



REPORT No.: SZ25060128E01

TEST REPORT

APPLICANT : GP Electronics (SZ) Limited

PRODUCT NAME : On-board Chip Antenna of Bluetooth QCC3024 Module

MODEL NAME : Walsin RFANT3216120A1T

TRADE NAME : N/A

BRAND NAME : N/A

STANDARD(S) : IEEE Std 149-2021

RECEIPT DATE : 2025-06-11

TEST DATE : 2025-06-11

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MORLAB

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Change History		
Version	Date	Reason for change
1.0	2025-06-16	First edition

1. Technical Information

Note: Provide by applicant.

1.1. Applicant and Manufacturer Information

Applicant:	GP Electronics (SZ) Limited
Applicant Address:	15/F, T1 Building, Shumyip Upperhills, No.5001 Huanggang RD, Futian District, Shenzhen, Guangdong, China (Postal Code: 518038)
Manufacturer:	GP Electronics (Huizhou) Co., Ltd
Manufacturer Address:	(BOSSMING Technology Park) No.3, Xing Ping East Road, Dong Jiang Science & Technology Park, Zhong Kai Hi-Tech Industrial Development Zone, Huizhou, Guangdong, PRC. Post Code: 516255.
Factory:	N/A
Factory Address:	N/A

1.2. Equipment Under Test (EUT) Description

Wireless Type	Bluetooth
Frequency	2400MHz-2500MHz
IMEI	N/A
Sample No.	1#

Dimensions:

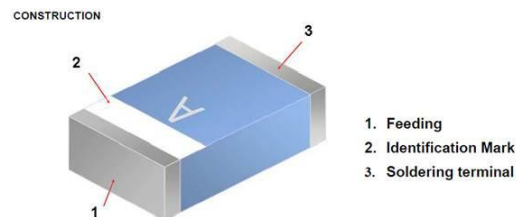
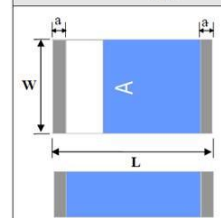


Figure	Symbol	Dimension (mm)
	L	3.20 ± 0.20
	W	1.60 ± 0.10
	T	1.20 ± 0.10
	a	0.25 ± 0.15



2. Test Results

2.1. Applied Reference Documents

Leading reference documents for testing:

No.	Identity	Document Title
1	IEEE Std 149-2021	IEEE Recommended Practice for Antenna Measurements

Notes: Any additions, deviation, or exclusions from the method shall be noted in the "Remark".

2.2. Test Conditions

Test Environment Conditions:

Relative Humidity(%):	25 - 75
Temperature(°C):	10 - 30

2.3. Measurement Uncertainty

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

2.4. Test Results lists

2.4.1. Gain

Frequency (MHz)	Gain(dBi)
2400	-9.04
2410	-8.83
2420	-8.87
2430	-9.04
2440	-9.14
2450	-9.17
2460	-9.28
2470	-9.55
2480	-9.92
2490	-10.50
2500	-10.82

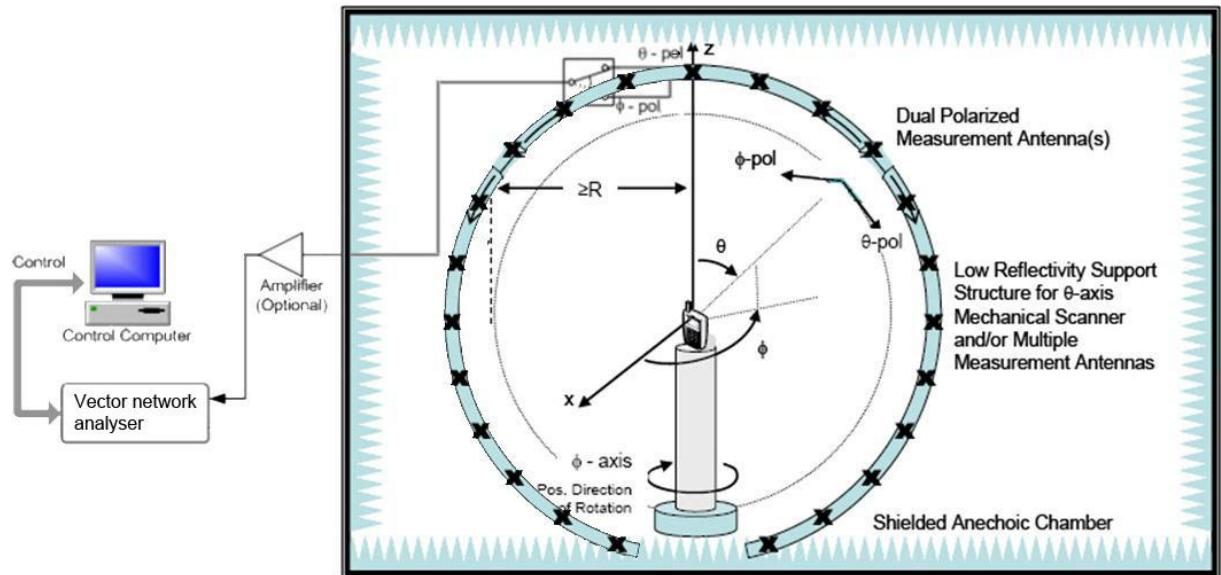
2.4.2. Return Loss

Frequency (MHz)	Return Loss(dB)
2400	-2.66
2450	-2.84
2500	-2.72

2.4.3. VSWR

Frequency (MHz)	VSWR
2400	6.58
2450	6.15
2500	6.42

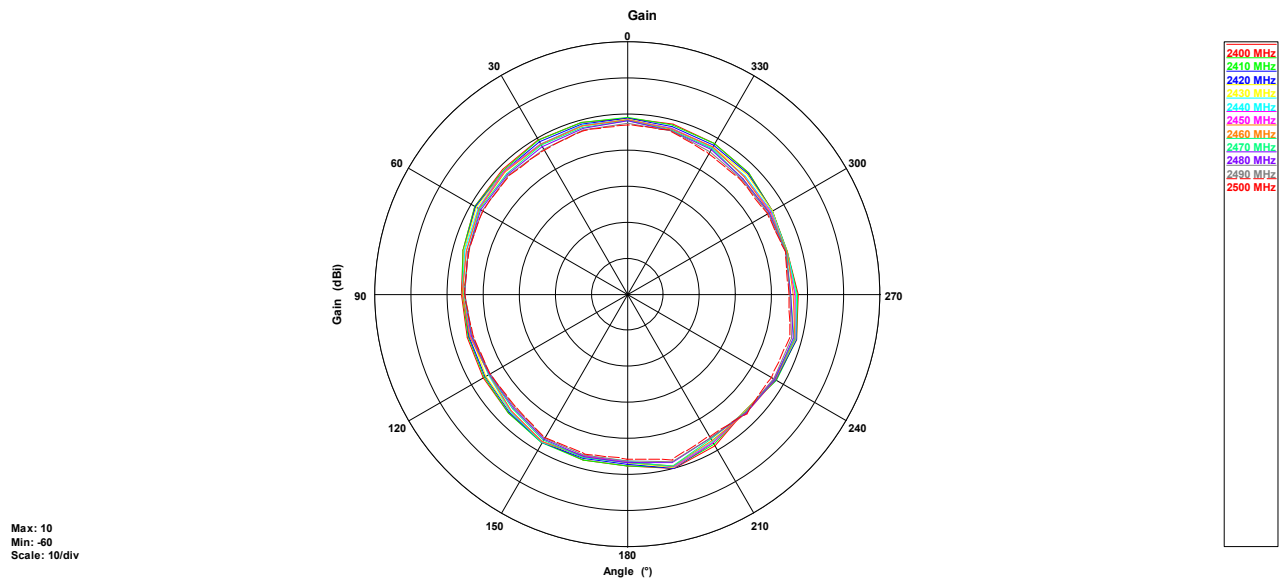
Annex A Test Setup Photos



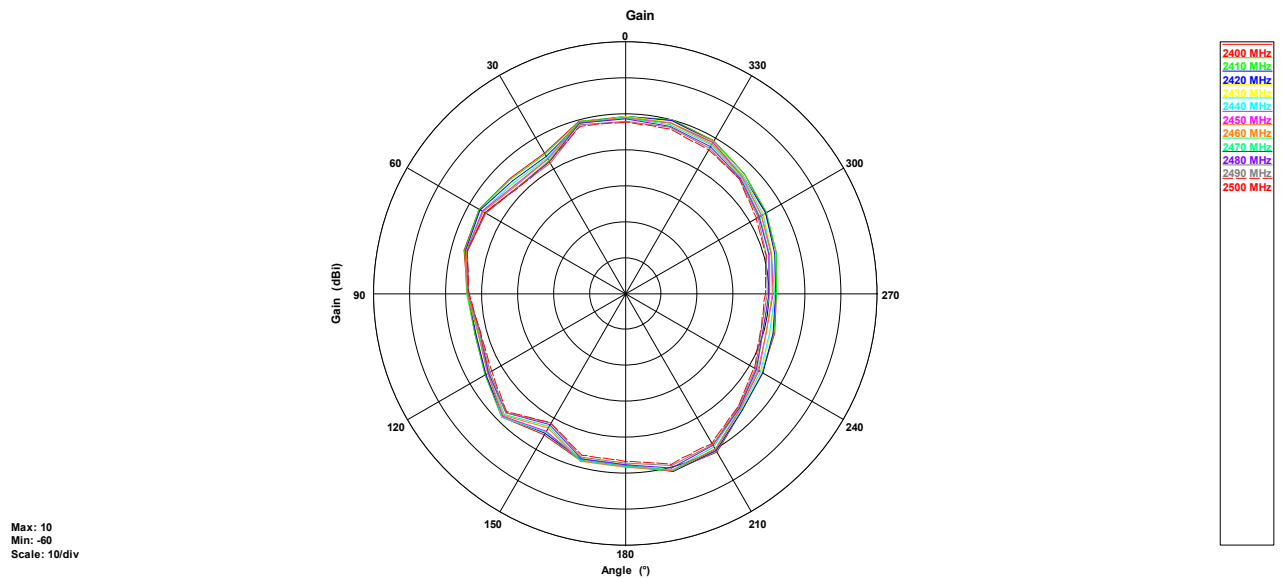


Annex B Figures

1. 2D Radiation Pattern



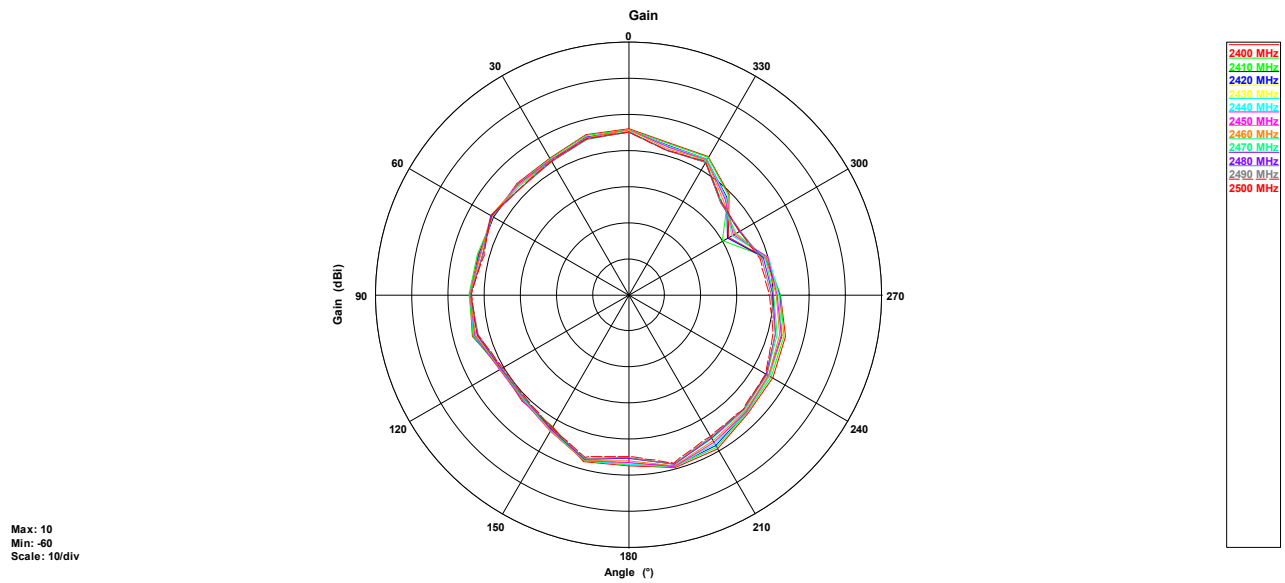
Phi=0°



Phi=90°

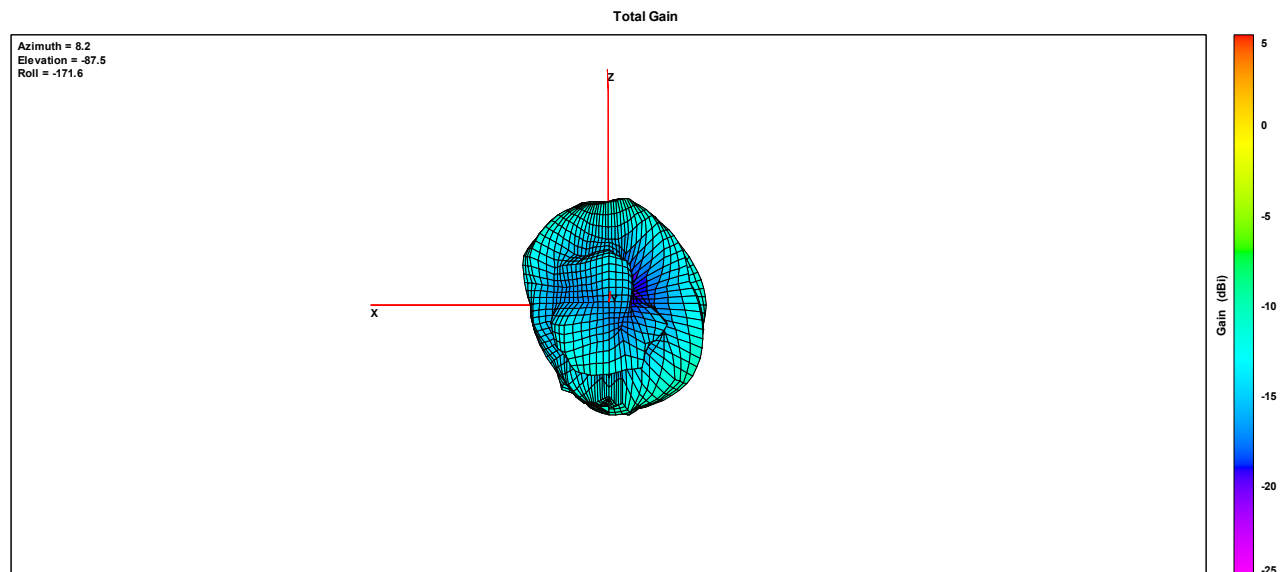


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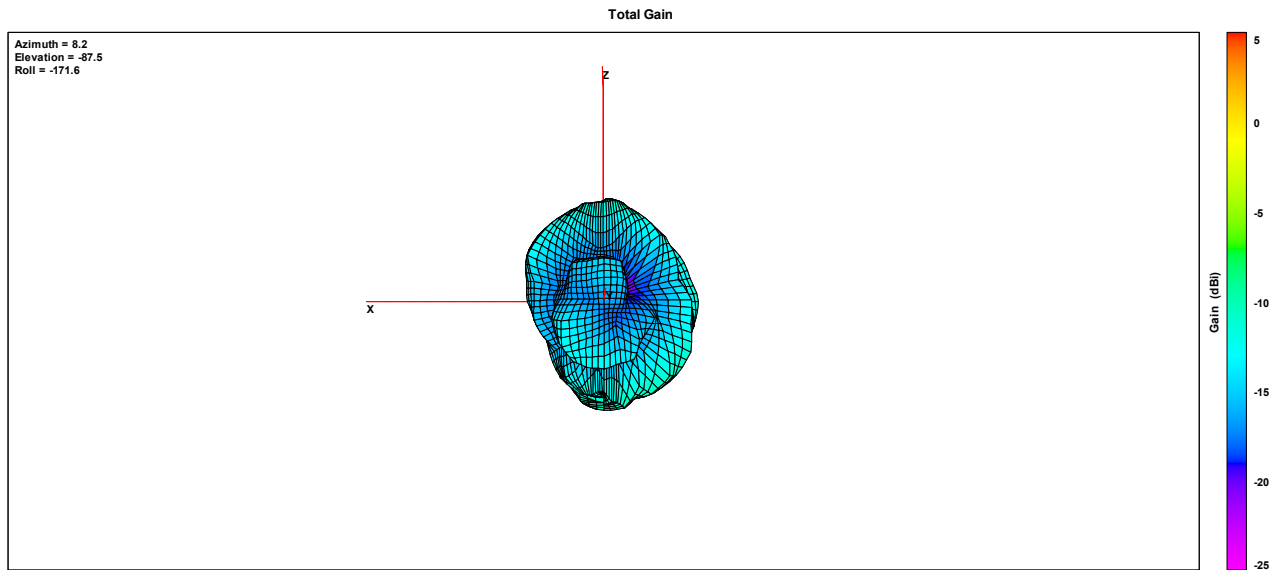


Theta=90°

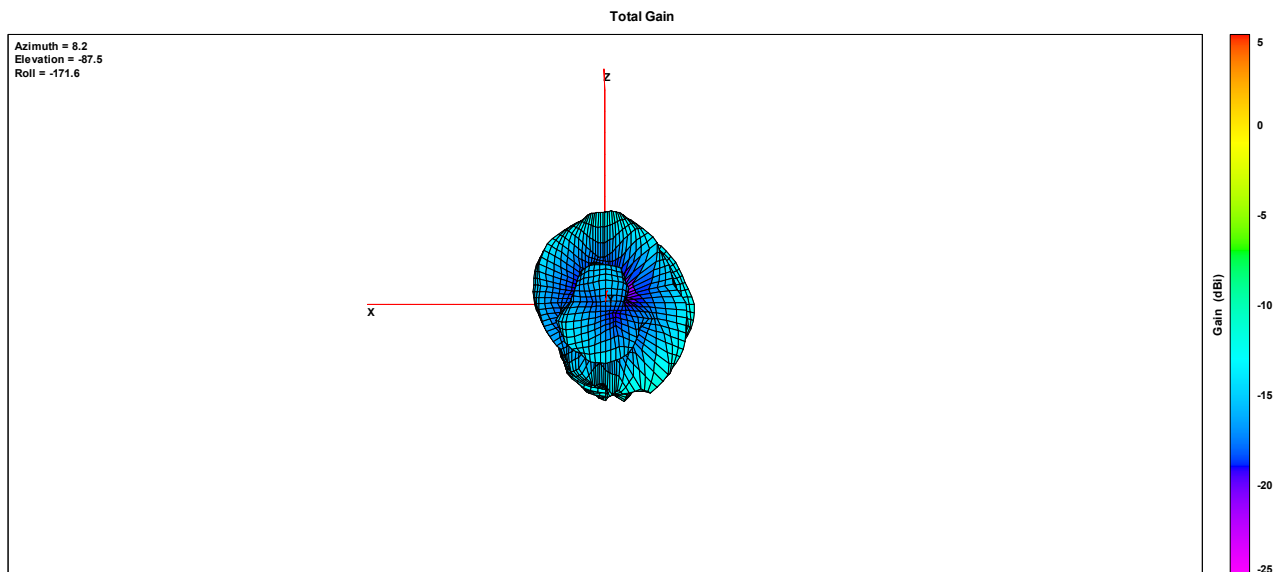
2. 3D Radiation Pattern



2400MHz



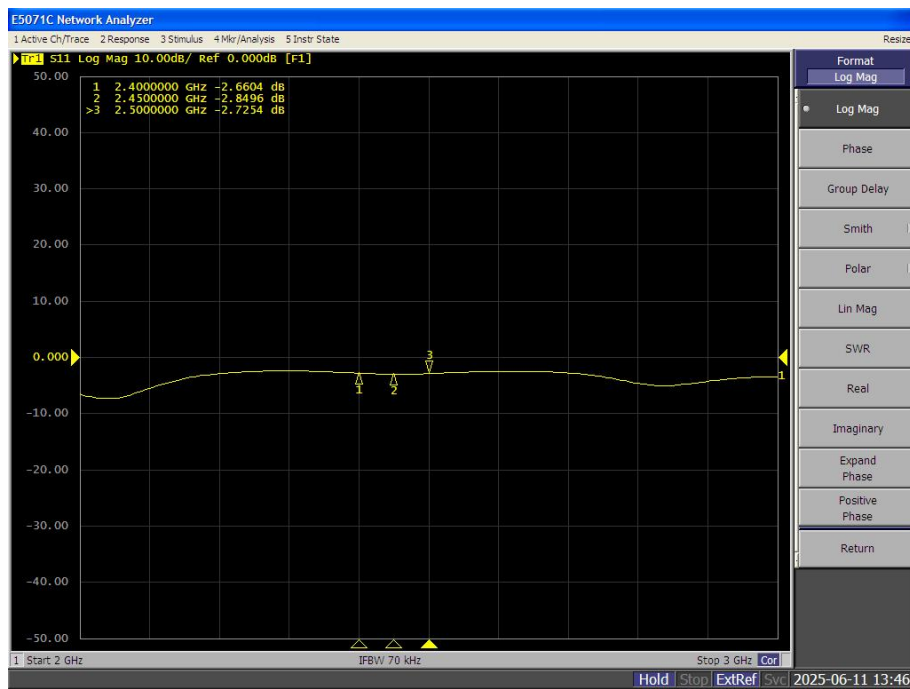
2450MHz



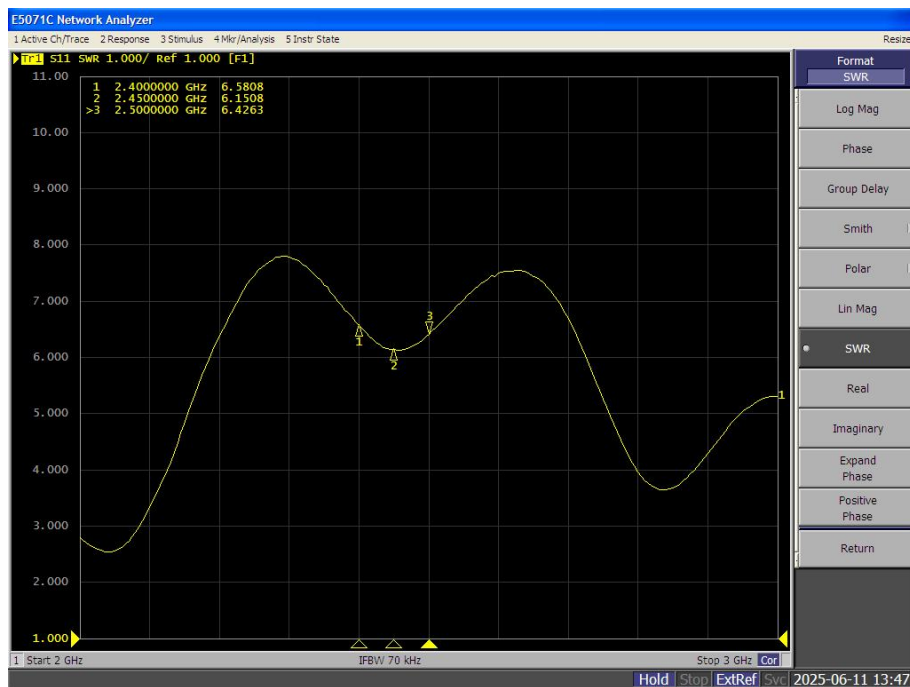
2500MHz



3. Return Loss

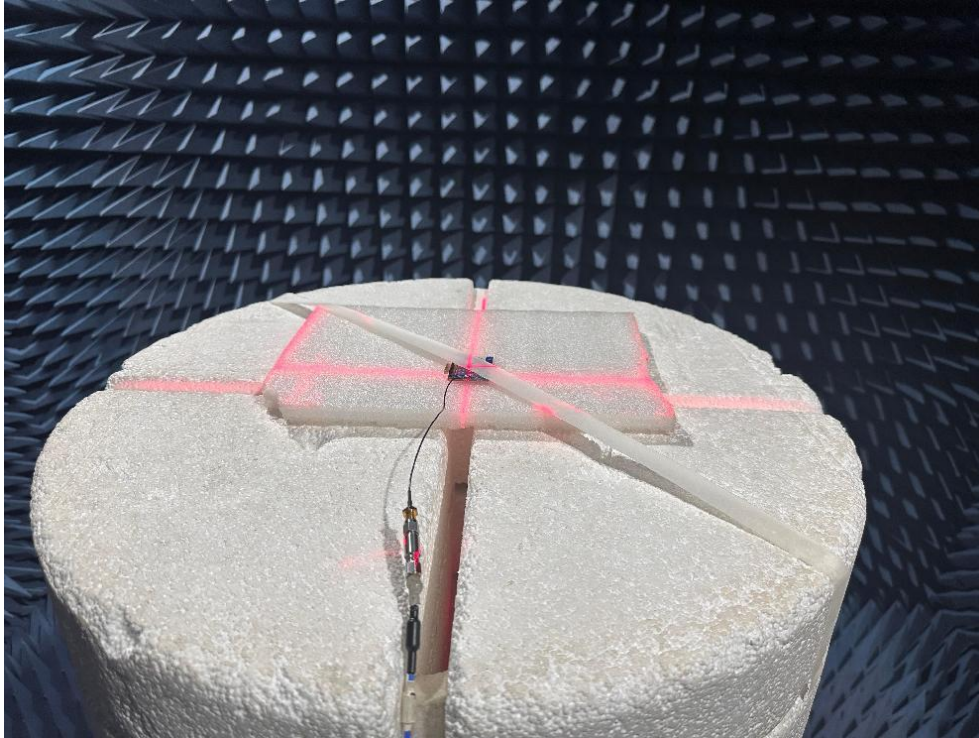


4. VSWR



Annex C EUT Photos

1. Test environment





Annex D General Information

1.1 Identification of the Responsible Testing Laboratory

Laboratory Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Laboratory Address:	FL.1-3, Building A, FeiYang Science Park, No.8 LongChang Road, Block67, BaoAn District, ShenZhen , Guangdong Province, P. R. China
Telephone:	+86 755 36698555
Facsimile:	+86 755 36698525

1.2 Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Address:	FL.1-3, Building A, FeiYang Science Park, No.8 LongChang Road, Block67, BaoAn District, ShenZhen , Guangdong Province, P. R. China

1.3 Test Equipments Utilized

No.	Equipment Name	Serial No.	Type	Manufacturer	Cal.Date	Cal.Due Date
1	Network Analyzer	MY46110140	E5071C	Agilent	2025.05.13	2026.05.12
2	OTA Chamber	TJ2235-Q1793	AMS-8923 -150	ETS	2022.11.30	2025.11.29

1.4 Test Software Utilized

No.	Software Name	Serial No.	Version	Manufacturer
1	Antenna Measurement System	1685	EMQuest EMQ-100 V 1.13 Build 21267	ETS

————— END OF REPORT —————