



REPORT No.: SZ25030095E02

TEST REPORT

APPLICANT : Gemstar Technology(Yangzhou) Co.Ltd

PRODUCT NAME : Remote control

MODEL NAME : TiVo Creek Lite MSO Backlit RCU

TRADE NAME : N/A

BRAND NAME : N/A

STANDARD(S) : IEEE Std 149-2021

RECEIPT DATE : 2025-03-07

TEST DATE : 2025-03-10

ISSUE DATE : 2025-05-09



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MORLAB

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Change History		
Version	Date	Reason for change
1.0	2025-05-09	First edition



1. Technical Information

Note: Provide by Applicant.

1.1. Applicant and Manufacturer Information

Applicant:	Gemstar Technology(Yangzhou) Co.Ltd
Applicant Address:	Room 606, Guofa building, #3110 Renmin Road, Suzhou, Jiangsu Province, China
Manufacturer:	N/A
Manufacturer Address:	N/A

1.2. Equipment Under Test (EUT) Description

Wireless Type	Bluetooth
Antenna Type	PCB trace antenna
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	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

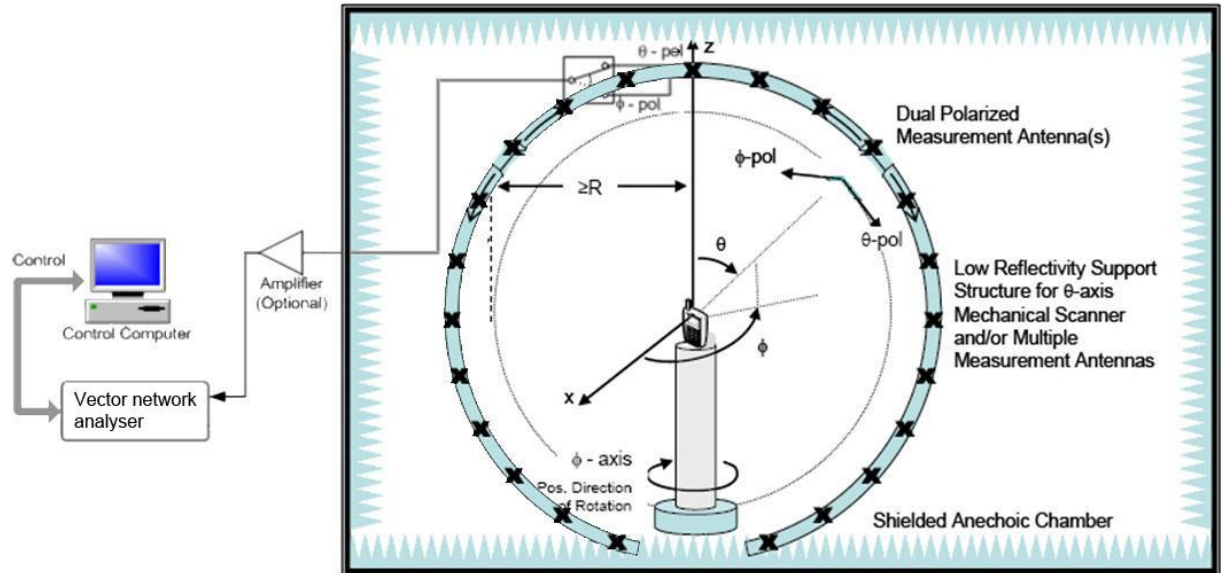
2.4.1. Test Method

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 $0-180^{\circ}$ around the Phi axis, and the measuring antenna moves from $0-360^{\circ}$ 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#
2400	-1.23	-1.43	37.98	37.51	-4.20	-4.26
2402	-1.23	-1.39	37.81	37.37	-4.22	-4.27
2410	-1.15	-1.42	36.99	36.44	-4.32	-4.38
2420	-1.14	-1.49	35.93	35.34	-4.45	-4.52
2430	-1.11	-1.41	35.50	34.86	-4.50	-4.58
2440	-0.96	-1.29	35.73	34.98	-4.47	-4.56
2450	-0.82	-1.18	36.28	35.43	-4.40	-4.51
2460	-0.89	-1.20	36.50	35.54	-4.38	-4.49
2470	-0.93	-1.30	35.82	34.88	-4.46	-4.57
2480	-0.88	-1.33	35.88	34.88	-4.45	-4.57
2490	-0.90	-1.31	35.16	34.11	-4.54	-4.67
2500	-0.85	-1.26	35.61	34.46	-4.48	-4.63

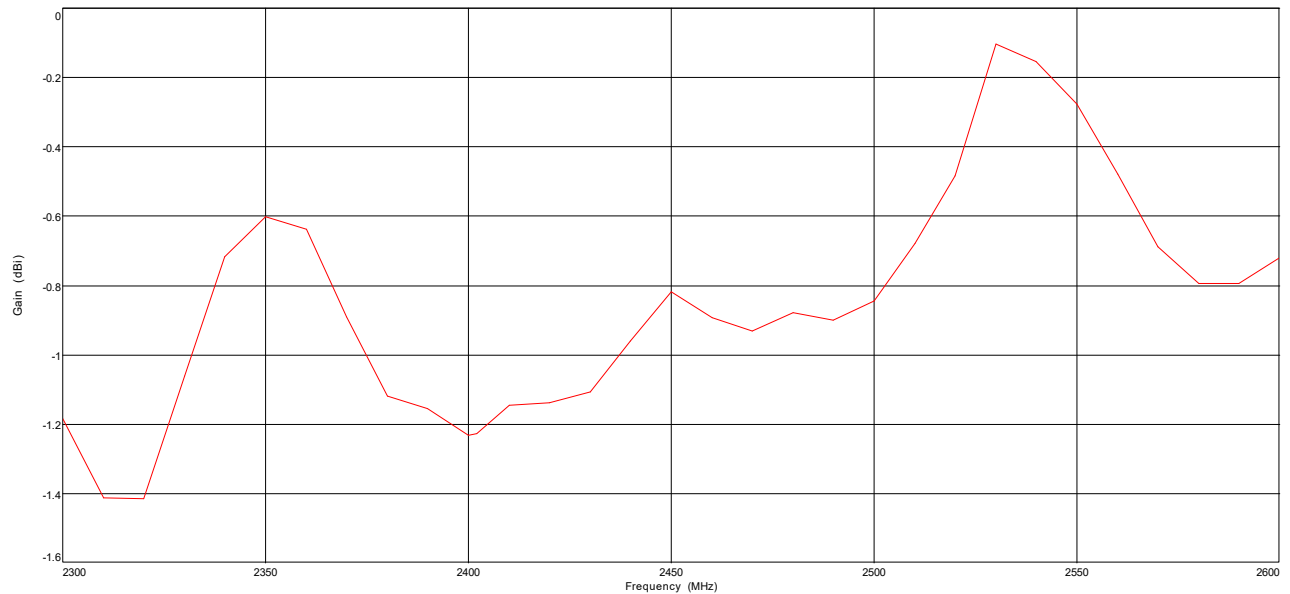
Annex A Test Setup Photos



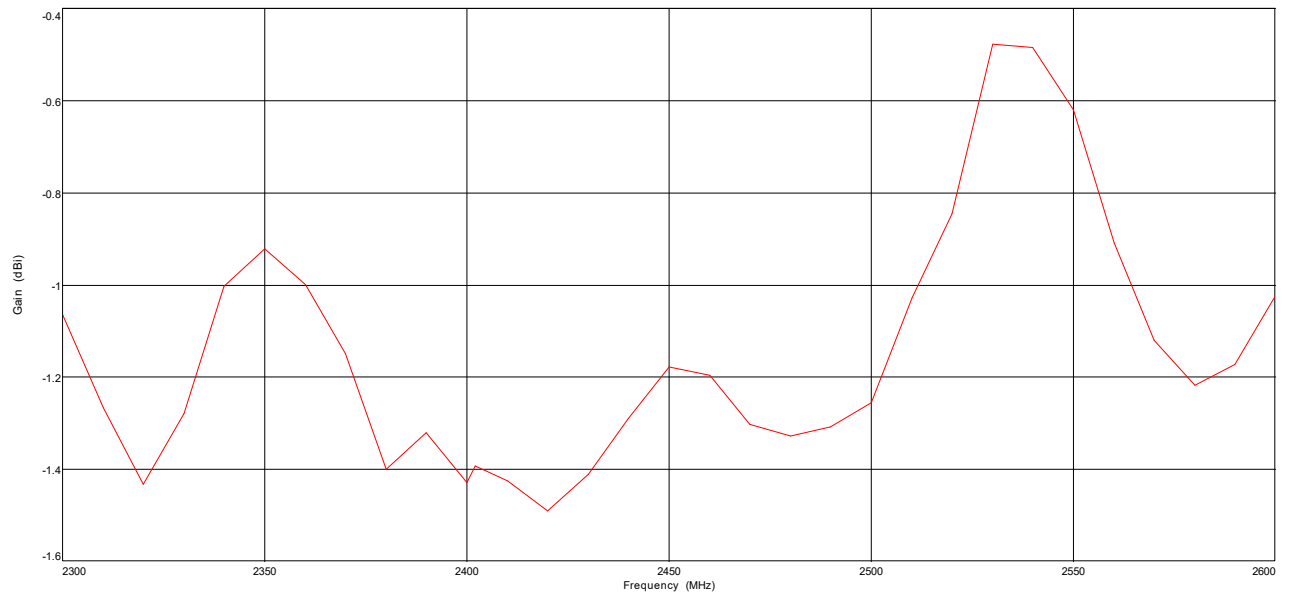
Annex B Figures

1. Gain and Efficiency

Gain



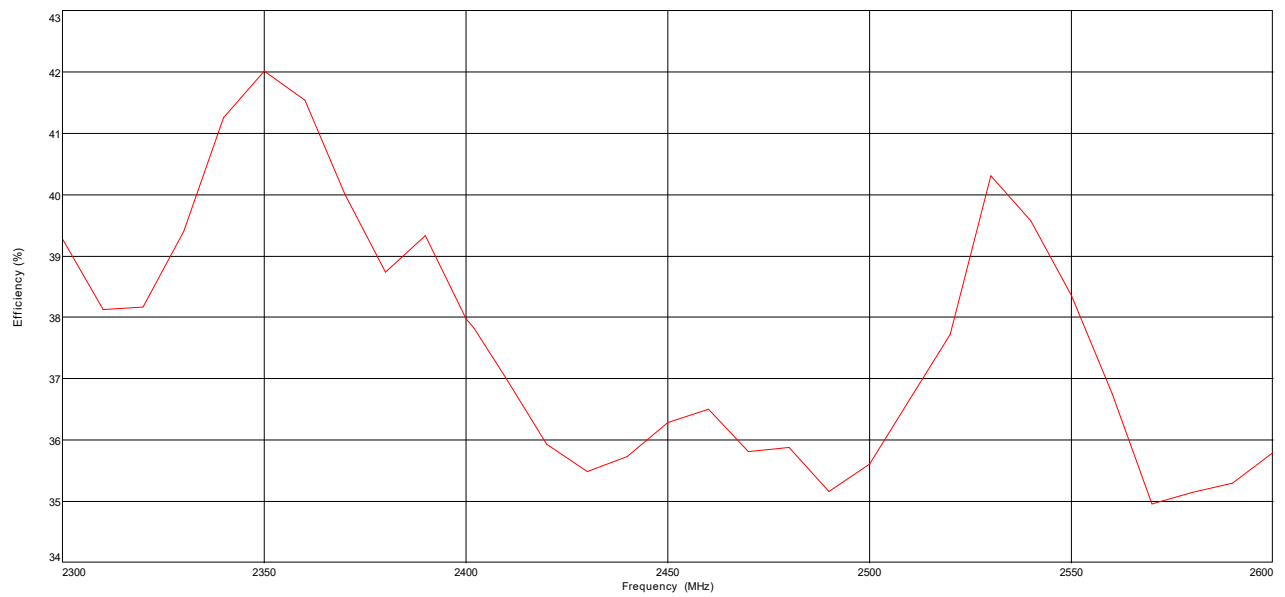
1#



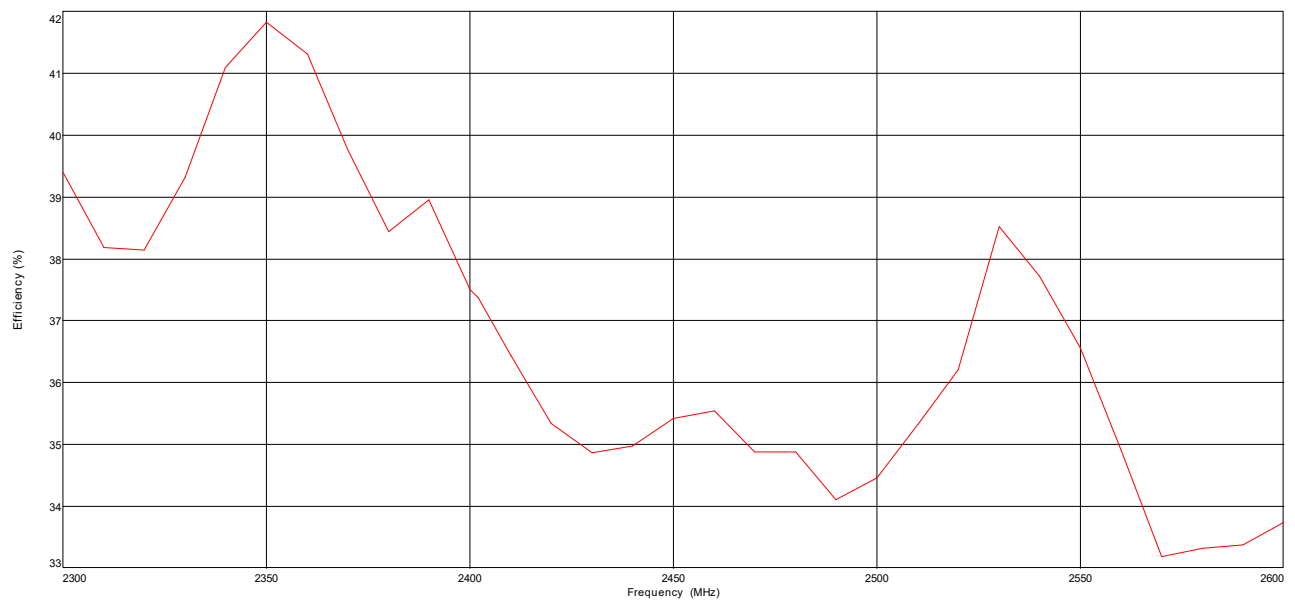
2#



Efficiency



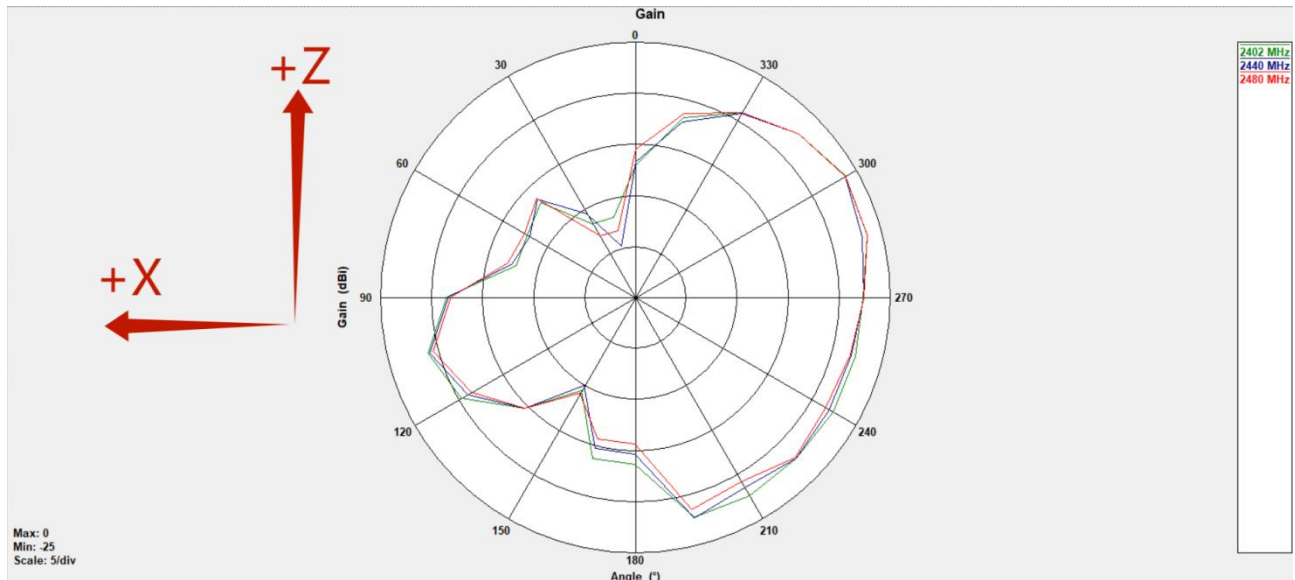
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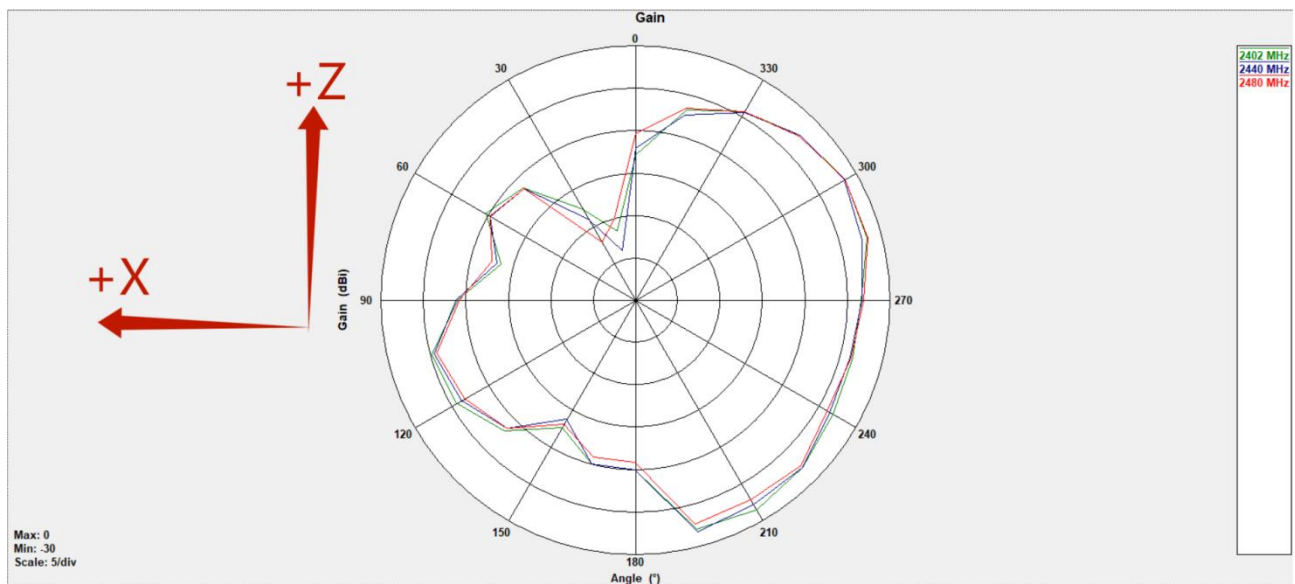
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2. 2D Radiation Pattern

Phi=0°



1#

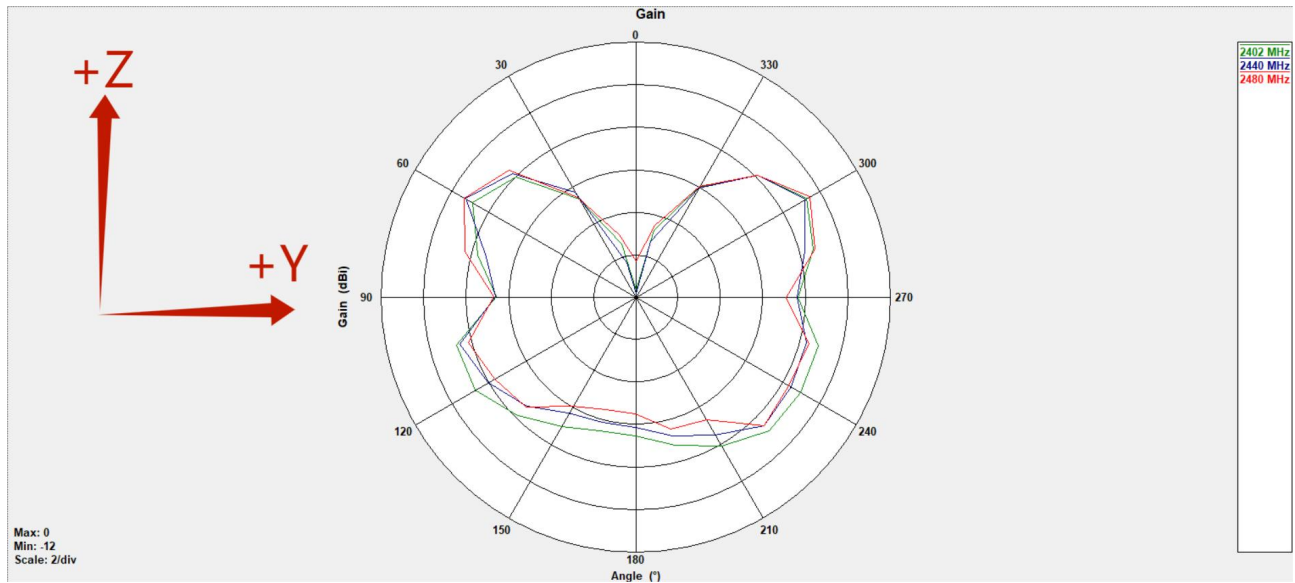


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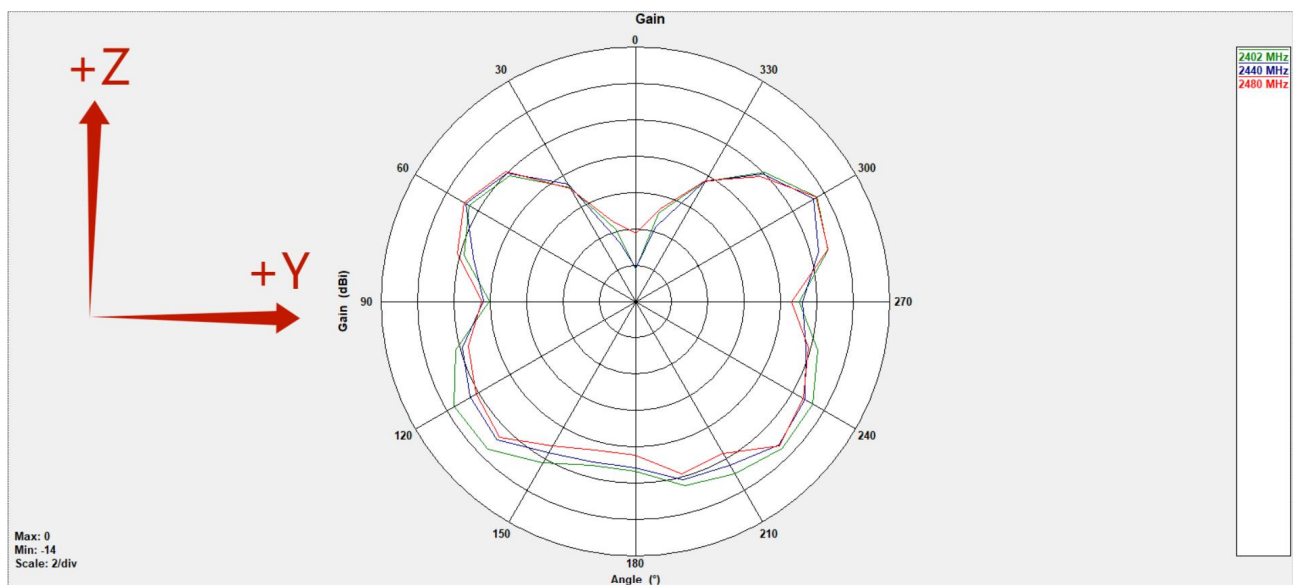


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Phi=90°



1#

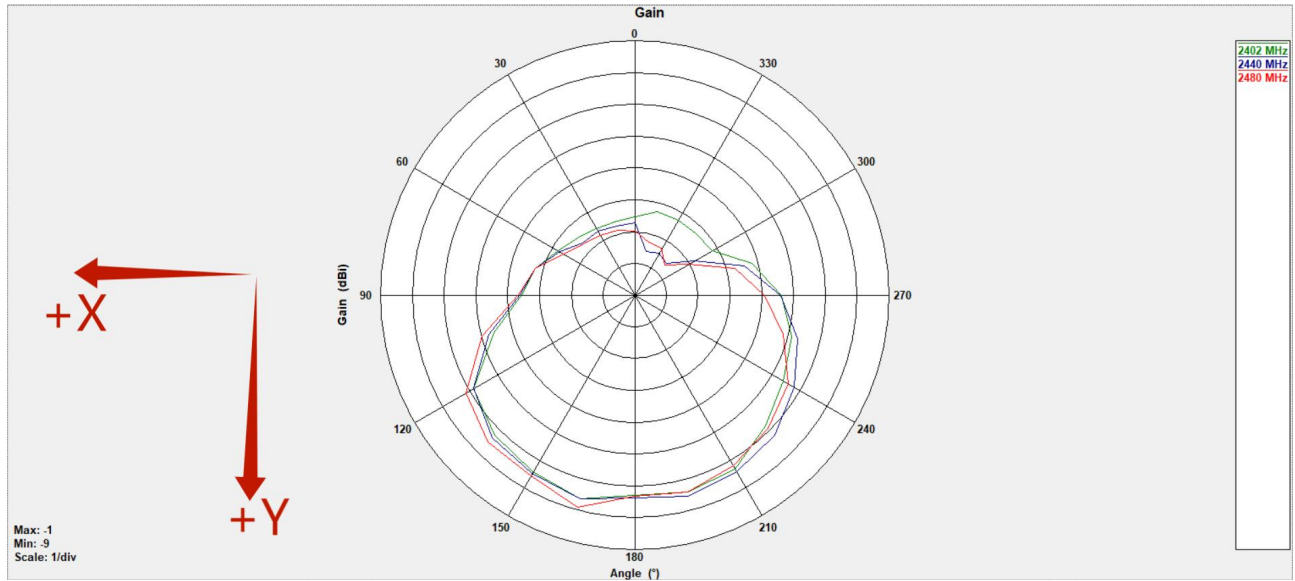


2#

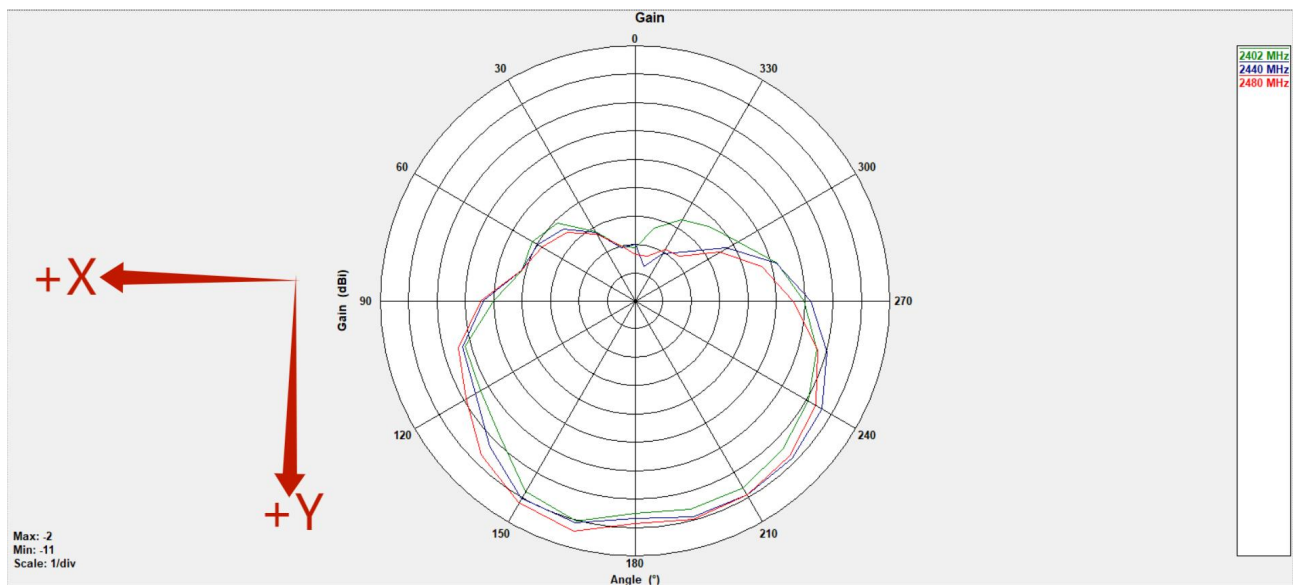


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Theta=90°

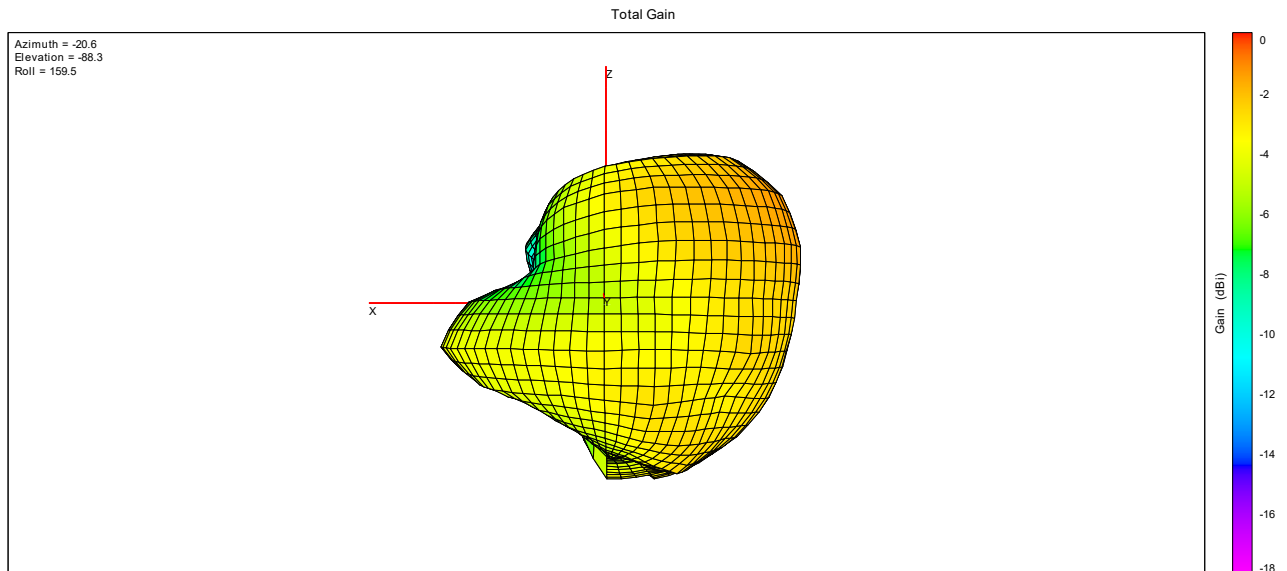


1#

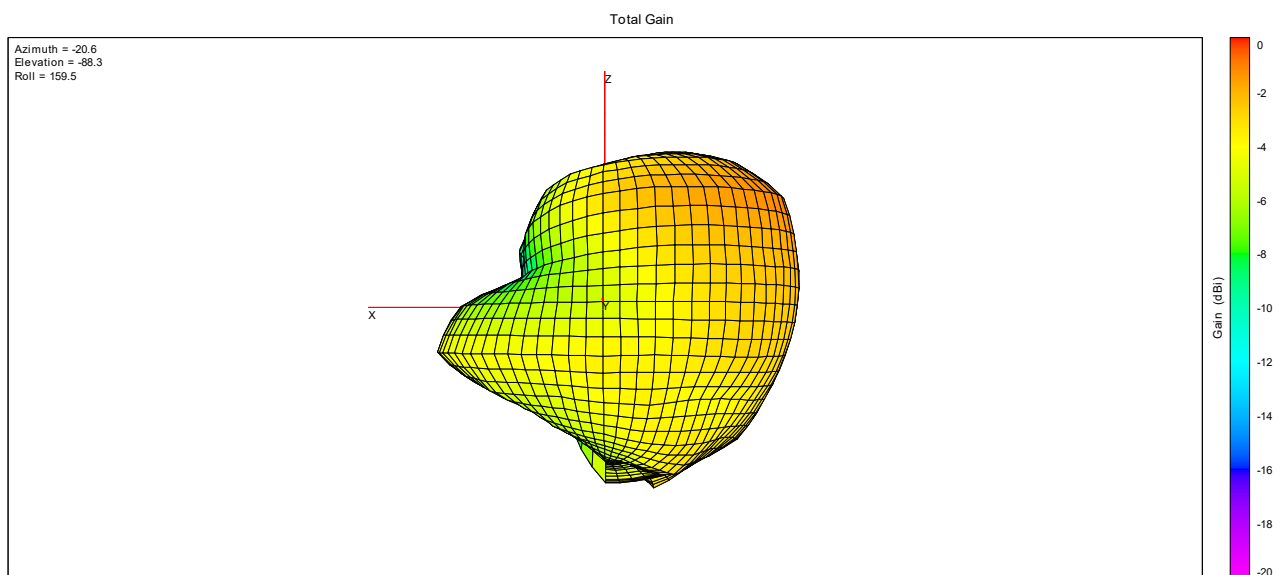


2#

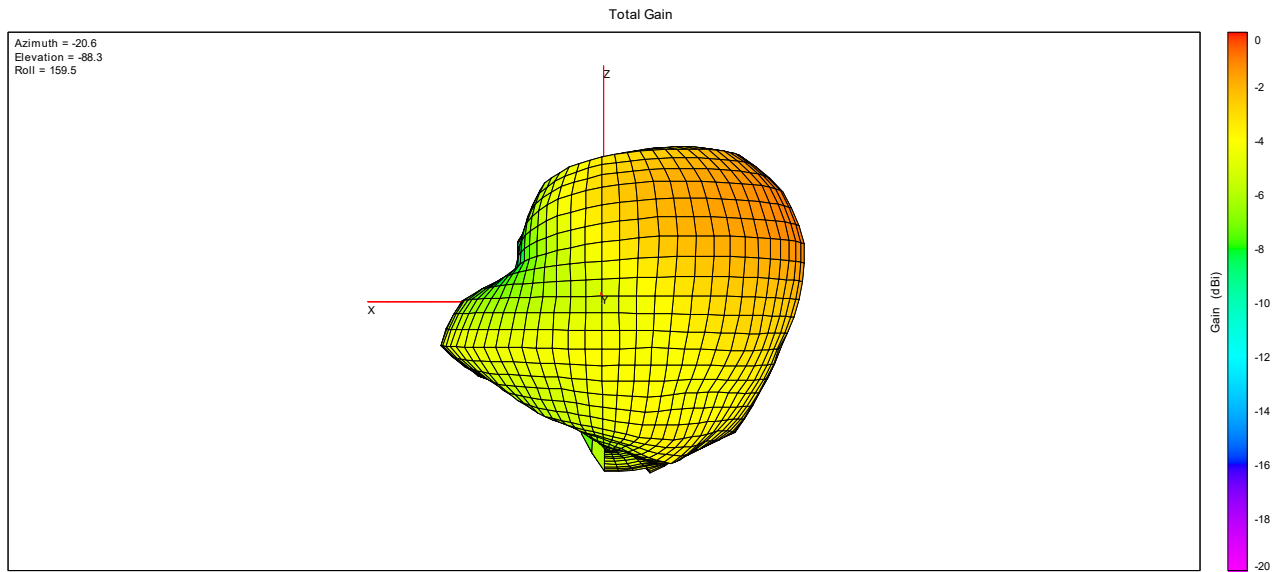
3. 3D Radiation Pattern



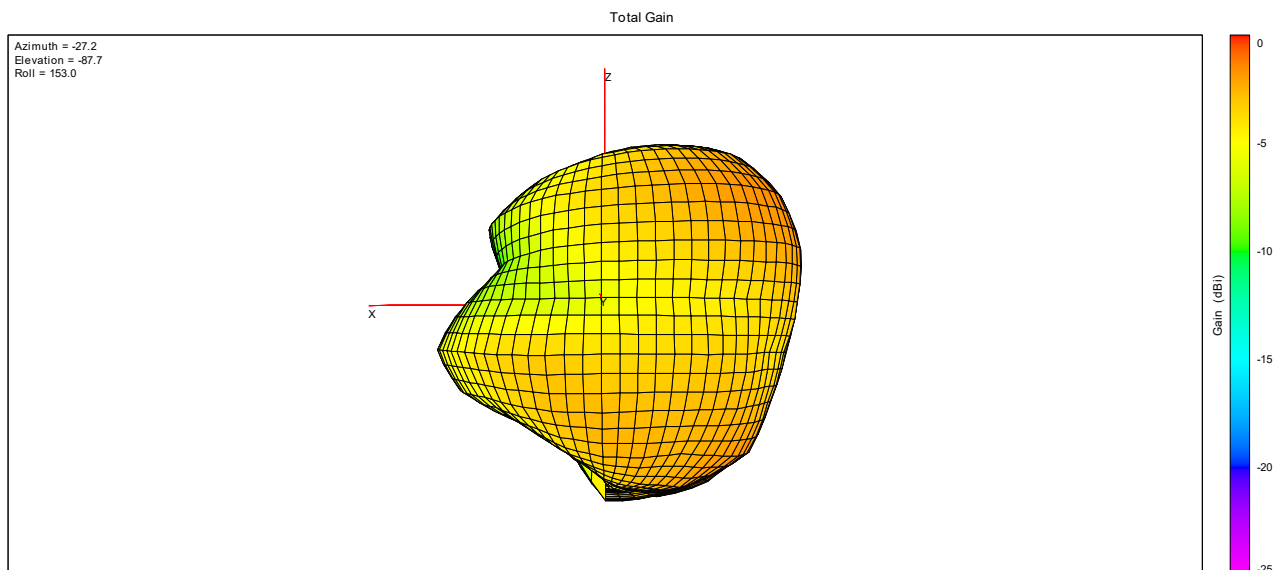
2402MHz_1#



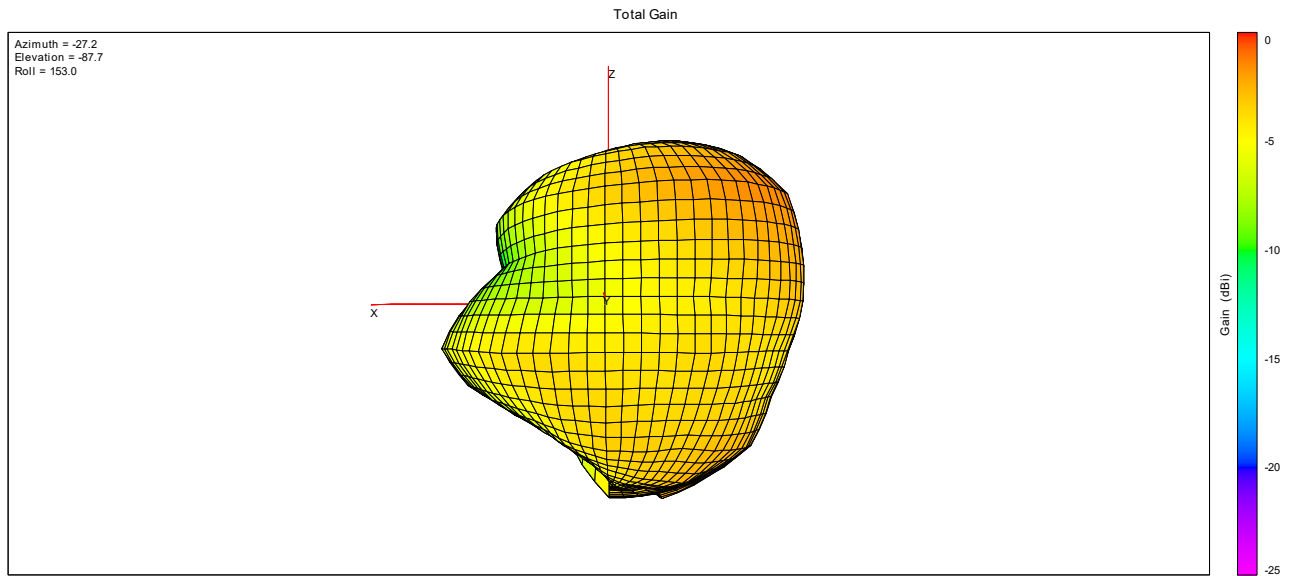
2440MHz_1#



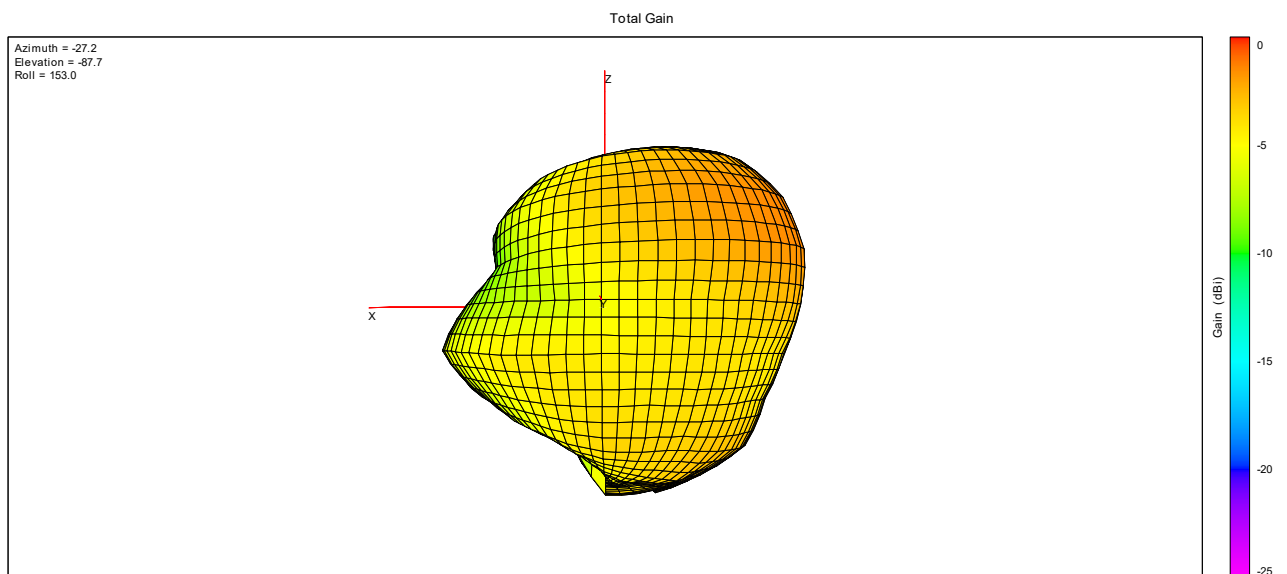
2480MHz_1#



2402MHz_2#



2440MHz_2#



2480MHz_2#



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,Block 67, 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,Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R.China

1.3 Test Equipments Utilized

No.	Equipment Name	Serial No.	Type	Manufacturer	Cal.Date	Cal.Due Date
1	Network Analyzer	MY46110140	E5071C	Agilent	2024.05.30	2025.05.29
2	OTA Chamber	TJ2235-Q1793	AMS-892 3-150	ETS	2022.11.30	2025.11.29

1.4 Test Software Utilized

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

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