



ShenZhen Eastong Electronic technology Co., LTD

**APPROVAL SHEET
FOR
BT
(internal antenna)**

Issued by		Checked by	
Confirmed by		Date	2024-10-28
Customer Confirm			

Project: BT		Author: XU xiaorong	File Name: BT-APP-RA
Date: 2024-10-28			
Rev:	Language:	Check:	
A	ENG		
CONFIDENTIAL ShenZhen Eastong Electronic technology Co., LTD 411, No. 9, Yangmei Huancheng Middle Road, Bantian, Longgang District, Shenzhen			

Revision History

Date	Revision	Description of Changes
2024-10-28	R:A	Antenna performance approved by customer

1 SUMMARY

2 GENERAL DESCRIPTION

2.1 Definitions

3 MECHANICAL DESCRIPTION

4 ELECTRICAL PERFORMANCE

4.1 Set-up

- 4.1.1 VSWR and return loss
- 4.1.2 Efficiency, Gain and TRP/TIS
- 4.1.3 Matching Circuit Description

4.2 Measurement Data

- 4.2.1 VSWR
- 4.2.2 Active result

5 MECHANICAL DRAWING

6 CONCLUSION

Project: BT		Author: XU xiaorong	File Name: BT-APP-RA
Date: 2024-10-28			
Rev:	Language:	Check:	
A	ENG		
CONFIDENTIAL			
ShenZhen Eastong Electronic technology Co., LTD 411, No. 9, Yangmei Huancheng Middle Road, Bantian, Longgang District, Shenzhen			

1 Summary

This report summarizes the electrical results of the proposed antenna to support the BT program. We test the antenna with the latest version handset .

2 General Description

2.1 Definitions

VSWR: Voltage Standing Wave Rate

3 Mechanical Description

4 Electrical Performance

4.1 Set-up

4.1.1 VSWR and return loss

VSWR measurements (S_{11}) were performed using an Agilent E5070B Network Analyzer and the previously described test fixture. Coaxial chokes were used to mitigate surface currents on the outside of the cabling. The testing was performed in free space.

4.1.2 Efficiency, Gain and TRP/TIS

The gain of the antenna was measured in Dong Xin's 3D anechoic chamber in Shenzhen. The chamber is capable of doing tests from 380MHz to 6GHz. Coaxial chokes on the feed cable were used to mitigate surface currents. The measurement results are calibrated using dipole standards. For TRP and TIS the chamber uses a Agilent 8960 to establish the connection with the mobile device. During TRP tests the 8960 reads the power received through the chamber probes whilst during TIS tests the 8960 transmits through the probe. All data is afterwards corrected by a calibration table.

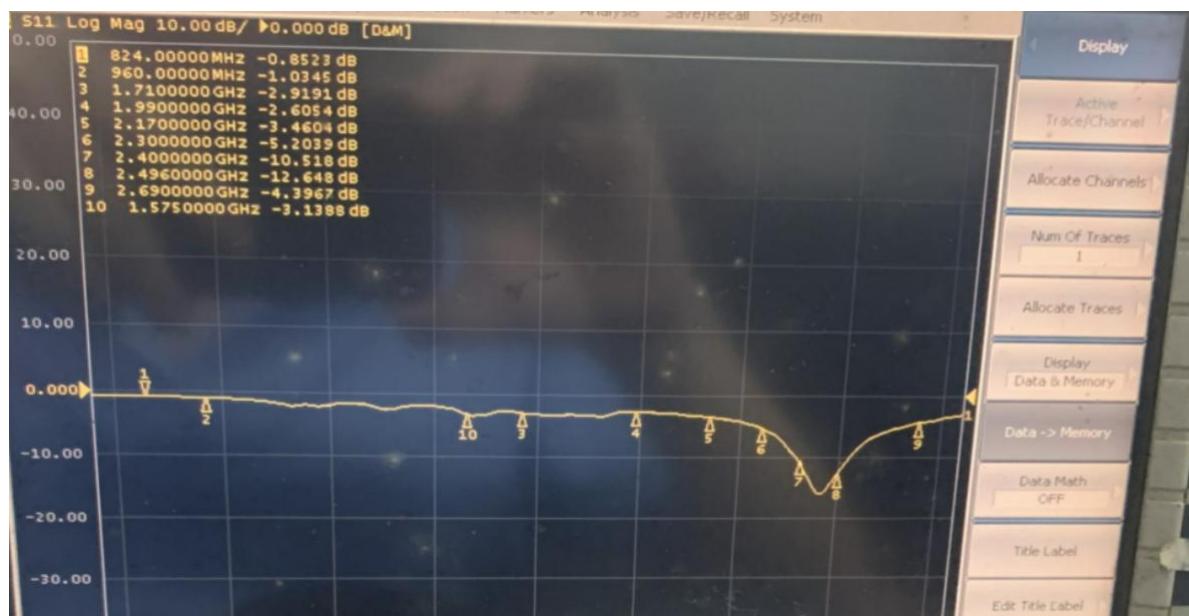
4.1.3 Antenna object

This report summarizes the electrical performance results of the proposed Internal antenna to support the F12 (BT) program. The antenna is an assembly BT 2.4G.



Project: BT		Author: XU xiaorong	File Name: BT-APP-RA		
Date: 2024-10-28					
Rev:	Language:	Check:			
A	ENG				
CONFIDENTIAL					
ShenZhen Eastong Electronic technology Co., LTD 411, No. 9, Yangmei Huancheng Middle Road, Bantian, Longgang District, Shenzhen					

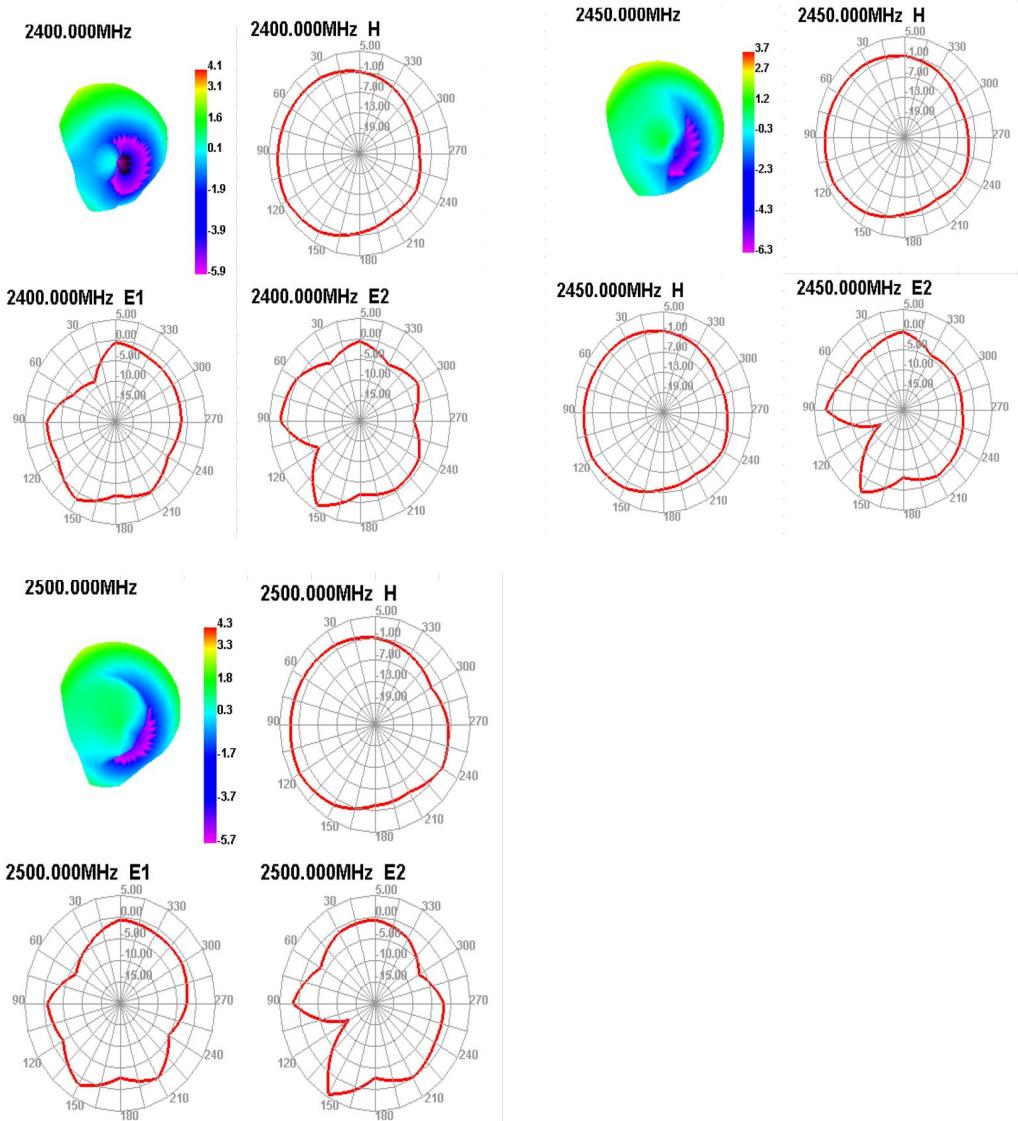
4.2 Measurement Data



Test Point ID	Freq. (MHz)	Gain (dBi)	Directivity (dBi)	Efficiency (%)
1	2400.0	-2.91	2.46	11.0%
2	2410.0	-2.43	2.80	11.0%
3	2420.0	-2.27	3.04	11.4%
4	2430.0	-2.12	2.99	11.9%
5	2440.0	-1.72	3.24	11.9%
6	2450.0	-1.60	2.61	11.9%
7	2460.0	-1.27	3.45	11.7%
8	2470.0	-2.46	2.21	12.1%
9	2480.0	-1.09	2.43	12.5%
10	2490.0	-0.84	2.37	12.8%
11	2500.0	0.67	4.20	12.3%

Project: BT	Author: XU	File Name:
Date: 2024-10-28	xiaorong	
Rev:	Language:	Check:
A	ENG	
CONFIDENTIAL		
ShenZhen Eastong Electronic technology Co., LTD		
411, No. 9, Yangmei Huancheng Middle Road, Bantian, Longgang District, Shenzhen		

ANTENNA SPECIFICATION0



Project: BT		Author: XU xiaorong	File Name: BT-APP-RA		
Date: 2024-10-28					
Rev:	Language:	Check:			
A	ENG				
CONFIDENTIAL					
ShenZhen Eastong Electronic technology Co., LTD 411, No. 9, Yangmei Huancheng Middle Road, Bantian, Longgang District, Shenzhen					