Shenzhen Etheta Communication

Technology Co., Ltd.

（Shenzhen Etheta）

Customer：TCL Communication Ltd.

Project name：T519N

Product name：T519N - cellular & wifi antenna

Date：2025.02.12

1. Antenna specification and test location

Antenna 0/1/2/3/4/5/6/7
Material: FPC
Manufacturer: Shenzhen Haitong
Manufacturer Address: Block B, 3rd Floor, Building 1, Baisha Science and Technology Industrial Park, No. 3011 Shahe West Road, Nanshan District, Shenzhen
Antenna gain and radiation pattern measured in SATIMO anechoic chamber.
Test engineer: qi.ma

2. Test system introduction

2.1 Test Equipment list

Description	Manufacturer	Model	version	Cal Date
Vector Network Analyzer	Agilent Technologies	E5071C	13.30	2023.12.14
Anechoic Chamber	SATIMO	SG16	SPM 1.3.1	2023.12.14

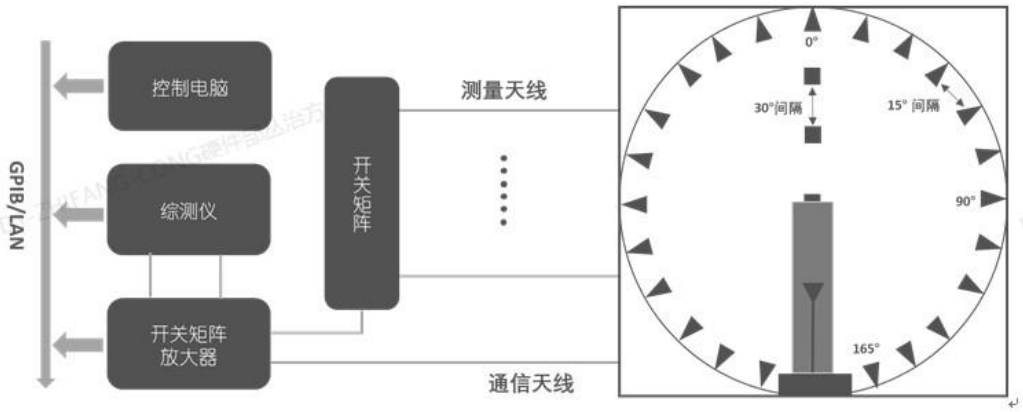
2.2 Anechoic chamber

Our company has a number of anechoic chamber for OTA test. It is ranging from 400 MHz to 8.5 GHz, which can provide passive test and active test, including OTA overall 2G, 3G, 4G, 5G FR test, WiFi multi-mode test, GPS active test, Bluetooth active test. The test system can provide antenna gain, efficiency, radiation pattern, upper and lower hemisphere efficiency values and mutual disturbance correlation coefficient analysis.

2.3 test system introduction:

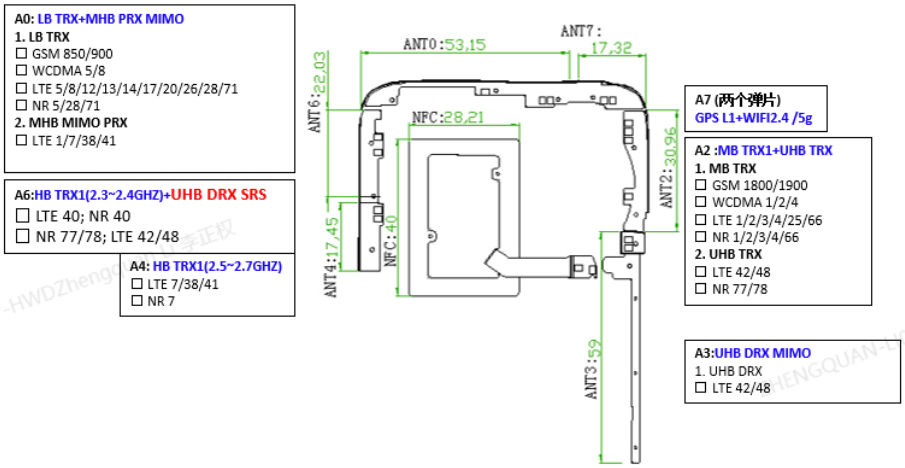
The figure above shows the connection and control process between the anechoic chamber of our company and the testing system and computer. The testing system has the characteristics of accurate, fast and simple testing. The operation interface is simple and

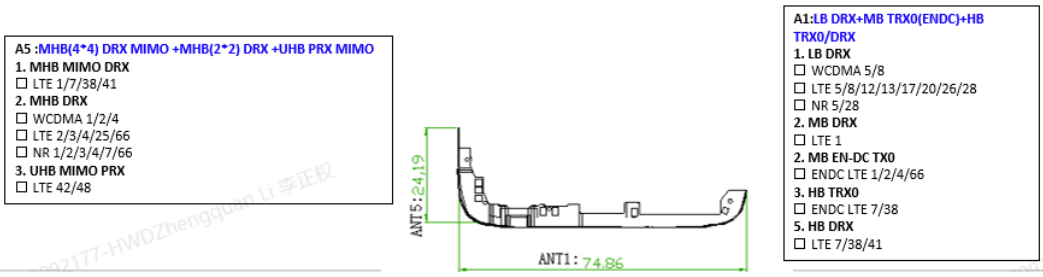
humanized.



3. Test result

3.1 Antenna information





Antenna information

Antenna number	Type	Model name	Description
0	FPC	Aster-ANT0	LB TRX+MHB MIMO PRX antenna
1	FPC	Aster-ANT1	LB DRX + MHB DRX + MB TRX0(EN-DC) + HB TRX0 antenna
2	FPC	Aster-ANT2	MB TRX + UHB TRX antenna
3	FPC	Aster-ANT3	LB DRX(ENDC) + UHB MIMO DRX antenna
4	FPC	Aster-ANT4	HB TRX antenna
5	FPC	Aster-ANT5	MHB DRX + MB DRX MIMO + UHB PRX MIMO antenna
6	FPC	Aster-ANT6	HB TRX + UHB DRX antenna
7	FPC	Aster-ANT7	GPS + WIFI 2.4G/5G antenna

NFC antenna information

Type	Dimension
FPC	28.21*40

NFC antenna gain description:

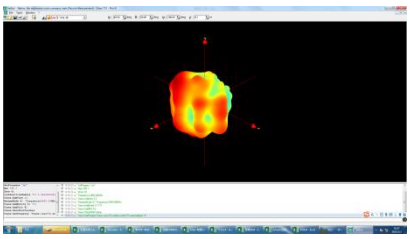
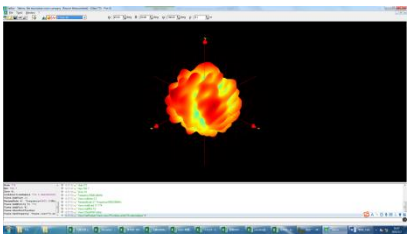
The device does not support the test of NFC gain. In addition, all measurements were performed radiated and therefore additional antenna gain documentation is not required.

Gain of Antenna 7

Band	Gain average(dBi)	Gain Peak (dBi)
Wi-Fi 2.4G/BT	-5.9	-0.8
Wi-Fi 5G	-8.5	-1.2

3.3 Radiation Pattern

Antenna 7

(Frequency Band)	WiFi 2.4G/BT	WiFi 5G
3D Radiation Pattern		
Efficiency[%]	26%	14%
Avg Gain [dBi]	-5.9	-8.5
Peak Gain [dBi]	-0.8	-1.2