

OTA TEST REPORT

Applicant Shenzhen General Test System Co., Ltd
Product RayZone1800
Issue Date April 23, 2025

Shenzhen Fu Bang Wireless Technology Co., Ltd. tested the above equipment in accordance with the requirements in **ANTI/IEEE Std 149-2008**. The test results show that the equipment tested is capable of demonstrating compliance with the Requirements as documented in this report.

Prepared by: RuiJie Xie

Approved by: XiaoYing Hu

Shenzhen Fu Bang Wireless Technology Co., Ltd.

Room 302, lianjian Industry Part, Huarong road, Longhua District, Shenzhen, P.R. China

1. Test Laboratory

Shenzhen Fu Bang Wireless Technology Co., Ltd.

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1.1 Notes of the Test report

This report shall not be reproduced in full or partial. The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of applicable standards stated above.

1.2 Test facility

GTSI800 Microwave Anechoic Chamber : testing frequency ranges from 600MHz to 6GHz .

1.3 Testing Location

Company: Shenzhen Fu Bang Wireless Technology Co., Ltd

Address: Room 302, Lianjian Industry Part, Huarong road, Longhua District,
Shenzhen, P.R. China

Contact: Ruijie Xie

Telephone: 13259980153

E-mail: 1822707889@qq.com

1.4 Laboratory Environment

Temperature	Min.= 19°C, Max.=25°C	
Relative humidity	Min.=40%, Max.=72%	
Shield effect	0.6-7GHz	>100dB
Ground resistance	<0.5 Ω	

2. General Description of Equipment under Test

2.1 Applicant and Manufacturer information

Shenzhen Fu Bang Wireless Technology Co., Ltd.

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Applicant Name	Shenzhen General Test System Co., Ltd
Applicant address	Building C-A7 Suite 805,2190 Liuxian Avenue, Nanshan District, Shenzhen, P.R. China
Manufacturer Name	Shenzhen General Test System Co., Ltd
Manufacturer address	Building C-A7 Suite 805,2190 Liuxian Avenue, Nanshan District, Shenzhen, P.R. China

2.2 General information

EUT Description	
Product Name	RayZone1800
Model	GTS-ANT D-H
HW Version	RayZone1800 V1.0
SW Version	MaxSign 100
Antenna Type	PCB Antenna
Antenna Manufacturer	Shenzhen General Test System Co., Ltd
Test Frequency	600MHz-5.8GHz

2.3 Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

Test Method: **ANSI/IEEE Std 149-2008**

3. Test Conditions

3.1 Test Configuration

The method is used to measure the antenna 3D GAIN of EUT in OTA qualified anechoic chamber. Equipment Under Test (EUT) geometry centre vertical projection at the centre of platform, the distance from EUT to measurement antenna is 1m.

3.2 Test Measurement

Spherical coordinate system

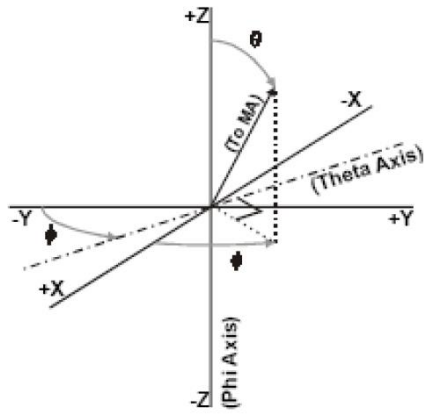
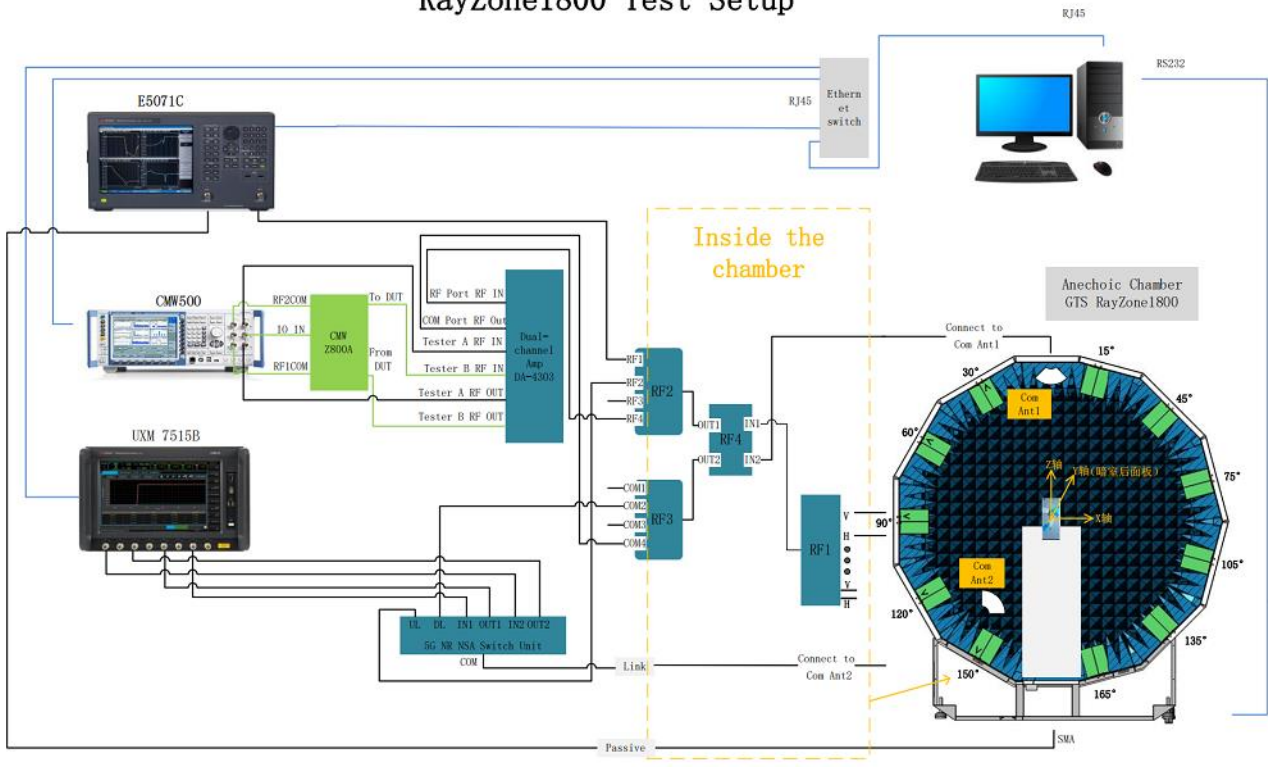


Figure 1 Test coordinate system

Note: Theta is from 0-180degree. Phi is from EUT and record the Date, the step of rotation is 15 degree.

Test Setup

RayZone1800 Test Setup



4. Test Results

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4.1 Gain and Efficiency in Free Space

Model	Test State	Frequency (MHz)	Efficiency (%)	Gain (dBi)	Frequency (MHz)	Efficiency (%)	Gain (dBi)	Note
	Free Space	620	13.4	-5.62	1820	23.8	-0.74	
		630	15.67	-4.77	1840	25.1	-1.12	
		640	16.94	-3.81	1860	27.1	-0.82	
		650	17.2	-3.8	1880	28.8	-0.46	
		660	17.51	-4.4	1900	30.0	-0.08	
		670	17.58	-4.36	1920	31.8	0.22	
		680	17.91	-3.76	1940	32.1	0.48	
		690	17.92	-3.18	1960	31.8	0.74	
		700	18.7	-3.35	1980	30.4	0.8	
		710	22.3	-2.65	2000	30.1	0.9	
		720	25.57	-1.58	2020	29.2	0.91	
		730	25.35	-1.76	2040	27.3	0.47	
		740	24.55	-2.1	2060	25.1	-0.43	
		750	22.75	-2.42	2080	24.6	-1.41	
		760	19.93	-2.94	2100	23.9	-2.37	
		770	17.33	-3.47	2120	23.8	-2.76	
		780	14.98	-3.98	2140	24.3	-3.23	
		790	12.7	-4.73	2160	23.3	-3.78	
		800	10.98	-5.42	2180	21.8	-3.89	
		810	27.41	-1.33	2200	20.4	-4.12	
		820	28.31	-1.13	2300	18.7	-4.39	
		830	27.43	-1.18	2320	18.7	-4.38	
		840	24.07	-1.81	2340	19.9	-4.63	
		850	21.07	-2.36	2360	20.5	-4.6	
		860	17.87	-3.01	2380	21.0	-4.89	
		870	14.57	-3.92	2400	21.4	-4.82	
		880	12.23	-4.64	2420	23.0	-4.16	
		890	10.44	-5.64	2440	24.1	-3.72	
		900	9.04	-6.19	2460	24.2	-3.71	
		910	17.39	-3.38	2480	26.3	-3.72	
		920	14.18	-4.2	2500	28.5	-1.16	
		930	11.36	-4.92	2520	29.3	-0.89	
		940	8.96	-5.66	2540	30.2	-0.79	
	950	7.17	-6.64	2560	31.3	-0.77		
	960	5.97	-7.53	2580	31.9	-0.35		
	1700	23.74	-2.7	2600	32.0	-0.31		
	1720	24.88	-1.7	2620	32.3	-0.08		
	1740	24.38	-1.6	2640	31.1	0.05		
	1760	24.96	-1.3	2660	29.2	0.33		
	1780	25.83	-1.0	2680	26.8	0.33		
	1800	26.01	-0.7	2700	26.1	0.29		

Model	Test State	Frequency (MHz)	Efficiency (%)	Gain (dBi)	Note
	Free Space	1560	34.9	-1.6	
		1570	35.8	-1.4	
		1580	35.4	-1.2	
		1590	35.8	-1.5	
		2410	27.7	-1.2	
		2400	26.0	-0.6	
		2410	27.7	-1.2	
		2420	29.9	-1.7	
		2430	33.4	-2.1	
		2440	35.8	-1.9	
		2450	37.7	-1.6	
		2460	38.7	-1.4	
		2470	39.6	-1.3	
		2480	40.4	-1.2	
		2490	40.5	-1.1	
		2500	40.6	-1.0	
		5100	21.6	0.7	
		5140	21.9	0.9	
		5180	24.0	1.2	
		5220	27.2	1.5	
		5260	27.5	1.0	
		5300	28.6	0.8	
		5340	30.1	0.6	
		5380	30.8	0.3	
		5420	32.3	0.4	
		5460	33.4	0.1	
		5500	35.0	-0.2	
		5540	39.5	-0.4	
		5580	42.0	0.3	
		5620	40.9	0.8	
		5660	40.0	1.0	
		5700	37.8	1.0	
		5740	32.7	0.3	
	5780	33.5	0.2		
	5820	38.78	-0.2		

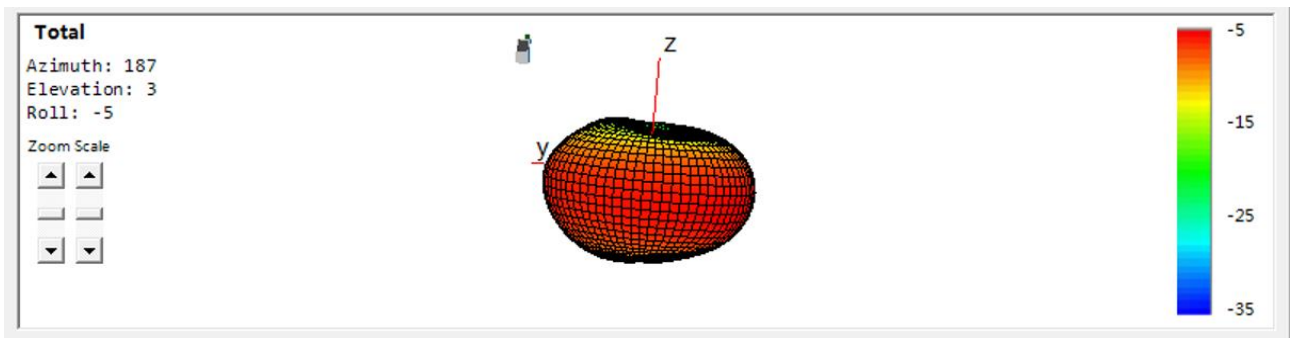
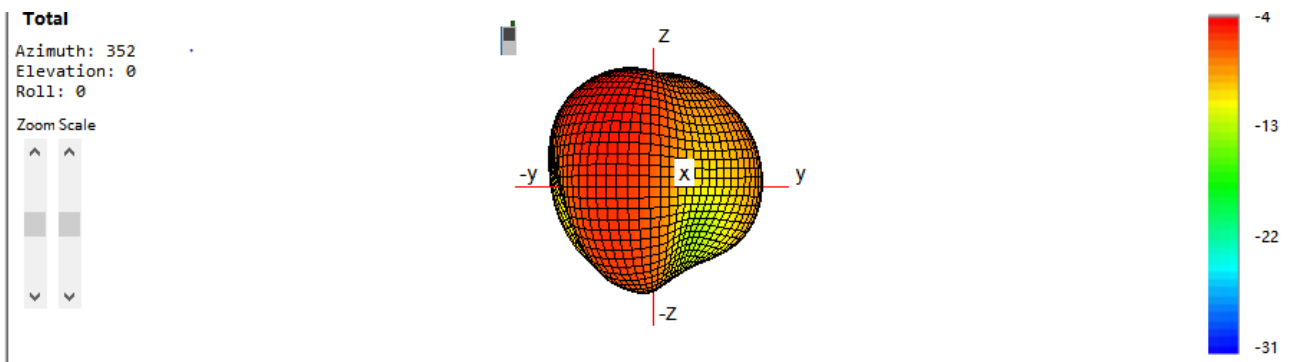
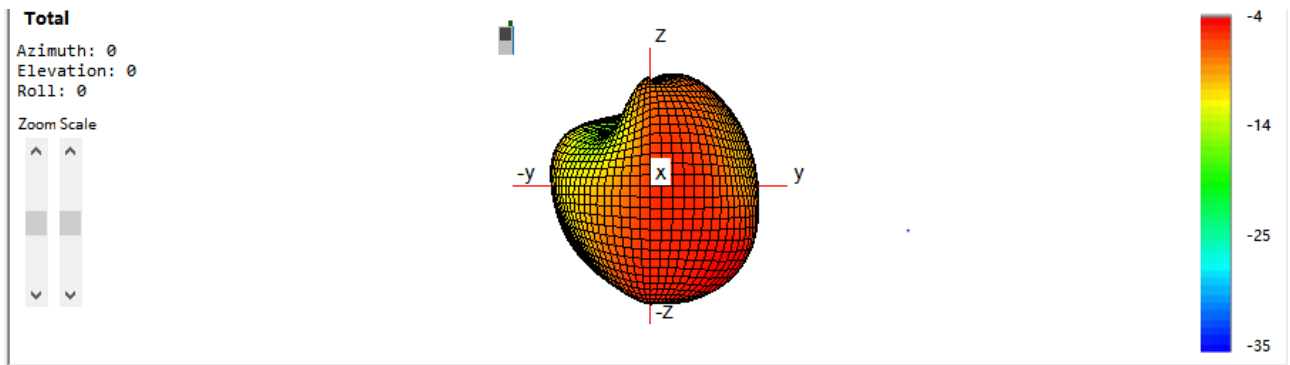
5. Equipment List

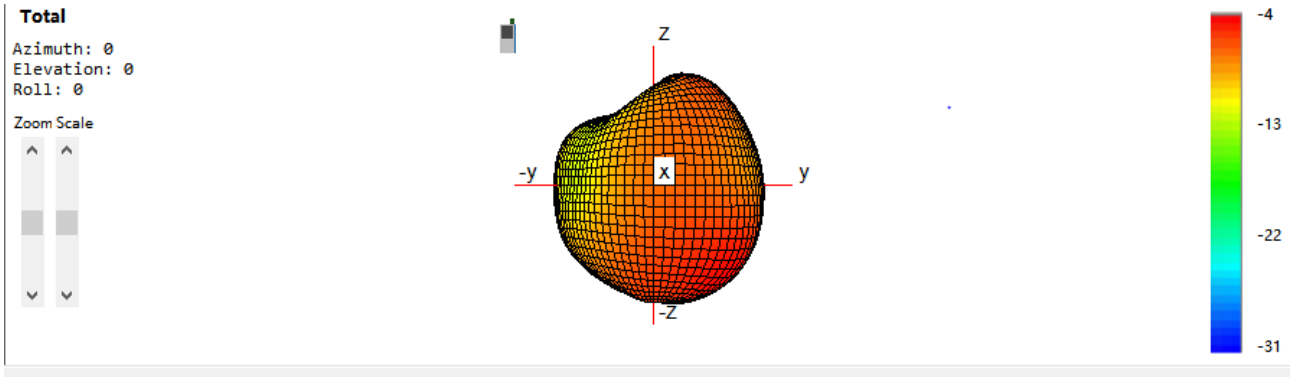
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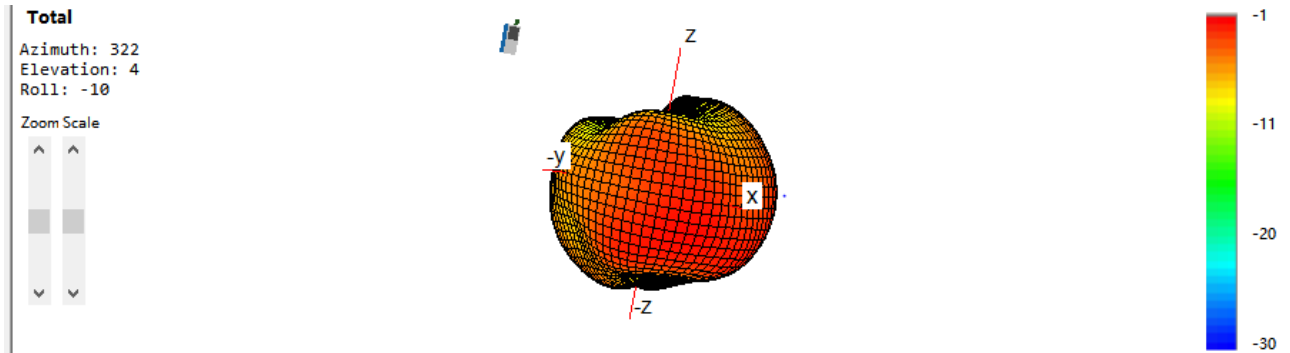
Type of Equipment	Manufacture	Model Number
Network Analyzer	Key sight	E5071C
Switch control System	GTS	RayZone1800
Software	GTS	MaxSign 100 Patten Measurement software
Radio Communication Tester	Rohde&Schwarz	CMW 500
	Anritsu	MT8000A
	Agilent	E4438C

ANNEX A 3-D Patten Plots

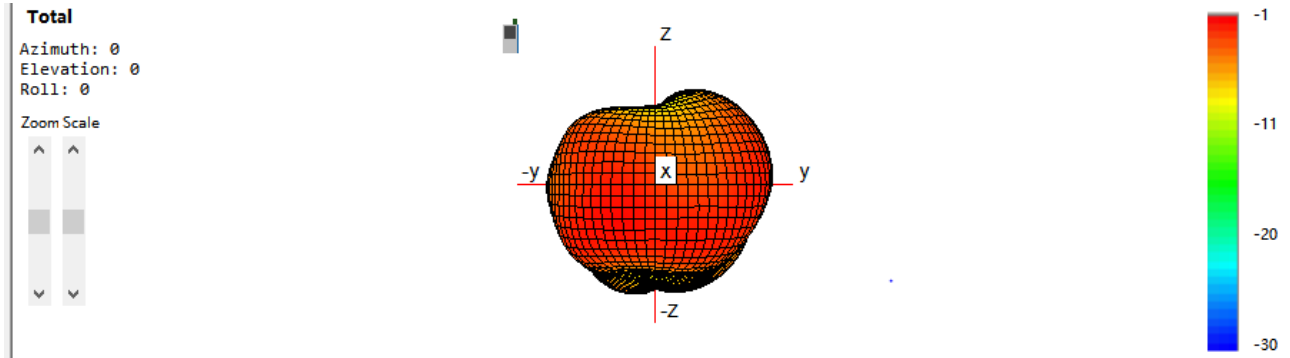




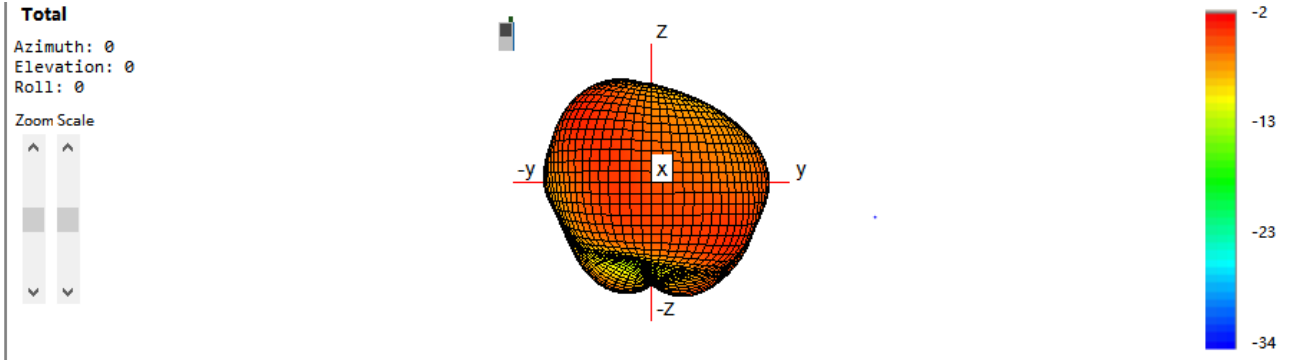
900MHz



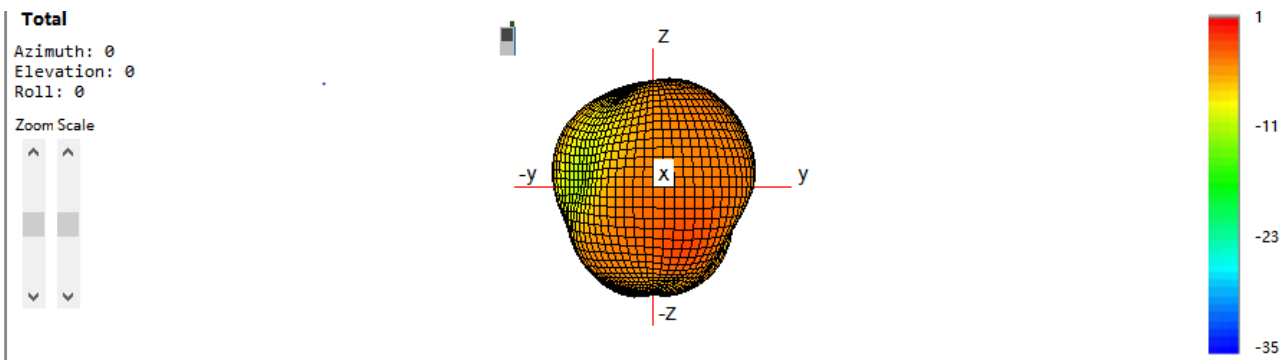
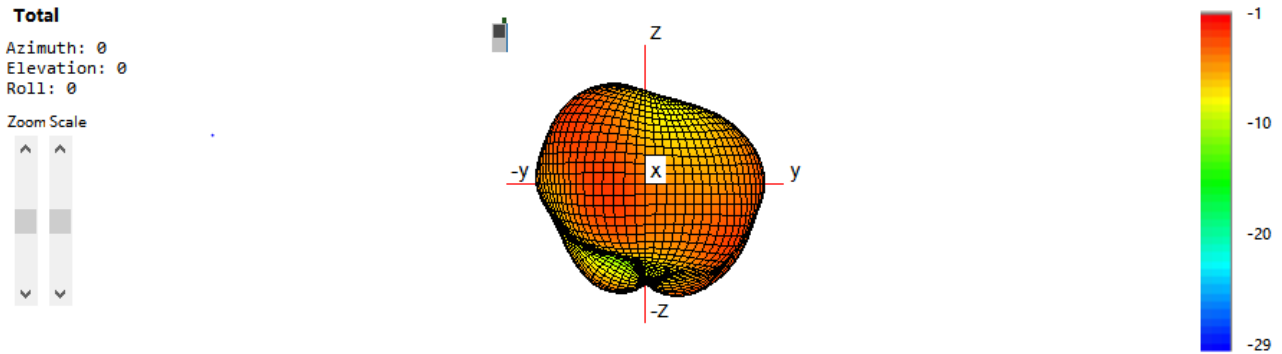
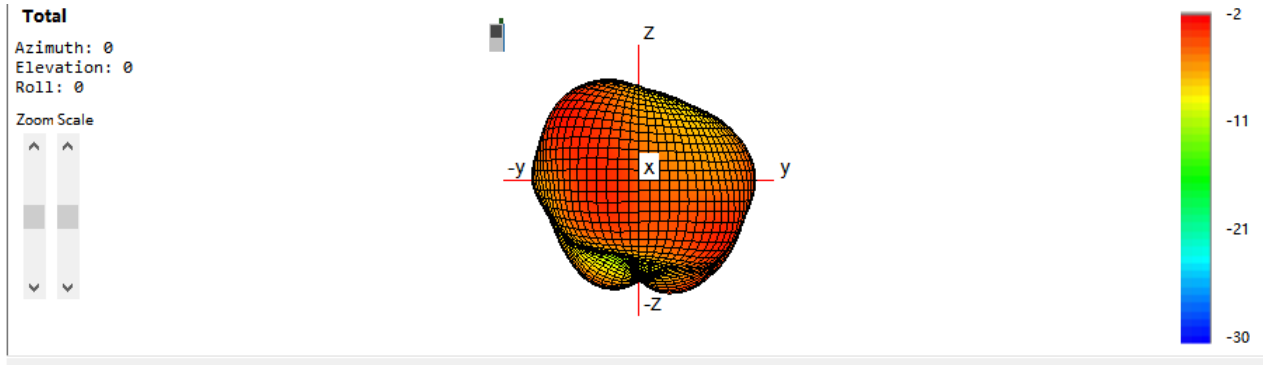
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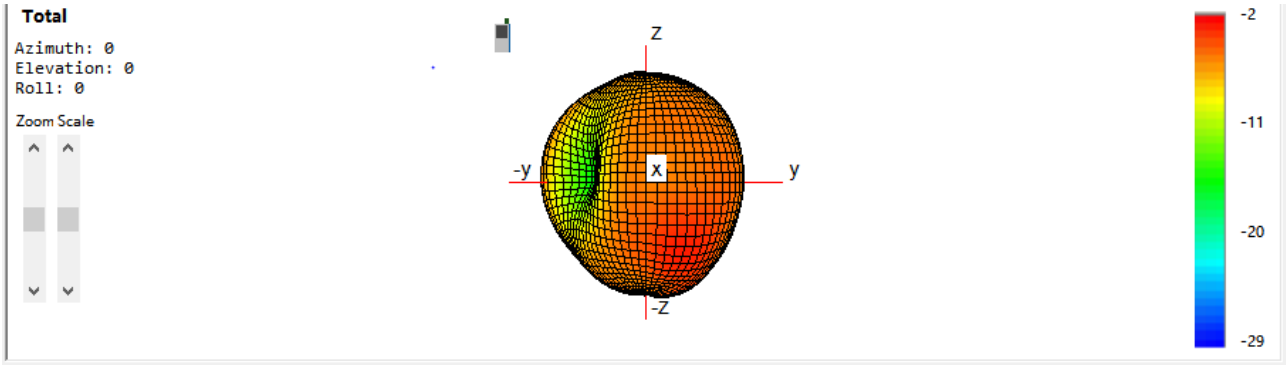


1900MHz

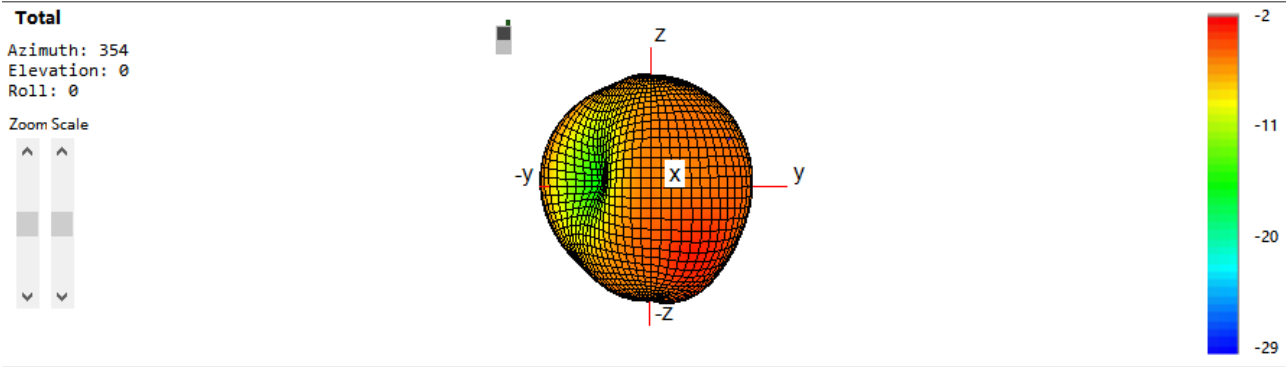


2100MHz

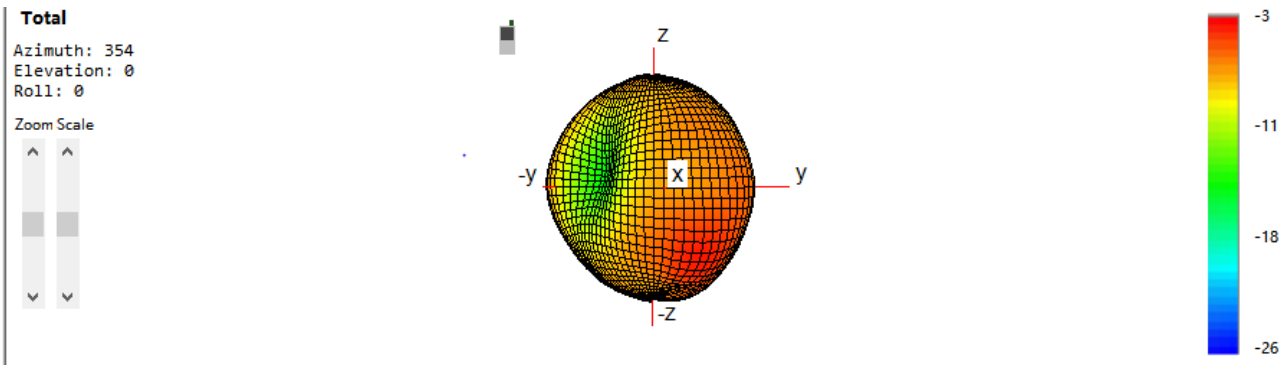




5100MHz



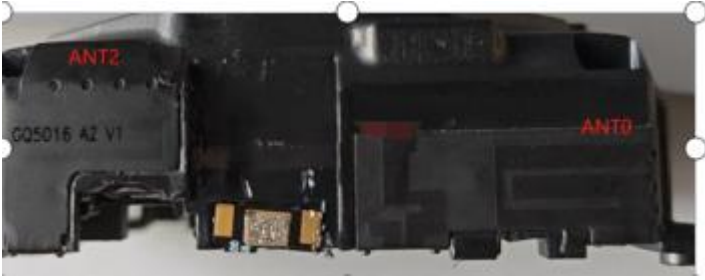
5820MHz



ANNEX B: The EUT Appearance and Test Configuration

B.1 EUT Appearance





B.2 Test Configuration

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