Antenna Gain test report

FCC ID：2AUYFRMX5101

Equipment：Mobile Phone

Brand Name：realme

Model Name：RMX5101

Manufacturer：Realme Chongqing Mobile Telecommunications Corp., Ltd.

No.178 Yulong Avenue, Yufengshan, Yubei District, Chongqing, China

Issue Date：May 28, 2025

Test equipment

calibration date：2025.05.28

Due date：2025.05.28

Test engineer：LuHuiQi

Antenna Location&dimension:

Please refer to Antenna Location&dimension&setup photos.

Antenna Gain and Antenna Type specification:

Antenna Gain (dBi)		Ant 8	Ant 9	Ant 10	Ant 11	Antenna Type
2.4G WiFi	2400~2483.5MHz	-1.6			-4.5	Fixed Antenna
5G Wifi	5150~5250 MHz		0.3	-0.1		Fixed Antenna
	5250~5350 MHz		0.1	0.8		Fixed Antenna
	5470~5725 MHz		-1.3	1.6		Fixed Antenna
	5725~5850 MHz		-2.5	0.8		Fixed Antenna
BT	2400~2483.5MHz	-1.6			-4.5	Fixed 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.
1	AMS-8923	ETS-Lingen	SN1702
2	Network Analyzer E5071C	Kesight	MY4690575

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**.**

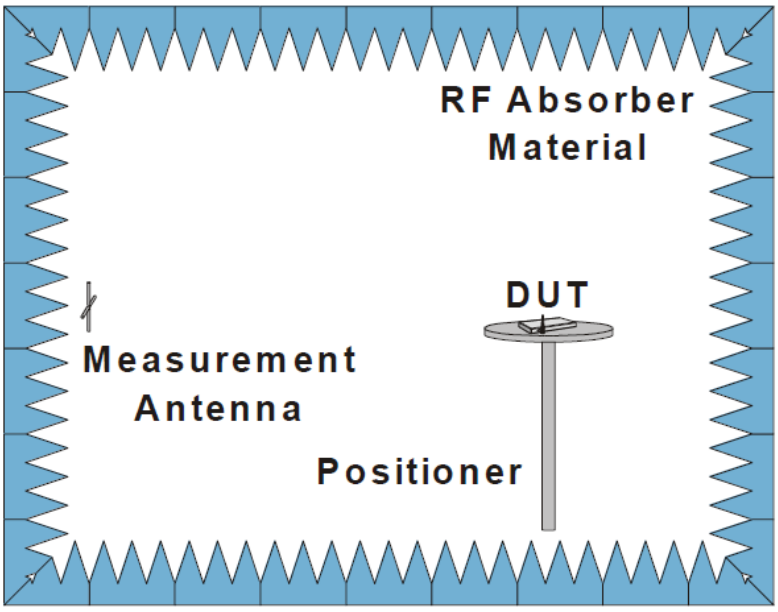


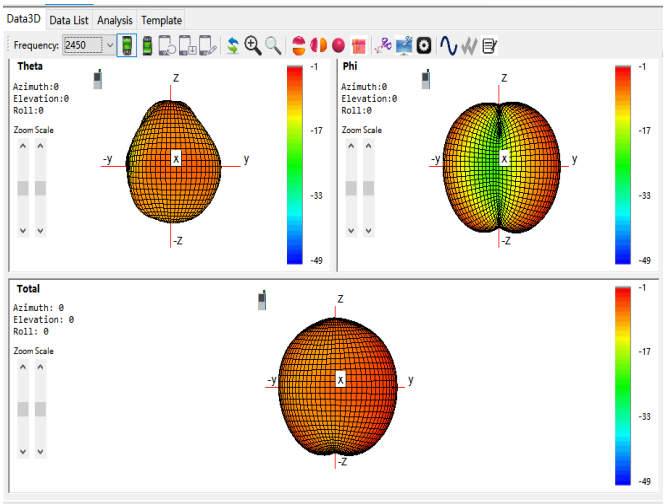
Fig. 4. The fully anechoic chamber

Setup photos:

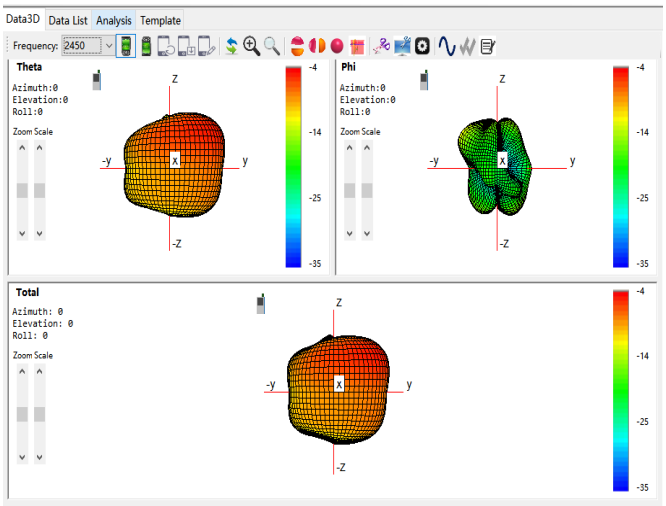
Please refer to Antenna Location&dimension&setup photos.

BT&WIFI 2D or 3D pattern

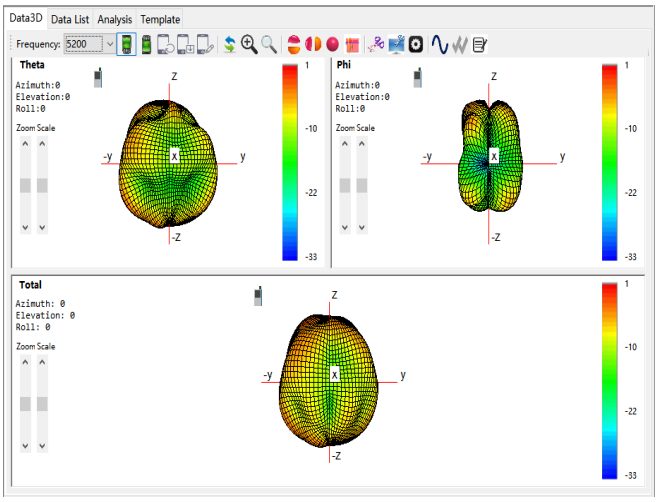
ANT8:BT/2.4G WIFI CH0 2450MHZ



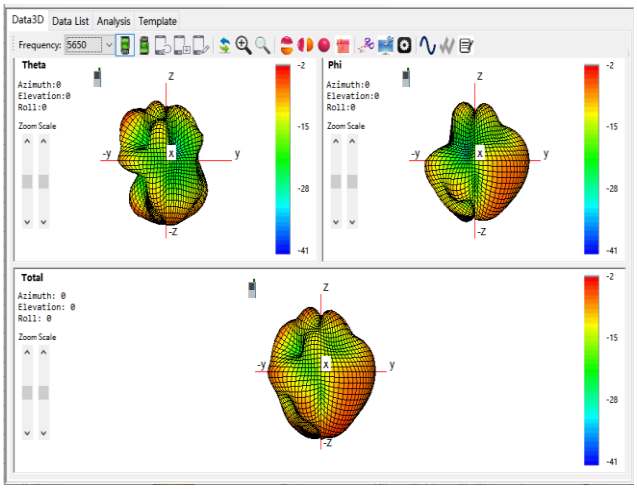
ANT11: 2.4G WIFI CH1 2450MHZ



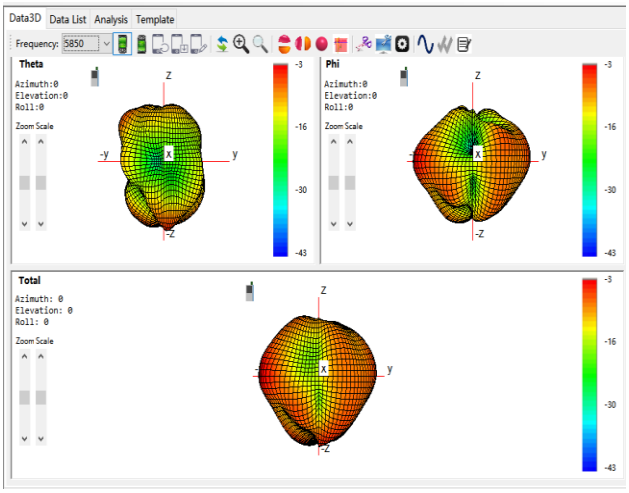
ANT9: 5G WIFI CH0 5200MHZ



ANT9: 5G WIFI CH0 5650MHZ



ANT9: 5G WIFI CH0 5850MHZ



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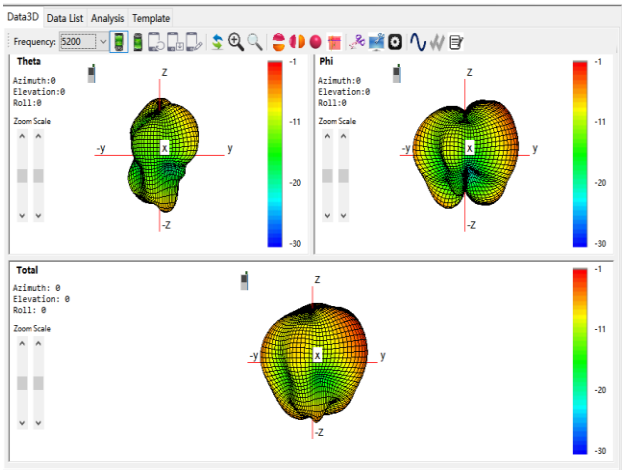
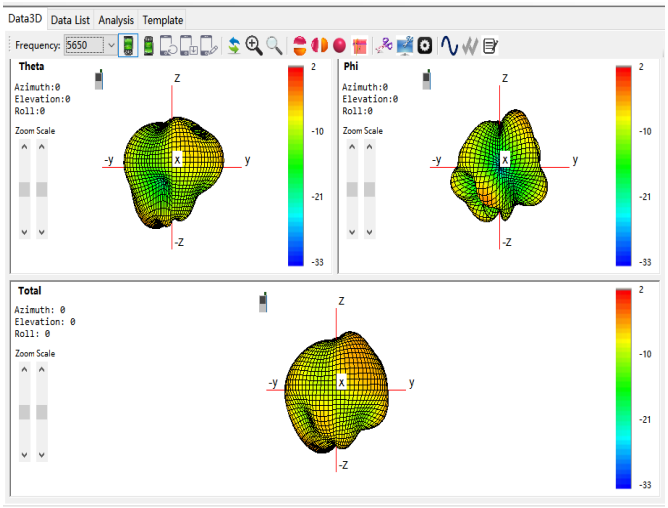


ANT10: 5G WIFI CH1 5650MHZ



ANT11: 5G WIFI CH1 5850MHZ