Antenna Gain test report

FCC ID：R9C-OP24261

Equipment：Mobile Phone

Brand Name：OPPO

Model Name：CPH2697

Software：ColorOS 15.0

Manufacturer：

Guangdong OPPO Mobile Telecommunications Corp., Ltd.

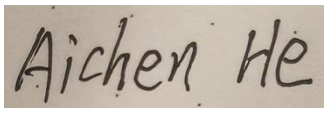
NO.18 Haibin Road, Wusha Village, Chang'an Town, Dongguan City, Guangdong, China

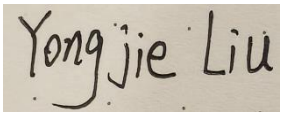
Issue Date： November 29, 2024

Project Engineer: Aichen He Date:November 29, 2024

Checked by: Yongjie Liu Date:November 29, 2024

Approved by:Jiawen Luo Date:November 29, 2024





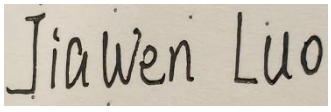


Fig 1 Antenna location&dimension

Antenna Gain and Antenna Type specification:

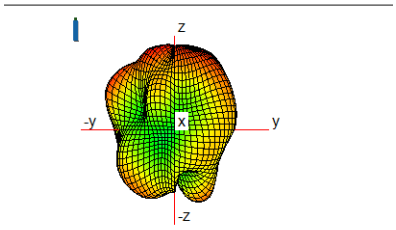
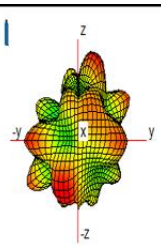
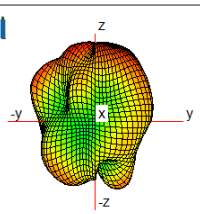
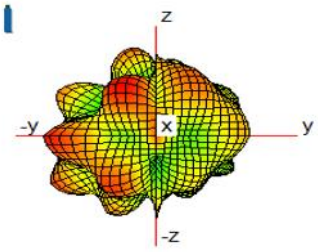
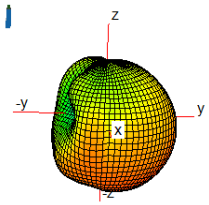
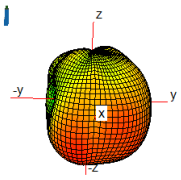
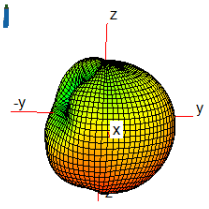
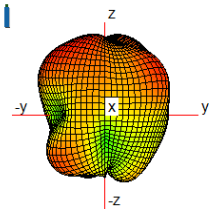
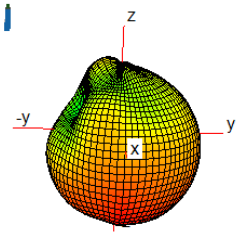
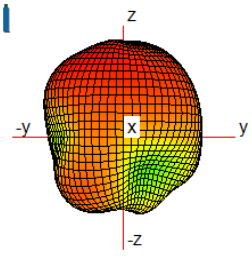
Antenna Gain (dBi)		Ant7	Ant 8	Ant 9	Ant 12	Antenna Type	Antenna model name	Manufacturer
2.4G WiFi	2400~2483.5MHz	-0.1	/	/	-1.69	IFA(Inverted F Antenna)	AC223	OPPO
5G Wifi	5150~5250 MHz	/	-0.5	-1.05	/	IFA(Inverted F Antenna)	AC223	OPPO
	5250~5350 MHz	/	-0.5	-1.4	/	IFA(Inverted F Antenna)	AC223	OPPO
	5470~5725 MHz	/	0.5	-0.91	/	IFA(Inverted F Antenna)	AC223	OPPO
	5725~5850 MHz	/	0.3	-0.94	/	IFA(Inverted F Antenna)	AC223	OPPO
6G WiFi	5925-6425MHz	/	-2	-2	/	IFA(Inverted F Antenna)	AC223	OPPO
BT	2400~2483.5MHz	-0.1	/	/	/	IFA(Inverted F Antenna)	AC223	OPPO

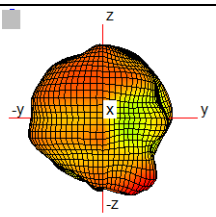
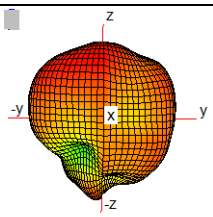
NFC	13.56MHz	Demision: 49.9mm*44.2mm	FPC(Flexible Printed Circuit)	AC223	OPPO

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 .

3D Pattern

	
ANT7 WiFi 2.4G&BT chain0 Gain: -0.1dB	ANT12 WiFi 2.4G &BT chain1 Gain: -1.7dB
	
ANT8 WiFi 5G B1 chain0 Gain: -0.5dB	ANT9 WiFi 5G B1 chain1 Gain: -1.05dB
	
ANT8 WiFi 5G B2 chain0 Gain: -0.5dB	ANT9 WiFi 5G B2 chain1 Gain:-1.4dB
	
ANT8 WiFi 5G B3 chain0 Gain: 0.5dB	ANT9 WiFi 5G B3 chain1 Gain:-0.9dB
	

ANT8 WiFi 5G B4 chain0 Gain:0.3dB	ANT9 WiFi 5G B4 chain1 Gain: -0.9dB
	
ANT8 WiFi 6G B5 chain0 Gain:-2dB	ANT9 WiFi 6G B5 chain1 Gain: -2dB

List of Test and Measurement Instruments

TEST EQUIPMENT

NO.	Equipment	Manufacturer	Model No.	Cal.date	Cal.due
1	GTS RayZone-2800	General Test	SN636692864	2024/06/14	2025/06/14
2	Network Analyzer E5071C	Keysight	MY4690575	2024/06/14	2025/06/14
3.	MaxSign Libra Test softwave	General Test	Version-1.1.16	NA	NA

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**.**

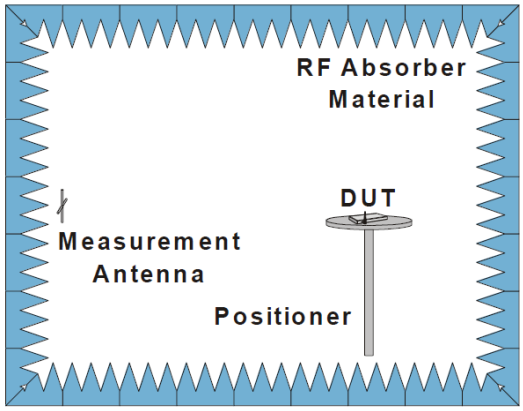


Fig. 4. The fully anechoic chamber