



REPORT No.: SZ23040110E01

TEST REPORT

APPLICANT : Athom B.V.

PRODUCT NAME : Smart home hub

MODEL NAME : HY0025

TRADE NAME : Homey Pro

BRAND NAME : N/A

STANDARD(S) : IEEE Std 149-2021

RECEIPT DATE : 2023-04-07

TEST DATE : 2023-04-10

ISSUE DATE : 2023-07-10



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MORLAB

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Change History		
Version	Date	Reason for change
1.0	2023-07-10	First edition



1. Technical Information

Note: Provide by applicant.

1.1. Applicant and Manufacturer Information

Applicant:	Athom B.V.
Applicant Address:	Oude Markt 9b,7511GA Enschede,Netherlands.
Manufacturer:	Athom B.V.
Manufacturer Address:	Oude Markt 9b,7511GA Enschede,Netherlands.

1.2. Equipment Under Test (EUT) Description

Wireless Type	N/A
Frequency	N/A
IMEI	N/A
Sample No.	1#



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.

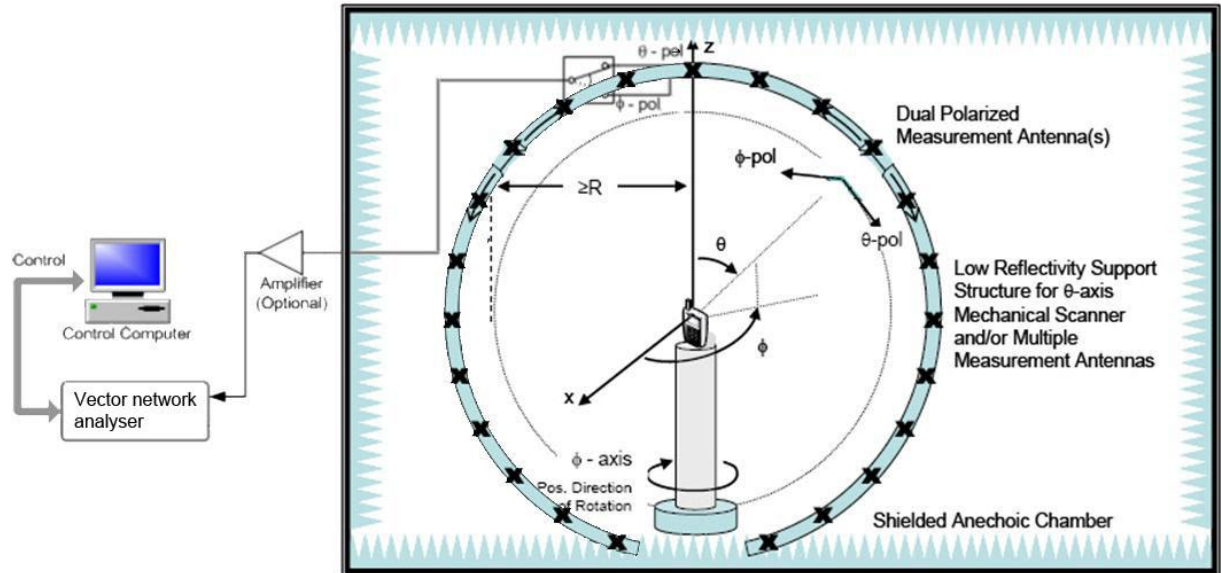
2.4. Test Results lists

2.4.1. Efficiency and Gain

Z-WAVE Antenna		
Frequency (MHz)	Efficiency(%)	Gain(dBi)
868	10.9	-4.8
870	10.9	-4.8
890	11.9	-4.3
900	14.0	-3.8
910	16.1	-3.5
914	16.9	-3.3
920	18.2	-3.2
922	18.6	-3.2
923	18.9	-3.2

Zigbee Antenna		
Frequency (MHz)	Efficiency(%)	Gain(dBi)
2400	33.3	1.0
2410	31.6	0.8
2420	30.2	0.6
2430	28.3	0.3
2440	28.2	0.3
2450	27.6	0.2
2460	26.6	0.1
2470	25.8	0.1
2480	24.7	-0.1
2490	24.1	-0.2
2500	24.1	-0.1

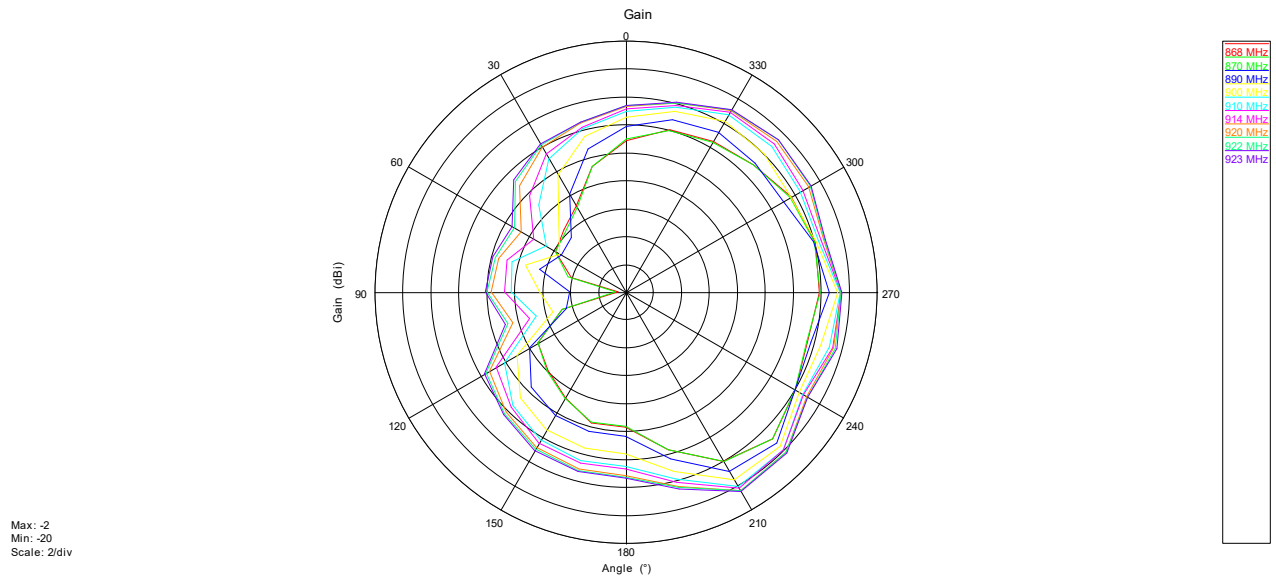
Annex A Test Setup Photos



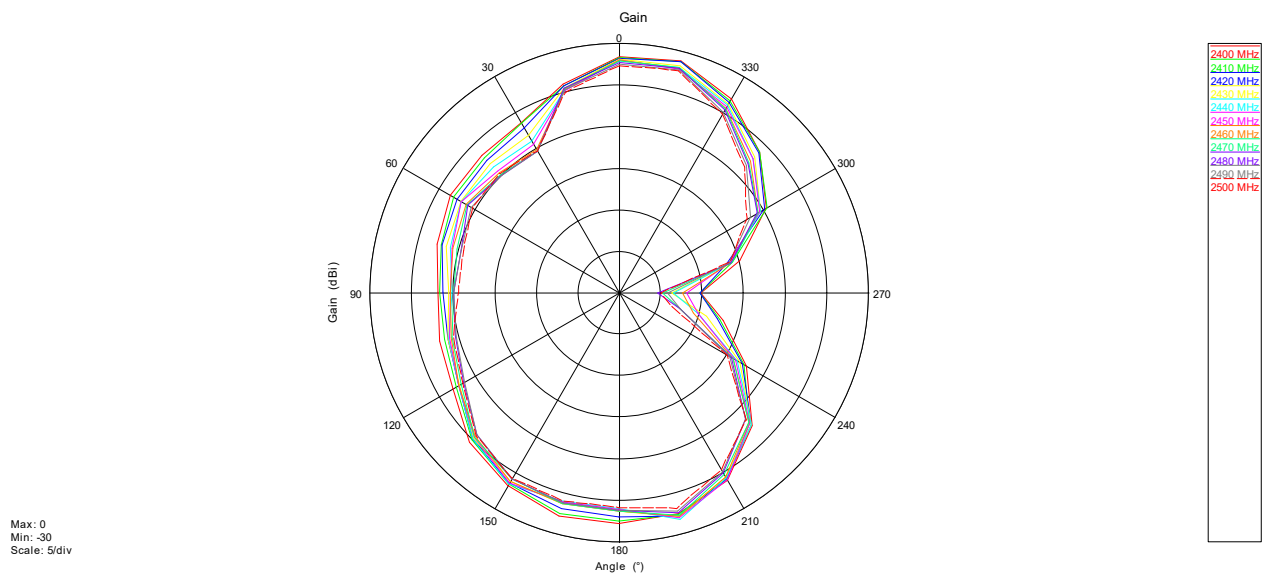
Annex B Figures

1. 2D Radiation Pattern

Phi=0°



Z-WAVE Antenna



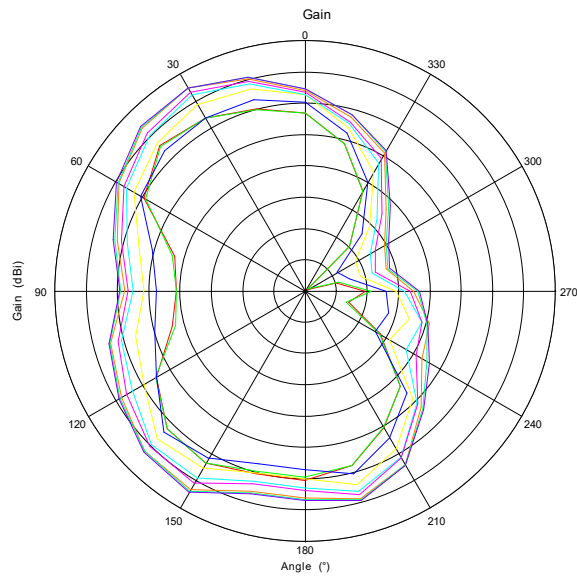
Zigbee Antenna



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Phi=90°

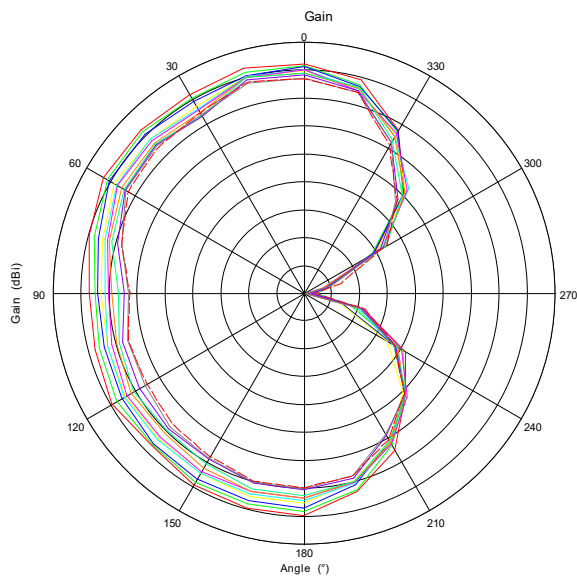
Max: -4
Min: -20
Scale: 2/div



858 MHz
870 MHz
890 MHz
900 MHz
910 MHz
914 MHz
920 MHz
922 MHz
923 MHz

Z-WAVE Antenna

Max: 0
Min: -18
Scale: 2/div



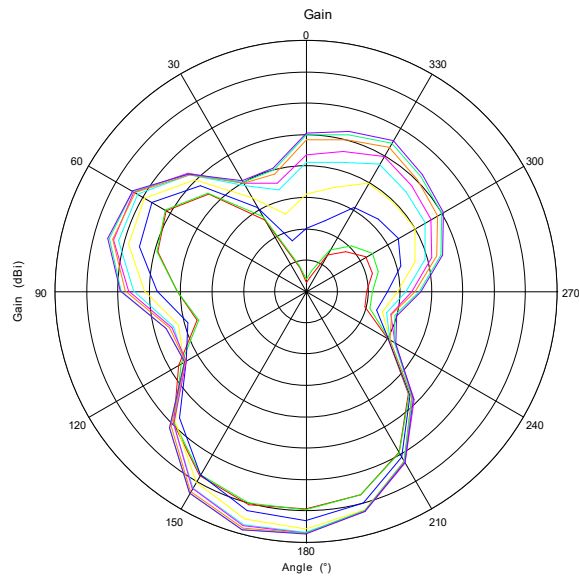
2400 MHz
2410 MHz
2420 MHz
2430 MHz
2440 MHz
2450 MHz
2460 MHz
2470 MHz
2480 MHz
2490 MHz
2500 MHz

Zigbee Antenna



Theta=90°

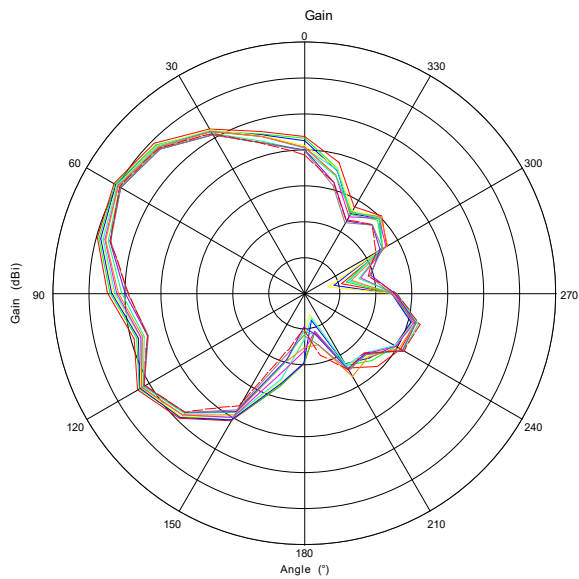
Max: -4
Min: -20
Scale: 2/div



868 MHz
870 MHz
890 MHz
900 MHz
910 MHz
914 MHz
920 MHz
922 MHz
923 MHz

Z-WAVE Antenna

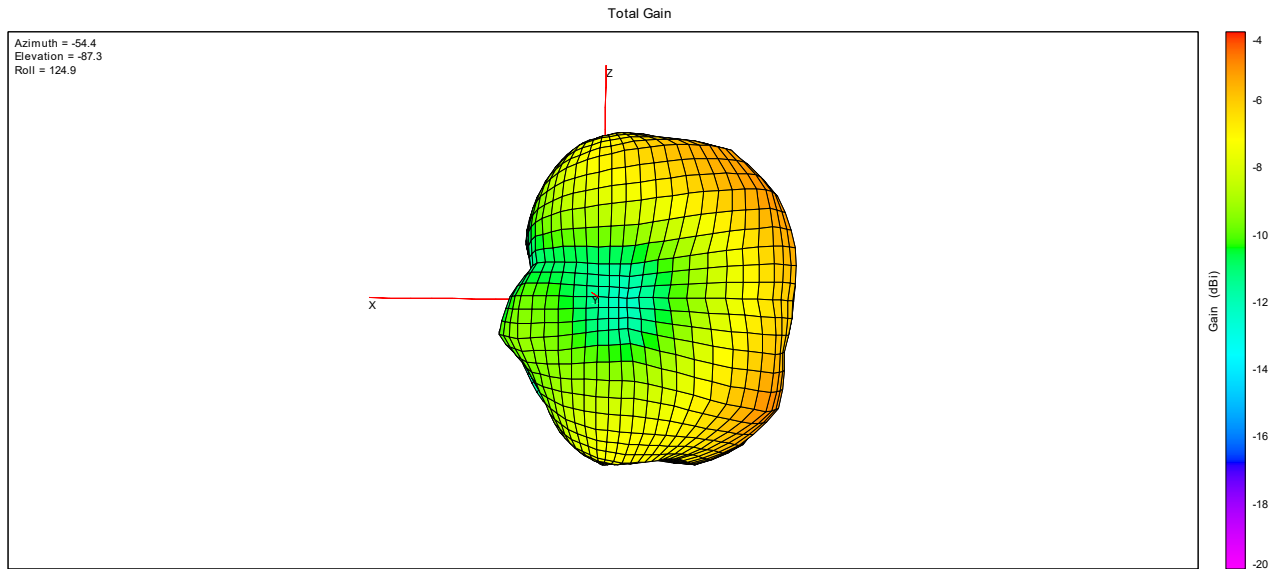
Max: 5
Min: -30
Scale: 5/div



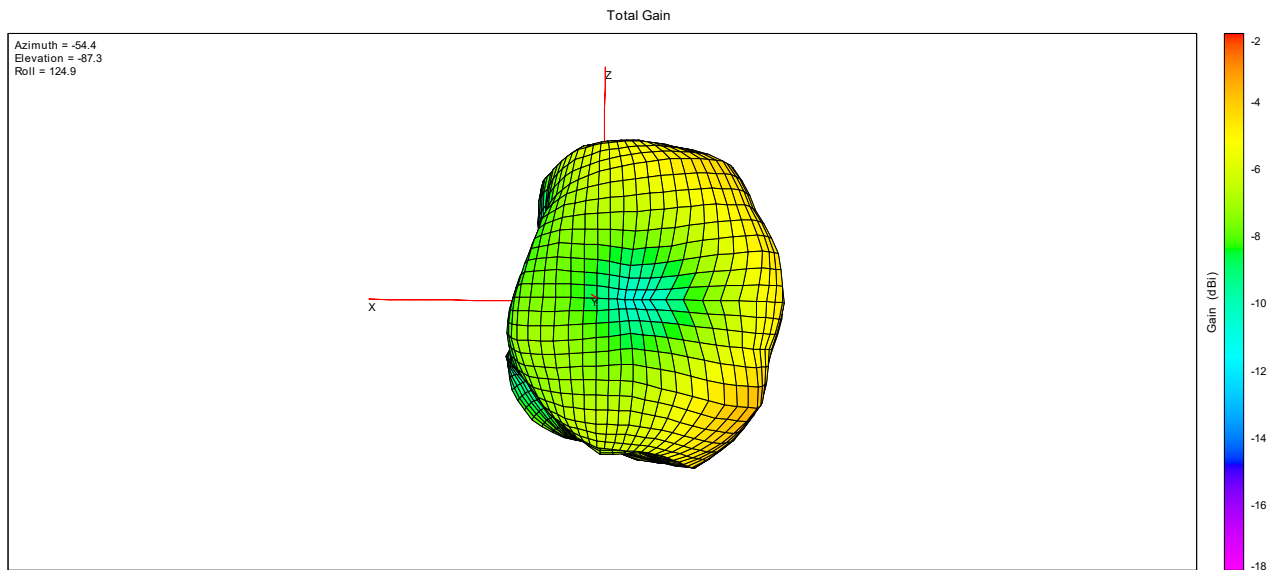
2400 MHz
2410 MHz
2420 MHz
2430 MHz
2440 MHz
2450 MHz
2460 MHz
2470 MHz
2480 MHz
2490 MHz
2500 MHz

Zigbee Antenna

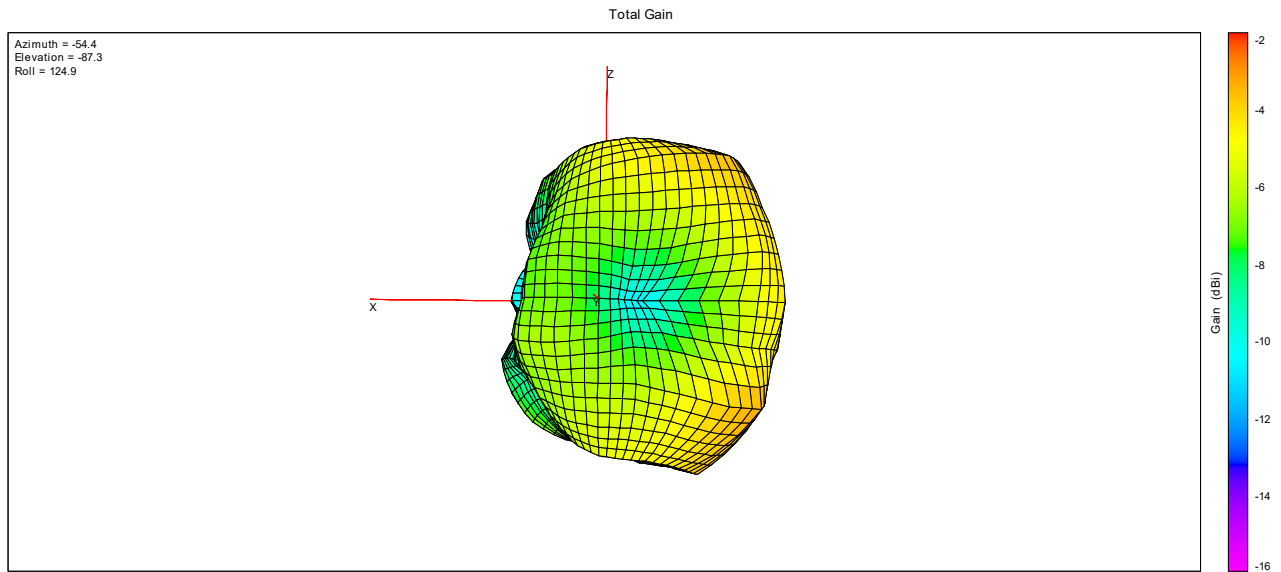
2. 3D Radiation Pattern



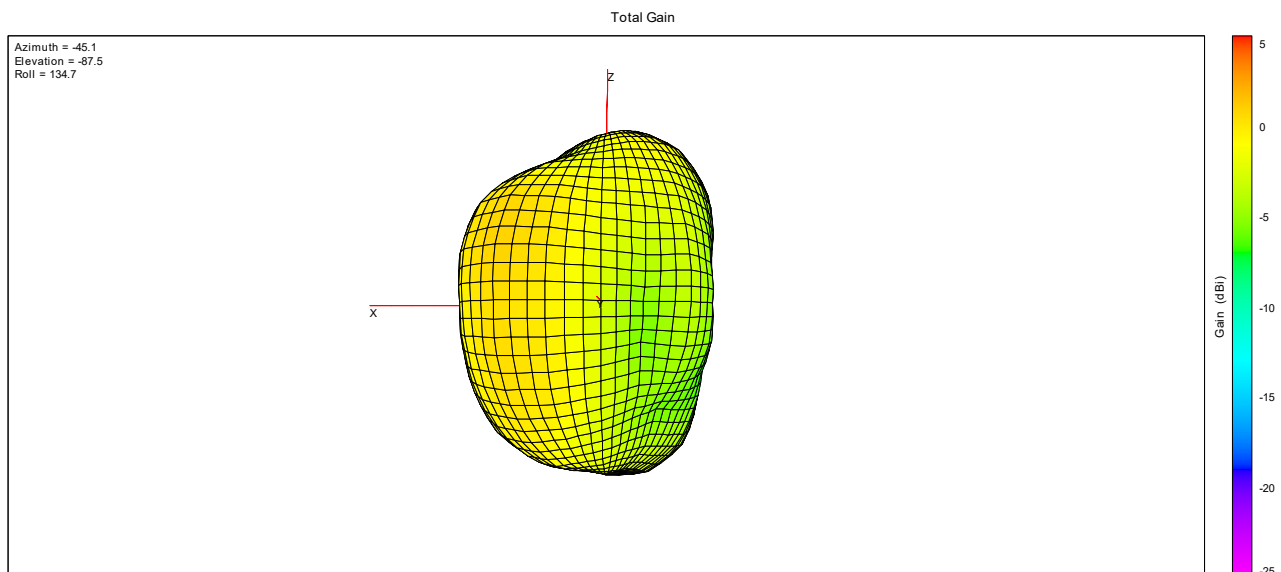
868MHz_Z-WAVE Antenna



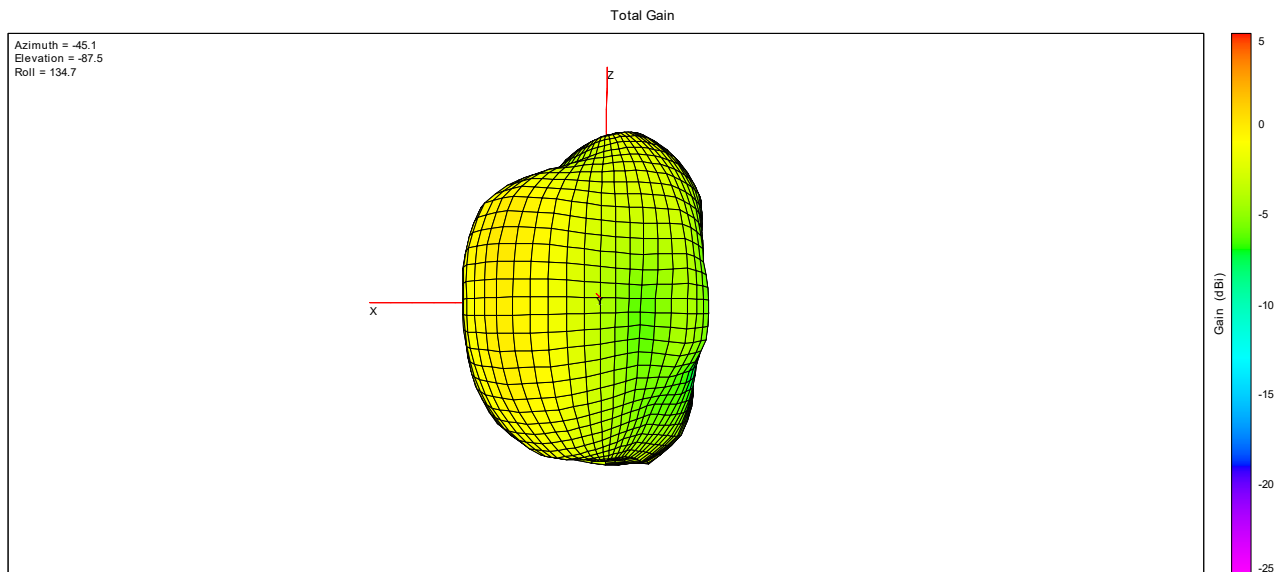
910MHz_Z-WAVE Antenna



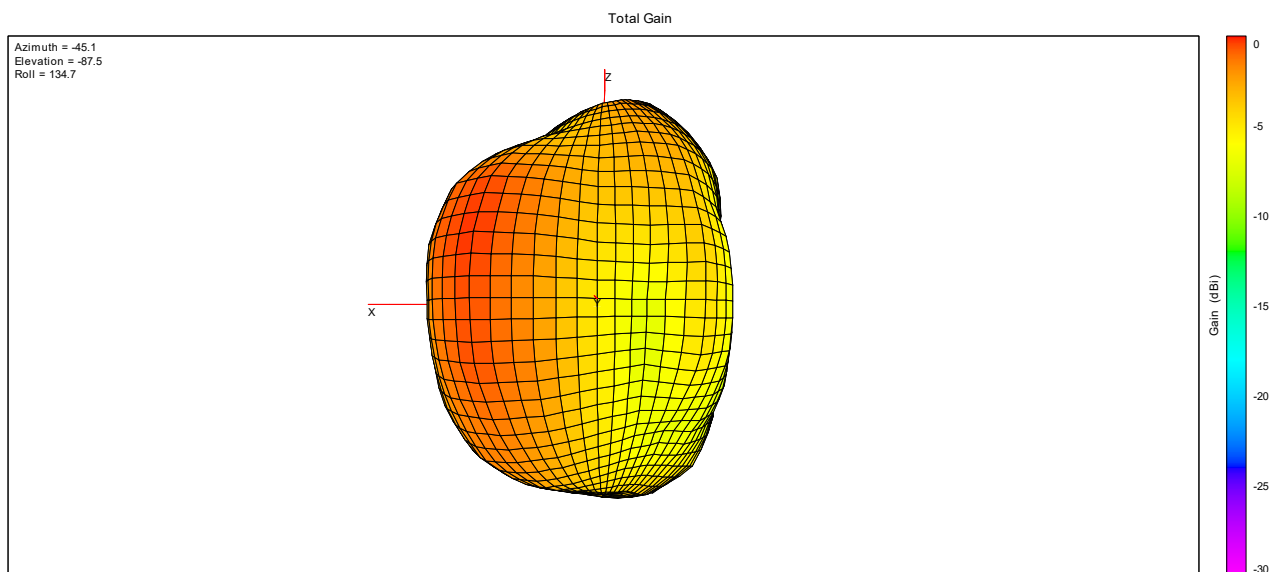
923MHz_Z-WAVE Antenna



2400MHz_Zigbee Antenna



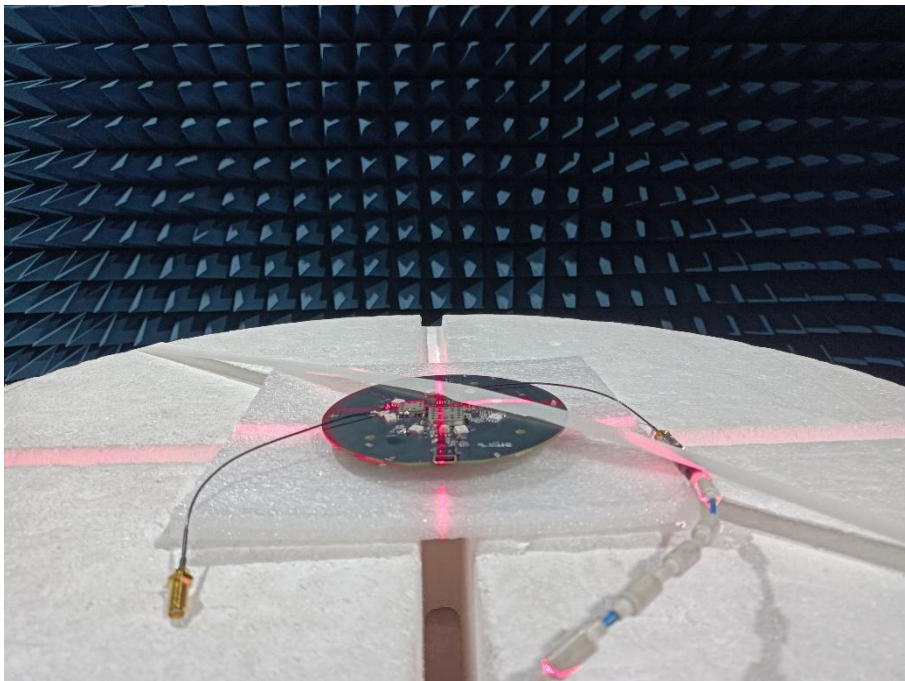
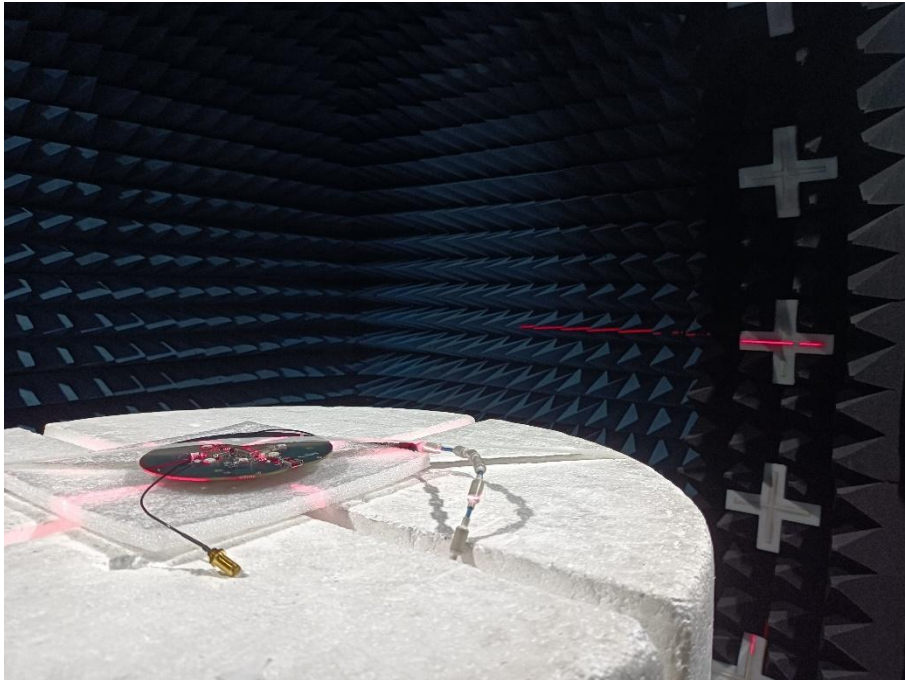
2450MHz_Zigbee Antenna



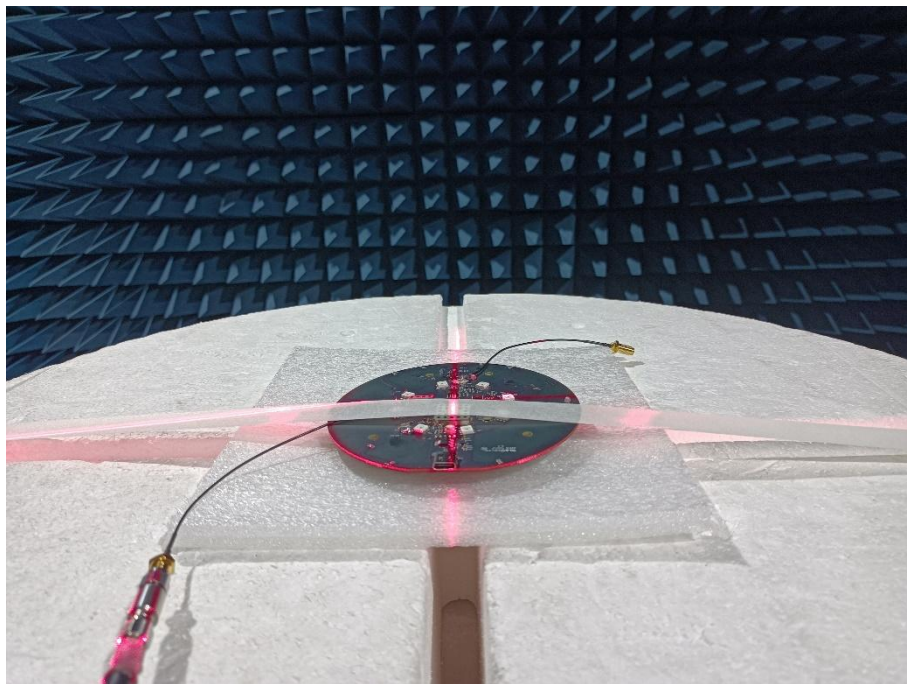
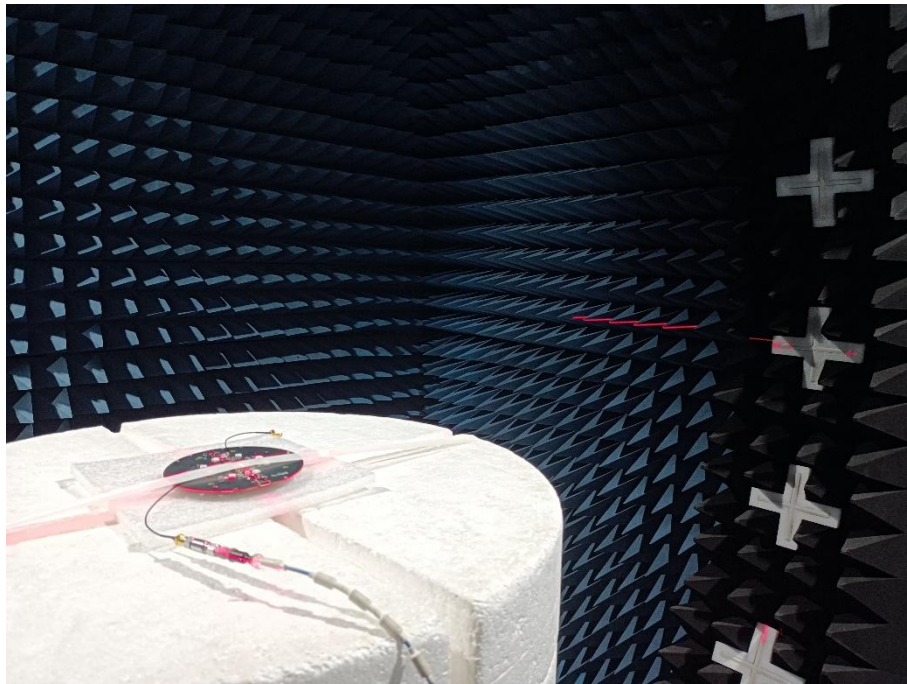
2500MHz_Zigbee Antenna

Annex C EUT Photos

1. Test environment

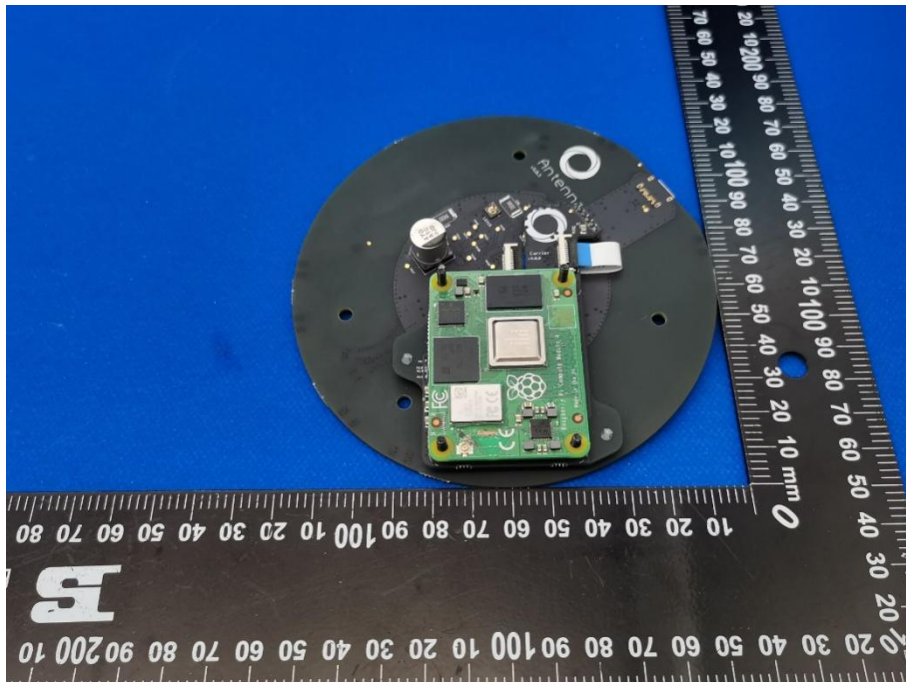
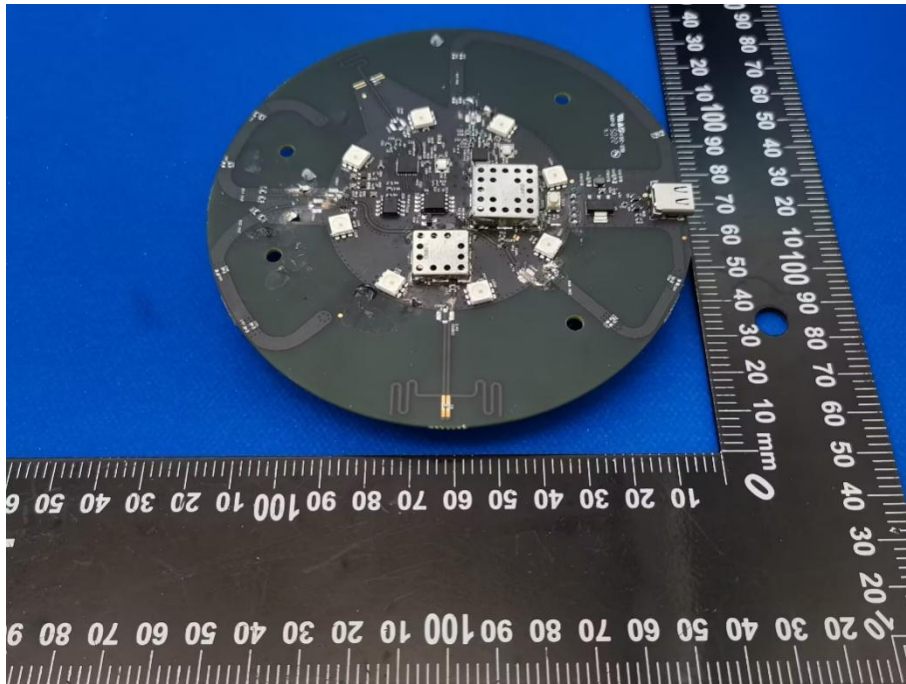


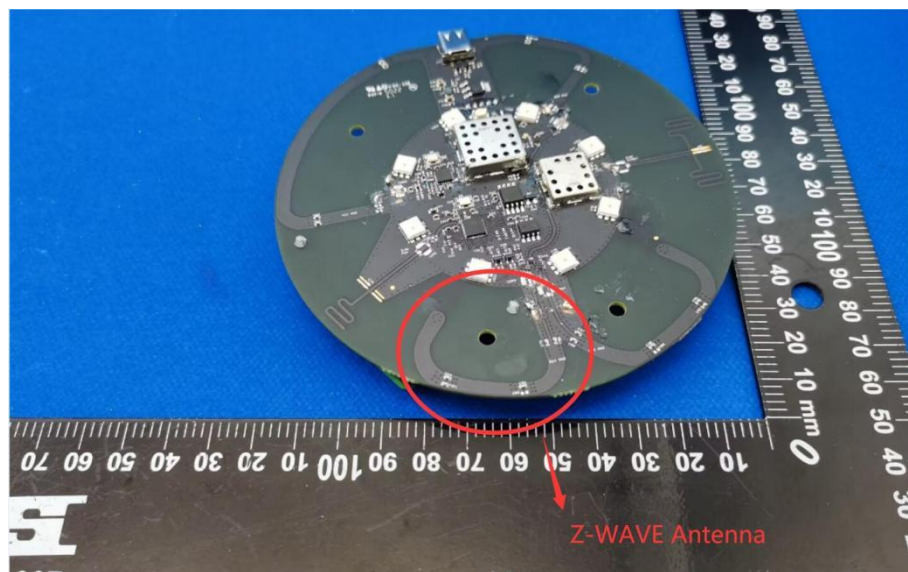
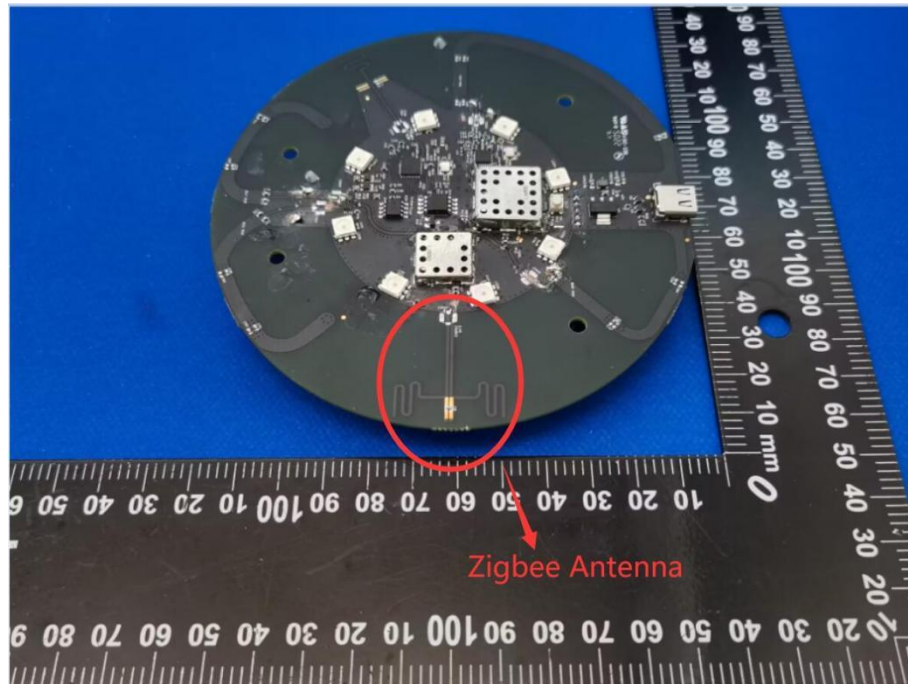
Z-WAVE Antenna



Zigbee Antenna

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.	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 —————