



REPORT No.: SZ22080014E01

TEST REPORT

APPLICANT : Guangzhou Universal Electronics Service Co.,Ltd.

PRODUCT NAME : JPN Daikin CO2 Sensor

MODEL NAME : i

TRADE NAME : N/A

BRAND NAME : N/A

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

RECEIPT DATE : 2022-08-01

TEST DATE : 2022-08-03

ISSUE DATE : 2022-08-05



Edited by:

Fang Jinshan

Fang Jinshan(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

Shenzhen Morlab Communications Technology Co., Ltd., FL1-3, Building A,
FeiYang Science Park, No.8 LongChang Road,Block67, BaoAn District,
ShenZhen , GuangDong Province, P. R. China

Tel: 86-755-36698555

Http://www.morlab.cn

Fax: 86-755-36698525

E-mail: service@morlab.cn





DIRECTORY

1. Technical Information	3
1.1. Applicant and Manufacturer Information	3
1.2. Equipment Under Test (EUT) Description	3
2. Test Results	4
2.1. Applied Reference Documents	4
2.2. Test Conditions	4
2.3. Measurement Uncertainty	4
2.4. Test Results lists	5
Annex A Photographs	6
Annex B Figures	7
1. 2D Radiation Pattern	7
2. 3D Radiation Pattern	12
Annex C Photographs	15
Annex D General Information	26
1.1 Identification of the Responsible Testing Laboratory	26
1.2 Identification of the Responsible Testing Location	26
1.3 Test Equipments Utilized	26

Change History		
Version	Date	Reason for change
1.0	2022-08-05	First edition



1. Technical Information

Note: Provide by manufacturer.

1.1. Applicant and Manufacturer Information

Applicant:	Guangzhou Universal Electronics Service Co.,Ltd.
Applicant Address:	18th Floor, Building No.1 of Tower 4, Hailunbao Creative Park, Yushan Road, Shatou Street, Panyu District, Guangzhou
Manufacturer:	N/A
Manufacturer Address:	N/A

1.2. Equipment Under Test (EUT) Description

Wireless Type	Bluetooth
Frequency	2402MHz-2480MHz
IMEI	N/A
Sample No.	1#&2#

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	

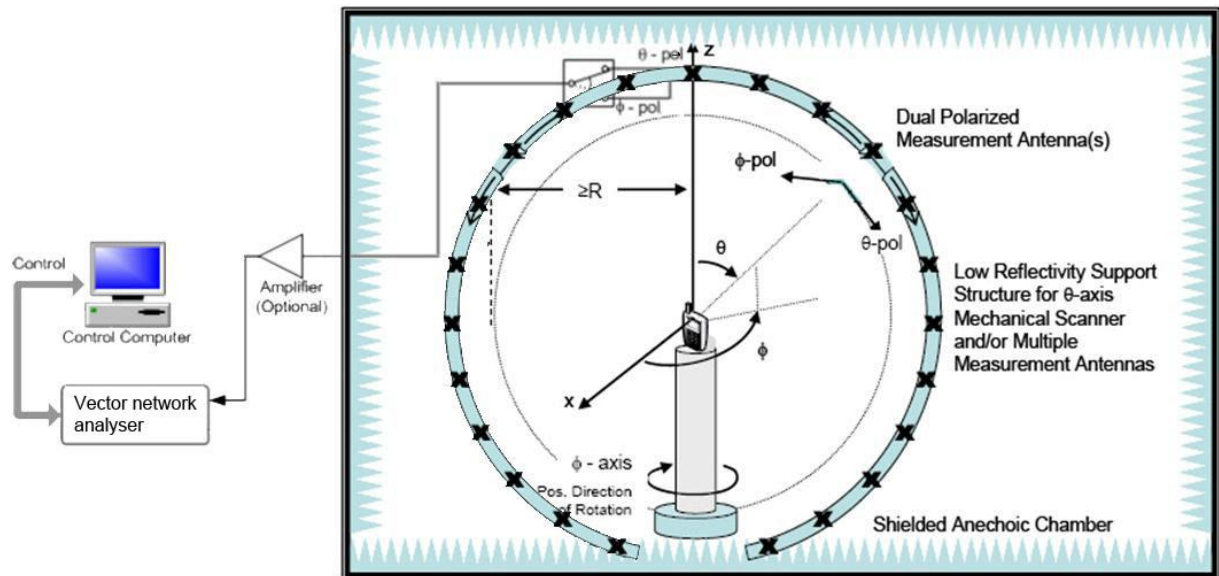
2.4. Test Results lists

2.4.1. Gain and Efficiency

Frequency(MHz)	Gain(dBi)		Efficiency(%)		Efficiency(dB)	
	1#	2#	1#	2#	1#	2#
2400	1.11	2.03	51.04	57.09	-2.92	-2.43
2402	1.17	2.13	51.53	57.59	-2.88	-2.40
2405	1.15	2.14	51.82	57.76	-2.86	-2.38
2410	1.07	2.02	51.33	56.79	-2.90	-2.46
2415	0.84	1.93	49.84	54.45	-3.02	-2.64
2420	0.68	1.75	50.35	53.94	-2.98	-2.68
2425	0.76	1.54	50.28	52.46	-2.99	-2.80
2430	0.84	1.33	50.71	51.56	-2.95	-2.88
2435	0.94	1.05	51.56	51.13	-2.88	-2.91
2440	1.19	0.86	53.22	51.90	-2.74	-2.85
2445	1.32	0.71	54.10	52.32	-2.67	-2.81
2450	1.57	0.87	55.33	53.46	-2.57	-2.72
2455	1.77	0.91	56.50	54.63	-2.48	-2.63
2460	1.97	1.01	57.38	55.66	-2.41	-2.54
2465	2.12	0.95	57.82	56.19	-2.38	-2.50
2470	2.25	1.01	58.11	56.34	-2.36	-2.49
2475	2.39	1.08	59.26	57.19	-2.27	-2.43
2480	2.41	1.19	59.72	57.26	-2.24	-2.42
2485	2.40	1.31	59.93	57.01	-2.22	-2.44
2490	2.45	1.48	61.41	58.02	-2.12	-2.36
2495	2.42	1.52	62.82	59.05	-2.02	-2.29
2500	2.46	1.61	64.54	60.57	-1.90	-2.18

Annex A Photographs

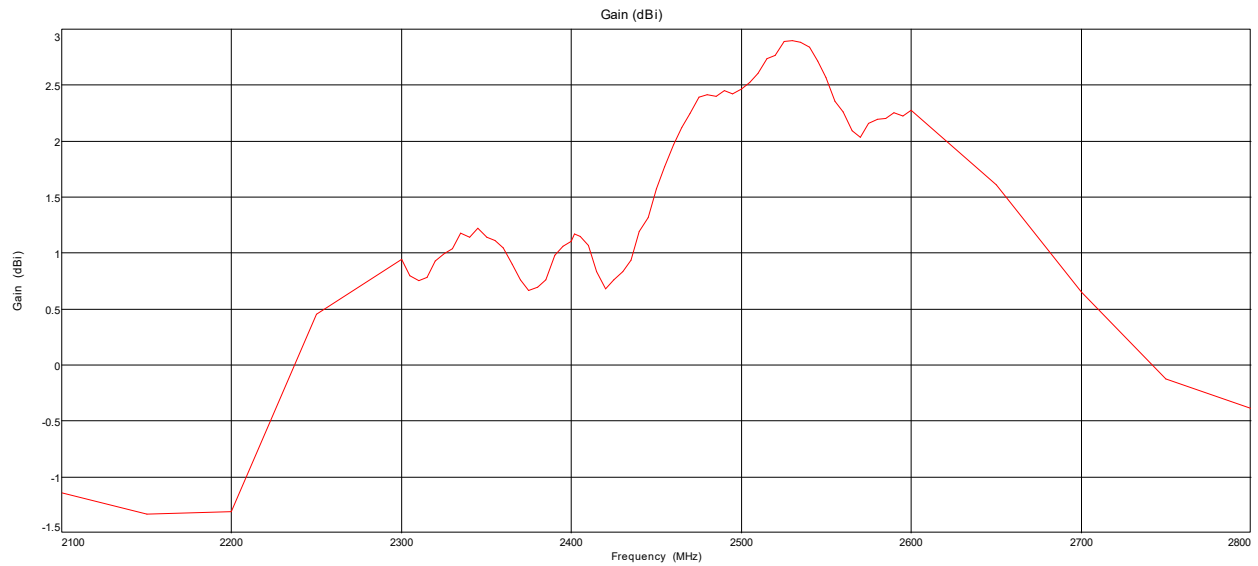
1. Test Setup



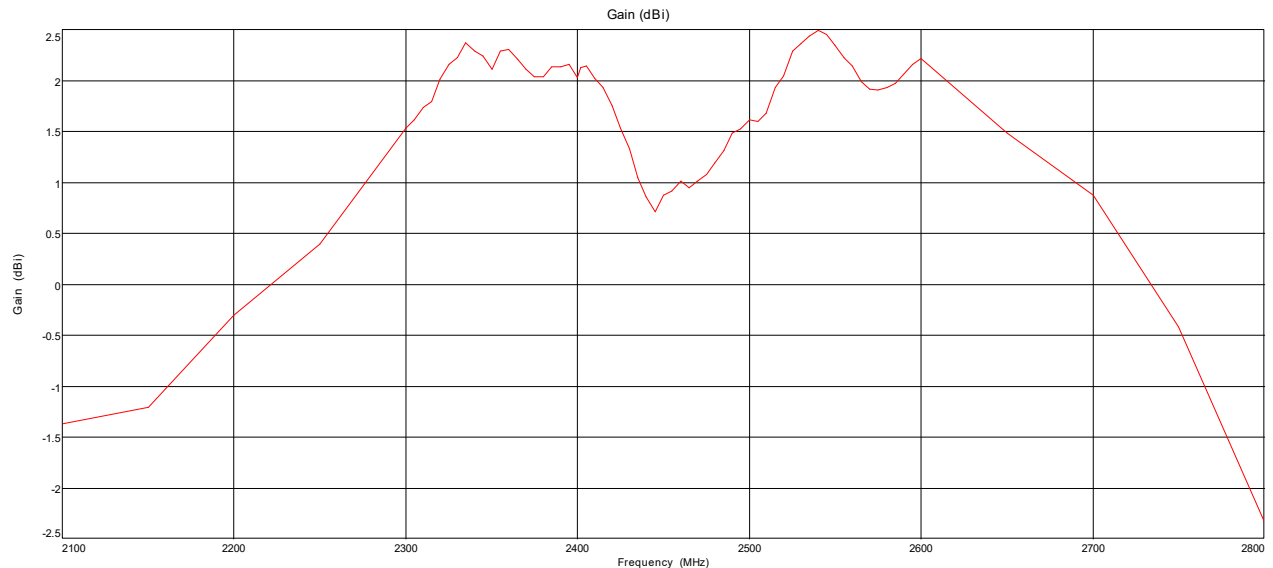
Annex B Figures

1. 2D Radiation Pattern

Gain



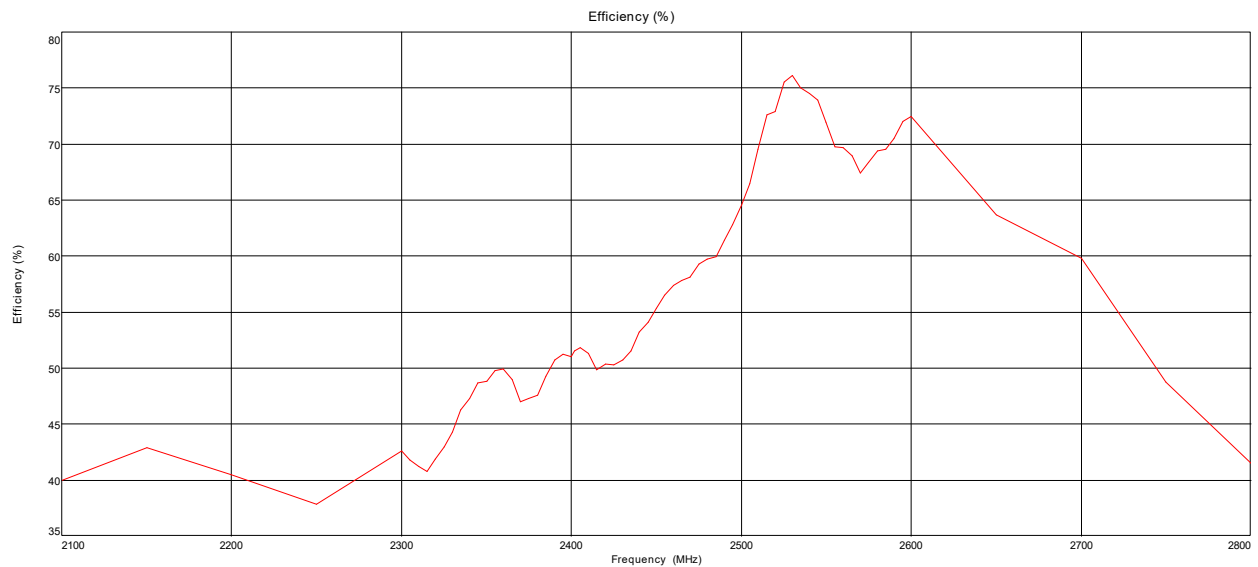
1#



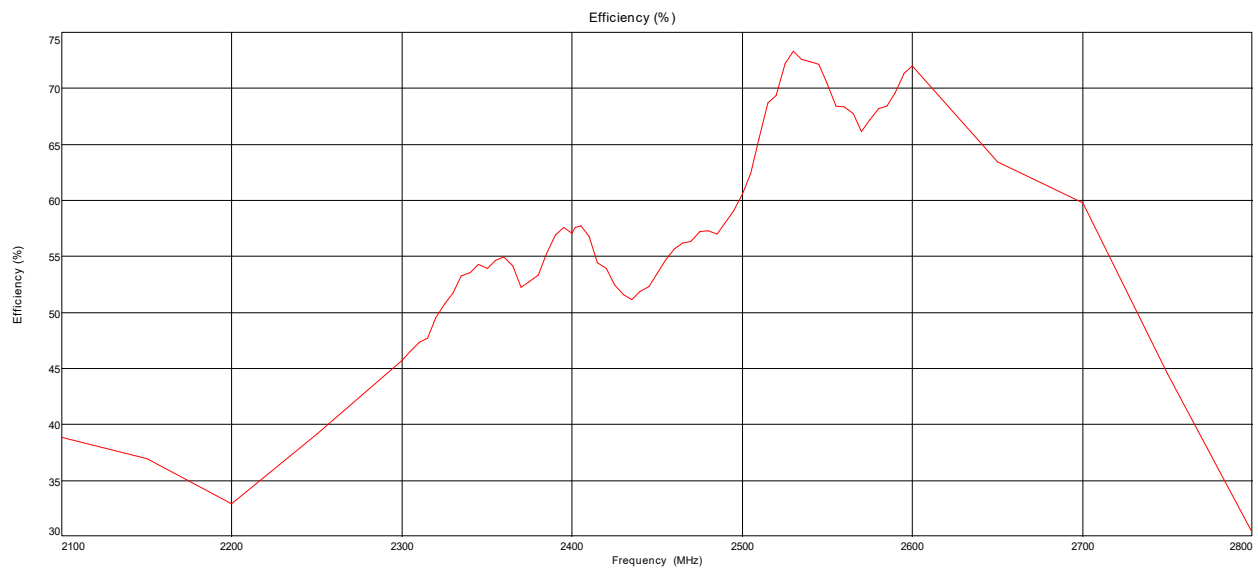
2#



Efficiency



1#

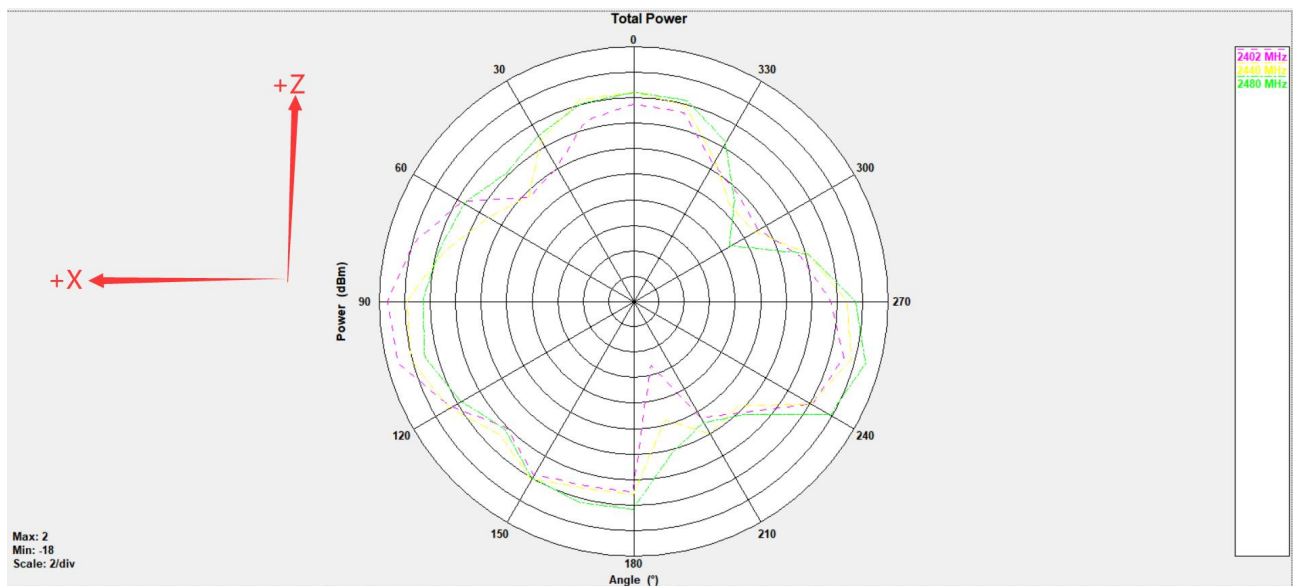
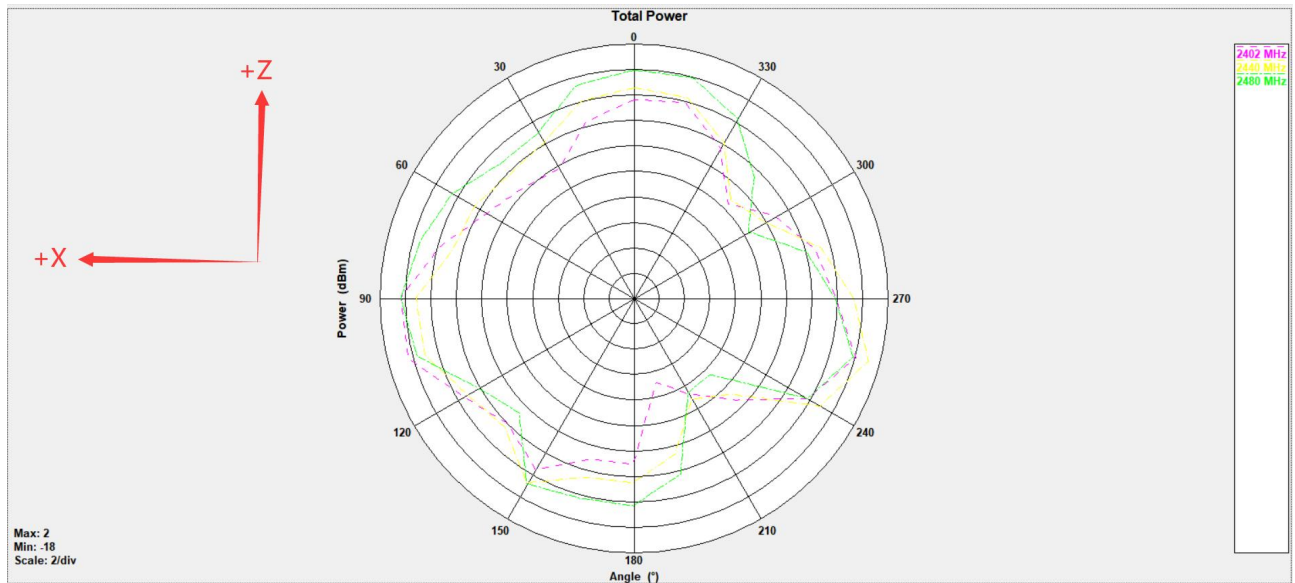


2#



REPORT No.: SZ22080014E01

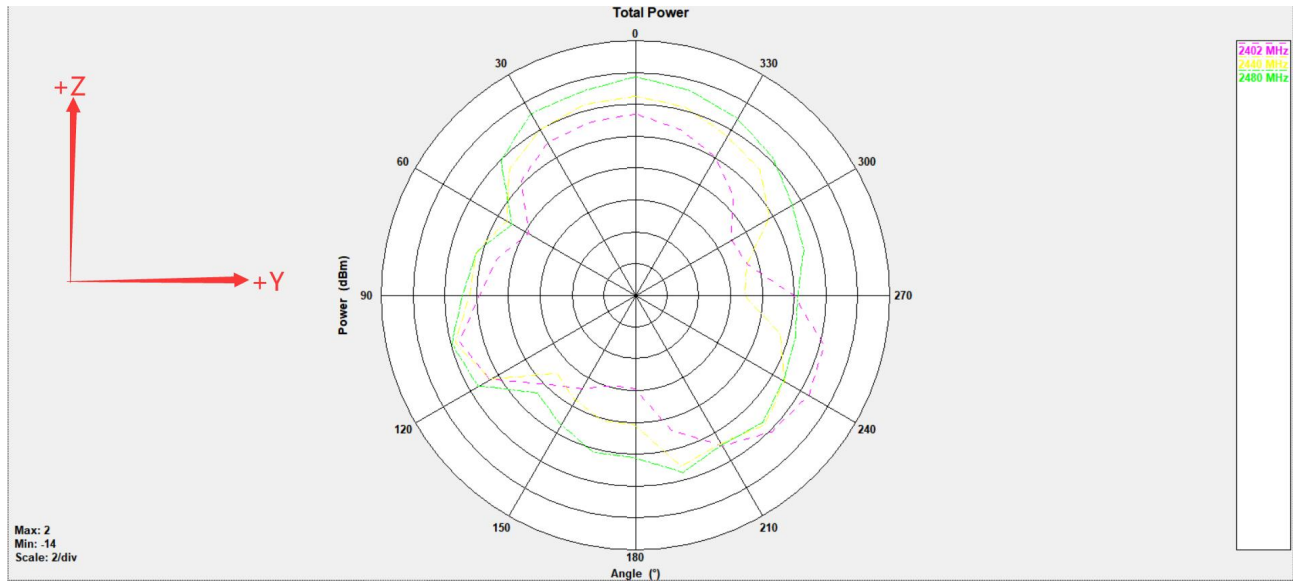
Phi=0°



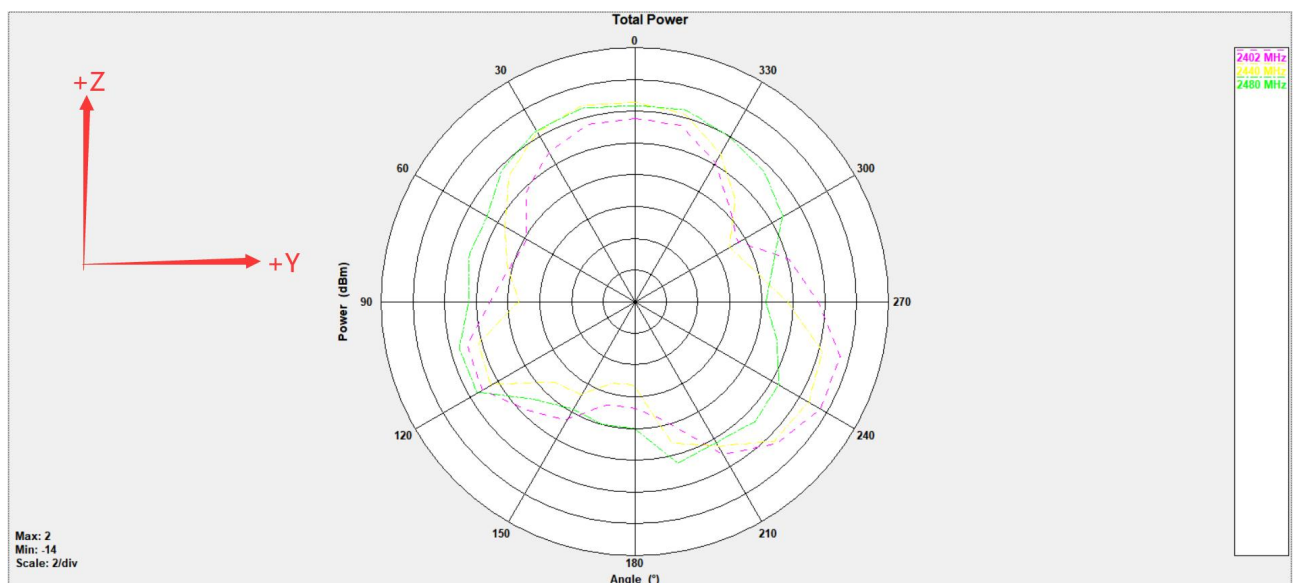


REPORT No.: SZ22080014E01

Phi=90°



1#

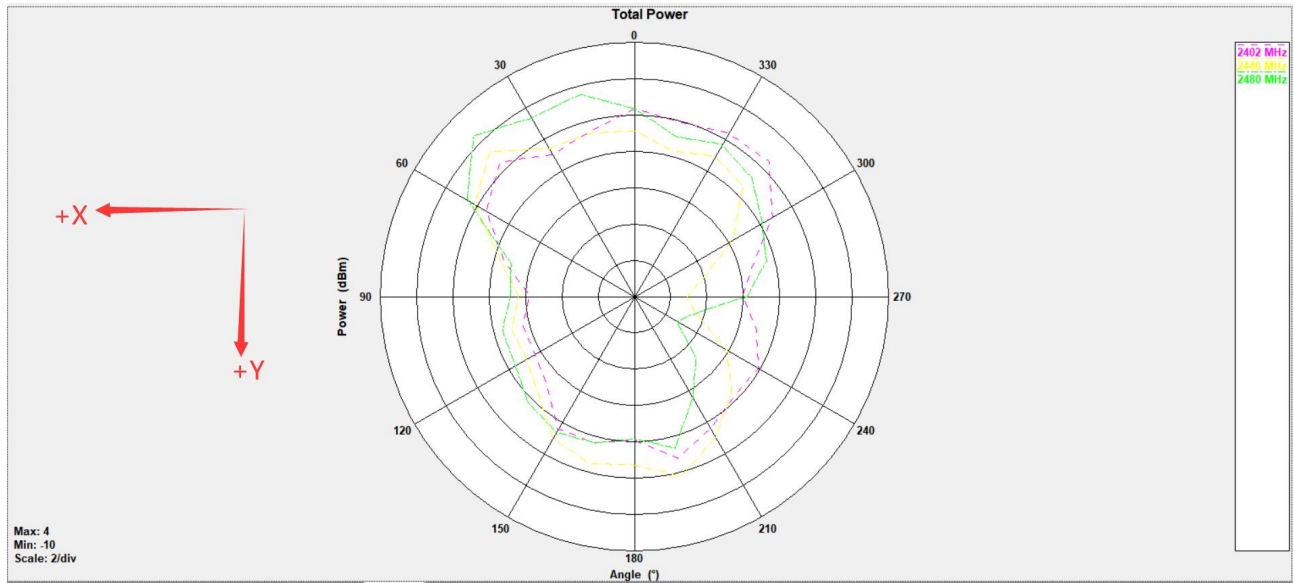


2#

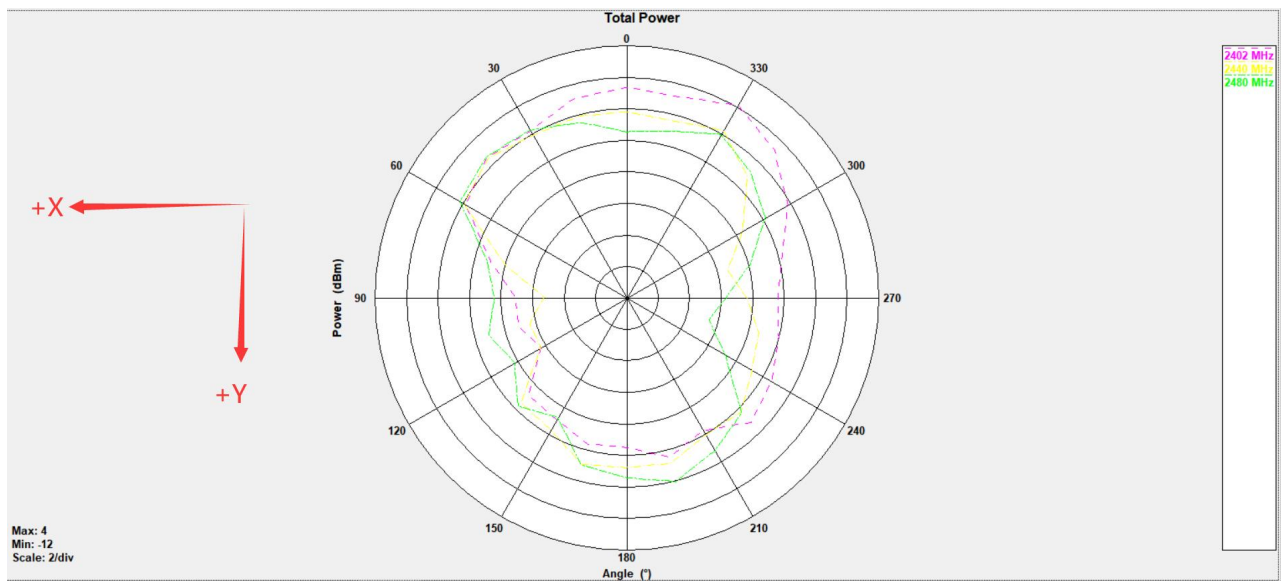


REPORT No.: SZ22080014E01

Theta=90°

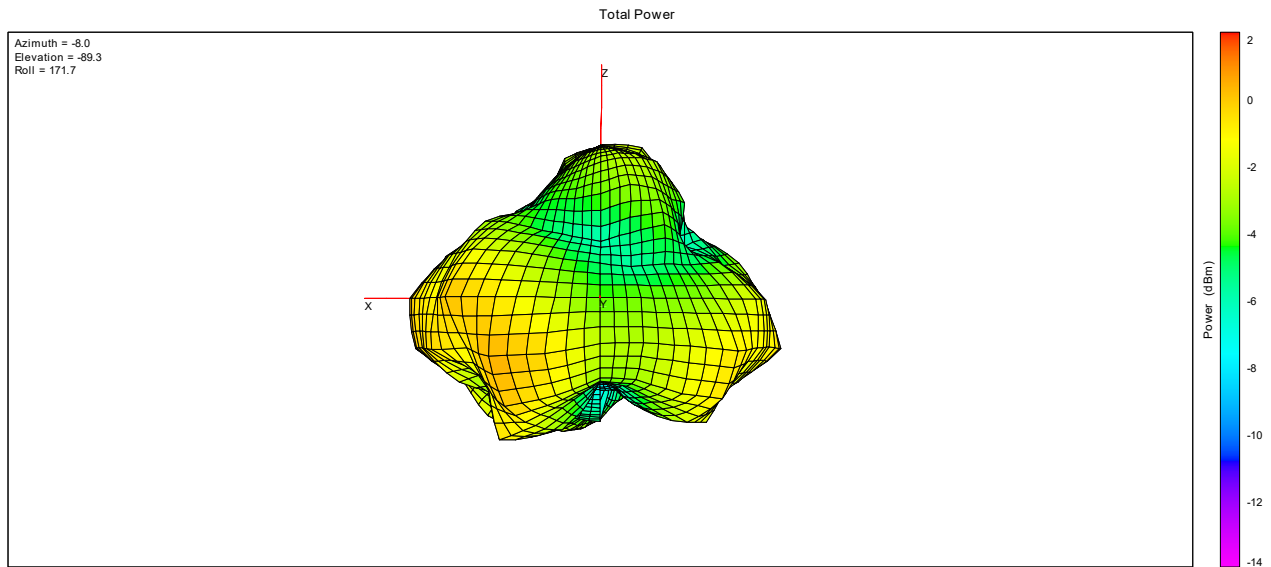


1#

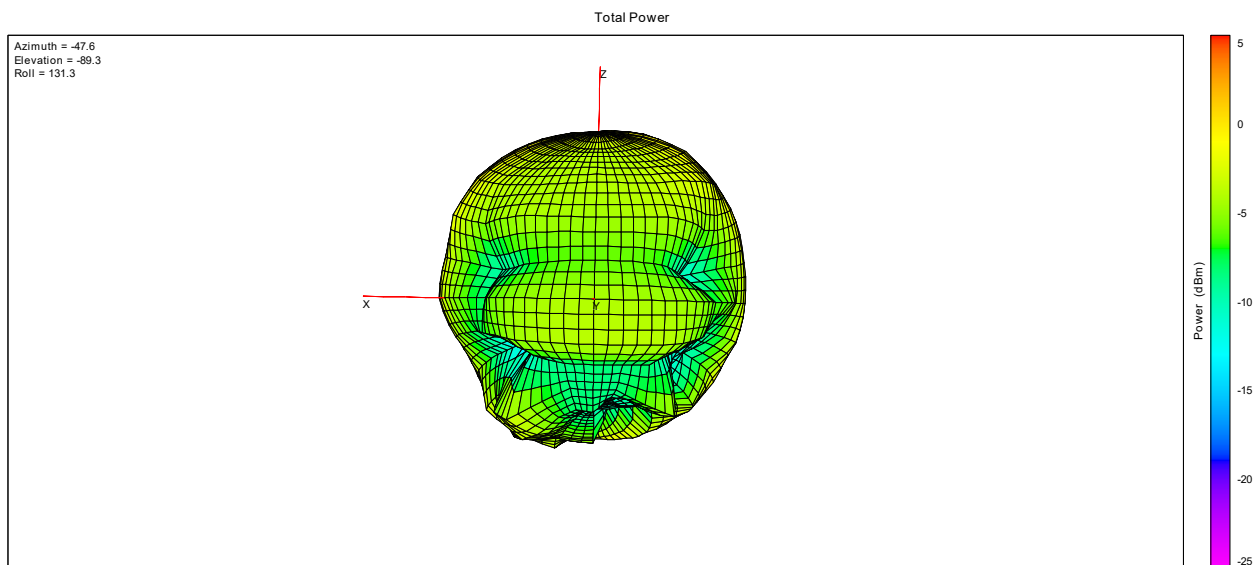


2#

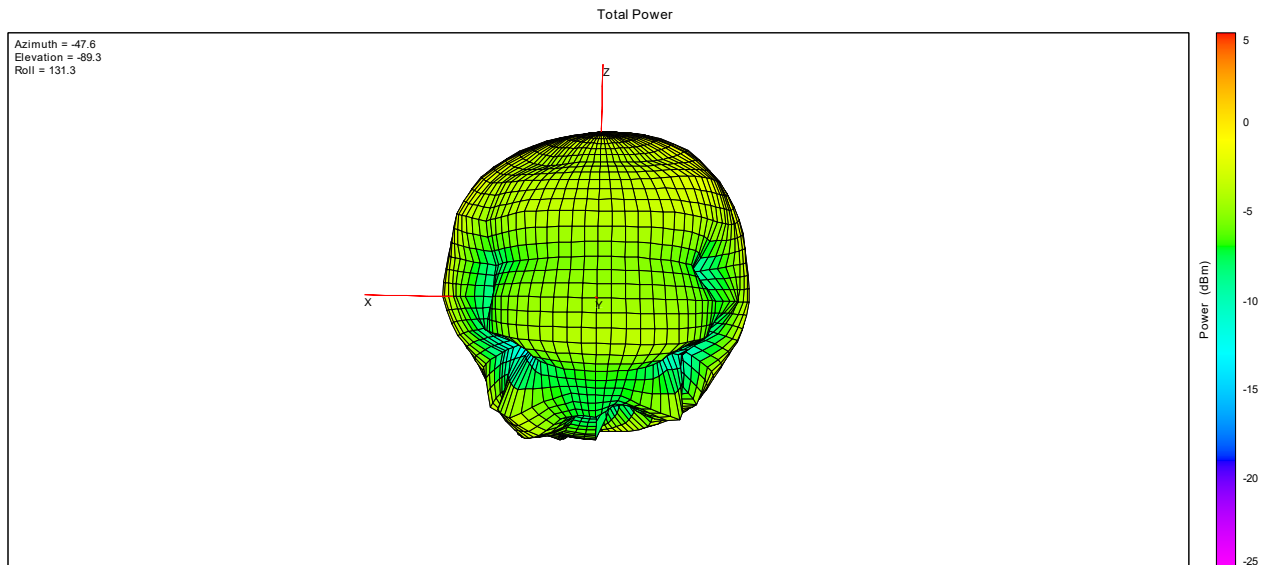
2. 3D Radiation Pattern



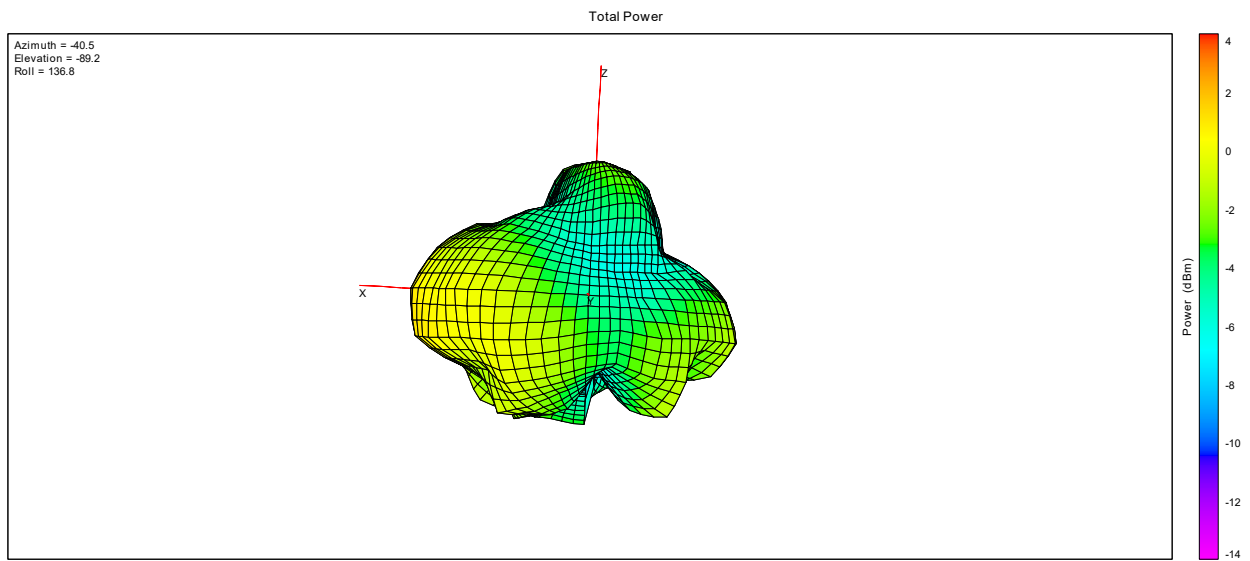
2402MHz_1#



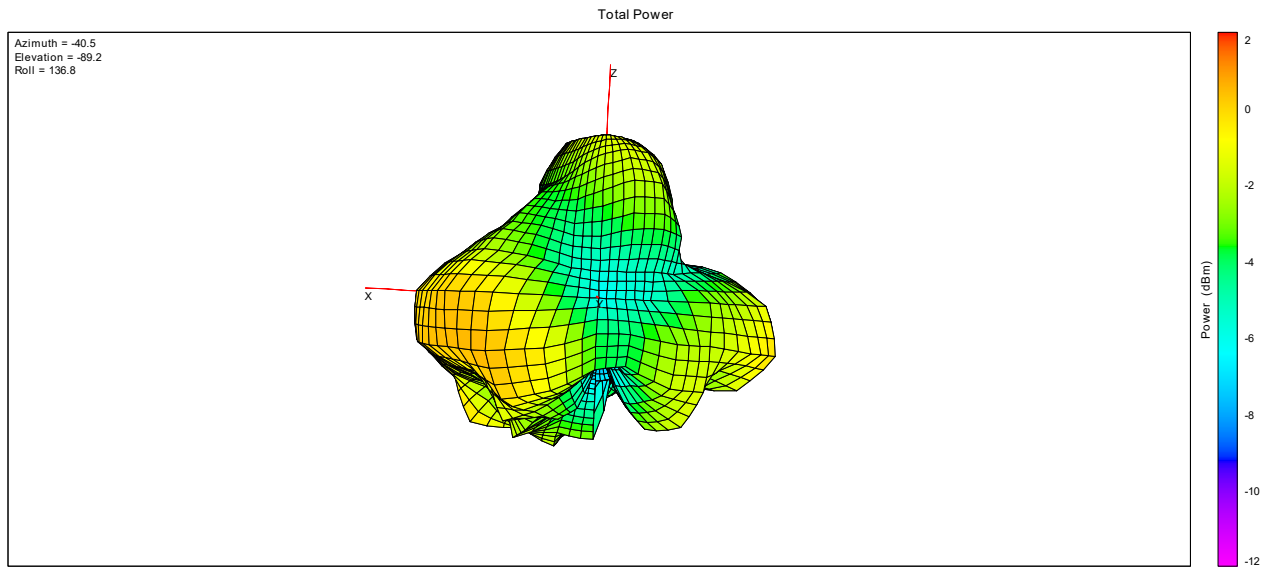
2440MHz_1#



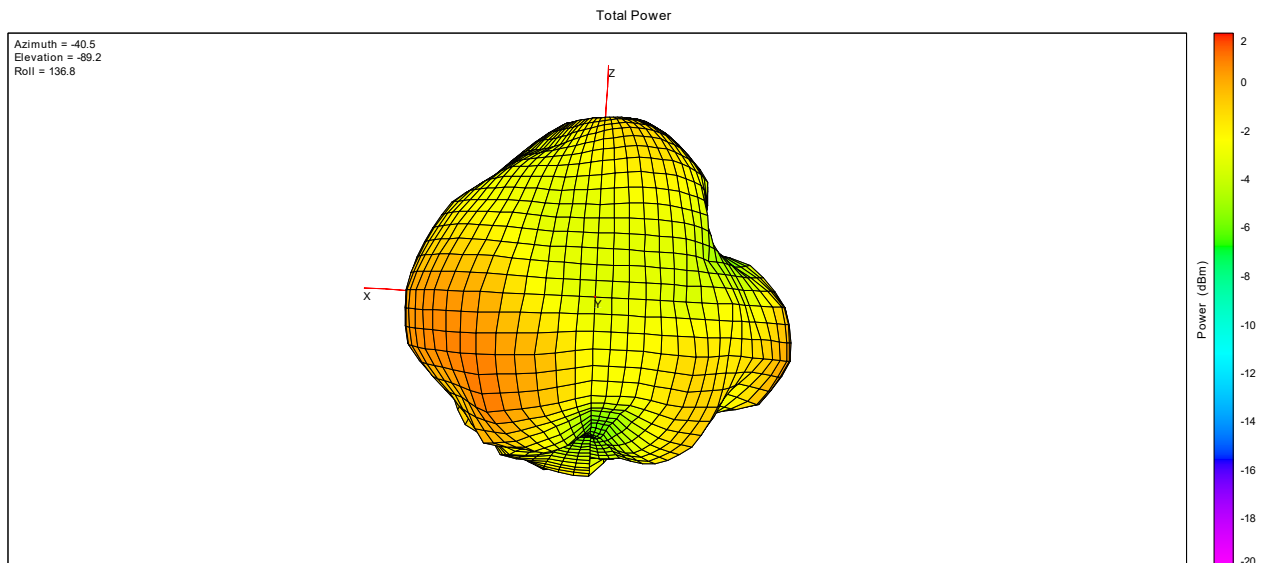
2480MHz_1#



2402MHz_2#



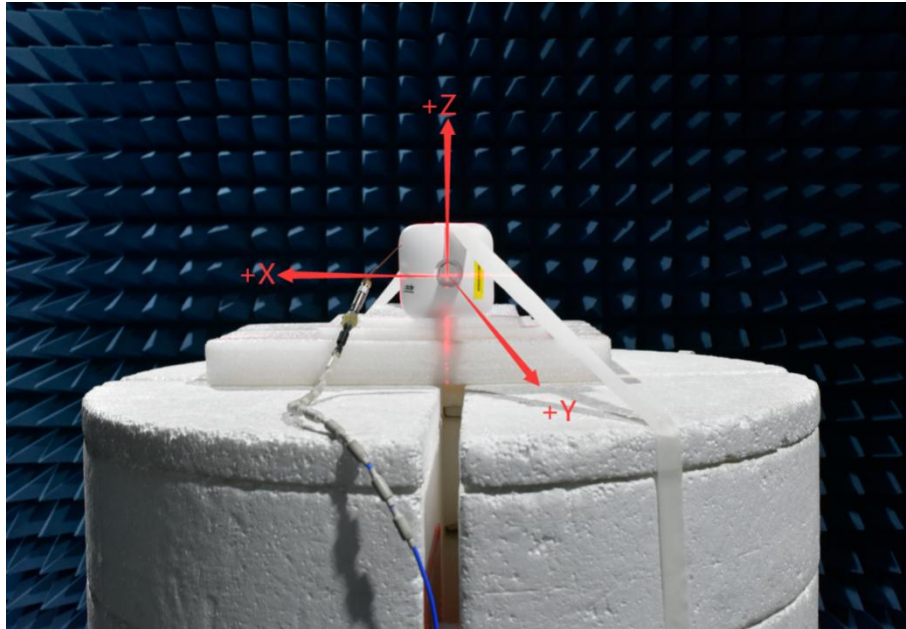
2440MHz_2#



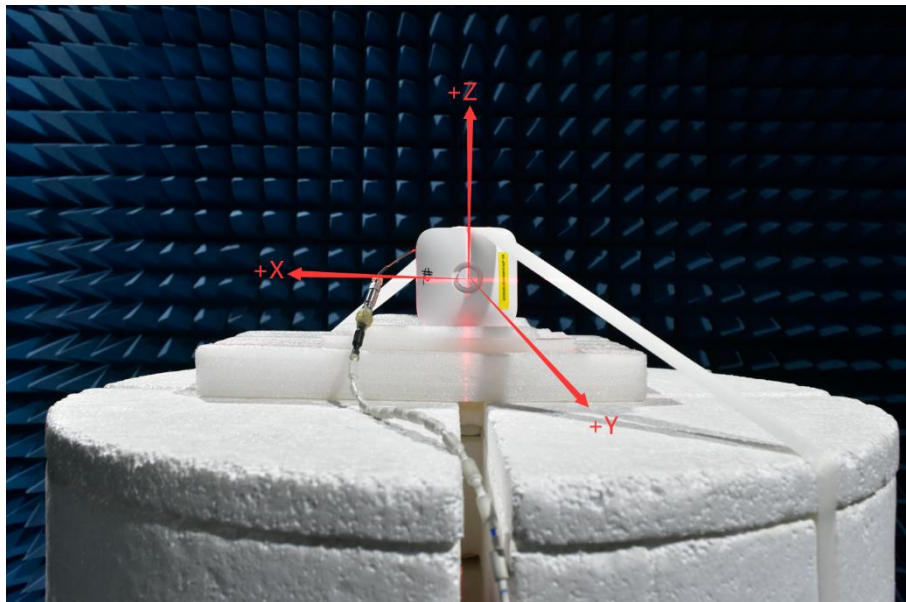
2480MHz_2#

Annex C Photographs

1. Test environment

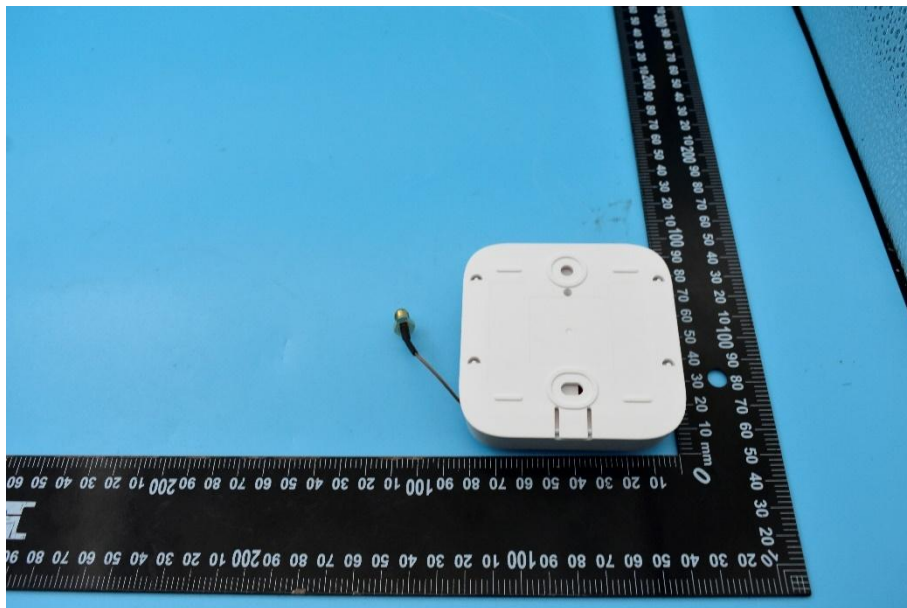
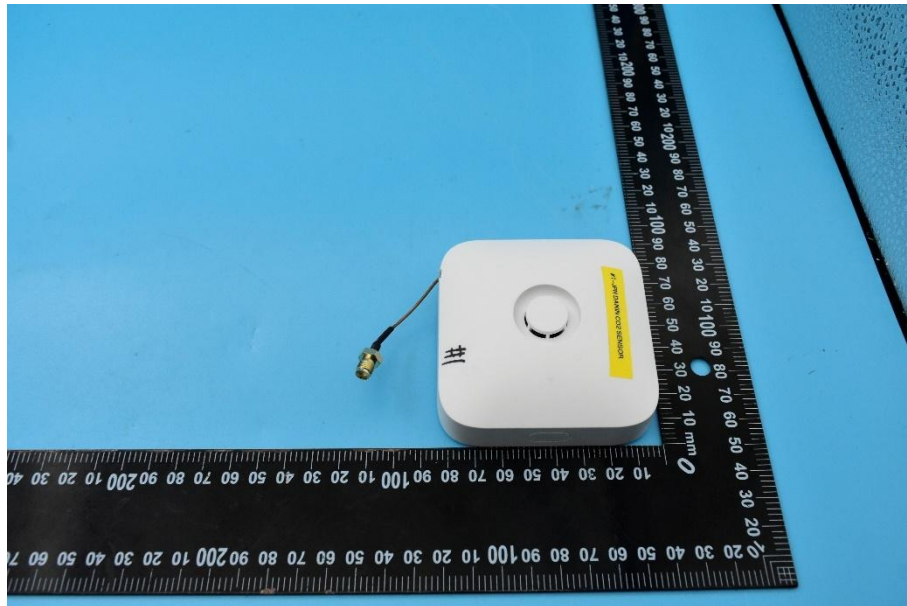


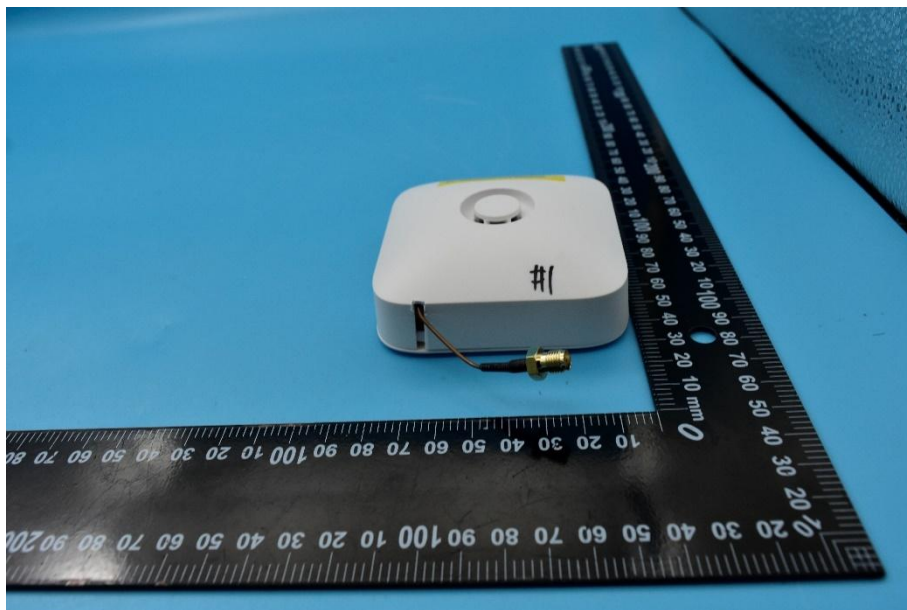
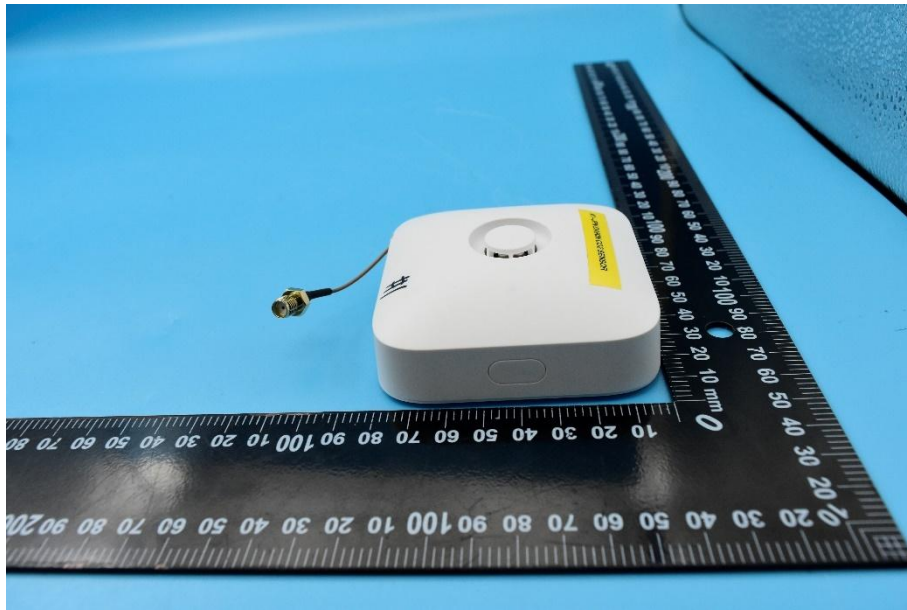
1#

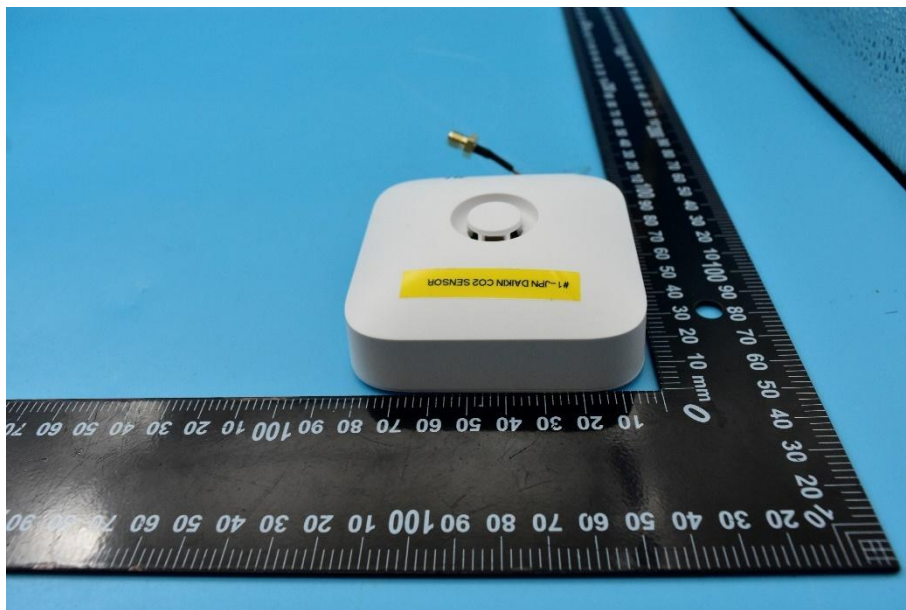
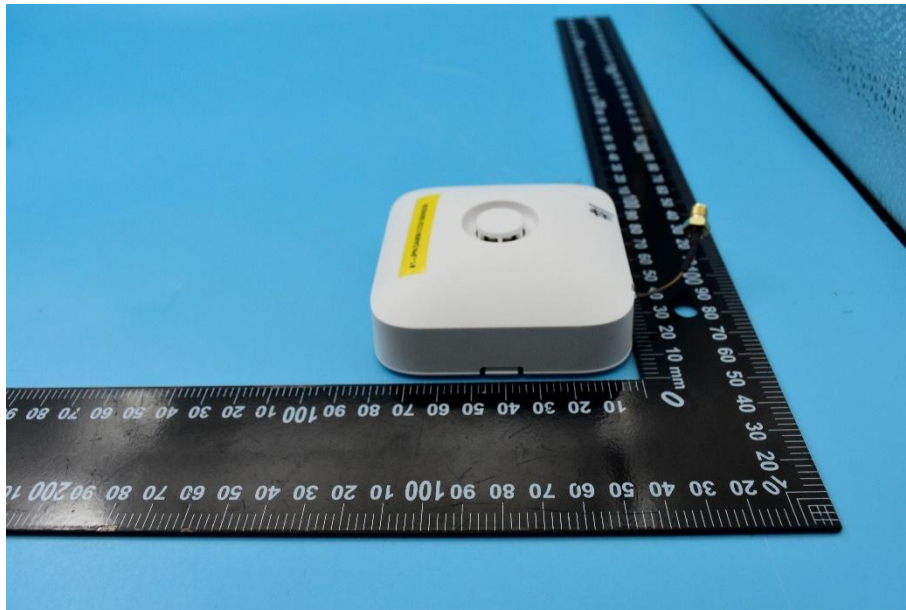


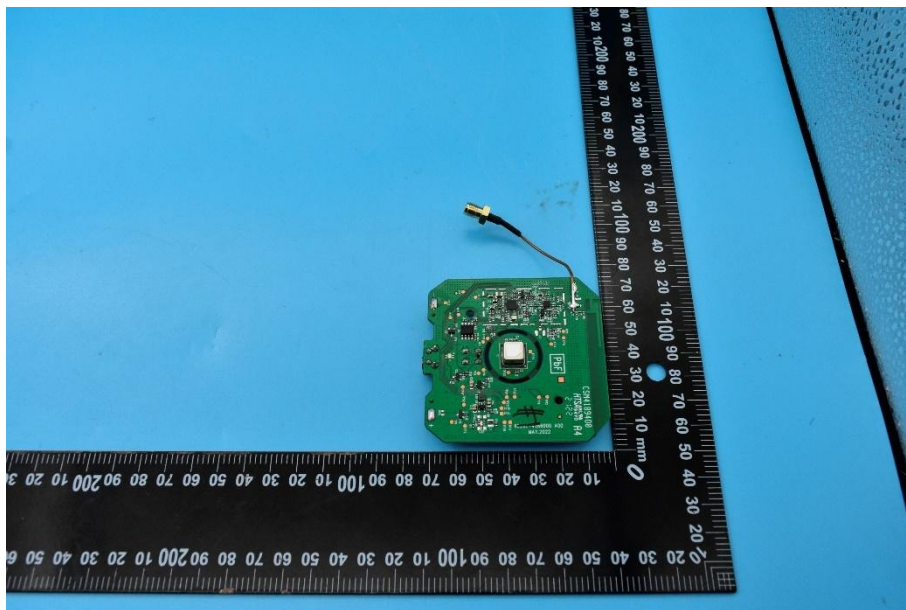
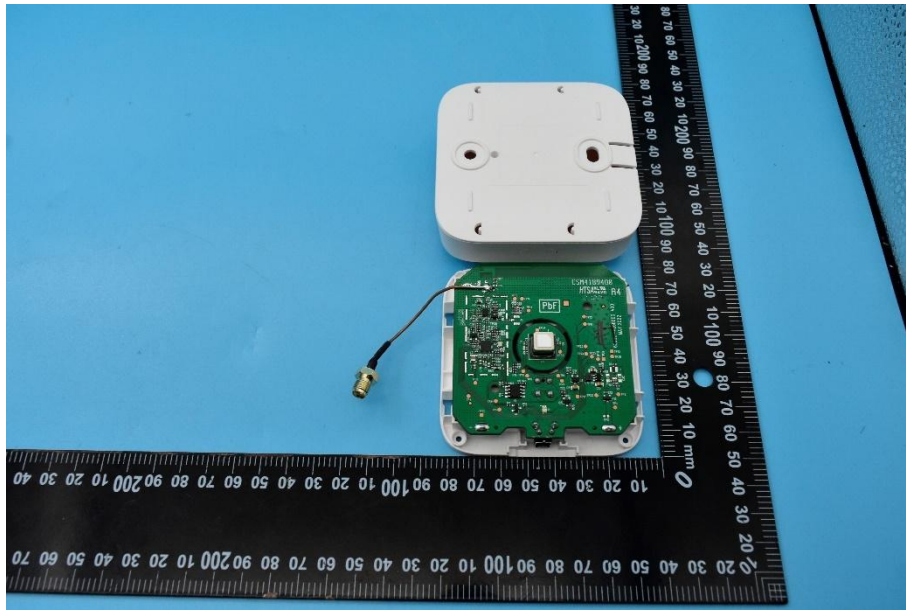
2#

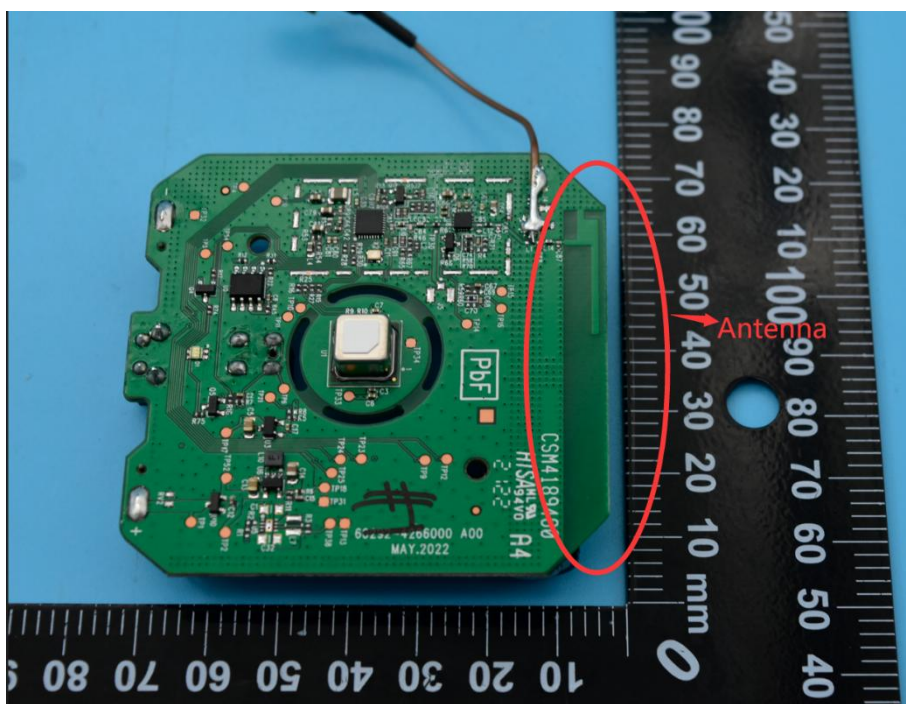
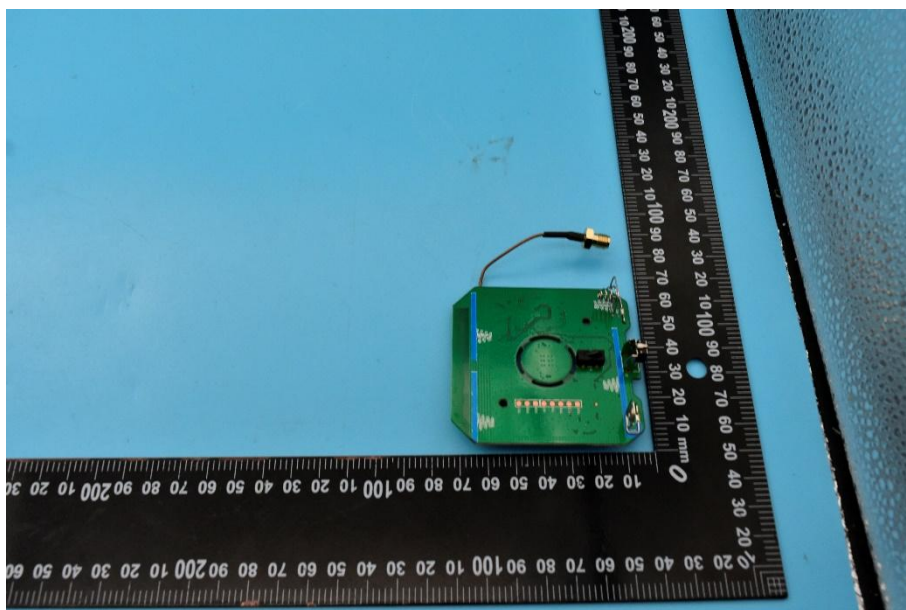
2. EUT



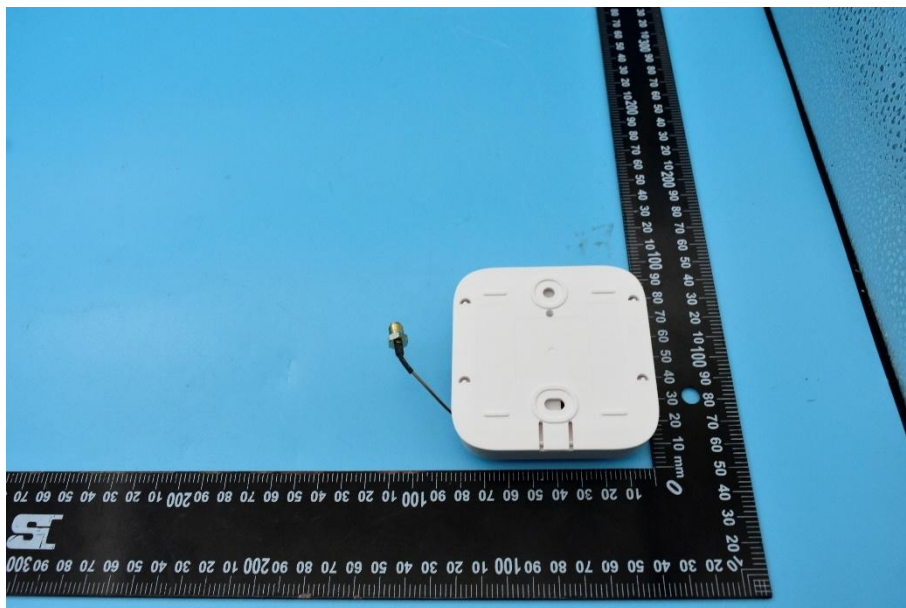
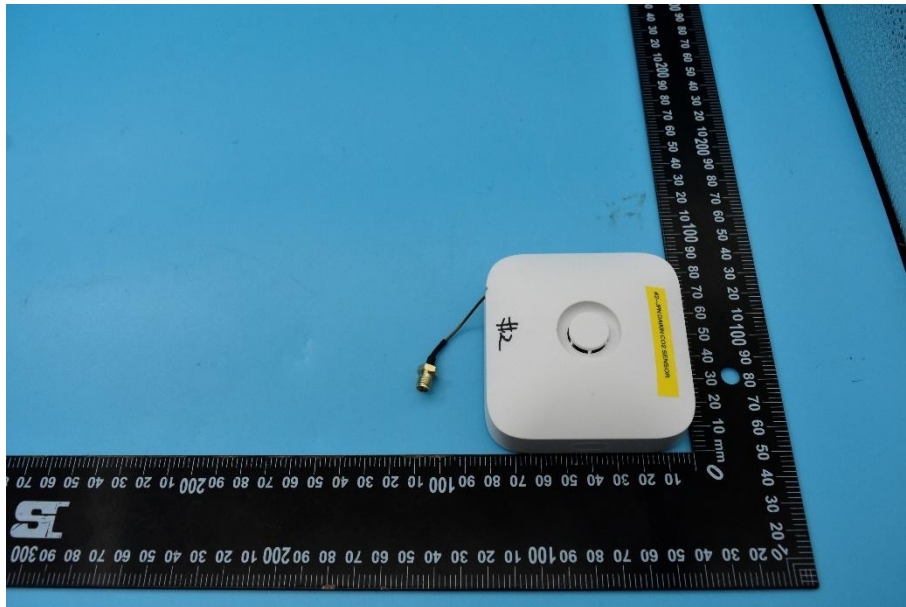


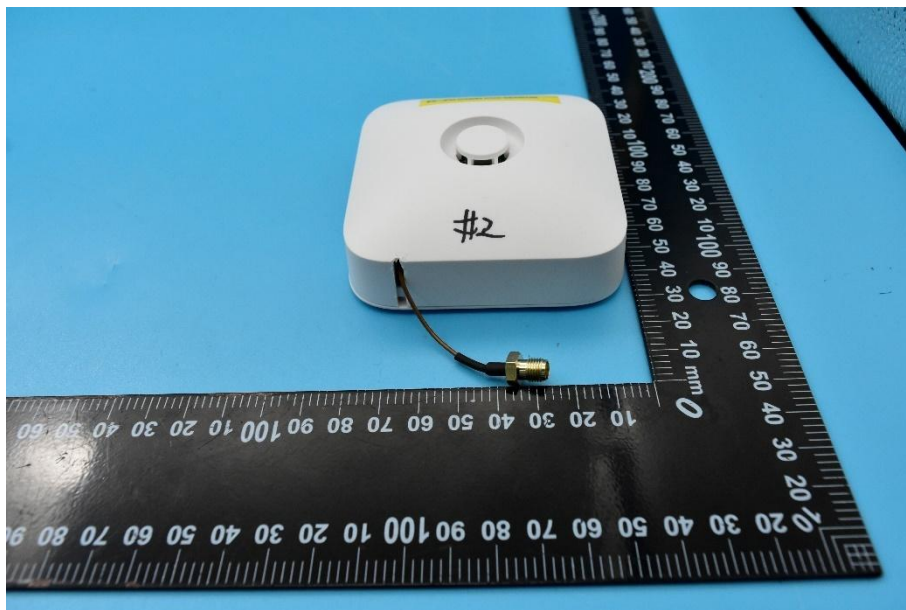
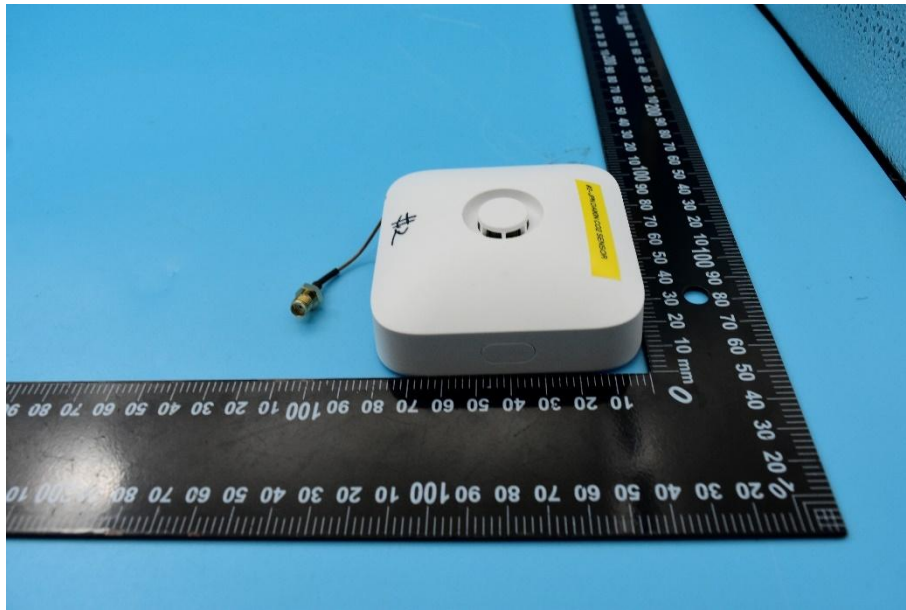


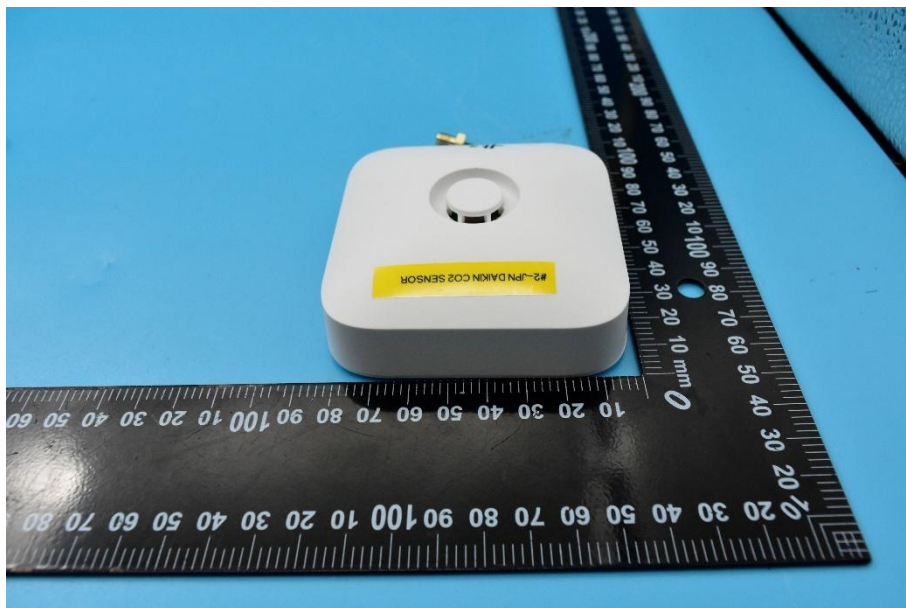


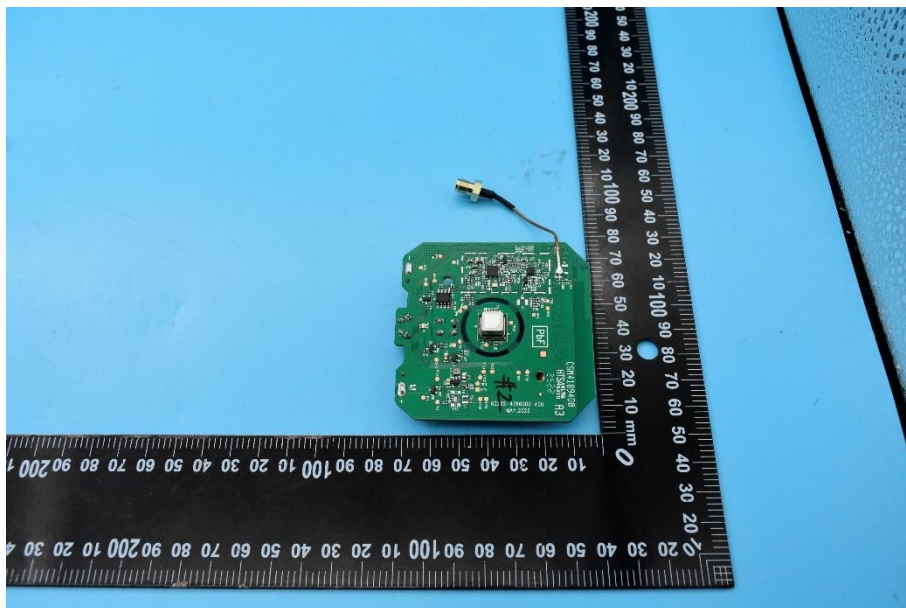
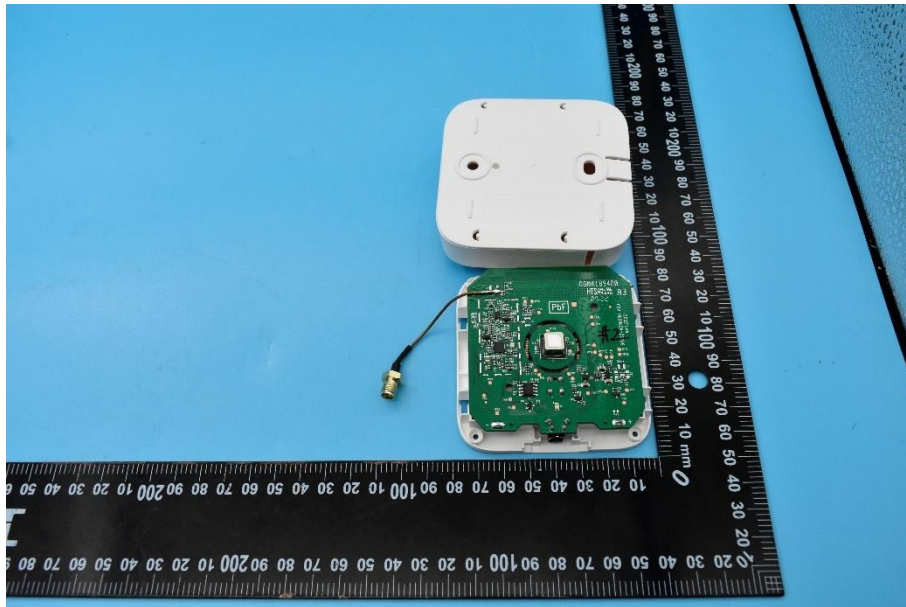


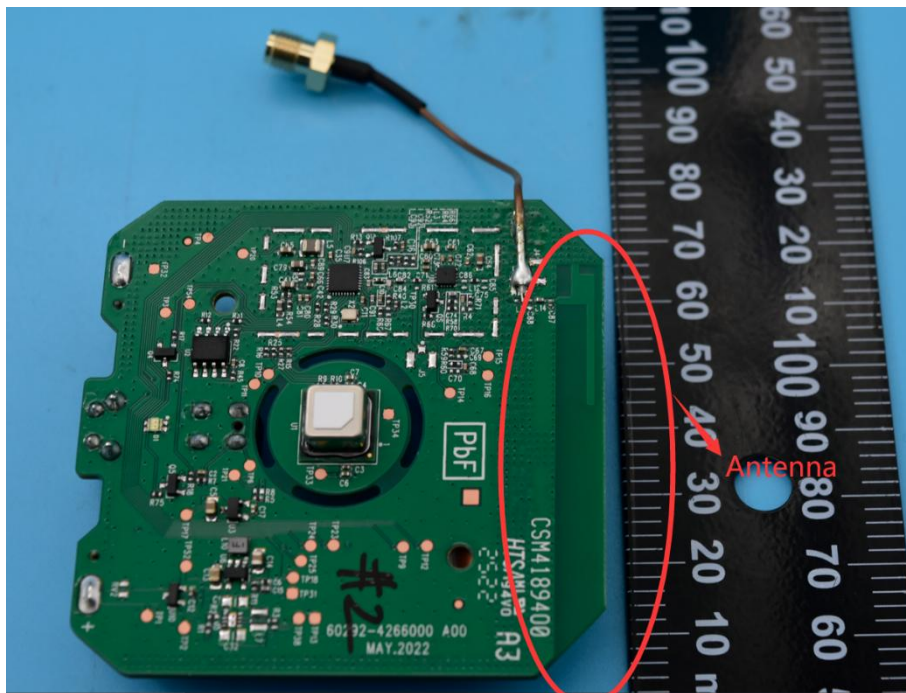
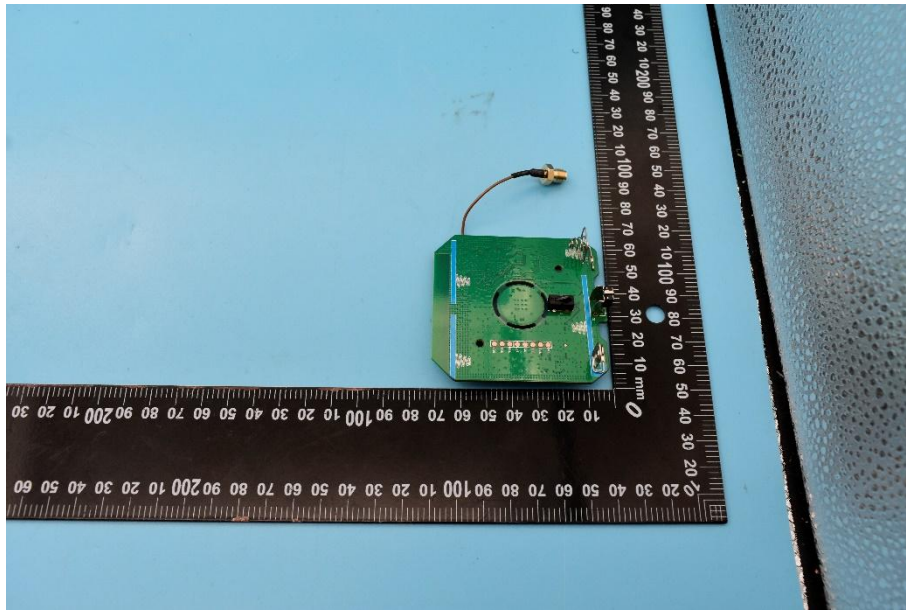
1#











2#



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

No.	Equipement Name	Serial No.	Type	Manufa cturer	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	2020.01.06	2023.01.05
3	Antenna Measurement System	1685	EMQuest EMQ-100 V 1.13 Build 21267	ETS	N/A	N/A

————— END OF REPORT —————