



WHA YU INDUSTRIAL CO., LTD.(HEAD OFFICE)

DONGGUAN AEON TECH CO.,LTD.(CHINA)

SPECIFICATION FOR APPROVAL

CUSTOMER: 金山電子

PART NAME: FPC Dipole Antenna (Tri-band)

PART NO.: 2107-1901+0

REVISION:

W. Y. P/NO.: C4207-810026-A(SSR-2400183)

REV.: X1

	MANUFACTURER SIGNATURE	CUSTOMER SIGNATURE
APPROVED BY :		
DATE :		

WHA YU GROUP

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FPC Dipole Antenna (Tri-band)

Specification

1. Electrical Properties : (Without Housing)

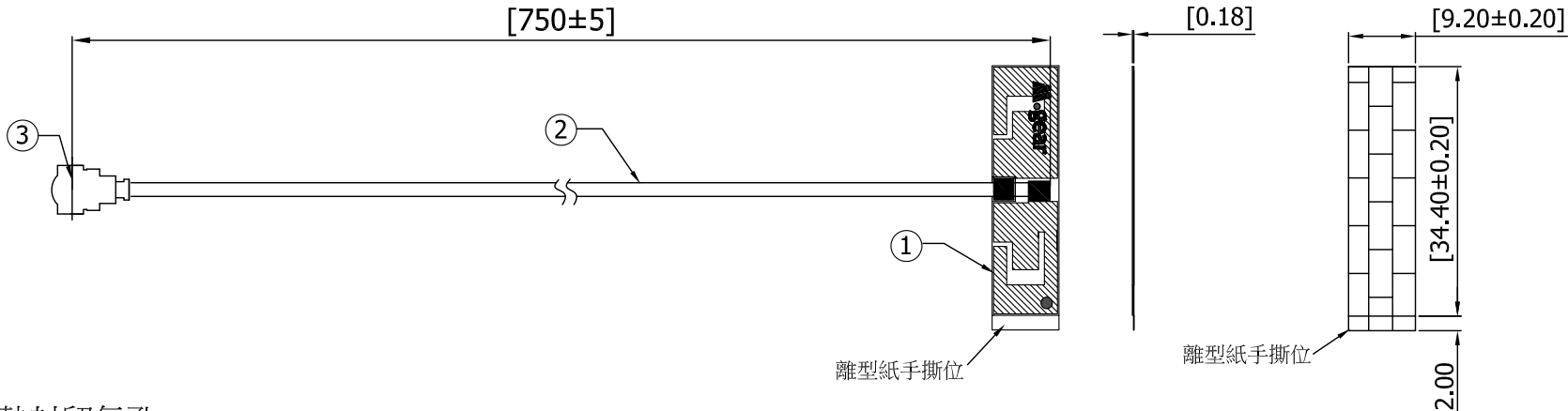
1.1 Frequency Range.....	2600~2800/5150~7125 MHz
1.2 Impedance	50Ω Nominal
1.3 VSWR	2.0:1 Max.
1.4 Return Loss.....	9.54 dB Min.
1.6 Radiation	Omni-directional
1.7 Polarization.....	Linear
1.8 Cable.....	1.13mm Low Loss Cable
1.9 Connector.....	I-PEX MHF Connector
1.10 Antenna Type.....	FPC Planar Dipole

2. Physical Properties :

2.1 Operating Temp.	-10°C ~ +60°C
2.2 Storage Temp.	-10°C ~ +70°C

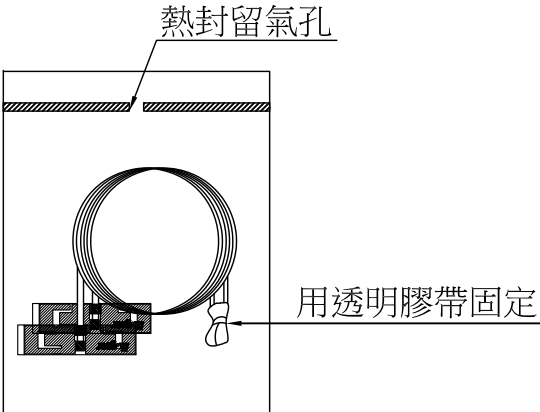
CG-

REV	DATE	DESCRIPTION
X1	07/09-2024	New Issue
X2	11/20-2024	變更FPCB厚款標識



② Coaxial length is listed below

100mm / 120mm / 140mm / 160mm / 180mm
200mm / 220mm / 240mm / 260mm / 280mm
300mm / 320mm / 340mm / 360mm / 380mm
400mm / 420mm / 440mm / 460mm / 480mm
500mm / 520mm / 540mm / 560mm / 580mm
600mm / 620mm / 640mm / 660mm / 680mm
700mm / 720mm / 740mm / 760mm / 780mm
800mm / 820mm / 840mm / 860mm / 880mm
900mm / 920mm / 940mm / 960mm / 980mm / 1,000mm



Packing : 25 pcs/bag

3	Connector	I-PEX MHF Connector	1	
2	Cable	Φ1.13 Low Loss Cable;Black[黑色]	1	
1	FPCB	PI+CU+AD(3M 467MP)	1	
NO	DESCRIPTION		Q'TY	REMARK

CUSTOMER'S SINGATURE		XX. ±5.0	APPROVED	CUSTOMER: 金山電子			Wha Yu Group THIS DRAWING, AND IT'S INHERENT DESIGN CONCEPTS, ARE THE PROPERTY OF WHA YU AND AS SUCH MAY NOT BE COPIED, REPRODUCED, OR GIVEN TO THIRD PARTIES WITHOUT THE WRITTEN CONSENT OF WHA YU.
		X. ±3.0		PART NO : 2107-1901+0			
		.X ±1.0	CHECKED	PART NAME: FPC Dipole Antenna (Tri-band)			
		.XX ±0.3		W.Y P/NO : C4207-810026-A			
		.XXX ±0.1	DRAWING	REV	UNIT	FILE : SSR-2400183	
				X2	mm	SHEET : 1/1	



REPORT No.: SZ25020111E01

TEST REPORT

APPLICANT : GP Electronics (SZ) Limited

PRODUCT NAME : FPC Dipole Antenna for Bluetooth

MODEL NAME : MGear C4207-810026-A

TRADE NAME : N/A

BRAND NAME : N/A

STANDARD(S) : IEEE Std 149-2021

RECEIPT DATE : 2025-02-17

TEST DATE : 2025-02-18

ISSUE DATE : 2025-02-26

Edited by: MaoRuJie
Mao Rujie(Rapporteur)

Approved by: Chi Shide
Chi Shide(Supervisor)

NOTE: This document is issued by Shenzhen Morlab Communications Technology Co., Ltd., the test report shall not be reproduced except in full without prior written permission of the company. The test results apply only to the particular sample(s) tested and to the specific tests carried out which is available on request for validation and information confirmed at our website.

MORLAB

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Change History		
Version	Date	Reason for change
1.0	2025-02-26	First edition

1. Technical Information

Note: Provide by applicant.

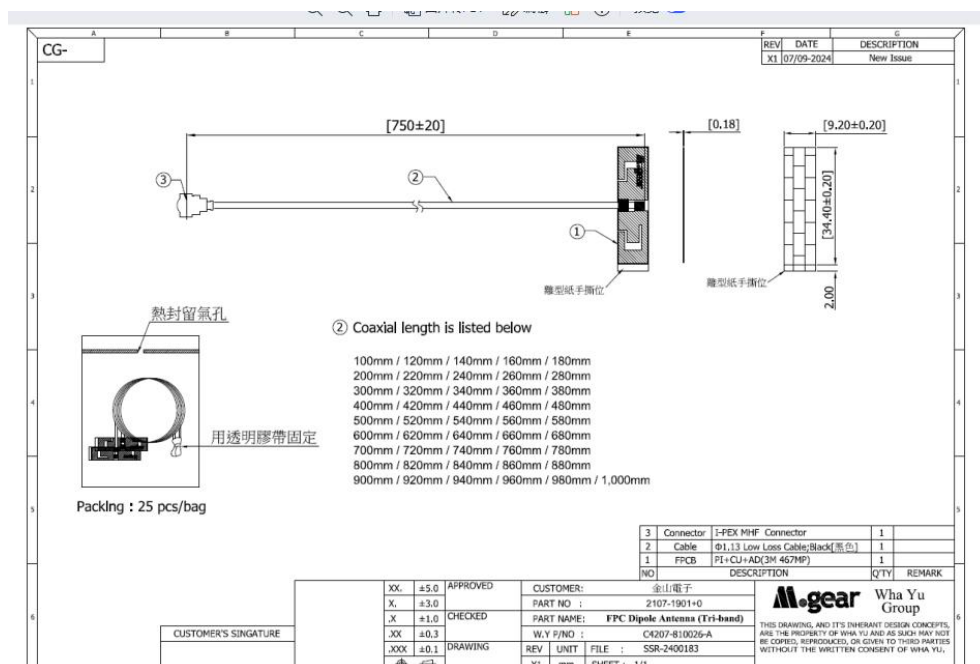
1.1. Applicant and Manufacturer Information

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:	No.3 Xing Ping East Road, Dong Jiang Science & Technology Park, Zhong Kai Hi-Tech Industrial Development Zone, Huizhou, Guangdong, PRC
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:





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

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. When the test result is a critical value, we will use the measurement uncertainty give the judgment result based on the 95% Confidence intervals.

2.4. Test Results lists

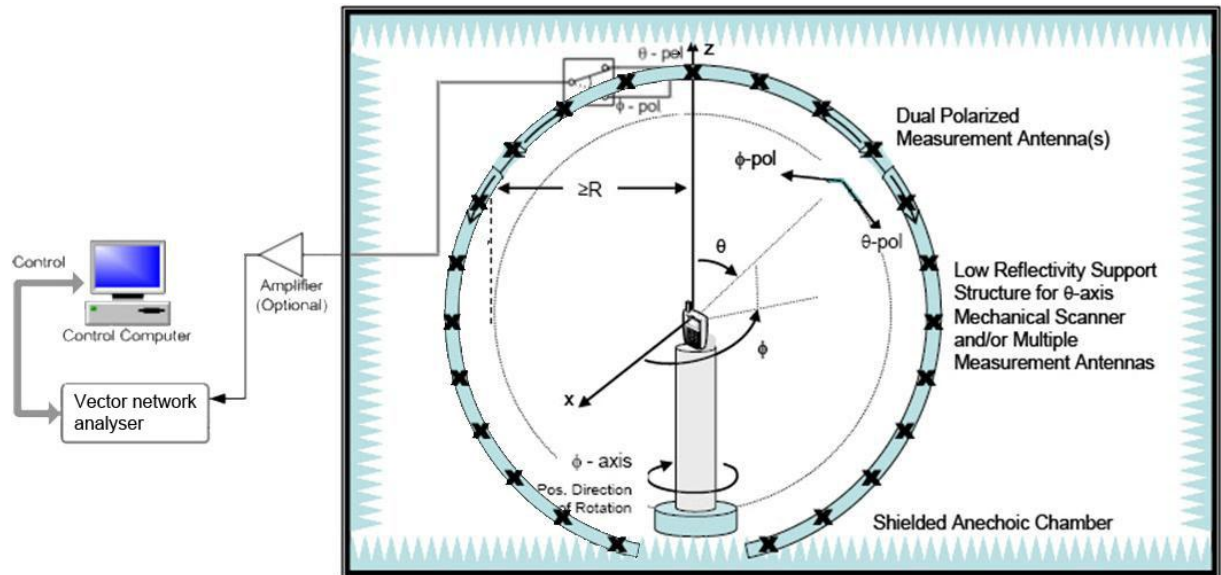
2.4.1. Gain

Frequency (MHz)	Gain(dBi)
2400	0.48
2410	0.58
2420	0.49
2430	0.46
2440	0.64
2450	0.86
2460	1.07
2470	0.97
2480	0.81
2490	0.65
2500	0.72

2.4.2. Return Loss

Frequency (MHz)	Return Loss(dB)
2400	-9.22
2440	-11.12
2480	-11.29

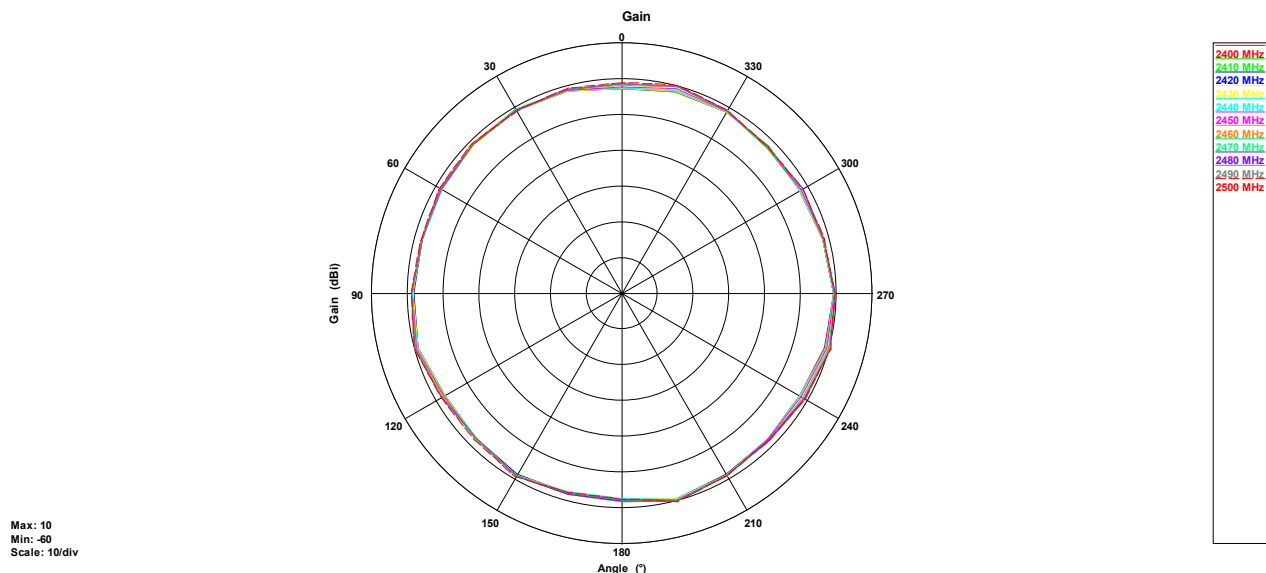
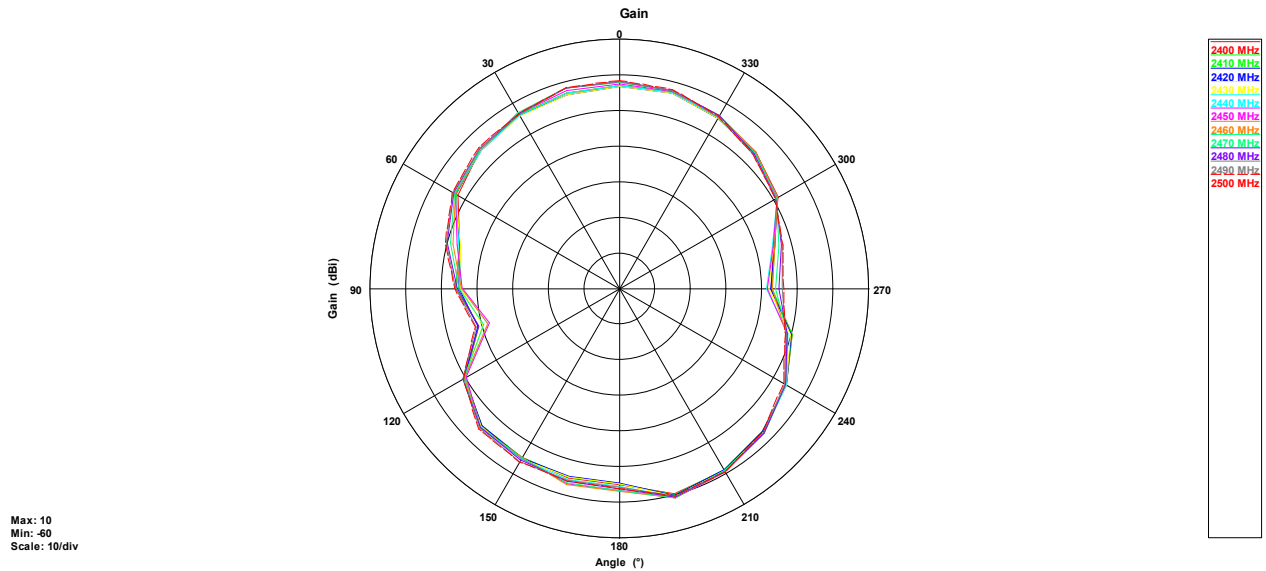
Annex A Test Setup Photos

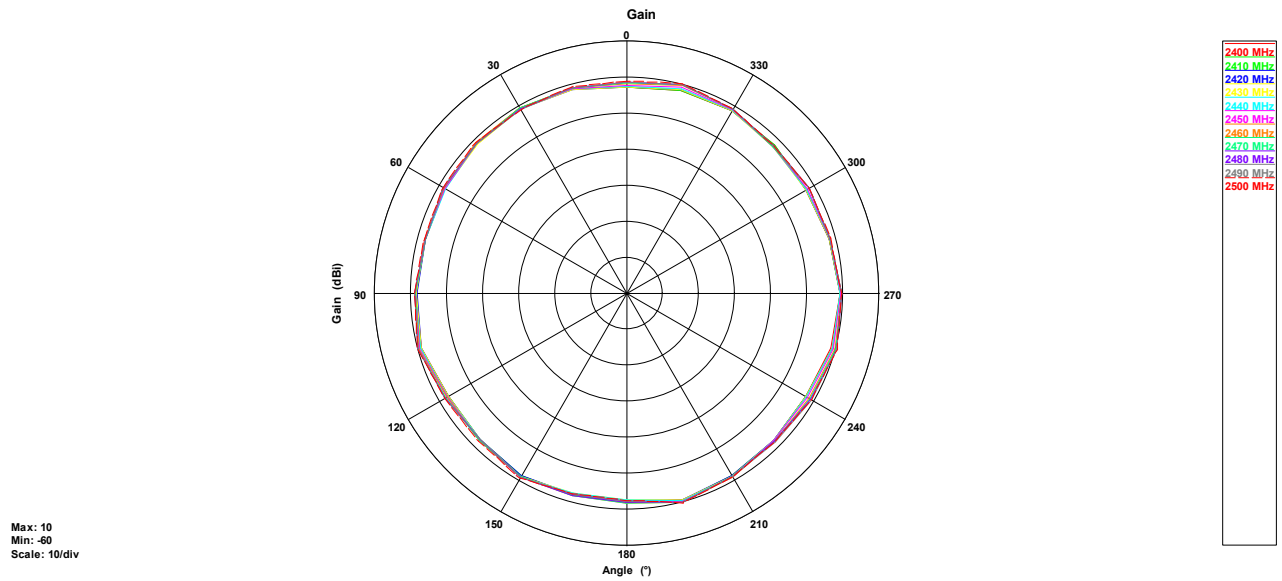




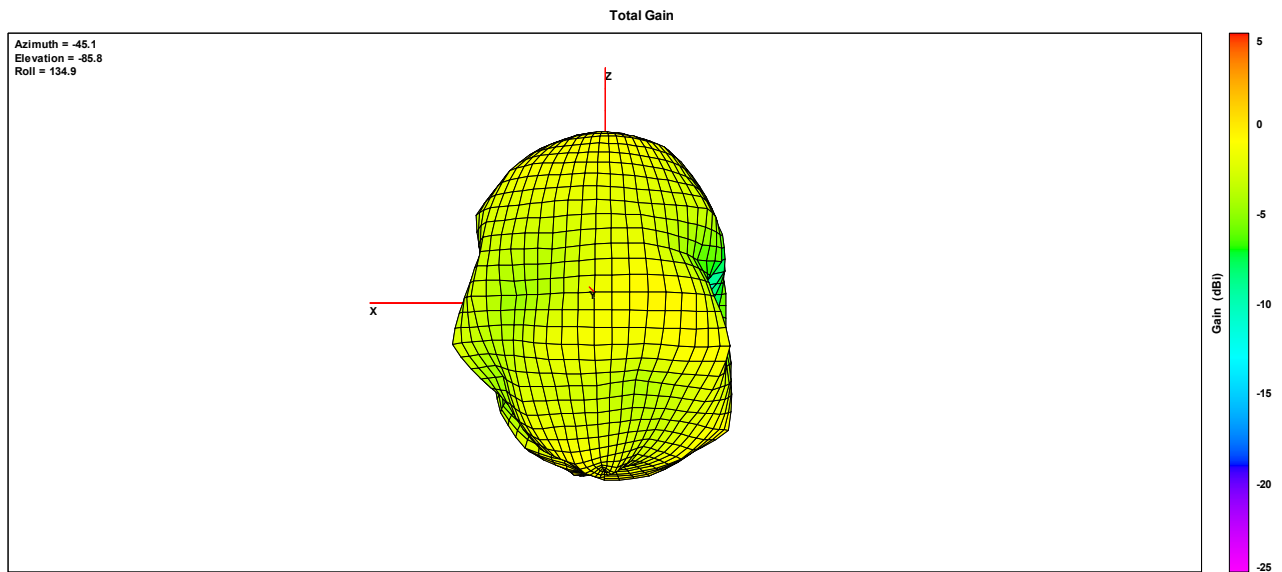
Annex B Figures

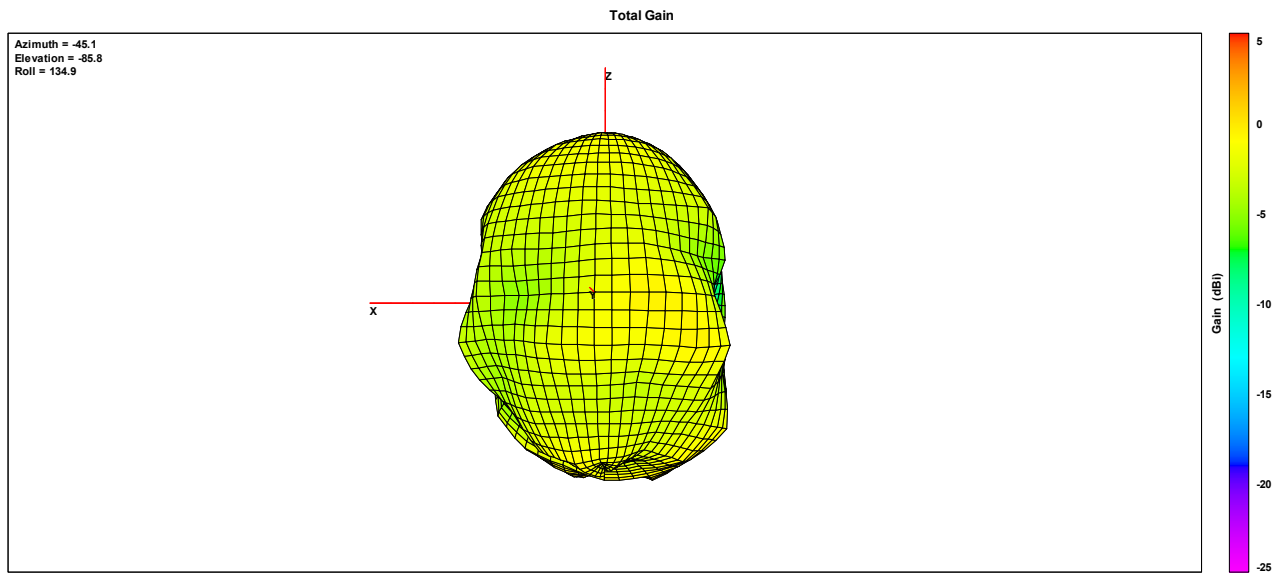
1. 2D Radiation Pattern



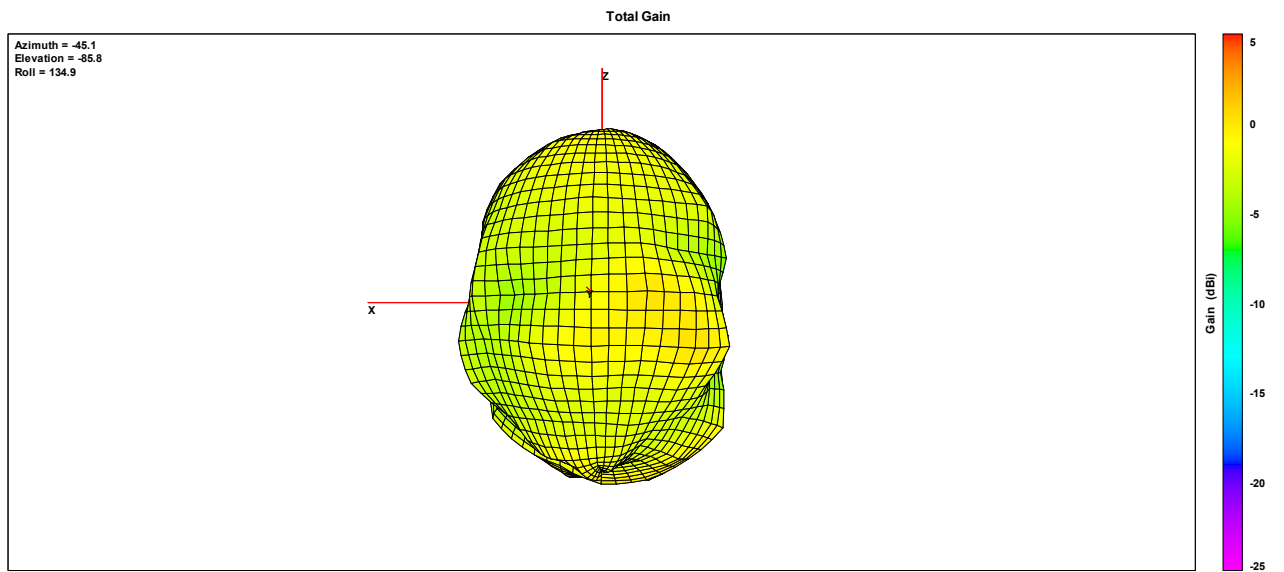


2. 3D Radiation Pattern





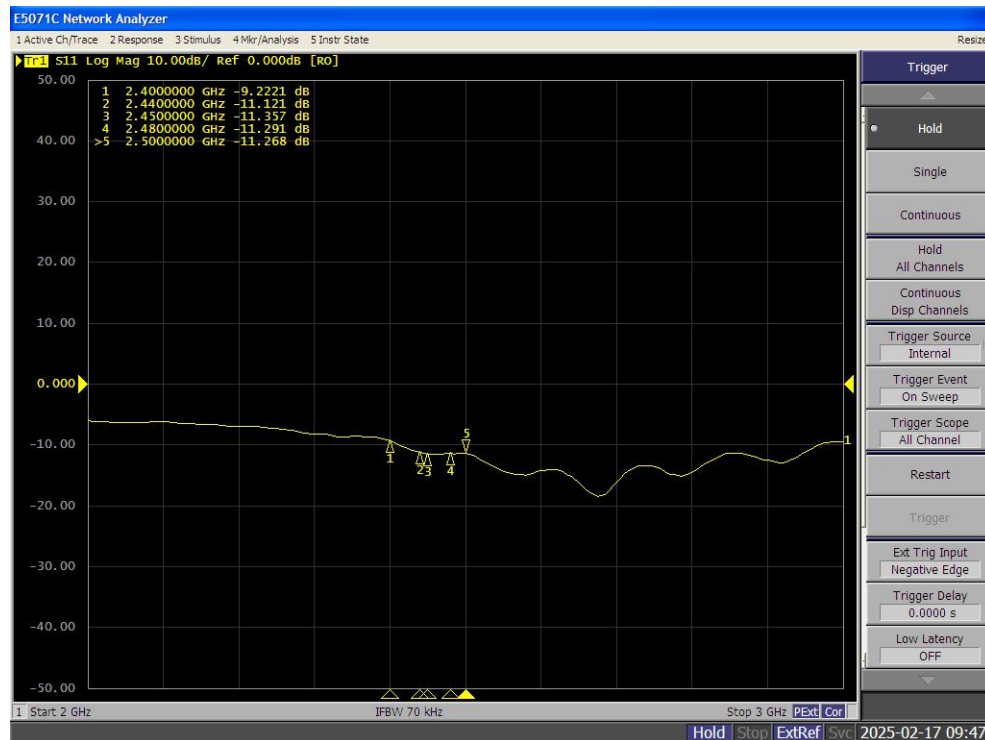
2440MHz



2480MHz

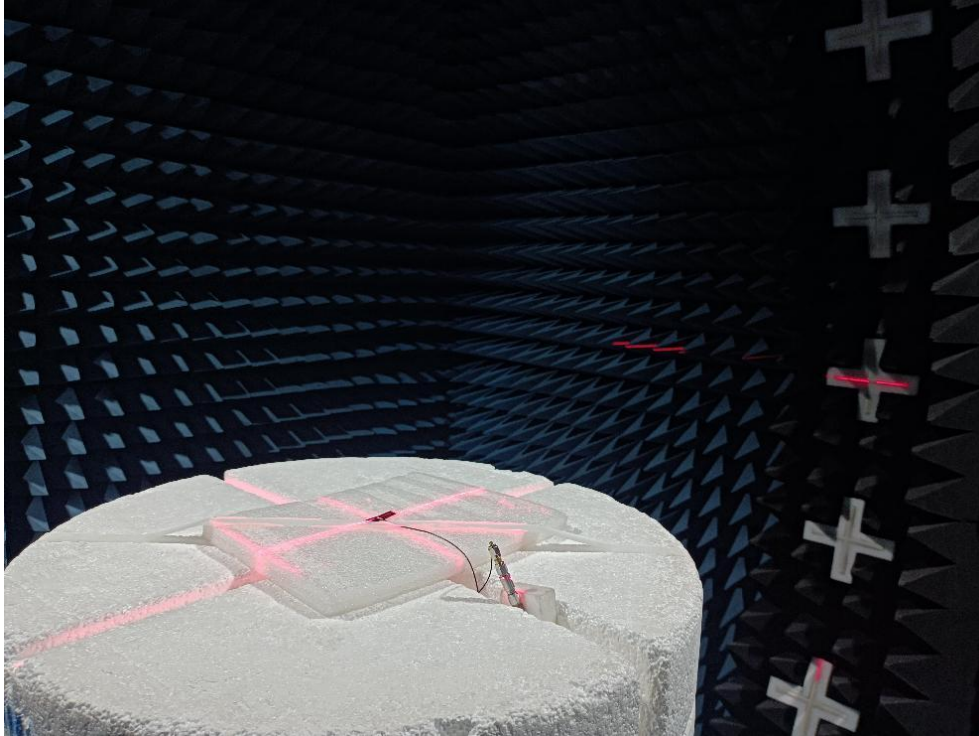


3. Return Loss

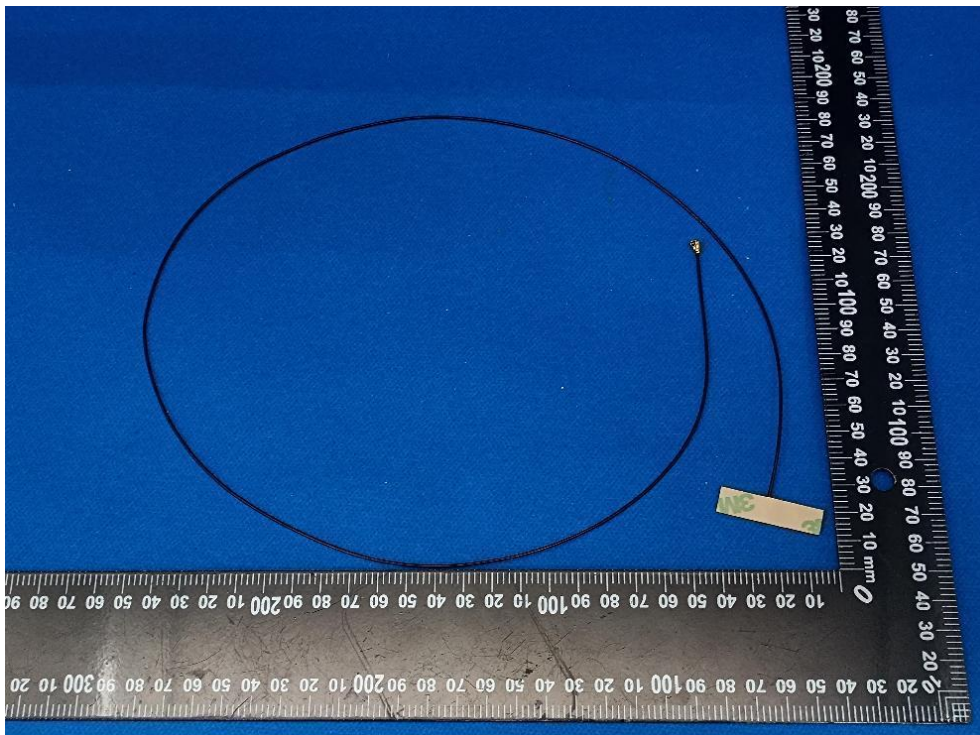
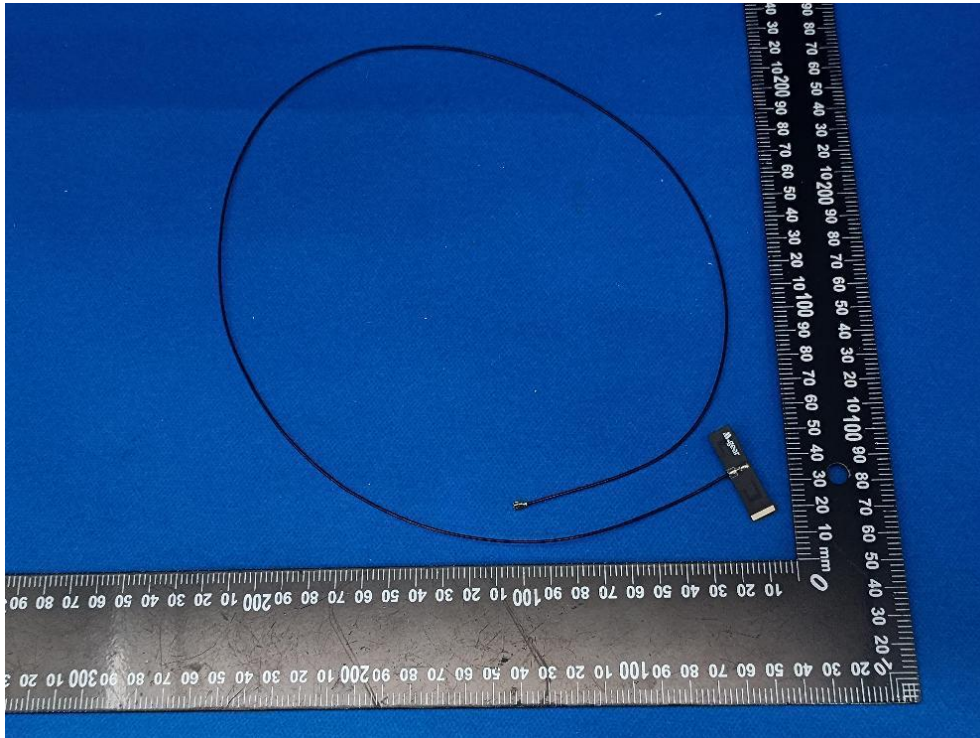


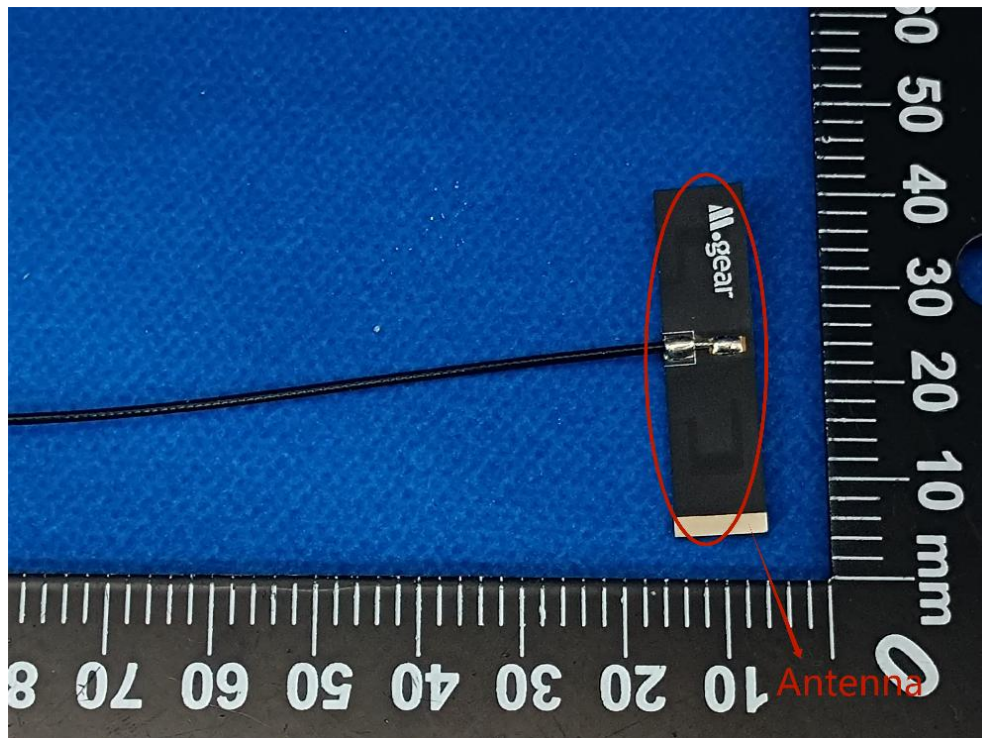
Annex C EUT Photos

1. Test environment



2. EUT







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	2024.05.30	2025.05.29
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 —————