

3D Antenna Measurement Summary Report

REPORT NO.: PSU-QBJ2505160110OT01

**PLATFORM
MANUFACTURER:** Shenzhen Linkiing Technology Co.,LTD

PLATFORM NAME: Bluetooth Module

ANTENNA TYPE: PCB Antenna

TESTED DATE: 2025.05.15-05.16

ISSUED: 2025.05.21

APPLICANT: Shenzhen Linkiing Technology Co.,LTD

ADDRESS : Floor 2, Building 5, Lihe Industrial Area, 1055 SongBai Road, Xili Town, Nanshan District, Shenzhen, China

ISSUED BY : Huarui 7layers High Technology (Suzhou) Co., Ltd.

ADDRESS : ower N, Innovation Center, 88 Zuyi Road, High-tech District, Suzhou City, Anhui Province China

This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification

RELEASE CONTROL RECORD

REPORT NO.	REASON FOR CHANGE	DATE ISSUED
PSU-QBJ2505160110OT01	Original release	2025.05.21

Table of Contents

GENERAL INFORMATION.....	3
1. Test Equipment List.....	4
2. Measurement Uncertainty.....	4
3. Characteristics of antenna.....	5
3.1. S11-VSWR.....	5
3.2. S11-ReturnLoss.....	6
3.3. 3D Antenna Gain-Free Space.....	7
3.4 Antenna Pattern.....	8
Appendix A. EUT Photographs.....	13
Appendix B. Testing Setup Photo.....	14

GENERAL INFORMATION

APPLICANT:	Shenzhen Linkiing Technology Co.,LTD
MANUFACTURER:	Shenzhen Linkiing Technology Co.,LTD
MODEL NO.:	LK8628
HARDWARE VERSION:	V1.1
SOFTWARE VERSION:	V1.2

Test Standard: ANSI/IEEE Std. 149 1979.

PREPARED BY : Ding Fangshun , **DATE :** 2025.05.21
Ding Fang Shun / Engineer

APPROVED BY : Sun Pei bo , **DATE :** 2025.05.21
Sun Pei Bo / Manager

1. Test Equipment List

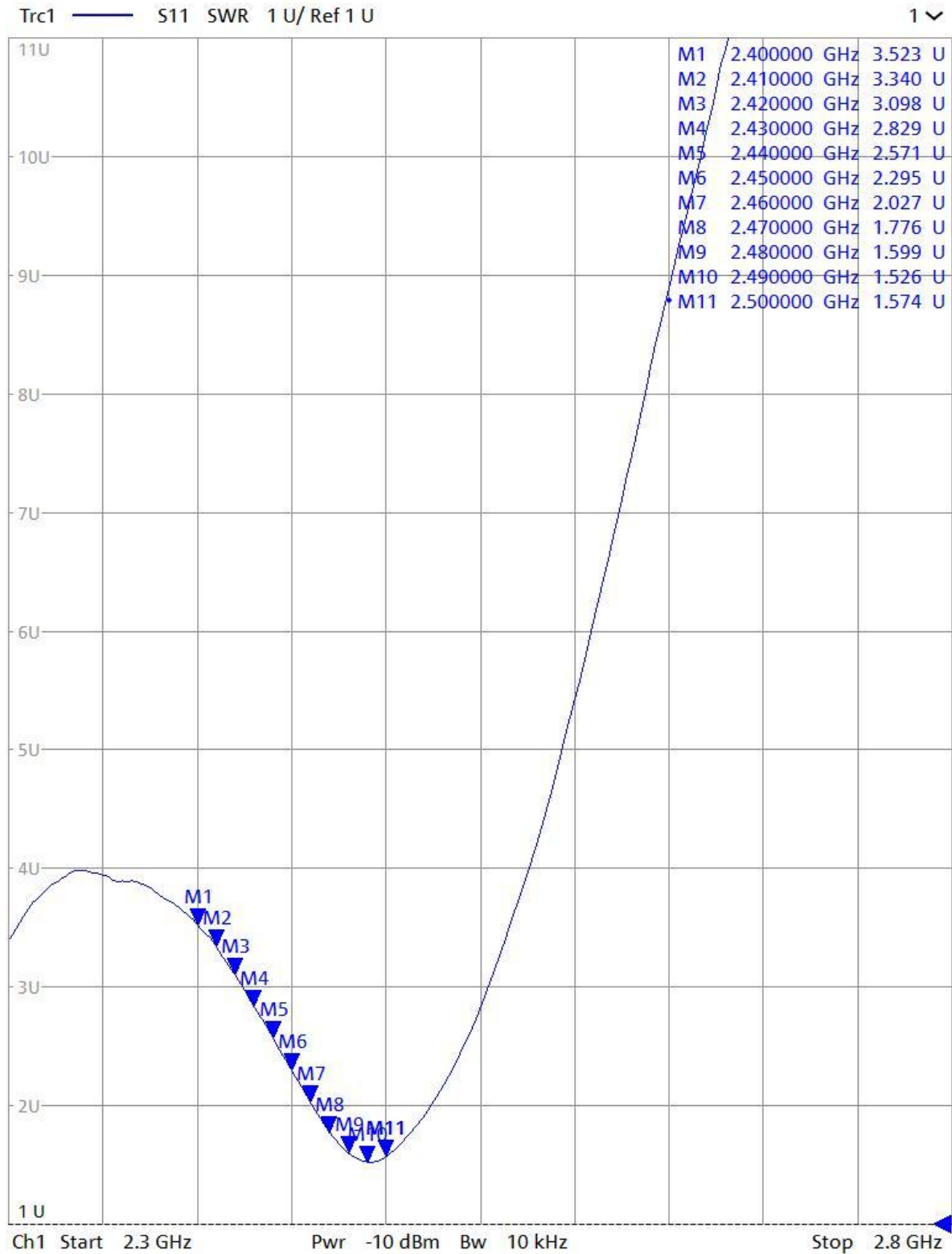
TYPE OF EQUIPMENT	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DUE DATE
Network Analyzer	ZND	102314	2026.03.28
OTA Chamber	TS8991	N/A	N/A
Measurement Antenna	TC-TA18	101095	N/A

2. Measurement Uncertainty

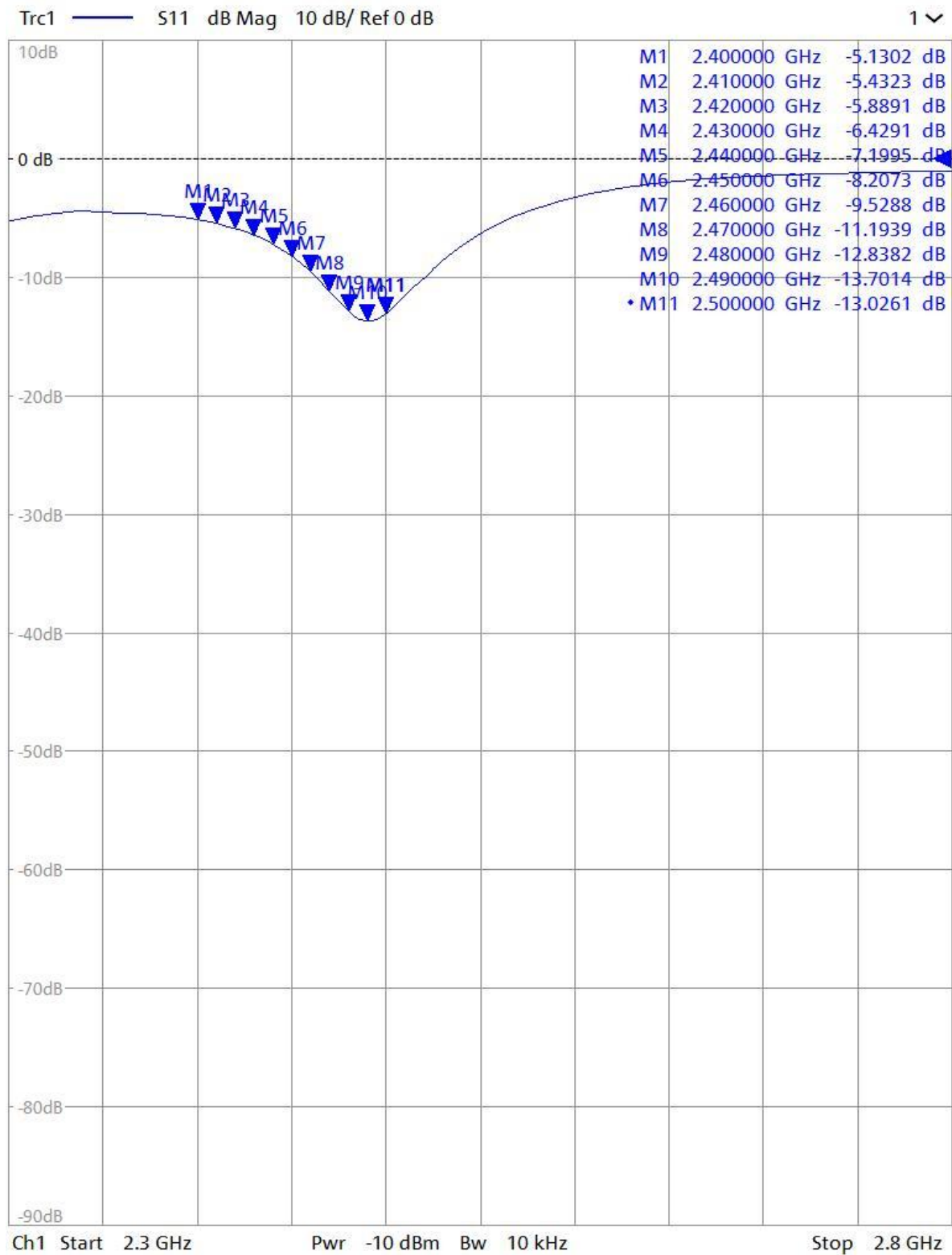
Expanded Uncertainty for Measurement (k=2 or 95% Confidence Level) at Passive antenna test over frequency range 780 – 2200MHz is +/- 1.52 dB.

3. Characteristics of antenna

3.1. S11-VSWR



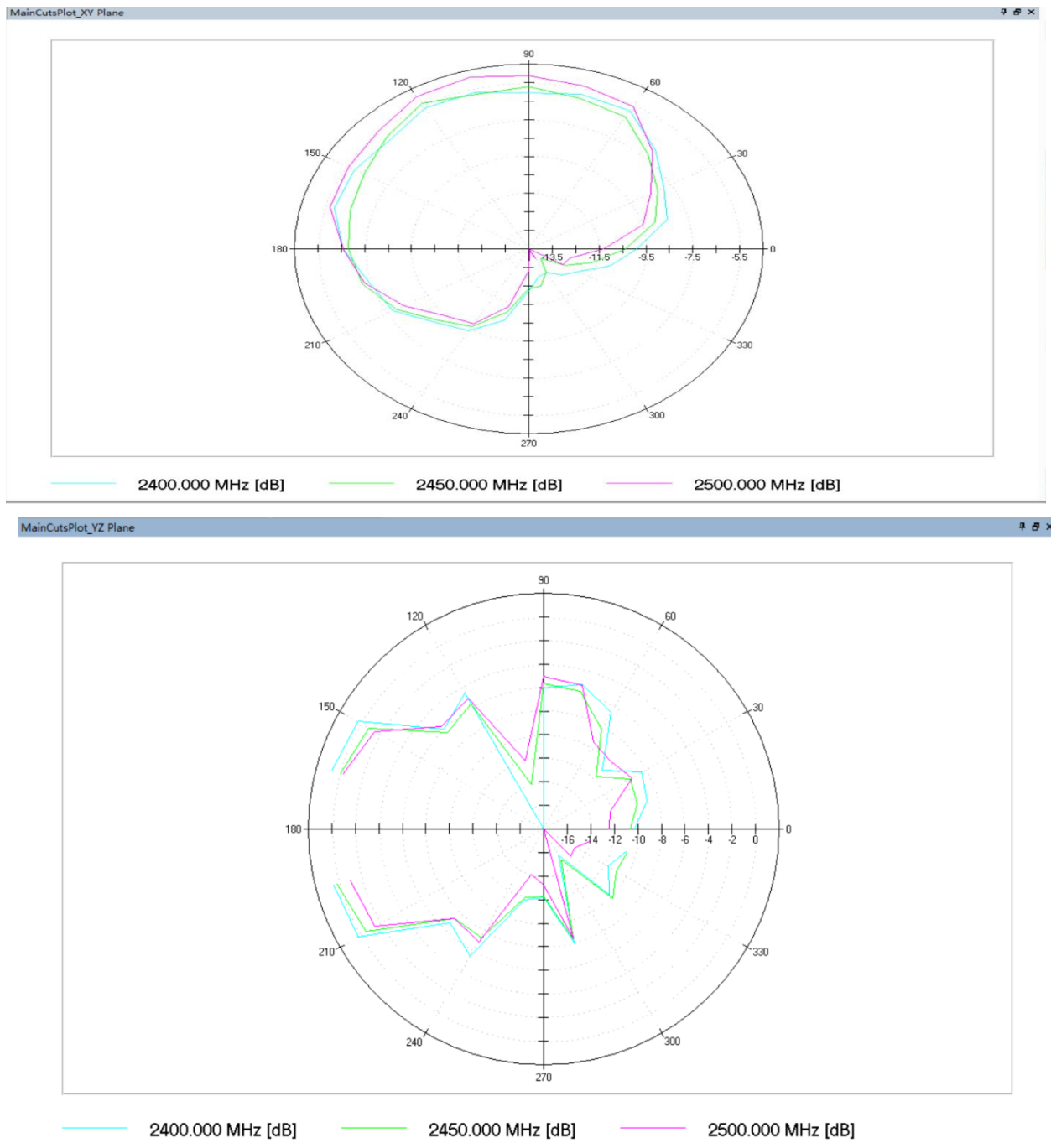
3.2. S11-ReturnLoss



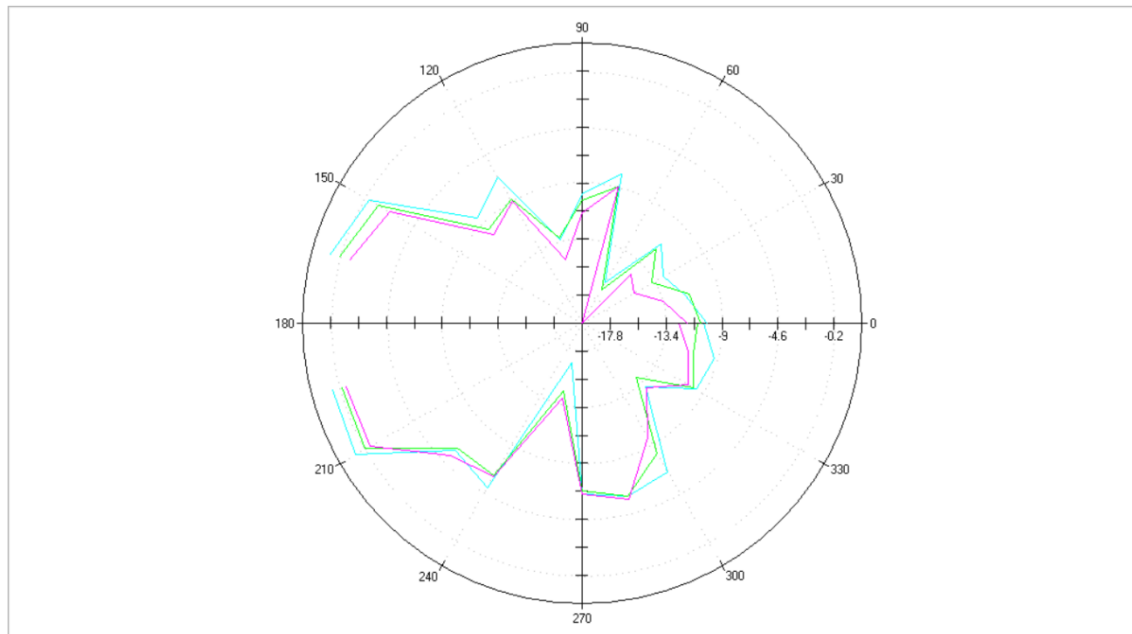
3.3. 3D Antenna Gain-Free Space

Frequency (MHz)	Directivity (dBi)	Efficiency (dB)	Efficiency (%)	Gain (dBi)
2400	7.2	-6.1	24.5	1.0
2410	7.0	-6.2	23.8	0.8
2420	7.6	-6.4	23.0	1.2
2430	7.5	-6.5	22.6	1.1
2440	7.6	-6.6	21.7	1.0
2450	7.4	-6.9	20.2	0.4
2460	7.7	-7.6	17.4	0.1
2470	7.3	-7.4	18.2	-0.1
2480	7.7	-7.6	17.2	0.0
2490	7.8	-7.6	17.5	0.2
2500	8.1	-7.1	19.3	1.0

3.4 Antenna Pattern



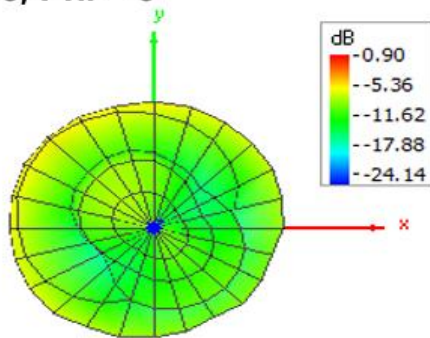
MainCutsPlot_XZ Plane



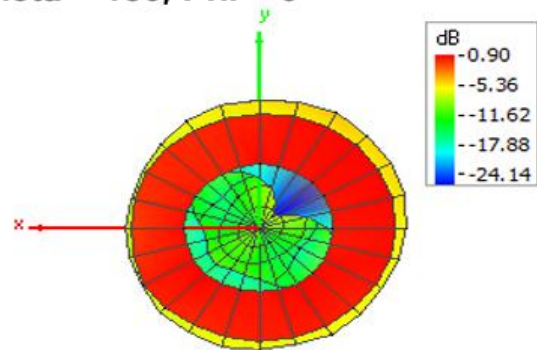
— 2400.000 MHz [dB] — 2450.000 MHz [dB] — 2500.000 MHz [dB]

2400MHz

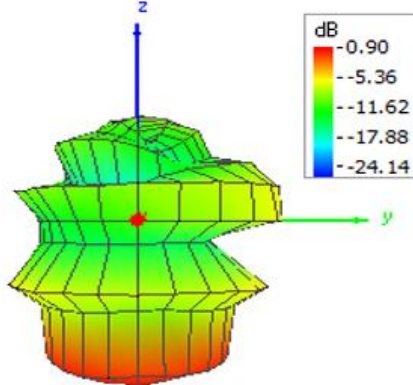
Theta = 0, Phi = 0



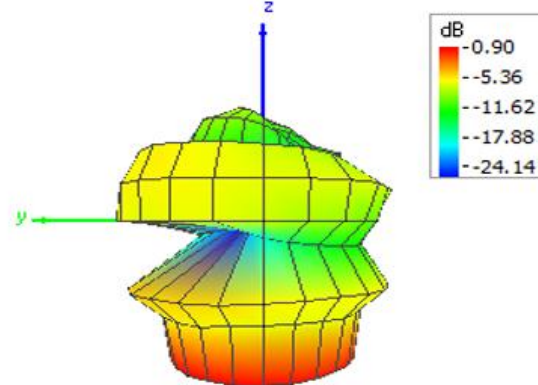
Theta = 180, Phi = 0



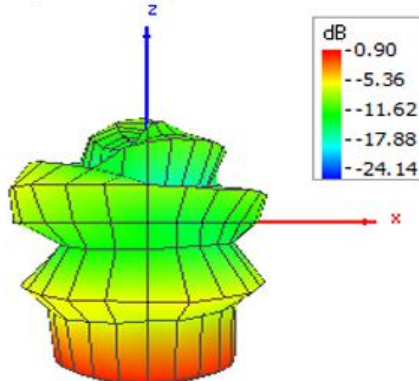
Theta = 90, Phi = 0



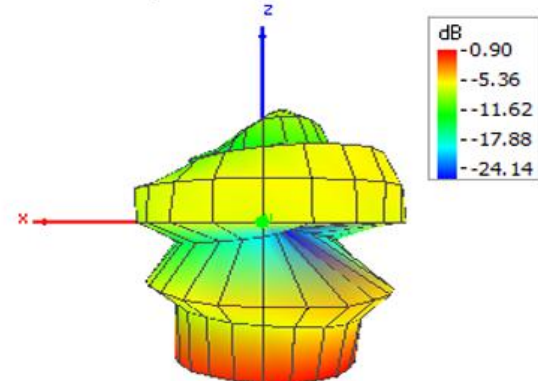
Theta = 90, Phi = 180



Theta = 90, Phi = 270

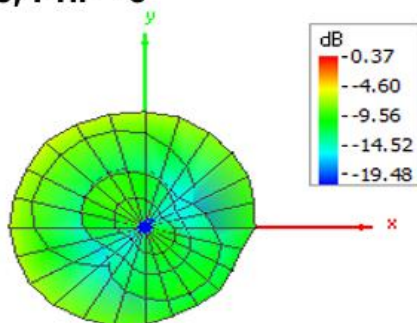


Theta = 90, Phi = 90

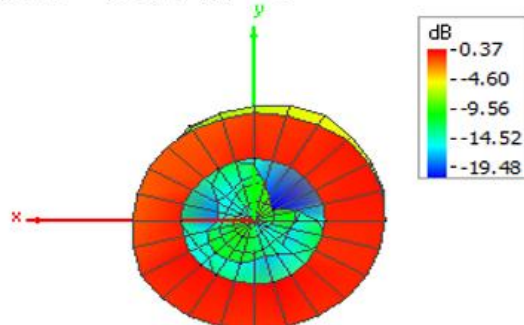


2450MHz

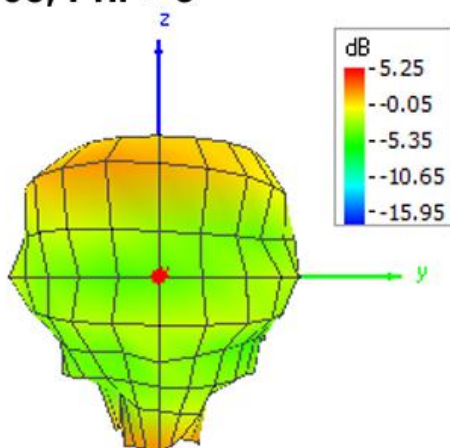
Theta = 0, Phi = 0



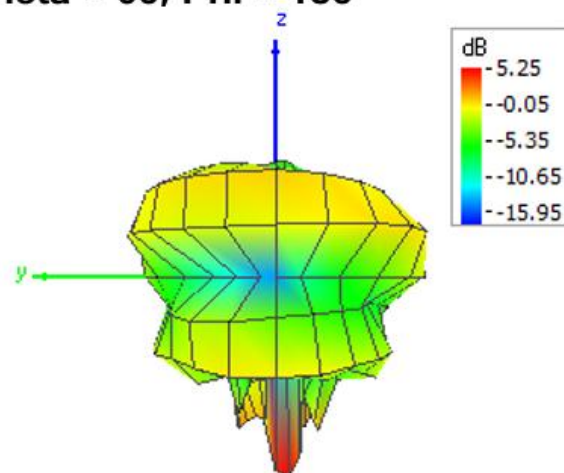
Theta = 180, Phi = 0



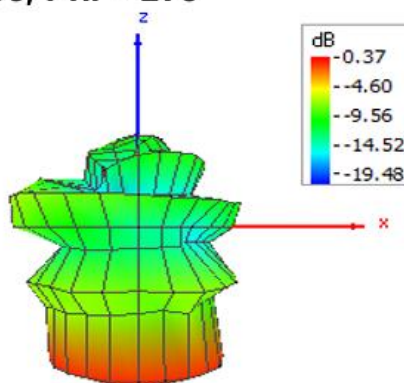
Theta = 90, Phi = 0



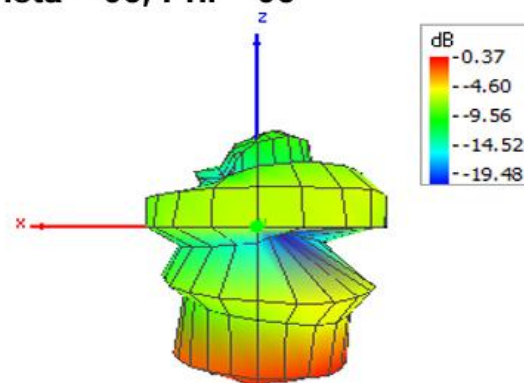
Theta = 90, Phi = 180



Theta = 90, Phi = 270

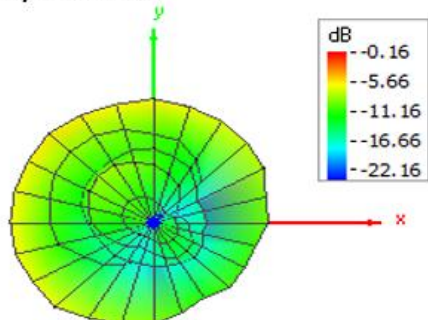


Theta = 90, Phi = 90

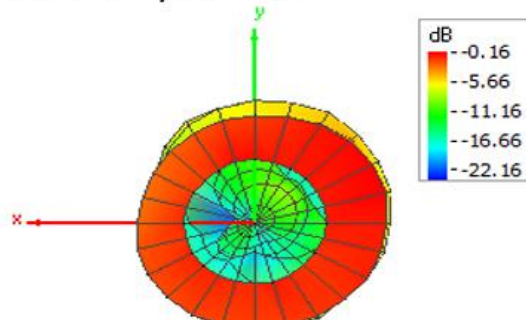


2500MHz

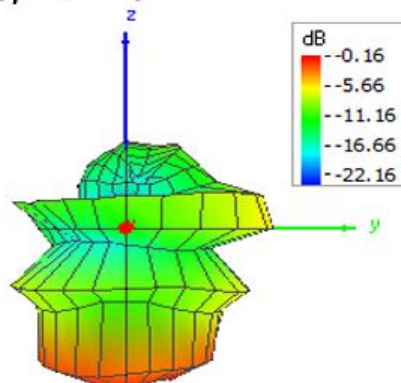
Theta = 0, Phi = 0



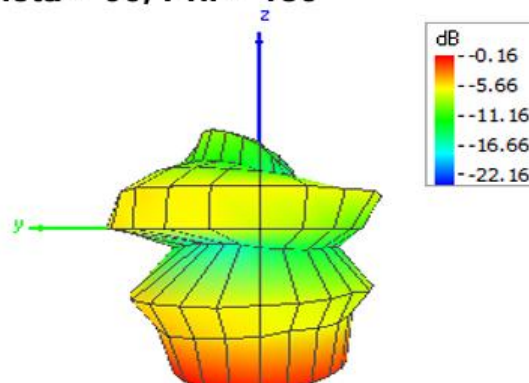
Theta = 180, Phi = 0



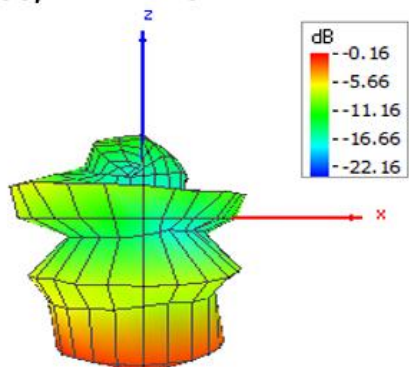
Theta = 90, Phi = 0



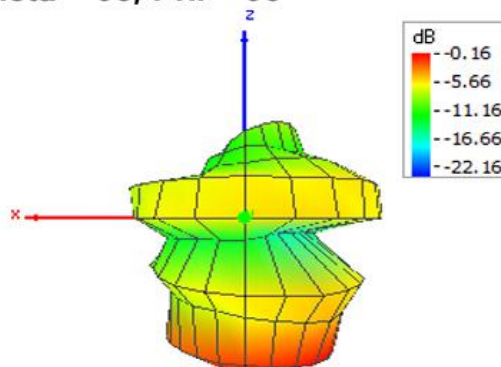
Theta = 90, Phi = 180



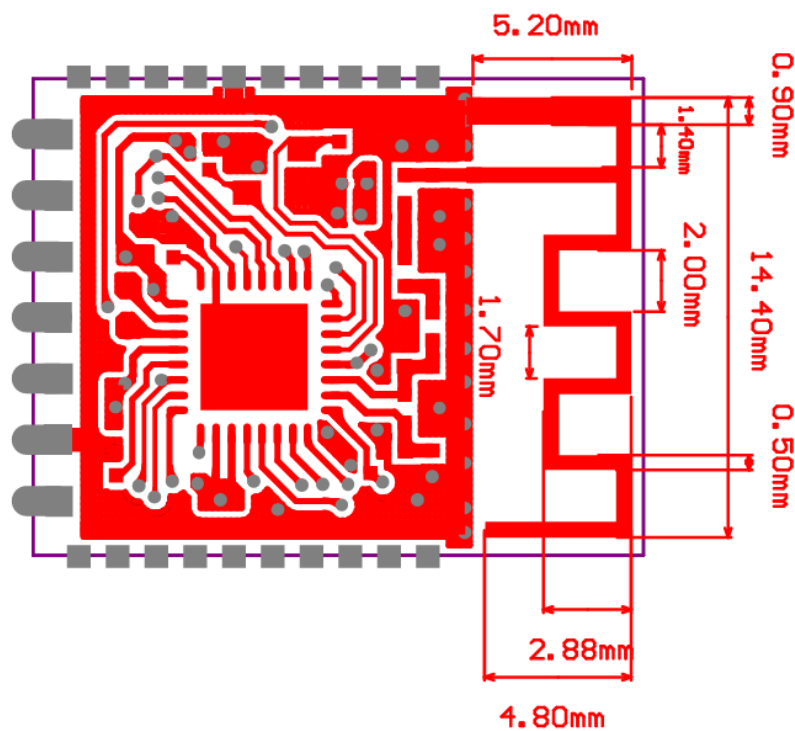
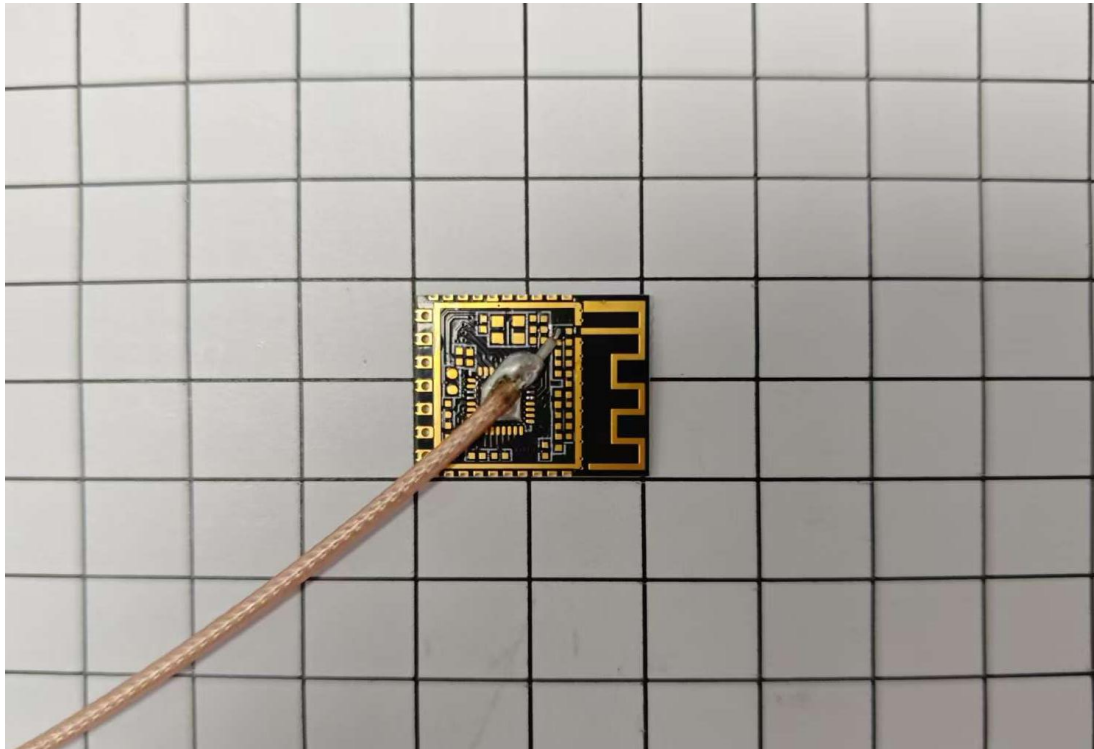
Theta = 90, Phi = 270



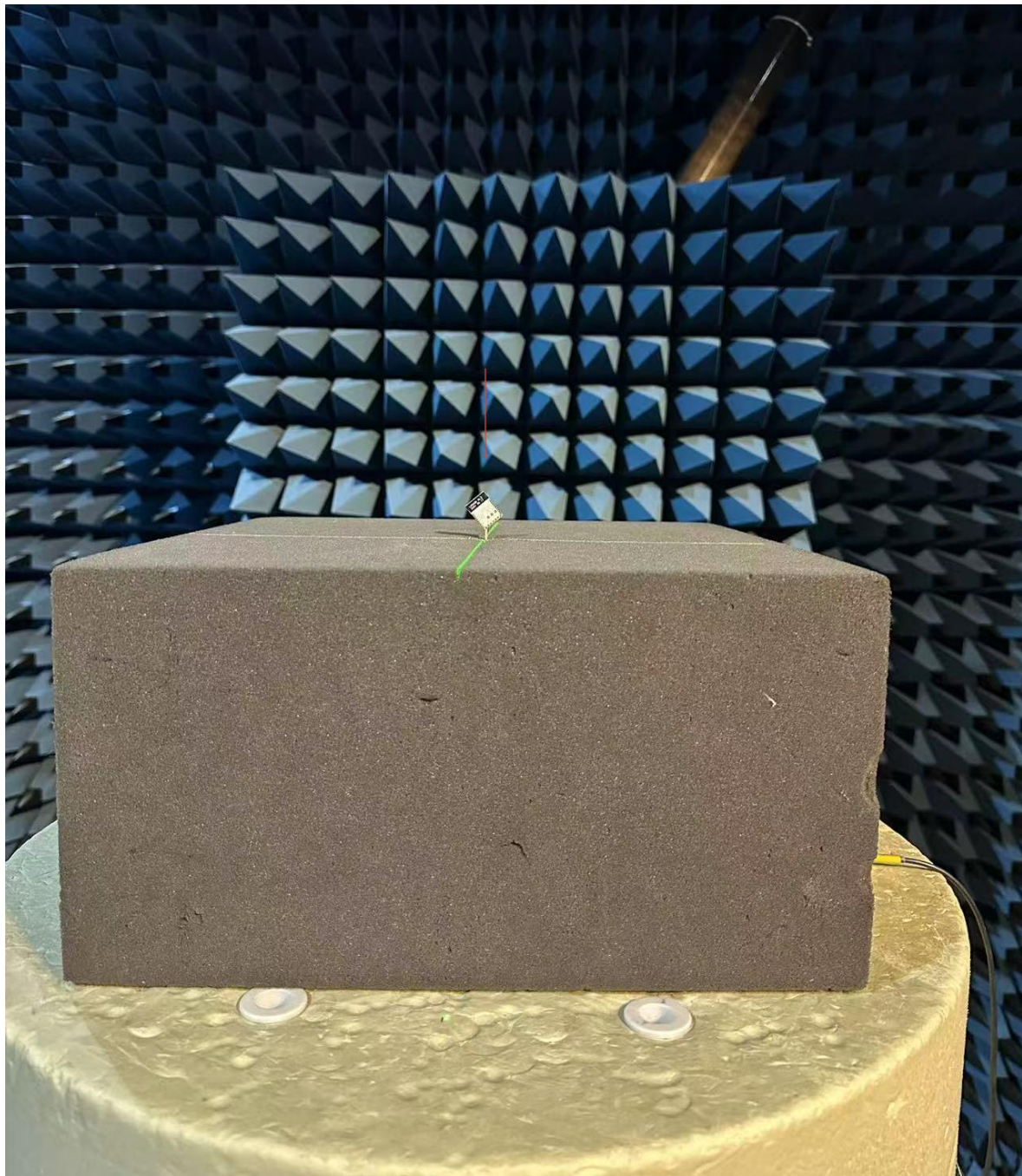
Theta = 90, Phi = 90



Appendix A. EUT Photographs



Appendix B. Testing Setup Photo



Free Space