REPORT No.: SZ23020101E03

TEST REPORT

APPLICANT	:	Feit Electric Company Inc.
PRODUCT NAME	:	Integral Antenna
MODEL NAME	:	Driver-117
TRADE NAME	:	Feit, Naspil
BRAND NAME	:	N/A
STANDARD(S)	:	IEEE Std 149-2021
RECEIPT DATE	:	2023-02-08
TEST DATE	:	2023-02-09
ISSUE DATE	:	2023-03-15

Edited by: Fang Jinshan

Fang Jinshan(Rapporteur)

Approved by:

Chi Shide(Supervisor)

MORLAB

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DIRECTORY

Change History		
Version	Date	Reason for change
1.0	2023-03-15	First edition

1.Technical Information

Note: Provide by applicant.

1.1. Applicant and Manufacturer Information

Applicant:	Feit Electric Company Inc.
Applicant Address:	4901 Gregg Road Pico Rivera, Ca 90660
Manufacturer:	National State Industries Limited
Manufacturer Address:	XinXing Group, WuLian Village, FengGang Town, DongGuan City, Guangdong Province, 523695 China

1.2. Equipment Under Test (EUT) Description

Wireless Type	N/A
Frequency	N/A
IMEI	N/A
Sample No.	3#

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:	+10 °C to +30 °C

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.

Item	Measurement Uncertainty(dB)
Gain	±0.5
VSWR	±0.2
Measurement Uncertainty(95% Confidence Interval) K=2	

2.4. Test Results

2.4.1.Gain

Frequency (MHz)	Gain(dBi)
2400	-3.45
2410	-3.62
2420	-3.88
2430	-4.01
2440	-3.82
2450	-3.84
2460	-4.05
2470	-4.20
2480	-4.15
2490	-3.91
2500	-3.59

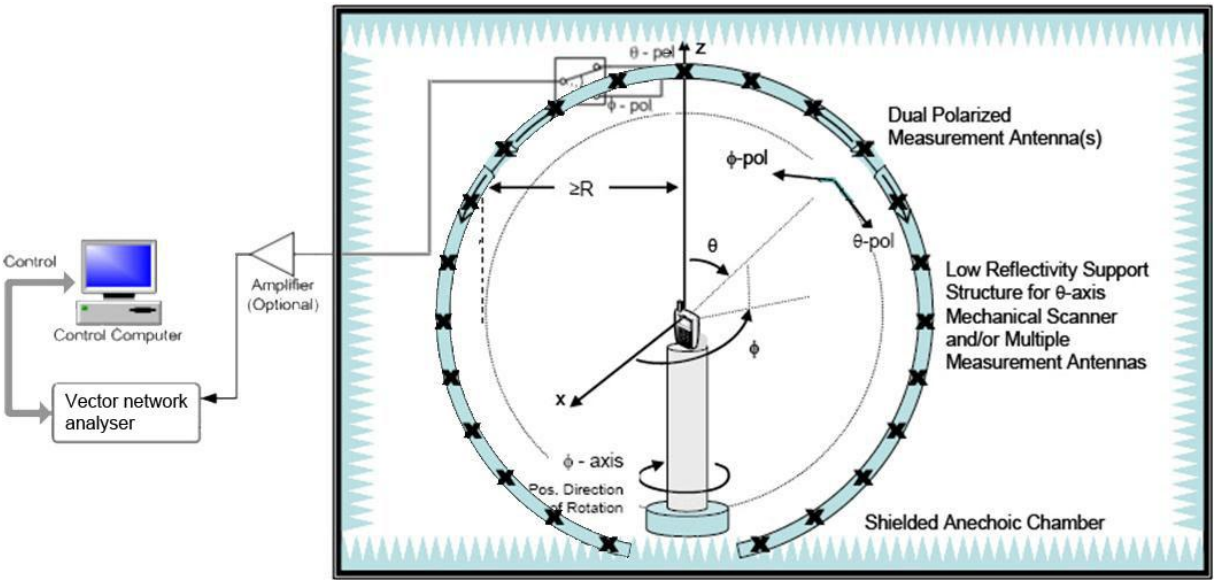
2.4.2.VSWR

Frequency	VSWR
2400MHz	8.95
2440MHz	8.67
2480MHz	8.13

2.4.3.Return Loss

Frequency (MHz)	Return Loss (dB)
2400	-1.94
2440	-2.01
2480	-2.14

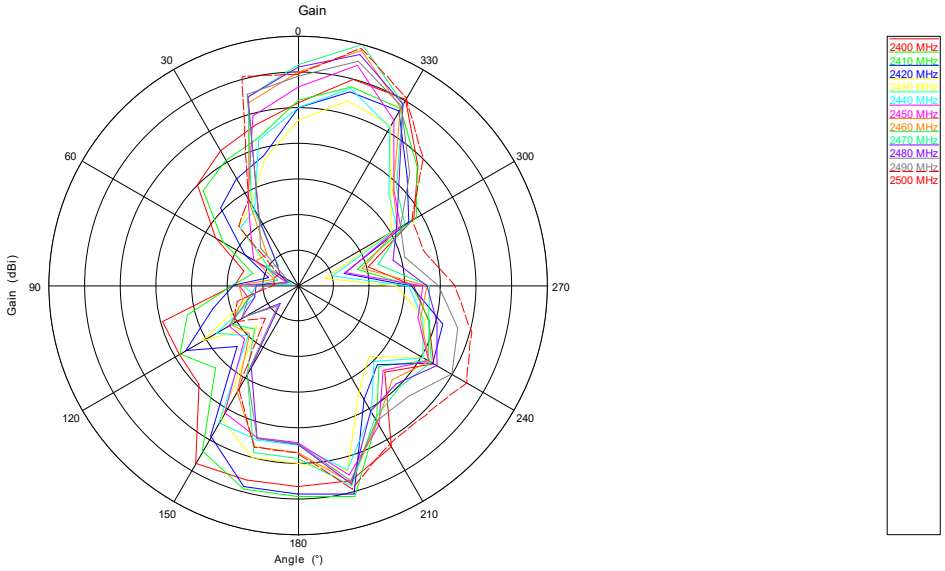
Annex A Test Setup Photos



Annex B Figures

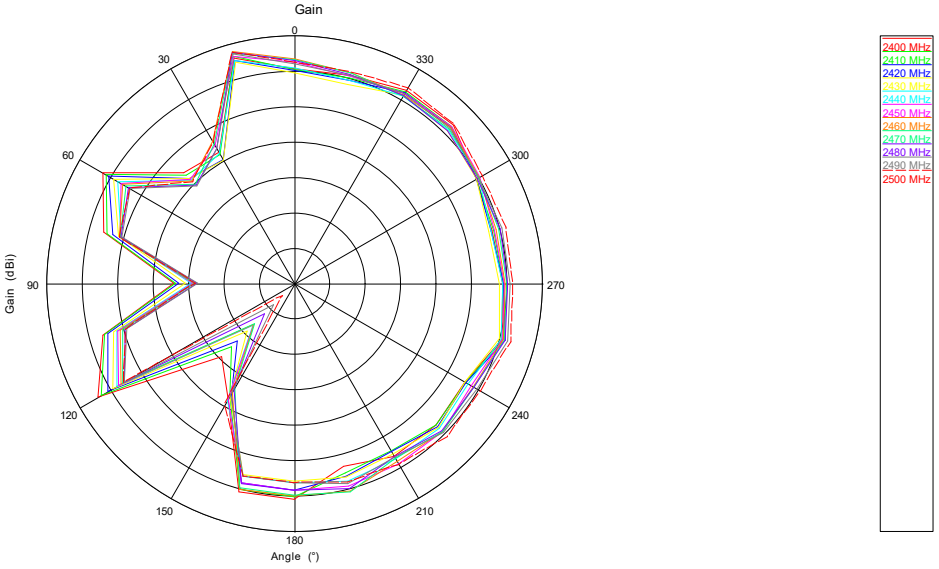
1. 2D Radiation Pattern

Phi=0°



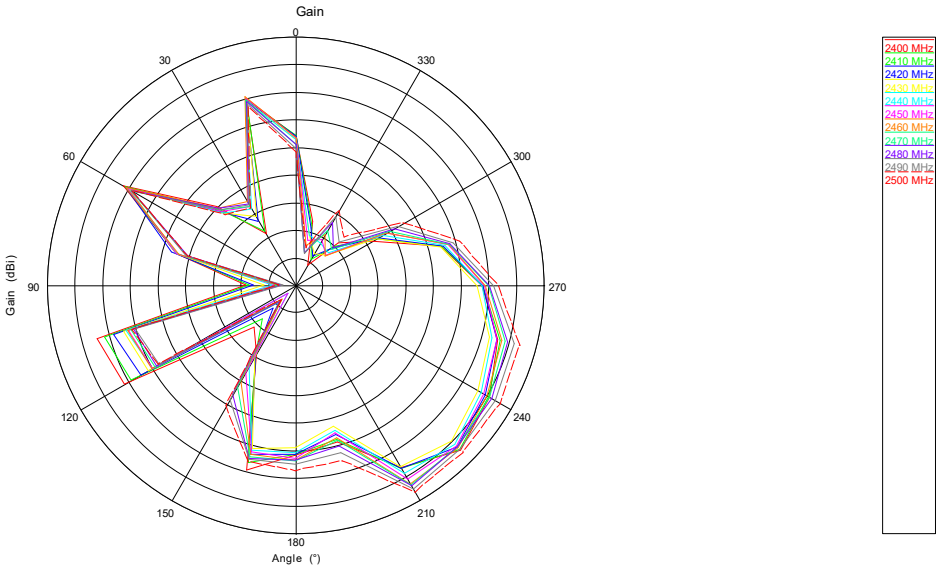
Max: -5
Min: -8.5
Scale: 0.5/div

Phi=90°

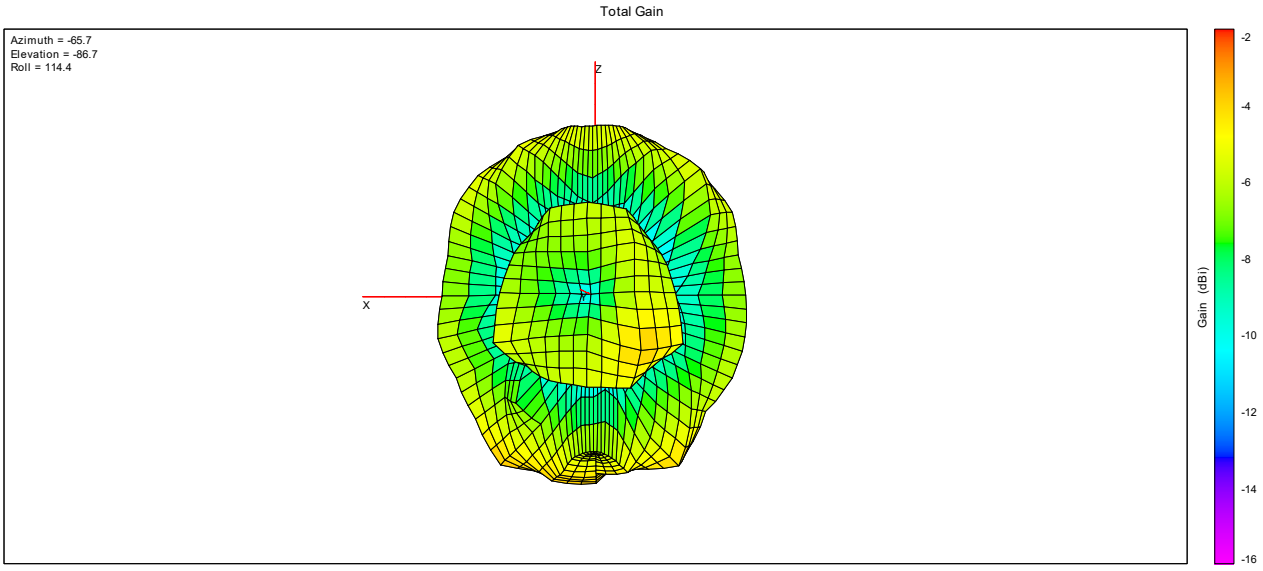


Max: -4
Min: -18
Scale: 2/div

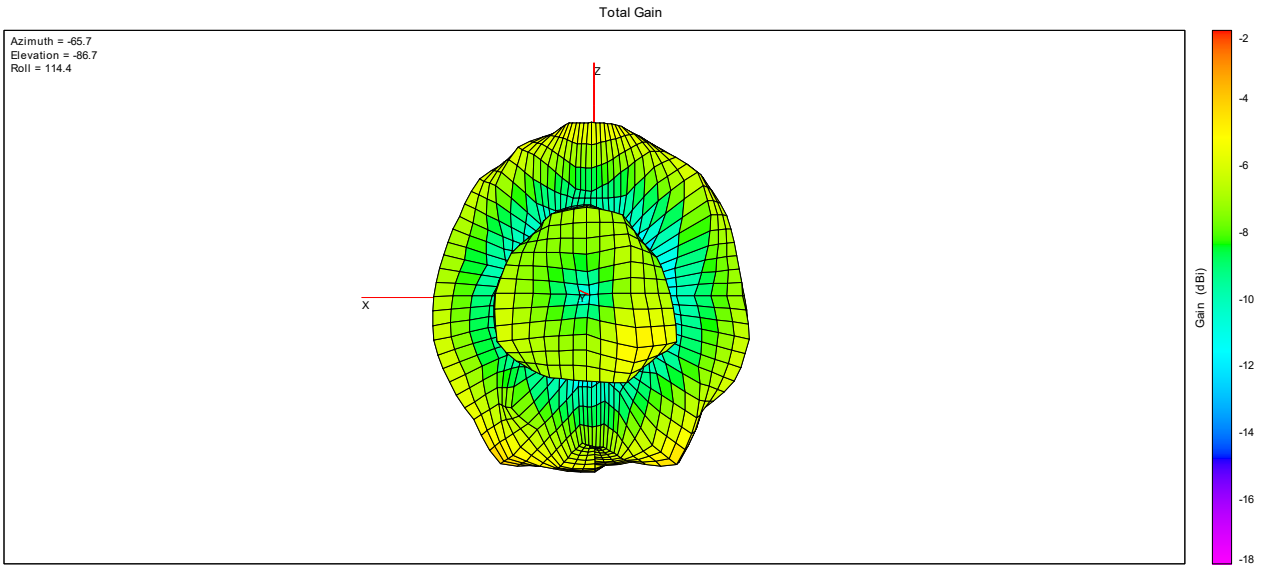
Theta=90°



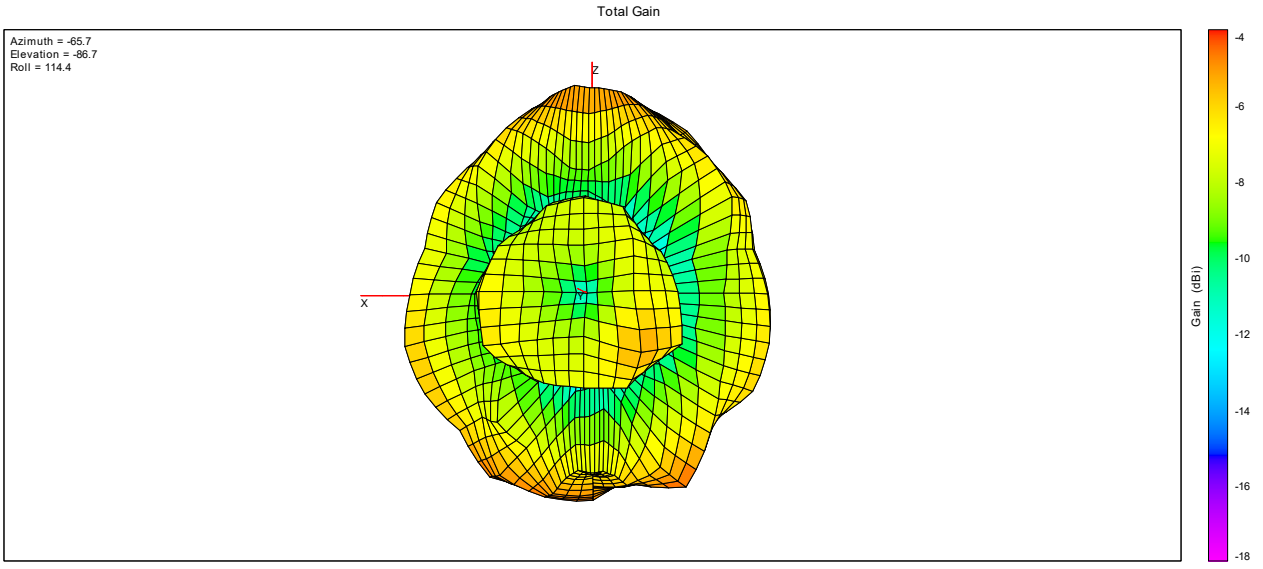
2. 3D Radiation Pattern



2400MHz

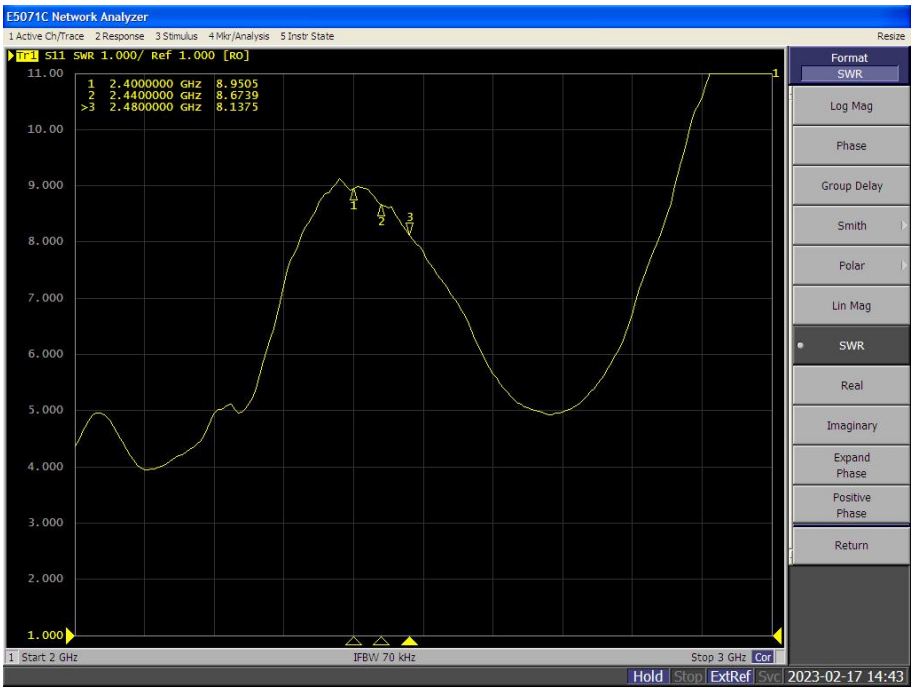


2440MHz

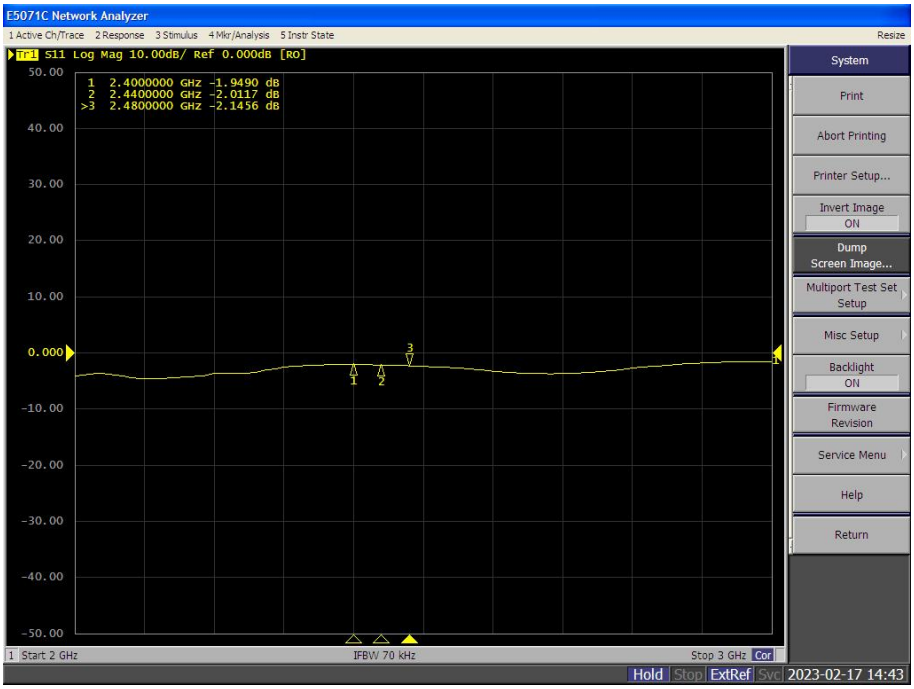


2480MHz

3. VSWR

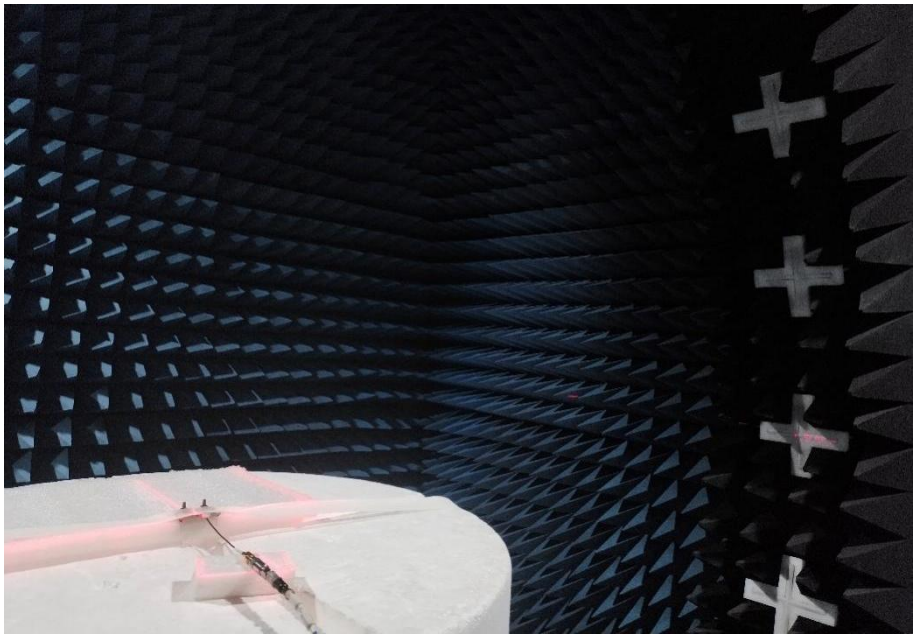


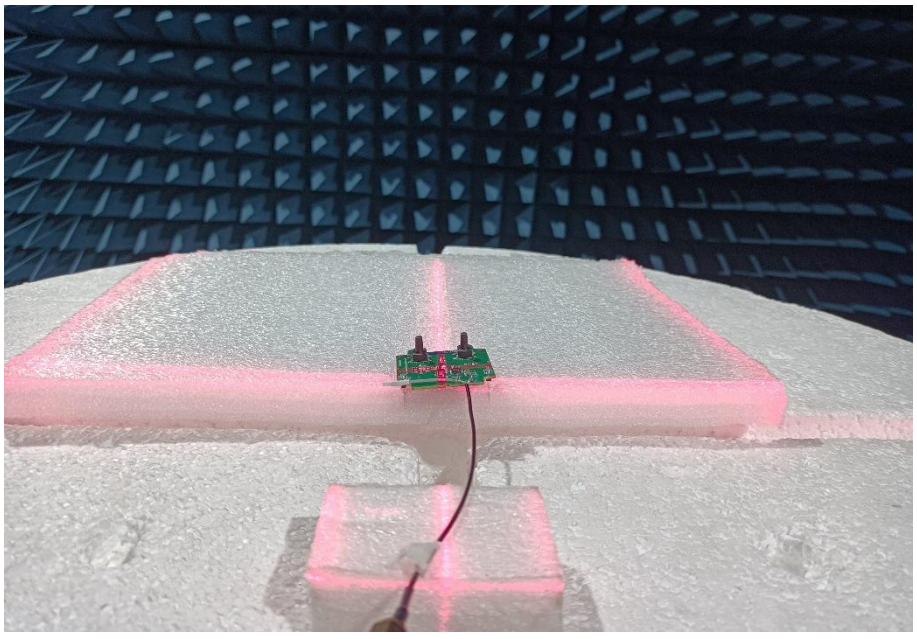
4. Return Loss



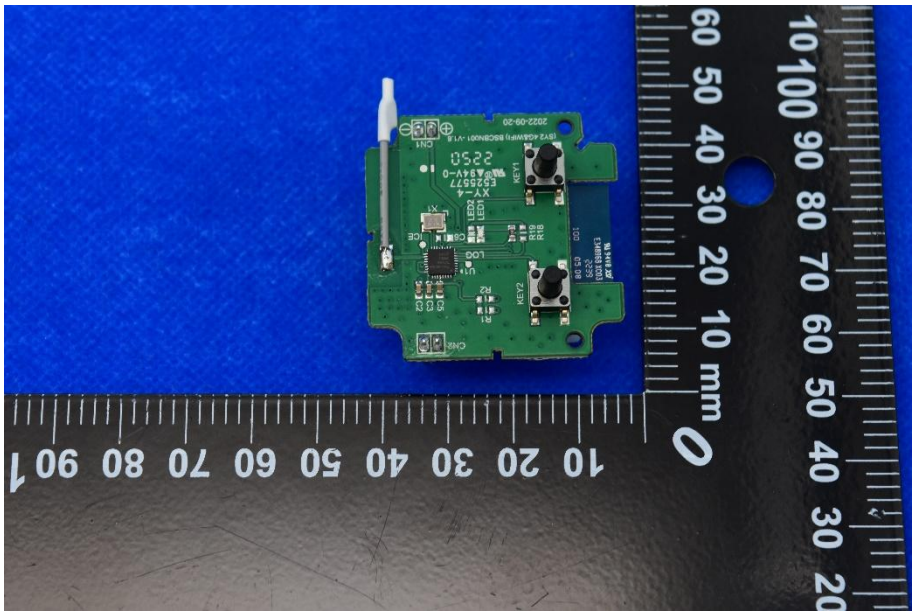
Annex C EUT Photos

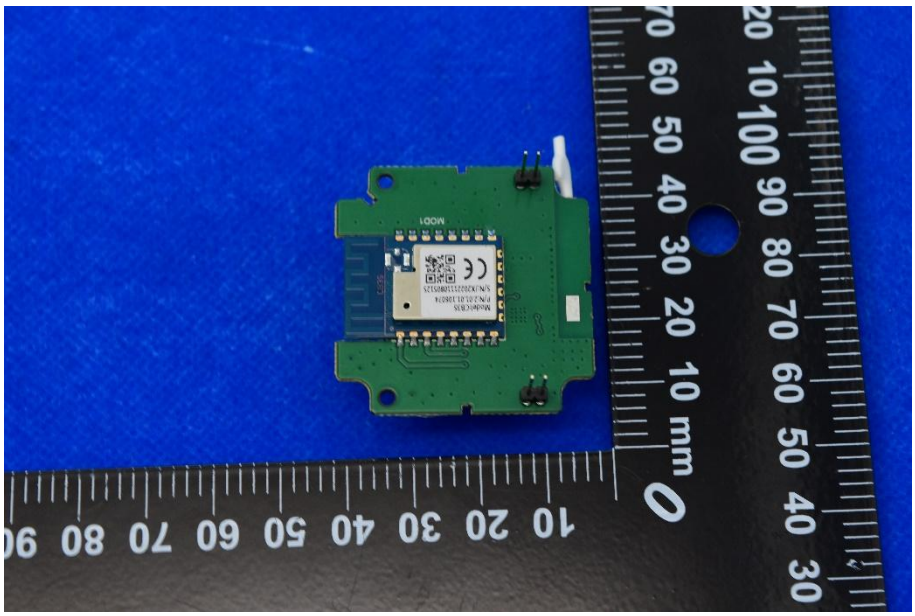
1. Test environment

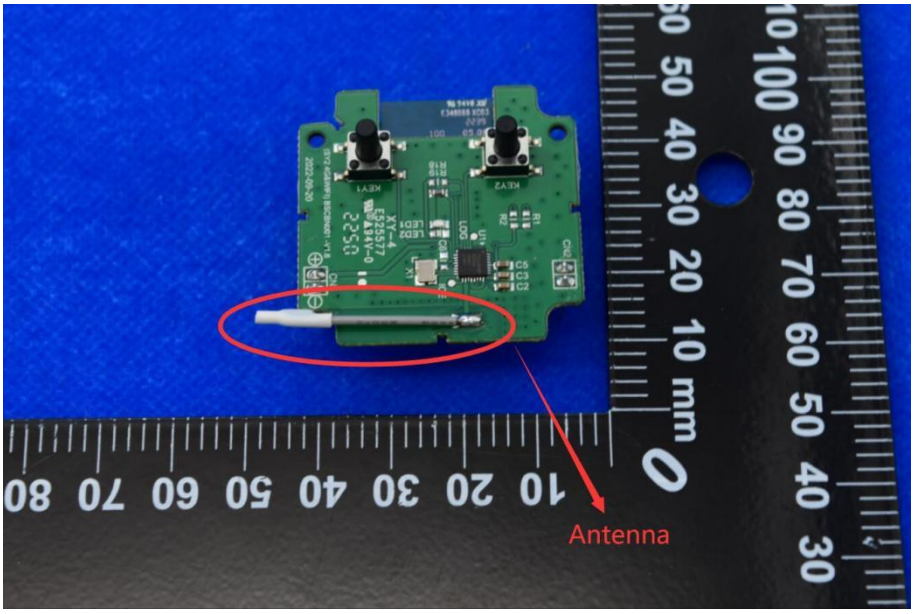




2. EUT






Antenna

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.	Equipement Name	Serial No.	Type	Manufacturer	Cal.Date	Cal.Due Date
1	Network Analyzer	MY46110140	E5071C	Agilent	2022.07.04	2023.07.03
2	OTA Chamber	TJ2235-Q1793	AMS-8923-150	ETS	2022.11.30	2025.11.29
3	Antenna Measurement System	1685	EMQuest EMQ-100 V 1.13 Build 21267	ETS	N/A	N/A

END OF REPORT