Test report

Project No.	:	2507C402
Product Type	:	Antenna
Test Model	:	PCB PIFA antenna
Date of Receipt	:	2025-08-01
Date of Test	:	2025-08-01
Issued Date	:	2025-08-04
Report Version	:	R00
principal	:	Dongguan Xinbao Electronic Product Testing Co., Ltd
Addressof	:	No. 3, Jinsha Gang 1 Road, Dalang Town, Dongguan City
inspection site	:	No. 208, Building 6B, University Road, Songshan Lake High-tech Industrial Development Zone, Dongguan City

Prepared by :

reviewer by :

Approved by :

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REPORT RELEASE HISTORY

Report version	Description	Release date	Remarks
25080401	original report	2025.08.04	Definition

TESTING EQUIPMENT & CONTACT INFORMATION

test laboratory	address
DGPT-ITTC	The test equipment used in this report to collect test data is located in the OTA anechoic chamber at Room 208, Building 6B, No. 3 University Road, Songshan Lake High-tech Industrial Development Zone, Dongguan, China, postal code 523808.
name	Email address and phone number
Liu Yang	Email：liuy@dgpt.edu.cn Tel:+86-769-23306282

1 SAMPLE AND TESTING INFORMATION

1.1 TEST SAMPLE INFORMATION

The laboratory conducts OTA measurements on the following antennas。

Equipment suppliername	Dongguan Xinbao Electronic Product Testing Co., Ltd.
model	PCB Antenna
sample status	Normal, suitable for testing

1.2 TESTING REQUIREMENTS

The test will be conducted according to the following standards and requirements.。

IEEE Recommended Practice for Antenna Measurements；IEEE Std 149-2021

2 THE LAYOUT AND DESCRIPTION OF THE TEST SITE.

2.1 TESTING LABORATORY INSTRUCTIONS

All tests were conducted at the Intelligent Terminal Product Testing Center of Dongguan Polytechnic, which includes a rectangular anechoic chamber equipped with a single-axis positioning system, a dual-polarized quad-ridged horn antenna, and a circularly polarized communication antenna. A base station simulator was used to establish communication with the EUT and place it in the appropriate mode, while a spectrum analyzer and RF switch combination were employed to measure signals from the EUT at each position and polarization. OTA Go measurement software was utilized for data acquisition, post-processing, and generating the required outputs。

2.2 FULL ANECHOIC CHAMBER

The anechoic chamber has the following nominal dimensions.。

Length： 8.1 m

Width： 4.1 m

Height： 4.1 m

The chamber consists of a shielding enclosure made from rigid panels with steel cladding and wooden core modules. The chamber is treated with absorbing cotton and utilizes conical and wedge absorbers. Forced ventilation is provided to maintain the same environmental conditions as surrounding facilities. Single-leaf swinging shield doors are supplied for access to the interior by equipment and personnel. The RF anechoic chamber achieves over 100 dB of RF attenuation levels from 450 MHz to 6 GHz, ensuring that tests conducted within the chamber do not interfere with other testing activities in the facility and vice versa. Power is supplied to the chamber and control area via separate circuits. All power filters provide at least 100 dB of attenuation from 14 kHz to 18 GHz.。

2.3 QUIET ZONE

The volume of a cylindrical quiet zone with a diameter and height of 50 centimeters meets the requirements for each axis and polarization of the internal test plans for MAPS receiving antennas, which satisfy the standard wireless performance testing requirements for the antennas。

2.4 TESTING EQUIPMENT

1、R&S ZND Network analyzer

2、EMS switch

3、Positioning controller

2.5 OTA Go Software

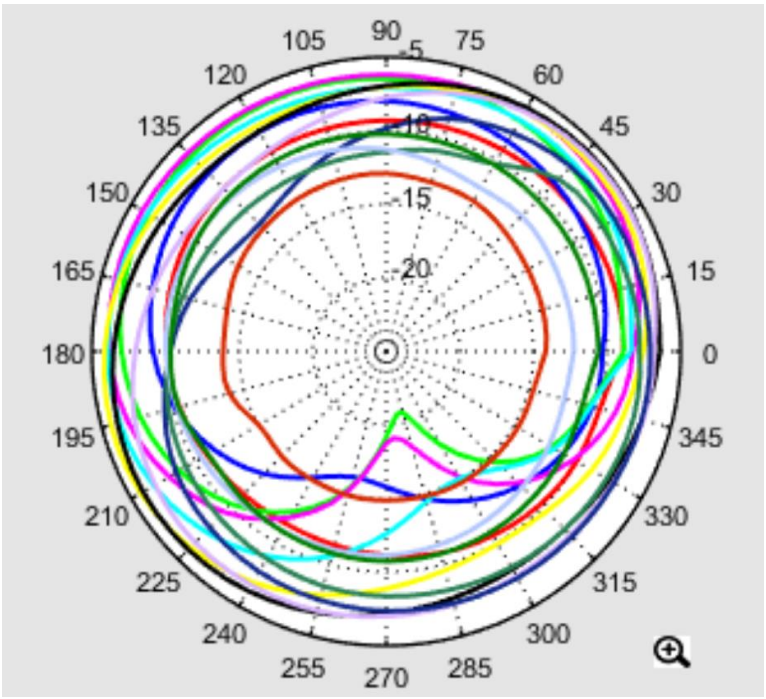
The OTA Go measurement software is used for automating the data acquisition process and provides all post-processing calculations and data output. Its parameterized test configuration system and validated design help ensure repeatability and accurate results. Security measures prevent data tampering and ensure that original measurement data is always available for review。

2.6 Laboratory environment

Temperature	22.1℃-23.2℃
Humidity	30%RH-55%RH
Ground system resistance	< 4 Ω

3 TEST RESULTS

Frequency （MHz）	Efficiency (%)	Gain (dBi)
2400	11.29	-6.93
2410	13.91	-6.08
2420	10.67	-7.32
2430	9.69	-7.74
2440	10.72	-7.36
2450	11.46	-7.2
2460	10.66	-7.51
2470	9.67	-7.84
2480	10.12	-7.56
2490	11.61	-6.89
2500	10.29	-7.35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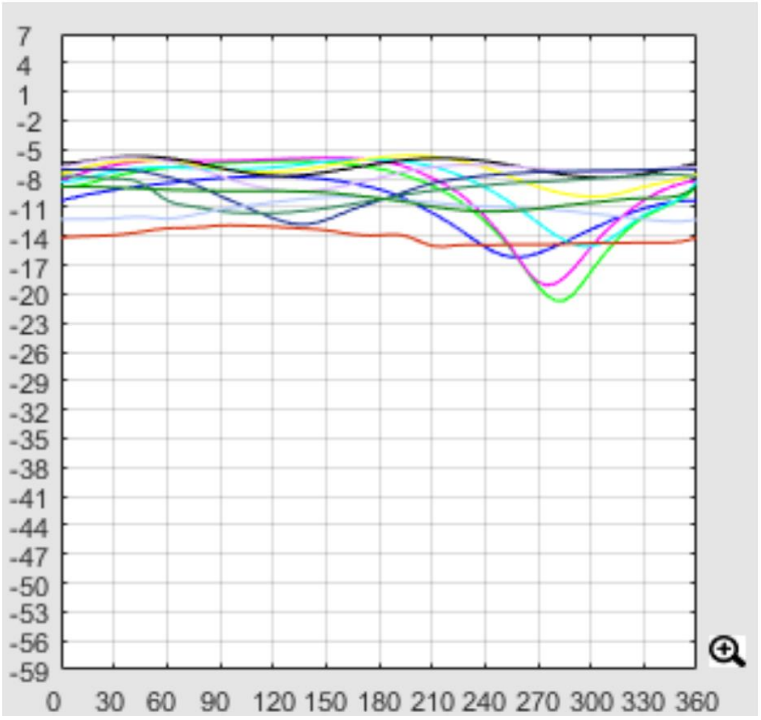
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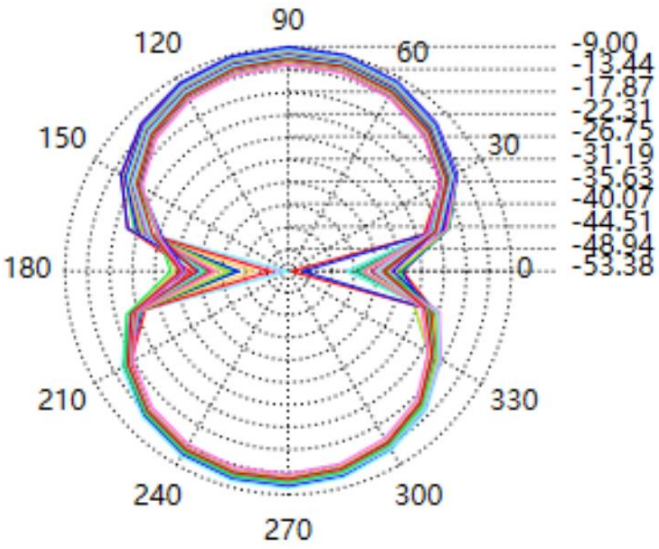
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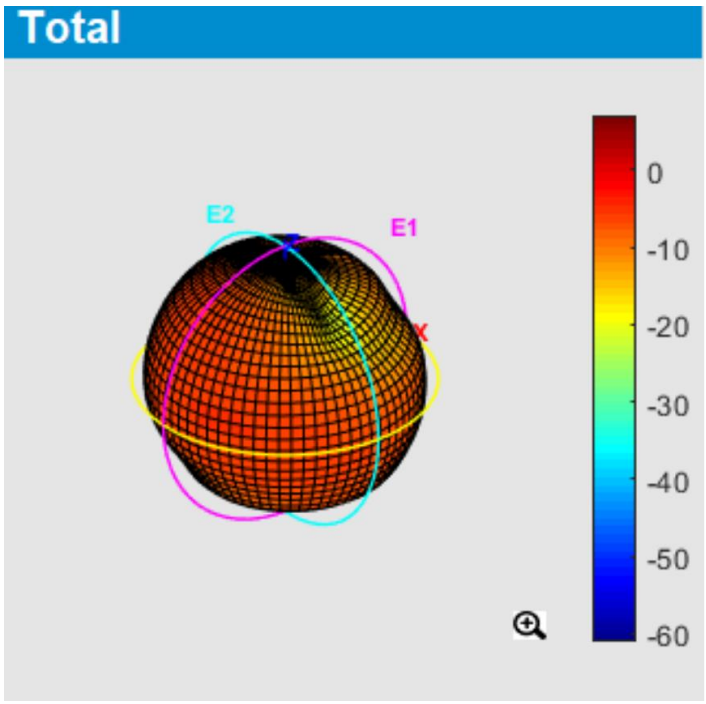
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-60

4 LIST OF TEST EQUIPMENT

Equipment Type	Model	Equipment manufacturer	SN	Calibration deadline	calibration deadline
Testing software	OTA GO	Atenlab	NA	NA	NA
Radio wave anechoic chamber	A8	Atenlab	NA	2022.11.21	2025.11.20
Network analyzer	ZND	R&S	102142	2024.10.31	2025.10.30

5 EUT SET UP PHOTOS

please refer to the antenna setup photo.

——END——