Antenna Gain test report

FCC ID：2ABZ2-OP23895

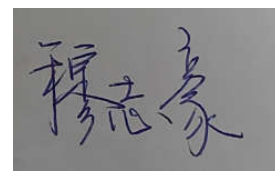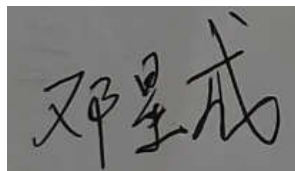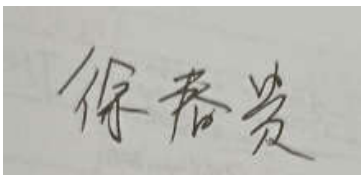Equipment：Mobile Phone

Brand Name：ONEPLUS

Model Name：CPH2655

Manufacturer： OnePlus Technology (Shenzhen) Co., Ltd.

18C02, 18C03, 18C04, and 18C05, Shum Yip

Terra Building, Binhe Avenue North, Futian

District, Shenzhen, Guangdong, P.R. China

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Project Engineer: Chungui Xu   Date:2024/6/20

Checked by: Stephen Deng   Date: 2024/6/20

Approved by: Shine Mu   Date:2024/6/20

Fig 1 Antenna location&dimension

Antenna Gain and Antenna Type specification:

Antenna Gain (dBi)		Ant 1	Ant 13	Ant 10	Antenna Type	Antenna model name	Manufact urer
2.4G WiFi	2412~2462MHz	/	-0.5	1.5	IFA(Inverted F Antenna)	AA569	OnePlus
BT	2402~2480MHz	-0.5	-0.5	1.5	IFA(Inverted F Antenna)	AA569	OnePlus

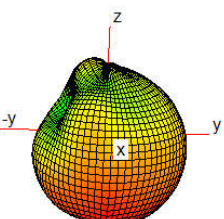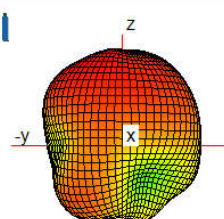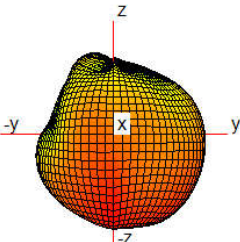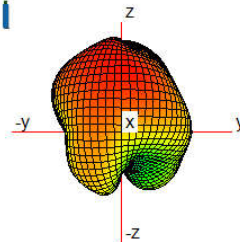| Antenna Gain (dBi)		Ant 14	Ant 15	Antenna Type	Antenna model name	Manufact urer
5G WiFi	5150~5250 MHz	-2.5	-2	IFA(Inverted F Antenna)	AA569	OnePlus
	5250~5350 MHz	-2	-0.7	IFA(Inverted F Antenna)	AA569	OnePlus
	5470~5725 MHz	1.5	1	IFA(Inverted F Antenna)	AA569	OnePlus
	5725~5850 MHz	1	1	IFA(Inverted F Antenna)	AA569	OnePlus
6G WiFi	5925-6425 MHz	-1.5	0.5	IFA(Inverted F Antenna)	AA569	OnePlus
	6425-6525 MHz	-4	-1	IFA(Inverted F Antenna)	AA569	OnePlus
	6525-6875 MHz	-4	-1	IFA(Inverted F Antenna)	AA569	OnePlus
	6875-7125 MHz	-7	-1	IFA(Inverted F Antenna)	AA569	OnePlus
NFC	13.56MHz	/	/	FPC(Flexible Printed Circuit)	AA569	OnePlus
WPT	110.1 KHz-148.5KHz	/	/	Loop Antenna	AA569	OnePlus
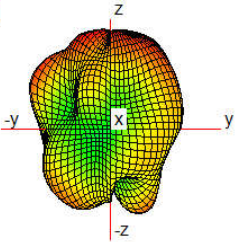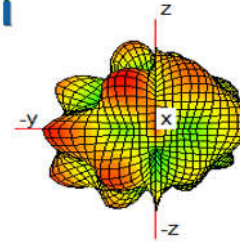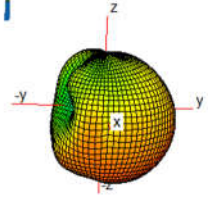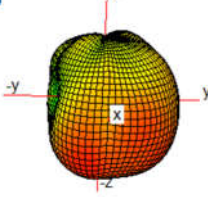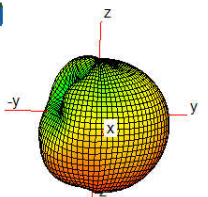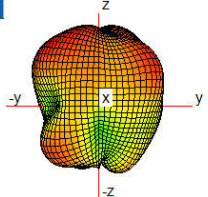
Table1 Antenna Gain and Antenna Type specification

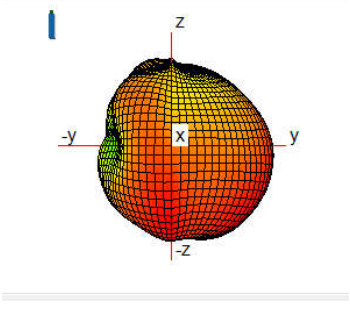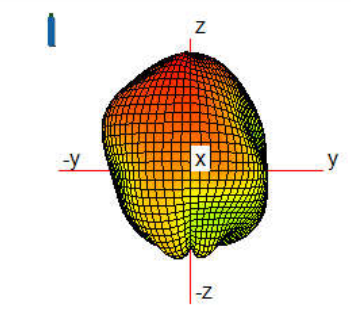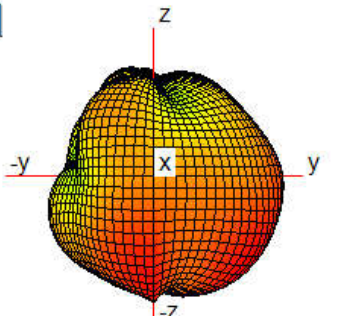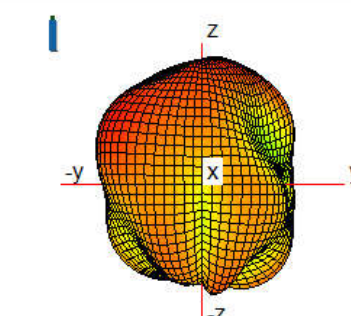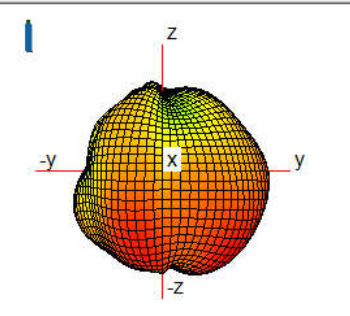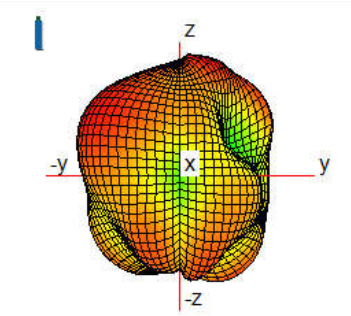Note: Antenna gain was measured in the anechoic chamber, 3D scan was exercised, and the highest numbers are reported in this document.

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

Antenna Radiation Pattern:

ANT13 WiFi 2.4G&BT chain0 Gain: -0.5dB	ANT10 WiFi 2.4G &BT chain1 Gain: 1.5dB
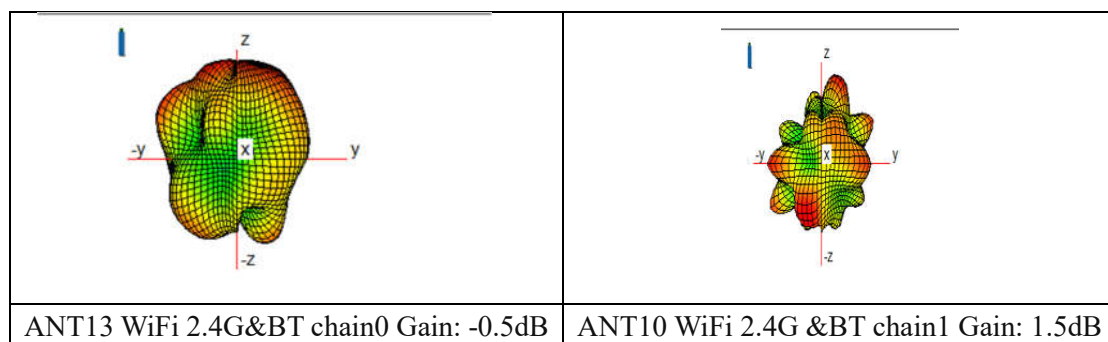
ANT14 WiFi 5G B1 chain0 Gain: -2.5dB	ANT15 WiFi 5G B1 chain1 Gain: -2dB
ANT14 WiFi 5G B2 chain0 Gain: -2dB	ANT15 WiFi 5G B2 chain1 Gain:0.7dB
ANT14 WiFi 5G B3 chain0 Gain: 1.5dB	ANT15 WiFi 5G B3 chain1 Gain:1dB
ANT14 WiFi 5G B4 chain0 Gain:1dB	ANT15 WiFi 5G B4 chain1 Gain: 1dB
ANT14 WiFi 6G B5 chain0 Gain: -1.5dB	ANT15 WiFi 6G B5 chain1 Gain: 0.5dB

| ANT14 WiFi 6G B6 chain0 Gain: -4dB | ANT15 WiFi 6G B6 chain1 Gain: -1dB |

| ANT14 WiFi 6G B7 chain0 Gain: -4dB | ANT15 WiFi 6G B7 chain1 Gain:-1dB |

| ANT14 WiFi 6G B8 chain0 Gain: -7dB | ANT15 WiFi 6G B8 chain1 Gain:-1dB |

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

I. Measurement Setup:

A. Reflection Coefficient Measurement:

Instrument: Network Analyzer (Keysight E5071C).
Setup:
1. Calibrate the Network Analyzer by one port calibration using Keysight 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**.**