



TEST REPORT

APPLICANT : Dongguan Kingsheng Electronics & Technology Co.,Ltd

PRODUCT NAME : PCB Antenna

MODEL NAME : SL-9113

TRADE NAME : N/A

BRAND NAME : N/A

STANDARD(S) : ANSI/IEEE Std 149-2008

RECEIPT DATE : 2021-11-10

TEST DATE : 2021-11-10

ISSUE DATE : 2021-11-24

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Change History		
Version	Date	Reason for change
1.0	2021-11-24	First edition



1. Technical Information

Note: Provide by manufacturer.

1.1. Applicant and Manufacturer Information

Applicant:	Dongguan Kingsheng Electronics & Technology Co.,Ltd
Applicant Address:	Build 39,Arising Sun Industrial City, Lincun Village, Tangxia Town, Dongguan, Guangdong, China
Manufacturer:	Dongguan Kingsheng Electronics & Technology Co.,Ltd
Manufacturer Address:	Build 39,Arising Sun Industrial City, Lincun Village, Tangxia Town, Dongguan, Guangdong, China

1.2. Equipment Under Test (EUT) Description

Wireless Type	Bluetooth
Test frequency band	2400MHz-2500MHz
Brand name	N/A
Antenna model	SL-9113
Hardware Version	N/A
Software Version	N/A
IMEI	N/A
Sample number	1#



2. Test Results

2.1. Applied Reference Documents

Leading reference documents for testing:

No.	Identity	Document Title
1	ANSI/IEEE Std 149-2008	IEEE Standard Test Procedures for Antennas

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 lists

2.4.1. Gain

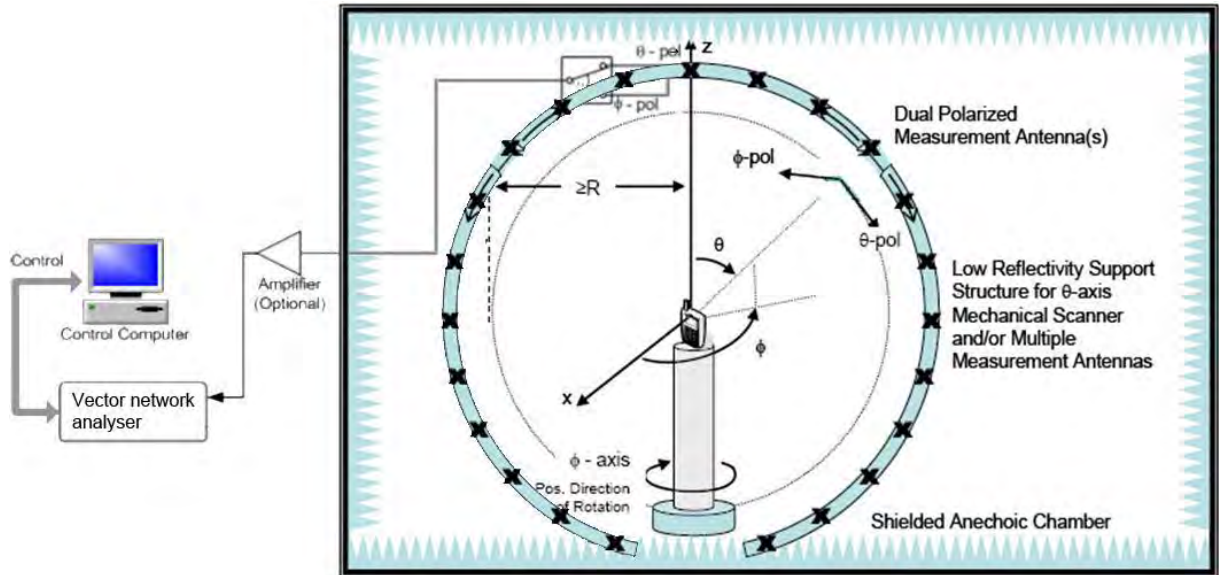
Frequency	Gain(dBi)
2402MHz	1.28
2410MHz	1.15
2420MHz	1.33
2430MHz	0.52
2440MHz	0.59
2441MHz	0.63
2450MHz	0.48
2460MHz	0.49
2470MHz	0.35
2480MHz	0.95

2.4.2. VSWR

Frequency	VSWR
2402MHz	2.57
2441MHz	2.58
2480MHz	2.81

Annex A Photographs

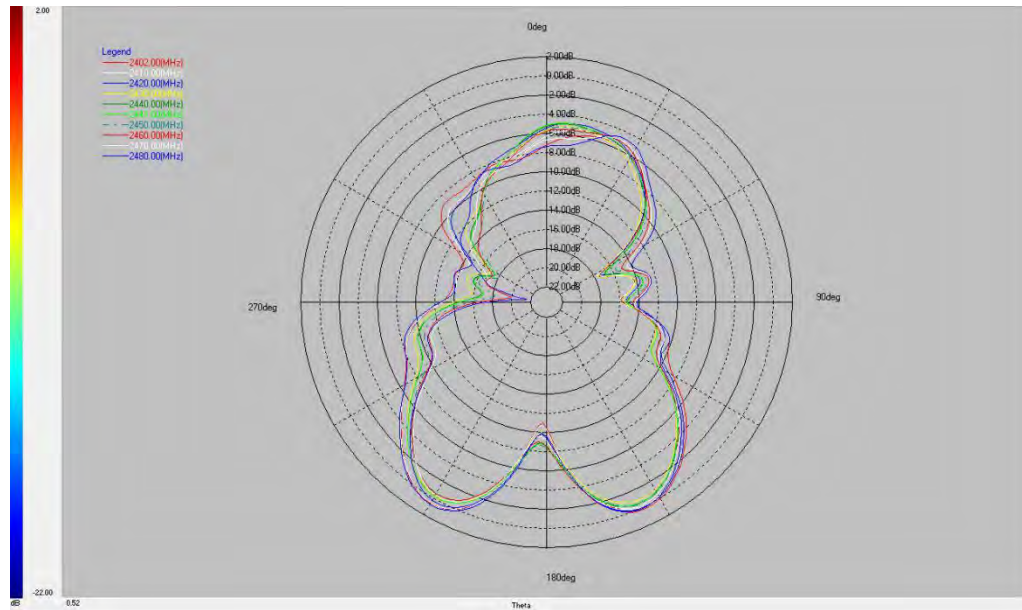
1. Test Setup



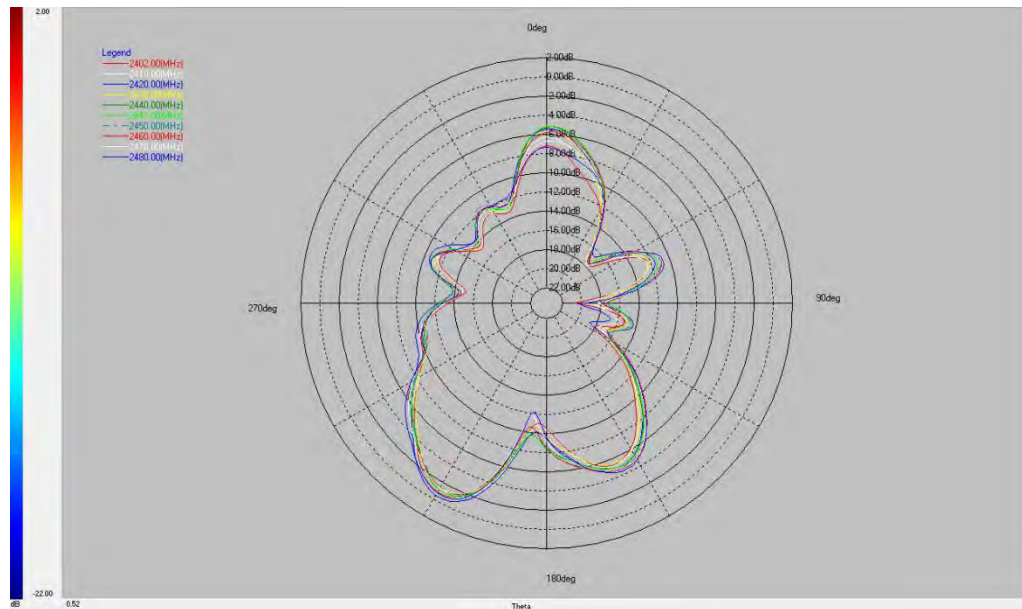
Annex B Figures

1. 2D Radiation Pattern

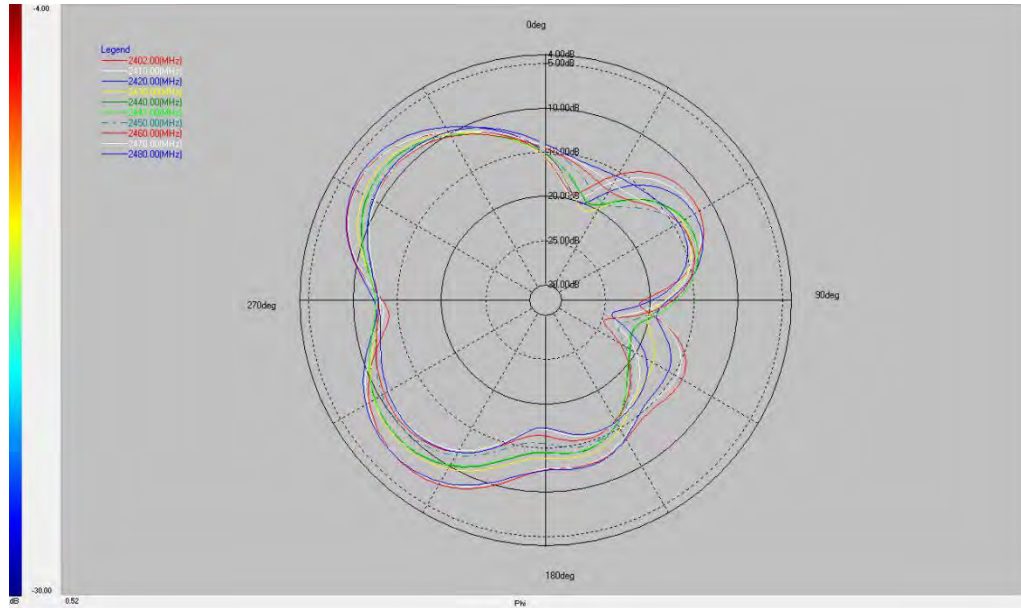
Phi=0°



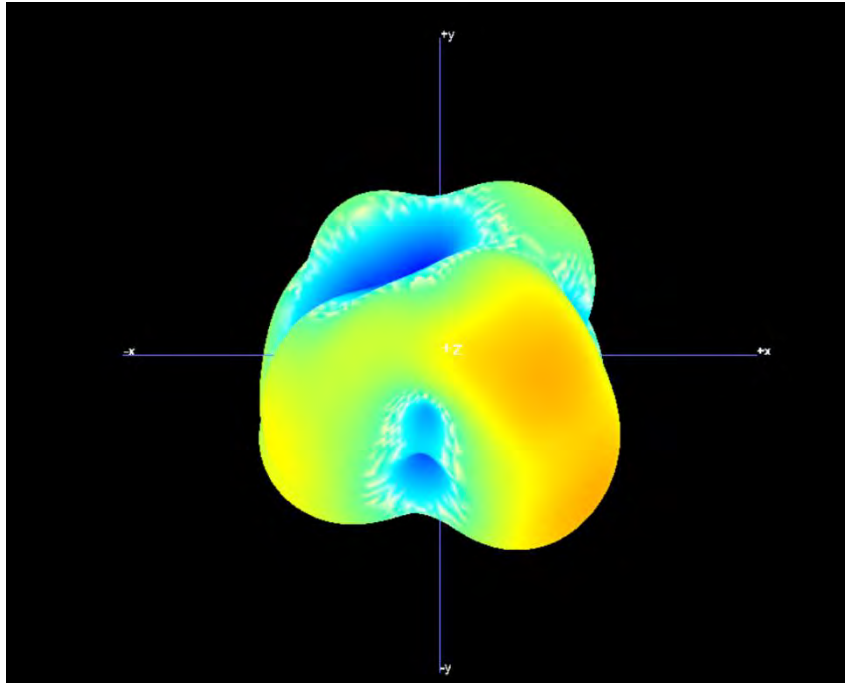
Phi=90°



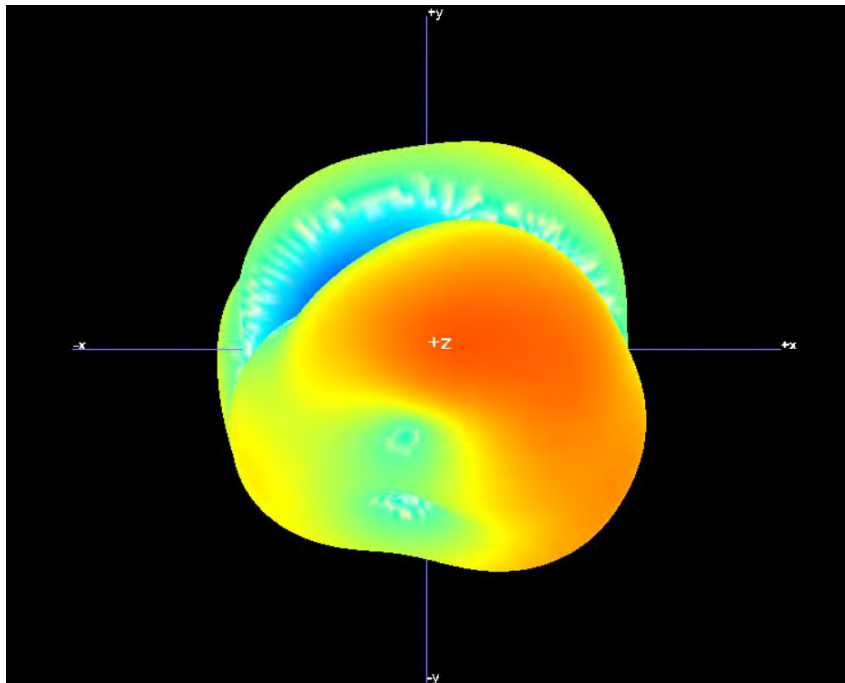
Theta=90°



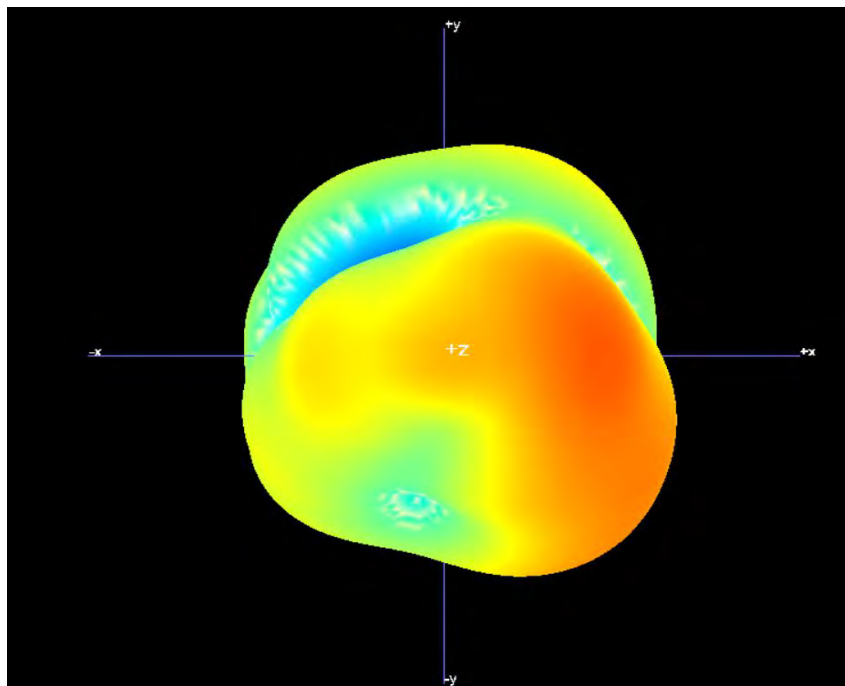
2. 3D Radiation Pattern



2402MHz



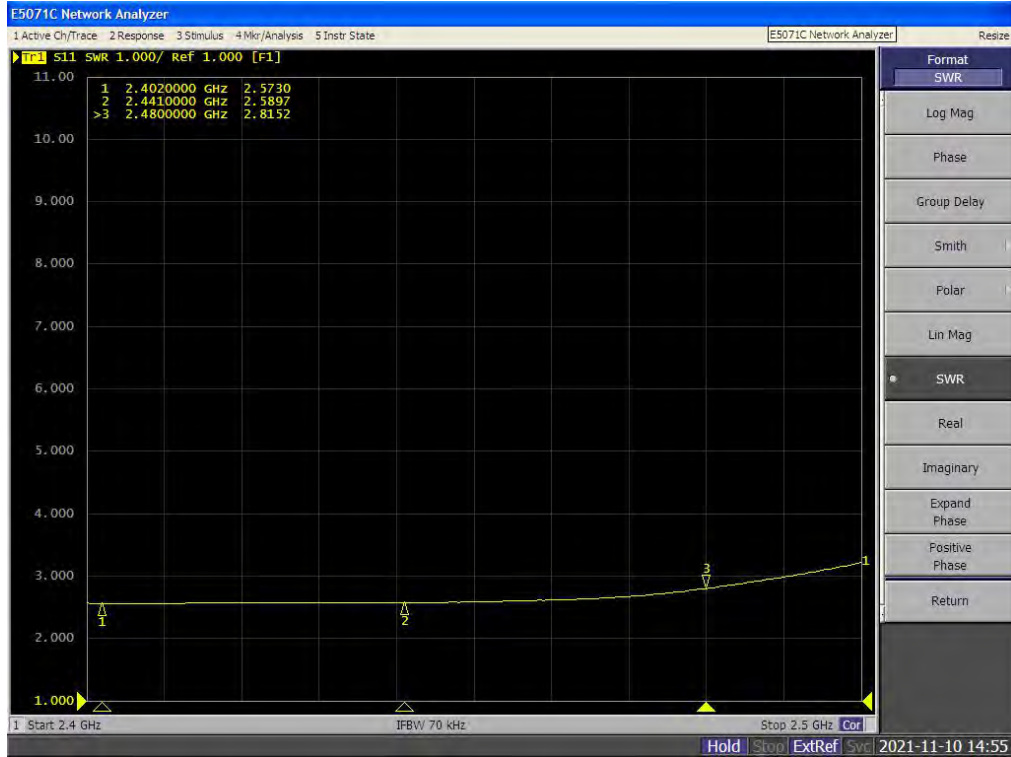
2441MHz



2480MHz

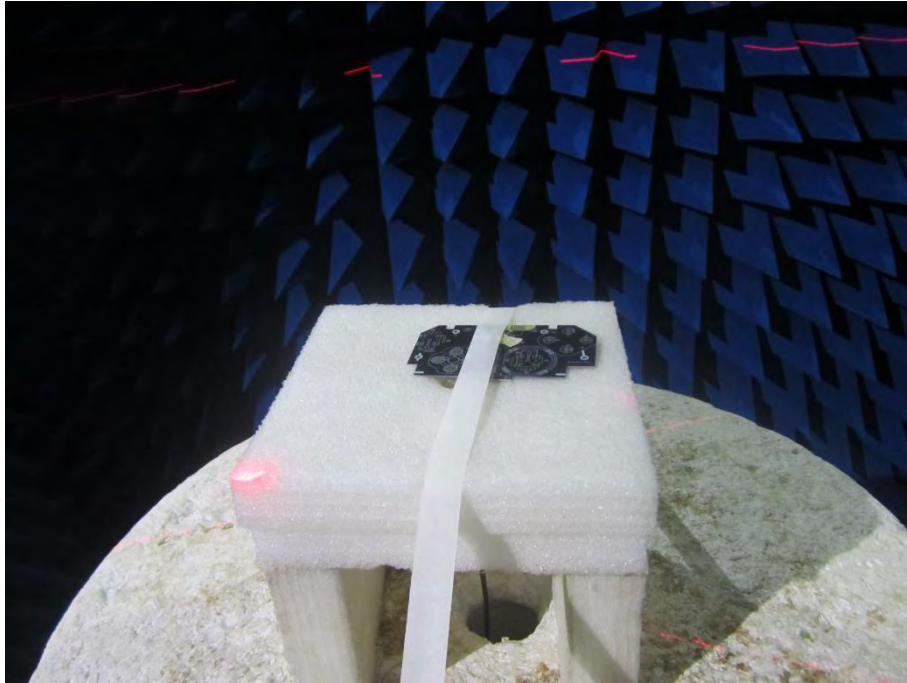


3. VSWR

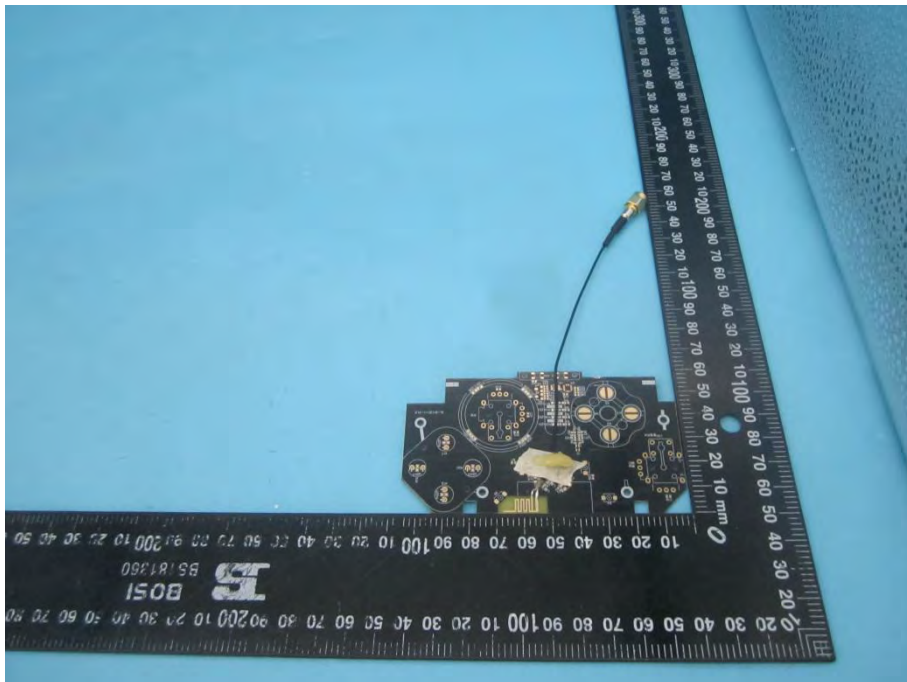


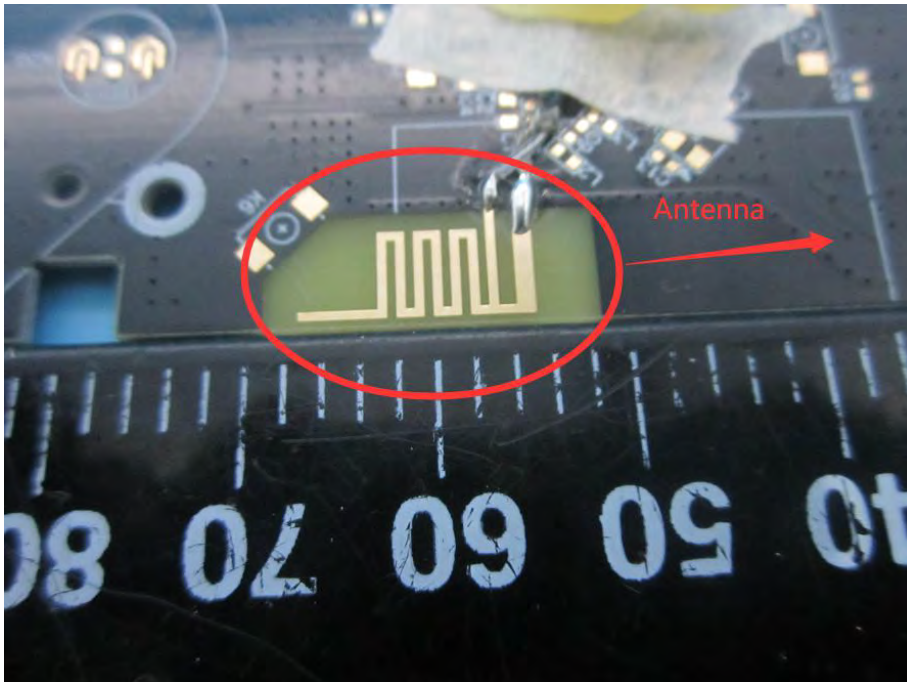
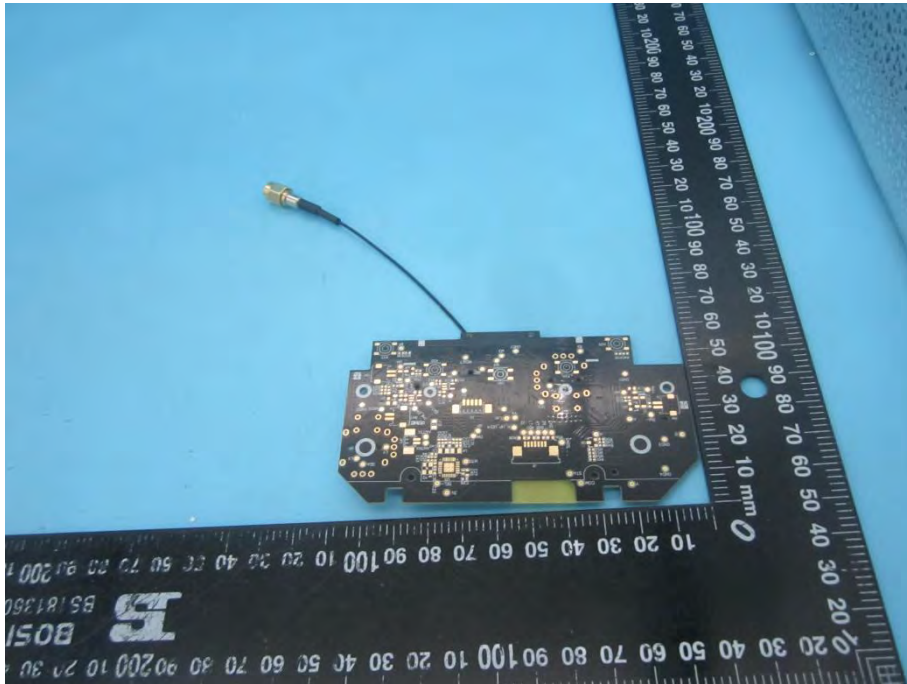
Annex C Photographs

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:	FL1-3, 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:	FL1-3, Building A, FeiYang Science Park, No.8 LongChang Road, Block67, BaoAn District, ShenZhen , GuangDong Province, P. R. China

1.3 Test Equipments Utilized

1.3.1 List of Test Equipment

NO.	Equipment Name	Serial NO.	Type	Manufacturer	Cal.Date	Cal.Due Date
1	Vector Network Analyzer	MY46214666	E5071C	Agilent	2021.03.17	2022.03.16
2	OTA Chamber	N/A	SG24	Satimo	2021.01.12	2024.01.11
3	Antenna Measurement System	N/A	Satenv V1.4.1.14 build1	Satimo	N/A	N/A

————— END OF REPORT —————

