

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 Park, 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

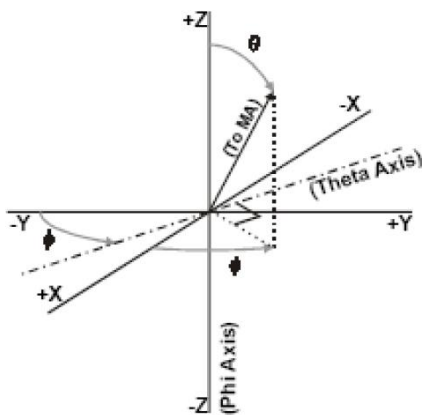
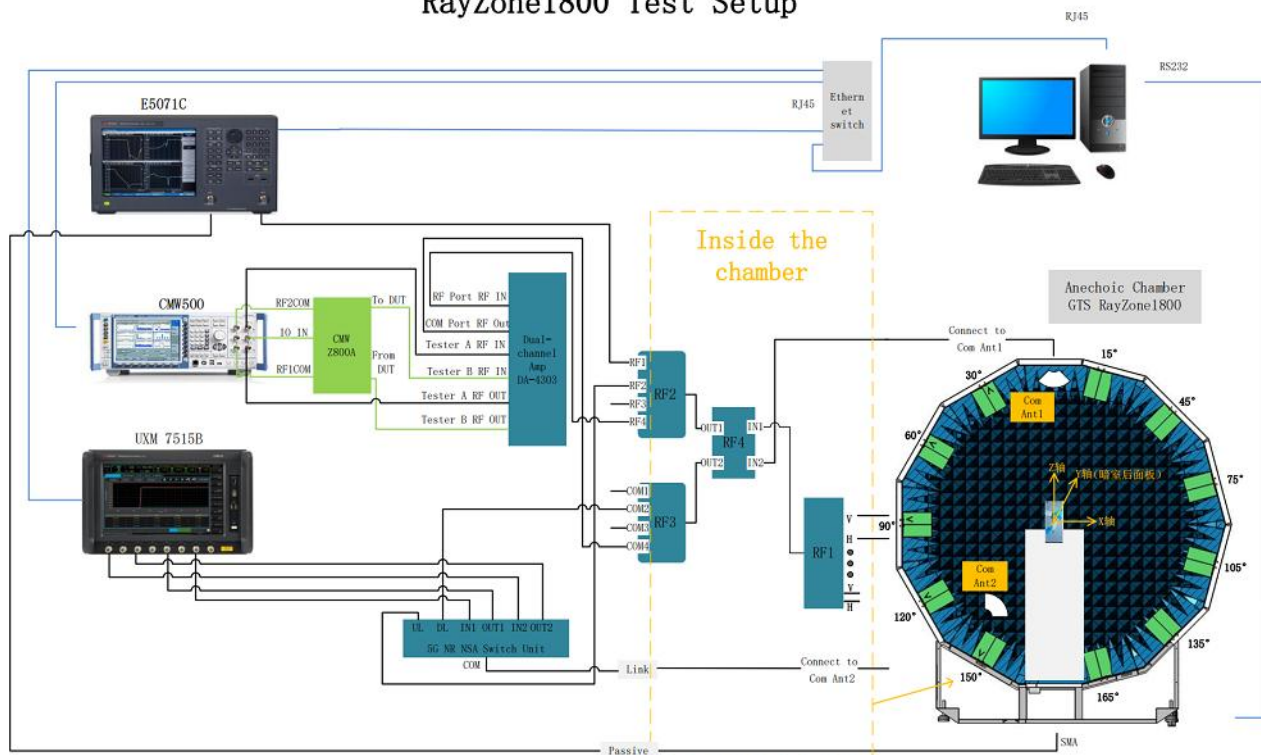


Figure 1 Test coordinate system

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	16.4	1.2	1900	31.6	1.3	
		710	16.9	1.1	1920	33.4	1.0	
		720	17.3	0.6	1940	33.5	1.3	
		730	17.5	0.8	1960	34.1	0.5	
		740	17.5	1.3	1980	34.4	0.6	
		750	17.3	0.8	2000	34.7	1.3	
		760	16.6	0.9	2020	34.1	0.4	
		770	16.5	0.7	2040	33.5	1.1	
		780	15.6	0.6	2060	32.3	1.3	
		790	15.4	1.3	2080	30.2	1.2	
		800	14.6	1.1	2100	28.3	1.1	
		810	16.4	0.6	2120	27.9	1.3	
		820	17.4	1.0	2140	27.1	1.2	
		830	18.5	1.3	2160	25.1	1.1	
		840	19.6	0.4	2180	23.7	1.1	
		850	22.5	1.1	2200	24.8	0.9	
		860	21.5	1.2	2500	25.1	0.4	
		870	19.9	0.5	2520	24.7	0.5	
		880	18.4	0.4	2540	25.1	0.4	
		890	18.2	0.9	2560	25.7	1.3	
		900	17.1	0.7	2580	25.1	1.3	
		910	22.1	0.8	2600	24.6	1.1	
		920	23.7	0.8	2620	25.4	0.5	
		930	24.7	0.6	2640	26.4	0.5	
		940	24.5	0.4	2660	26.1	0.5	
		950	22.0	1.3	2680	26.3	1.3	
		960	21.6	0.7	2700	26.6	0.8	
		1700	25.0	1.2				
		1720	26.6	1.2				
		1740	28.2	1.0				
		1760	29.6	1.0				
		1780	30.1	1.0				
	1800	33.8	0.9					
	1820	28.0	1.0					
	1840	28.9	1.0					
	1860	28.8	1.2					
	1880	29.4	0.5					

Model	Test State	Frequency (MHz)	Efficiency (%)	Gain (dBi)	Frequency (MHz)	Efficiency (%)	Gain (dBi)	Note	
	Free Space				5260	44.5	1.7		
					5280	44.8	1.8		
					5300	47.0	1.5		
					5320	43.9	1.7		
					5340	47.8	1.7		
					5360	45.8	1.8		
					5380	47.1	1.7		
					5400	48.1	1.6		
					5420	47.2	1.8		
			2400	28.2	1.2	5440	47.2	1.2	
			2410	29.1	1.1	5460	46.9	1.3	
			2420	30.9	1.3	5480	46.0	1.8	
			2430	32.1	1.7	5500	45.2	1.8	
			2440	33.4	1.5	5520	45.0	1.7	
			2450	33.9	1.4	5540	44.3	1.7	
			2460	34.2	1.5	5560	46.7	1.1	
			2470	34.7	1.8	5580	46.0	1.5	
			2480	34.9	1.3	5600	43.5	1.6	
			2490	34.5	1.3	5620	45.2	1.8	
			2500	33.9	1.7	5640	41.7	1.4	
			5100	34.7	0.4	5660	44.0	1.8	
			5120	35.7	0.6	5680	42.4	1.6	
			5140	35.5	0.6	5700	42.3	1.5	
			5160	38.3	0.9	5720	41.4	1.4	
			5180	38.7	1.0	5740	41.8	1.4	
			5200	38.6	1.0	5760	39.3	1.2	
		5220	44.1	1.6	5780	39.5	1.3		
		5240	39.7	1.2	5800	40.3	1.6		

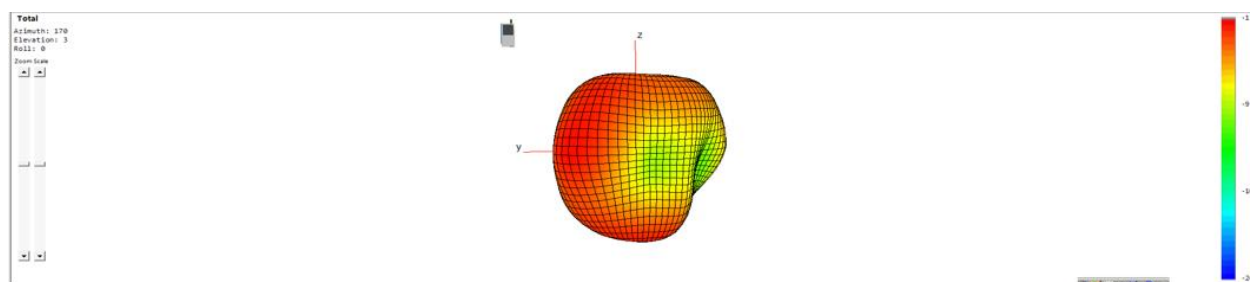
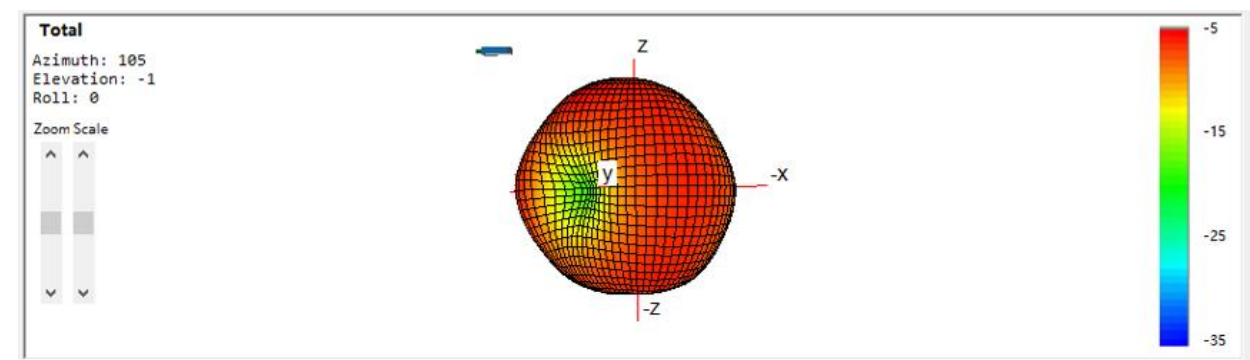
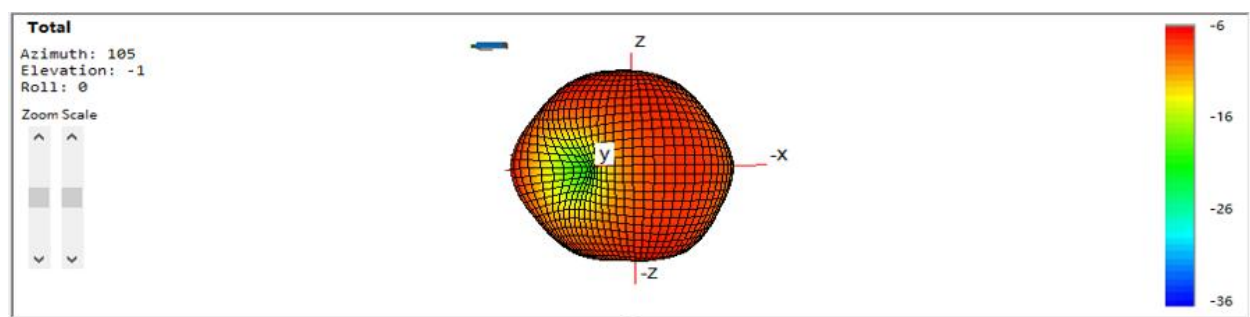
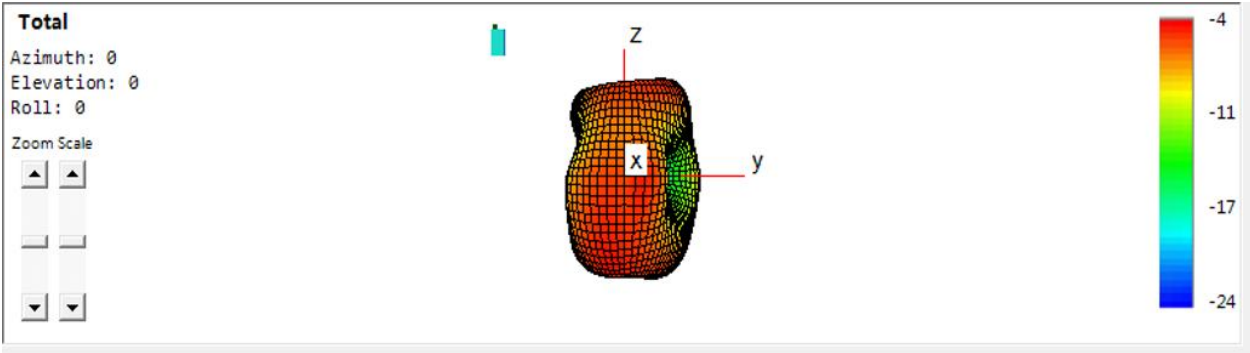
5. Equipment List

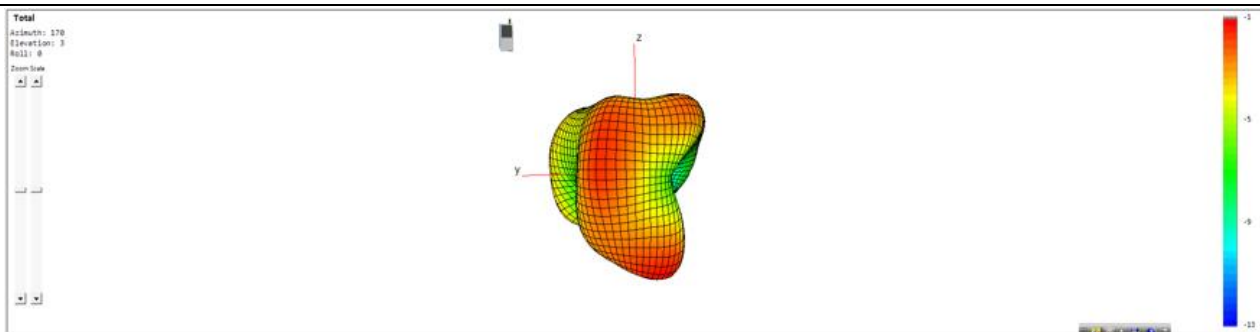
Type of Equipment	Manufacture	Model Number
Network Analyzer	Key sight	E5071C
Switch control System	GTS	RayZone1800
Software	GTS	MaxSign 100Patten Measurement software

ANNEX A 3-D Patten Plots

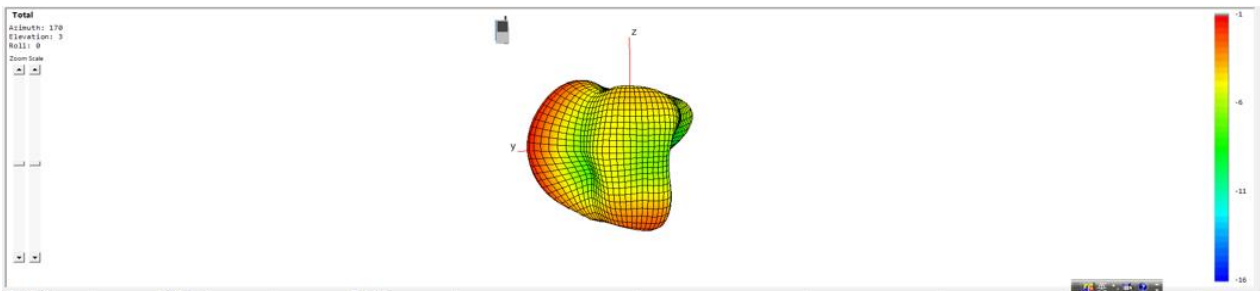
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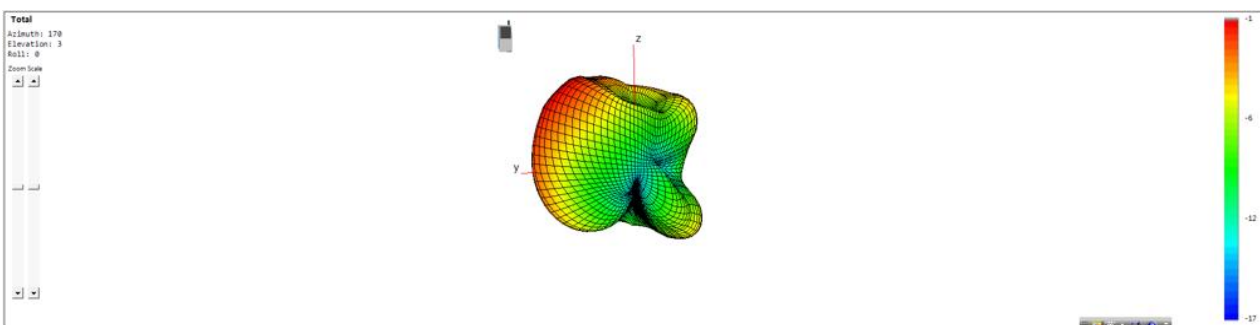




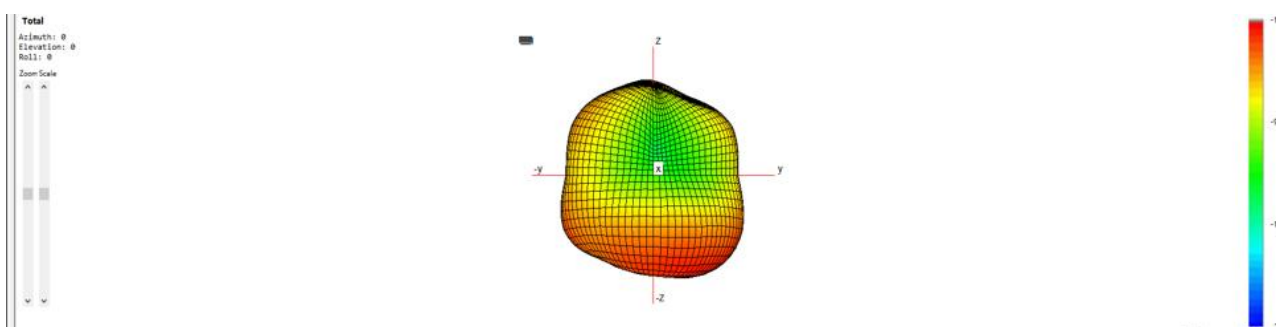
1900MHz



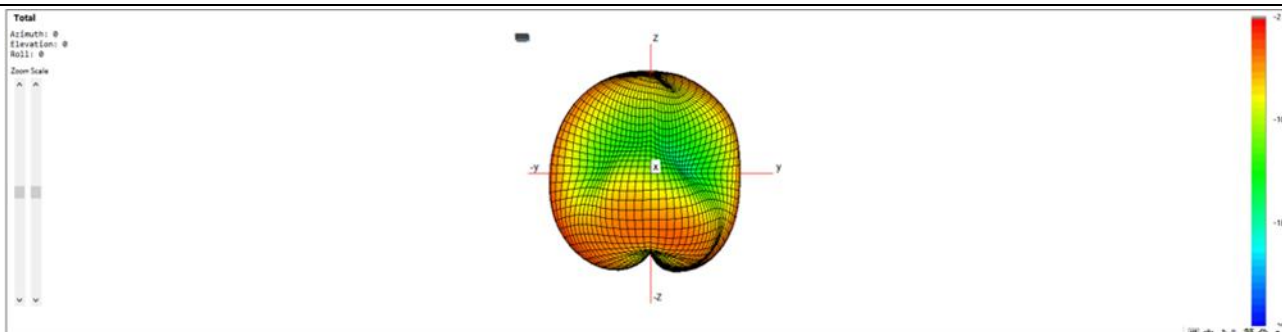
2100MHz



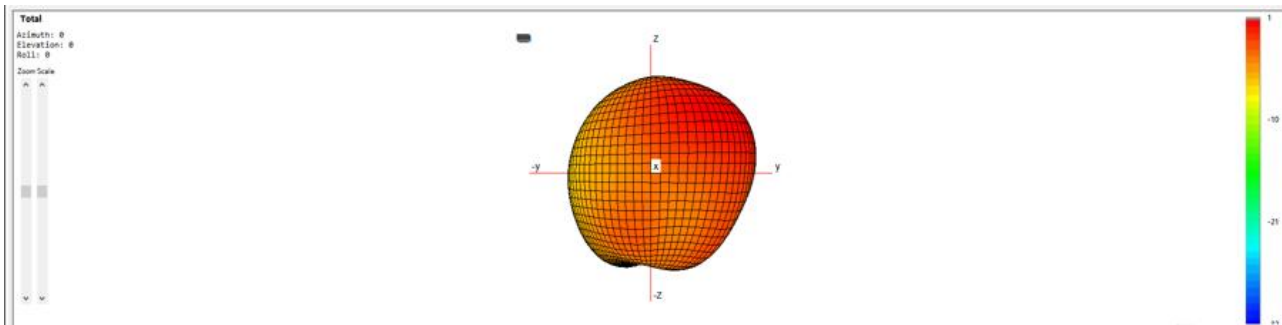
2700MHz



1575MHz



2400MHz



5100MHz

ANNEX B: The EUT Appearance and Test Configuration

B.1 EUT Appearance



B.2 Test Configuration

