

# OTA TEST REPORT

©

**Applicant** Shenzhen Maya Communication Equipment Co., Ltd

**Product** GQ3109-SH5

**Issue Date** July 19,2023

Shenzhen Maya Communication Equipment 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 theRequirements as documented in this report.

**Prepared by:** XU JunXin

**Approved by:** Feng GuoJun

**Shenzhen Maya Communication Equipment Co., Ltd.**

*Guanghui Science Park Building two units, Longhua District, Shenzhen, P.R. China*

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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 purposes only. This report is written to support regulatory compliance of applicable standards stated above.

## 1.2 Test facility

GQ3109-SH5 Microwave Anechoic Chamber : testing frequency ranges from 600MHz to 6GHz .

## 1.3 Testing Location

Company: Shenzhen Maya Communication Equipment Co., Ltd

Address: Guanghui Science Park Building two units, Longhua District, Shenzhen,  
P.R. China

Contact: Xu JunXin

Telephone: 13553575814

E-mail: 2958493571@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	

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## 2. General Description of Equipment under Test

### 2.1 Applicant and Manufacturer information

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

### 2.2 General information

EUT Description	
Product Name	GQ3109-SH5
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

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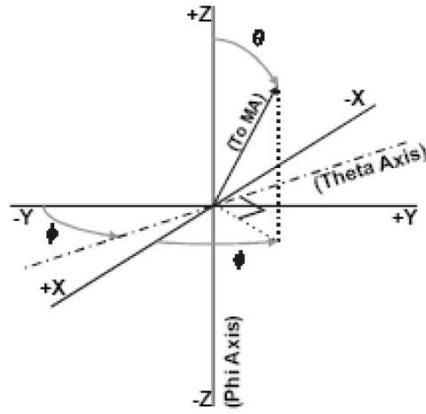
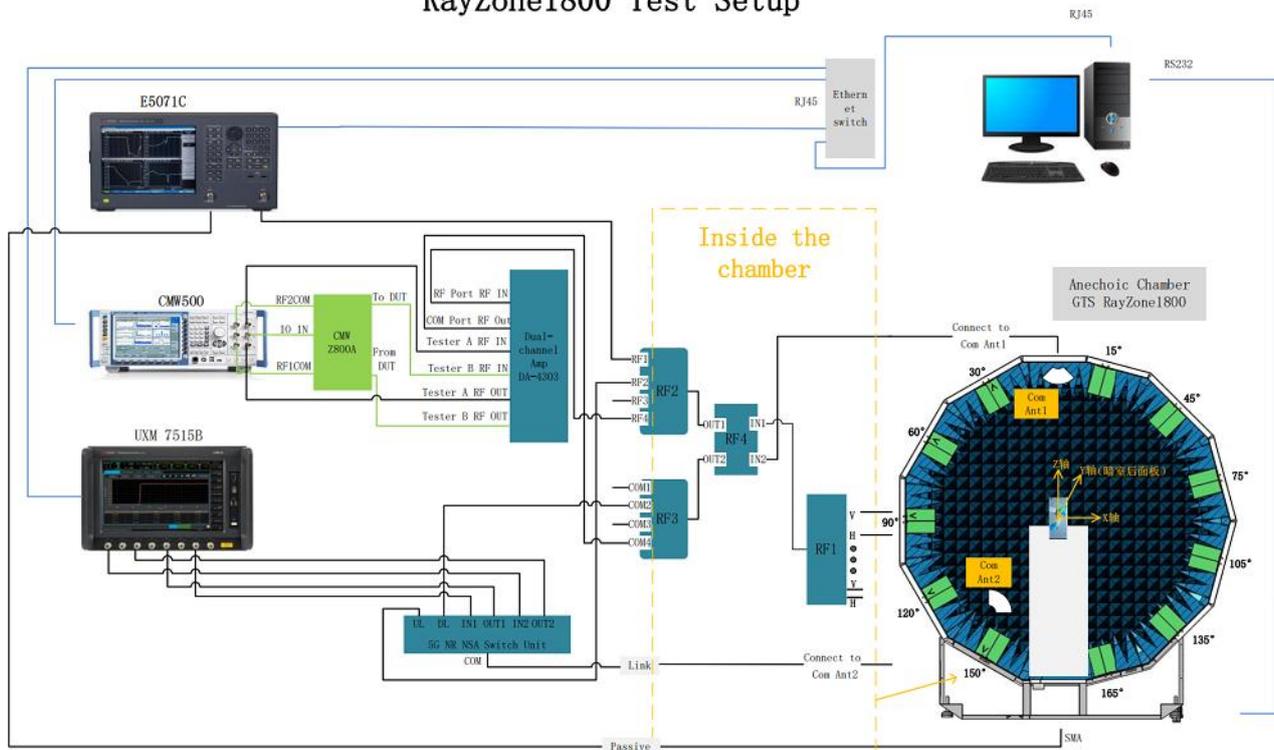


Figure 1 Test coordinate system

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**

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Model	Test State	Frequency (MHz)	Efficiency (%)	Gain (dBi)	Frequency (MHz)	Efficiency (%)	Gain (dBi)	Note
	Free Space	1570	34.92	0.57	5200	54.54%	3.26	
		1571	34.88	0.56	5230	54.15%	3.31	
		1572	34.72	0.46	5260	51.83%	3.17	
		1573	34.50	0.37	5290	49.24%	3.10	
		1574	34.28	0.36	5320	45.54%	2.90	
		1575	34.19	0.35	5350	38.64%	2.19	
		1576	34.19	0.31	5380	37.78%	1.90	
		1577	34.30	0.34	5410	42.83%	2.68	
		1578	34.56	0.38	5440	47.34%	3.26	
		1579	34.70	0.34	5470	46.13%	3.24	
		1580	34.72	0.31	5500	50.70%	3.10	
					5530	53.72%	3.74	
		2400	31.15%	2.55	5560	51.30%	3.66	
		2410	30.62%	2.51	5590	45.44%	2.60	
		2420	30.35%	2.50	5620	40.55%	2.19	
		2430	30.91%	2.28	5650	37.36%	2.68	
		2440	30.19%	2.84	5680	35.74%	2.44	
		2450	29.66%	2.82	5710	33.69%	2.05	

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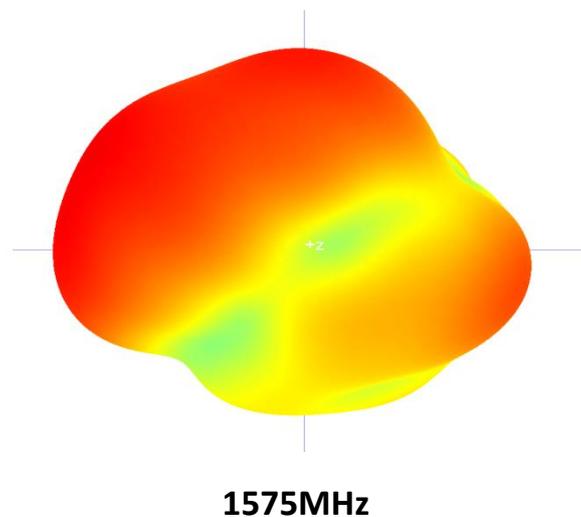
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		2460	29.78%	2.61	5740	33.97%	2.11
		2470	29.86%	2.05	5770	37.89%	2.31
		2480	28.85%	1.59	5800	37.39%	2.38
		2490	28.32%	1.56			
		2500	28.52%	1.48			
Note: WIFI and BT share an antenna							

## 5. Equipment List

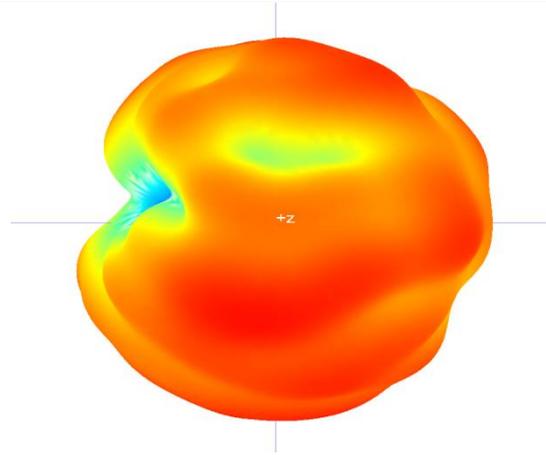
Type of Equipment	Manufacture	Model Number
Network Analyzer	Key sight	E5071C
Switch control System	GTS	GQ3109-SH5
Software	GTS	MaxSign 100 Patten Measurement software

## ANNEX A 3-D Patten Plots

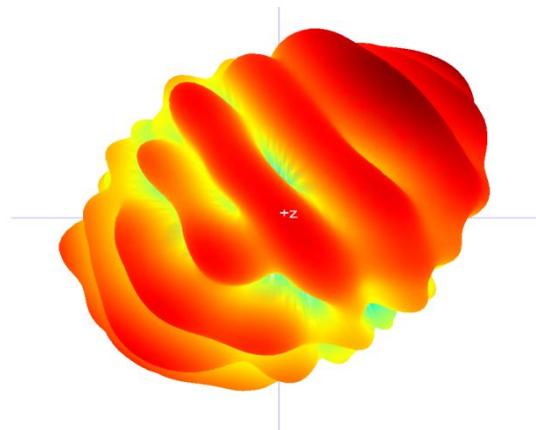


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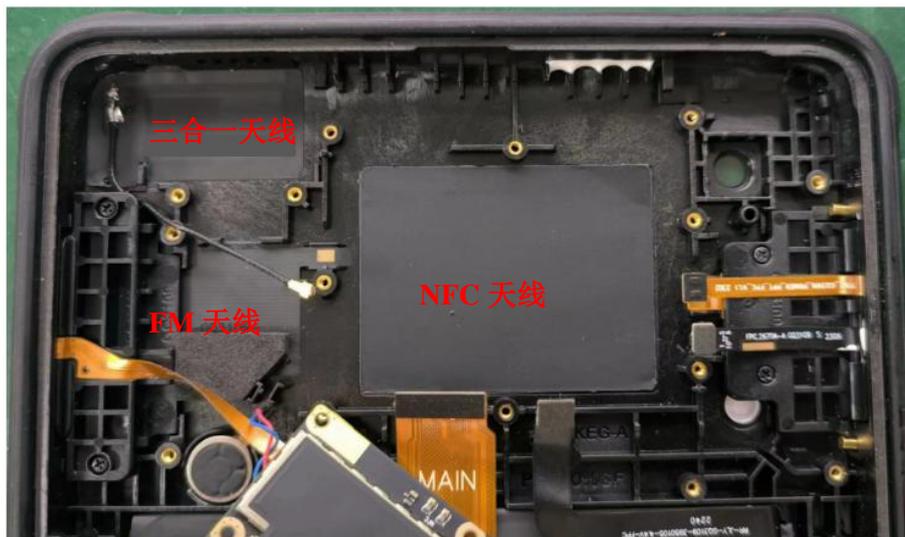
**2450MHz**



**5500MHz**

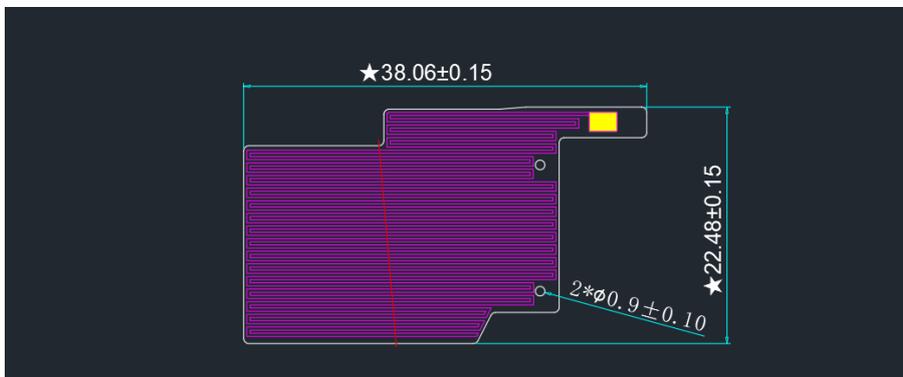
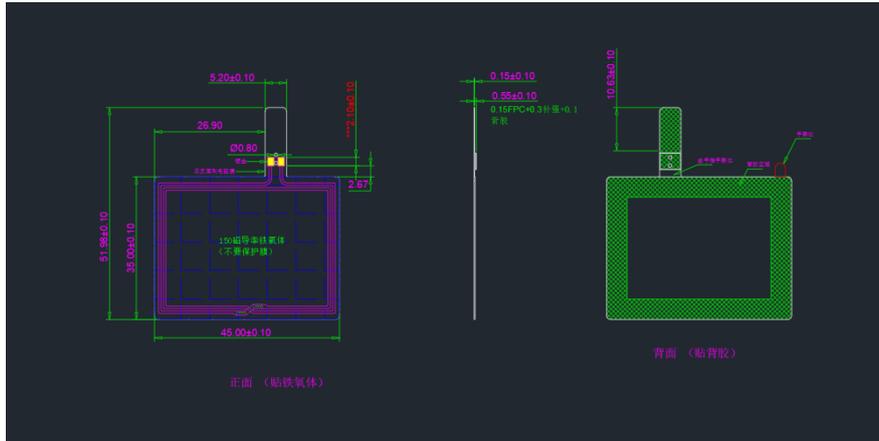
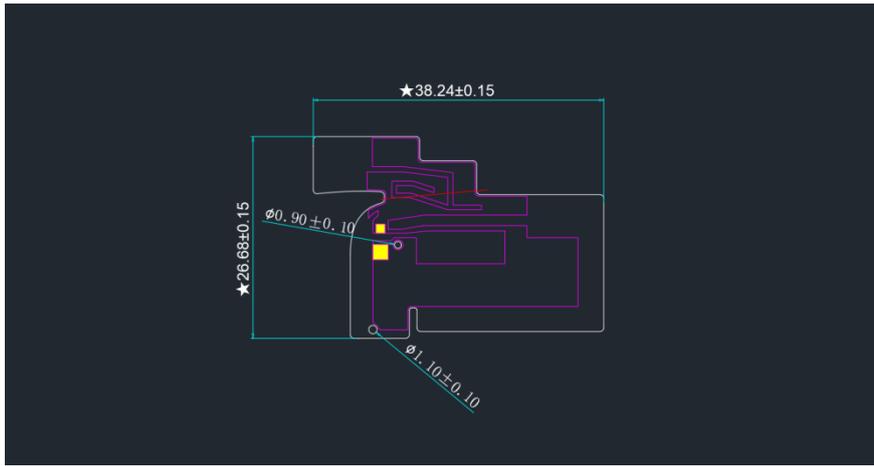
## ANNEX B: The EUT Appearance and Test Configuration

### B.1 EUT Appearance



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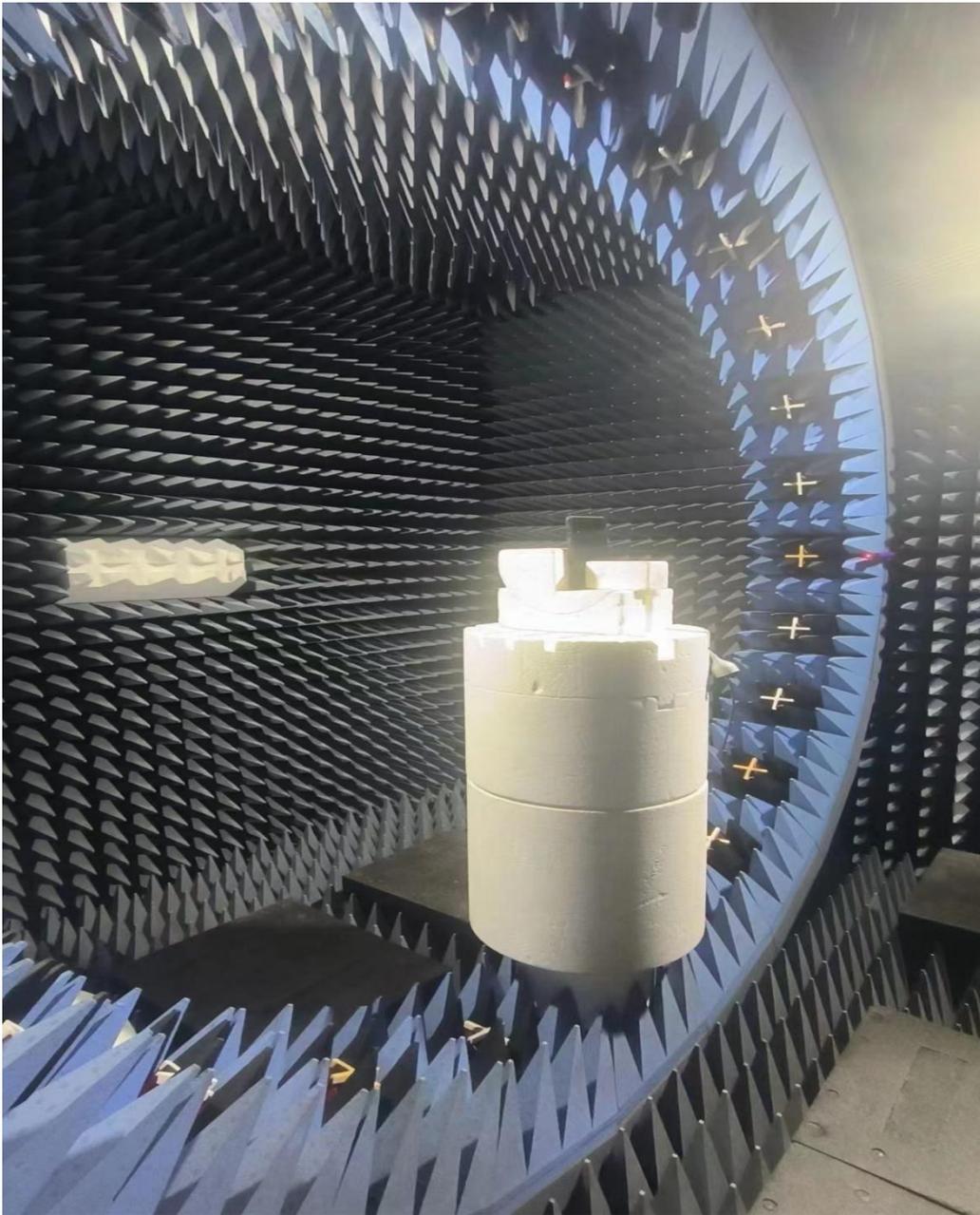
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## B.2 Test Configuration

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