

SPEED TECHNOLOGY

Approval sheet of Mimosa Internal Antenna

Customer/Project	Mimosa	Frequency Band	2.4-2.48GHz		
SCT P/N		Version	Rev1.0		
Date	2025-07-11				
Material Code					
SPEED					
Checked by	RF	林宏锋	Design by	RF	赖县强
	ME	周胜中		ME	张锦鸿
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Customer					
Date					
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Remark					

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1. Indication

- This report summarizes the electrical performance results of the proposed internal antenna to support the Mimosa program.
- Covers BLE bands
- The antenna is FPC type
- Antenna directional characteristics: Omnidirectional antenna

2. Matching Circuit Description

The matching circuit that is the customer provides with us.

3. Measurement Data

3.1 Return Loss

Return loss measurements (S11) were performed using Agilent E5071 Network Analyzer and the previously described test fixture. A ferrite-loaded coaxial cable was used to mitigate surface currents on the outside of the cabling. The testing was performed in free space.

Freq (MHz)	2400MHz	2480MHz
Return Loss (S11)	-10.37	-16.74

Tested by Agilent E5071C Network Analyzer

3.2 Gain & Radiation Patterns

The gain and efficiency of the antenna was measured in the Speed Communication Technology anechoic chamber. The chamber provides less than -40 dB reflectivity from 800 MHz through 6 GHz and 25cm diameter spherical quiet zone. The measurement results are calibrated using both dipole and leaky wave horn standards.

- Antenna polarization characteristics: Linear polarization
- Antenna connection type: Metal spring connection
- S11 < -10dB
- Antenna Passive Efficiency > 20%
- Antenna Passive Peak gain < 2dBi
- MAX communication range > 10m (0°, 90°, 180°, 270°, 360°)

3.3 Peak gain & Efficiency

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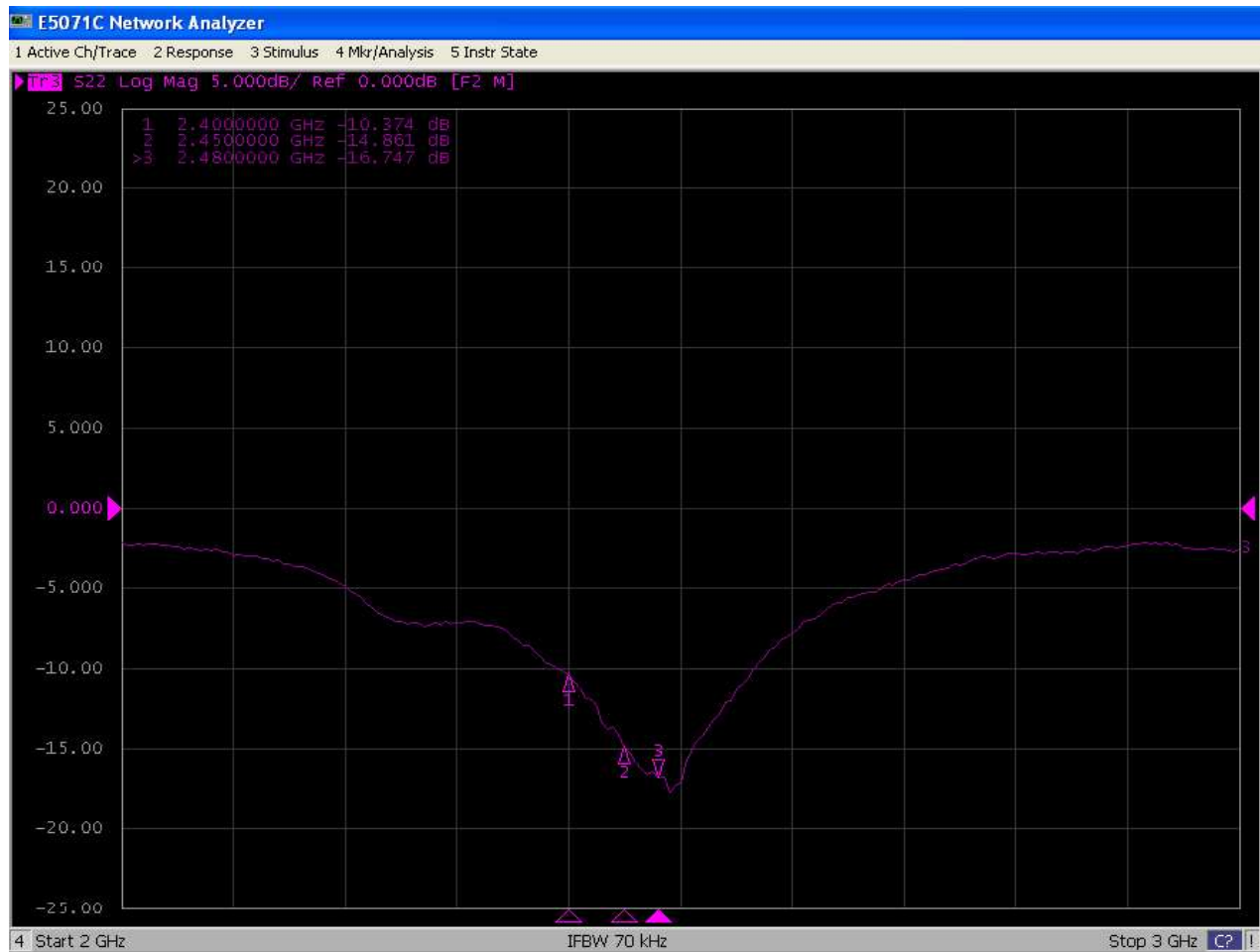
AUT	Frequency (MHz)	Efficiency (%)	Peak Gain(dBi)
Antenna	2400	24.90	-0.84
	2410	25.26	-0.67
	2420	26.15	-0.58
	2430	27.73	-0.12
	2440	28.97	0.08
	2450	30.81	0.45
	2460	31.82	0.65
	2470	32.50	0.78
	2480	32.04	0.69

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4. Attachment

4.1 S11 Parameter

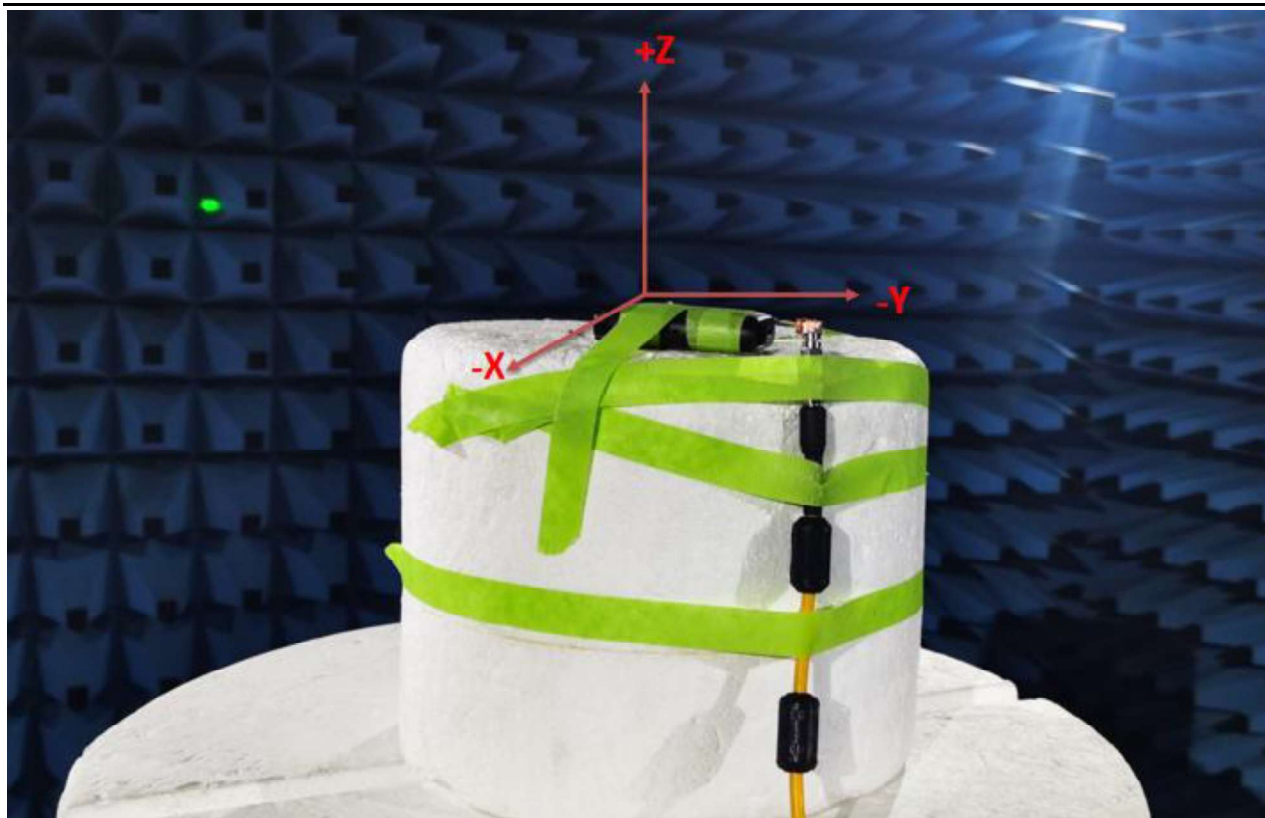


Return Loss

4.2 Radiation Pattern

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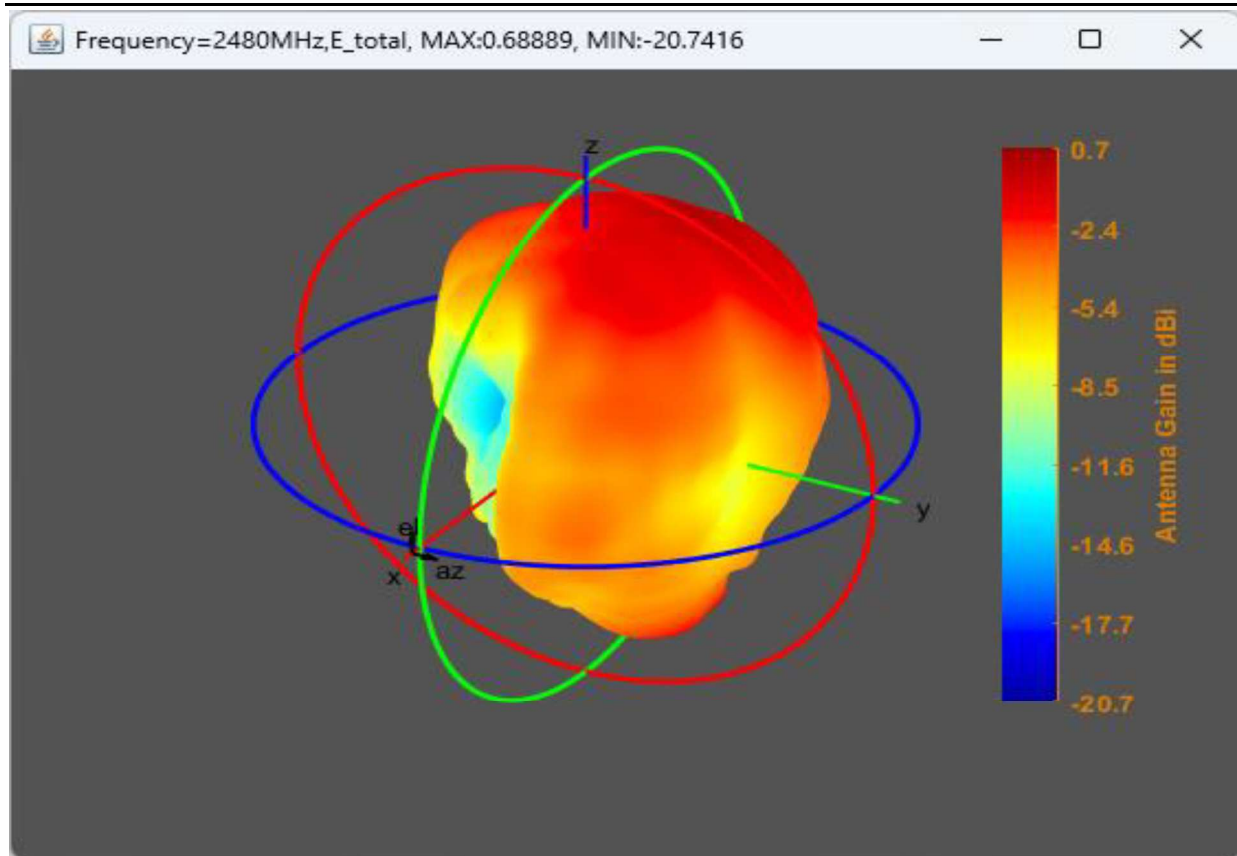
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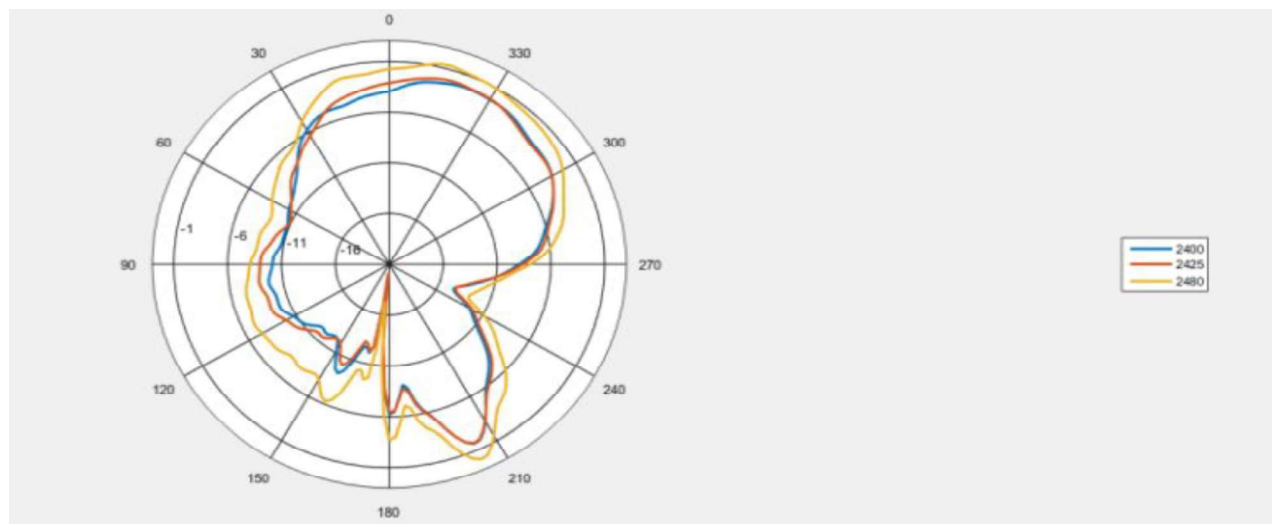
Coordinate

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3D
Pattern



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5. Test setup in the production line

Test method: VSWR test

Marker and value range:

Waiting for the production of antenna testing fixtures

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