

TEST REPORT

Applicant: Shenzhenshi Jiuhou Technology Co., Ltd.
Address: Shen zhen shi long hua qu long hua jie dao long
yuan she qu hua yuan xin cun 10 hao zhen xiang lu
80 hao
Equipment Type: PCB Antenna
Model Name: 2.4G ANT
Brand Name: N/A
Test Standard: IEEE Std 149-2021
Sample Arrival Date: May 11, 2026
Test Date: May 15, 2026
Date of Issue: Jun. 04, 2026

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

**Tested by:** Mai Jintian**Checked by:** Xia Long**Approved by:** Tolan Tu

(Testing Director)

Mai Jintian

Xia Long

Tolan Tu

Revision History

Version	Issue Date	Revisions
<u>Rev. 01</u>	<u>Jun. 04, 2026</u>	<u>Initial Issue</u>

TABLE OF CONTENTS

1	GENERAL INFORMATION.....	3
1.1	Test Laboratory	3
1.2	Test Location.....	3
2	PRODUCT INFORMATION	4
2.1	Applicant Information.....	4
2.2	Manufacturer Information	4
2.3	General Description for Equipment under Test (EUT)	4
2.4	Ancillary Equipment.....	4
2.5	Technical Information	4
3	SUMMARY OF TEST RESULTS	5
3.1	Test Standards.....	5
3.2	Test Verdict	5
3.3	Test Uncertainty	5
4	GENERAL TEST CONFIGURATIONS	6
4.1	Test Condition	6
4.2	Test Equipment List.....	6
4.3	Test Setup.....	7
4.4	Test Frequencies.....	7
ANNEX A	TEST RESULTS.....	8
A.1	Gain and Efficiency	8
A.2	VSWR and Input Impedance	10
ANNEX B	RADIATION PATTERN	11
ANNEX C	TEST SETUP PHOTO	14
ANNEX D	EUT PHOTO	15

1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shenzhen BALUN Technology Co., Ltd.
Address	Building 2, Intelligent Connected Vehicle Industrial Park, No. 55, Xiangshan Road, Luotian Community, Yanluo Sub-district, Bao'an District, Shenzhen, Guangdong Province, China
Phone Number	+86 755 6685 0100

1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
Location	☐ 1/F, Building B, Ganghongji High-tech Intelligent Industrial Park, No. 1008, Songbai Road, Yangguang Community, Xili Sub-district, Nanshan District, Shenzhen, Guangdong Province, P. R. China
	☒ Building 2, Intelligent Connected Vehicle Industrial Park, No. 55, Xiangshan Road, Luotian Community, Yanluo Sub-district, Shenzhen, Guangdong Province, P. R. China

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Shenzhenshi Jiuhou Technology Co., Ltd.
Address	Shen zhen shi long hua qu long hua jie dao long yuan she qu hua yuan xin cun 10 hao zhen xiang lu 80 hao
Contact Person	Liu Hua
Telephone Number	13728223375
Fax Number	Roy.liu@gdest.cn

2.2 Manufacturer Information

Manufacturer	N/A
Address	N/A

2.3 General Description for Equipment under Test (EUT)

EUT Name	PCB Antenna
Model Name Under Test	2.4G ANT
Antenna Type	PCB Antenna
Dimensions	15*7 mm

2.4 Ancillary Equipment

Note: Not applicable.

2.5 Technical Information

Frequency Range	2400MHz ~ 2500MHz
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3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	IEEE Std 149-2021	IEEE Standard Test Procedures for Antennas

3.2 Test Verdict

Report Section	Description	Remark
ANNEX A.1	Gain and Efficiency	--
ANNEX A.2	VSWR and Input impedance	--
ANNEX B	Radiation Pattern	--

3.3 Test Uncertainty

The uncertainty is calculated using the methods suggested in the "Guide to the Expression of Uncertainty in Measurement" (GUM) published by ISO.

Item	Uncertainty
VSWR(S11)	± 0.61
Gain	$\pm 1.92\text{dB}$

4 GENERAL TEST CONFIGURATIONS

4.1 Test Condition

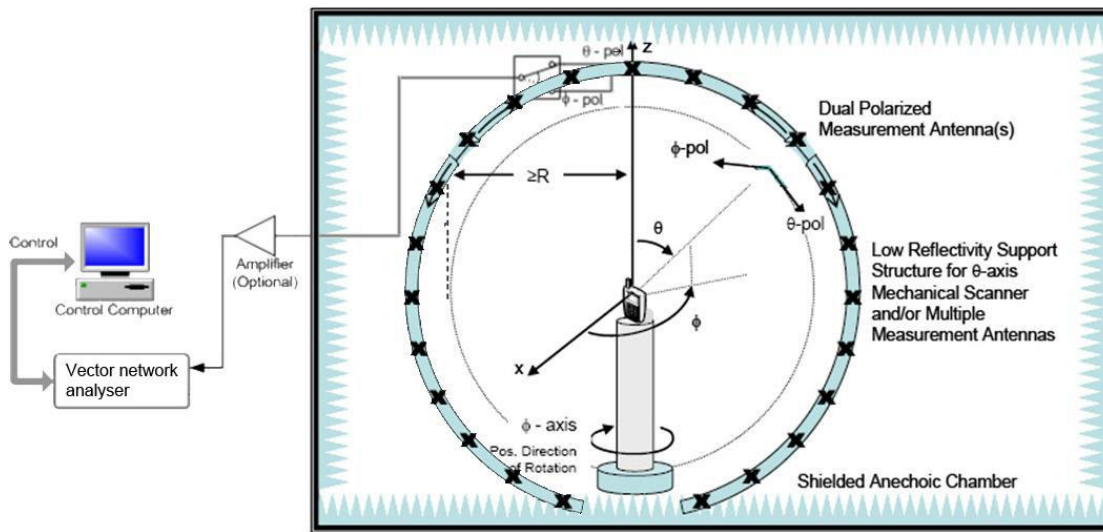
Environment Parameter	Selected Values During Tests			
	Ambient Pressure(KPa)	Temperature(°C)	Voltage	Relative Humidity (%)
Normal Temperature, Normal Voltage (NTNV)	101	21.9	N/A	48

4.2 Test Equipment List

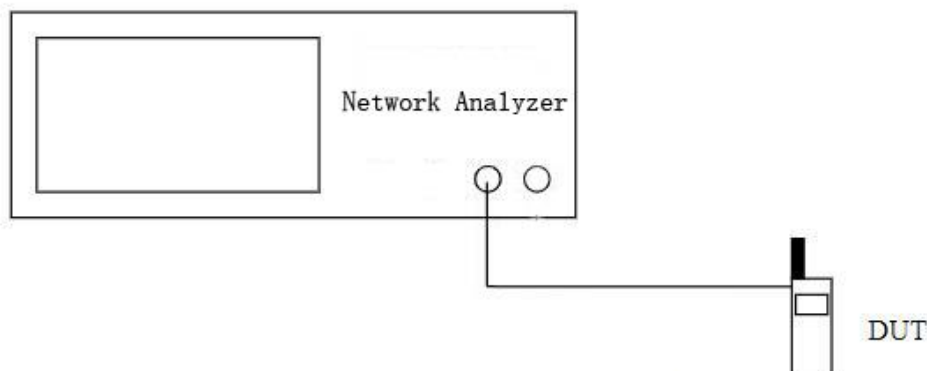
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
SG24 Multi-probe Antenna Measurement System	SATIMO	SG24-L	1101855- 0001	2025.11.03	2028.11.02
Vector Network Analyzer	Agilent	E5071B	MY42404001	2025.12.22	2026.12.21
Description	Manufacturer	Name		Version	
Test Software	MVG	SPM		V 1.8	

4.3 Test Setup

4.3.1 Antenna gain, efficiency and radiation pattern test setup



4.3.2 S11 parameter test setup



4.4 Test Frequencies

Test Frequencies	2400MHz, 2402MHz, 2404MHz, 2406MHz, 2408MHz, 2410MHz, 2412MHz, 2414MHz, 2416MHz, 2418MHz, 2420MHz, 2422MHz, 2424MHz, 2426MHz, 2428MHz, 2430MHz, 2432MHz, 2434MHz, 2436MHz, 2438MHz, 2440MHz, 2442MHz, 2444MHz, 2446MHz, 2448MHz, 2450MHz, 2452MHz, 2454MHz, 2456MHz, 2458MHz 2460MHz, 2462MHz, 2464MHz, 2466MHz, 2468MHz, 2470MHz 2472MHz, 2474MHz, 2476MHz, 2478MHz, 2480MHz, 2482MHz 2484MHz, 2486MHz, 2488MHz, 2490MHz, 2492MHz, 2494MHz 2496MHz, 2498MHz, 2500MHz
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ANNEX A TEST RESULTS

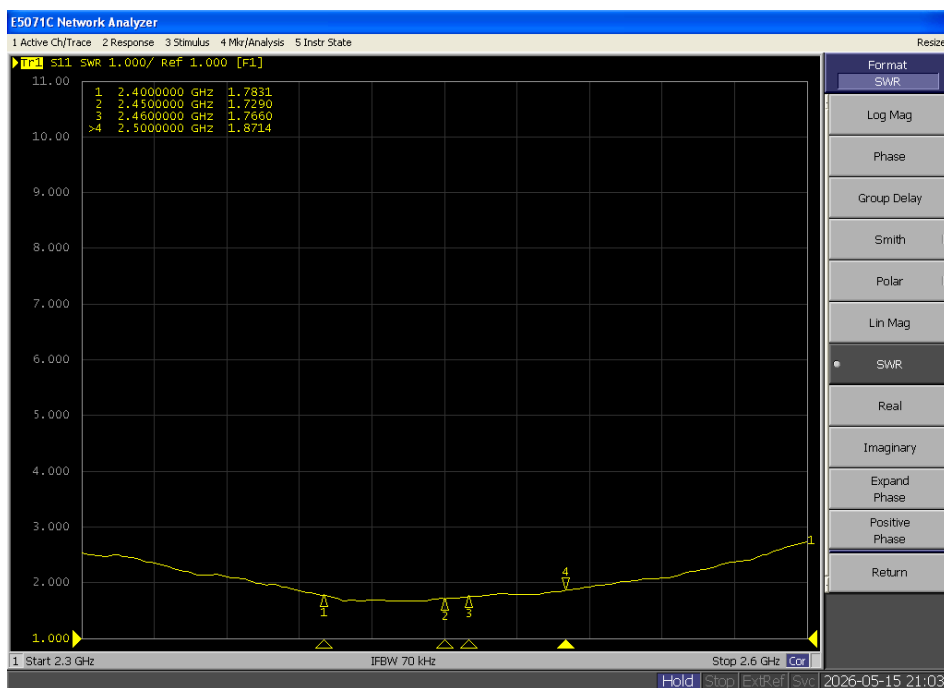
A.1 Gain and Efficiency

Frequency	Gain (dBi)	Efficiency (%)
2400MHz	5.35	58%
2402MHz	5.40	58%
2404MHz	5.43	58%
2406MHz	5.46	57%
2408MHz	5.51	57%
2410MHz	5.55	57%
2412MHz	5.59	57%
2414MHz	5.64	57%
2416MHz	5.71	57%
2418MHz	5.77	57%
2420MHz	5.80	57%
2422MHz	5.80	57%
2424MHz	5.81	58%
2426MHz	5.83	58%
2428MHz	5.84	58%
2430MHz	5.85	58%
2432MHz	5.81	58%
2434MHz	5.77	58%
2436MHz	5.73	58%
2438MHz	5.68	58%
2440MHz	5.63	58%
2442MHz	5.63	58%
2444MHz	5.64	58%
2446MHz	5.64	58%
2448MHz	5.63	58%
2450MHz	5.64	58%
2452MHz	5.72	58%
2454MHz	5.78	58%
2456MHz	5.84	58%
2458MHz	5.91	58%
2460MHz	5.98	58%
2462MHz	6.01	58%
2464MHz	6.04	58%
2466MHz	6.09	58%
2468MHz	6.13	58%
2470MHz	6.16	58%
2472MHz	6.12	58%
2474MHz	6.11	58%

2476MHz	6.10	57%
2478MHz	6.07	57%
2480MHz	6.00	56%
2482MHz	5.94	56%
2484MHz	5.90	56%
2486MHz	5.84	56%
2488MHz	5.76	55%
2490MHz	5.70	55%
2492MHz	5.67	55%
2494MHz	5.63	55%
2496MHz	5.59	54%
2498MHz	5.56	54%
2500MHz	5.53	54%

A.2 VSWR and Input Impedance

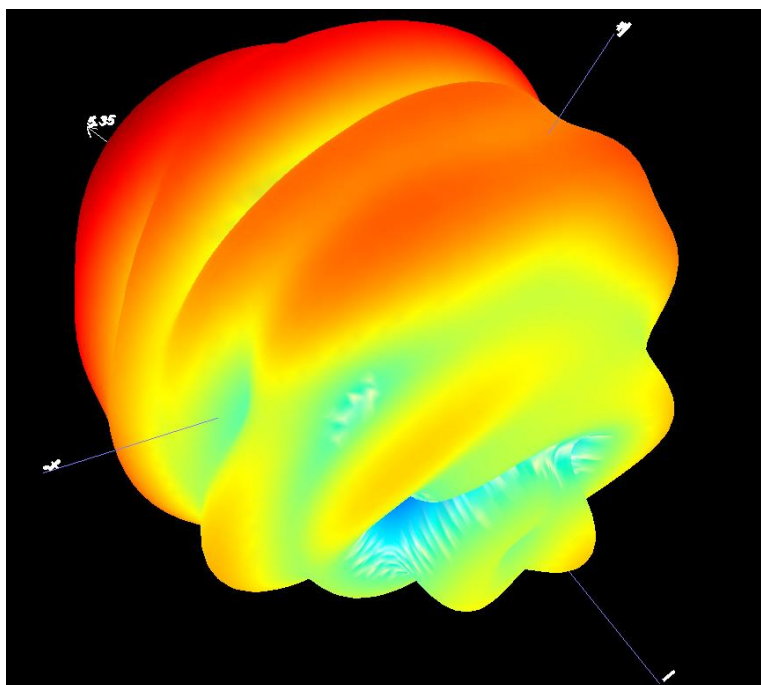
Frequency	VSWR
2400MHz	1.78
2450MHz	1.73
2460MHz	1.77
2500MHz	1.87



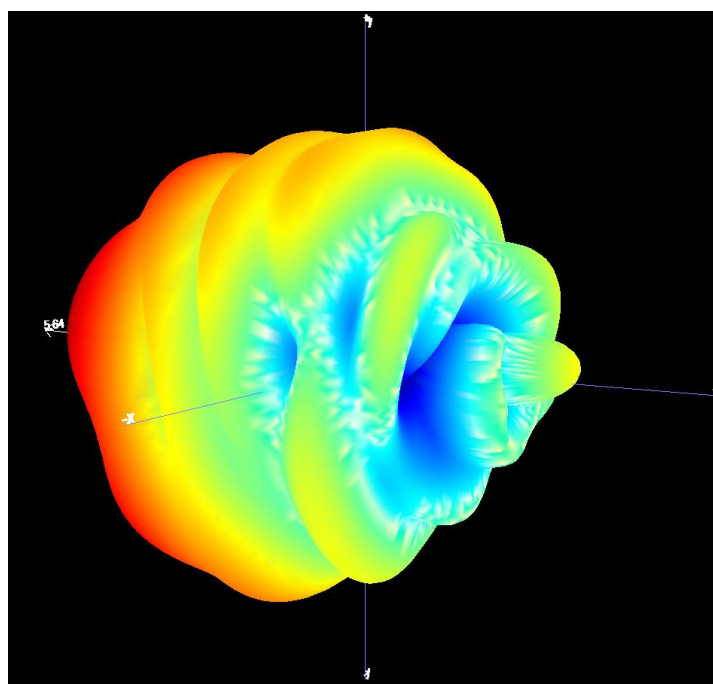
ANNEX B RADIATION PATTERN

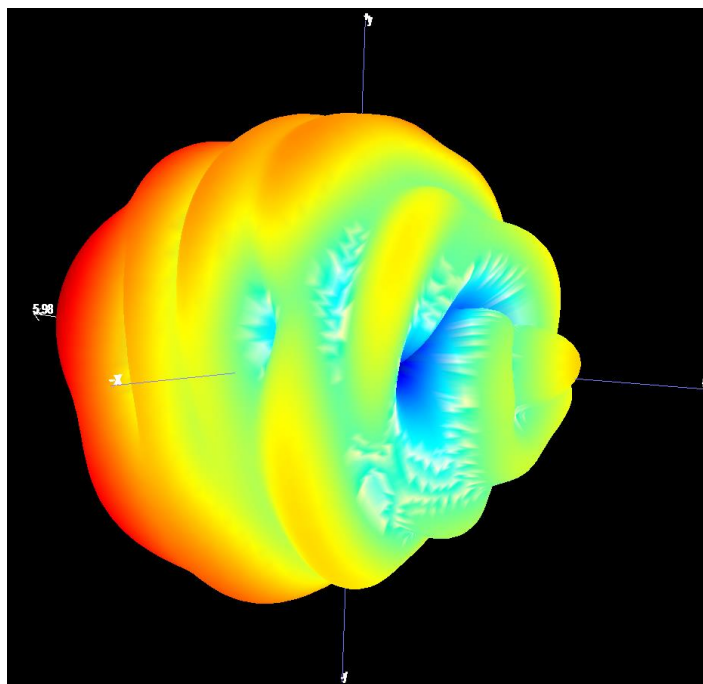
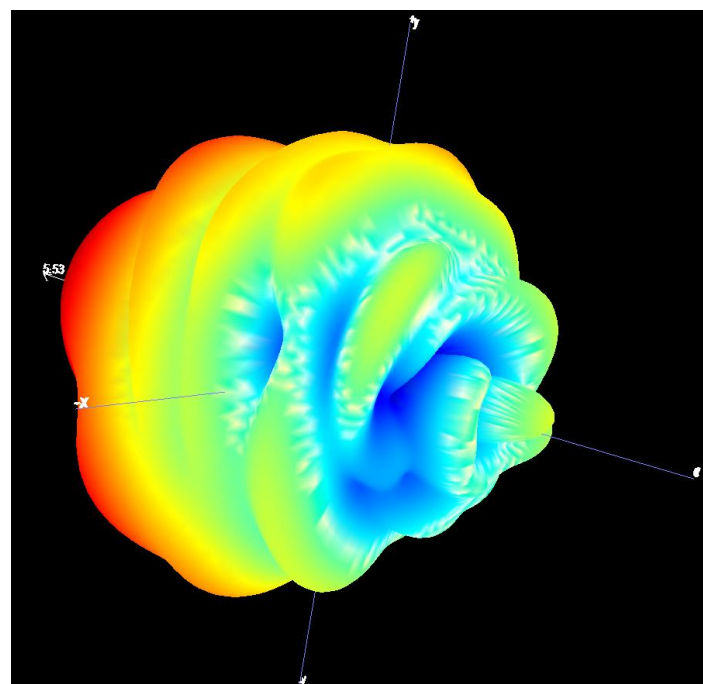
B.1 3D Pattern

B1.1 3D Pattern for 2400MHz



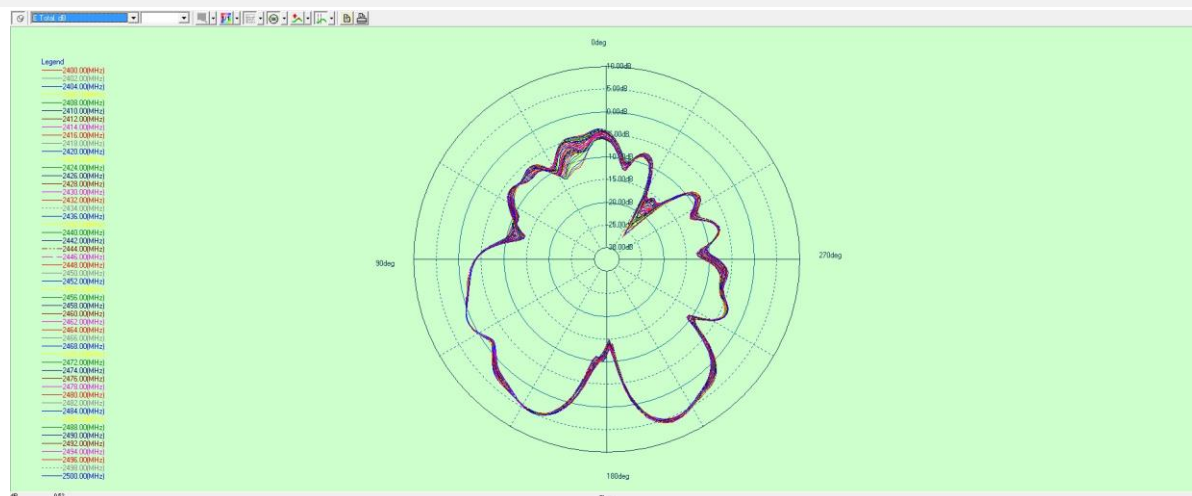
B1.2 3D Pattern for 2450MHz



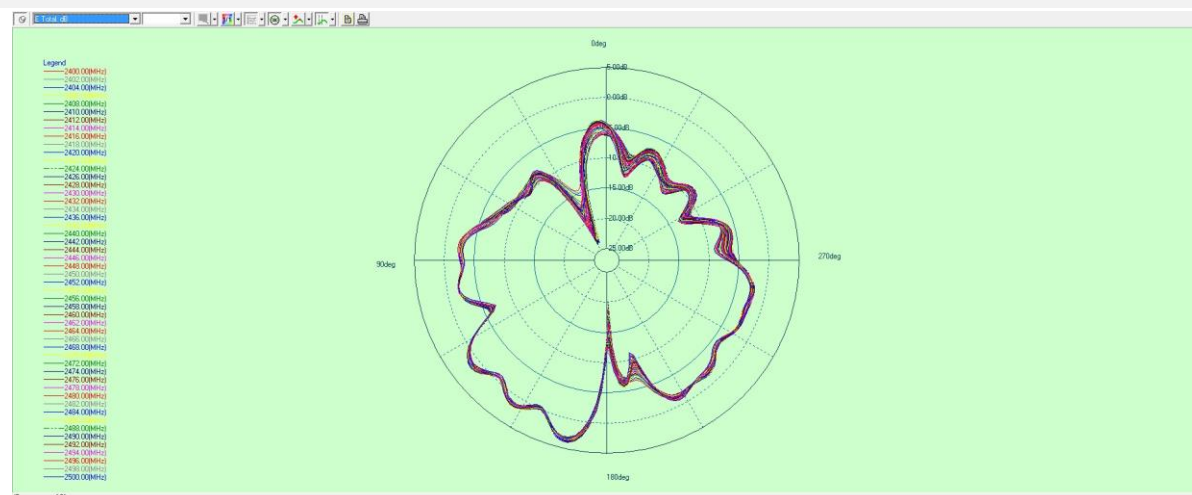
B1.3 3D Pattern for 2460MHz**B1.4** 3D Pattern for 2500MHz

B.2 1D Radiation Pattern

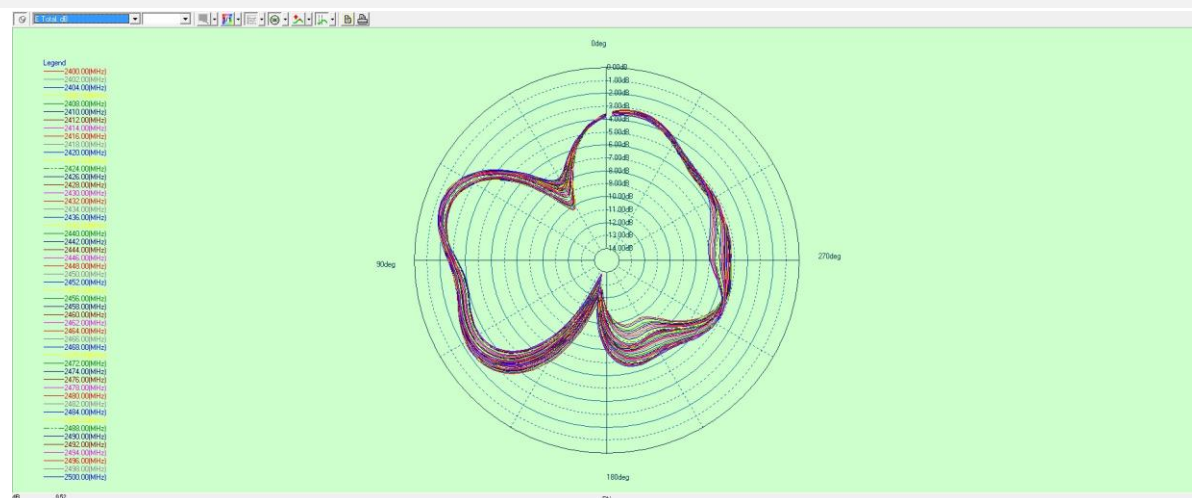
B2.1 PHI=0



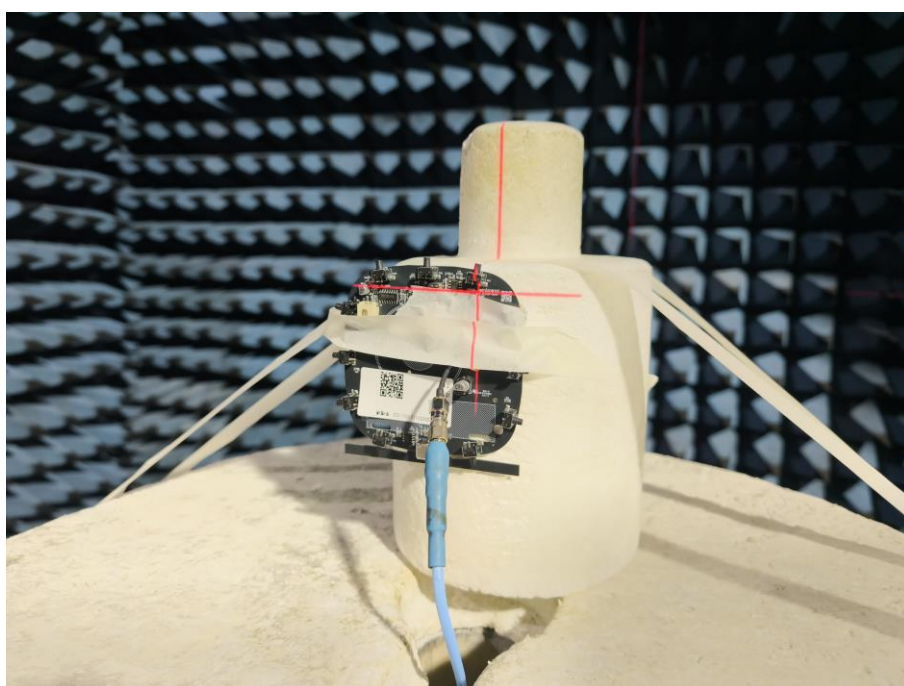
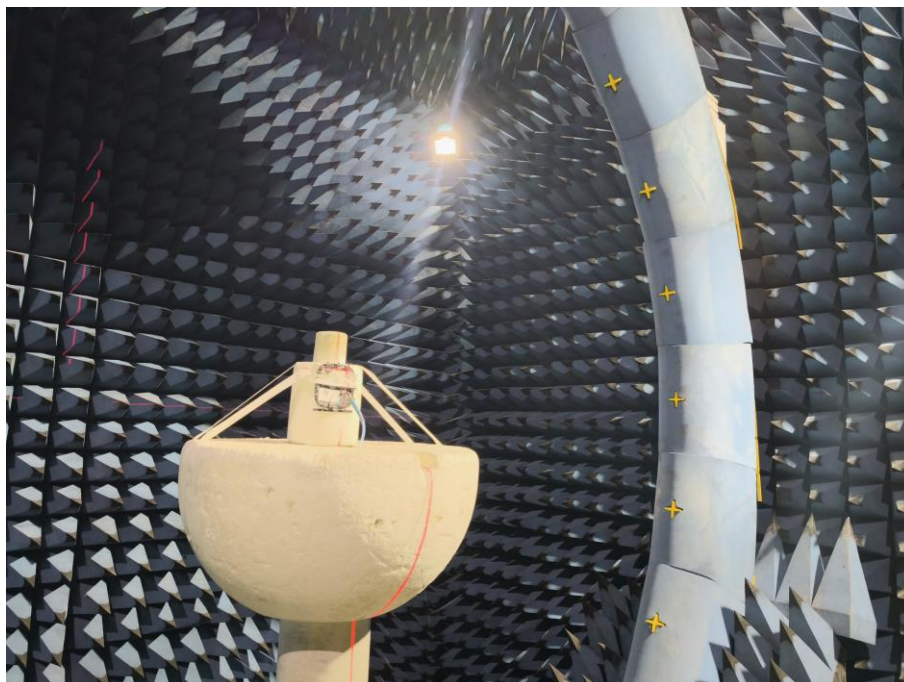
B2.2 PHI=90



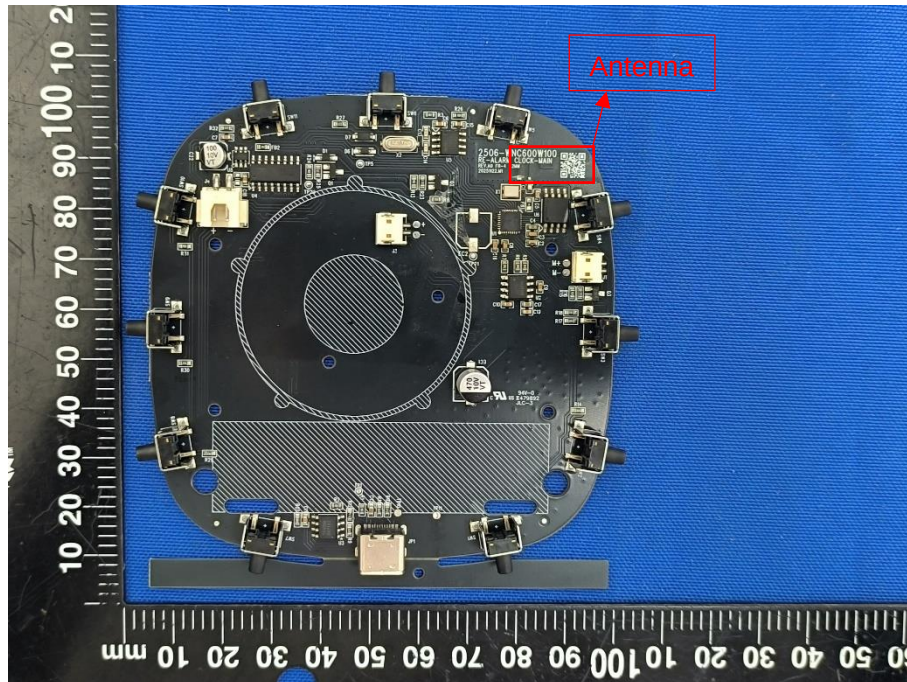
B2.3 THETA=90



ANNEX C TEST SETUP PHOTO



ANNEX D EUT PHOTO



Statement

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7. Any objection shall be raised to the laboratory within 30 days after receiving the report.

--END OF REPORT--