

Navian Marketing Report

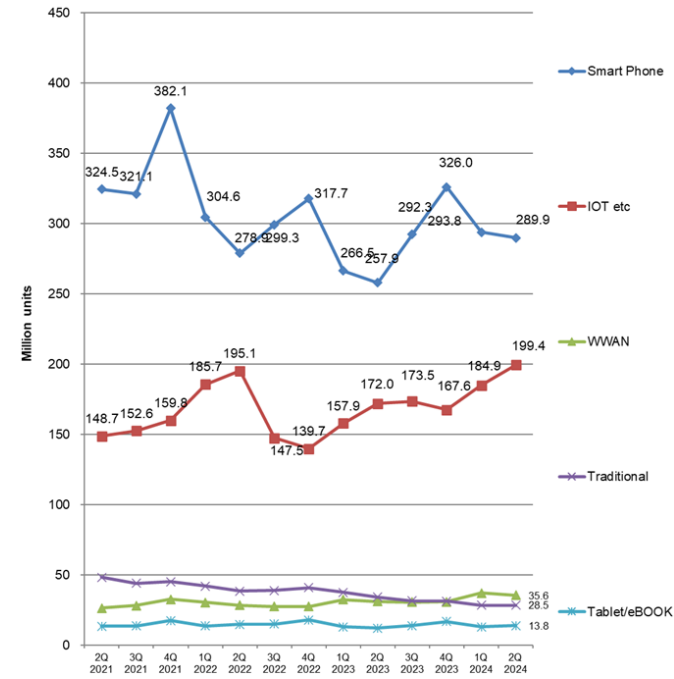
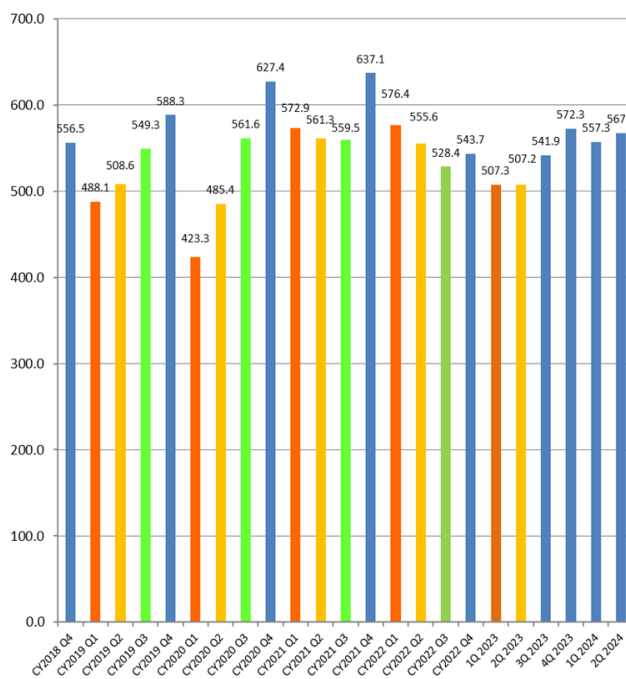
RF Devices/Modules For Cellular Terminal Quarterly Market Report Q2 2024

Released on December 10th 2024

RF Components & Modules in this report

- ① Front end Module (ASM・TX Module・PAiD・FEMiD・All-in-One FEM・PAMiD・**5G TX Module/PAMiF-NEW**・ Multiplexer・A-Multiplexer・**5G RX Module-NEW**)
- ② Antenna Switch (Main RF/Diversity) Power Amplifier Module
- ④ Duplexer
- ⑤ Band Pass Filter
- ⑥ TCXO

Cellular Terminal Shipment History



e-Book Reader Tablet PC



WWAN Terminal

Adapter



Embedded Module



Smart Phone



Traditional Handset



Fixed Wireless Terminal



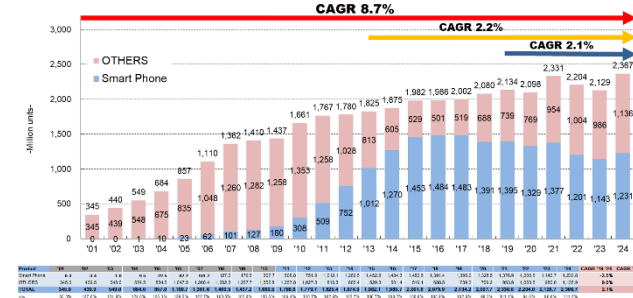
Non-Voice

Voice

Report Sample

Cellular Terminal Annual Shipment History CY2001-CY2023

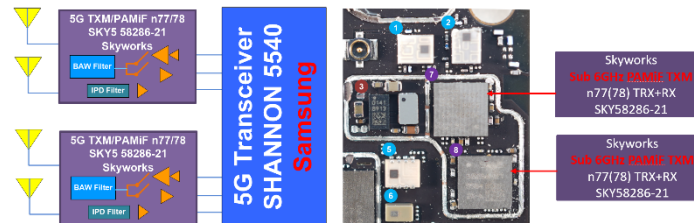
- The following graph is based on domestic shipment data for mobile phones (smartphones + traditional handsets) in China, published monthly by the China Academy of Information and Communications Technology (CAICT) and compiled by Navian.
- These shipment statistics include both smartphones and traditional handsets (feature phones), but the current Chinese market is predominantly comprised of smartphones.
- Cellular-enabled tablet devices and non-voice terminals such as Cellular IoT are not included.
- From January to October 2024, the total shipment volume reached 250.0 million units, representing 107.0% year-over-year.
- Of this, 5G shipments accounted for 213.8 million units, achieving a double-digit growth rate of 113.6% year-over-year, which is estimated to have been significantly driven by HUAWEI's launch of 5G smartphones starting in the second half of 2023.



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Sub 6GHz RFFE of Google Pixel9

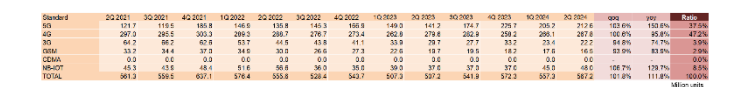
- Below is the Sub 6GHz configuration of the Google Pixel 9.
- The Sub 6GHz band supports a single band in the 3.5GHz range (n77/n78), with MIMO specifications configured as 2x transmit (TX) and 2x receive (RX), achieving 4x4 MIMO.
- For Sub 6GHz RFFE, the device uses two units of the SKY58286-21 PAMiF, a Dual-band module compatible with n77(n78) and n79.
- This PAMiF, manufactured by Skyworks, includes both transmission and reception circuits, as well as MIMO-specific reception circuits.
- When two units are combined, they enable the configuration of a 4x4 MIMO circuit with TX x 2 and RX x 2.
- The Sub 6GHz filters are estimated to use BAW for TRX and IPD for RX.



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Cellular Terminal Quarterly Shipment by Standard

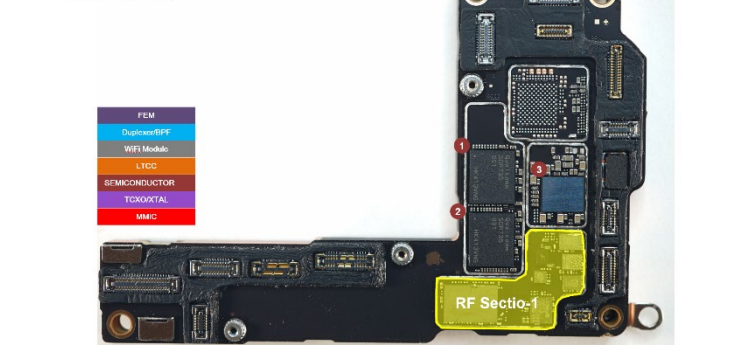
- In the second quarter of 2024, 5G shipments reached 212.6 million units, a significant increase from 141.2 million units in the same period of the previous year (YoY 150.6%).
- This growth can be attributed to the sluggish Cellular market in the first half of 2023, as well as the absence of HUAWEI's 5G products at that time, resulting in a low base for year-over-year comparison.
- Additionally, the return of HUAWEI's 5G smartphones and the expanded shipments of Transsion's 5G-compatible smartphones since the latter half of 2023 have contributed positively.
- While iPhone had been a key driver of 5G expansion until the first half of 2023, its influence has waned due to a shrinking market share in China.
- 4G shipments stood at 267.8 million units, representing 95.8% of the year-over-year figure.
- Despite positive performance in IoT, 4G shipments experienced negative growth year-over-year as the transition to 5G smartphones accelerated.



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iPhone16 -A3286- Motherboard Front SIDE

- 5G Transceiver SD8735 Qualcomm Component count -OTHER 379pcs + RF1 59pcs TOTAL 438pcs- 6.00x0.05x0.70mm
- 5G Transceiver SD8735 Qualcomm 6.00x0.05x0.70mm
- Power Management PMX65 Qualcomm 4.90x4.01x0.54mm



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Outline of the report

RF Devices/Modules For Cellular Terminal Quarterly Market Report Q2 2024 -CD-ROM (PDF file)-

- The date of issue December 10th 2024
- The Documents of the report The PDF file of 226 SLIDES : MS PowerPoint based/Excel data/JPEG files of Teardown photos
- Report price JP¥195,000
- Annual subscription for four quarterly issues JP¥510,000(report&data x3/data x1)

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 - ⑦PAiD
 - ⑧Multiplexer (Quadplexer/Hexaplexer)

- ⑨Antenna –Multiplexer
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