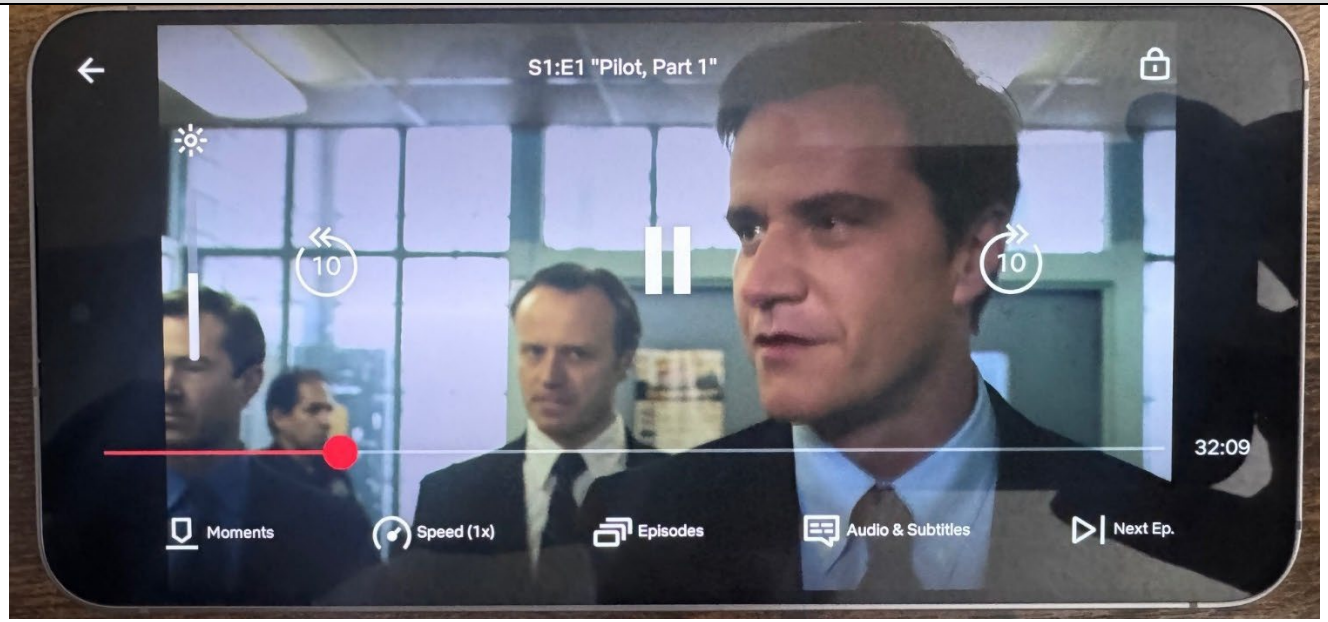
| |  <br>The "Pause" button controls the play/stop state of the video, while the "rewind 10s" button performs a discrete time jump, and the "Episodes" button opens a separate navigation menu for the series. Each of these linear and interactive buttons initiates a distinct function that is different from all the others available on the panel. Because all the operation buttons provide mutually differing functions, the requirement of Claim 7 is met.<br><br>**<u>Samsung TV Plus</u>** |

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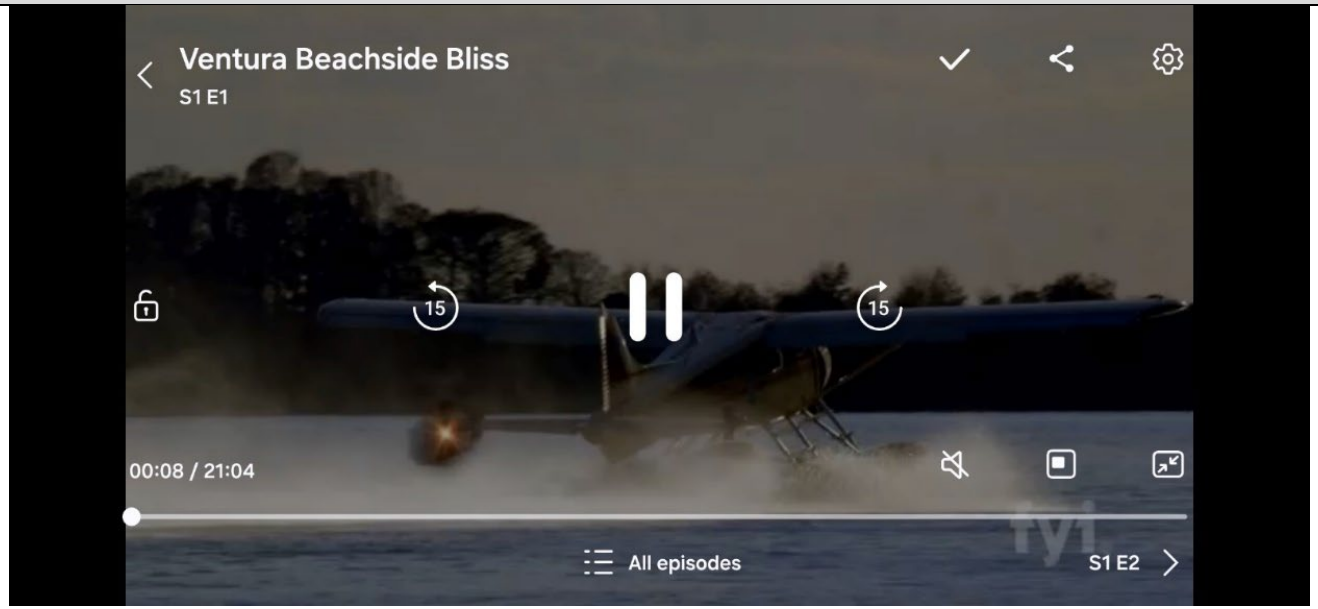
| |  <br>A screenshot of the Samsung TV Plus application running on an Samsung Galaxy S25. The image displays an operation panel containing numerous linear and interactive buttons, each initiating a unique function distinct from all others. For example, the linear “Pause” button controls the playback state, which is a different function from the “rewind 15s” button that performs a discrete time jump. Similarly, the interactive “All episodes” button for navigation has a different function from the “Share” button for sharing content and the “Settings” button for adjusting settings. |
| [20.] The digital content reproducing apparatus according to claim 14, wherein the controller is further configured to store the digital contents received from the video on demand server via the network communication circuitry into a | Each of the Accused Samsung '091 Products is a digital content reproducing apparatus according to claim 14, wherein the controller is further configured to store the digital contents received from the video on demand server via the network communication circuitry into a storage, and reproduce the digital contents stored in the storage. *See* User Guide and Technical Specifications of each of the Accused Samsung ’091 Products available at Samsung's website showing that each of the devices includes a digital content reproducing apparatus, wherein the controller is further configured to store the digital contents received from the video on demand server via the network communication circuitry into a storage, and reproduce the digital contents stored in the storage. |

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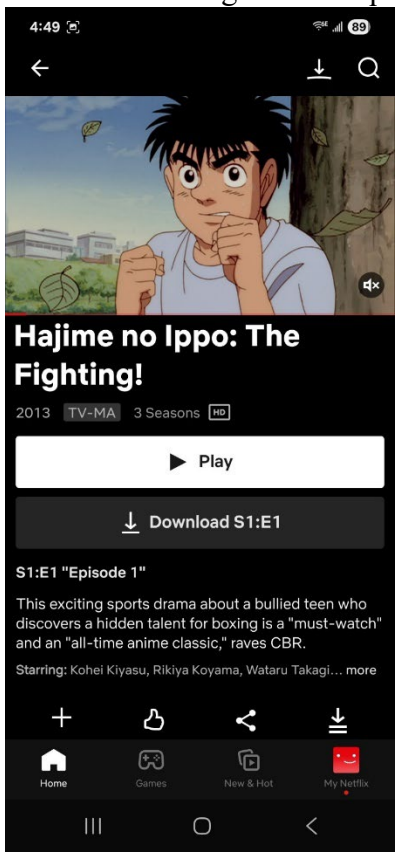
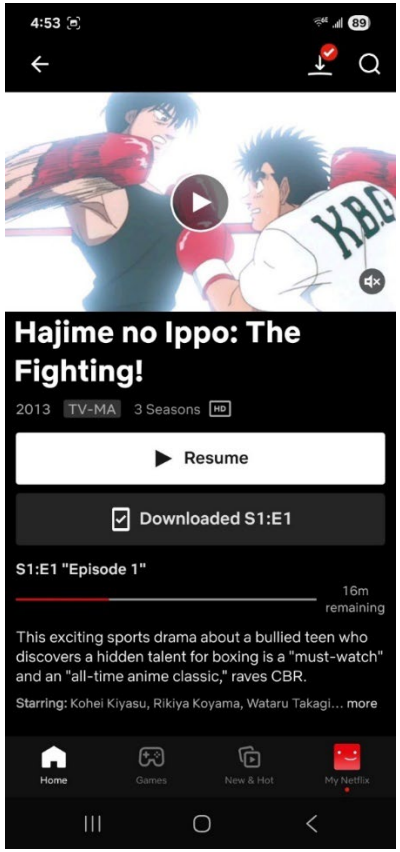
| storage, and reproduce the digital contents stored in the storage. | For example, this claim describes the download-for-offline-viewing feature present in applications like Netflix on the Accused Products. The screenshots of the Netflix application illustrate the two requirements of the claim being met in sequence.     First, the left screenshot shows the application presenting a " Download S1:E1" button. This provides the user the option to instruct the controller to "store the digital contents received from the outside server... into a storage." Second, the right screenshot shows the interface after the download is complete, indicated by the "Downloaded S1:E1" status. The call-to-action button has changed to " Resume," demonstrating the controller's configuration to "reproduce the digital contents stored in the storage." |