

Shenzhen Etheta Communication
Technology Co., Ltd.
(Shenzhen Etheta)

Customer: TCL Communication Ltd.

Project name: T523SP

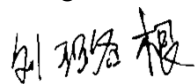
Product name: T523SP - cellular & wifi antenna

Date: 2025.12.20

1. Antenna specification and test location

Antenna 7

Material: FPC
Manufacturer: Shenzhen Etheta
Manufacturer Address: Zone B, 3rd Floor, Building 1, Baisha Logistics Park, Xili Street, Nanshan District, Shenzhen.
Antenna gain and radiation pattern measured in SATIMO anechoic chamber.
Project date: 2025.10.20 - 2026.01.20
Test engineer: Lugen Liu



Test Equipment list

Description	Manufacturer	Model	Cal Date
Vector Network Analyzer	Agilent Technologies	E5071B	2025.10.19
Anechoic Chamber	SATIMO	SG16	2025.10.19

2. Test system introduction

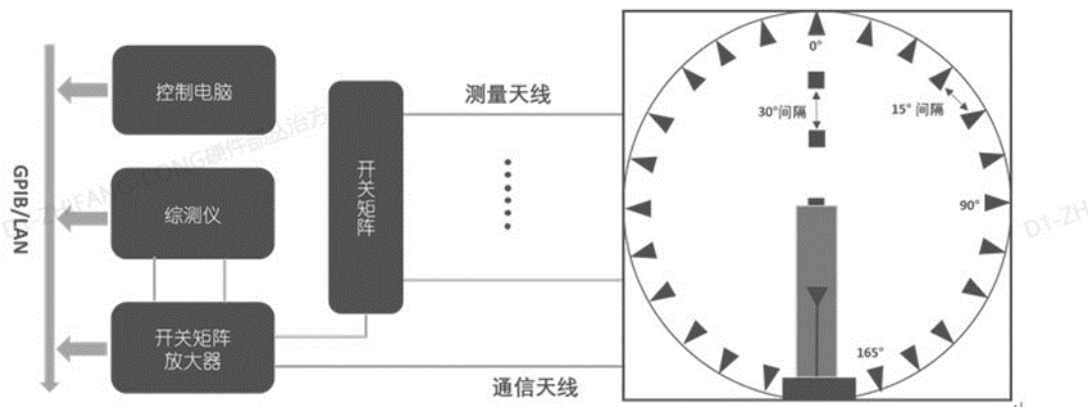
2.1 Anechoic chamber

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.



2.2 Test system Architecture

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 placement:

Antenna	Type	Description
7	FPC	GPS + WIFI 2.4G/5G + BT antenna

NFC antenna information

Type	Dimension
Loop	35*32.6mm

3.2 Antenna Gain

Gain of Antenna 7

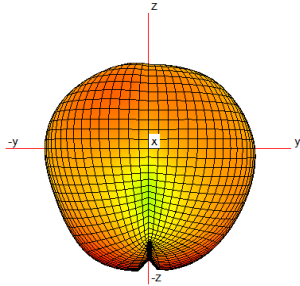
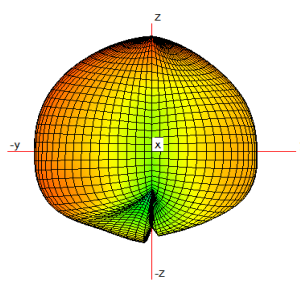
Band	Gain average(dBi)	Gain Peak (dBi)
GPS	-2.45	-1.70
Wi-Fi 2.4G/BT	-5.22	-4.55
Wi-Fi 5G	-5.52	-4.98

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.

3.3 Radiation Pattern

Antenna 7

(Frequency Band)	WiFi 2.4G/BT	WiFi 5G
3D Radiation Pattern		
Efficiency[%]	36	31
Avg Gain [dBi]	-5.22	-5.52
Peak Gain [dBi]	-4.55	-4.98