



REPORT No.: SZ26060175T01

TEST REPORT

APPLICANT : Guangzhou Universal Electronics Service Co.,Ltd.

PRODUCT NAME : UEI/Ecolink Z-Wave LR PIR sensor

MODEL NAME : PIRZWLR-ECO

TRADE NAME : Ecolink

BRAND NAME : N/A

STANDARD(S) : IEEE Std 149-2021

RECEIPT DATE : 2026-06-10

TEST DATE : 2026-06-11

ISSUE DATE : 2026-06-18

Edited by:

Guo Penghua(Rapporteur)

Approved by:

Chi Shide(Supervisor)

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MORLAB

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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 Test Setup Photos	6
Annex B Figures	7
1. Gain and Efficiency	7
2. 2D Radiation Pattern	9
3. 3D Radiation Pattern	12
Annex C EUT Photos	17
Annex D General Information	27
1. Identification of the Responsible Testing Laboratory	27
2. Identification of the Responsible Testing Location	27
3. Test Equipment Utilized	27
3.1 Test Equipments	27
3.2 Test Software	27
Notes	28

Change History		
Version	Date	Reason for change
1.0	2026-06-18	First edition

Note: the latest revision of the report supersedes all previous version.



1. Technical Information

Note: Provide by Applicant.

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	Z-Wave
Antenna Type	PCB trace
Frequency	900MHz-930MHz
Serial Number	N/A
Sample No.	1#&2#



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

Notes: Any additions, deviation, or exclusions from the method shall be noted in the "Remark".

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.

2.4. Test Results lists

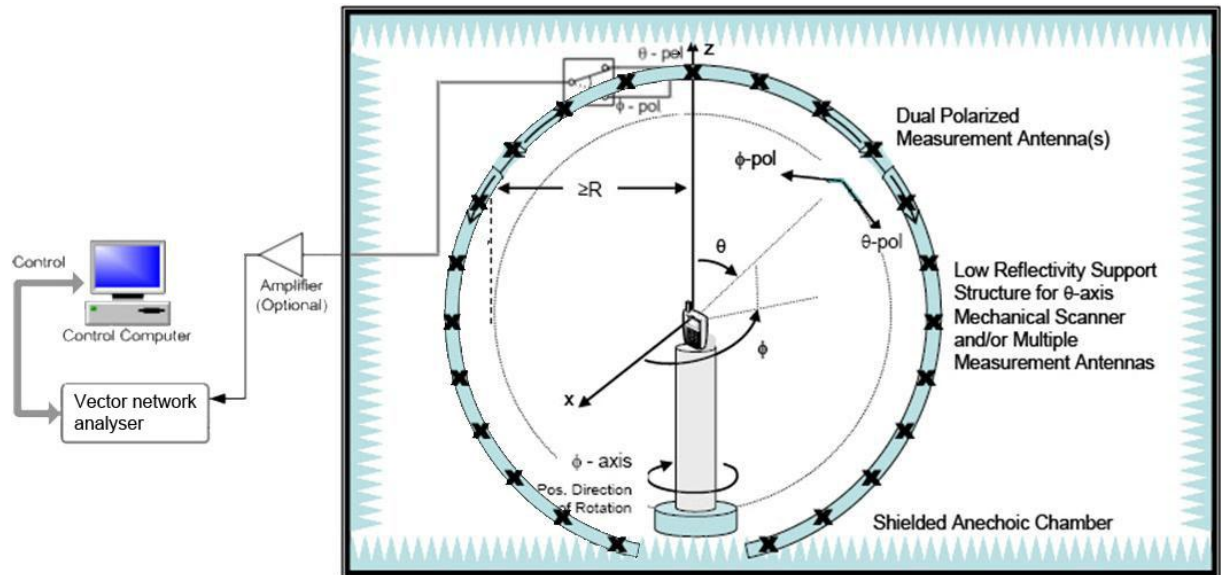
2.4.1. Test Method

Gain measurement and antenna radiation pattern were tested in a fully anechoic chamber. Calibrate the anechoic chamber using standard dipole antennas. The radiation pattern is measured by two methods: horizontal polarization and vertical polarization. The EUT under test is placed on the test turntable in the anechoic chamber and connected to the network analyzer. The EUT under test rotates 0-180° around the Phi axis, and the measuring antenna moves from 0-360° along the Theta axis. The probe is automatically selected for sampling and the measured values are read at a measurement step of 15°.

2.4.2. Gain and Efficiency

Frequency (MHz)	Gain(dBi)		Efficiency(%)		Efficiency(dB)	
	1#	2#	1#	2#	1#	2#
900	-4.25	-5.04	16.83	15.15	-7.74	-8.20
902	-4.08	-4.78	17.49	15.84	-7.57	-8.00
904	-3.65	-4.29	19.22	17.52	-7.16	-7.56
906	-3.27	-3.86	21.04	19.36	-6.77	-7.13
908	-2.96	-3.45	22.76	21.19	-6.43	-6.74
908.4	-2.92	-3.40	23.07	21.53	-6.37	-6.67
908.42	-2.90	-3.37	23.09	21.56	-6.37	-6.66
910	-2.70	-3.13	24.16	22.80	-6.17	-6.42
912	-2.51	-2.91	25.05	23.98	-6.01	-6.20
914	-2.41	-2.74	25.47	24.75	-5.94	-6.06
916	-2.39	-2.68	25.54	25.19	-5.93	-5.99
918	-2.46	-2.67	25.14	25.15	-6.00	-6.00
920	-2.63	-2.82	24.12	24.40	-6.18	-6.13
922	-2.86	-3.03	22.81	23.30	-6.42	-6.33
924	-3.17	-3.34	21.30	21.90	-6.72	-6.59
926	-3.49	-3.68	19.58	20.24	-7.08	-6.94
928	-3.87	-4.07	17.78	18.43	-7.50	-7.34
930	-4.30	-4.51	15.98	16.57	-7.97	-7.81

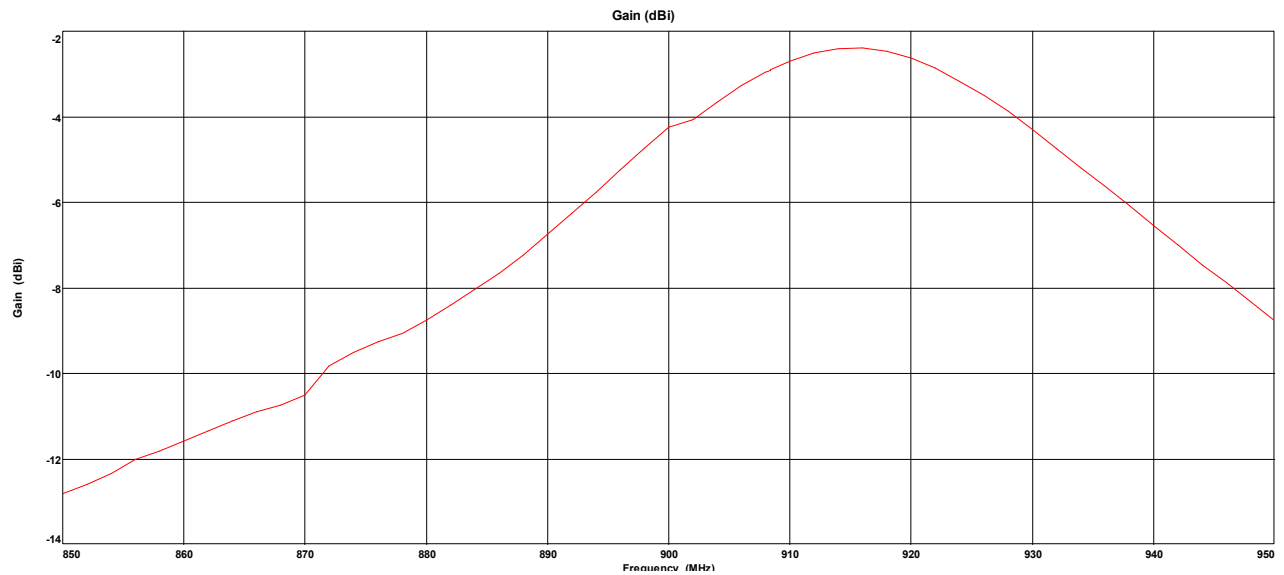
Annex A Test Setup Photos



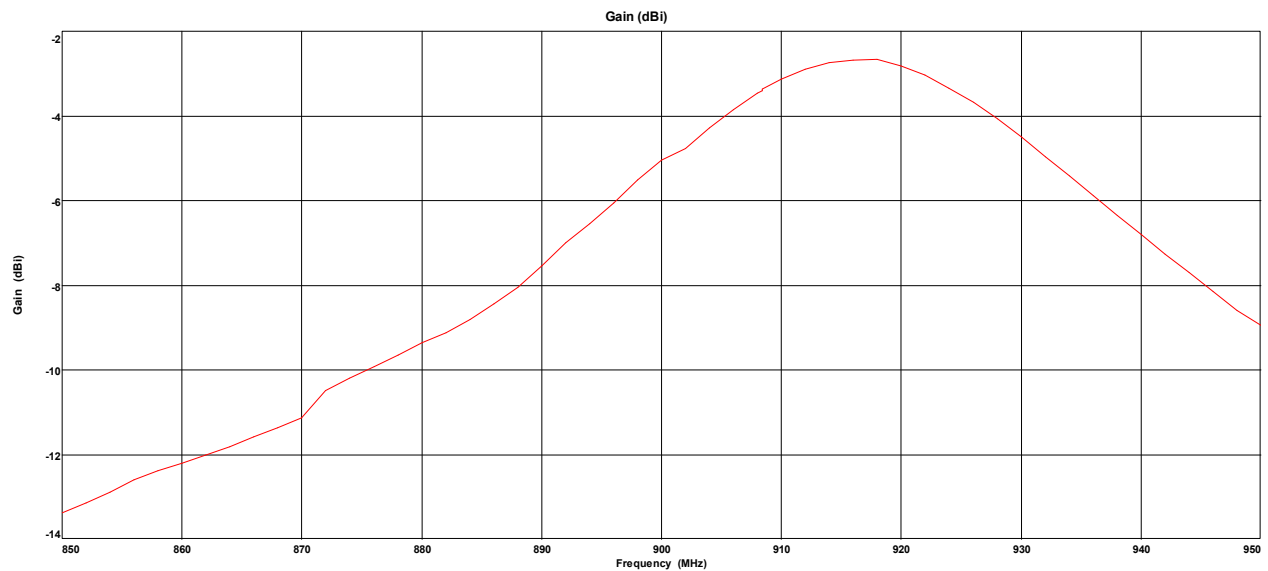
Annex B Figures

1. Gain and Efficiency

Gain



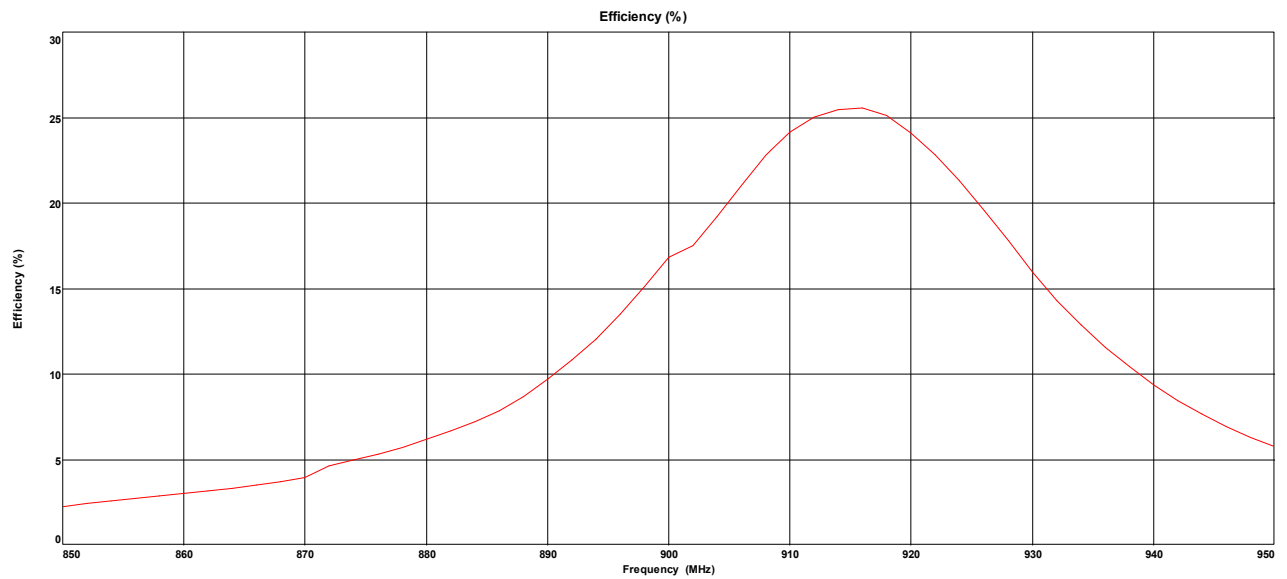
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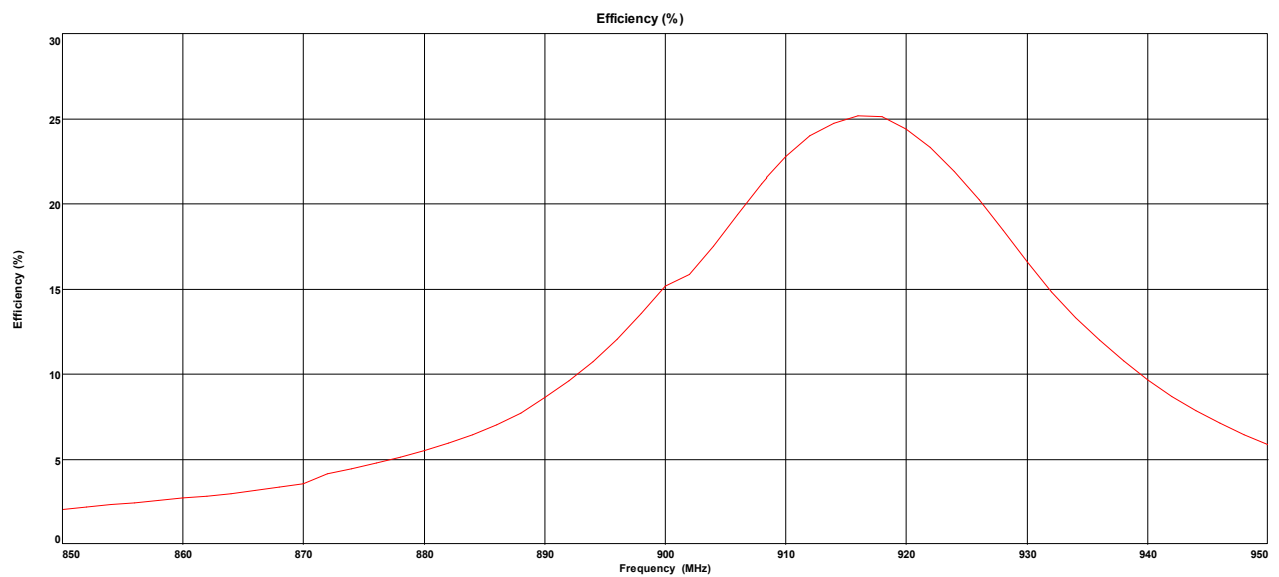
2#



Efficiency



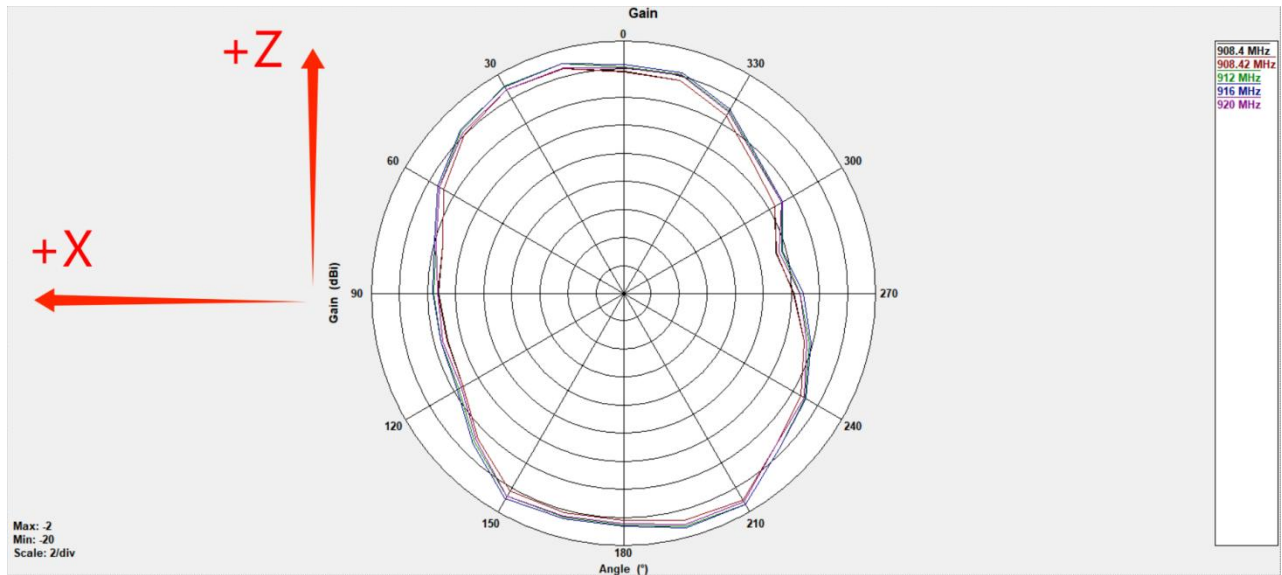
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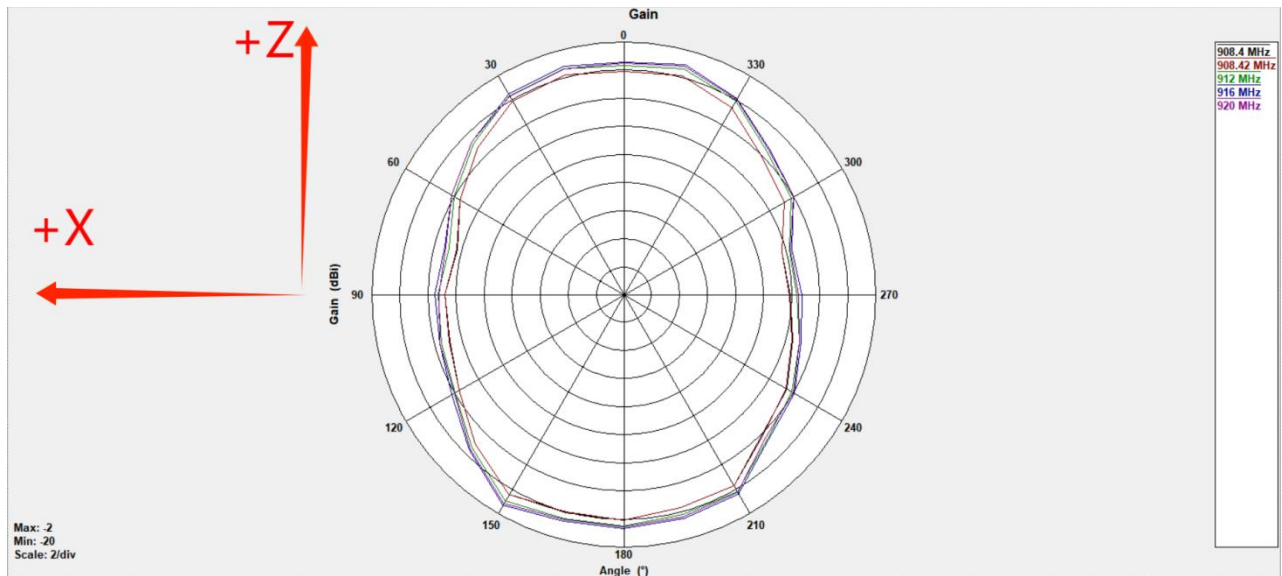
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2. 2D Radiation Pattern

Phi=0°



1#

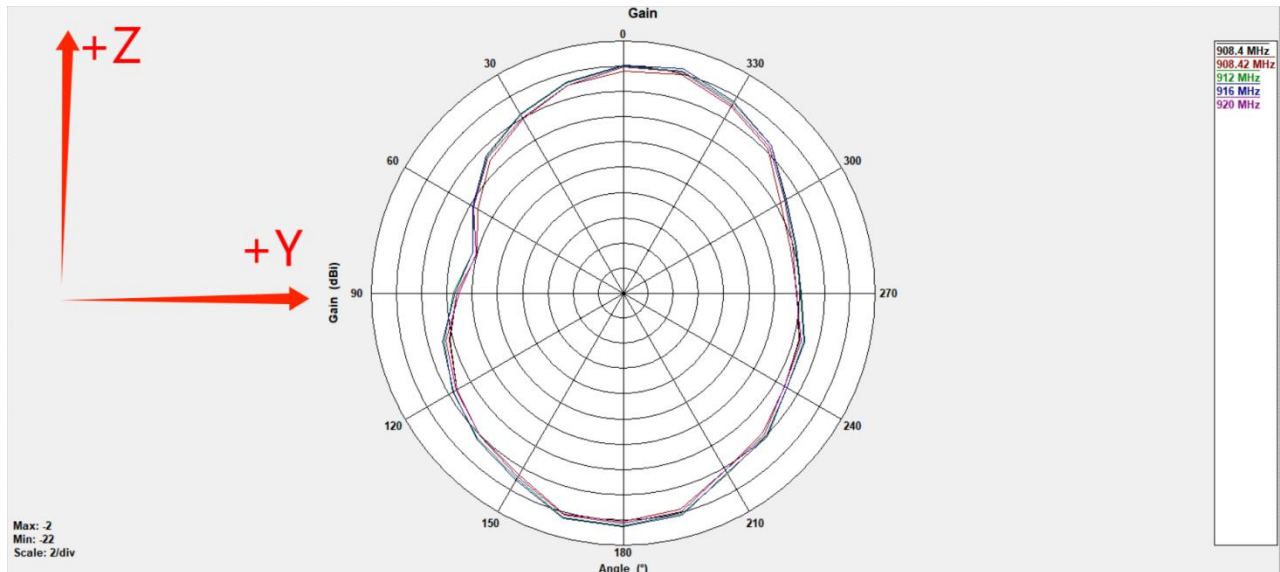


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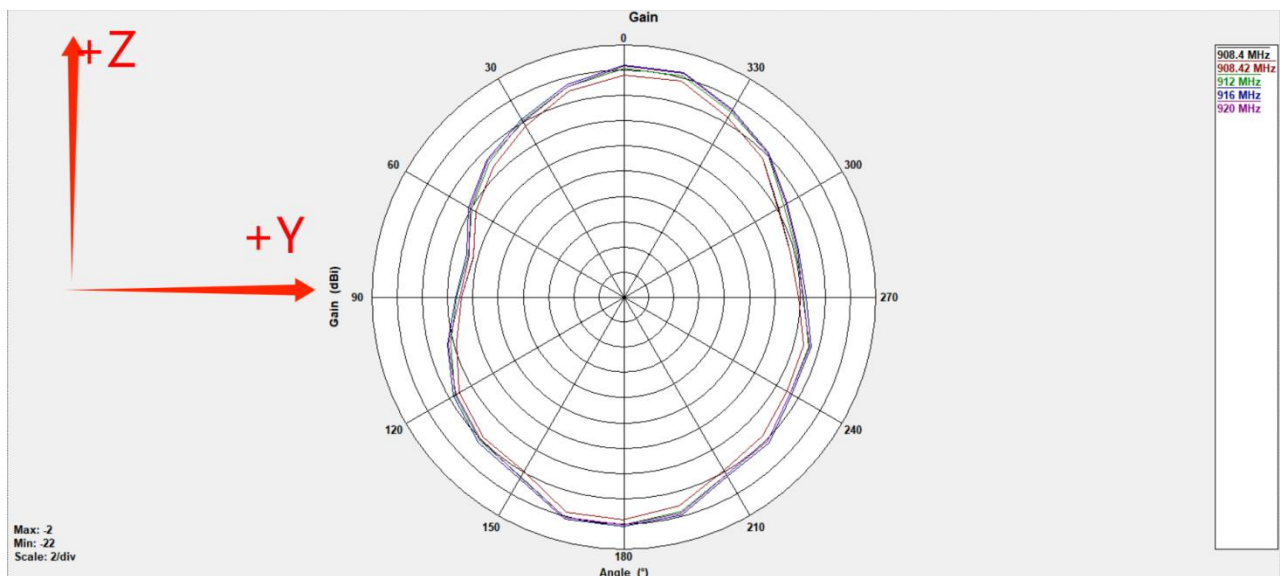


REPORT No.: SZ26060175T01

Phi=90°



1#

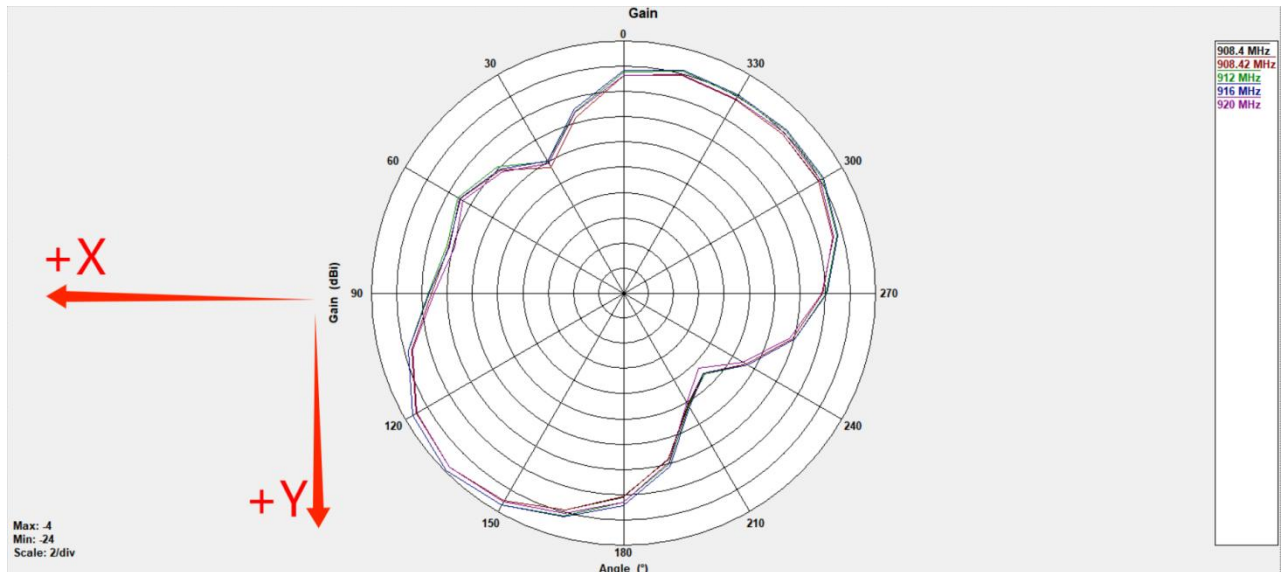


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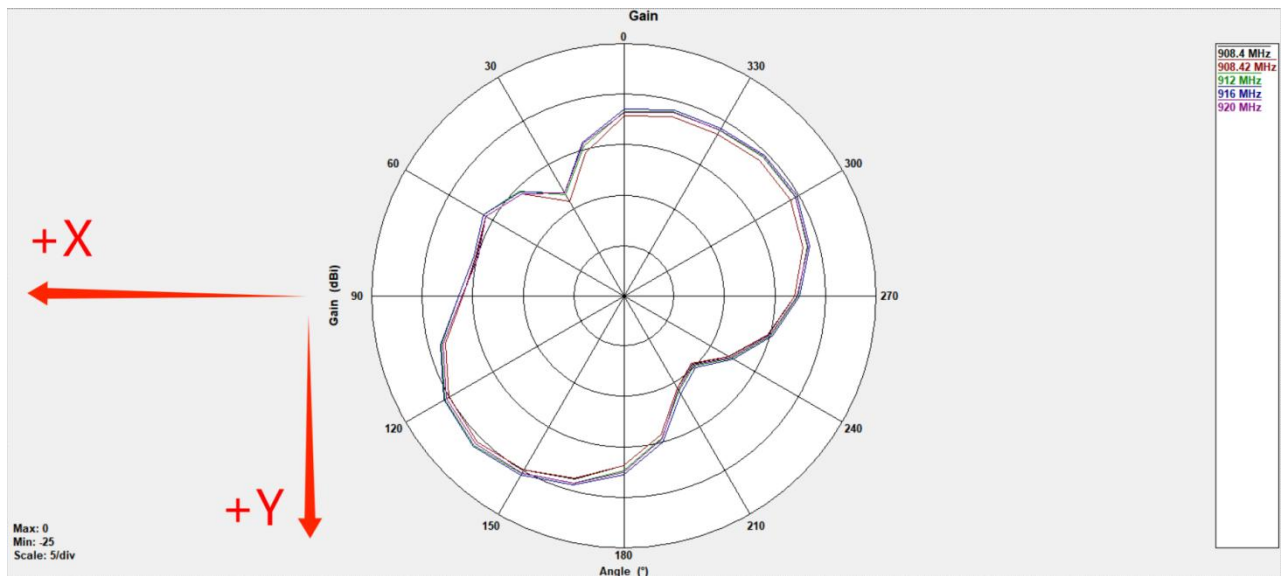


REPORT No.: SZ26060175T01

Theta=90°

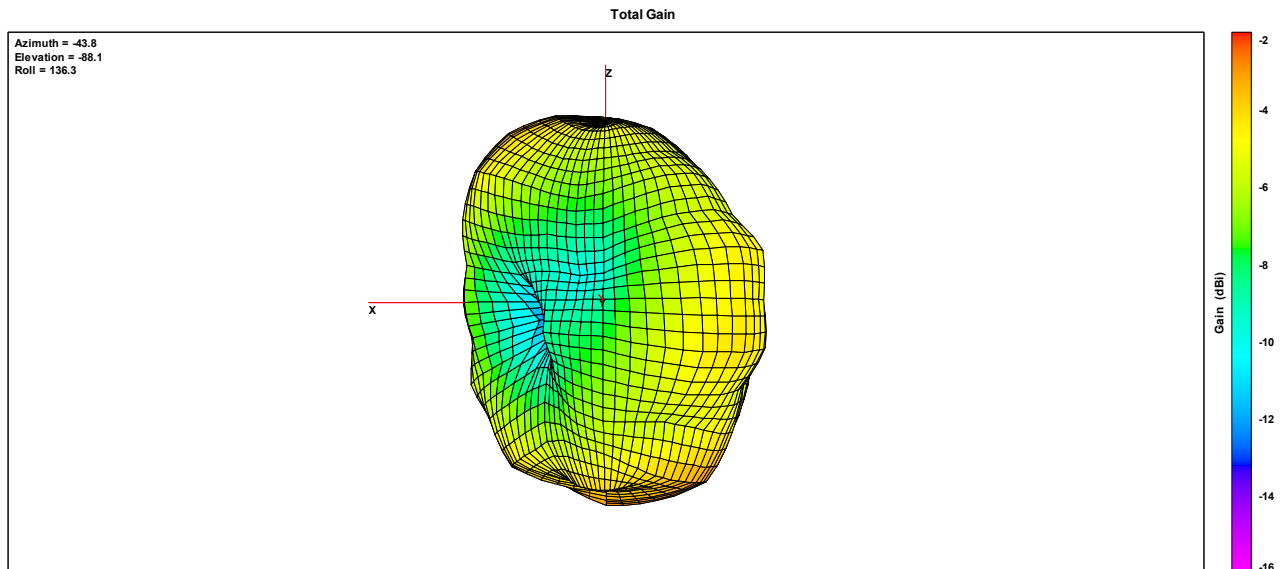


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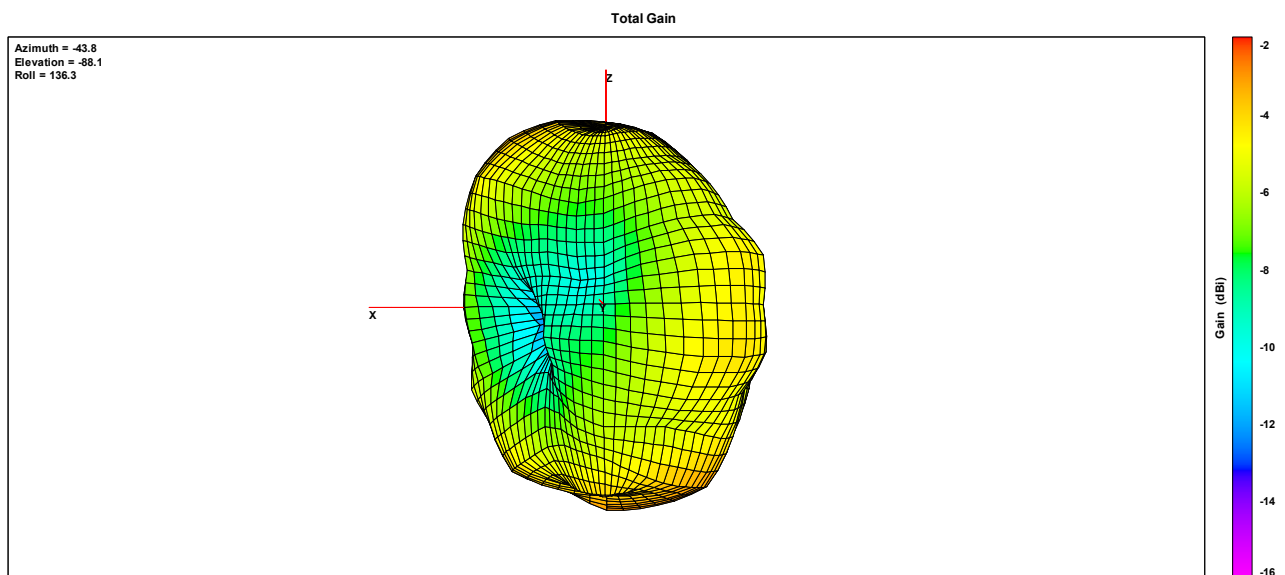


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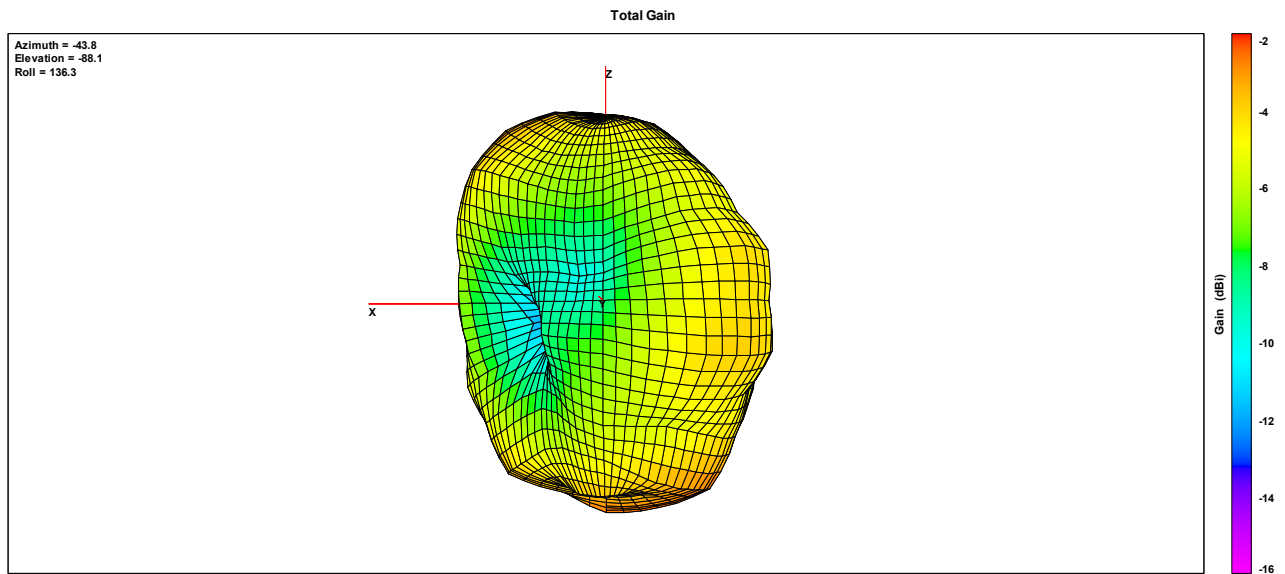
3. 3D Radiation Pattern



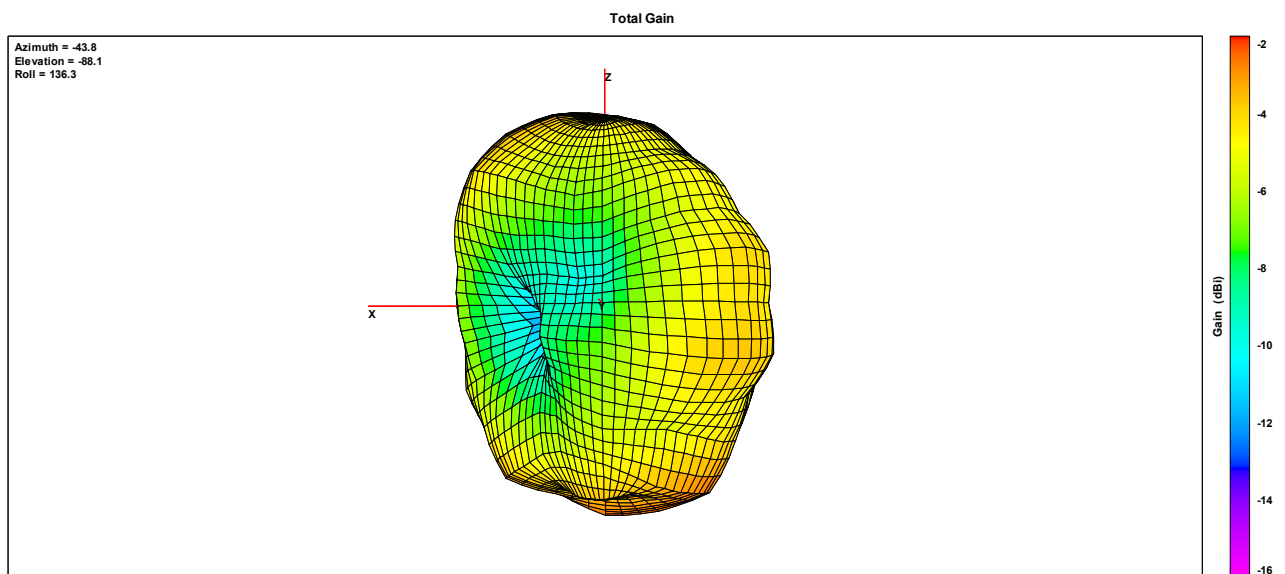
908.4MHz_1#



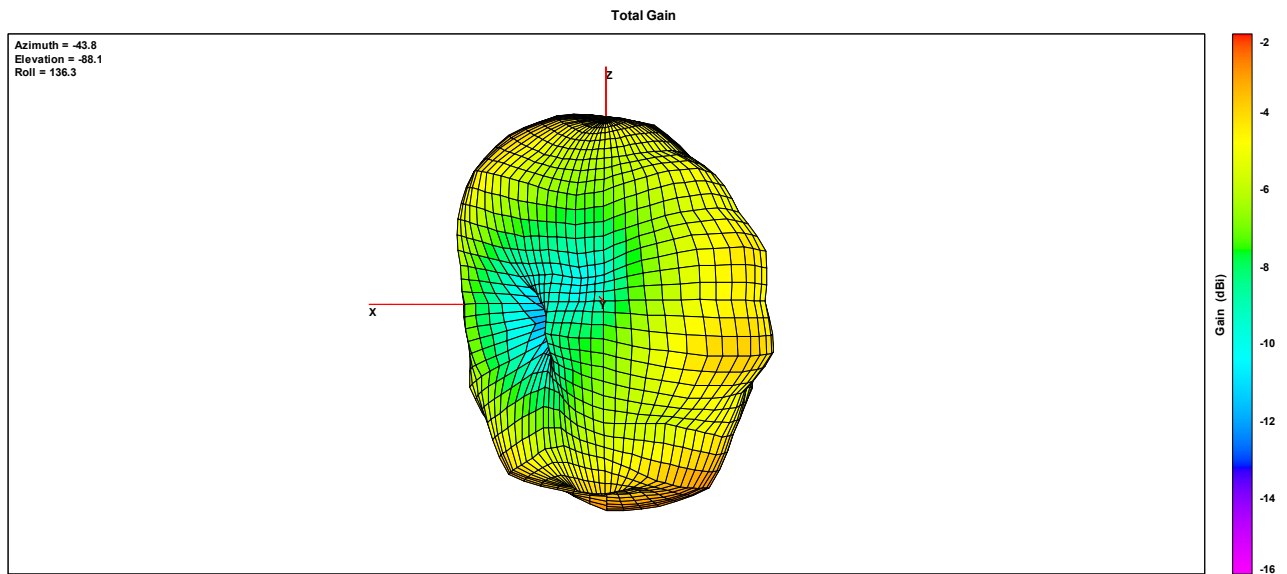
908.42MHz_1#



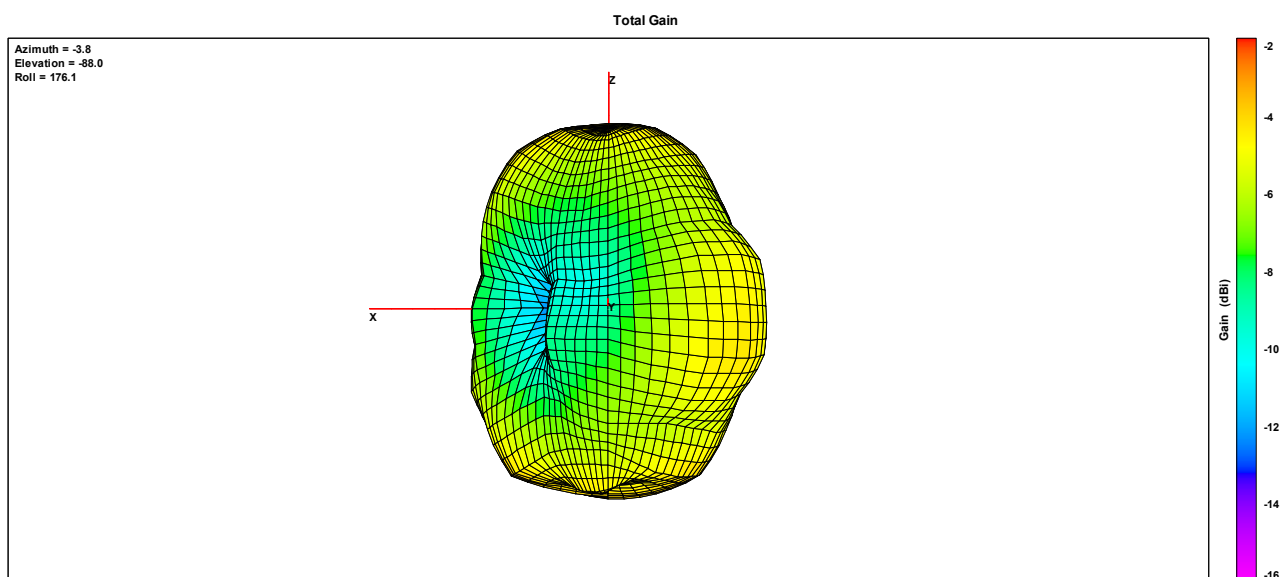
912MHz_1#



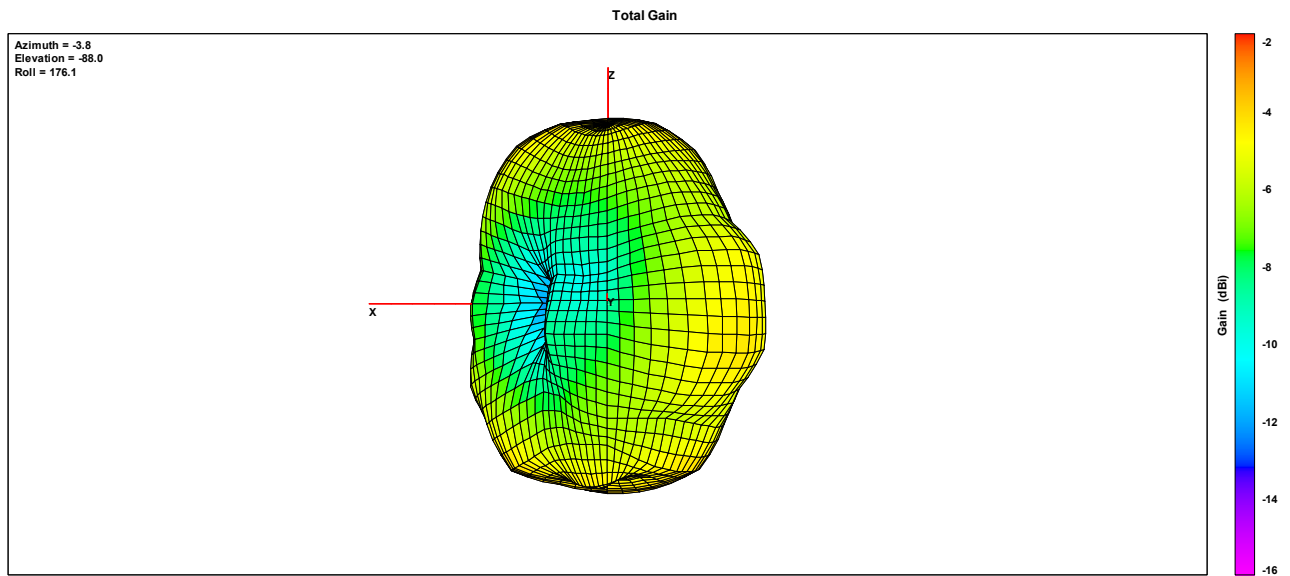
916MHz_1#



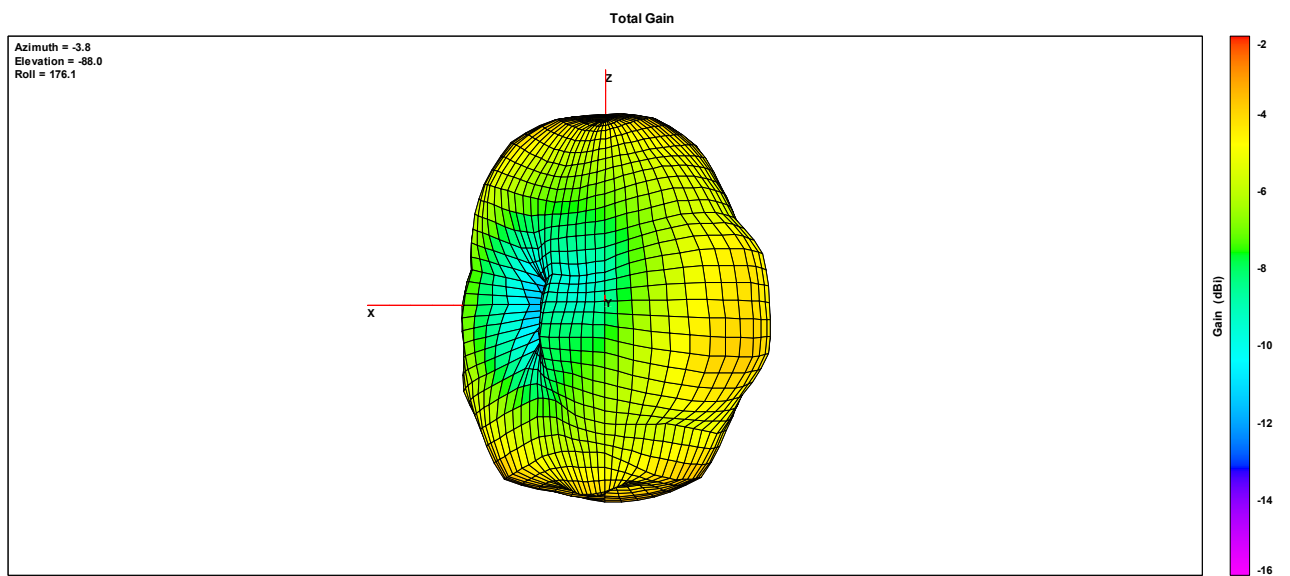
920MHz_1#



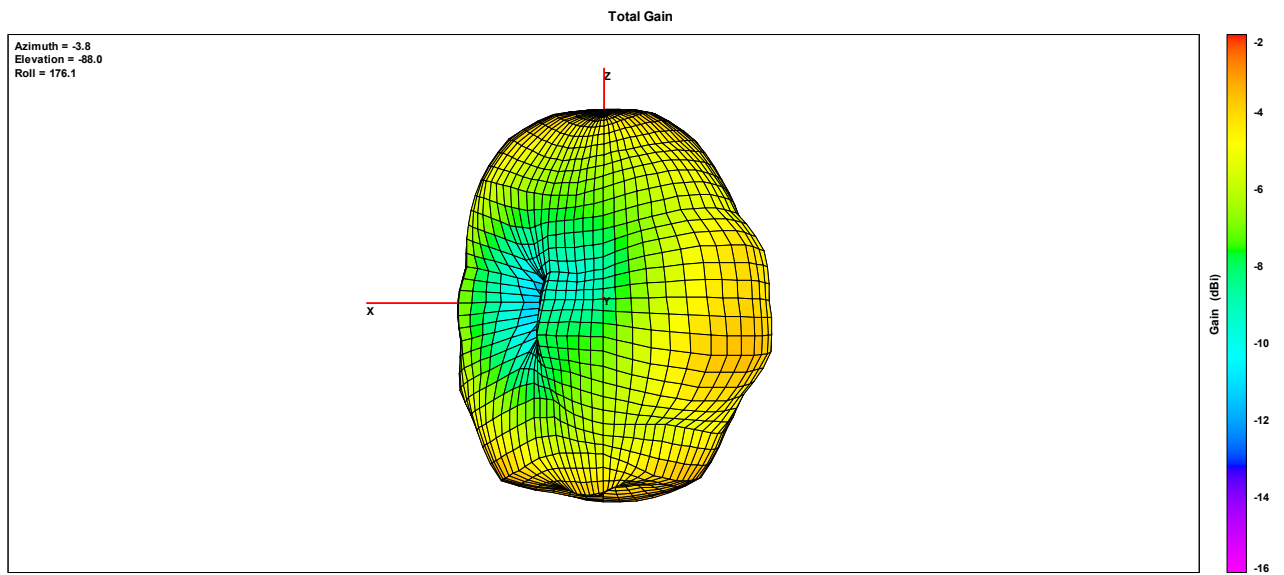
908.4MHz_2#



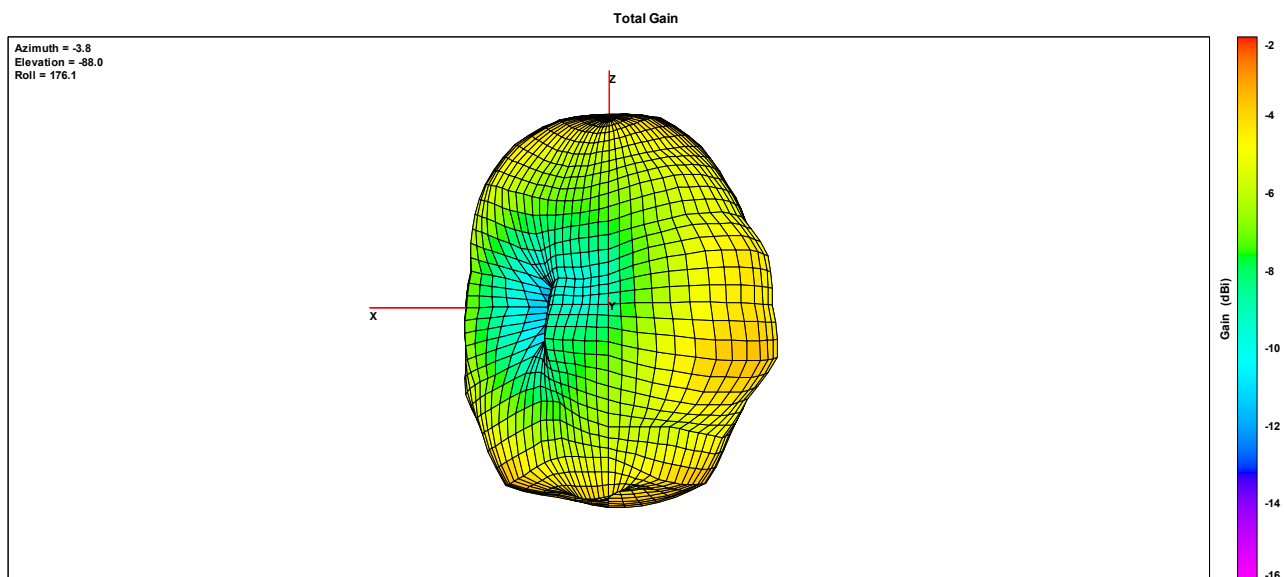
908.42MHz_2#



912MHz_2#



916MHz_2#



920MHz_2#



Annex D General Information

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

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

3. Test Equipment Utilized

3.1 Test Equipments

No.	Equipment Name	Serial No.	Type	Manufacturer	Cal.Date	Cal.Due Date
1	Network Analyzer	MY46110140	E5071C	Agilent	2026.05.19	2027.05.18
2	OTA Chamber	TJ2235-Q1793	AMS-8923 -150	ETS	2025.11.15	2028.11.14

3.2 Test Software

No.	Software Name	Serial No.	Version	Manufacturer
1	Antenna Measurement System	1685	EMQuest EMQ-100 V 1.13 Build 21267	ETS



Notes

1. The report shall have report stamp or our company stamp.
2. The report shall be invalid without all the signatures of the editor and approver.
3. The report shall not be changed.
4. Any objections must be raised to Morlab within 15 days since the date when the report is received. It will not be taken into consideration beyond this limit.
5. Conformity declaration:
 - ☒ Morlab issues a statement of conformity based on the corresponding standards (default)
 - ☐ Morlab issues a statement of conformity based on the applicant requirement
6. Use of uncertainty of measurement for decisions on conformity (decision rule):

No decision rule is specified by the testing standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule).

————— END OF REPORT —————