Logitech

Antenna Under Test (AUT)

Report

Model Name: S00175

Equipment Type: Bluetooth Speaker

Manufacturer: Logitech Far East LTD.

Test Location: Area B, West Side of Floor 1, Building 1, Tingwei Industrial Park, No. 6 Liufang Road, Bao'an District, Shenzhen City.

Tested Personnel: B&T

Test Date：2024.03.19

Report Date: 2024.03.20

Report Release History

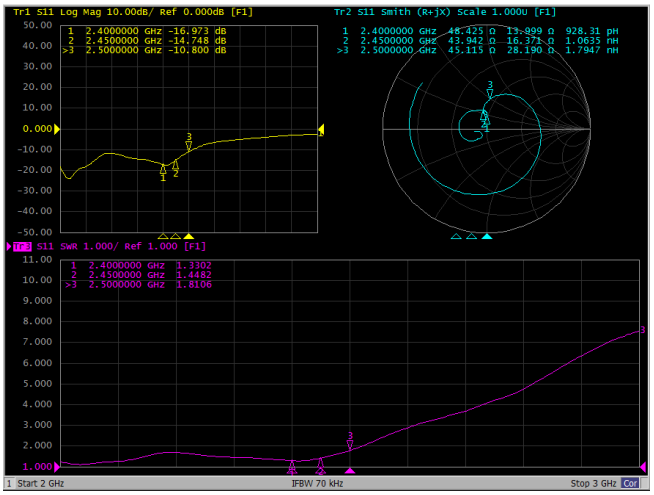
Report version	Description	Date Issued
Motorcity plus report	Original release	2024/03/20

Table of Contents

1. EUT Antenna Information

1) Antenna Material：stamping antenna
2) Antenna Type：monopole
3) Antenna Dimension: 32.3x6 x 21.5 mm
4) Operating Frequency：2.4 GHz - 2.5 GHz
5) Input Impedance：50 Ω
6) Standing-Wave Ratio：2:1

2. S-parameter Measured and Calculation of Antenna Gain



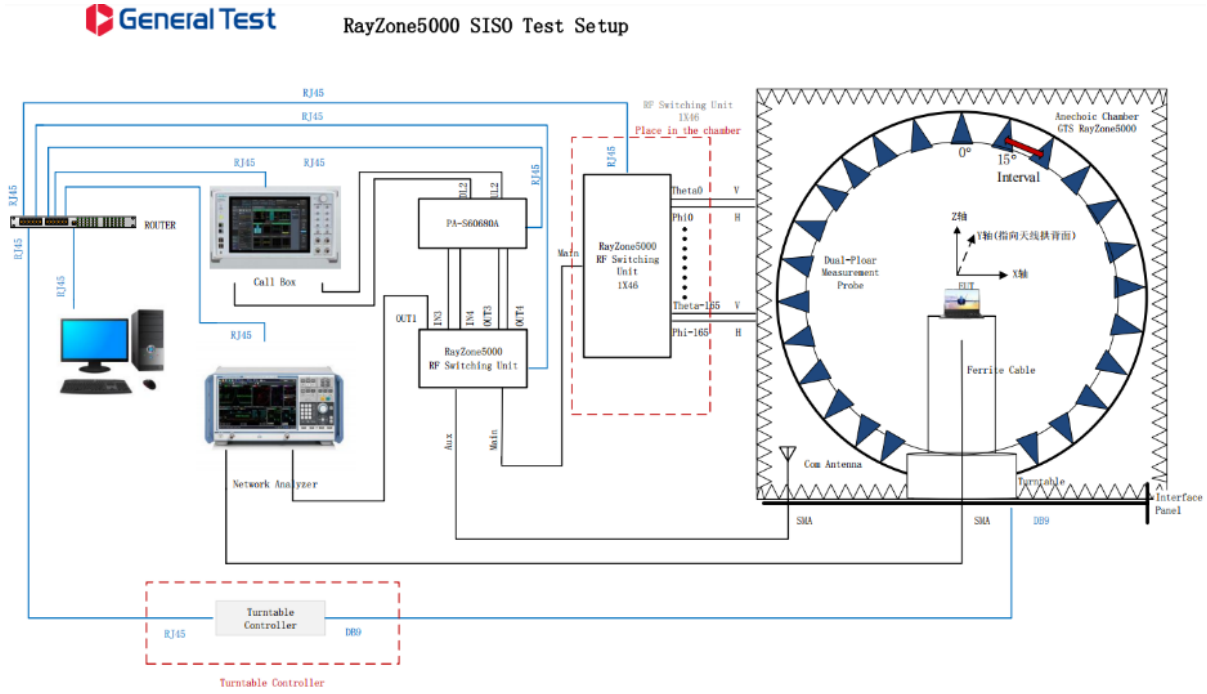
Freq(MHz)	Gain(dBi)	Efficienc	Efficienc
2400	3.74	-2.78	52.75
2410	3.77	-2.75	53.07
2420	3.81	-2.70	53.68
2430	3.83	-2.69	53.81
2440	3.78	-2.69	53.86
2450	3.73	-2.68	54.00
2460	3.61	-2.67	54.08
2470	3.36	-2.69	53.83
2480	3.13	-2.86	51.80
2490	3.08	-2.94	50.83
2500	2.97	-3.00	50.08

Test Date: 2024.03.19

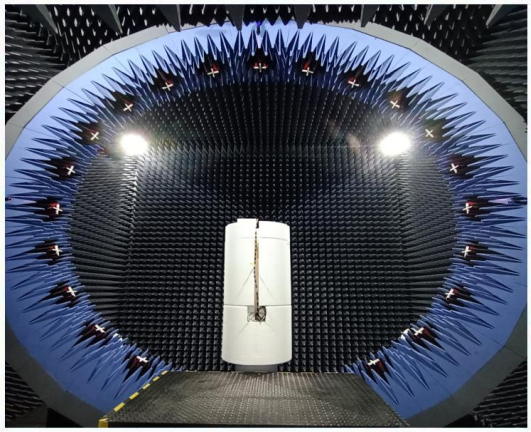
3. 2D&3D Radiation Patten Measurement

3.1Description of the anechoic chamber

Length: 5m
Width: 5m
Height: 5m
Turntable height:2.3m
Measurement antenna height:2.3m



Microwave anechoic chamber model:RayZone5000
TD-SCDMA test equipment: SP6010/Agilent 8960
WCDMA/GSM/CDMA test equipment: Agilent 8960
Antenna passive testing equipment: Agilent Technologies E5071C





3.2 Test Instruments

Description	Model No.	Serial No.	Last Calibration
Network Analyzer Keysight	E5071C	NDX-WJ294	2023-6-12
Communications test Seta	CMW500	NDX-WJ295	2023-6-12
3D Chamber Test System	RayZone5000	NDX-03	2023-6-13
Software	SAM	SAM2.9.10190809	NA

3.3 Test Procedure

1. Connect the antenna: Place the device to be tested on the test transfer stand, the antenna is connected to the port of the network analyzer via the RF Cable, and confirmed that the connection is reliable.

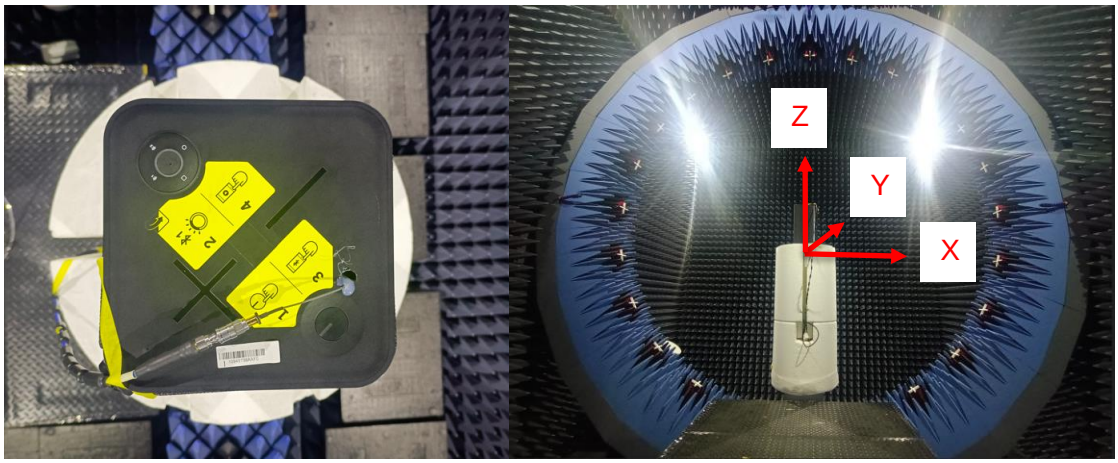
2. Set test conditions: Enter the measurement frequency band in the test software according to the antenna working frequency band, and the measurement frequency point.

3. Measure antenna gain: The gain of the antenna to be tested is compared with the standard gain of the known antenna, so as to obtain the gain of the antenna to be tested.

4. Calculate antenna passive efficiency: Dividing the measured gain value by the antenna's directivity factor gives the antenna efficiency.

5. Generate test report: Target the test results and analysis conclusions into test reports, and file and save.

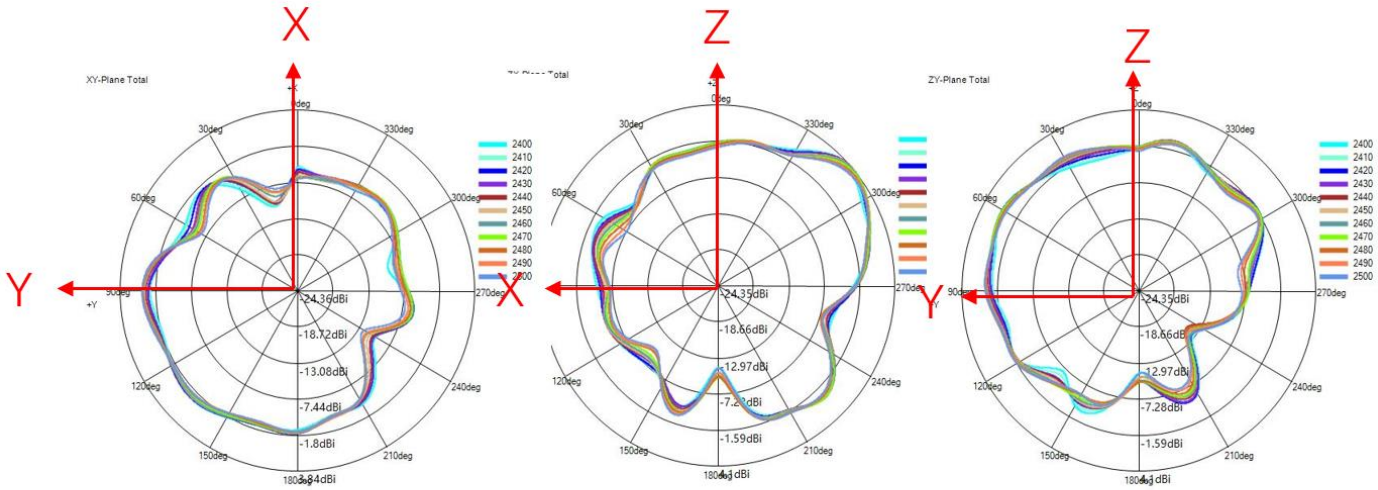
3.4 Test Setup photos



H: XY
E1: XZ
E2: YZ

3.5 2D Pattern Test Plot

2D radiation pattern measurement in the anechoic chamber



2400~2500MHz

The range maximum gain frequency point is 2430MHz

3.6 3D Pattern Test Plot

3D radiation pattern measurement in the anechoic chamber