

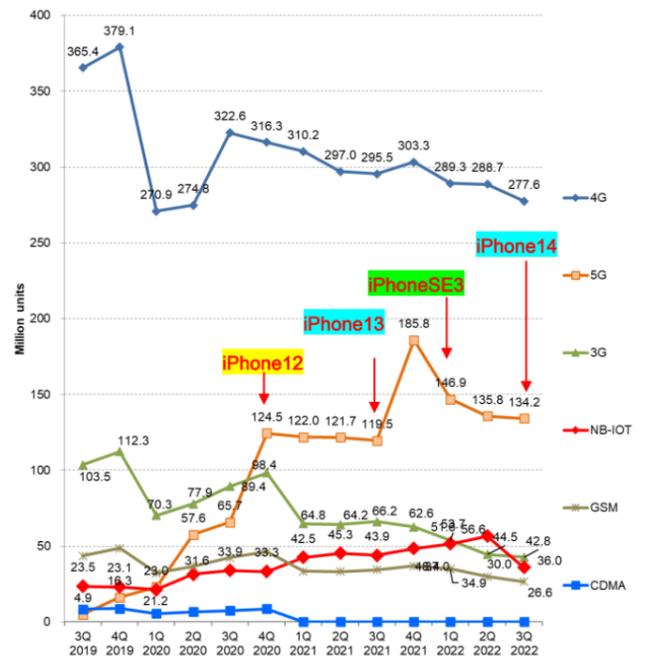
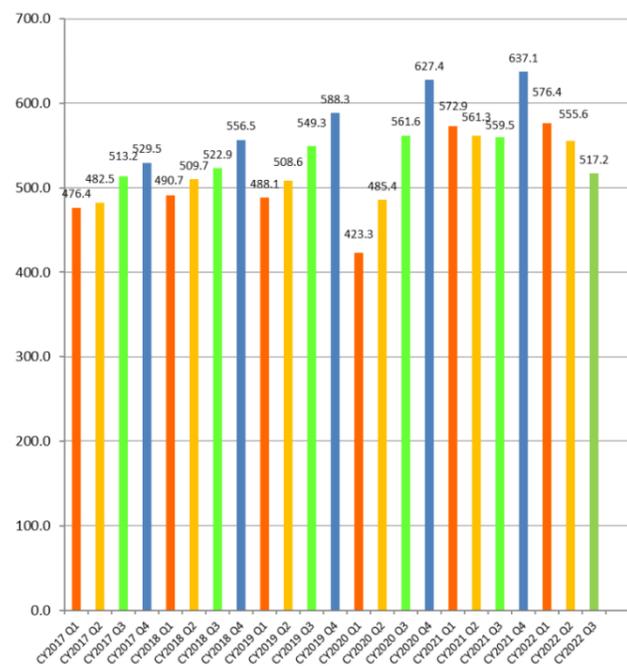
Navian Marketing Report

Released on December 20th, 2022

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

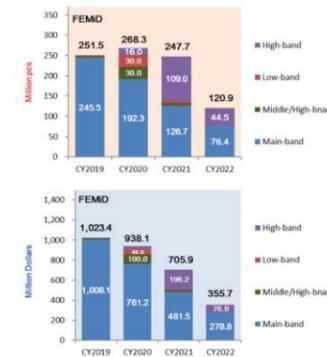


Non-Voice

Voice

Report Sample

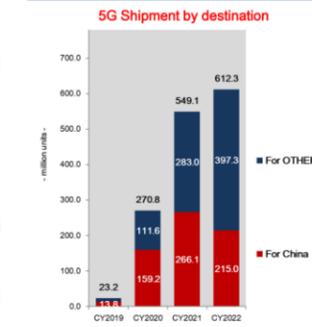
Market Forecast of FEMiD in CY2022



- ◆ There is a strong sign of shrinkage in FEMiD market size.
- ◆ It is because although FEMiD was mainly being adopted in SAMSUNG's middle-end and low-end smartphones, now, they are ODM outsourced to China's IDH, which uses TX Module on a substantial scale, and the transition to 5G-adopting PAMiD, has progressed.
- ◆ Although SAMSUNG was planning to adopt FEMiD in their middle-/low-end 5G smartphones, it looks like they will keep using PAMiD.
- ◆ It seems like they have decided that the cost-merit of using FEMiD is small compared to before.
- ◆ Even high-band FEMiD, which was the only growing product in all FEMiD product types, is expected to shrink significantly in 2022, along with the decrease in platforms that adopt FEMiD.
- ◆ Market size of FEMiD in 2022 is expected to be 120.9 million pcs (YoY 48.8% quantity) and 355.7 million dollars (YoY 50.4% amount).
- ◆ Of these, 44.5 million pcs are high-band FEMiD, and 76.4 million pcs are main-band FEMiD.

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~ Sluggish smartphone demand in China and expanding sales of 5G iPhones reduce dependence on China ~

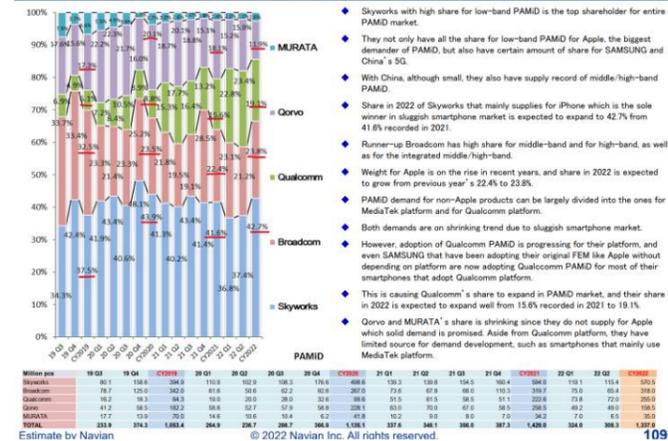


- ◆ Of the 270.8 million units of 5G product shipment volume in 2020, 159.2 million units were for China.
- ◆ In 2021, of the 549.1 million units of 5G product shipment volume, 283.0 million units were for China, making the weight for China dip below majority with 48.5%.
- ◆ Of the 283.0 million units for other countries and regions, approx.130.0 million units are 5G-supporting iPhone.
- ◆ However, all new models from iPhone12 in 2020 support 5G, and sales regions do not reflect the situation of 5G commercialization.
- ◆ Even in China where demand is the biggest and active investment for 5G base stations is going on, it is estimated that only half of 5G smartphone owners have signed up for 5G services.
- ◆ This is because majority of high-end smartphones are 5G-compatible, and users who want the latest high-end smartphones end up with 5G smartphones regardless of whether they need the 5G services or not.
- ◆ In 2022, in addition to sluggish smartphone demand in China, sales expansion of 5G iPhones will accelerate, and SAMSUNG which has almost no share in Chinese market is planning to significantly increase ratio of 5G-supporting products.
- ◆ Shipment volume of 5G products in 2022 is forecasted to reach 678.7 million units, of which ratio for China is expected to greatly drop to 33.9%.

	CY2019	CY2020	CY2021	CY2022	YOY
China/OTHERS	13.8	159.2	286.1	215.0	80.8%
For China	9.4	111.6	283.0	397.3	140.4%
TOTAL	23.2	270.8	549.1	612.3	111.9%
%China	59.5%	59.8%	48.5%	35.1%	-13.4%

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PAMiD Market Share for CY2022 Q2 & CY2022 TOTAL



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iPhone14Pro MAX A2651 USA Model Baseboard SIDE-B

1. Audio amplifier Apple/Cirrus 3.00x3.00x7mm
2. Audio amplifier Apple/Cirrus 3.00x3.00x7mm
3. RF Transceiver SDR735 Qualcomm 5.99x5.03x0.66mm
4. RF Transceiver SDR735 Qualcomm 6.01x5.03x0.67mm
5. Envelope tracker QET7100 Qualcomm 7x7x7mm
6. Envelope tracker QET7100 Qualcomm 2.24x7x7mm
7. PowerManagement PMX65 Qualcomm 5.00x4.09x7mm
8. 5G Baseband SDX65 Qualcomm 9.75x7.79x0.72mm
9. 5GmmW IFTTransceiver SMRS46 Qualcomm 5.24x4.76x7mm

Component count
- OTHER 502pcs / RF Section1 68pcs / RF Section2 72pcs
WiFi/Bluetooth Section 31pcs TOTAL 673pcs -

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Outline of the report

RF Devices/Modules For Cellular Terminal Quarterly Market Report Q2 2022 -CD-ROM (PDF file)-

- The date of issue December 20th, 2022
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**PHASE 1. CELLULAR TERMINAL SHIPMENT
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