QTAX57 Antenna Report

Item	Description
Model Name	QTAX57
Test condition	Radiation
Test Engineer	Roger Deng
Company	Quanta Computer Inc.
Company Address	NO.188, Wenhua 2nd Rd., Guishan Dist., Taoyuan City 33377, Taiwan (R.O.C.)
Test Environment	ETS-Lindgren AMS-8500 Antenna Measurement System
Test Software	ETS-Lindgren EMQuest Data Acquisition and Analysis Software
Test Date	Sep. 12 2022 ~ Sep. 15 2022

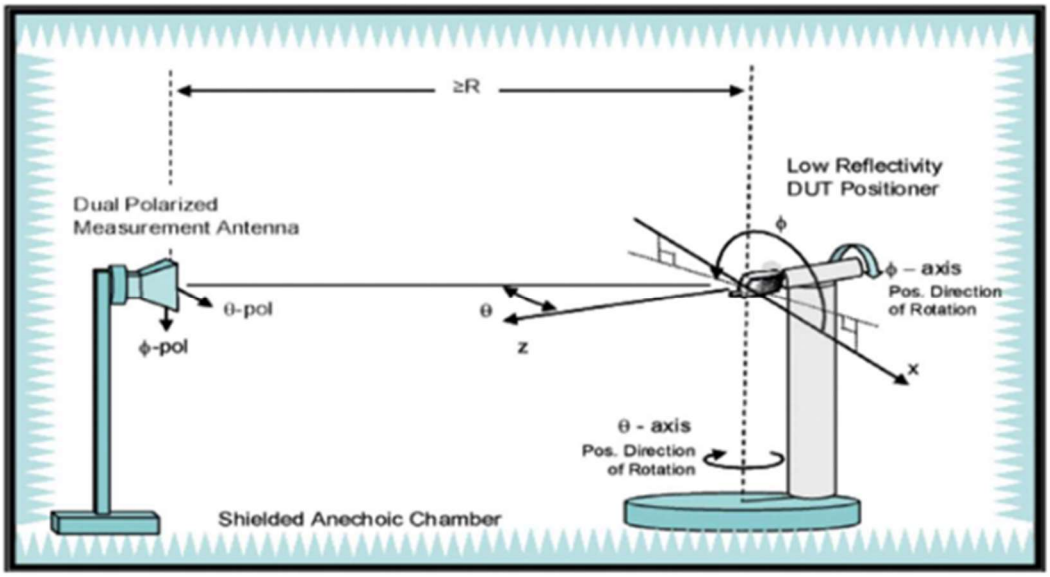
Outline

1.Antenna Specification

Antenna NO.	RF Chain NO.	Antenna Net Gain(dBi)	Frequency range	Antenna Type
WLAN/BT	chain 0	peak:-3.5	2.4~2.4835GHz	Monopole
WWAN	chain 0	peak: -4.7	FDD 4: US (T-Mobile)(1710-1755MHz)	PIFA
WWAN	chain 0	peak: -8.8	FDD 13: US (Verizon)(777-787MHz)	PIFA

2. Test Configuration

ETS-Lindgren AMS-8500 antenna measurement system with a size of 7.32(L) x 3.66(W) x 3.66 (H) m^3 is used for antenna performance test, which is based on the great-circle test method defined by CTIA. The multi-axis positioning system (MAPS) rorates the DUT around two orthogonal axes for full spherical coverage.

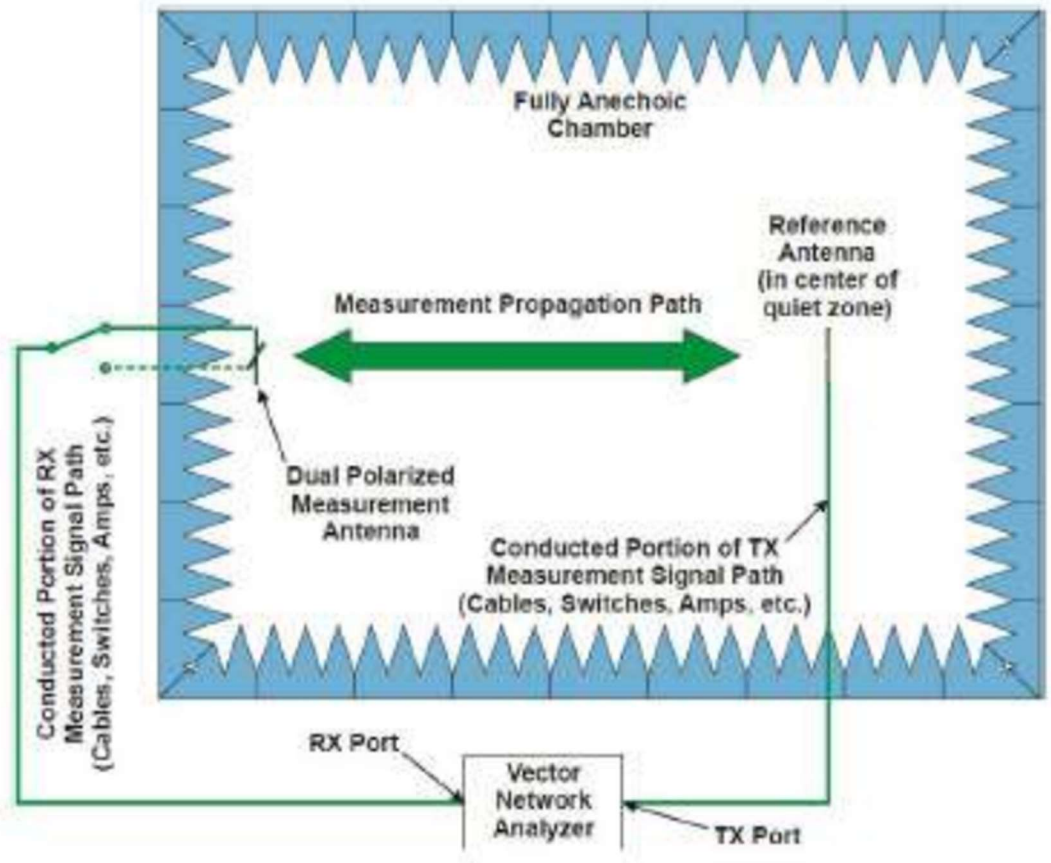


3. Test setup and Produce

1. Fix the DUT on the dielectric support structure and connect the feeding cable to the antenna used for test.
2. Set measurement paraments such as frequency range and sample angle.
3. Perform test and then get far-field data. (radiation pattern, gain, efficiency)
4. Repeat test procedure for other antenna.

4. Test equipment & Calibration

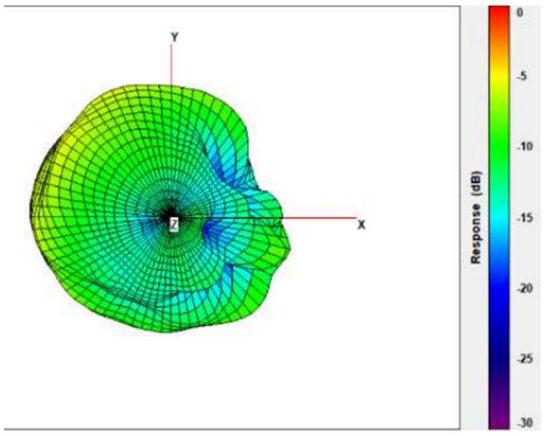
Network analyzer and reference antennas are used for calibration. Path loss and cable loss for different frequency bands can be checked and calculated.

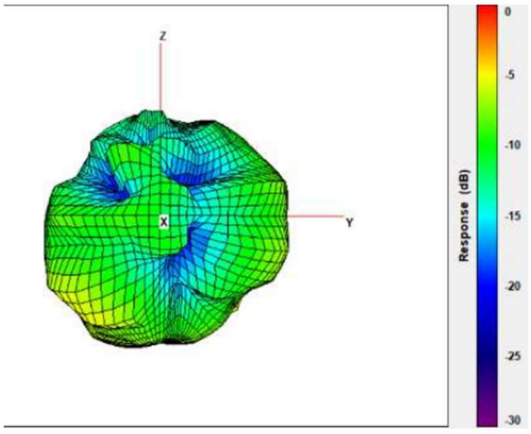


Equipment Description	Manufacture	Model No.	Calibrated Date	Calibrated Until
PXA Signal Analyzer	Keysight	N9030A	2022/06/28	2023/06/28
Network Analyzer	Keysight	E5017C	2022/07/04	2023/07/04
Switch Control system	Keysight	3499A	2022/07/04	2023/07/04

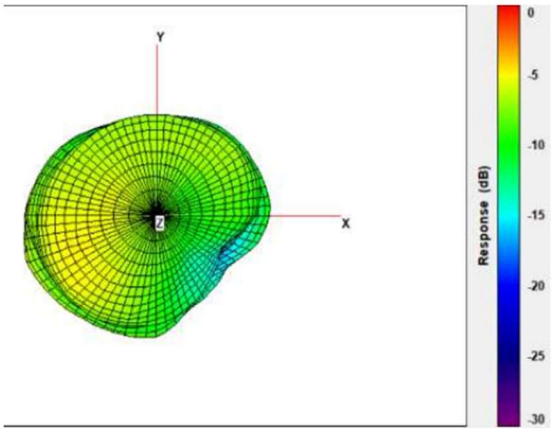
5.Radiation pattern

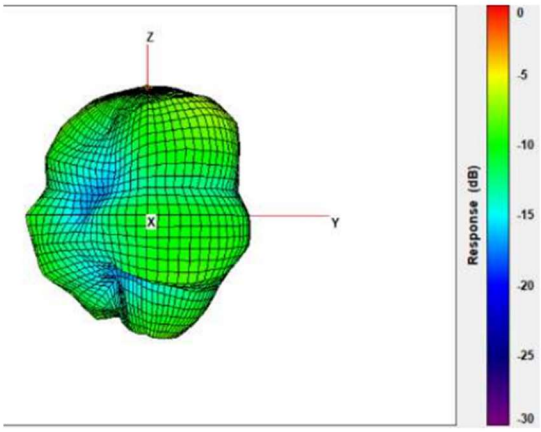
WLAN/BT Antenna Radiation Pattern



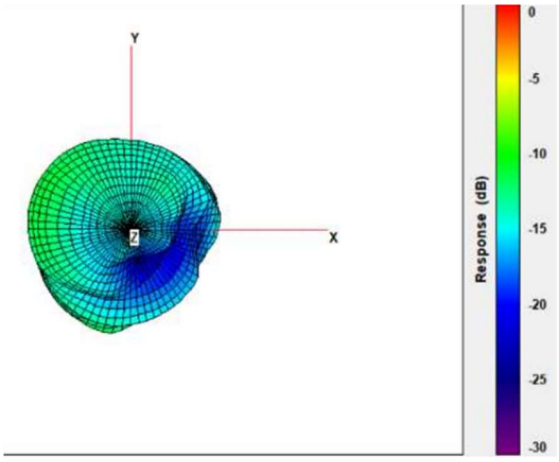


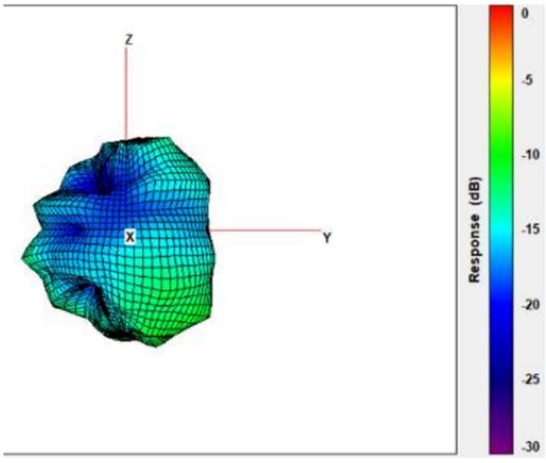
WWAN Band 4 Antenna Radiation Pattern





WWAN Band 13 Antenna Radiation Pattern





6.Test Setup Photo