

Antenna Gain Test Report

Equipment: Mobile Phone

Brand Name: OPPO

Model Name: CPH2783 CPH2831

Manufacturer:

Guangdong OPPO Mobile Telecommunications Corp.,
Ltd.

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

Issue Date: December 2, 2025

Antenna Location & dimension:

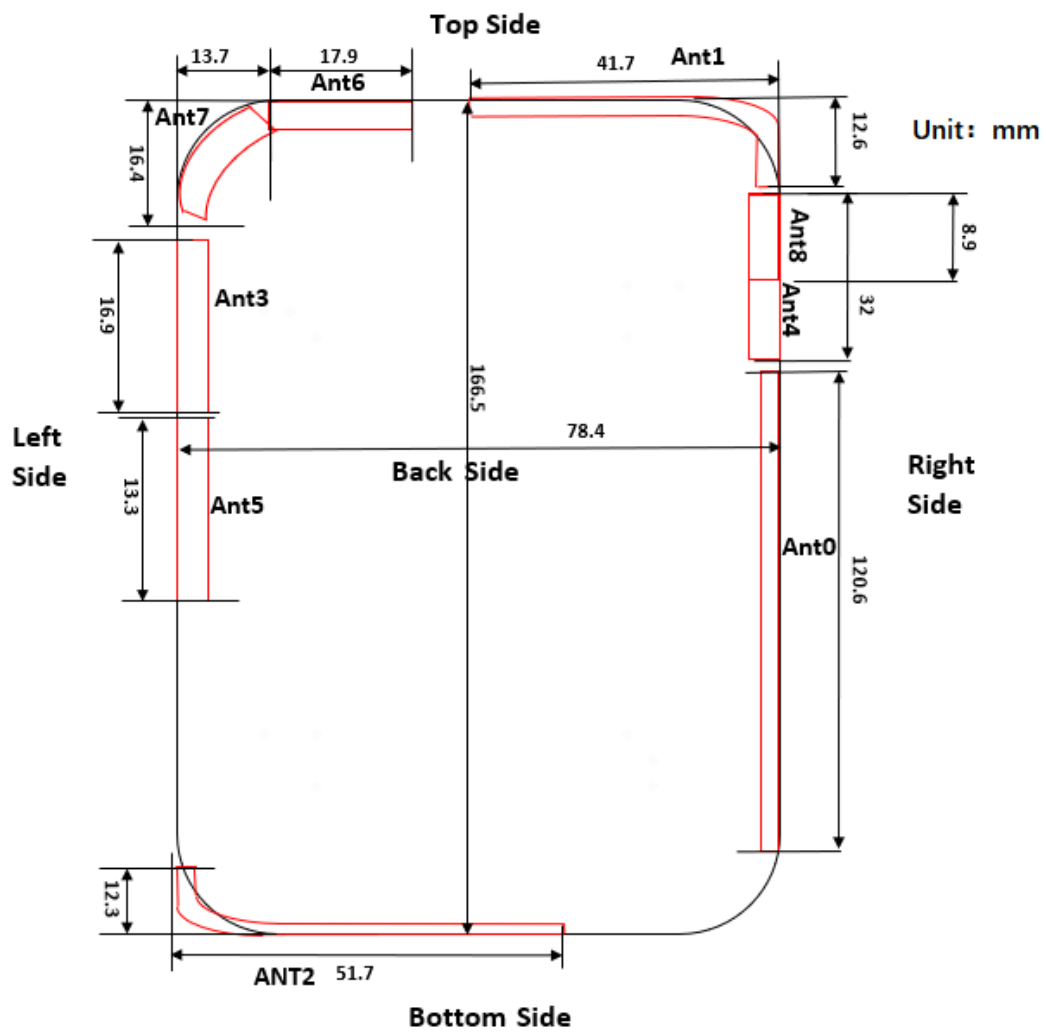


Fig 1 Antenna location & dimension

Antenna	Support bands
Ant 0	GSM: 850/900MHz WCDMA: B5/6/8/19 FDD-LTE: Band 5/8/12/13/17/18/19/20/26/28/71 5G SA: N5/8/12/20/26/28/71
Ant 1	GSM: 850/900/1800/1900MHZ WCDMA: B1/2/4/5/6/8/19 FDD-LTE: Band1/2/3/4/5/7/8/12/13/17/18/19/20/26/28/66/71 TDD-LTE:38/39/40/41 5G SA: N1/2/3/5/7/8/12/20/26/28/38/40/41/66/71
Ant 2	GSM: 1800/1900MHz WCDMA: B1/2/4 FDD-LTE: Band 1/2/3/4/7/66 TDD-LTE: 38/39/40/41 5G SA: N1/2/3/7/38/40/41/66
Ant 3	TDD-LTE: Band 42/48 PRX MIMO 5G SA: N48/77/78 PRX MIMO
Ant 4	TDD-LTE: Band 1/3/4/7/38/40/41/66 PRX MIMO 5G SA: N1/3/7/38/40/41/66 PRX MIMO
Ant 5	TDD-LTE: Band 42/48 DRX MIMO 5G SA N48/77/78 DRX MIMO
Ant 6	GPS L1 TDD-LTE: Band 42/48 PRX 5G SA: N48/77/78 PRX
Ant 7	WiFi 2.4G&5G;BT
Ant 8	TDD-LTE: Band 42/48 DRX 5G SA: N48/77/78 DRX

Antenna Gain and Antenna Type specification:

WCDMA band 12	699 - 716 MHz	Not Support	\	\	\	\	\	\	\	\	\
WCDMA band 13	777 - 787 MHz	Not Support	\	\	\	\	\	\	\	\	\
WCDMA band 14	788 - 798 MHz	Not Support	\	\	\	\	\	\	\	\	\
WCDMA band 19	830 - 845 MHz	Support	-5.7	-6	\	\	\	\	\	\	\
WCDMA band 20	832 - 862 MHz	0	\	\	\	\	\	\	\	\	\
WCDMA band 21	1447.9 - 1462.9 MHz	0	\	\	\	\	\	\	\	\	\
WCDMA band 22	3410 - 3490 MHz	0	\	\	\	\	\	\	\	\	\
WCDMA band 25	1850 - 1915 MHz	0	\	\	\	\	\	\	\	\	\
WCDMA band 26	814 - 849 MHz	0	\	\	\	\	\	\	\	\	\
LTE band 1	1920 - 1980 MHz	Support	\	-1.5	-3	-7	-10.5	\	\	\	\
LTE band 2	1850 - 1910 MHz	Support	\	-2	-3.5	-7	-11	\	\	\	\
LTE band 3	1710 - 1785 MHz	Support	\	-4	-4.5	-12	-12.5	\	\	\	\
LTE band 4	1710 - 1755 MHz	Support	\	-4	-3.5	-12	-12.5	\	\	\	\
LTE band 5	824 - 849 MHz	Support	-5.7	-6	\	\	\	\	\	\	\
LTE band 6	830 - 840 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 7	2500 - 2570 MHz	Support	\	-2	-3.5	-5.6	-7	\	\	\	\
LTE band 8	880 - 915 MHz	Support	-5.7	-6	\	\	\	\	\	\	\
LTE band 9	1749.9 - 1784.9 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 10	1710 - 1770 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 11	1427.9 - 1447.9 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 12	699 - 716 MHz	Support	-6.5	-6.5	\	\	\	\	\	\	\
LTE band 13	777 - 787 MHz	Support	-6.5	-6.5	\	\	\	\	\	\	\

LTE band 14	788 - 798 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 17	704 - 716 MHz	Support	-6.5	-6.5	\	\	\	\	\	\	\
LTE band 18	815 - 830 MHz	Support	-5.7	-6	\	\	\	\	\	\	\
LTE band 19	830 - 845 MHz	Support	-5.7	-6	\	\	\	\	\	\	\
LTE band 20	832 - 862 MHz	Support	-5.7	-6	\	\	\	\	\	\	\
LTE band 21	1447.9 - 1462.9 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 22	3410 - 3490 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 23	2000 - 2020 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 24	1626.5 - 1660.5 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 25	1850 - 1915 MHz	Not Support	-5.7	-6	\	\	\	\	\	\	\
LTE band 26	814 - 849 MHz	Support	-5.7	-6	\	\	\	\	\	\	\
LTE band 27	807 - 824 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 28	703 - 748 MHz	Support	-6.5	-6.5	\	\	\	\	\	\	\
LTE band 30	2305 - 2315 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 31	452.5 - 457.5 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 33	1900 - 1920 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 34	2010 - 2025 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 35	1850 - 1910 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 36	1930 - 1990 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 37	1910 - 1930 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 38	2570 - 2620 MHz	Support	\	-2	-3.5	-5.6	-7	\	\	\	\
LTE band 39	1880 - 1920 MHz	Support	\	-3.5	-3.5	-13.5	-10.5	\	\	\	\
LTE band 40	2300 - 2400 MHz	Support	\	-1.5	-3.5	-3	-8	\	\	\	\

LTE band 41	2496 - 2690 MHz	Support	\	-2	- 3.5	-5.6	-7	\	\	\	\
LTE band 42	3400 - 3600 MHz	Support	\	\	\	-4	\	-11	-4	\	-1
LTE band 43	3600 - 3800 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 44	703 - 803 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 45	1447 - 1467 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 46	5150 - 5925 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 47	5855 - 5925 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 48	3550 - 3700 MHz	Support	\	\	\	-3.5	\	-11	-4	\	-1
LTE band 50	1432 - 1517 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 51	1427 - 1432 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 53	2483.5 - 2495 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 65	1920 - 2010 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 66	1710 - 1780 MHz	Support	\	-4	- 4.5	-12	- 12.5	\	\	\	\
LTE band 68	698 - 728 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 70	1695 - 1710 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 71	663 - 698 MHz	Support	-10	-7.5	\	\	\	\	\	\	\
LTE band 72	451 - 456 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 73	450 - 455 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 74	1427 - 1470 MHz	Not Support	\	\	\	\	\	\	\	\	\
LTE band 85	698 - 716 MHz	Not Support	\	\	\	\	\	\	\	\	\
n1	1920 - 1980 MHz	Support	\	-1.5	-3	-7	- 10.5	\	\	\	\
n2	1850 - 1910 MHz	Support	\	-2	- 3.5	-7	-11	\	\	\	\

B5 MIMO	5925-6425MHz	Not Support	\	\	\	\	\	\	\	\	\
	beamforming	Not Support	\	\	\	\	\	\	\	\	\
B6 MIMO	6425-6525MHz	Not Support	\	\	\	\	\	\	\	\	\
	beamforming	Not Support	\	\	\	\	\	\	\	\	\
B7 MIMO	6425-6875MHz	Not Support	\	\	\	\	\	\	\	\	\
	beamforming	Not Support	\	\	\	\	\	\	\	\	\
B8 MIMO	6875-7125MHz	Not Support	\	\	\	\	\	\	\	\	\
	beamforming	Not Support	\	\	\	\	\	\	\	\	\
BT	2400~2483.5MHz	Support	\	\	\	\	\	\	\	-1.5	\

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:

	2.4G&5G	
WIFI2.4G/BT		
WIFI5G B1 (5150~5250 MHz)		

WIFI5G B2 (5250~5350 MHz)		
WIFI5G B3 (5470~5725 MHz)		
WIFI5G B4 (5725~5850 MHz)		

List of Test and Measurement Instruments
TEST EQUIPMENT

NO.	Equipment	Manufacturer	Model No.	Cal date	Test Software
1	AMS-8923	ETS-Lingen	SN1702	2024/3/22	EMQuest
2	Network Analyzer E5071C	Keysight	ATO-66028	2024/3/22	

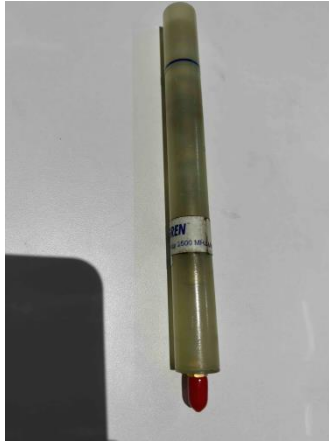


Fig 2 dipole model 3126-2500 frequency 2500 MHz



Fig 3 model 3126-5500 frequency 5500 MHz

I. Measurement Setup:

A. Reflection Coefficient Measurement:

Instrument: Network Analyzer (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.

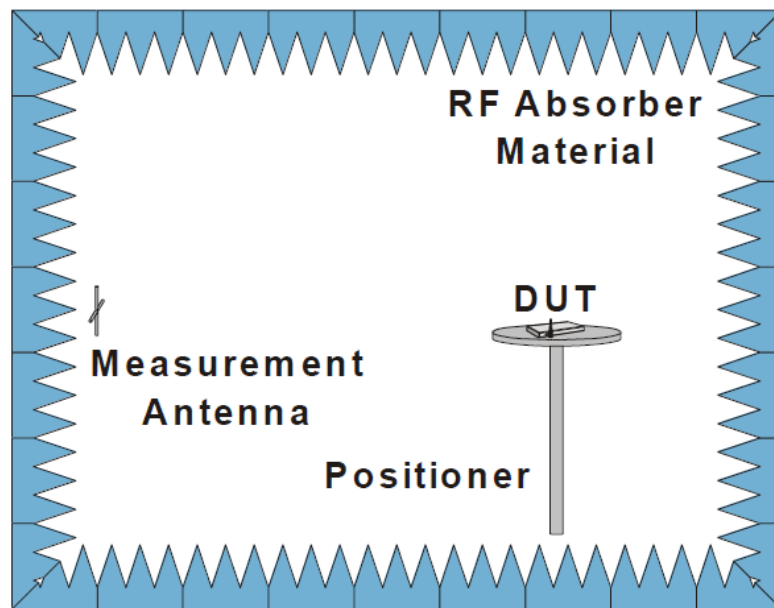


Fig. 4. The fully anechoic chamber