

Antenna matching report



Customer: OPSMEN

Model Name: M200T

Frequency: BT(2402~2480MHz)

Date: 2024.05.17

Number: 20240408001

Producer: FAE



Outline

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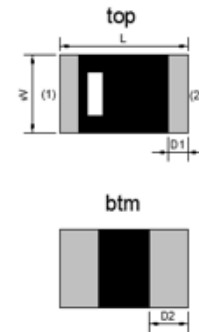




Appearance of customer Sample

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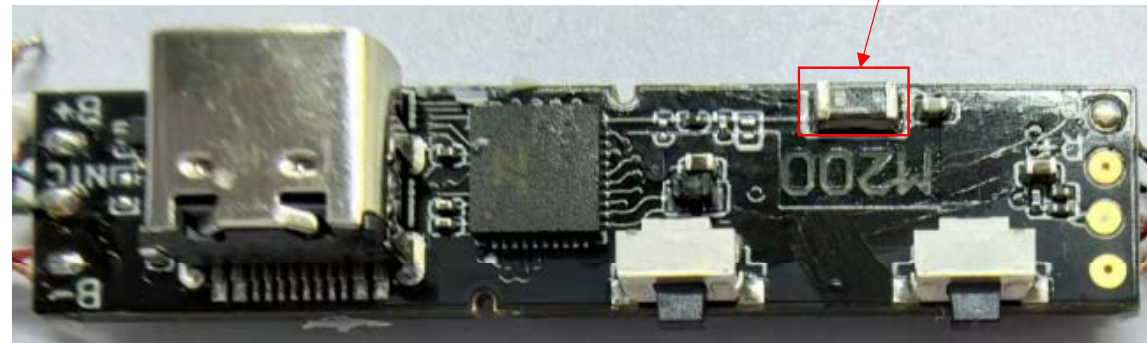
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Dimension (mm)	
L	3.20±0.15
W	1.60±0.15
T	0.60±0.10
D1	0.50±0.15
D2	1.30±0.15

No.	Terminal Name
1	Feeding
2	Ground

3.2*1.6 Chip Antenna

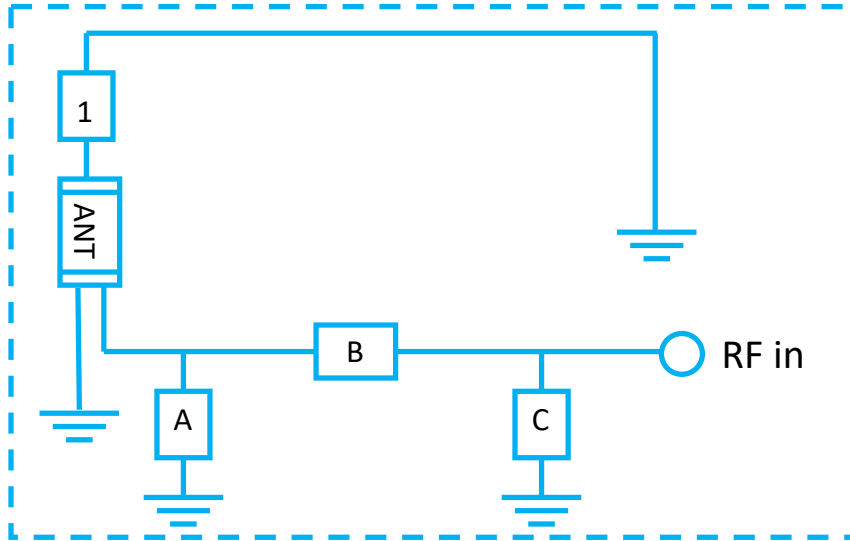




Matching parameters

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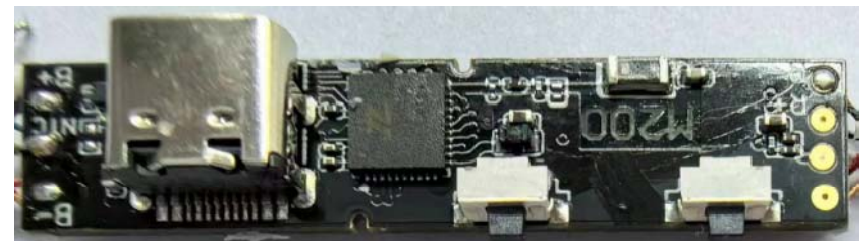


Antenna : ANT3216R2400A1L0

NO	Component	Brand	Description	P/N
1	Capacitor	muRata	0201 5.6pF	GRM1555C1H5R6CA01
A	Capacitor	muRata	0201 1.5pF	GRM0335C1H1R5BA01
B	Resistor	Yageo	0201 0R	RC0201JR-070R
C	OPEN	N/A	N/A	N/A

1
3216 Chip
Antenna

A
B



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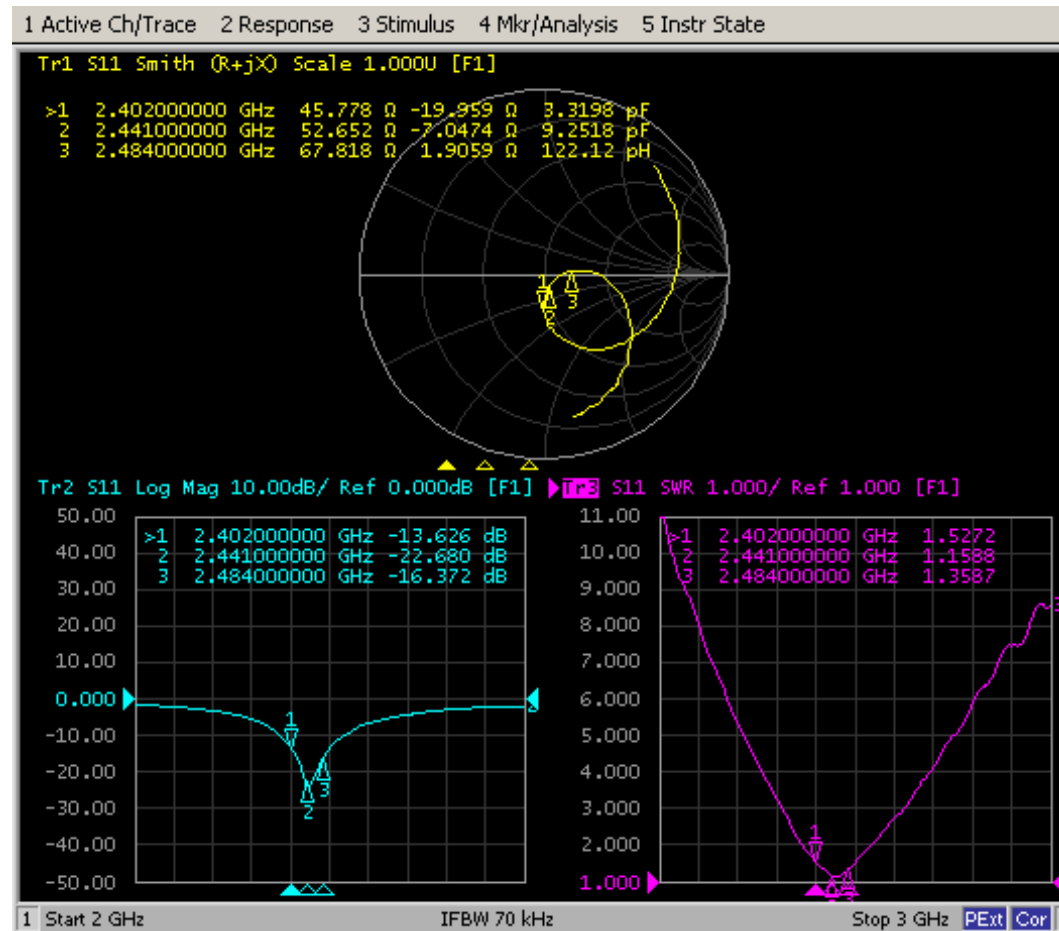




Antenna S parameters

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Item	Value		
	2402(MHz)	2441(MHz)	2480(MHz)
Smith(Ω)	45.77	52.65	67.81
Return loss(dB)	-13.62	-22.68	-16.37
VSWR	1.52	1.15	1.35

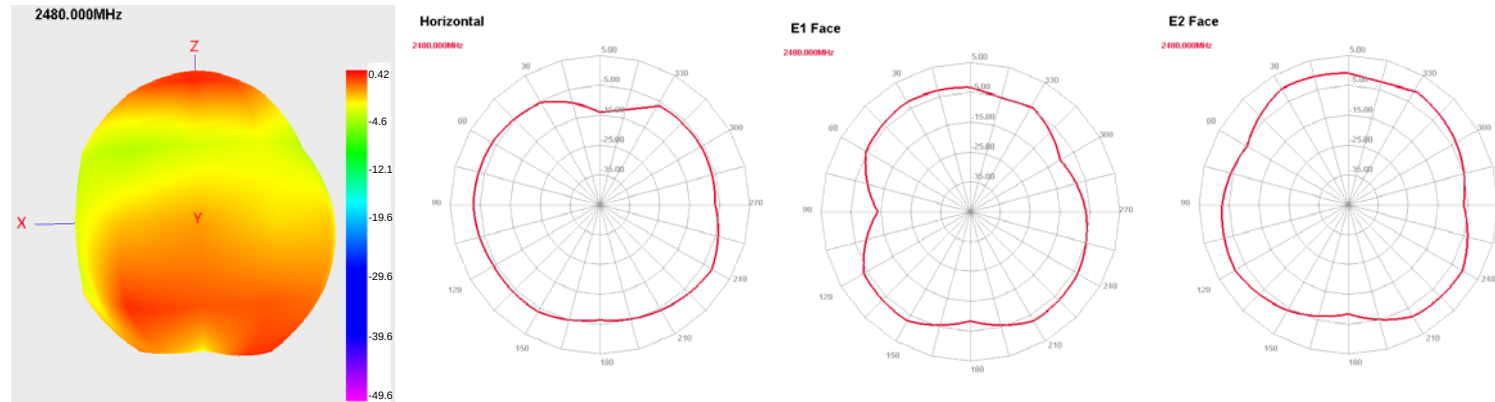




Antenna Passive parameter

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Frequency (MHz)	Efficiency (%)	Mean gain (dBi)	Peak Gain (dBi)
2400	37.17	-4.3	-0.84
2410	40.62	-3.91	-0.47
2420	42.34	-3.73	-0.28
2430	38.47	-4.15	-0.7
2440	40.3	-3.95	-0.48
2450	43.23	-3.64	-0.2
2460	44.64	-3.5	0.13
2470	44.14	-3.55	0.16
2480	46.99	-3.28	0.42





Bluetooth distance measurement

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Bluetooth distance test report		
Consumer: opsmen Project name: M200T Solution: JL Test date: 2024.05.17		
Test method: ● In the choice of matching phone model, use Apple 6S; ● In the test method, the mobile phone is placed parallel to the ground, and the mobile phone camera faces the test direction; ● The mobile phone is placed 1M away from the ground.		
Test type	Bluetooth distance test	Prototype picture
Test location	Grass at the gate of Hekang Park	
Distance	28M	
Test result	Test distance meets Bluetooth standard	
Tester	Bobo tan	





Conclusion

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- 1、 The antenna's return loss is greater than 10 dB;
- 2、 The average antenna efficiency is greater than 35%, and the 2440MHz efficiency is greater than 40%;
- 3、 Bluetooth test distance is greater than 28M.



Thanks



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