

OTA TEST REPORT

Applicant Shenzhen General Test System Co., Ltd

 $Product_{\hbox{\scriptsize RayZone1800}}$

Issue Date June21,2023

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.

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Approved by: Zhanghong Lai

Shenzhen Fu Bang Wireless Technology Co., Ltd.

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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 purposesonly. 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 600 MHz to 6 GHz.

1.3 Testing Location

Company: Shenzhen Maya Communication Equipment Co. LTD

Address: 2nd Floor, Building 1, Guanghui Science Park, Longhua New District,

ShenzhenShenzhen, P.R. China

Contact: Feng Guojun

Telephone: 13425109220

E-mail: 646878854@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,		
Applicant dualess	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	MVG		
HW Version	RayZone1800 V1.0		
SW Version	MaxSign 100		
Antenna Type	PCB Antenna		
Antenna Manufacturer	Shenzhen Maya Communication Equipment 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



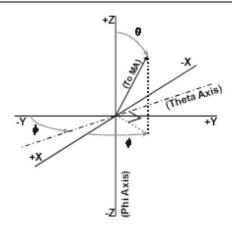


Figure 1 Test coordinate system

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

Test Setup



4. Test Results

4.1 Gain and Efficiency



1.00		
Frequency	Efficiency	Gain . dB
700000000.00	20%	-5.24019
726000000.00	25%	-5.75683
752000000.00	27%	-5.0672
778000000.00	26%	-4.00126
804000000.00	25%	-4.56433
830000000.00	28%	-4.4357
856000000.00	26%	-4.88594
882000000.00	25%	-4.83509
908000000.00	25%	-5.22289
934000000.00	25%	-4.19561
960000000.00	23%	-5.22013
1710000000	01.00	F 0F 40F
1710000000.00		
1759500000.00		
1809000000.00		
1858500000.00		
1908000000.00		
1957500000.00		
2007000000.00		
2056500000.00		
2106000000.00		
2155500000.00		
2205000000.00		
2254500000.00		
2304000000.00		
2353500000.00		
2403000000.00		
2452500000.00		
2502000000.00		
2551500000.00		
2601000000.00		
2650500000.00		
2700000000.00	36.419	-4.38782



Frequency	Efficiency	Gain . dB
1570000000.00	41%	1.378829878
1571000000.00	41%	1.278523272
1572000000.00	41%	1.158714722
1573000000.00	41%	1.045665937
1574000000.00	40%	0.952291608
1575000000.00	40%	0.878769521
1576000000.00	40%	0.824746963
1577000000.00	40%	0.781932313
1578000000.00	40%	0.727140087
1579000000.00	40%	0.730171691
1580000000.00	40%	0.768521165

Frequency	Efficiency	Gain . dB
2400000000.00	36%	0.904277207
2410000000.00	36%	0.993669957
2420000000.00	36%	1.093650176
2430000000.00	38%	1.021992407
2440000000.00	39%	0.729069302
2450000000.00	38%	0.894593028
2460000000.00	39%	0.988723502
2470000000.00	41%	0.884218488
2480000000.00	40%	0.633342583
2490000000.00	40%	0.672390614
2500000000.00	41%	0.712485693

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5200000000.00	46.80%	2.582483432
5230000000.00	43.22%	2.48373723
5260000000.00	42.20%	2.468206389
5290000000.00	40.16%	2.274692769
5320000000.00	36.58%	1.76959825
5350000000.00	32.04%	0.927442325
5380000000.00	32.88%	0.787786375
5410000000.00	37.69%	1.107651387
5440000000.00	42.86%	1.440420227
5470000000.00	42.03%	1.389536753
5500000000.00	44.64%	1.938063354
5530000000.00	46.33%	2.548987494
5560000000.00	45.58%	2.738705073
5590000000.00	40.07%	2.289636221
5620000000.00	37.57%	2.195181749
5650000000.00	36.19%	1.841092647
5680000000.00	36.72%	1.591866769
5710000000.00	35.77%	1.430076474
5740000000.00	38.04%	1.252386811
5770000000.00	42.32%	1.681245097
5800000000.00	42.96%	1.865827542

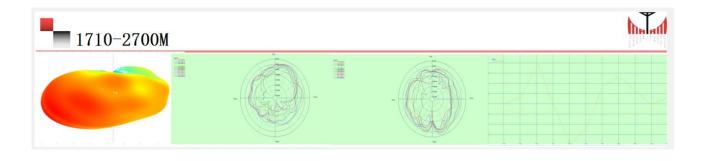
5. Equipment List

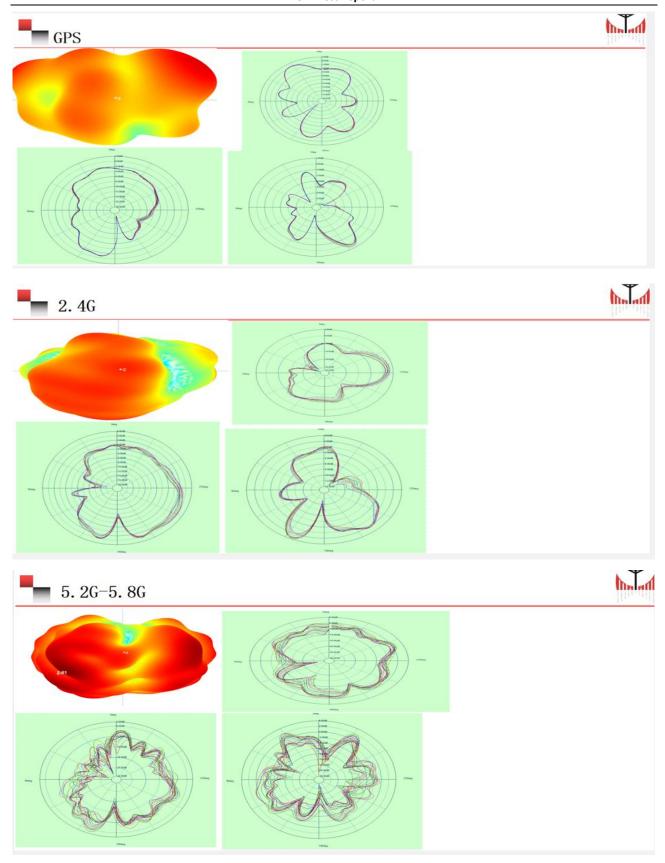
Type of Equipment	Manufacture	Model Number
Network Analyzer	Key sight	E5071C
Switch control System	MVG	RayZone1800
Software	MVG	MaxSign 100 Patten
		Measurement software



ANNEX A 3-D Patten Plots

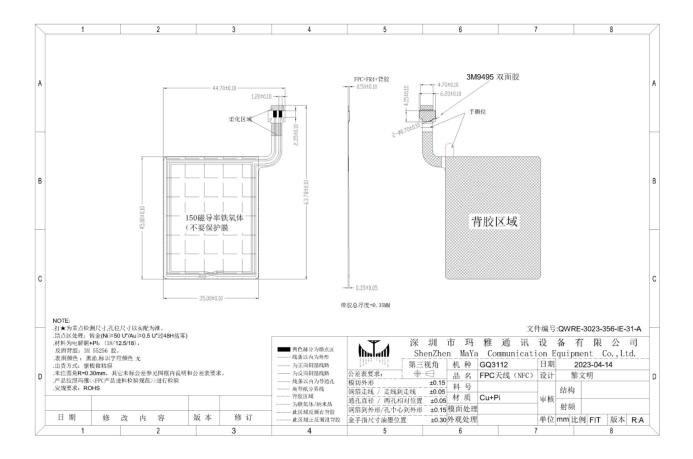








NFC antenna size diagram



ANNEX B: The EUT Appearance and Test Configuration

B.1 EUT Appearance

