
1. General Information

1.1 Details of Client

Applicant	
Address:	
Manufacturer	HATZLACHA GROUP LIMITED
Address:	RM 506C, 5/F, MIRROR TOWER, 61 MODY ROAD, T.S.T. KLN,HK

1.2 General Description of EUT

Device Description:	RTX8602 2.4GHz & BLE module
Device Model:	RTX8602A
Hardware Version:	N/A
Software Version:	N/A

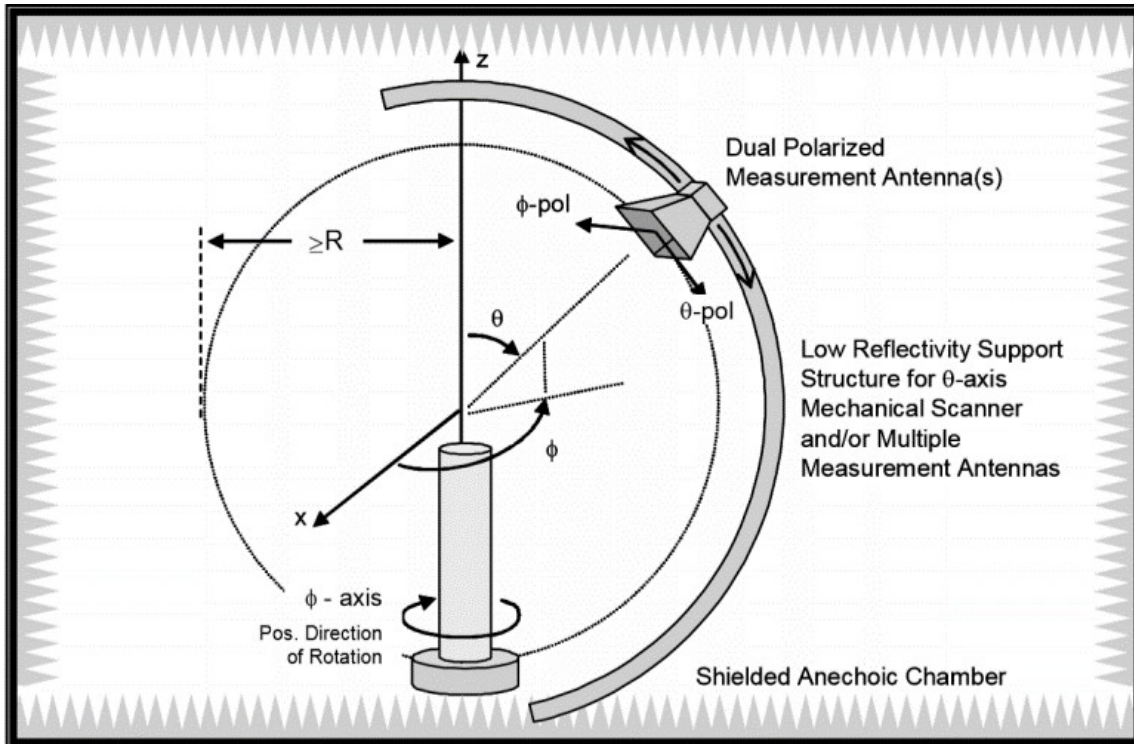
1.3 Laboratory Environment

Temperature	Min. =19°C, Max. = 25°C	
Relative humidity	Min. =40%, Max. =72%	
Shield effect	0.7-6GHz	> 100dB
Ground resistance	<0.5Ω	

2. OTA Measurements System Configuration

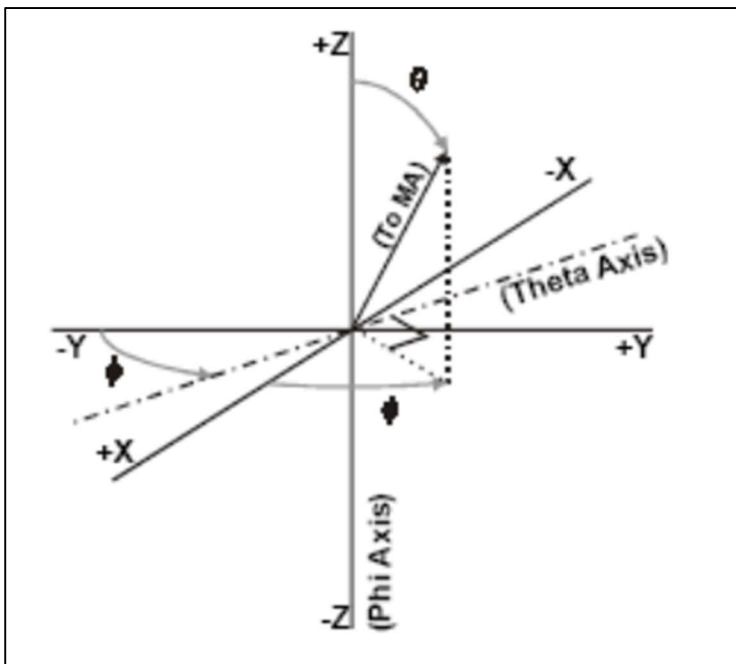
2.1 Test Configuration

Conical-Cut 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 1.5m



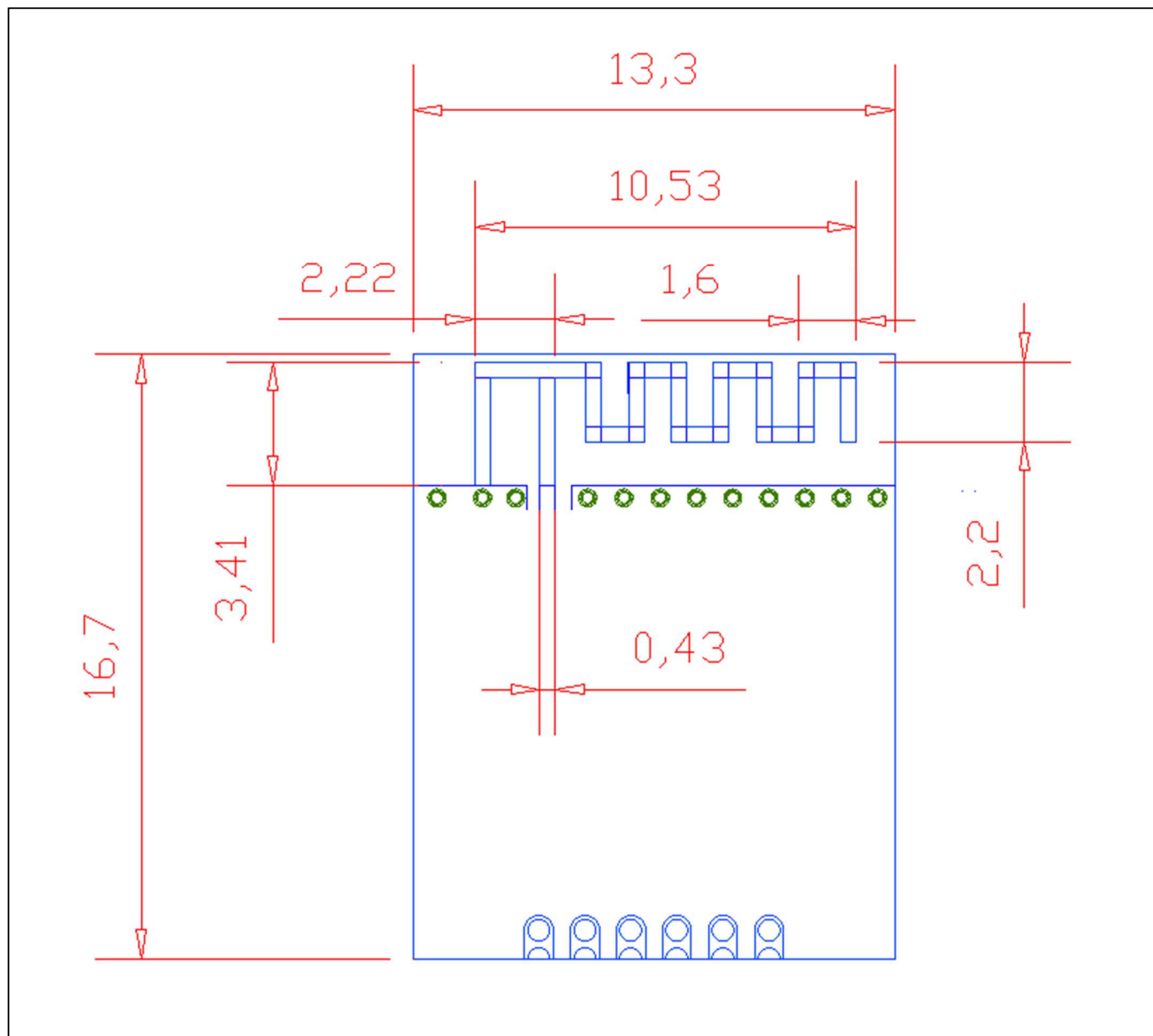
2.2 Test Measurement

Spherical coordinate system



3. The ANT SPEC.

The module antenna is an on-board antenna with a size of 16.7mm×13.3mm。 The following figure shows the dimension of the antenna。 The PCB is double-sided FR4 with a thickness of 0.8mm。



4. Test Equipment List

Type of Equipment	Model Number	Manufacture
Network Analyzer	ZNB8 S/N 103535	R&S
Switch Control System	OSP 130 S/N 100358	R&S
MAPS Controller	2090 S/N 114576	ETS-Lindgren L.P.
Test Software	EMQuest™ REV 1.14 Build 31654	ETS-Lindgren L.P.
Full Anechoic Wireless Test chamber	ETS-Lindgren AMS- 8923 CT000596-1149	ETS-Lindgren L.P.

5. Measurement Uncertainty

Item	617-698MHz (dB)	699-798MHz (dB)	814-894MHz (dB)	1695-1780MHz (dB)	1850-2020MHz (dB)	2300-2800MHz (dB)	3300-3800MHz (dB)	5150-5925MHz (dB)
Gain	0.75	0.9	0.74	0.84	0.83	0.9	0.84	0.86
Efficiency	0.75	0.9	0.74	0.84	0.83	0.9	0.84	0.86
Measurement Uncertainty (95% CONFIDENCE INTERVAL) K=2								

6. Test Results

Frequency(MHz)	Gain(dBi)	Efficiency(dB)	Efficiency(%)
2400	-10.08	-17.08	1.96
2410	-9.25	-16.11	2.45
2420	-8.82	-15.72	2.68
2430	-8.16	-15.23	3.00
2440	-7.47	-14.63	3.44
2450	-7.54	-14.51	3.54
2460	-6.98	-13.76	4.21
2470	-6.49	-13.45	4.52
2480	-6.25	-13.20	4.79
2490	-6.16	-13.15	4.84
2500	-6.13	-13.08	4.92