

Navian Marketing Report

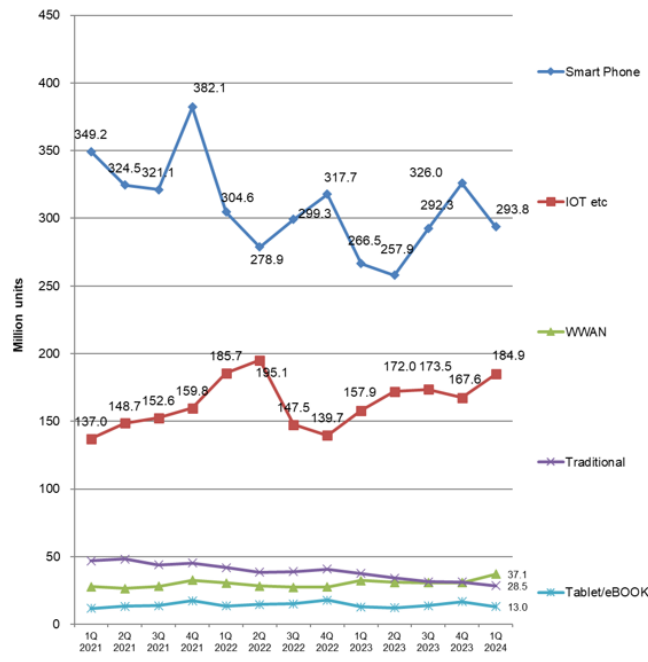
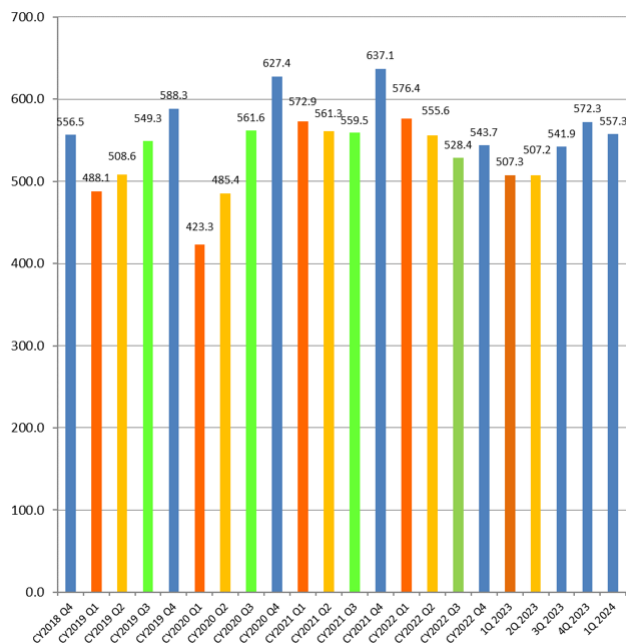
RF Devices/Modules For Cellular Terminal Quarterly Market Report Q1 2024

Released on August 28th 2024

RF Components & Modules in this report

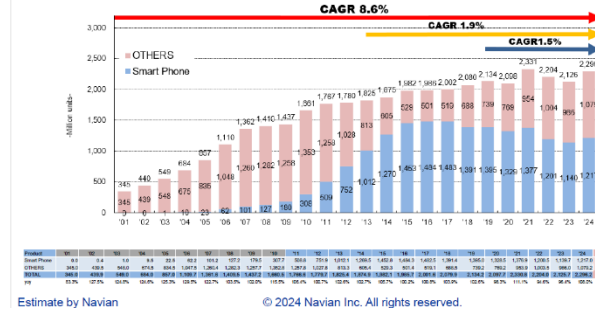
- ① Front end Module (ASM·TX Module·PAiD·FEMiD·All-in-One FEM·PAMiD·**5G TX Module/PAMiF-NEW**· Multiplexer·A-Multiplexer·**5G RX Module-NEW**)
- ② Antenna Switch (Main RF/Diversity) Power Amplifier Module
- ④ Duplexer
- ⑤ Band Pass Filter
- ⑥ TCXO

Cellular Terminal Shipment History



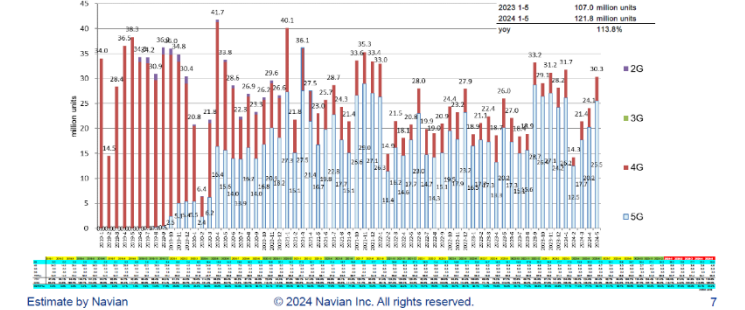
Cellular Terminal Annual Shipment History CY2001-CY2023

- The total shipment volume of cellular terminals in 2023 was 2,204.0 million units, a year-on-year decrease of 94.6%.
- This marks the second consecutive year of negative growth following 2022.
- However, signs of recovery began to appear in the latter half of 2023, and positive growth is expected in 2024.
- The recovery of the smartphone and IoT markets, particularly in China, as well as the expanding demand in emerging markets such as Africa and Southeast Asia, seem to be contributing significantly.
- The shipment volume of cellular terminals in 2024 is expected to reach 2,296.2 million units, a year-on-year increase of 108.0%.



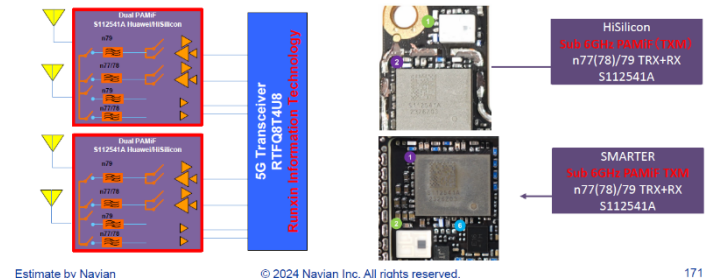
Chinese Cellular Terminal Market

- The graph below was created by Navian based on domestic shipment data for mobile phones (smartphones + traditional handsets) released monthly by the China Academy of Information and Communications Technology (CAICT).
- This shipment statistic includes both smartphones and traditional handsets (feature phones), but the current Chinese market is comprised of smartphones for the most part.
- It should be noted that non-voice terminals such as cellular-enabled tablets and cellular IoT devices are not included.
- From January to May 2024, the shipment volume was 121.8 million units, representing a 113.8% year-on-year increase, marking a recovery to double-digit growth.
- Additionally, the shipment volume of 5G devices reached 102.2 million units, showing a significant year-on-year growth of 120.3%, which is largely attributed to HUAWEI's commencement of 5G smartphone shipments from the latter half of 2023.

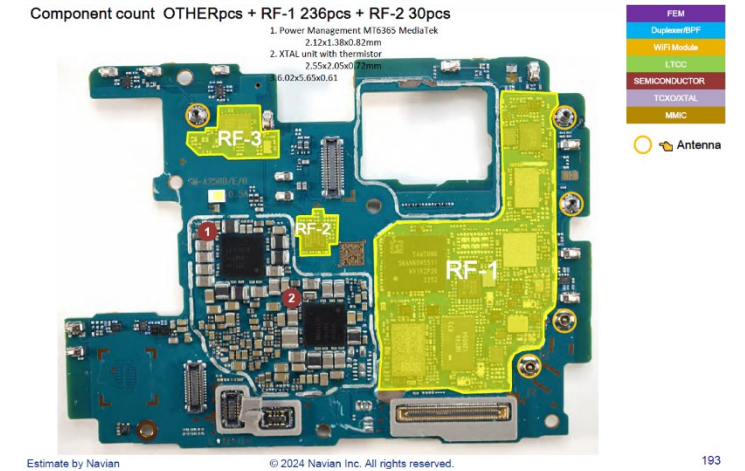


Sub 6GHz RFFE of HUAWEI MATE 60 Pro

- The Sub 6GHz configuration of the Huawei Mate 60 Pro is shown below.
- It supports dual bands at 3.5GHz (n78) and 4.5GHz in the Sub 6GHz range, with MIMO specifications of 4x4 MIMO, featuring 2 TX (transmission) and 2 RX (reception).
- The Sub 6GHz RFFE uses two PAMiFs (S112541A) that support dual bands n77(78) and n79.
- These PAMiFs are products of Huawei's subsidiary HiSilicon, which include both transmission/reception circuits and MIMO reception circuits.
- When combined, they form a 4x4 MIMO circuit with 2 TX and 2 RX.
- The filters for Sub 6GHz are presumed to be IPD.



Galaxy A25 5G Motherboard SIDE-A



Outline of the report

RF Devices/Modules For Cellular Terminal Quarterly Market Report Q1 2024 -CD-ROM (PDF file)-

- The date of issue August 28th, 2024
- The Documents of the report The PDF file of 221 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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WWAN Terminal Adapter



Embedded Module



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Traditional Handset



Fixed Wireless Terminal



Non-Voice

Voice

**PHASE 1. CELLULAR TERMINAL SHIPMENT
AND UPDATE**

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 - ②TX Module
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 - ④All-in-One FEM
 - ⑤PAMiD
 - ⑦PAiD
 - ⑧Multiplexer (Quadplexer/Hexaplexer)
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 - (2) Main RF Parts list & Duplexer/BPF Count
 - (3) Teardown pictures & RF Modules/Components
2. itel Power 55 - Transsion's ITEL
- LATEST 5G Smartphone Released 2023 -
 - (1) RF Circuit Block Diagram
 - (2) Main RF Parts list & Duplexer/BPF Count
 - (3) Teardown pictures & RF Modules/Components
3. Tecno Pova 5 Pro
- Transsion's Tecno LATEST 5G Smartphone
Released 2023, August 22 -
 - (1) RF Circuit Block Diagram
 - (2) Main RF Parts list & Duplexer/BPF Count
 - (3) Teardown pictures & RF Modules/Components

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