Antenna Gain test report

FCC ID：2AUYFRMX5111

Equipment：Mobile Phone

Brand Name：realme

Model Name：RMX5111

Manufacturer：Realme Chongqing Mobile

Telecommunications Corp., Ltd.

No.178 Yulong Avenue, Yufengshan, Yubei District,

Chongqing, China

Issue Date： **May** 27, 2025

Test software：GTS MaxSign

Test engineer：RENCONG ZENG

ANT6:WIFI antenna dimension: 26.3mm*7.57mm

Antenna Type: PIFA Antenna

Mode：M193

ANT9:WIFI antenna dimension: 7.23mm*9.61mm

Antenna Type: PIFA Antenna

Mode：M193

NFC antenna dimension: 34.50mm*28.57mm

Antenna Type: Coil Antenna

Manufacturer：Welletronics Communication Technolongy Co.,Ltd

Model：M193

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Antenna Gain and Antenna Type specification:

Antenna Gain (dBi)		Ant 6	ANT9	Antenna Type
2.4G WiFi	2400~2483.5MHz	-0.76	/	PIFA
5G Wifi	5150~5250 MHz	/	-2.39	PIFA
	5250~5350 MHz	/	-1.58	PIFA
	5470~5725 MHz	/	-1.25	PIFA
	5725~5850 MHz	/	-0.6	PIFA
BT	2400~2483.5MHz	-0.76	\	PIFA

*ANT6 2.4G SISO antenna， ANT9 5G SISO 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.

Accoring toTest standard: IEEE Std 149-2021,we measure antenna gain .

List of Test and Measurement Instruments

TEST EQUIPMENT

NO.	Equipment	Manufacturer	Model No.	Dynacom	Calibration date	Due Date
1	AMS-8923	ETS-Lingen	SN1702	GTS MaxSign	2025.5.27	2026.5.27
2	Network Analyzer E5071C	Keysight	MY4690575			

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.
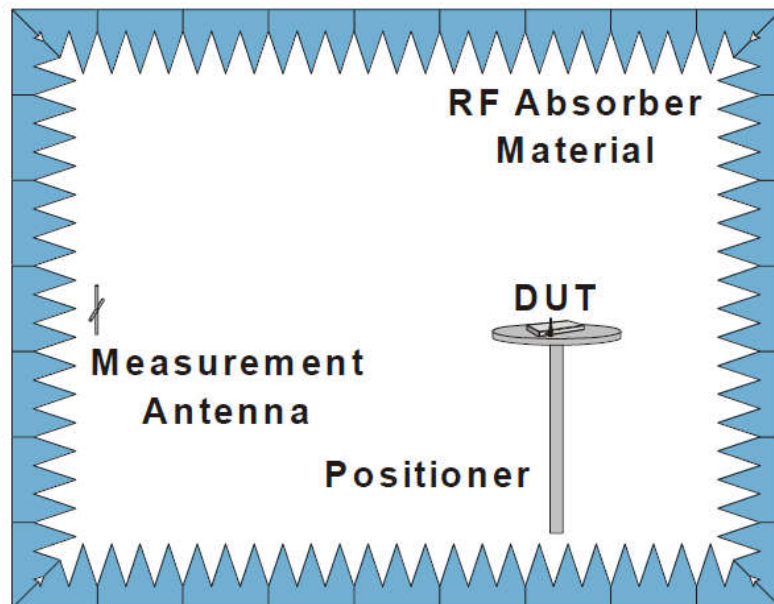
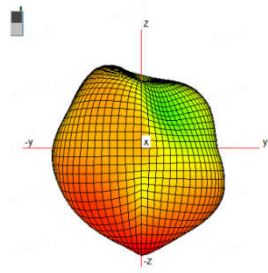Normal incidence is best, shallower angles are worse.

Fig. 4. The fully anechoic chamber

Fig.5. The DUT in the fully anechoic chamber
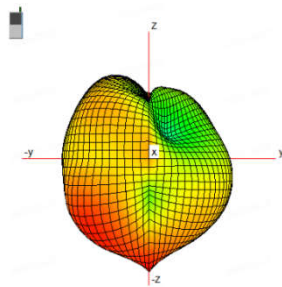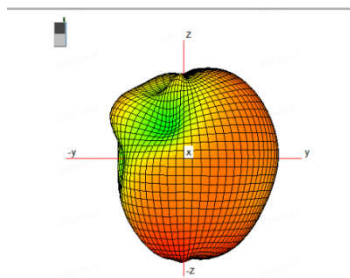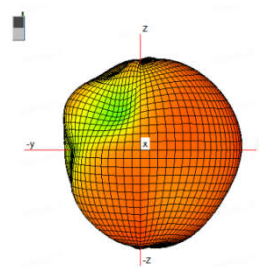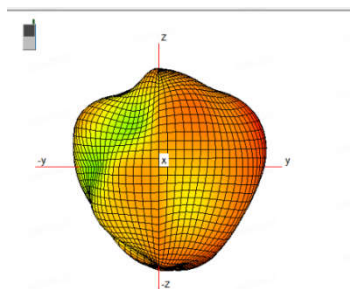
BT&WIFI 2D or 3D pattern 图
ANT6：

2400MHZ

2450MHZ

2450MHZ

WIFI 2D or 3D pattern 图
ANT9：

5150MHZ

5500MHZ

5800MHZ