OTA TEST REPORT

Applicant	AoFrio Ltd.
Product	2.4G antenna
Model	Gateway
Report No.	R2410A1481-T1
Issue Date	April 1, 2025

Eurofins TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **ANSI/IEEE Std 149-2021.** The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

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Approved by: Xu Kai

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1. Test Laboratory

1.1. Notes of the Test Report

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1.2. Test Facility

A2LA (Certificate Number: 3857.01)

Eurofins TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform measurement.

1.3. Testing Location

Company:	Eurofins TA Technology (Shanghai) Co., Ltd.
Address:	Building 3, No.145, Jintang Rd, Pudong Shanghai, P.R.China
City:	Shanghai
Post code:	201201
Country:	P. R. China
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Website:	https://www.eurofins.com/electrical-and-electronics
E-mail:	Kain.Xu@cpt.eurofinscn.com

1.4. Laboratory Environment

Temperature	15°C ~ 35°C	
Relative humidity	20% ~ 80%	
Shield effect	0.7-6GHz	> 100dB
Ground resistance	<0.5Ω	

2. General Description of Equipment Under Test

2.1. Applicant and Manufacturer Information

Applicant Name	AoFrio Ltd.
Applicant address	78 Apollo Drive, Rosedale, Auckland 0632, New Zealand
Manufacturer Name	AoFrio Ltd.
Manufacturer address	78 Apollo Drive, Rosedale, Auckland 0632, New Zealand

2.2. General Information

EUT Description	
Product Name:	2.4G antenna
Model:	Gateway
HW Version:	/
SW Version:	/
Antenna Type:	/
Antenna Manufacturer:	AoFrio Ltd.
Test Frequency:	2402MHz ~ 2485MHz
Note: The EUT is sent from the applicant to Eurofins TA and the information of the EUT is declared by the applicant. All indications of Pass/Fail in this report are opinions expressed by Eurofins TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.	

2.3. Test Date

The test is performed on March 28, 2025.

2.4. Received Date

The sample was received on March 26, 2025.

2.5. Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

Test Method: **ANSI/IEEE Std 149-2021**

3. Test Conditions

3.1. Test Configuration

Great-Circle-Cut method is used to measure the antenna 3D GAIN of EUT in OTA qualified anechoic chamber. Equipment Under Test (EUT) geometry centre vertical projection at the centre of platform, the distance from EUT to measurement antenna is 5m.

3.2. Test Measurement

Spherical coordinate system

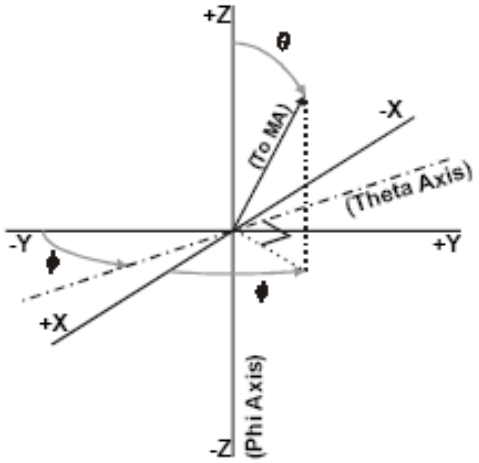
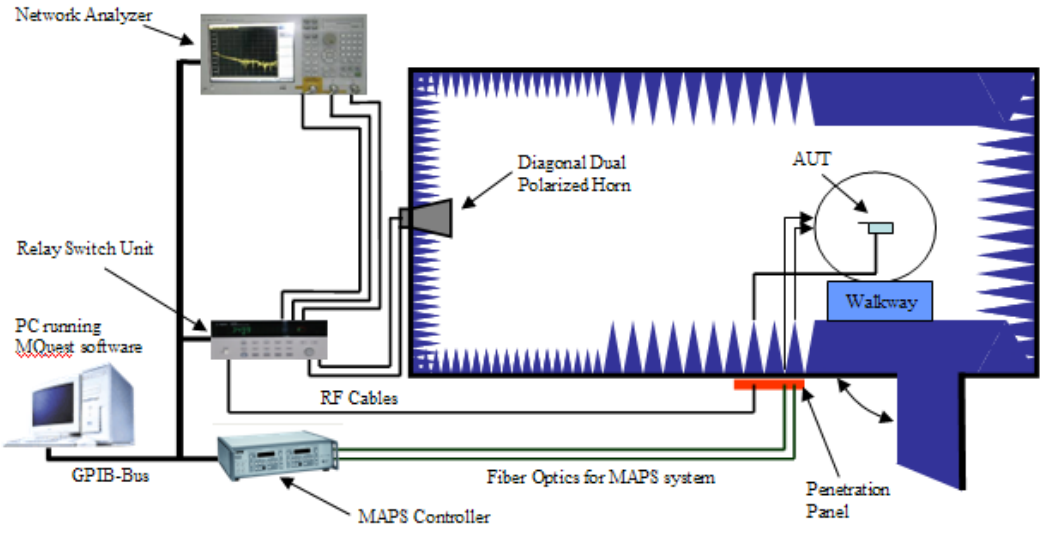


Figure 1 Test coordinate system

Note: Theta is from 0~180 degree. Phi is from 0~360. Rotate the EUT and record the Data, the step of rotation is 15 degree.

Test Setup



4. Test Results

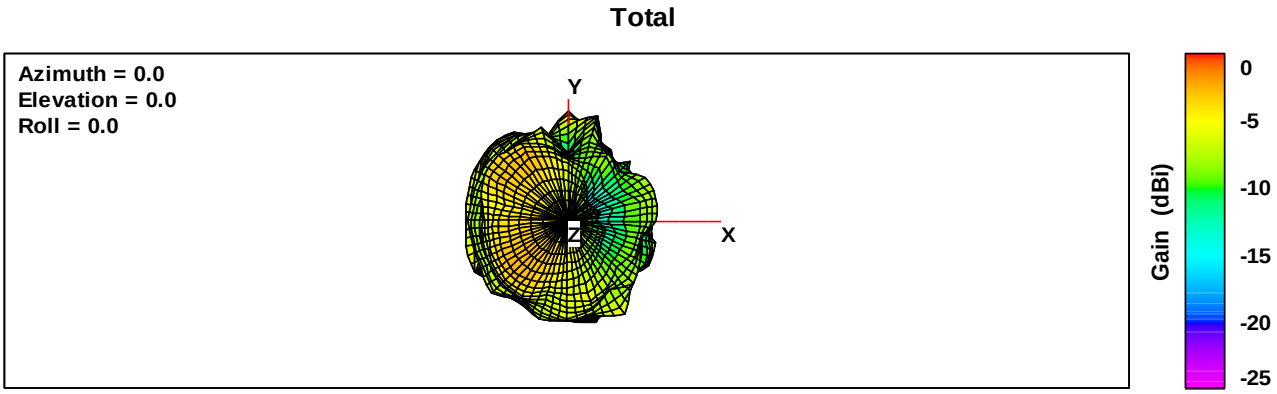
4.1. Gain and Efficiency

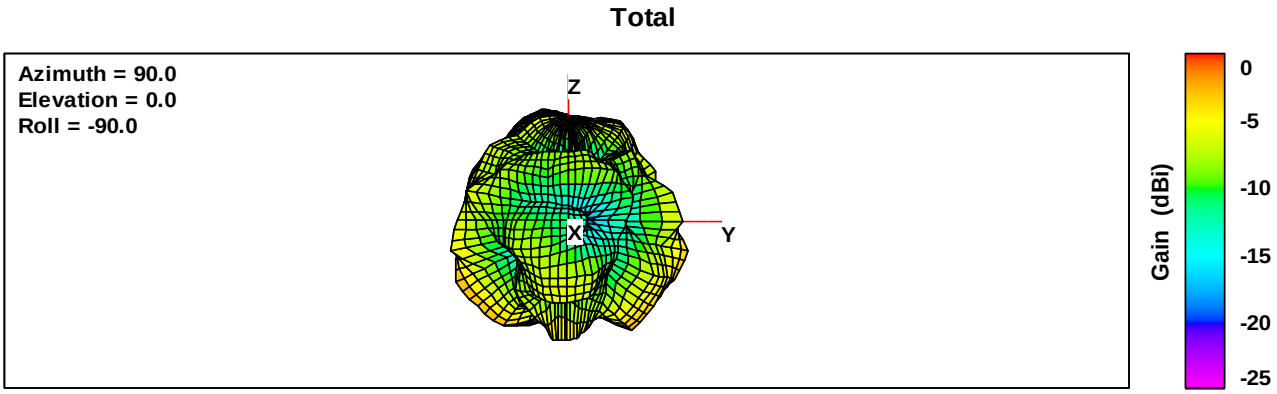
Test Item	Test State	Frequency (MHz)	Efficiency (%)	Gain (dBi)	Note
Gain	FS	2402	21.29	-1.46	/
		2407	21.48	-1.29	
		2412	22.11	-1.24	
		2417	22.02	-0.99	
		2422	22.00	-1.17	
		2427	22.19	-0.72	
		2432	22.91	-0.53	
		2437	24.38	0.38	
		2442	26.11	1.03	
		2447	27.16	1.46	
		2452	28.01	1.42	
		2457	29.81	1.82	
		2462	31.05	1.86	
		2467	32.52	2.31	
		2472	33.57	2.40	
		2477	35.68	3.00	
		2482	36.89	3.10	
		2485	37.13	3.18	

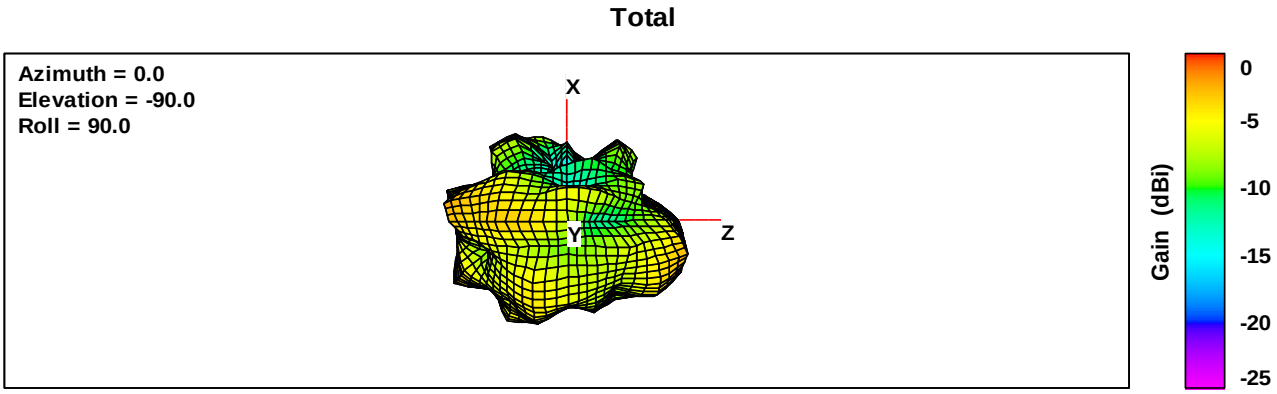
5. Equipment List

• Type of Equipment	Manufacturer	Model	SN	Version	Calibration Date	Expiration Time
Anechoic Chamber	ETS	AMS-8500	CT-001157-1219	/	2020-05-17	2025-05-16
Test Software	ETS	EMQuest™	1464	REV 1.17	/	/
EMCenter_Switch Control System	ETS	7006/7001	00059957/MY42001152	/	/	/
Diagonal Dual Polarized Horn	ETS	ETS 3164-04	00062743	/	2024-03-09	2029-03-08
Network Analyzer	Keysight	E5071B	MY42404014	REV.A.06.50	2025-01-06	2026-01-05

ANNEX A: 3-D Pattern Plots

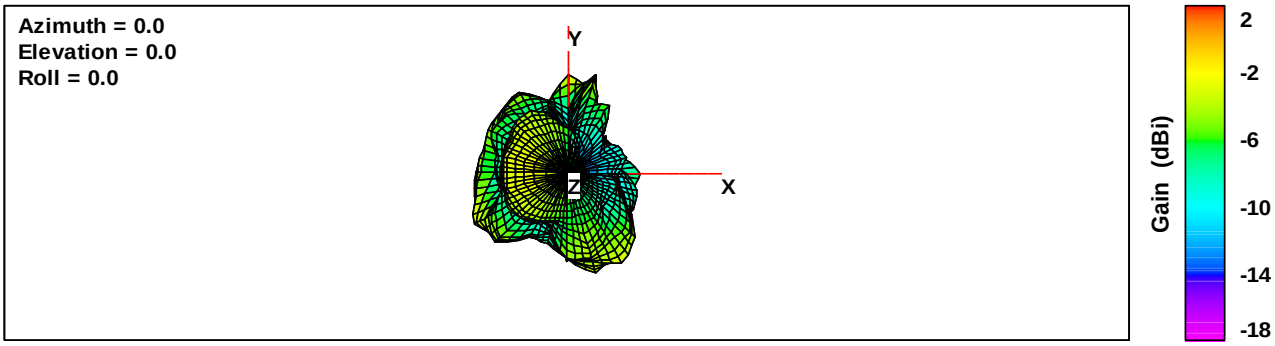






2402MHz 3D Gain

Total



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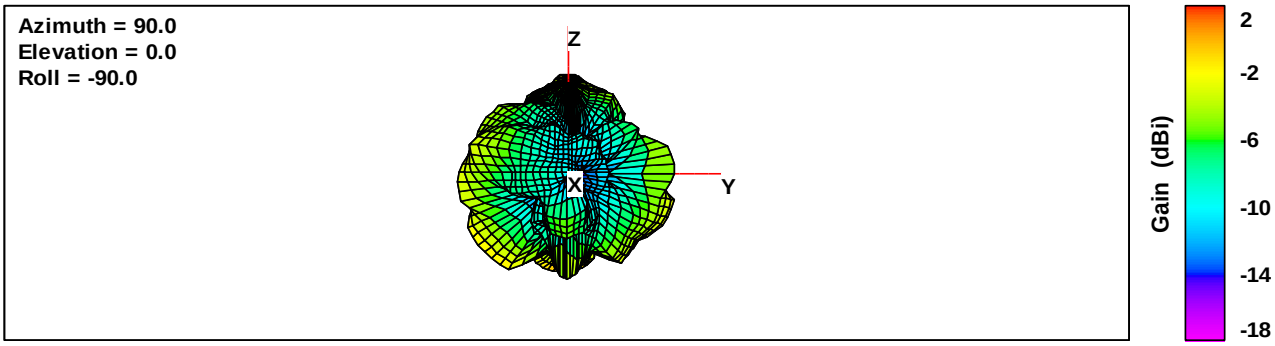

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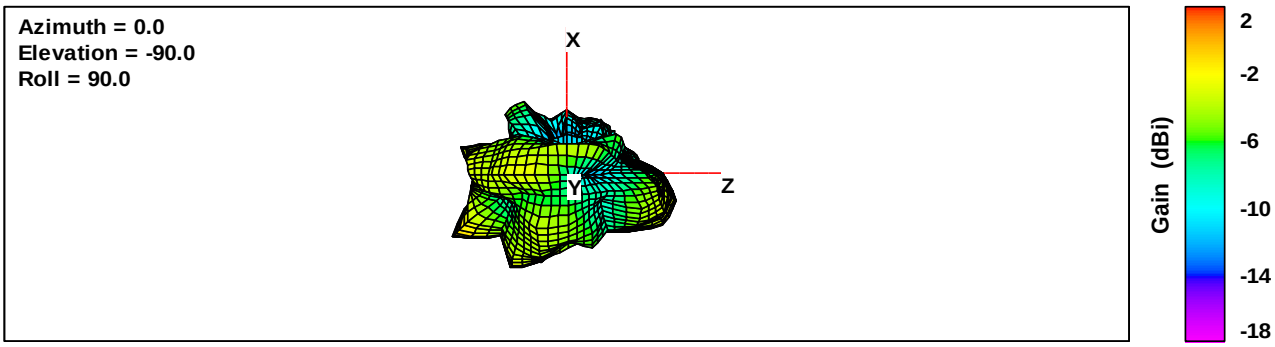
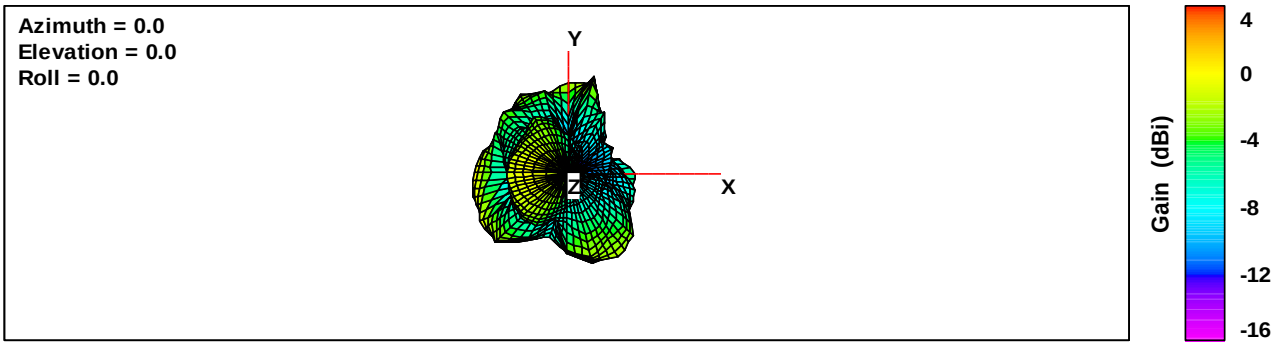


2442MHz 3D Gain

Total



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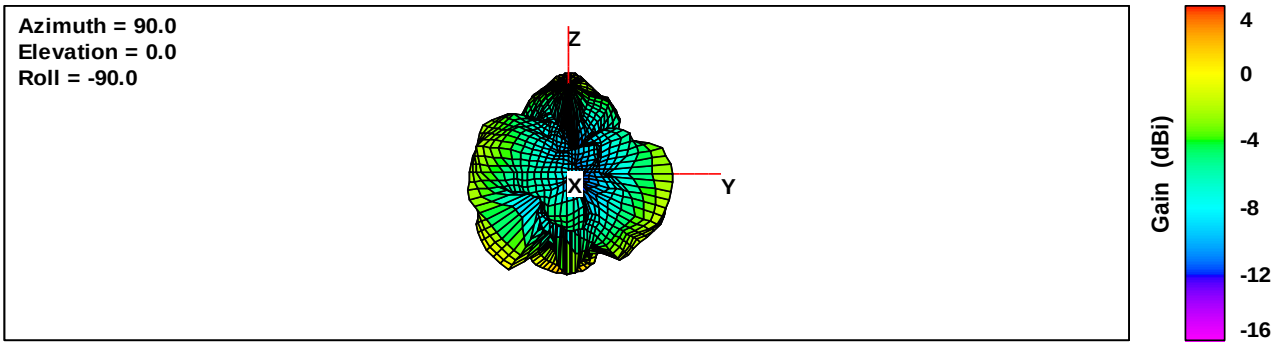

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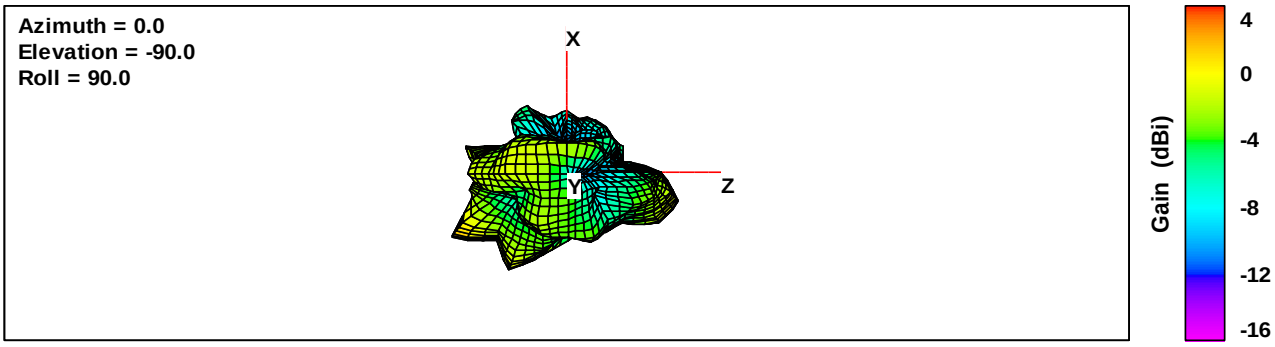
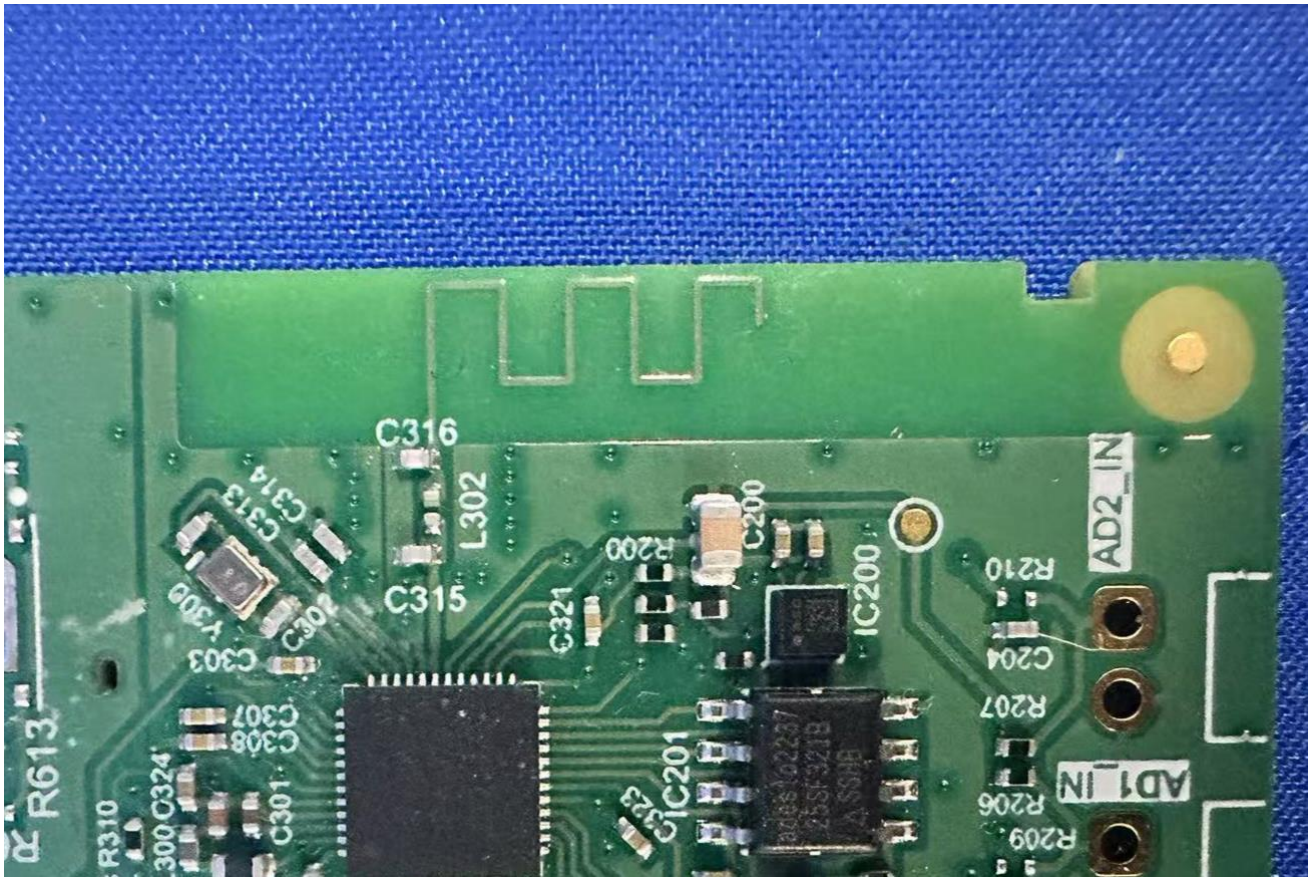


2485MHz 3D Gain

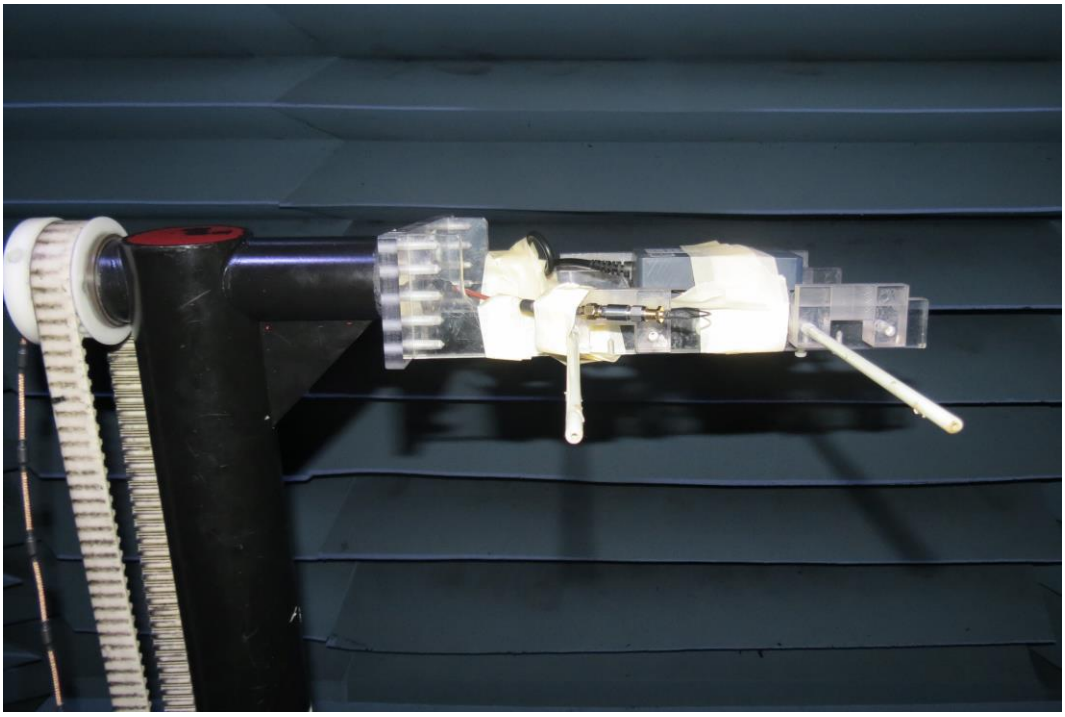
ANNEX B: THE EUT APPEARANCE AND TEST CONFIGURATION

B.1 EUT Appearance



Picture 1 Constituents of EUT

B.2 Test Configuration



Picture 2 Test Setup

********END OF REPORT ********