

TEST REPORT

Reference No...... : WTX24X07175376W
Applicant : SHENZHEN LOCSTAR TECHNOLOGY CO., LTD
Address : Building C, No.20, Shui Tian Road, TongleCommunityLonggang Street,
Longgang District
Manufacturer : The same as Applicant
Address : The same as Applicant
Product Name : Smart lock
Model No...... : C95
Standards : ANSI/ IEEE 149-2021
Date of Receipt sample : 2024-07-25
Date of Test..... : 2024-07-25 to 2024-10-22
Date of Issue : 2024-10-22
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.

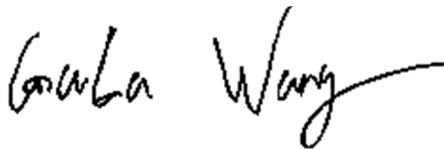
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Tested by:



Gala Wang

Approved by:



Silin Chen

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Report version

Version No.	Date of issue	Description
Rev.00	2024-10-22	Original
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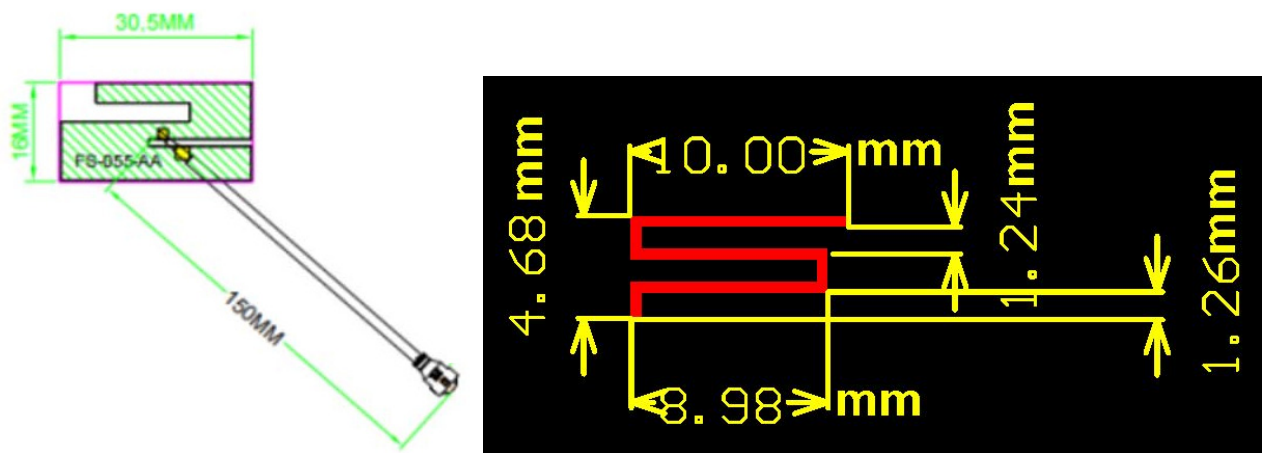
1.GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

General Description of EUT	
Product Name:	Smart lock
Trade Name:	Locstar
Model No.:	C95
Adding Model(s):	A61, S63, T100B, C82A, C89, C91, C91A, C200
<i>Note: The test data is gathered from a production sample, provided by the manufacturer. The appearance of others models listed in the report is different from main-test model C95, but the circuit and the electronic construction do not change, declared by the manufacturer.</i>	

Technical Characteristics of EUT	
WIFI (2.4GHz)	
Frequency Range:	2400-2500MHz
Gain of Antenna:	-1.91dBi (Max.)
Type of Antenna:	Integral Antenna
Bluetooth	
Frequency Range:	2400-2500MHz
Gain of Antenna:	-2.19dBi (Max.)
Type of Antenna:	PCB antenna

Dimension:



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:	Shenzhen Morlab Communications Technology Co.,Ltd.
Address:	FL.1-3, Building A, FeiYang Science Park, No.8 LongChang Road, Block67, BaoAn District, ShenZhen, GuangDong Province, P.R. China

3.2 Test Environments

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

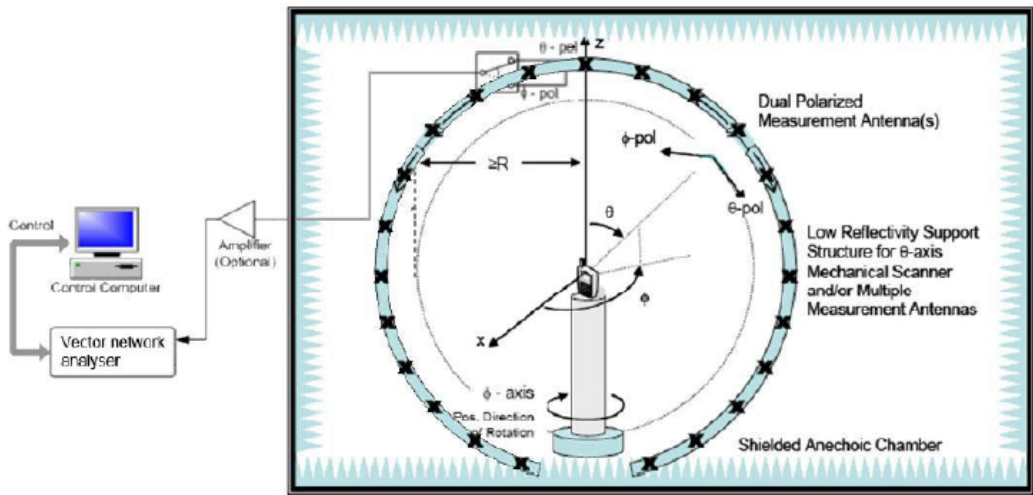
3.3 Test Equipment List

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Network Analyzer	Agilent	E5071C	MY46110140	2023-06-21	2024-06-20
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

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

WIFI (2.4GHz)

Frequency(MHz)	Gain(dBi)	Efficiency (%)
2400	-1.91	15.87
2410	-2.16	15.67
2420	-2.30	15.08
2430	-2.25	14.88
2440	-2.19	15.08
2450	-2.01	15.44
2460	-2.23	15.64
2470	-2.47	15.40
2480	-2.32	15.62
2490	-2.32	15.63
2500	-2.11	16.05

Bluetooth

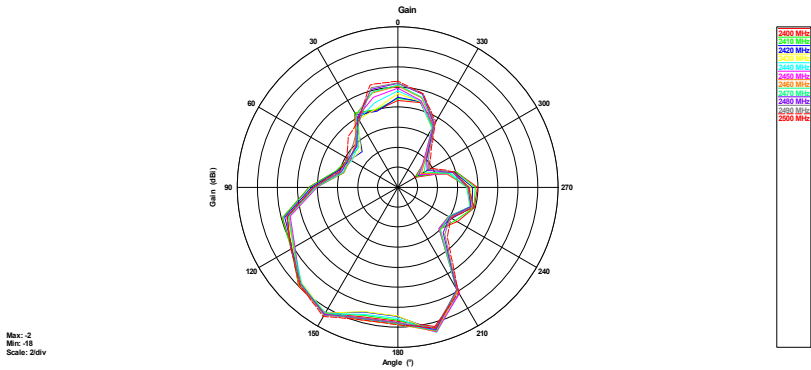
Frequency(MHz)	Gain(dBi)	Efficiency (%)
2400	-2.19	20.95
2410	-2.36	20.77
2420	-2.64	19.85
2430	-2.88	19.04
2440	-3.10	18.58
2450	-3.25	17.88
2460	-3.63	17.04
2470	-4.23	15.40
2480	-4.82	13.93
2490	-5.41	12.29
2500	-5.79	11.02

4.2 Radiation Pattern 2D View

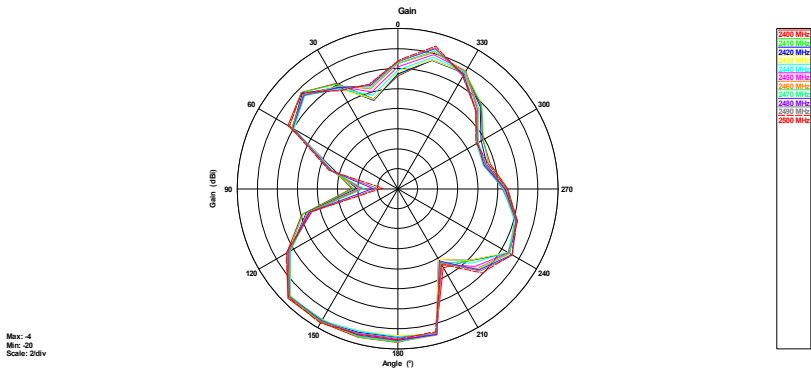
WIFI (2.4GHz)

EUT #1:

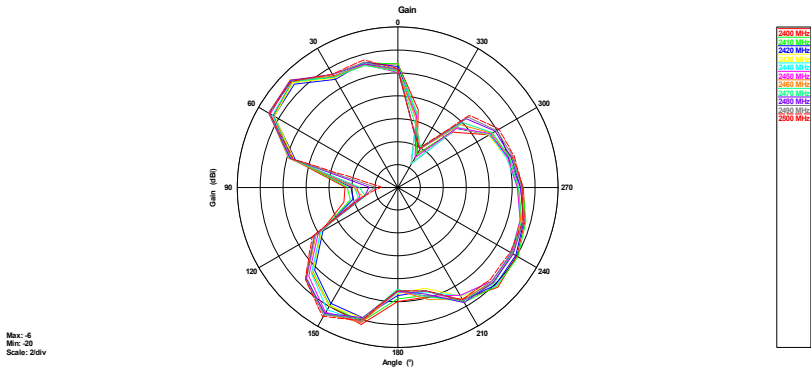
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PHI=90



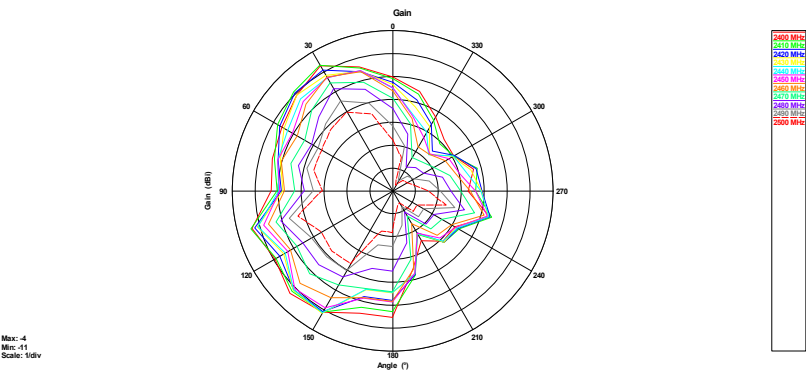
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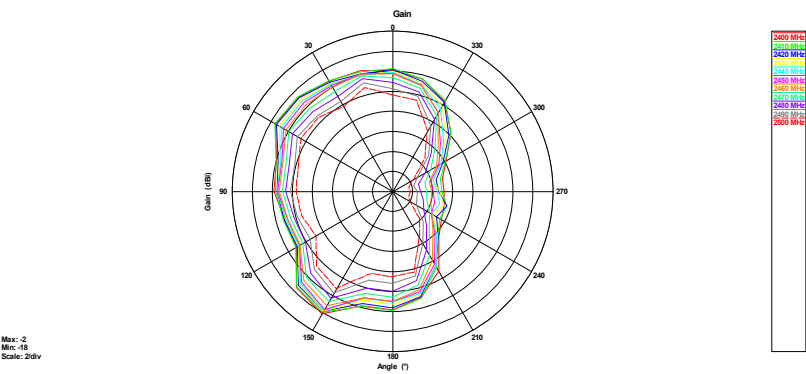
Bluetooth

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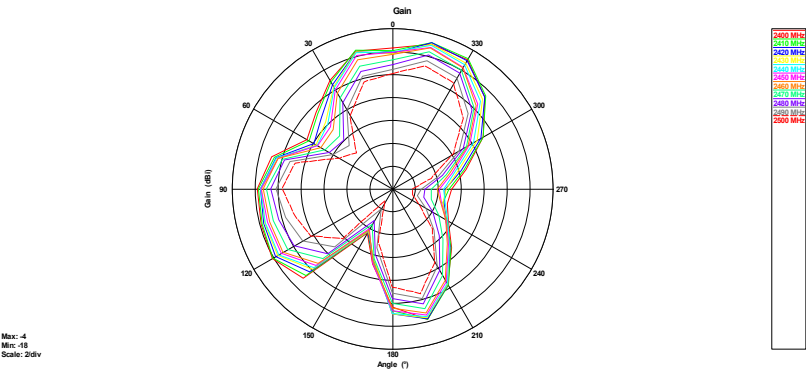
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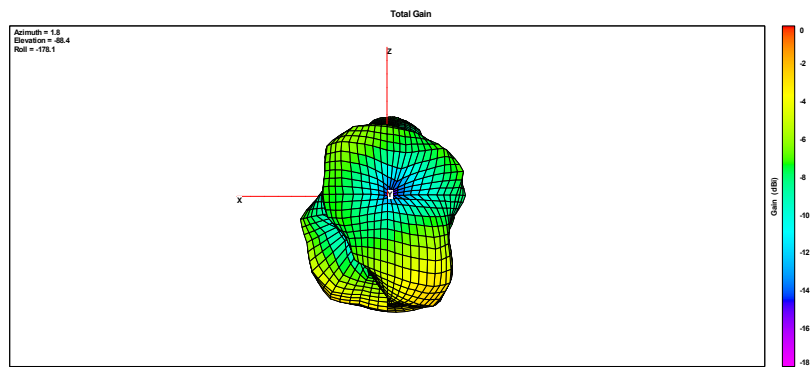


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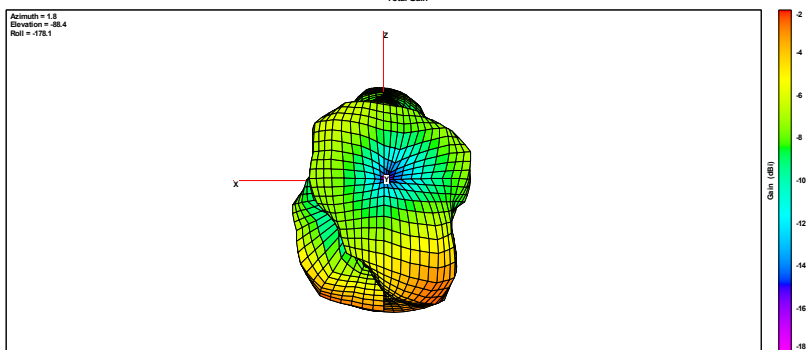


4.3 Radiation Pattern 3D View
WIFI (2.4GHz)

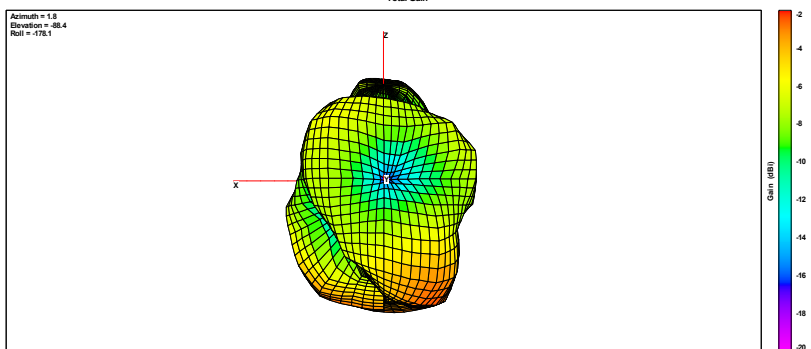
2400MHz



2450MHz

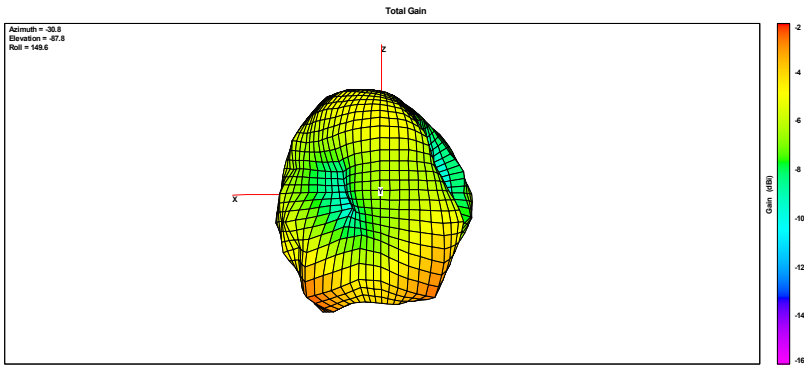


2500MHz

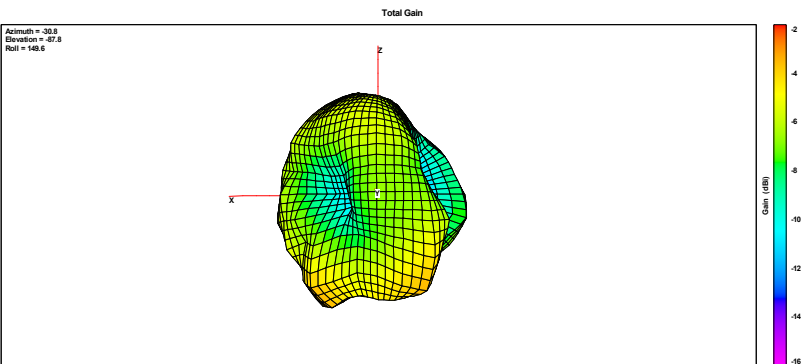


Bluetooth

2400MHz



2450MHz



2500MHz

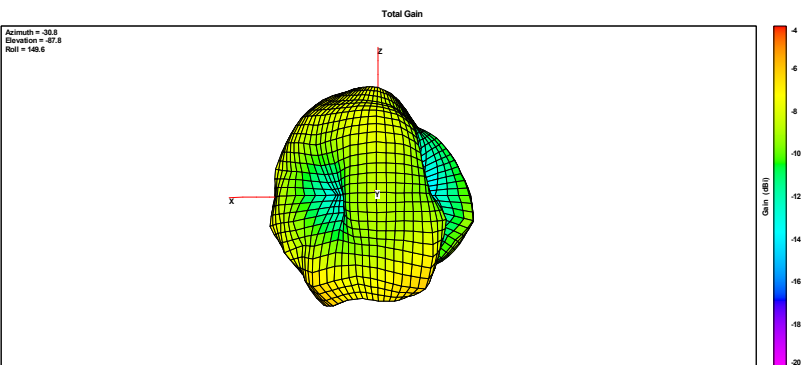
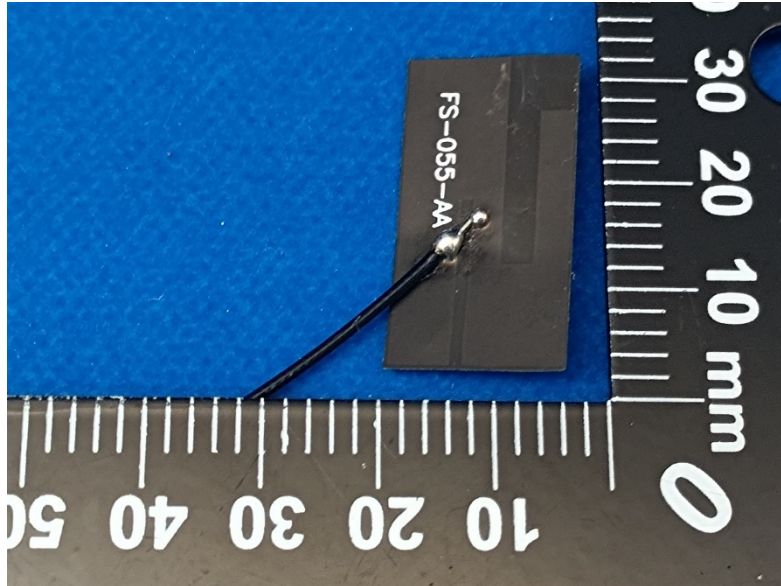


EXHIBIT 1 - EUT PHOTOGRAPHS

WIFI (2.4GHz)

EUT View 1



Bluetooth

EUT View 1

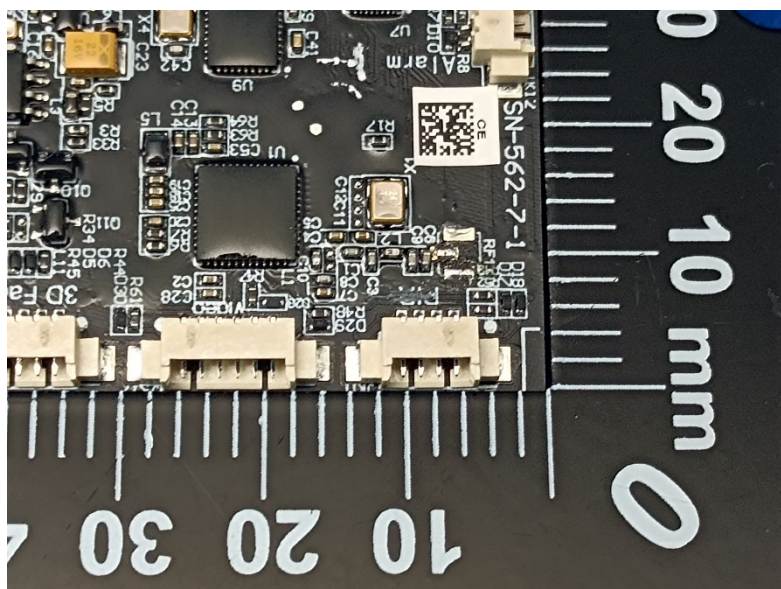
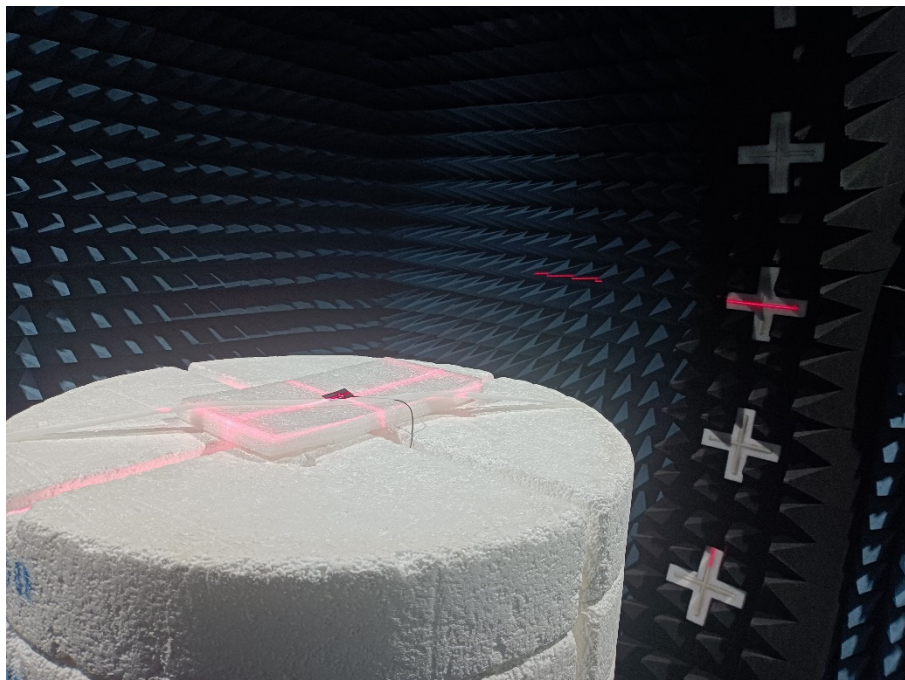


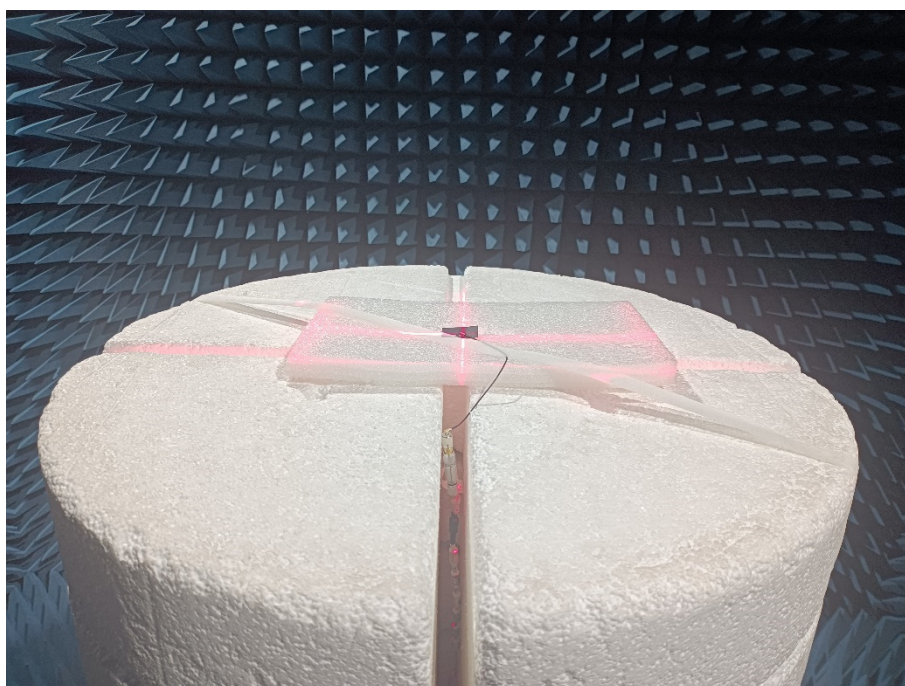
EXHIBIT 2 - TEST SETUP PHOTOGRAPHS

WIFI (2.4GHz)

OTA Test View 1:



OTA Test View 2:



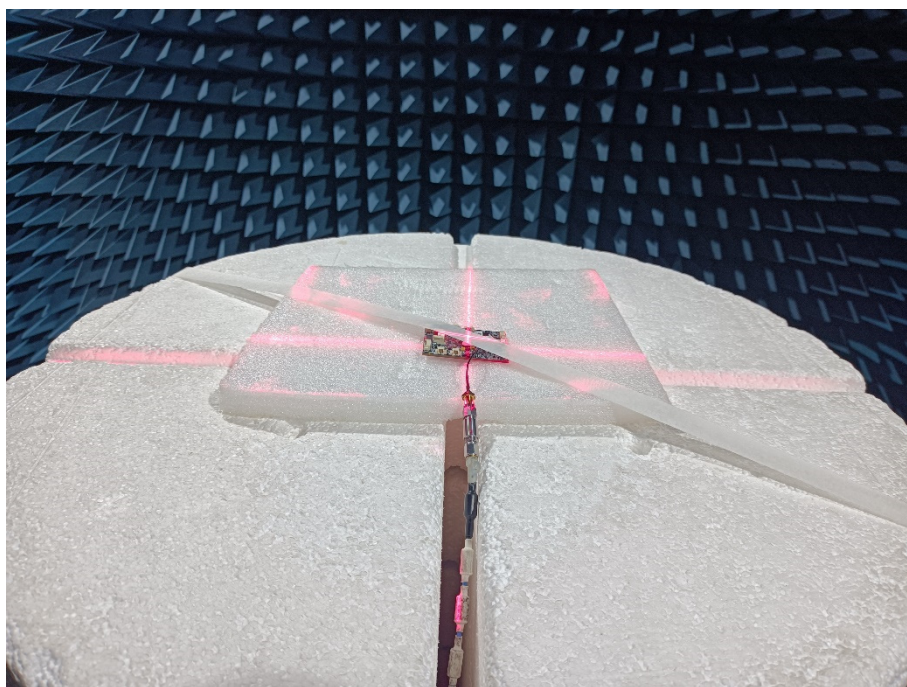
Reference No.: WTX24X07175376W

Bluetooth

OTA Test View 1:



OTA Test View 2:



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