

QTAX59 Antenna Report

Item	Description
Model Name	QTAX59
Test Condition	Radiation
Test Engineer	Cruise Kao
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	Jan. 10 2024 ~ Feb 2 2024

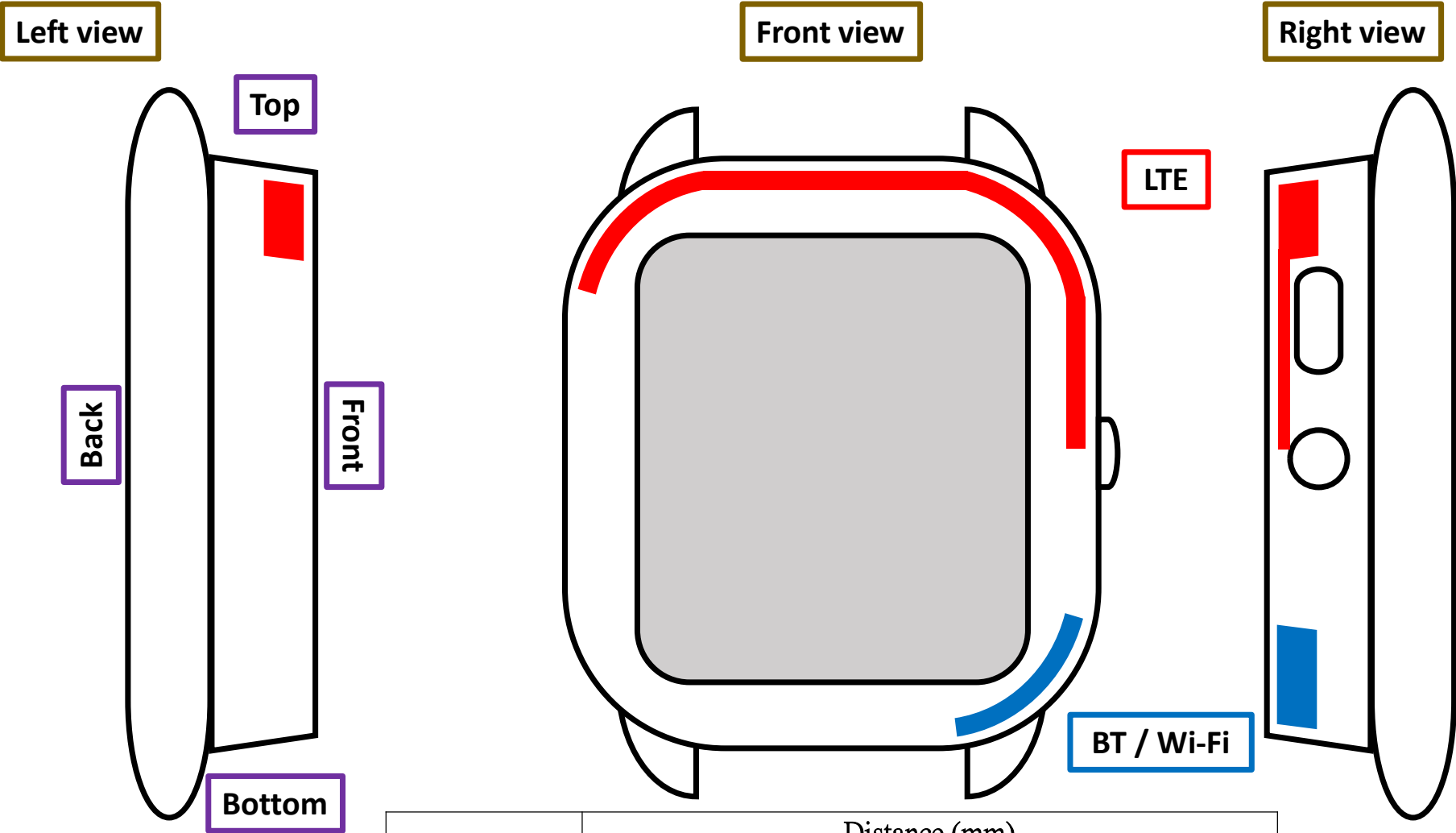
Outline

- 1. Antenna Specification
- 2. Test Configuration
- 3. Test setup and Produce
- 4. Test equipment & Calibration
- 5. Radiation pattern
- 6. Test Setup Photo

1.Antenna Specification

Antenna information				Peak gain (dBi)		
Antenna	Vendor	Type	Antenna Part number	777-787MHz	1710-1755MHz	2400-2500MHz
LTE	Suzhou Ariconn Communications Co., Ltd. Address: NO. 99 Makino Road, YuShan Town, KunShan City JiangSu P.R China	PIFA	DQ623113700	-9.35	-4.36	-
BT/Wi-Fi	Suzhou Ariconn Communications Co., Ltd. Address: NO. 99 Makino Road, YuShan Town, KunShan City JiangSu P.R China	PIFA	DQ623113700	-	-	-2.17

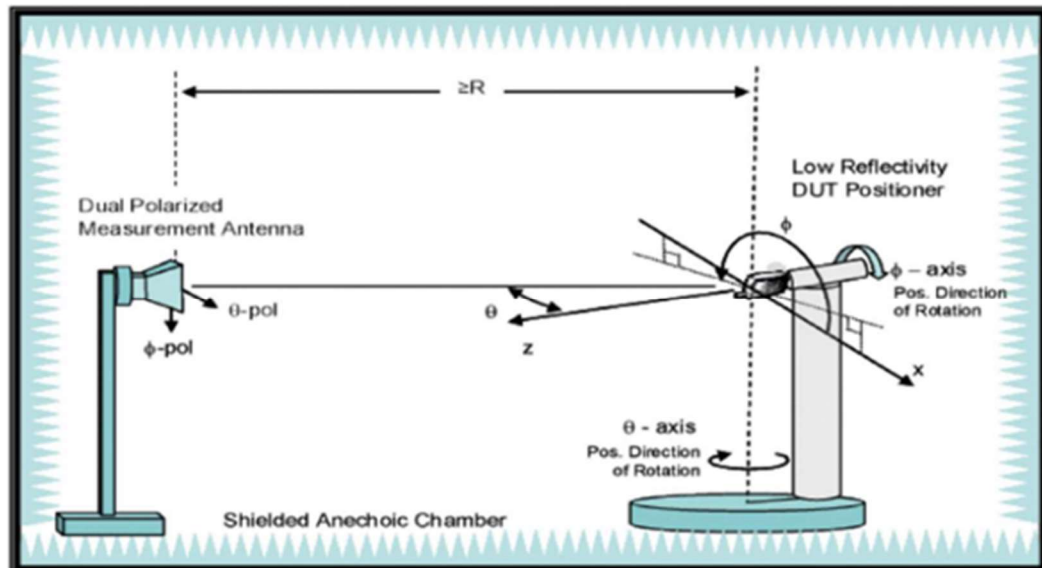
Antenna location



X59	Distance (mm)					
	Front	Back	Left	Right	Top	Bottom
LTE	2.7	7.3	1.9	2.7	1	-
BT / Wi-Fi	2.7	10.8	-	1.6	-	2.2

2. Test Configuration

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

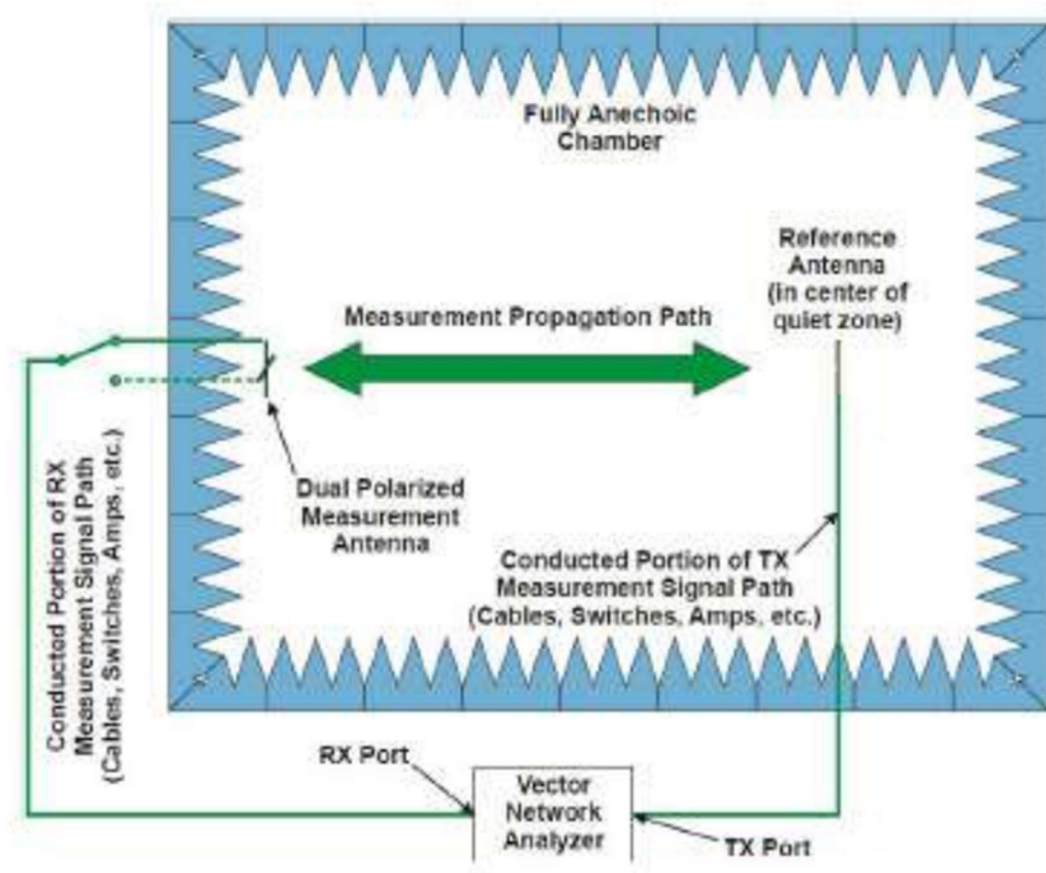


3. Test setup and Produce

1. Fix the DUT on the dielectric support structure and connect the feeding cable to the antenna used for test.
2. Set measurement parameters 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.

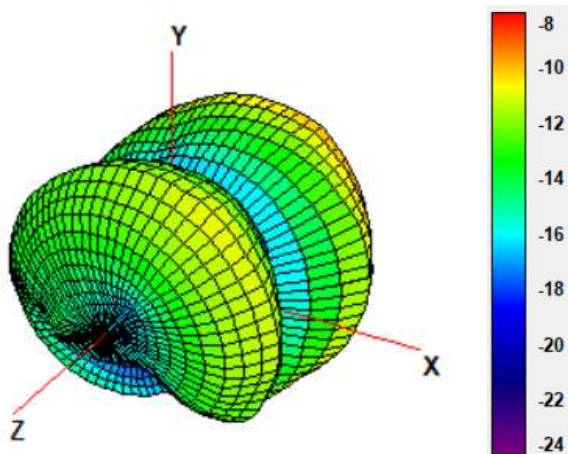


Equipment Description	Manufacture	Model No.	Calibrated Date	Calibrated Until
PXA Signal Analyzer	Keysight	N9030A	2023/06/28	2024/06/28
Network Analyzer	Keysight	E5017C	2023/07/04	2024/07/04
Switch Control system	Keysight	3499A	2023/07/04	2024/07/04

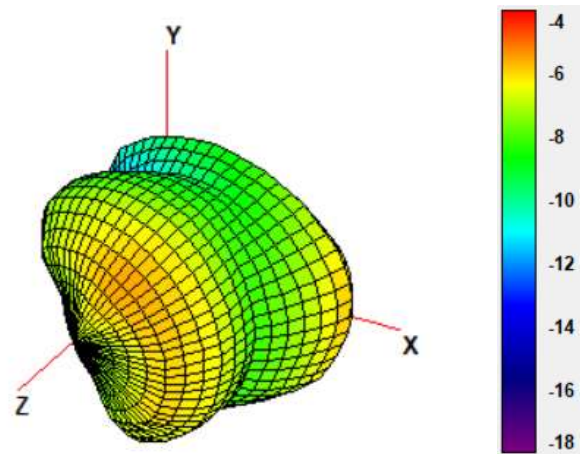
4. Radiation pattern

LTE

781MHz

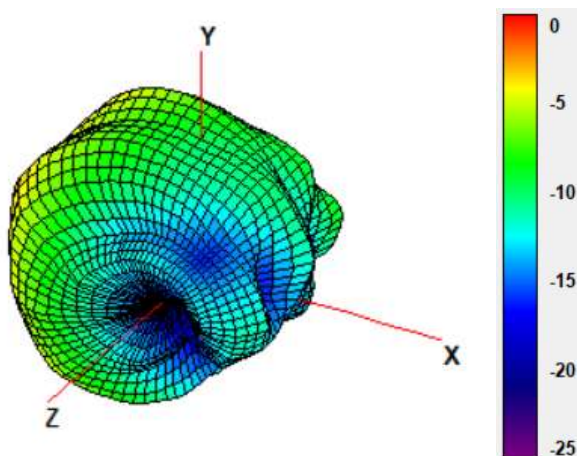


1733MHz



BT/Wi-Fi

2450MHz



6.Test Setup Photo

