

OTA TEST REPORT

©

Applicant Shenzhen General Test System Co., Ltd

Product RayZone1800

Issue Date September 6, 2022

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: Lunkang Yan

Approved by: Zhanghong Lai

Shenzhen Fu Bang Wireless Technology Co., Ltd.

Room 302, Lianjian Industry Part, Huarong Road, Longhua District, Shenzhen, P.R. China

1. Test Laboratory

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

GTS1800 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: lunkang Yan

Telephone: 13760182610

E-mail: 646363118@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	<0.5Ω	

2. General Description of Equipment under Test

2.1 Applicant and Manufacturer information

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	700MHz-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

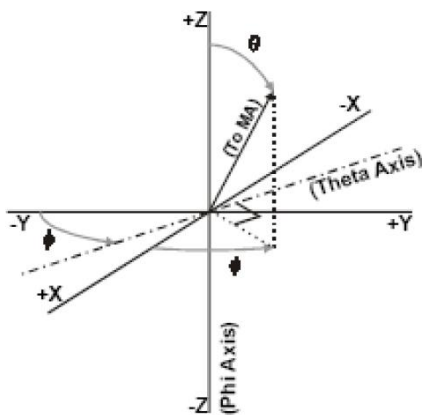
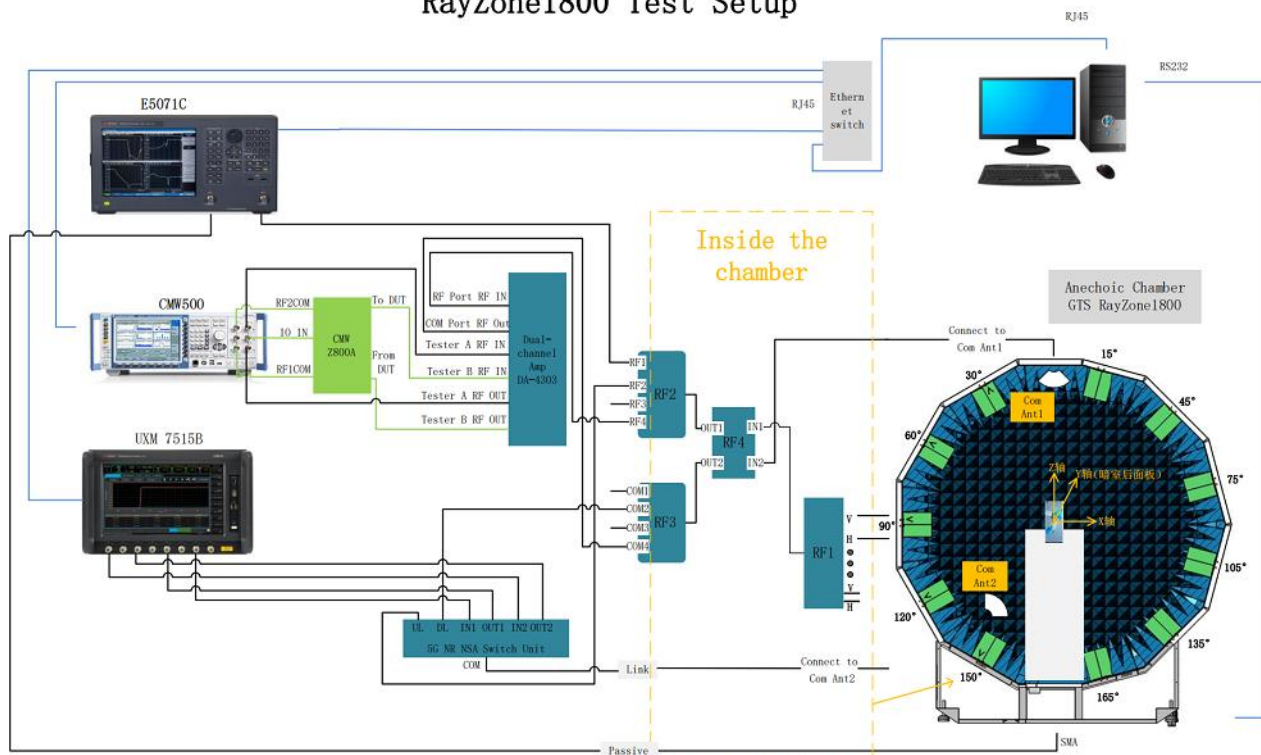


Figure 1 Test coordinate system

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

4.1 Gain and Efficiency

Model	Test State	Frequency (MHz)	Efficiency (%)	Gain (dBi)	Frequency (MHz)	Efficiency (%)	Gain (dBi)	Note
	Free Space	700	15.1	-5.1	1900	25.9	-2.3	
		710	15.5	-4.9	1920	23.7	-2.5	
		720	16.5	-4.6	1940	23.9	-2.8	
		730	16.8	-4.4	1960	22.6	-3.1	
		740	17.2	-4.5	1980	22.8	-3.4	
		750	17.1	-4.6	2000	23.7	-3.4	
		760	17.3	-4.5	2020	22.3	-3.4	
		770	16.4	-4.6	2040	25.9	-3.4	
		780	16.1	-4.9	2060	25.1	-3.7	
		790	15.4	-5.2	2080	24.6	-3.0	
		800	14.4	-5.8	2100	24.7	-3.2	
		810	16.2	-5.2	2120	25.2	-3.1	
		820	17.5	-4.9	2140	25.3	-3.0	
		830	18.2	-4.6	2160	25.2	-3.3	
		840	18.8	-4.5	2180	24.1	-3.9	
		850	18.2	-4.6	2200	23.2	-3.4	
		860	17.7	-4.9	2500	22.6	-3.4	
		870	18.1	-4.7	2520	22.9	-3.6	
		880	18.8	-4.5	2540	23.4	-3.5	
		890	19.5	-3.8	2560	25.3	-3.8	
		900	20.7	-4.1	2580	26.5	-3.5	
		910	21.9	-3.9	2600	28.6	-3.6	
		920	20.0	-4.3	2620	25.7	-2.9	
		930	18.8	-4.6	2640	28.3	-2.3	
		940	17.3	-5.2	2660	26.8	-2.0	
		950	17.0	-5.4	2680	28.0	-1.6	
		960	16.5	-5.6	2700	24.9	-1.5	
		1700	27.9	-2.0				
		1720	30.5	-1.6				
		1740	34.1	-1.4				
		1760	37.9	-0.7				
		1780	38.8	-0.5				
	1800	38.3	-0.5					
	1820	36.5	-0.9					
	1840	33.9	-1.2					
	1860	30.9	-1.6					
	1880	27.8	-1.9					

Model	Test State	Frequency (MHz)	Efficiency (%)	Gain (dBi)	Frequency (MHz)	Efficiency (%)	Gain (dBi)	Note
	Free Space	1550	31.0	-1.0	5100	32.3	-1.9	
		1560	32.6	-0.7	5140	32.3	-2.0	
		1570	33.0	-0.5	5180	35.3	-1.8	
		1580	33.7	-0.4	5220	36.5	-1.3	
		1590	32.9	-0.8	5260	37.0	-1.0	
		1600	30.6	-1.1	5300	39.3	-0.5	
					5340	40.8	0.1	
					5380	41.2	0.1	
					5420	41.9	0.1	
		2400	38.6	-1.0	5460	41.4	-0.2	
		2410	39.0	-0.9	5500	42.4	-0.5	
		2420	40.3	-0.5	5540	41.4	-0.4	
		2430	41.6	-0.3	5580	43.1	-0.1	
		2440	42.1	-0.2	5620	42.1	0.1	
		2450	43.3	-0.3	5660	42.8	0.3	
		2460	42.7	-0.2	5700	40.9	0.3	
		2470	42.5	-0.2	5740	42.5	0.6	
		2480	42.6	0.1	5780	41.3	0.6	
		2490	42.5	-0.2	5820	41.8	0.5	
		2500	42.8	-0.3	5860	41.3	0.4	
					6000	41.0	0.2	
Note: WIFI and BT share an antenna								

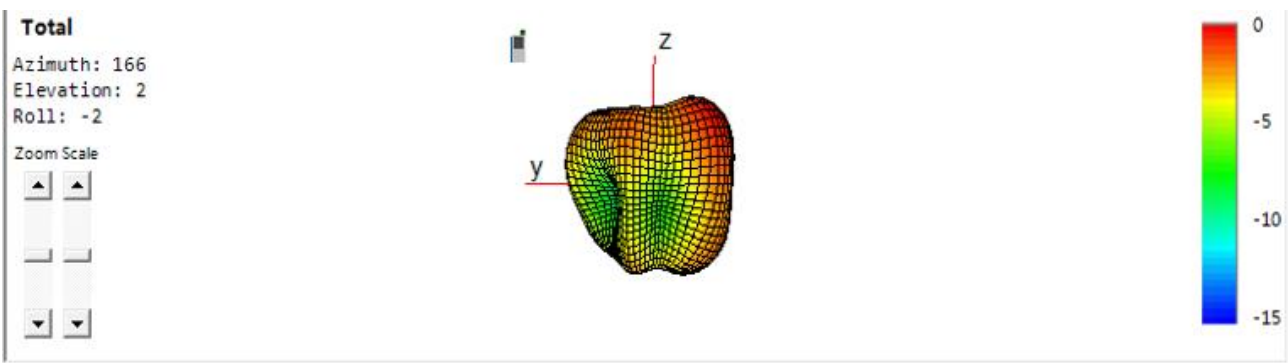
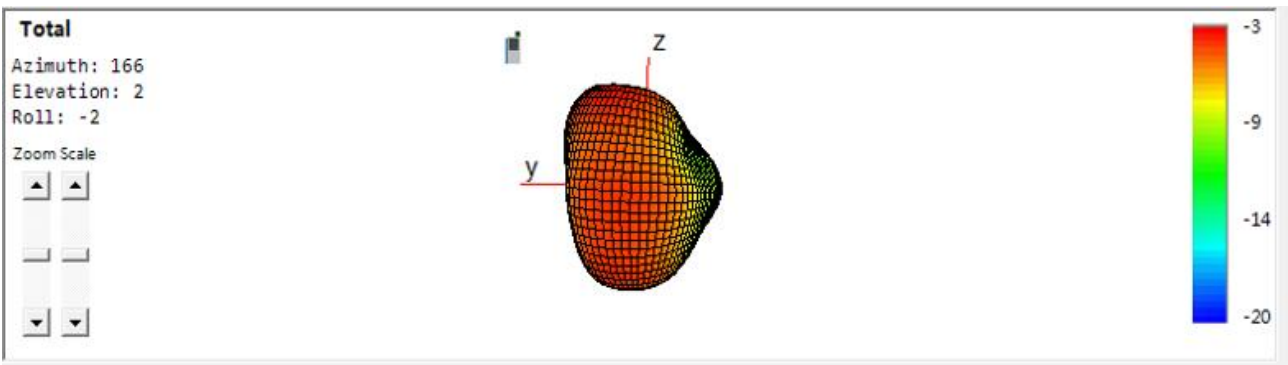
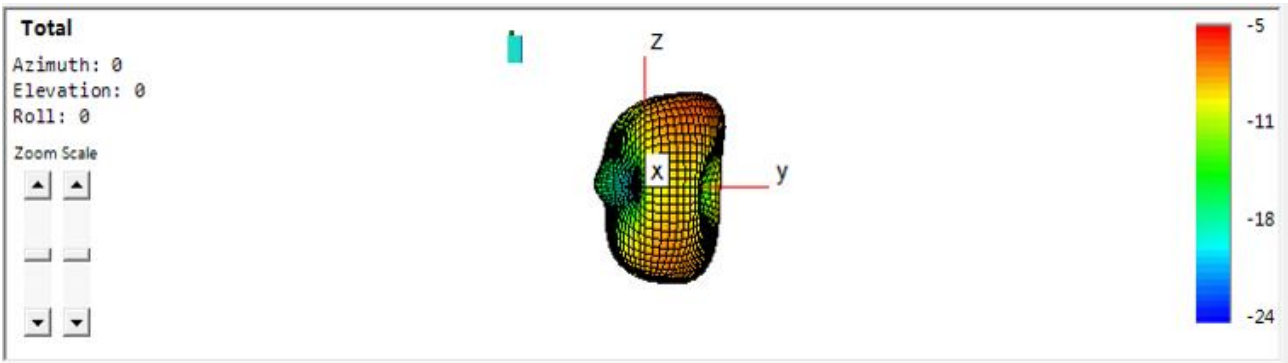
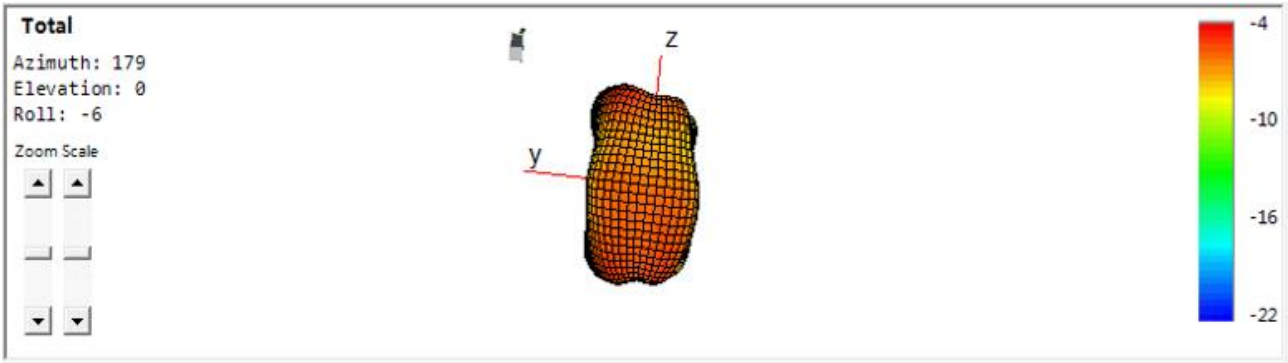
5. Equipment List

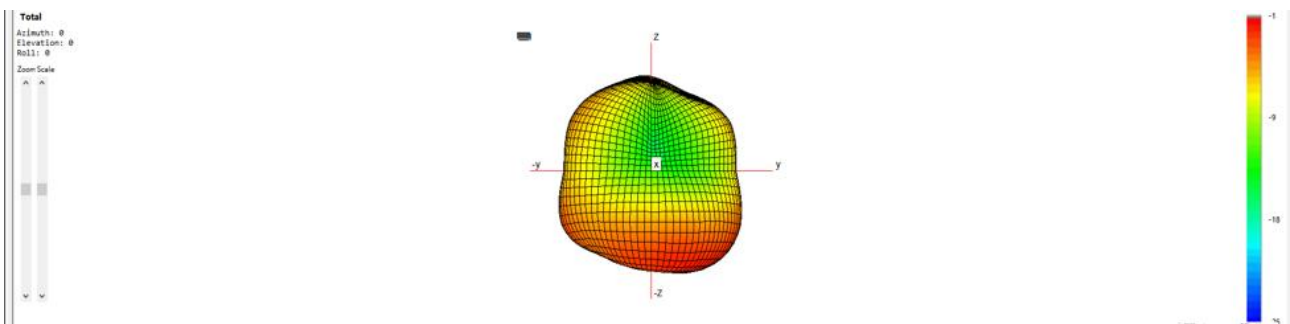
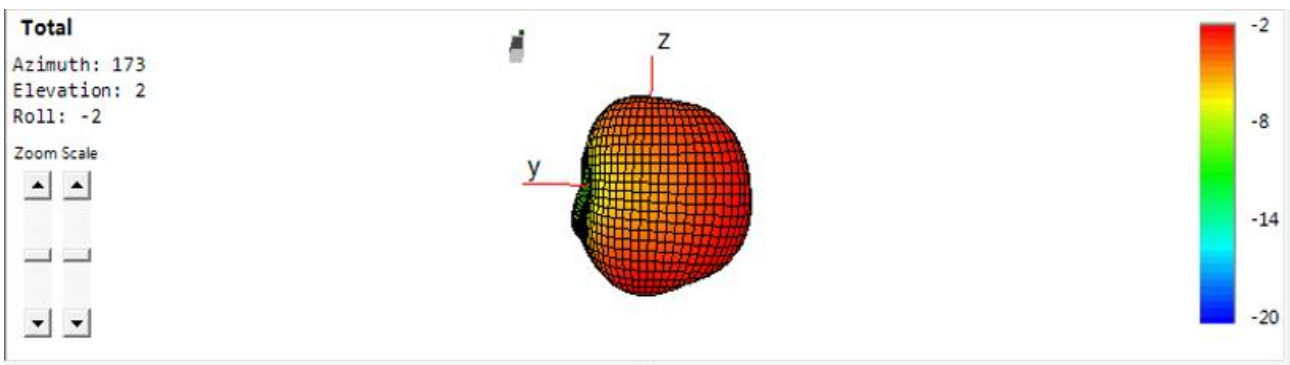
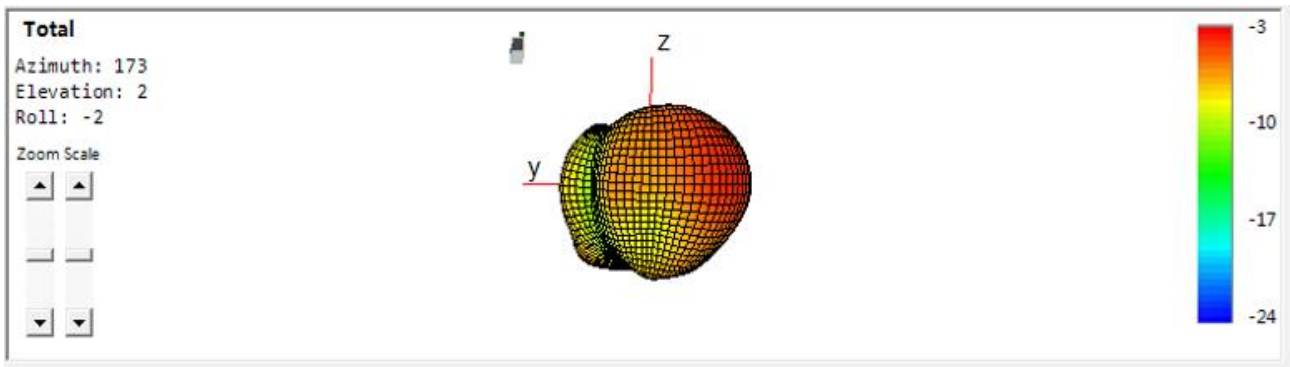
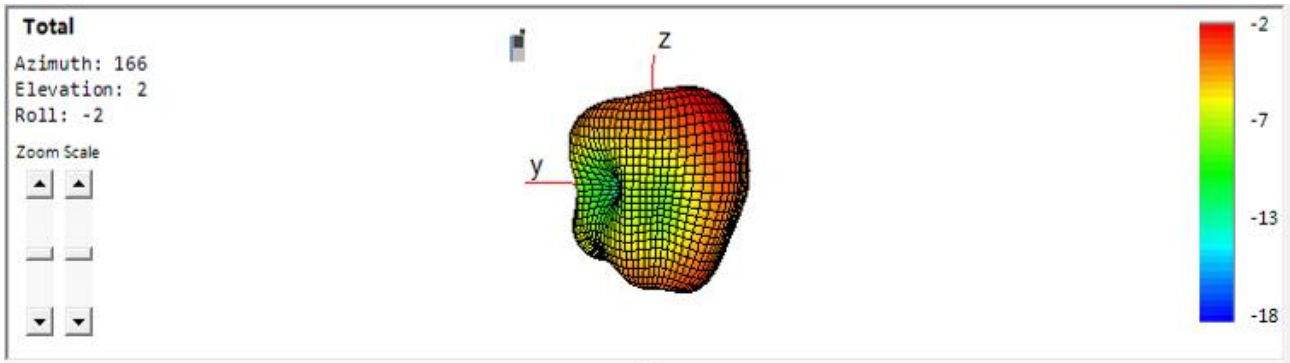
Type of Equipment	Manufacture	Model Number
Network Analyzer	Key sight	E5071C
Switch control System	GTS	RayZone1800
Software	GTS	MaxSign 100Patten Measurement software

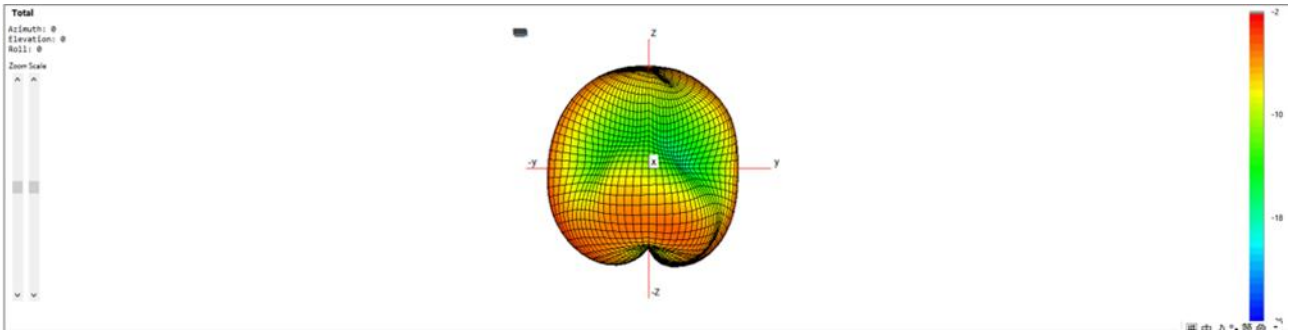
ANNEX A 3-D Patten Plots

Shenzhen Fu Bang Wireless Technology Co., Ltd.

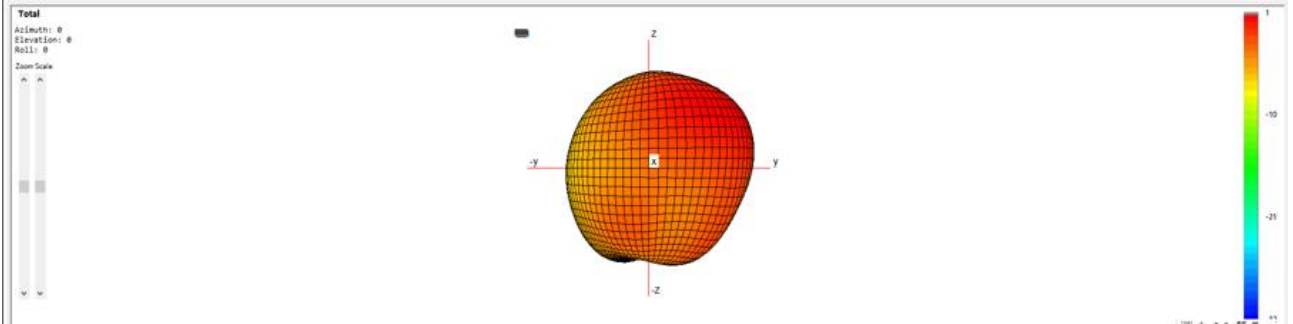
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2400MHz

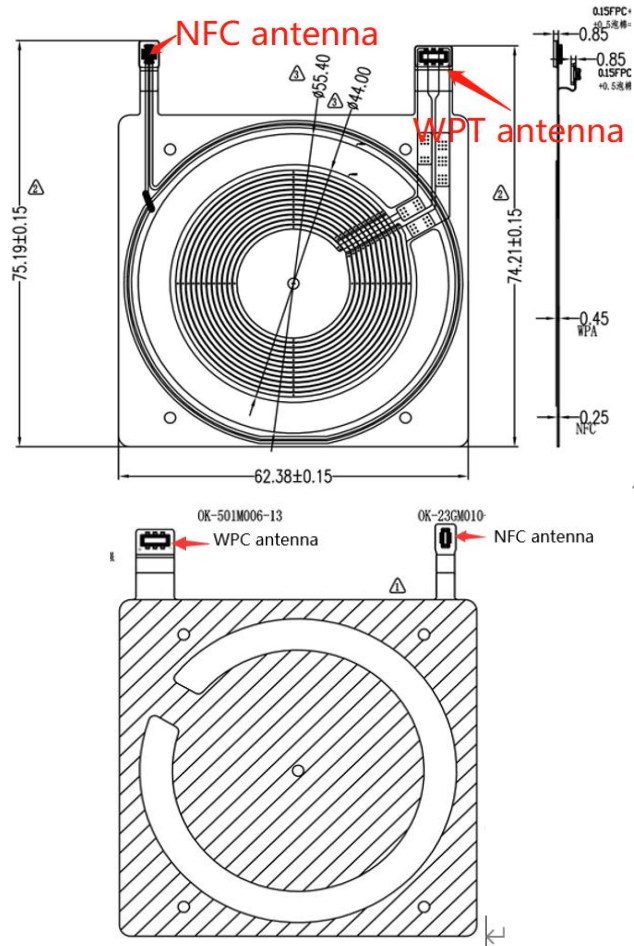


5100MHz

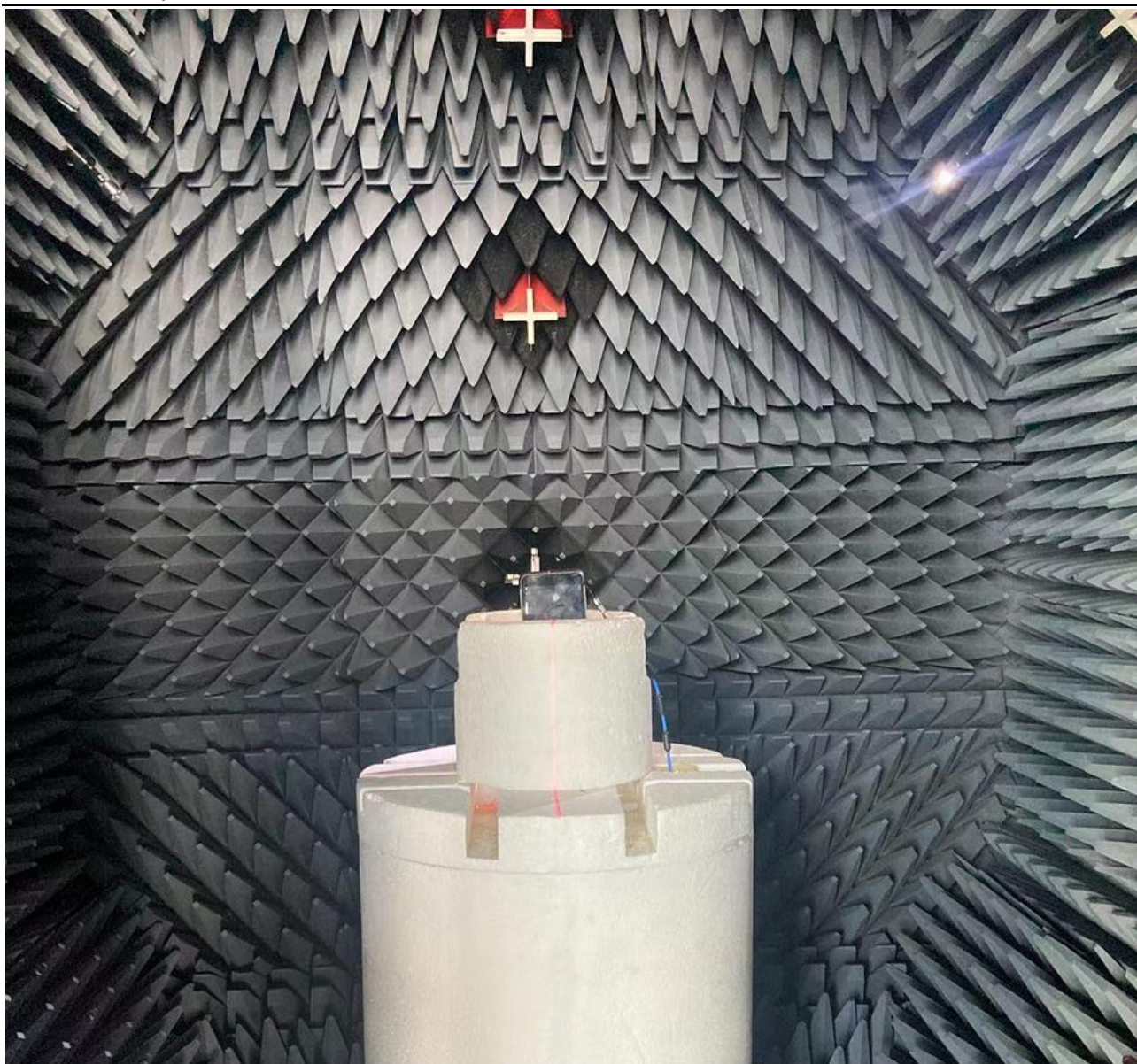
ANNEX B: The EUT Appearance and Test Configuration

B.1 EUT Appearance





B.2 Test Configuration



tangyongbin