Antenna Infomation

Project number：C

Brand Name：OPPO

Model Name：CPH2659

Antenna Type: IFA Internal (Inverted F Antenna)

Manufacturer：Guangdong OPPO Mobile Telecommunications Corp., Ltd.

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

Antenna Gain (dBi)		Ant 0	Ant 1	Ant 2	Ant 3	Ant 4	Ant 5	Ant 6	Ant 7	Ant 8	Ant 9	Ant 10	Ant 11	Ant 12	Ant 13	Ant 14
WCDMA band 1/2/4/5/8																
WCDMA band 1	1920 - 1980 MHz						-1.1	0.5								
WCDMA band 8	880 - 915 MHz	-4	-5.4													
LTE band 1/2/3/4/5/7/8/20/28/38/39/40/41																
LTE band 1	1920 - 1980 MHz					-0.7	-1.1	0.5	1							
LTE band 3	1710 - 1785 MHz					-1.5	-0.9	0.6	-0.1							
LTE band 7	2500 - 2570 MHz					0.2	-1.9	1.1	-0.6							
LTE band 8	880 - 915 MHz	-4	-5.4													
LTE band 28	703 - 748 MHz	-3	-5													
LTE band 38	2570 - 2620 MHz					0.2	-1.9	1.1	-0.6							
LTE band 41	2496 - 2690 MHz					0.2	-1.9	1.1	-0.6							
NR FR1: n1/3/7/8/20/28/38/40/41/77/78																
n1	1920 - 1980 MHz					-0.7	-1.1	0.5	1							
n3	1710 - 1785 MHz					-1.5	-0.9	0.6	-0.1							
n7	2500 - 2570 MHz					0.2	-1.9	1.1	-0.6							
n8	880 - 915 MHz	-4	-5.4													
n28	703 - 748 MHz	-3	-5													
n38	2570 - 2620 MHz					0.2	-1.9	1.1	-0.6							
n41	2496 - 2690 MHz					0.2	-1.9	1.1	-0.6							

Antenna Gain (dBi)		Ant 0	Ant 1	Ant 2	Ant 3	Ant 4	Ant 5	Ant 6	Ant 7	Ant 8	Ant 9	Ant 10	Ant 11	Ant 12	Ant 13	Ant 14
n78	3300 - 3800 MHz	-0.7								-1.8	-1.7	0.9				

BT/WIFI

Antenna Gain and Antenna Type specification:

Brand Name：OPPO

Model Name：CPH2659

Antenna Location&dimension:

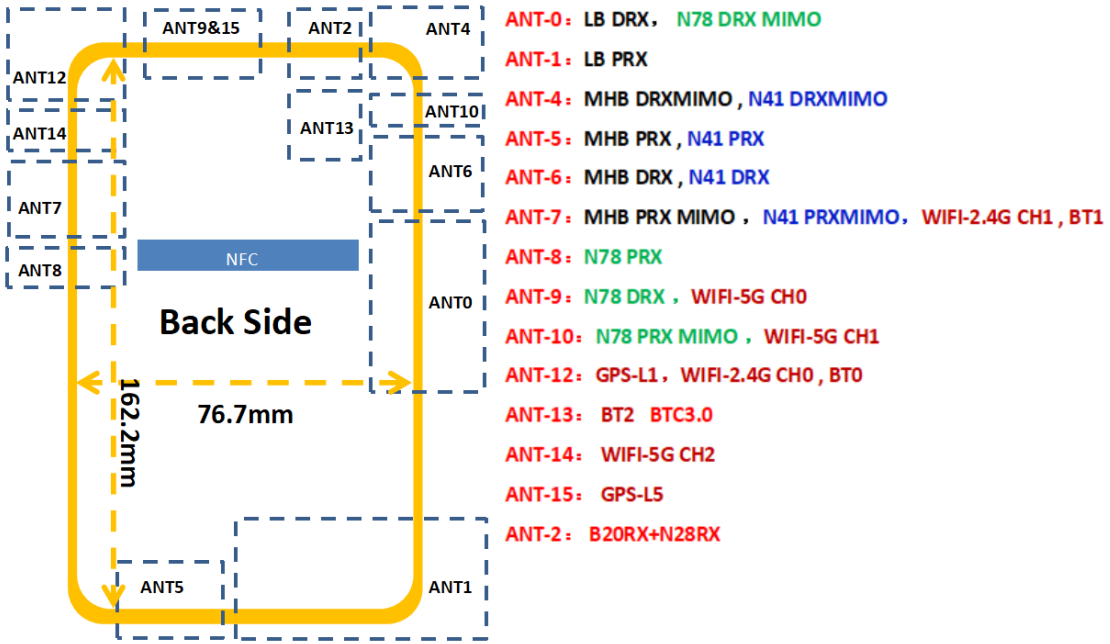


Fig 1 Antenna location&dimension

Antenna Gain and Antenna Type specification:

Antenna Gain (dBi)		Ant7	Ant9	Ant10	Ant12	Ant13	Ant14	Antenna Type	Antenna model	Manufacturer
2.4G WiFi	2400~2483.5MHz	2.5			-0.5			IFA(Inverted F Antenna)	AC179-TOP-COVE	OPPO

									R	
5G WiFi	5150~5250 MHz		-1.59	-1.11			-0.45	IFA(Inverted F Antenna)	AC179-TOP-COVE R	OPPO
	5250~5350 MHz		-0.39	0.13			-0.05	IFA(Inverted F Antenna)	AC179-TOP-COVE R	OPPO
	5470~5725 MHz		-0.17	1.25			0.7	IFA(Inverted F Antenna)	AC179-TOP-COVE R	OPPO
	5725~5850 MHz		-1.13	0.21			1	IFA(Inverted F Antenna)	AC179-TOP-COVE R	OPPO
6G WiFi	5925~6425 MHz		-1.69	-6.2			1.3	IFA(Inverted F Antenna)	AC179-TOP-COVE R	OPPO

	6425~6525 MHz		-4.5	-6.9			-0.24	IFA(Inverted F Antenna)	AC179-TOP-COVER	OPPO
	6525~6875 MHz		-4.9	-9.8			-1.5	IFA(Inverted F Antenna)	AC179-TOP-COVER	OPPO
	6875~7125 MHz		-6	-10.7			-4.7	IFA(Inverted F Antenna)	AC179-TOP-COVER	OPPO
BT	2400~2483.5MHz	2.5			-0.5	-7.88		IFA(Inverted F Antenna)	AC179-TOP-COVER	OPPO
NFC	13.56MHz	/	/	/	/	/	/	FPC(Flexible Printed Circuit)	AC179	Innetech (TianJin) Electronics

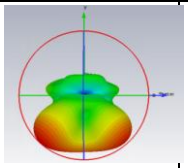
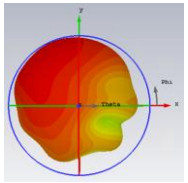
										CO., LTD.

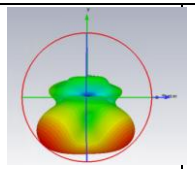
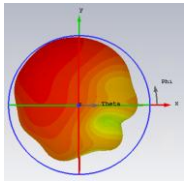
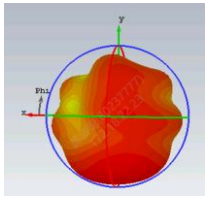
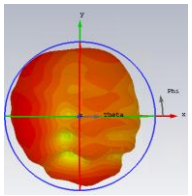
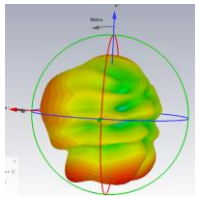
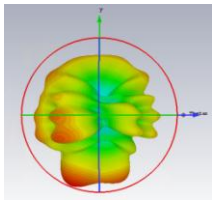
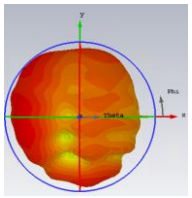
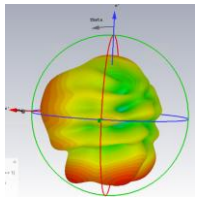
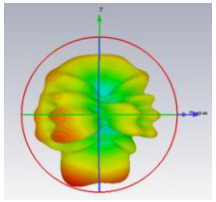
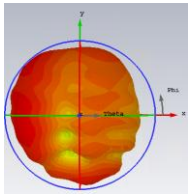
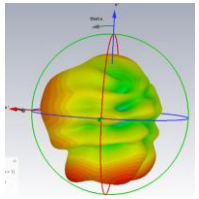
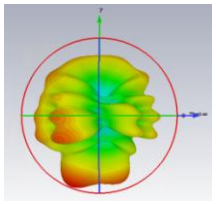
Table1 Antenna Gain and Antenna Type specification

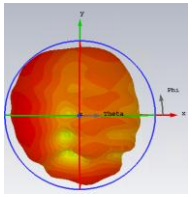
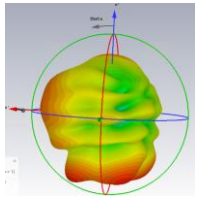
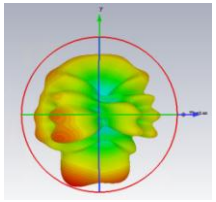
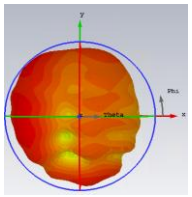
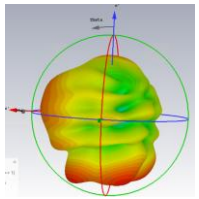
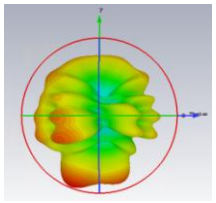
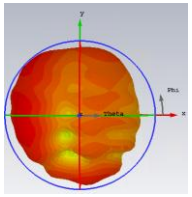
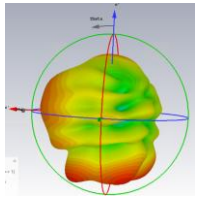
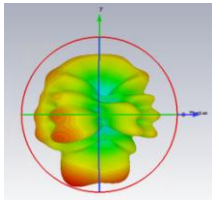
Note: Antenna gain was measured in the anechoic chamber, 3D scan was exercised, and the highest numbers are reported in this document.

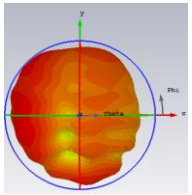
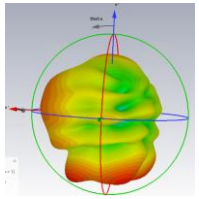
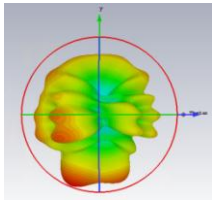
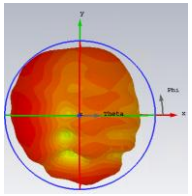
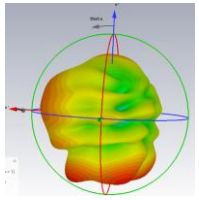
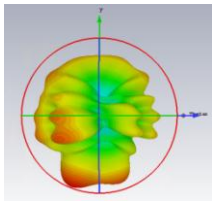
Accoring toTest standard: IEEE Std 149-2021,we measure antenna gain .

Antenna Radiation Pattern:

	Ant7	Ant9	Ant10	Ant12	Ant13	Ant14
WIFI2.4G						

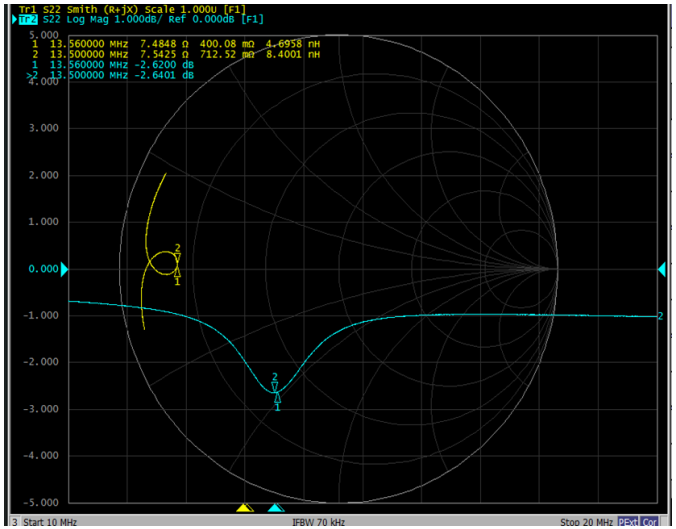
BT						
WIFI5G B1 （5150~5250 MHz）						
WIFI5G B2 （5250~5350 MHz）						
WIFI5G B3 （5470~5725 MHz）						

WIFI5G B4 (5725~5850 MHz)						
WIFI6G B5 (5925~6425 MHz)						
WIFI6G B6 (6425~6525 MHz)						

WIFI6G B7 （6525~6875 MHz）						
WIFI6G B8 （6875~7125 MHz）						

NFC passive impedance on phone

Zload@13.56MHz		**BW(-3dB)**
7.54Ω+0.4Ω		0MHz



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**.**

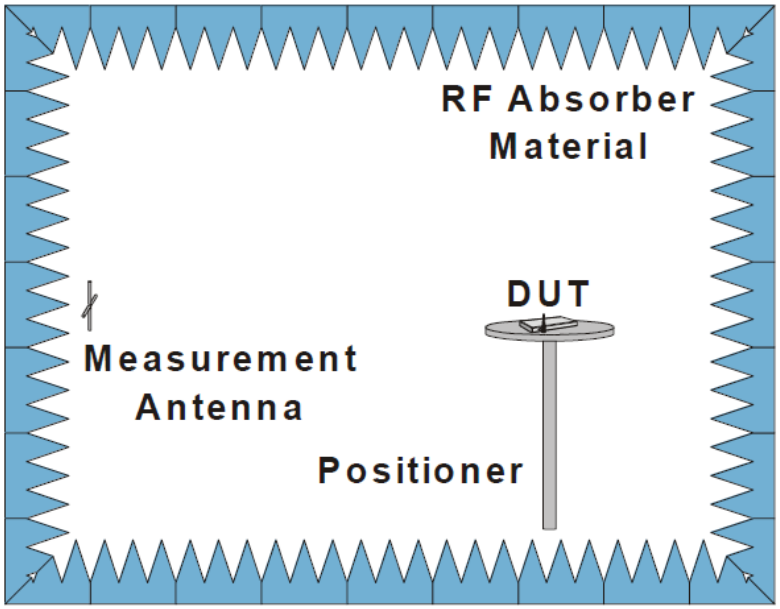


Fig. 4. The fully anechoic chamber