Antenna Gain Test Report

Equipment：Mobile Phone

Brand Name：OPPO

Model Name：CPH2639

Manufacturer：

Guangdong OPPO Mobile Telecommunications Corp., Ltd.

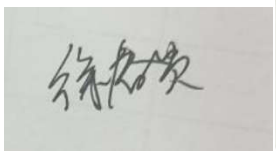
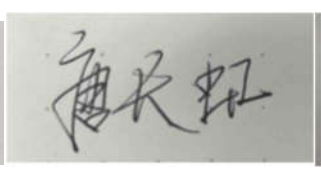
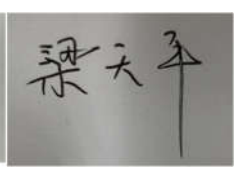
NO.18 Haibin Road, Wusha Village, Chang'an Town, Dongguan City, Guangdong, China

Issue Date：Sept 1st, 2023

Project Engineer:chungui Xu Date:2024/4/3

Checked by: changhong Tang Date: 2024/4/3

Approved by: tianping Liang Date: 2024/4/3

Antenna Gain and Antenna Type specification:

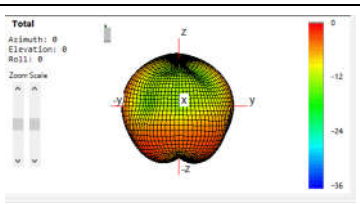
Band		Ant	Antenna Gain (dBi)	Antenna model	Antenna Type	Manufacturer
2.4G WIFI	2400~2483.5MHz	Ant7	0.3	AC181-TOP-COVER	IFA(Inverted F Antenna)	Guangdong OPPO Mobile Telecommunications Corp., Ltd.
5G WIFI	5150~5250 MHz	Ant7	-0.5	AC181-TOP-COVER	IFA(Inverted F Antenna)	
	5250~5350 MHz	Ant7	0.5	AC181-TOP-COVER	IFA(Inverted F Antenna)	
	5470~5725 MHz	Ant7	0.5	AC181-TOP-COVER	IFA(Inverted F Antenna)	
	5725~5850 MHz	Ant7	1.5	AC181-TOP-COVER	IFA(Inverted F Antenna)	
BT	2400~2483.5MHz	Ant7	0.3	AC181-TOP-COVER	IFA(Inverted F Antenna)	
NFC	13.56MHz	/	/	AC181-SXA1XX/	FPC(Flexible Printed Circuit)	

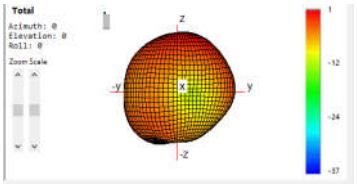
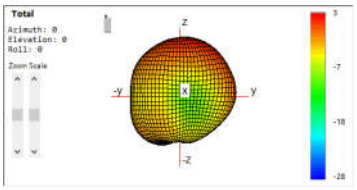
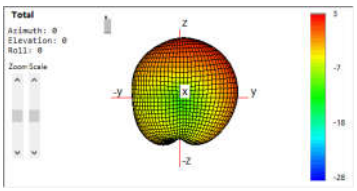
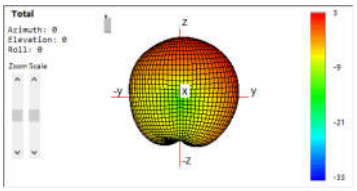
Table1 Antenna Gain and Antenna Type specification

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	Due date	Test Software
1	AMS-8923	ETS-Lingen	SN1702	2024/3/22	2025/1/17	EMQuest

2	Network Analyzer E5071C	Keysight	MY46905775	2024/3/22	2025/1/17	cSAR3D5.0.2

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**.**

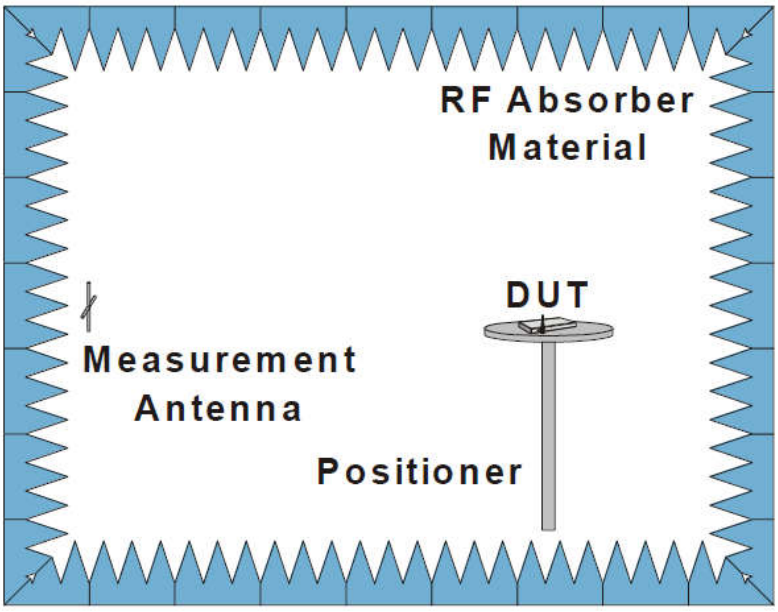


Fig. 4. The fully anechoic chamber