Logitech
Antenna Under Test (AUT)
Report

Model Name: SR0194

Equipment Type: Bluetooth speakers

Manufacturer: Logitech Far East LTD.

Test Location: Room 101, Building 1, No. 3, Nanfang 1st Road, Chigang, Humen Town, Dongguan City, Guangdong Province

Tested by: South Star

Report Date: 2022.09.02

Report Release History

Report version	Description	Date Issued
SR0194 Report	Original release	2022/09/02

Table of Contents

1. EUT Antenna Information

1) Antenna Material : PCB on board

2) Antenna Type : PIFA

3) Antenna Dimension: 30 x 9 mm

4) Operating Frequency : 2.4 GHz - 2.4835 GHz

5) Input Impedance : 50 Ω

6) Standing-Wave Ratio : 2:1

2. S-parameter Measured and Calculation of Antenna Gain

Passive Test For BT		
Freq (MHz)	Effi (%)	Gain (dBi)
2400	69.22	2.39
2410	67.41	2.25
2420	68.15	2.19
2430	69.33	2.18
2440	70.23	2.29
2450	70.6	2.31
2460	68.5	2.14
2470	67.09	1.98
2480	67.13	2.08
2490	69.08	2.29
2500	71.07	2.54

Test Date: 2022.09.02

3. 2D&3D Radiation Patten Measurement

3.1 Description of the anechoic chamber

Length: 7m
Width: 4m
Height: 3m
Turntable height:1.5m
Measurement antenna height:1.5m
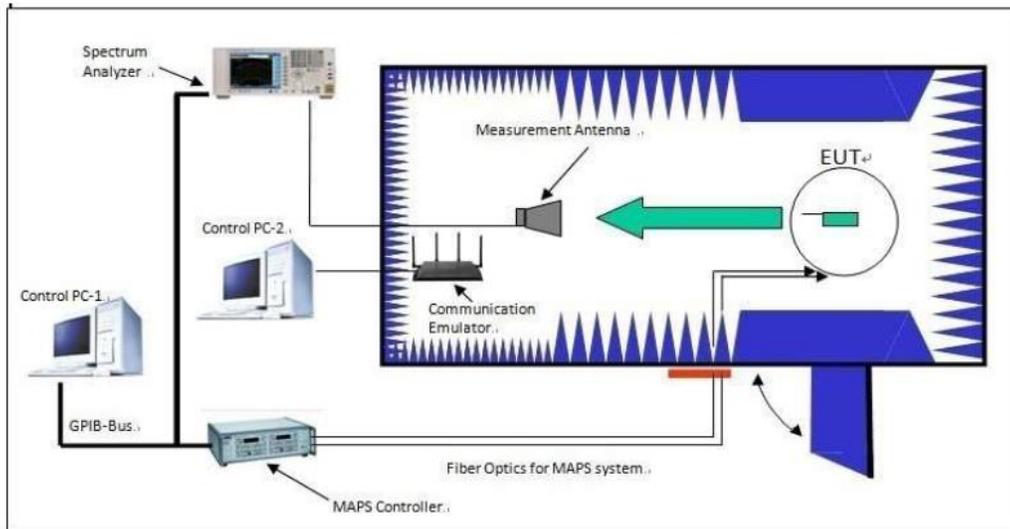
Microwave anechoic chamber model:ETS-743
TD-SCDMA test equipment: StarPoint SP6010/Agilent 8960
WCDMA/GSM/CDMA test equipment: Agilent 8960
Antenna passive testing equipment: Agilent Technologies E5071B

3.2 Test Instruments

| Description	Model No.	Serial No.	Last Calibration
Network Analyzer Keysight	E5071B	NDX-WJ294	2022-04-22
Communications test Seta	CMW500	NDX-WJ295	2022-04-22
3D Chamber Test System	ETS-743	NDX-03	2022-04-24
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 DUT antenna.

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

(confidential)

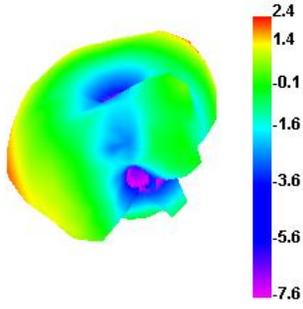## 3.5 2D Pattern Test Plot

2D radiation pattern measurement in the anechoic chamber
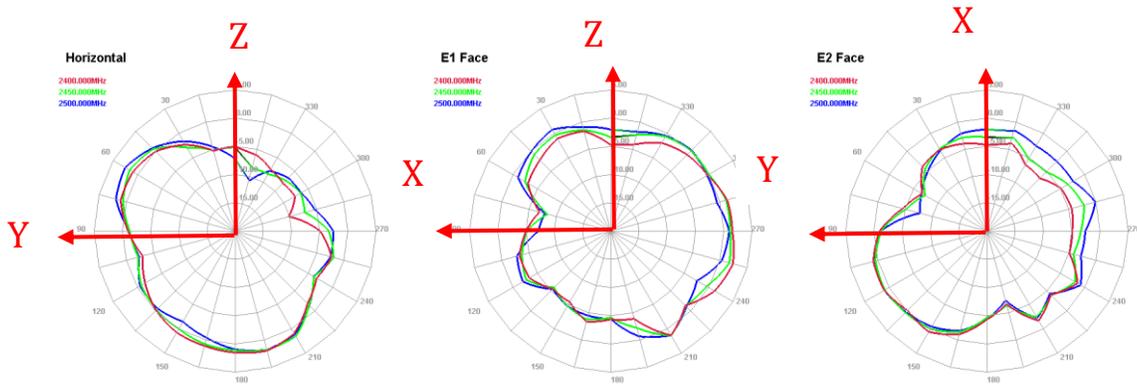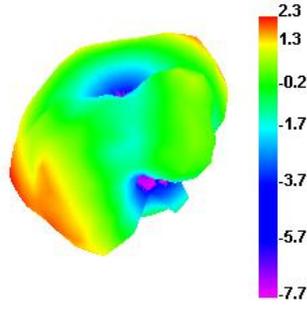
3.6 3D Pattern Test Plot

3D radiation pattern measurement in the anechoic chamber

2400.000MHz

2450.000MHz

2500.000MHz