

TEST REPORT

Reference No...... : WTX25X02037957W
Applicant..... : Hangzhou Qingchuan Technology Co.,Ltd.
Address..... : 4th Floor, Building 1, No.4, xianxing Road, Xianlin Industrial Park, Yuhang District, Hangzhou, Zhejiang Province
Manufacturer..... : The same as Applicant
Address..... : The same as Applicant
Product Name..... : ANT_BLUETOOTH
Model No...... : ANT_2.4G
Standards..... : ANSI/ IEEE 149-2021
Date of Receipt sample..... : 2025-02-25
Date of Test..... : 2025-02-25 to 2025-03-20
Date of Issue..... : 2025-03-20
Test Report Form No...... : WTX_IEEE 149
Test Result..... : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of approver.

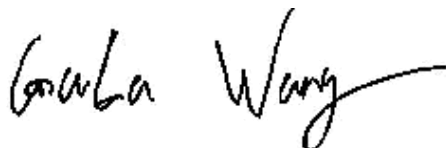
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Tested by:



Gala Wang/Project Engineer

Approved by:



Jason Su

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Report version

Version No.	Date of issue	Description
Rev.00	2025-03-20	Original
/	/	/

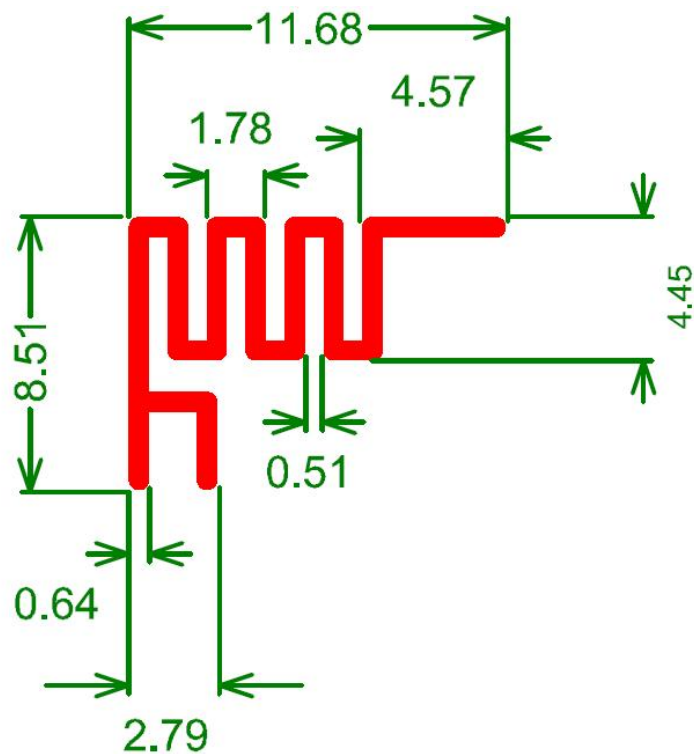
1.GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

General Description of EUT	
Product Name:	ANT_BLUETOOTH
Trade Name:	/
Model No.:	ANT_2.4G
Adding Model(s):	/
Note: The test data is gathered from a production sample, provided by the manufacturer.	

Technical Characteristics of EUT	
Frequency Range:	2400-6000MHz
Gain of Antenna:	0.26dBi (Max.)
Type of Antenna:	PCB Antenna

Dimension:(unit: mm)



2. SUMMARY OF TEST RESULTS

Standards	Description of Test Item	Result
ANSI/ IEEE 149-2021	IEEE Recommended Practice for Antenna Measurements	Compliant

N/A: not applicable

3. Antenna Test Configurations

3.1 Test Location

Name:	Sushi TOWE Wireless Testing(Shenzhen)Co., Ltd.
Address:	F 401/101, Building E, Hongwei Industrial Zone, No. 6, Liuxian 3rd Road, Bao'an District, Shenzhen,518133

3.2 Test Environments

Environments Parameter	Temperature	Voltage	Humidit
NTNV	25° C	--	50%

3.3 Test Equipment List

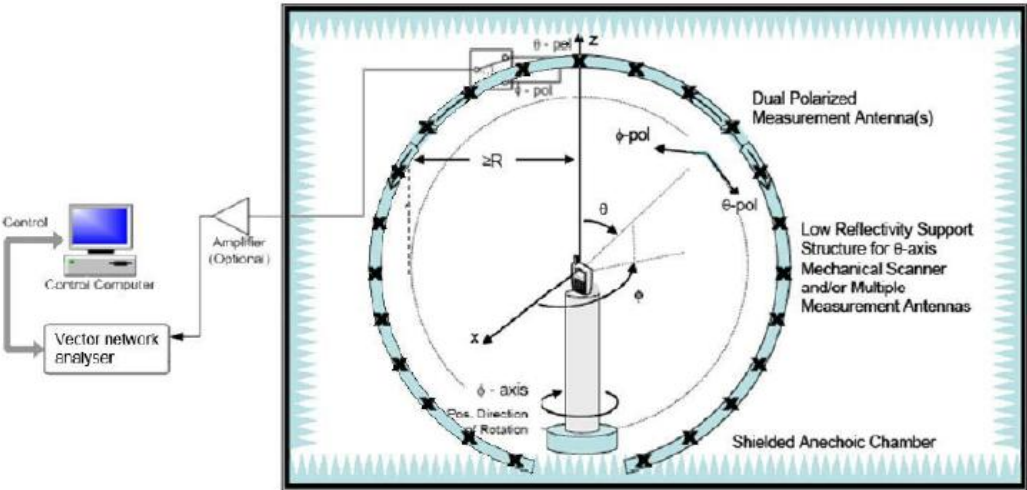
Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Network Analyzer	Agilent	E5071C	MY46110140	2024-05-30	2025-05-29
OTA Chamber	ETS	AMS-8923-150	TJ2235-Q1793	2022-11-30	2025-11-29
Antenna Measurement System	ETS	EMQuest EMQ-100 V1.13 Build 21267	1685	N/A	N/A

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Anechoic Chamber	ETS	AMS8923	Q2225	2023-06-09	2028-06-08
RF Switch	ETS	EMCenter	251211	/	/
Vector network analyzer	R&S	ZNB8	101413	2024-07-17	2025-07-16

3.4 Measurement Uncertainty

The uncertainty is calculated using the methods suggested in the“Guide to the Expression of Uncertainty in Measurement” (GUM) published by ISO. When the test result is a critical value,we will use the measurement uncertainty give the judgment result based on the 95%Confidence intervals.

3.5 Test Setup



4. Antenna Test Result

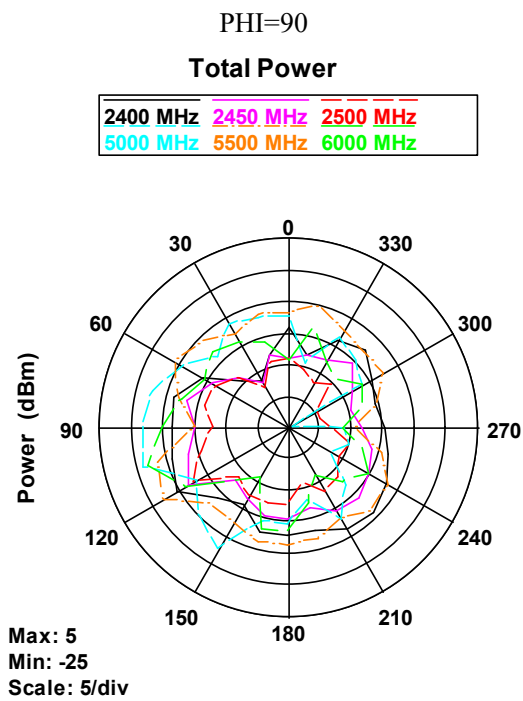
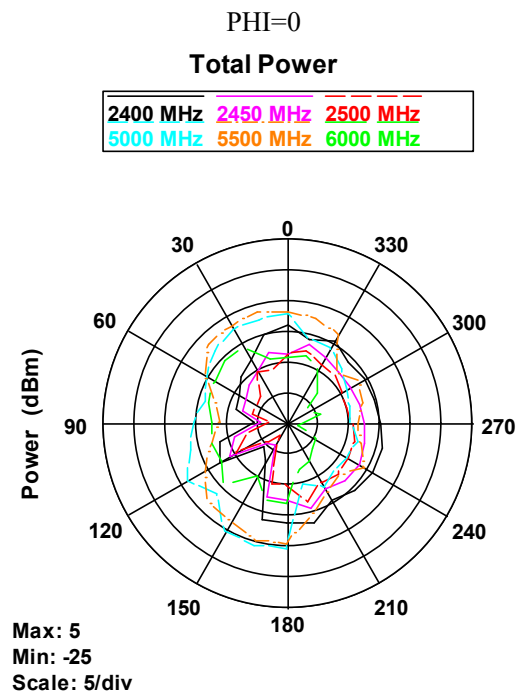
4.1 Gain and Efficiency

Frequency(MHz)	Gain(dBi)	Efficiency (%)
2400	-3.78	9.75
2410	-4.47	8.42
2420	-4.91	7.74
2430	-5.35	6.99
2440	-6.05	6.18
2450	-6.37	5.34
2460	-6.84	4.66
2470	-7.22	4.15
2480	-7.40	3.77
2490	-7.88	3.42
2500	-7.91	3.22
5000	-1.29	11.73
5020	-0.98	11.73
5040	-1.10	11.50
5060	-0.97	12.12
5080	-0.70	12.73
5100	-1.10	11.98
5120	-0.94	12.20
5140	-0.62	13.56
5160	-0.65	13.45
5180	-0.51	14.40
5200	-0.21	14.61
5220	-0.34	14.22
5240	-0.30	14.13
5260	-0.59	13.50
5280	-0.97	12.43
5300	-1.35	11.66
5320	-1.75	10.58
5340	-1.57	10.79
5360	-2.02	10.03
5380	-2.62	9.57
5400	-3.26	9.38
5420	-3.23	9.55

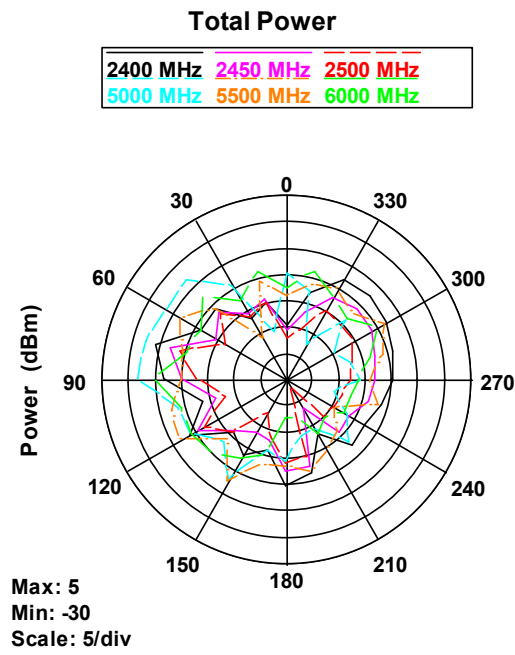
5440	-3.63	10.25
5460	-4.09	10.93
5480	-3.51	12.33
5500	-2.43	14.18
5520	-1.69	16.44
5540	-0.77	18.44
5560	-0.42	19.79
5580	-0.12	21.69
5600	0.26	22.34
5620	0.04	21.32
5640	-0.27	20.70
5660	-0.29	20.82
5680	-0.81	19.03
5700	-1.46	16.85
5720	-0.96	15.92
5740	-0.84	15.79
5760	-0.95	14.14
5780	-1.68	12.65
5800	-1.63	11.47
5820	-1.99	10.73
5840	-1.78	10.12
5860	-2.20	9.15
5880	-2.42	8.81
5900	-2.67	8.33
5920	-2.54	8.09
5940	-2.62	8.06
5960	-2.69	7.75
5980	-2.80	7.94
6000	-2.16	8.22

4.2 Radiation Pattern 2D View

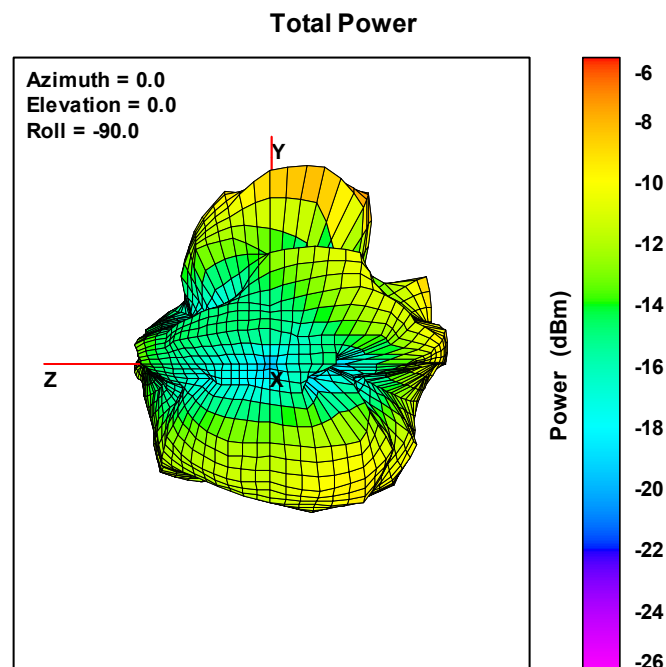
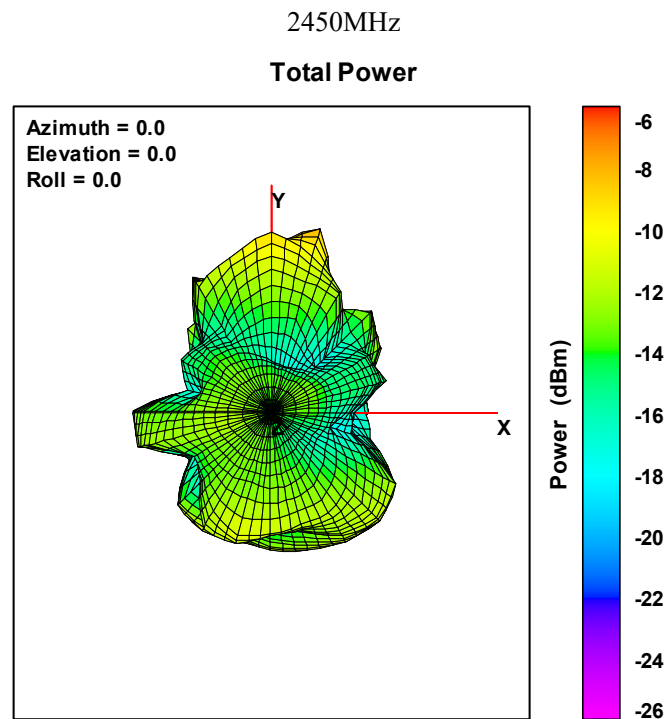
EUT #1:

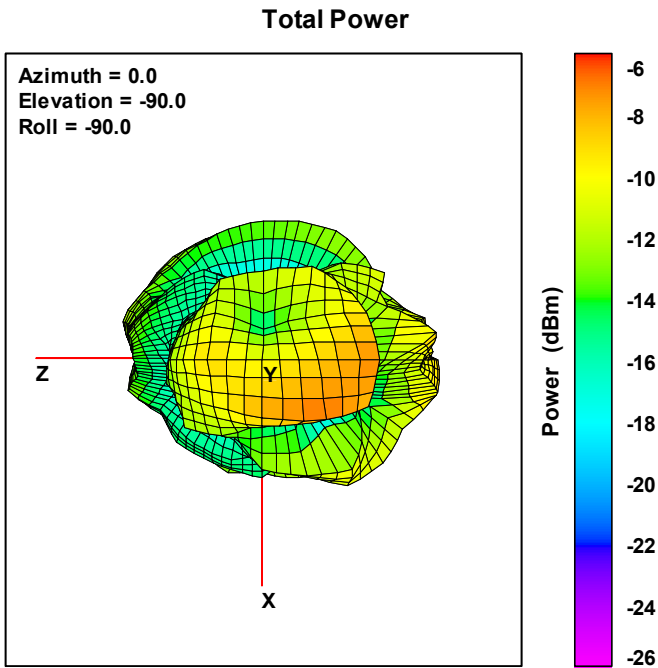


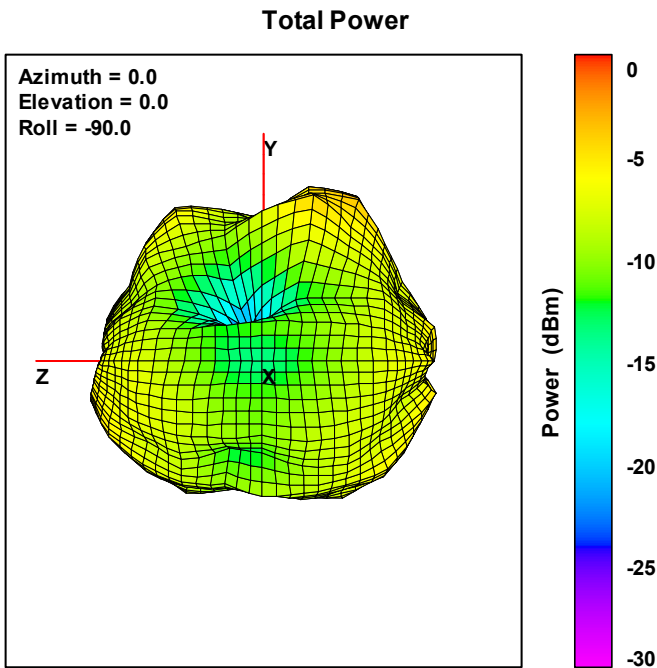
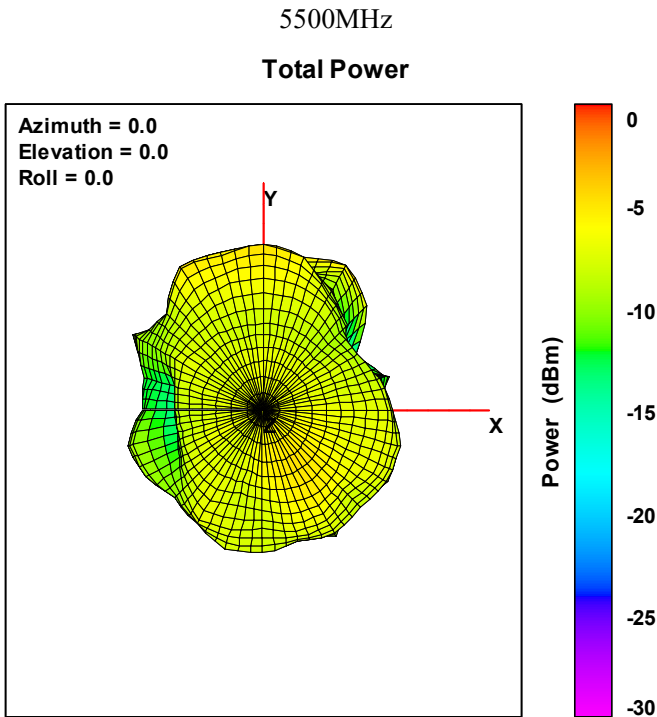
THETA=90



4.3 Radiation Pattern 3D View







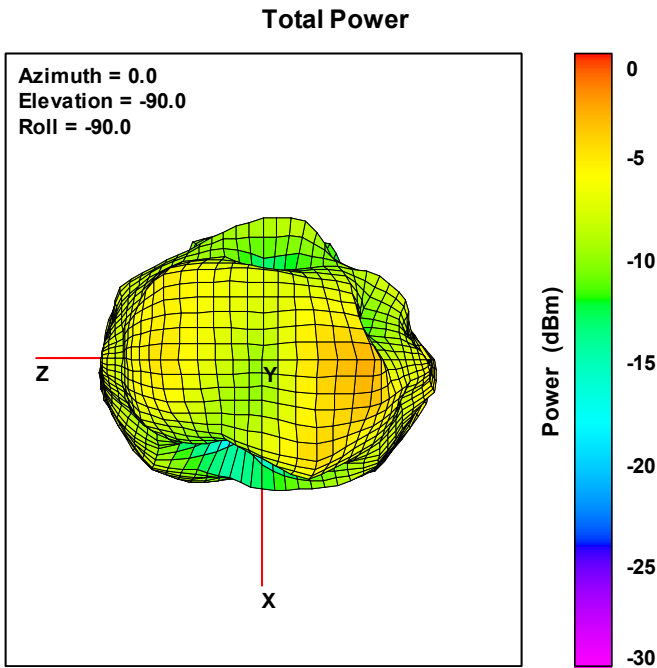


EXHIBIT 1 - EUT PHOTOGRAPHS

EUT View 1

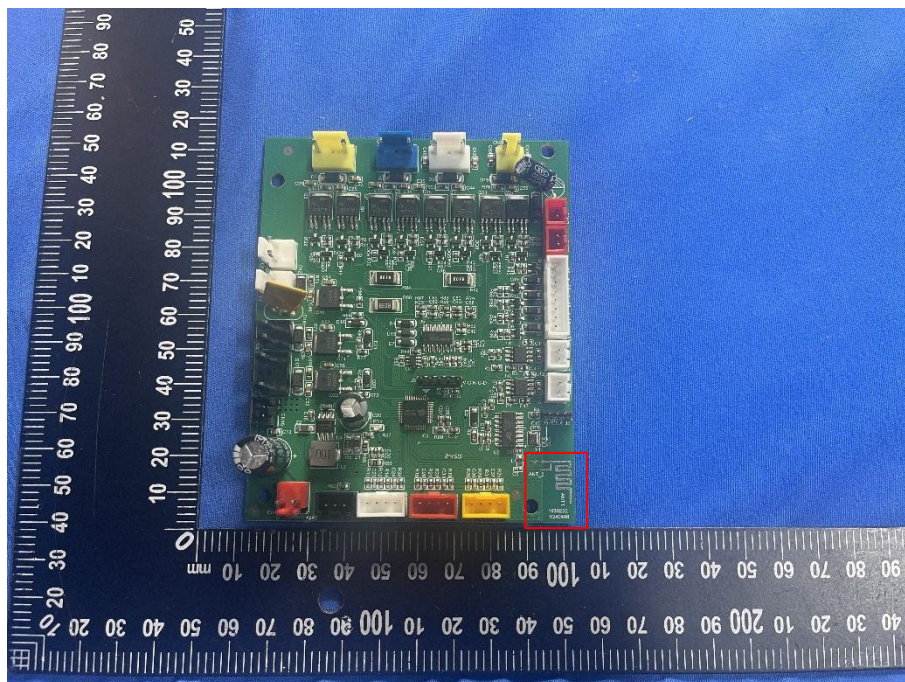
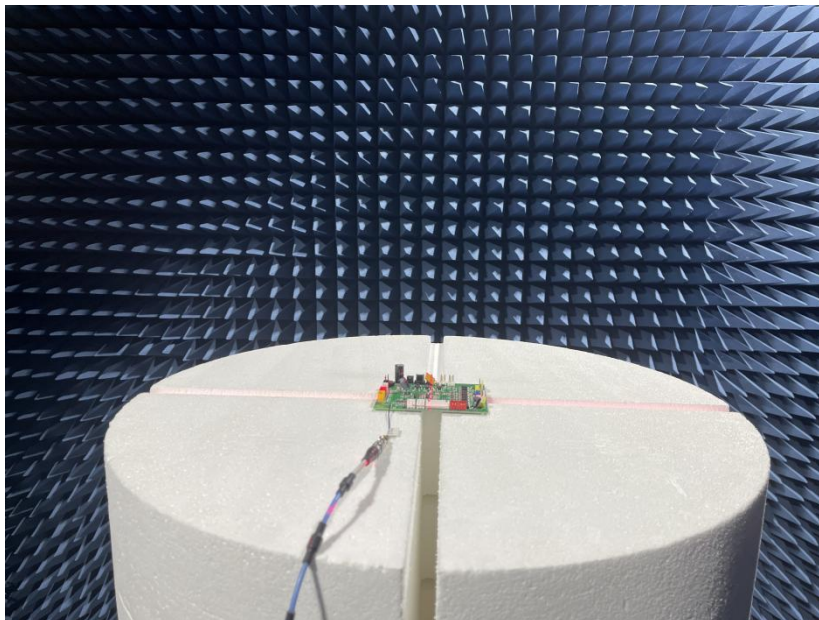


EXHIBIT 2 - TEST SETUP PHOTOGRAPHS

OTA Test View 1:



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