

## Antenna Gain test report

FCC ID: 2AUYFRMX5070

Equipment: Mobile Phone

Brand Name: realme

Model Name: RMX5070

Manufacturer: Realme Chongqing Mobile

Telecommunications Corp., Ltd.

No.178 Yulong Avenue, Yufengshan, Yubei District,

Chongqing, China

Issue Date: Nov 7, 2024

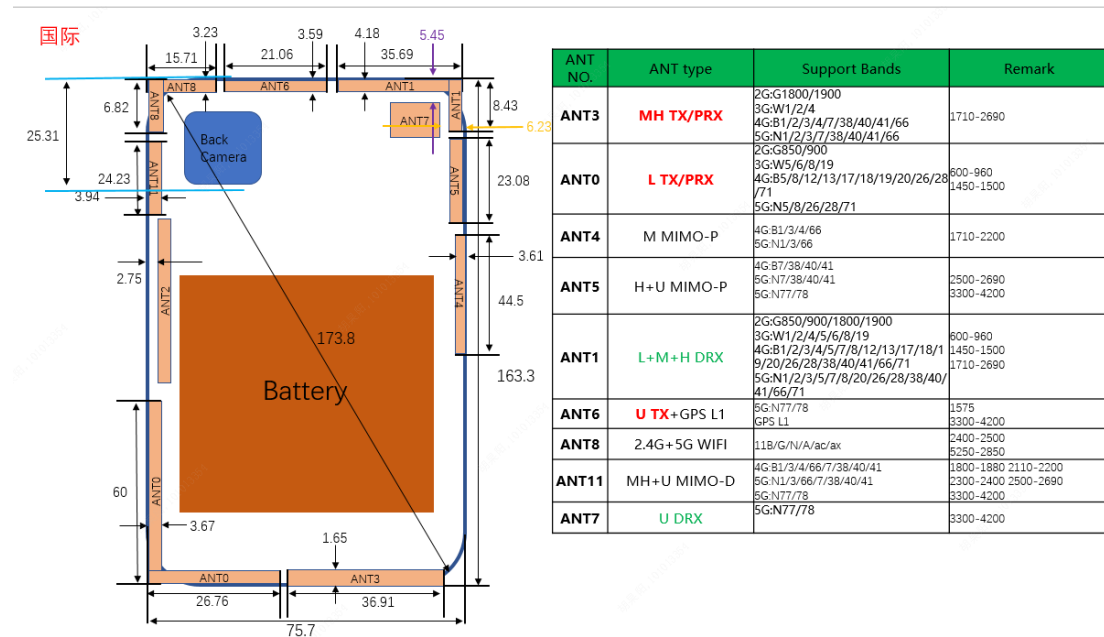
Test equipment

calibration date: 2024.11.07

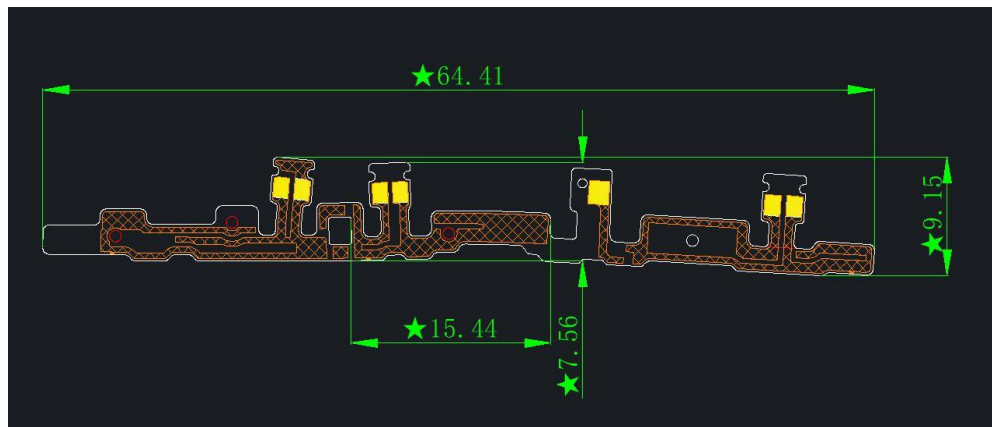
Due date: 2025.11.07

Test engineer: Wenkai Zhang

## Antenna Location&amp;dimension:



WIFI antenna dimension: 15.44mm\*9.151mm

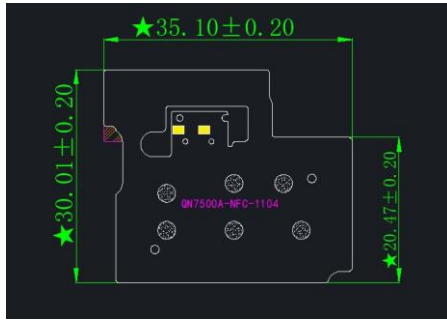


Antenna Type: IFA Antenna

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NFC antenna dimension: 34.79mm\*28.01mm



Antenna Type: Loop Antenna

Manufacturer: Kunshan Innowave Communication Technology Co., Ltd.

Mode: QN7500A-NFC

Fig 1 Antenna location & dimension

**Antenna Gain and Antenna Type specification:**

Antenna Gain (dBi)		Ant 8	Antenna Type
2.4G WiFi	2400~2483.5MHz	-0.99	IFA(Inverted F Antenna)
5G Wifi	5150~5250 MHz	1.03	IFA(Inverted F Antenna)
	5250~5350 MHz	1.16	IFA(Inverted F Antenna)
	5470~5725 MHz	2.02	IFA(Inverted F Antenna)
	5725~5850 MHz	0.62	IFA(Inverted F Antenna)
BT	2400~2483.5MHz	-0.99	IFA(Inverted F Antenna)

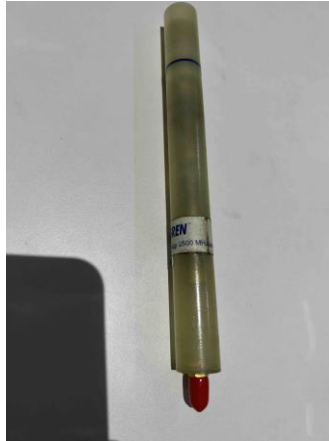
Table1 Antenna Gain and Antenna Type specification

Note: Antenna gain was measured in the anechoic chamber, 3D scan was exercised, and the highest numbers are reported in this document.

According to test standard: IEEE Std 149-2021, we measure antenna gain .

**List of Test and Measurement Instruments****TEST EQUIPMENT**

NO.	Equipment	Manufacturer	Model No.	Dynacomm
1	AMS-8923	ETS-Lingen	SN1702	GTS MaxSign
2	Network Analyzer E5071C	Keysight	MY469057 5	



**Fig 2** dipole model 3126-2500 frequency 2500 MHz



**Fig 3** model 3126-5500 frequency 5500 MHz

## **I. Measurement Setup:**

### **A. Reflection Coefficient Measurement:**

**Instrument:** Network Analyzer (Kesight E5071C).

**Setup:**

1. Calibrate the Network Analyzer by one port calibration using Kesight 85093C Electronic calibration module .
2. Connect the antenna under test to the Network Analyzer.
3. Measure the S11(reflection coefficient),Return Loss....

### **B. Pattern Measurement:**

A Fully Anechoic Chamber is used to simulate free-space conditions.

A Fully Anechoic Chamber is a shielded room lined with RF/microwave absorber on all walls, ceiling, and floor.

RF/microwave absorber reduces reflections from the inner walls of the shield. Absorber performance depends on the depth and design of the absorber and the angle of incidence of the field.

Normal incidence is best, shallower angles are worse.

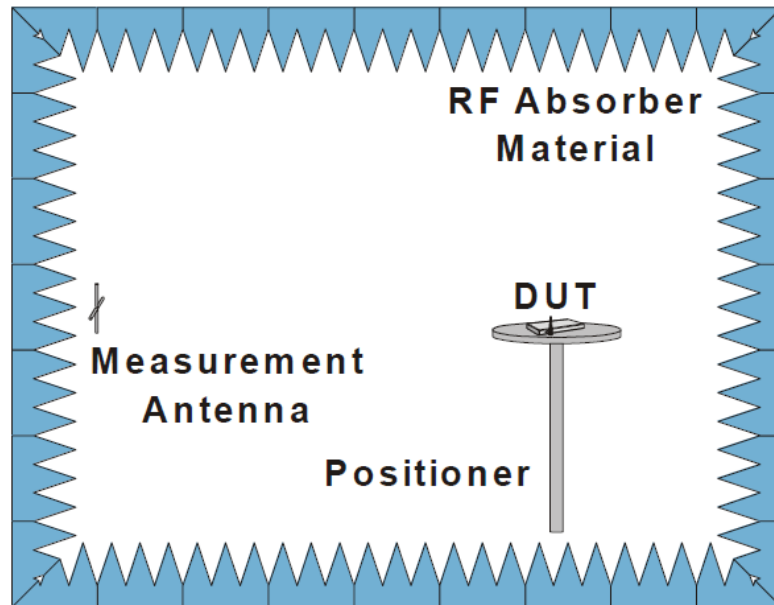


Fig. 4. The fully anechoic chamber

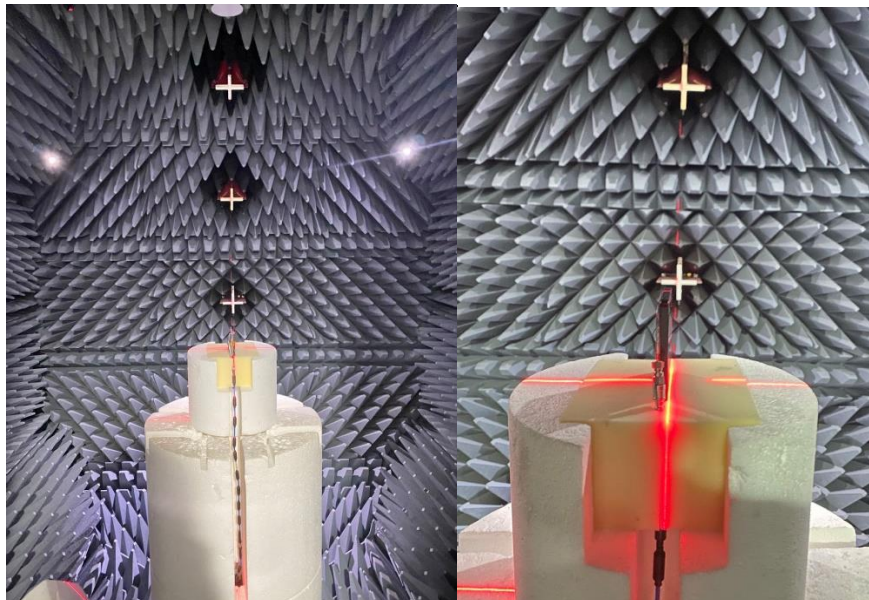


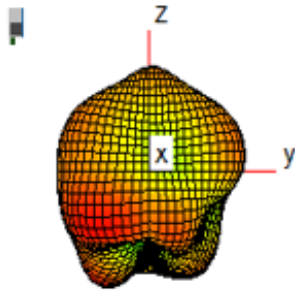
Fig.5. The DUT in the fully anechoic chamber

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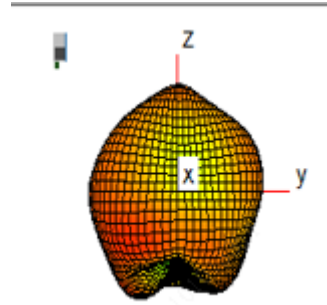
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BT&WIFI 2D or 3D pattern 图

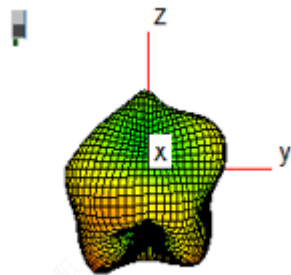
ANT8:



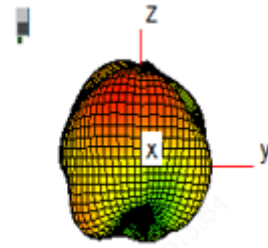
2400MHZ



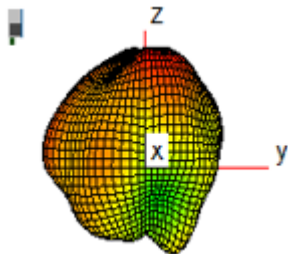
2450MHZ



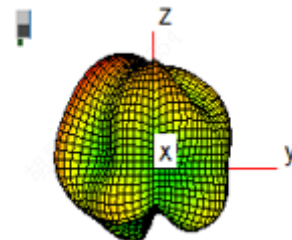
2500MHZ



5150MHZ



5500MHZ



5800MHZ