



REPORT No.: SZ21060208E01

TEST REPORT

APPLICANT : Guangzhou Universal Electronics Service Co.,Ltd.

PRODUCT NAME : BV TDC(YouSee) BLE RCU 2021

MODEL NAME : i

TRADE NAME : N/A

BRAND NAME : N/A

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

RECEIPT DATE : 2021-06-17

TEST DATE : 2021-06-21

ISSUE DATE : 2021-06-22



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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. Test Results lists	4
Annex A Photographs	6
Annex B Figures	7
1. 2D Radiation Pattern	7
2. 3D Radiation Pattern	17
Annex C Photographs	23
Annex D General Information	32
1.1 Identification of the Responsible Testing Laboratory	32
1.2 Identification of the Responsible Testing Location	32
1.3 Test Equipments Utilized	32

Change History		
Version	Date	Reason for change
1.0	2021-06-22	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
Colour	Black
Sample No.	#1 with weight、#2 with weight、#2 without weight、#1 without weight

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. Test Results lists

2.3.1. Gain and Efficiency

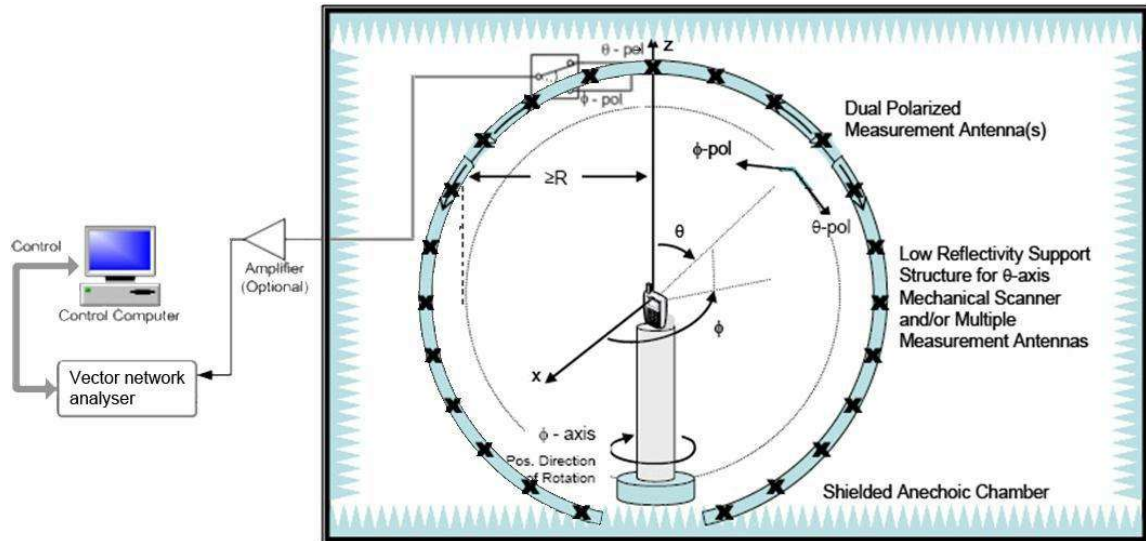
Frequency (MHz)	Gain (dBi)		Efficiency (%)		Efficiency (dB)	
	#1 with weight	#2 with weight	#1 with weight	#2 with weight	#1 with weight	#2 with weight
2400	-0.46	-0.05	37.21	30.73	-4.29	-5.12
2402	-0.47	-0.15	37.21	30.82	-4.29	-5.11
2410	-0.53	-0.32	36.29	30.09	-4.40	-5.22
2420	-0.69	-0.50	35.04	29.08	-4.55	-5.36
2430	-0.72	-0.65	34.54	28.45	-4.62	-5.46
2440	-0.57	-0.76	35.03	28.78	-4.56	-5.41
2450	-0.51	-0.65	35.82	29.41	-4.46	-5.31
2460	-0.51	-0.61	35.58	29.17	-4.49	-5.35
2470	-0.66	-0.77	34.35	28.23	-4.64	-5.49
2480	-1.07	-0.92	33.07	27.46	-4.81	-5.61
2490	-1.15	-1.03	31.76	26.75	-4.98	-5.73
2500	-1.07	-1.02	31.47	26.95	-5.02	-5.69



Frequency (MHz)	Gain (dBi)		Efficiency (%)		Efficiency (dB)	
	#1 without weight	#2 without weight	#1 without weight	#2 without weight	#1 without weight	#2 without weight
2400	0.63	0.30	28.44	35.04	-5.46	-4.55
2402	0.60	0.27	28.56	35.04	-5.44	-4.55
2410	0.41	0.10	28.20	34.23	-5.50	-4.66
2420	0.25	0.07	27.68	32.96	-5.58	-4.82
2430	0.08	-0.05	27.70	32.06	-5.58	-4.94
2440	0.10	0.03	28.64	32.20	-5.43	-4.92
2450	0.31	0.02	29.89	32.71	-5.24	-4.85
2460	0.15	0.01	30.28	32.18	-5.19	-4.92
2470	0.16	-0.22	29.91	30.64	-5.24	-5.14
2480	0.09	-0.47	29.63	29.21	-5.28	-5.34
2490	-0.10	-0.54	29.39	27.82	-5.32	-5.56
2500	0.02	-0.67	29.95	27.40	-5.24	-5.62

Annex A Photographs

1. Test Setup

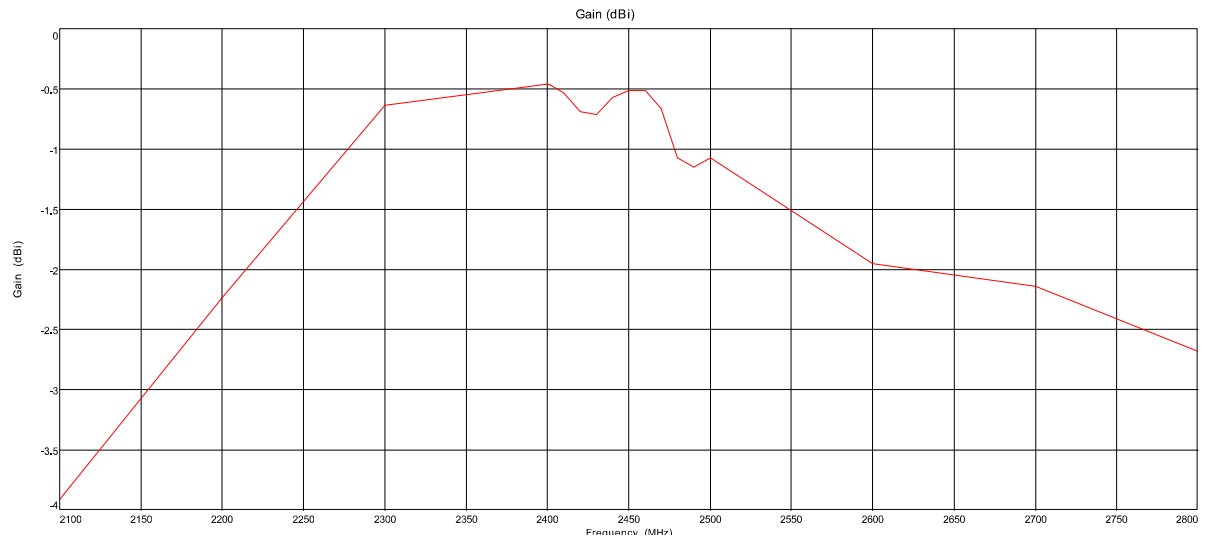




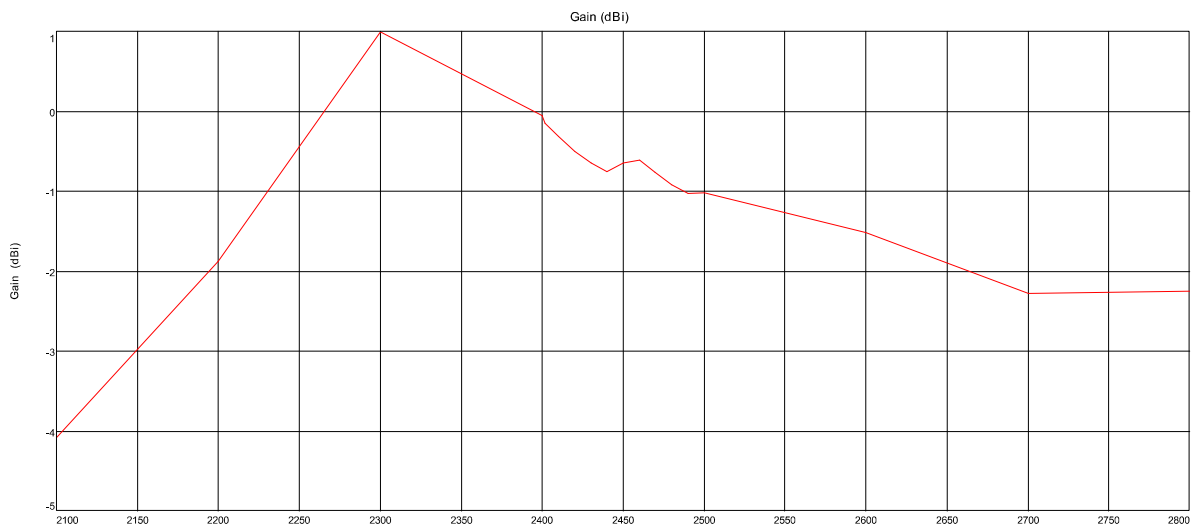
Annex B Figures

1. 2D Radiation Pattern

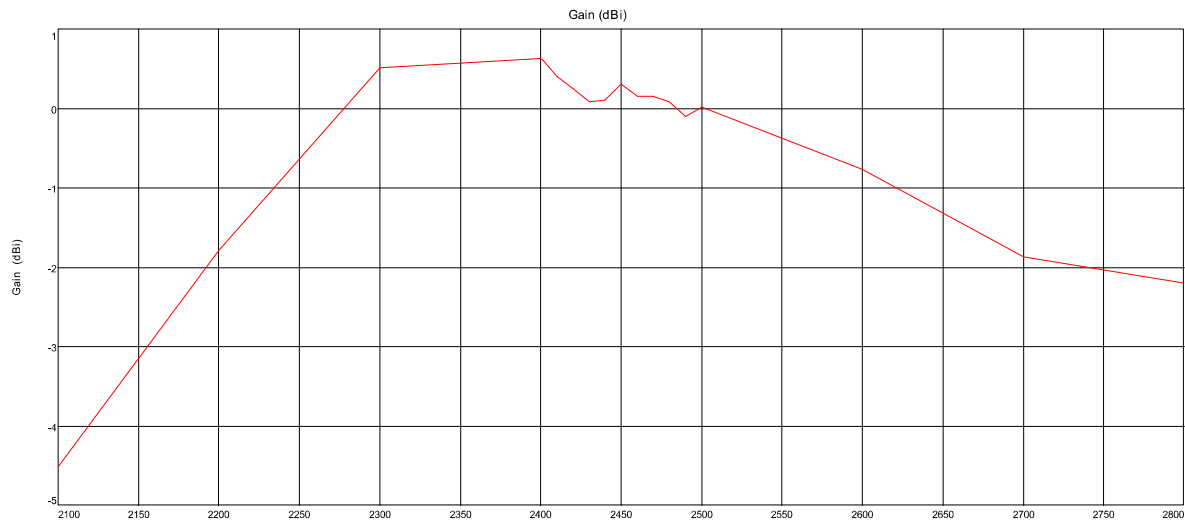
Gain



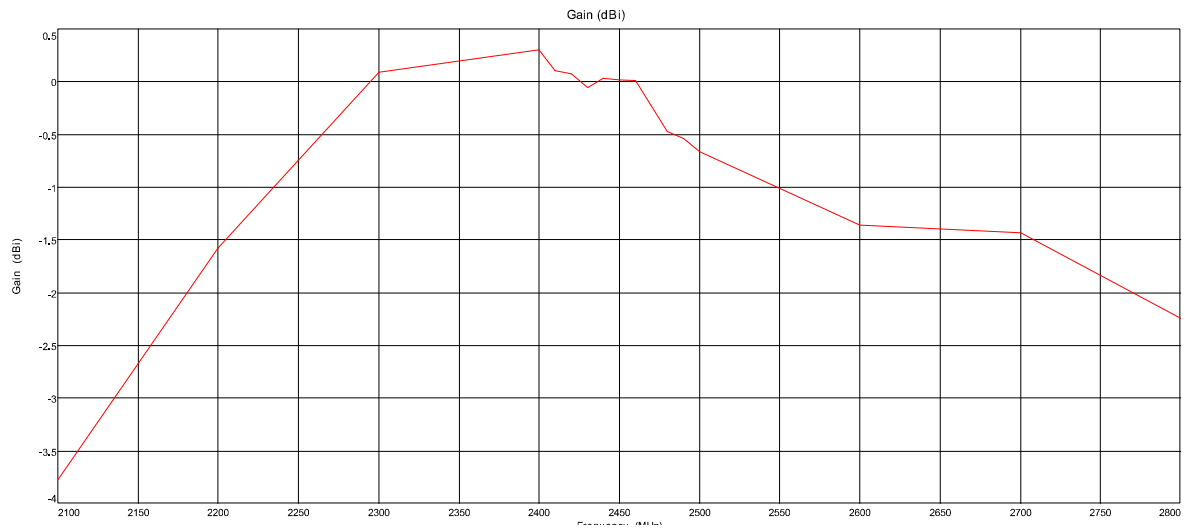
#1 with weight



2# with weight



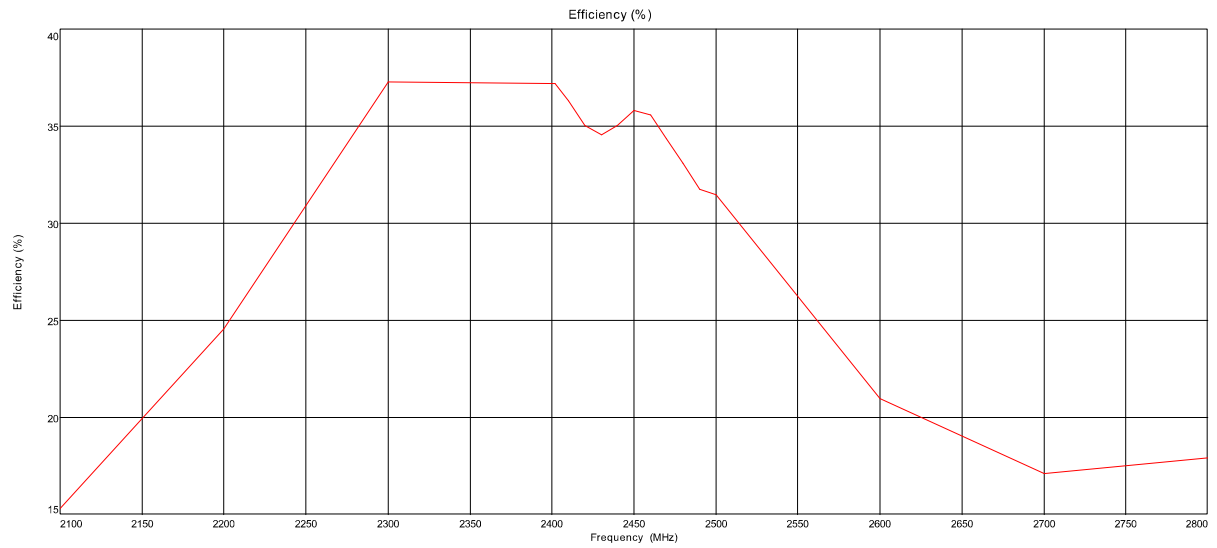
#1 without weight



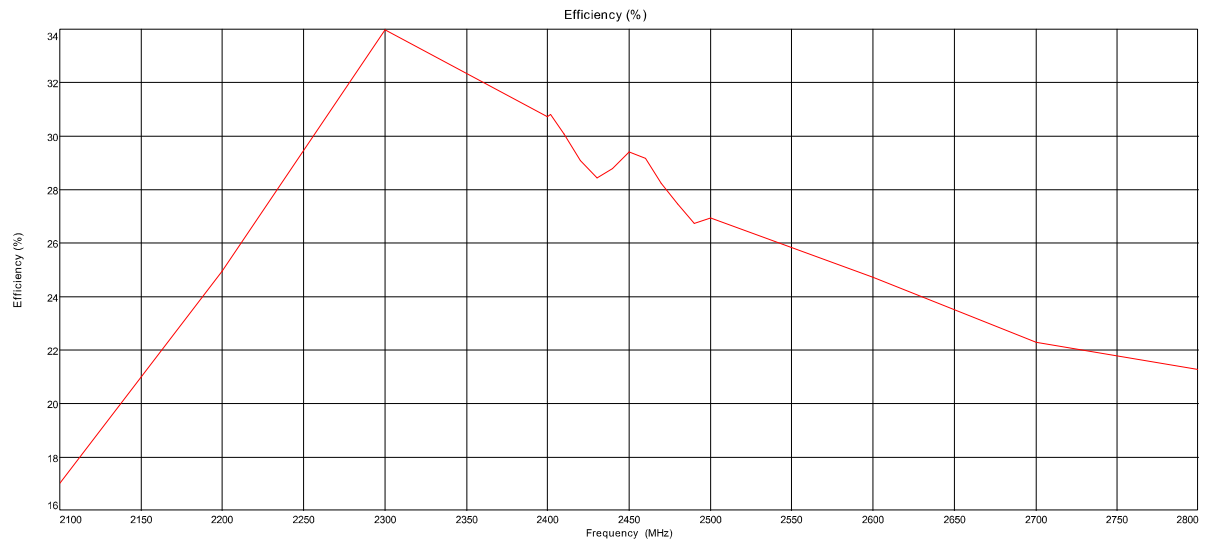
#2 without weight



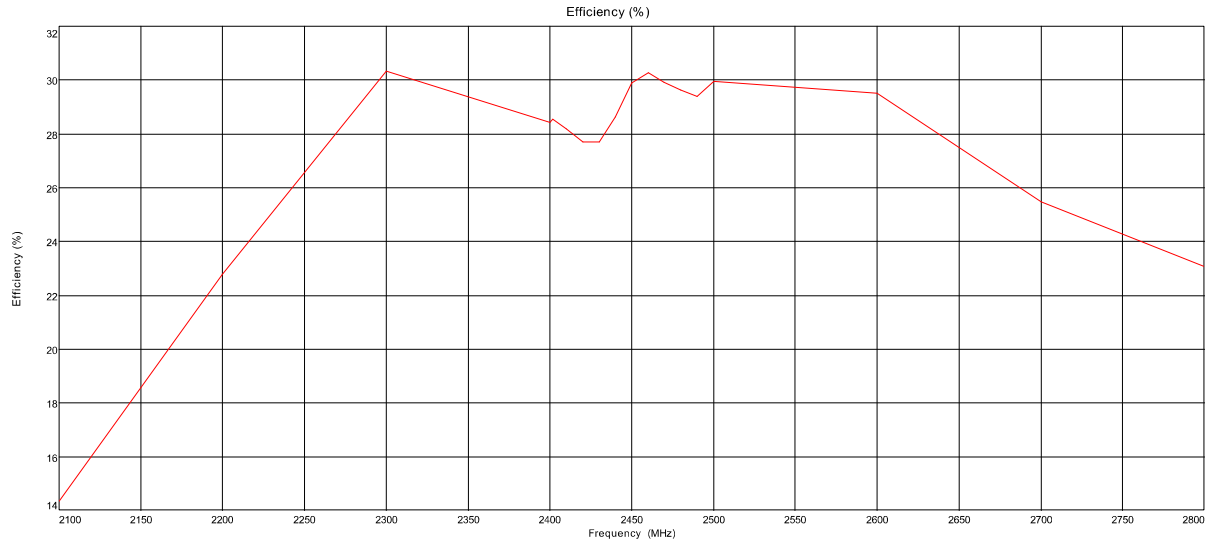
Efficiency



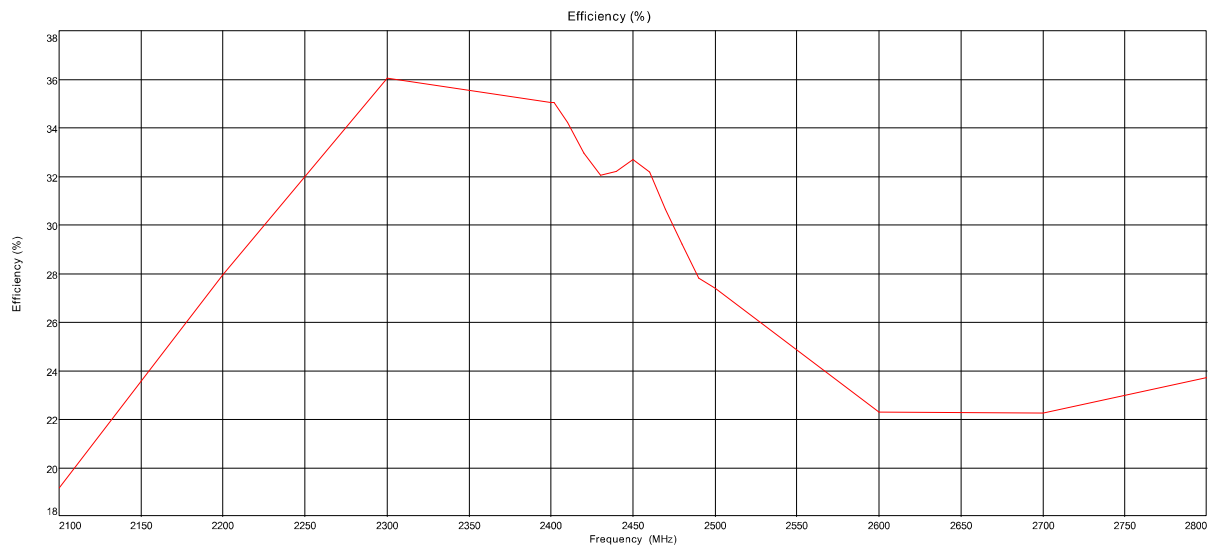
#1 with weight



#2 with weight



#1 without weight

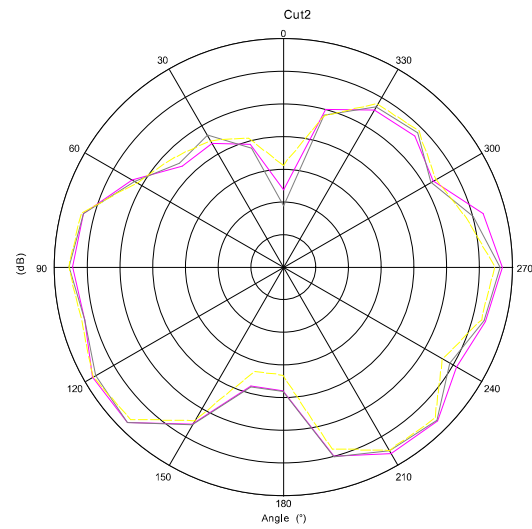


#2 without weight

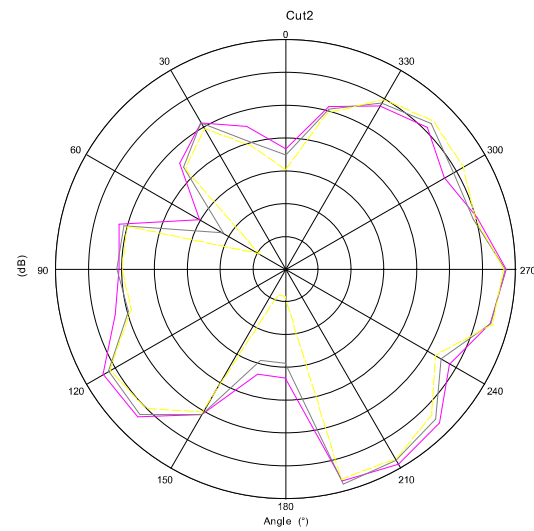


REPORT No.: SZ21060208E01

Phi=0°



#1 with weight

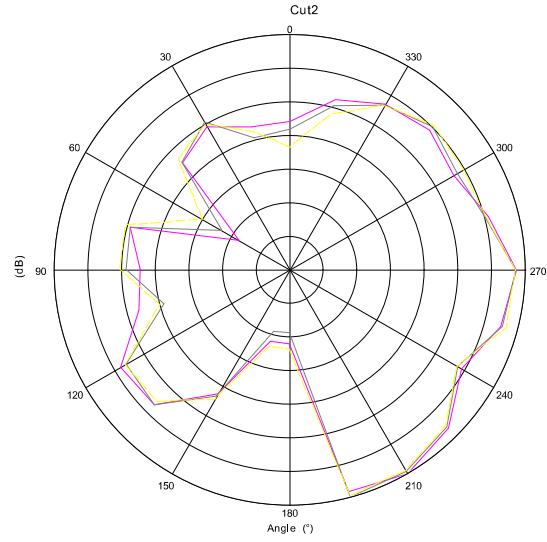


#2 with weight

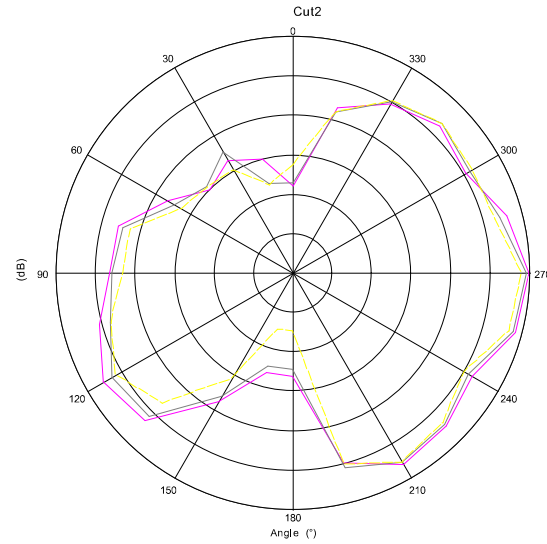




REPORT No.: SZ21060208E01



#1 without weight

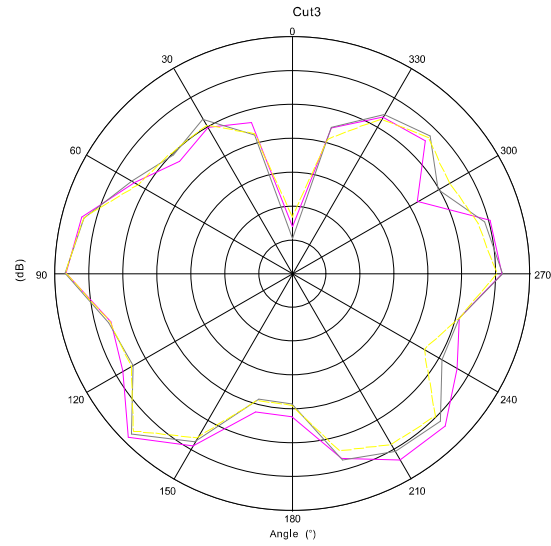


#2 without weight

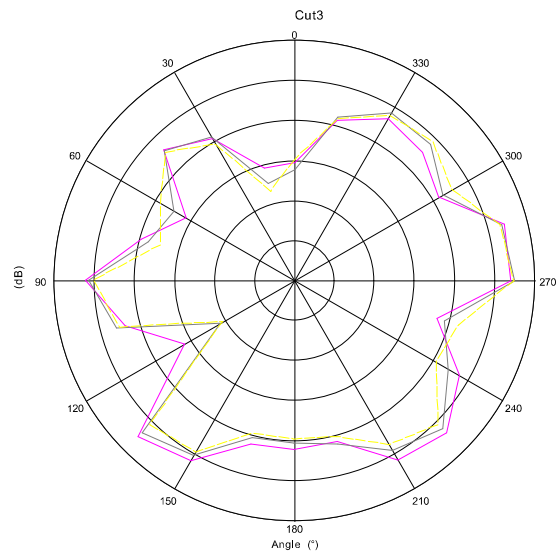


REPORT No.: SZ21060208E01

Phi=90°



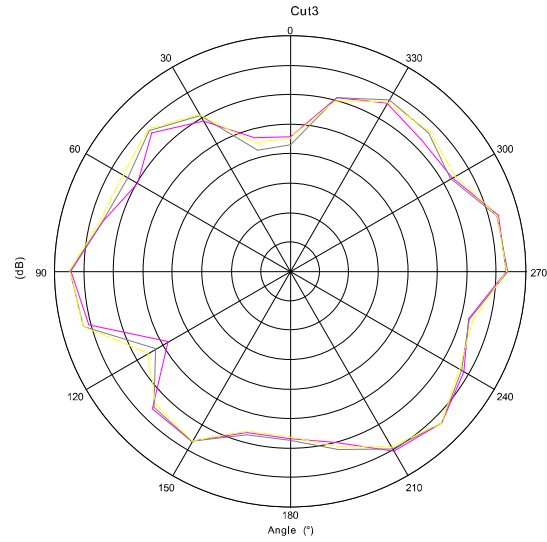
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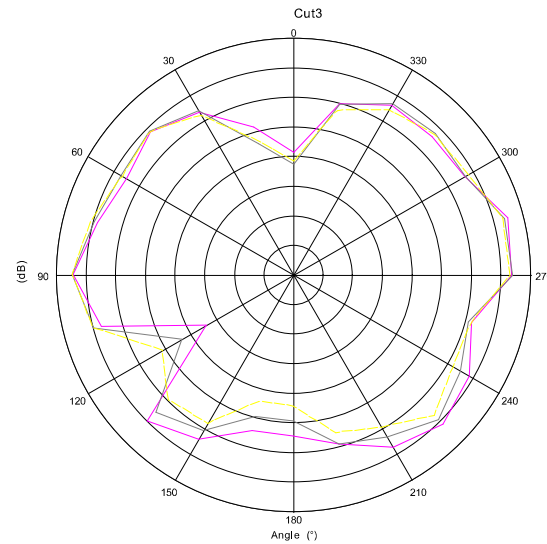
#2 with weight



REPORT No.: SZ21060208E01



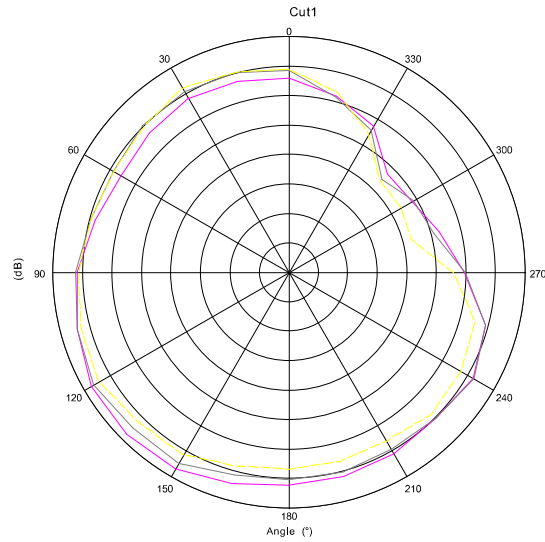
#1 without weight



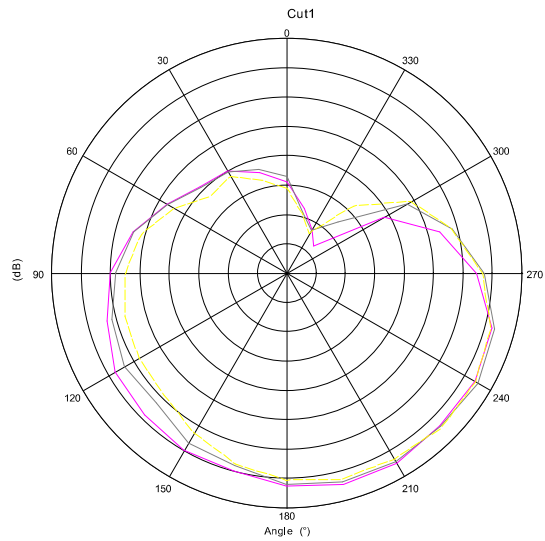
#2 without weight



Theta=90°



#1 with weight

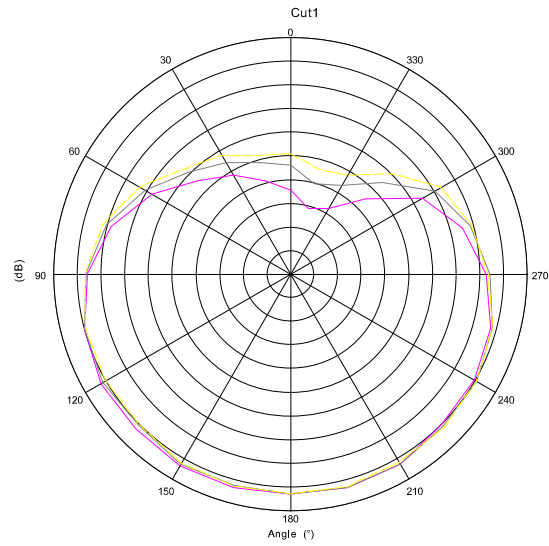


#2 with weight



REPORT No.: SZ21060208E01

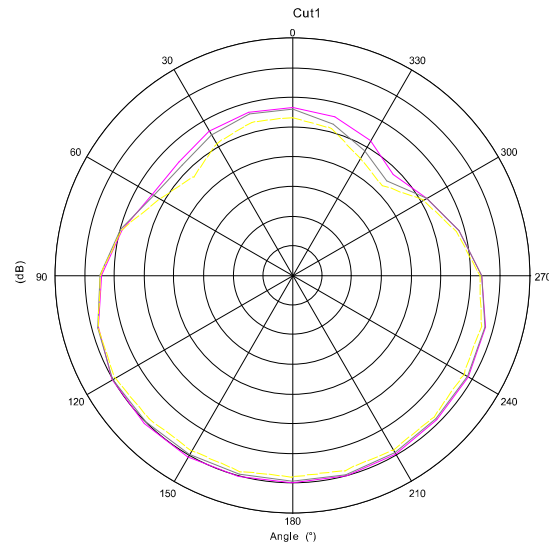
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Min: -20
Scale: 2/div



2402 MHz
2440 MHz
2480 MHz

#1 without weight

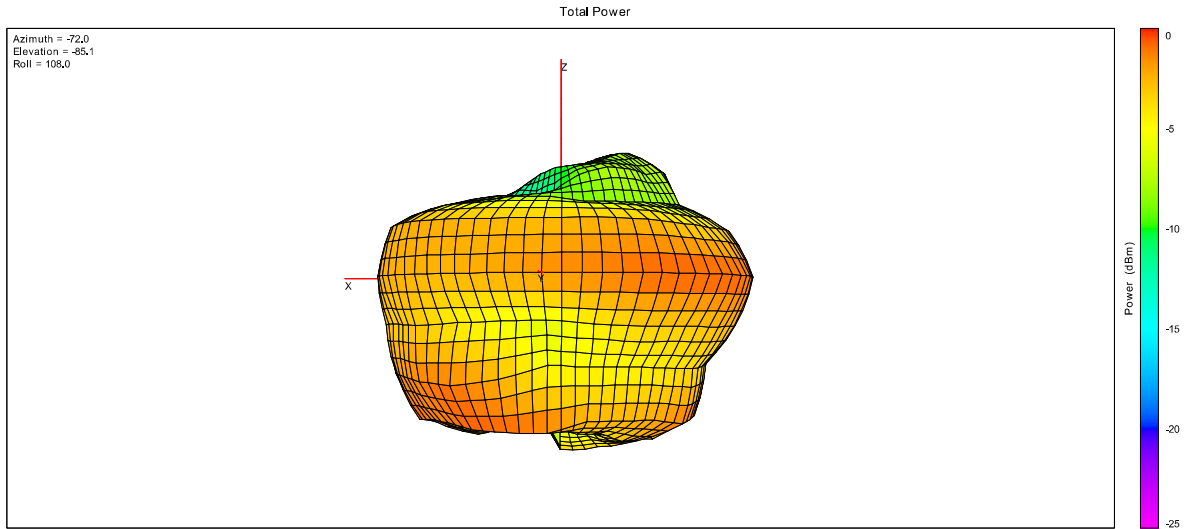
Max: 5
Min: -35
Scale: 5/div



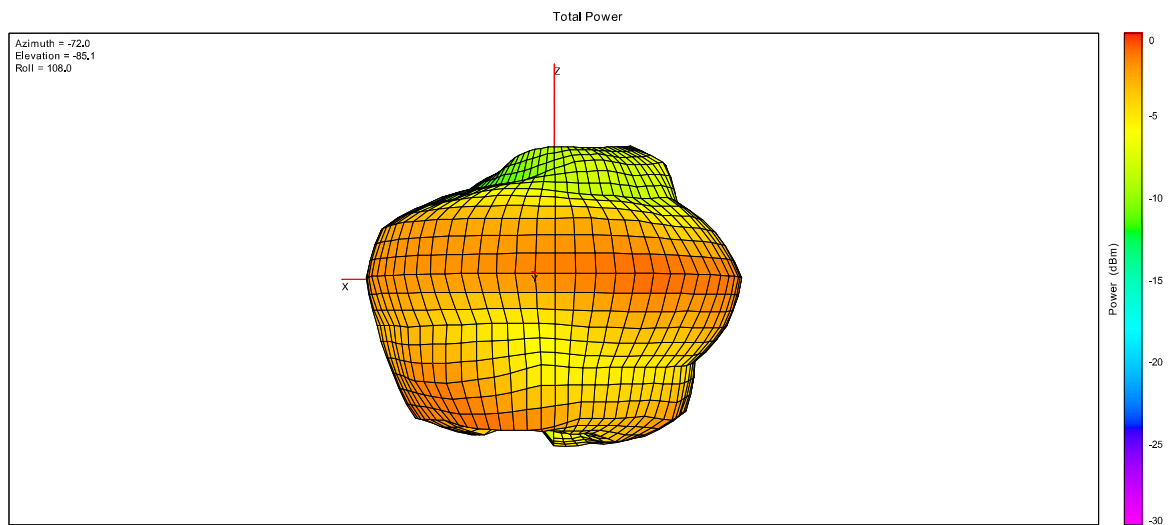
2402 MHz
2440 MHz
2480 MHz

#2 without weight

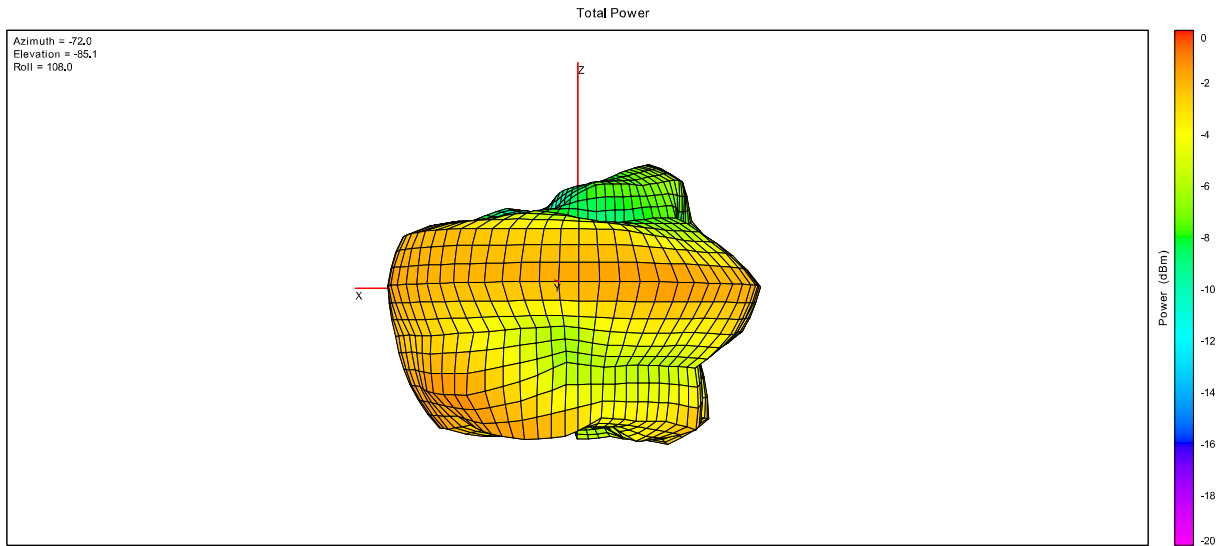
2. 3D Radiation Pattern



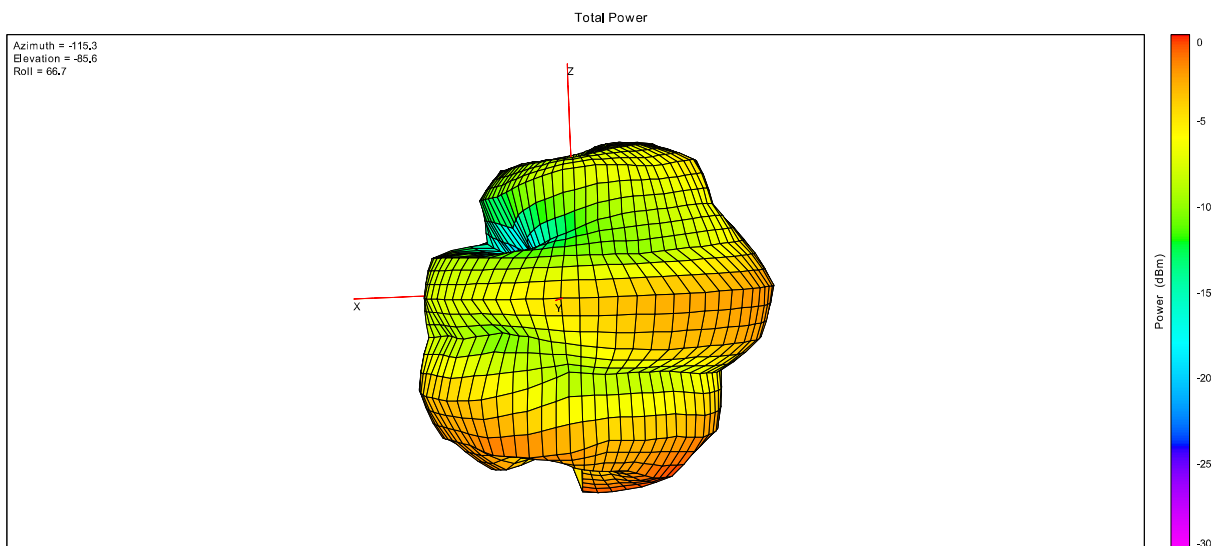
2402MHz_#1with weight



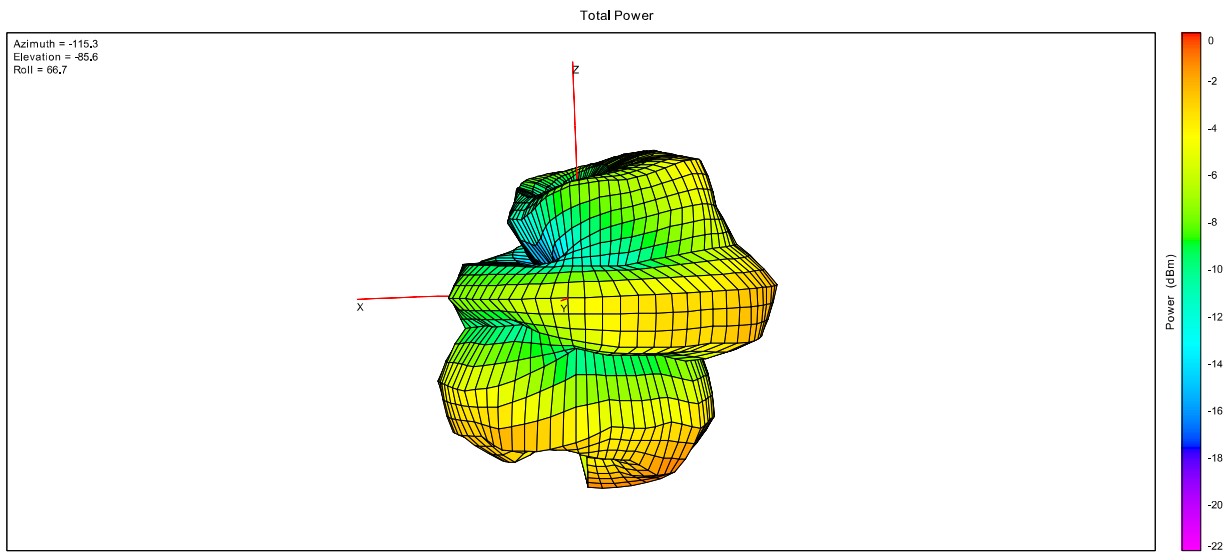
2440MHz_#1with weight



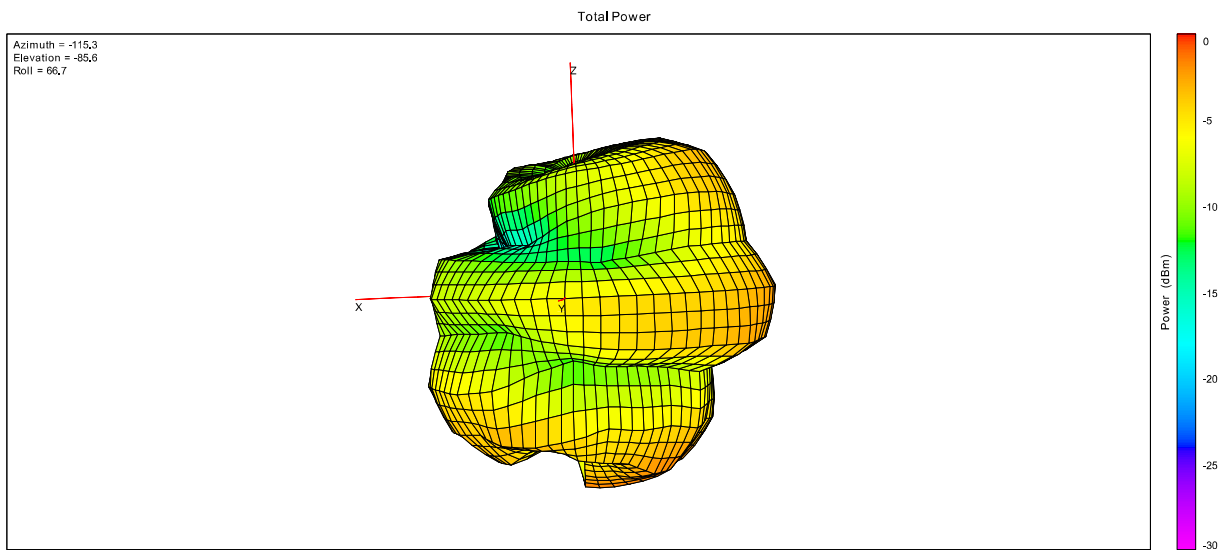
2480MHz_#1with weight



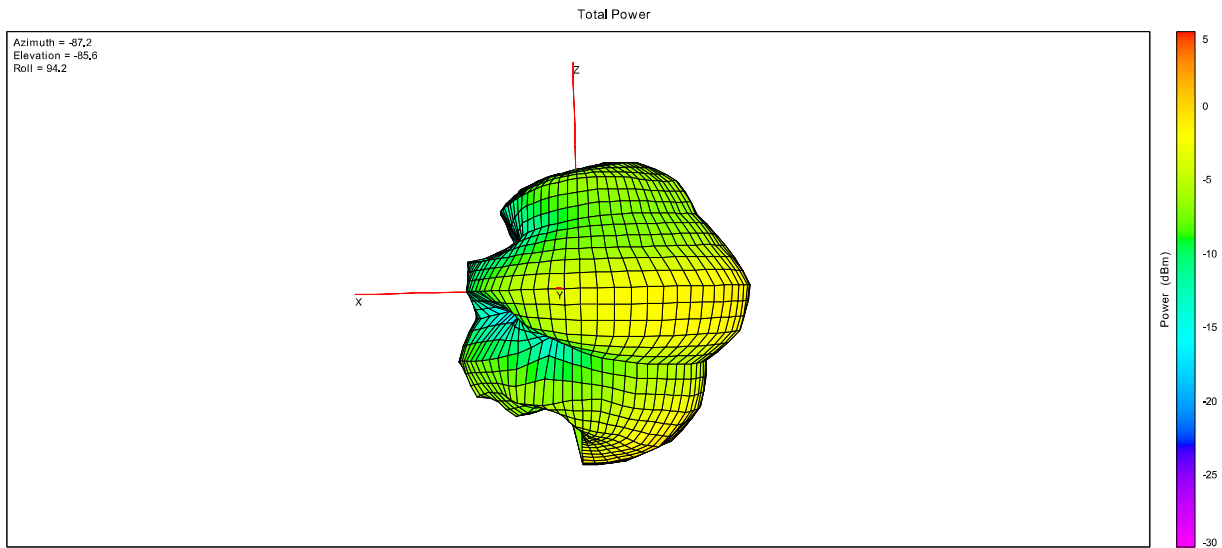
2402MHz_#2 with weight



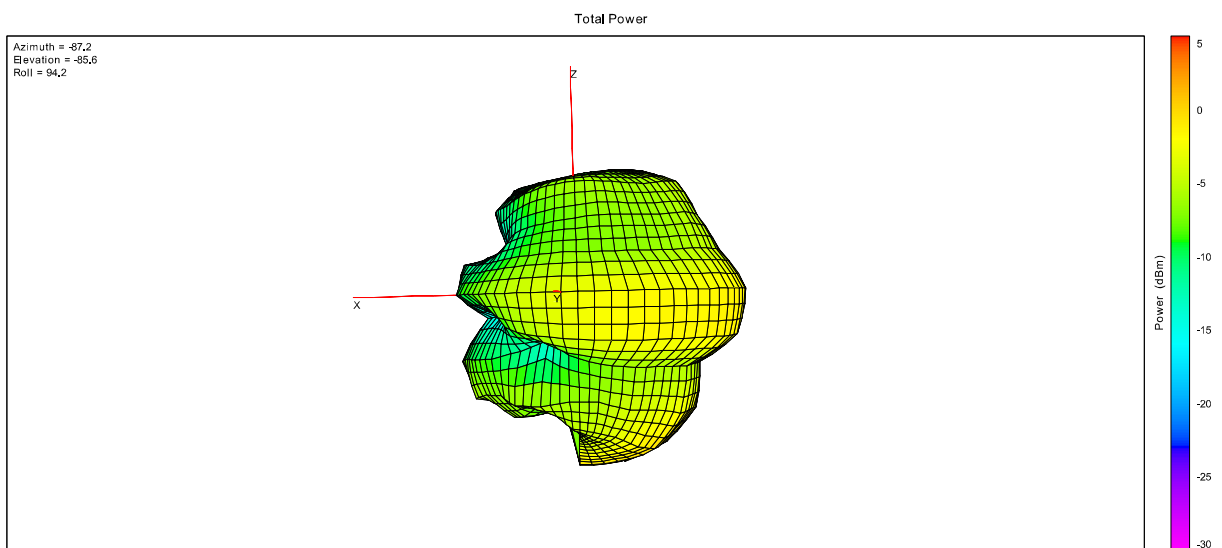
2440MHz_#2 with weight



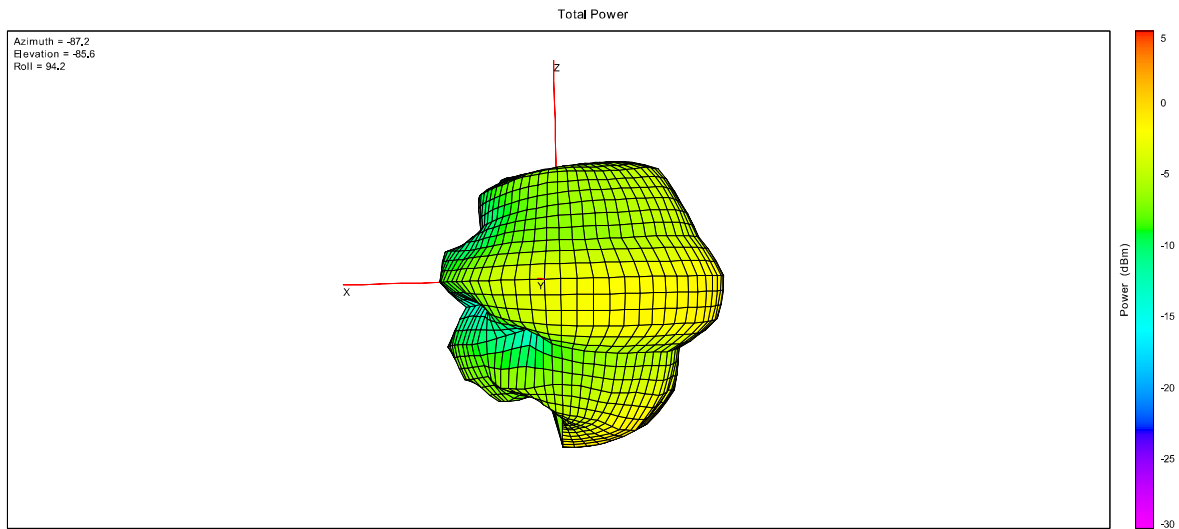
2480MHz_#2 with weight



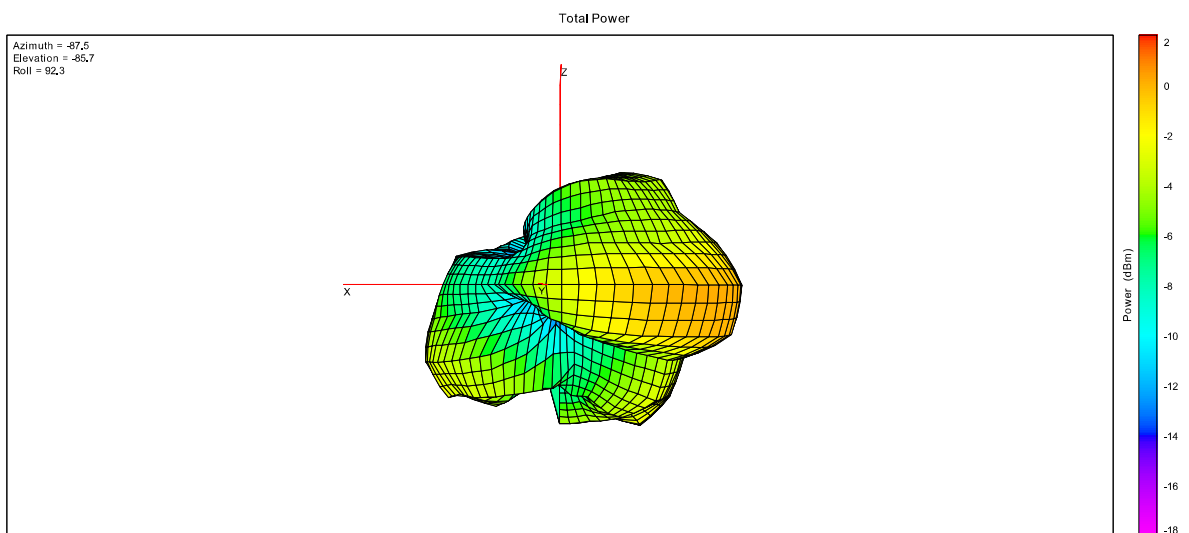
2402MHz_#1 without weight



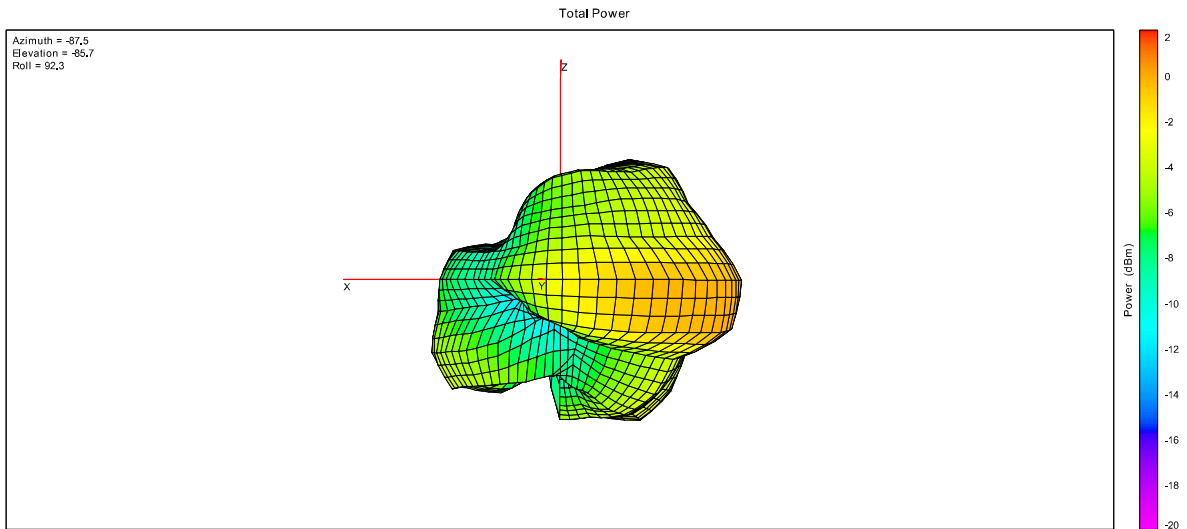
2440MHz_#1 without weight



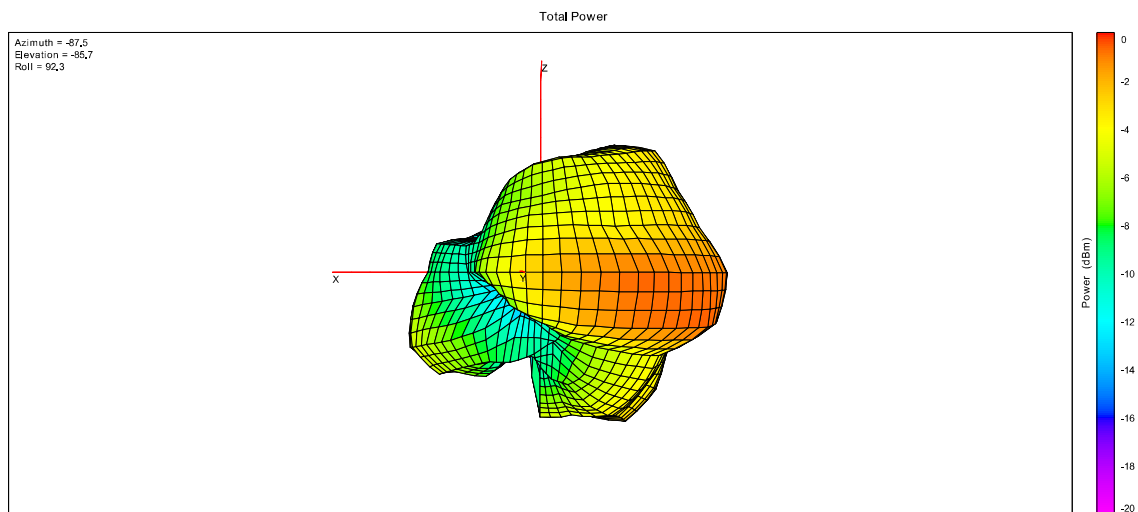
2480MHz_#1 without weight



2402MHz_#2 without weight



2440MHz_#2 without weight



2480MHz_#2 without weight



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	MY461101 40	E5071C	Agilent	2021.03.17	2022.03.16
2	OTA Chamber	TJ2235-Q 1793	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