

S**T****S****L****A****B**

ANTENNA TEST REPORT

Report No: STS1505057001

Issued for

Shenzhen SoundMAGIC Technology Development Co., Ltd

1613# Building A, Weidonglong Business
Building, Meilong Road No 2125, Qinghua
Community, Longhua District, Shenzhen, China

Product Name:	Bluetooth Antenna
Brand Name:	N/A
Model No.:	P60BT GM-ANT
Series Model:	N/A
Test Standard:	IEEE149-1979

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TEST RESULT CERTIFICATION

Applicant's name : Shenzhen SoundMAGIC Technology Development Co., Ltd

Address 1613# Building A, Weidonglong Business Building,Meilong Road No 2125, Qinghua Community,Longhua District,Shenzhen,China

Product description

Product name : Bluetooth Antenna

Trademark : N/A

Model and/or type reference P60BT GM-ANT

Serial Model : N/A

Standards : IEEE149-1979

This device described above has been tested by STS, and the test results show that the equipment under test (EUT) is in compliance with the IEEE149-1979 requirements. And it is applicable only to the tested sample identified in the report.

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Date of Test

Date (s) of performance of tests : 21 May. 2022 ~22 May. 2022

Date of Issue..... : 22 May. 2022

Test Result..... : Pass

Testing Engineer : [Signature] (Jin Ming)

Technical Manager : [Signature] (Vita Li)

Authorized Signatory : [Signature] (Bovey Yang)





Table of Contents	Page
1. TESTING LABORATORY	5
1.1 LOCATION	5
1.2 TEST ITEM	5
2. SUMMARY OF TEST RESULTS	6
2.1 Test Standards	6
2.2 TEST Item	6
3. GENERAL TEST CONFIGURATIONS	7
3.1 Test Environment	7
3.3 TEST SETUP	7
4. TEST RESULT	8
4.1 Gain and Efficiency	8
4.2 INSERTION LOSS/RETURN LOSS/VSWR	8
ANNEX 1 RADIATION PATTERN	10
ANNEX 2 TEST SETUP PHOTO	13
ANNEX 3 Antenna Dimensions	13
ANNEX 4 EUT PHOTO	14



Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	22 May. 2022	STS1505057O01	ALL	Initial Issue





1. TESTING LABORATORY

1.1 LOCATION

Company Name:	Shenzhen STS Test Services Co., Ltd.
Address:	1/F., Building B, Zhuoke Science Park, No.190, Chongqing Road, Fuyong Street, Bao'an District, Shenzhen, Guangdong, China
Telephone:	+86-755 3688 6288
Fax:	+86-755 3688 6277
Registration No.:	CNAS Registration No.: L7649; FCC Registration No.: 842334; IC Registration No.: 12108A-1

1.2 TEST ITEM

Identification of the Equipment under Test

Product Name:	Bluetooth Antenna
Band Name:	N/A
Model No	P60BT GM-ANT
Frequency Bands:	2400-2500MHz
Antenna Type:	PCB Antenna
Hard Ware Version:	N/A
Soft Ware Version:	N/A



2. SUMMARY OF TEST RESULTS

2.1 TEST STANDARDS

Identity	Document Title
IEEE149-1979	IEEE Standard Test Procedures for Antennas

2.2 TEST ITEM

ITEM	Remark
ANTENNA GAIN	--
INSERTION LOSS	--
RETURN LOSS	--
VSWR	--
SMITH CHART	--

2.3 TEST UNCERTANINTY

The uncertainty is calculated using the methods suggested in the "Guide to the Expression of Uncertainty in Measurement" (GUM) published by ISO.

ITEM	UNCERTAINTY
VSWR(S11)	0.2dB
Gain	0dB

3. GENERAL TEST CONFIGURATIONS

3.1 TEST ENVIRONMENT

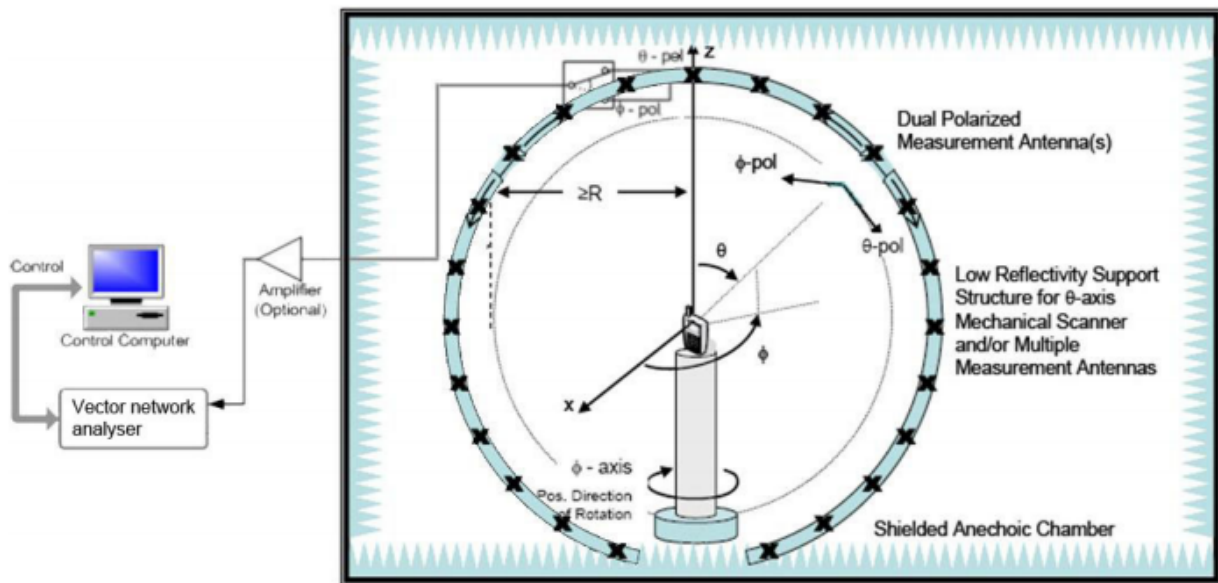
Ambient conditions in the laboratory:

Items	Required	Actual
Temperature (°C)	18-25	21± 2
Humidity (%RH)	30-70	55±2

3.2 TEST EQUIPMENT LIST

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Vector Network Analyzer	AGILENT	E5071C	MY46103472	2022.01.28	2023.01.27
5*5*5 Full Anechoic Chamber	SATIMO	5*5*5	CN-1307-555	2021.09.28	2022.09.27
Sg24 Multi-Probe Antenna Measurement System	SATIMO	SG24-L	1101855-0001	2021.09.14	2022.09.13

3.3 TEST SETUP





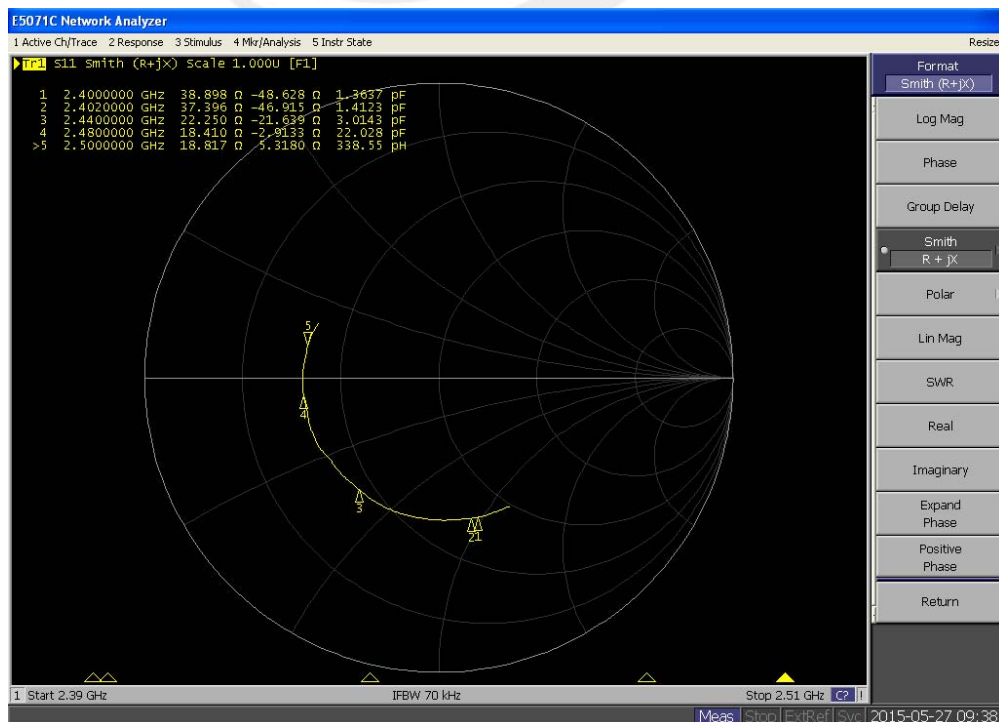
4. TEST RESULT

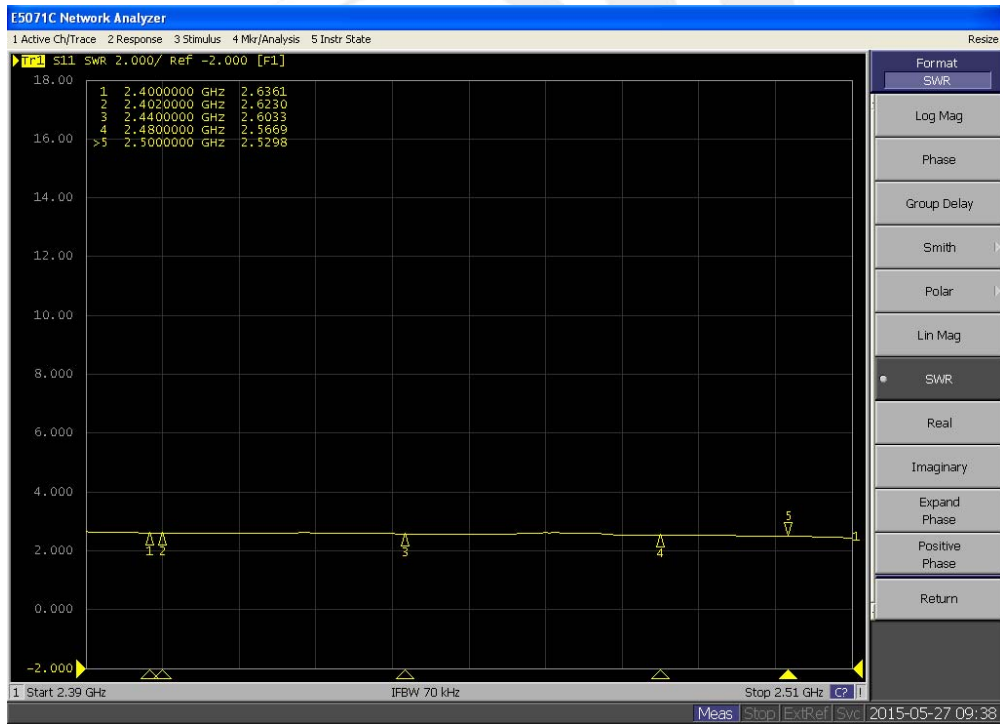
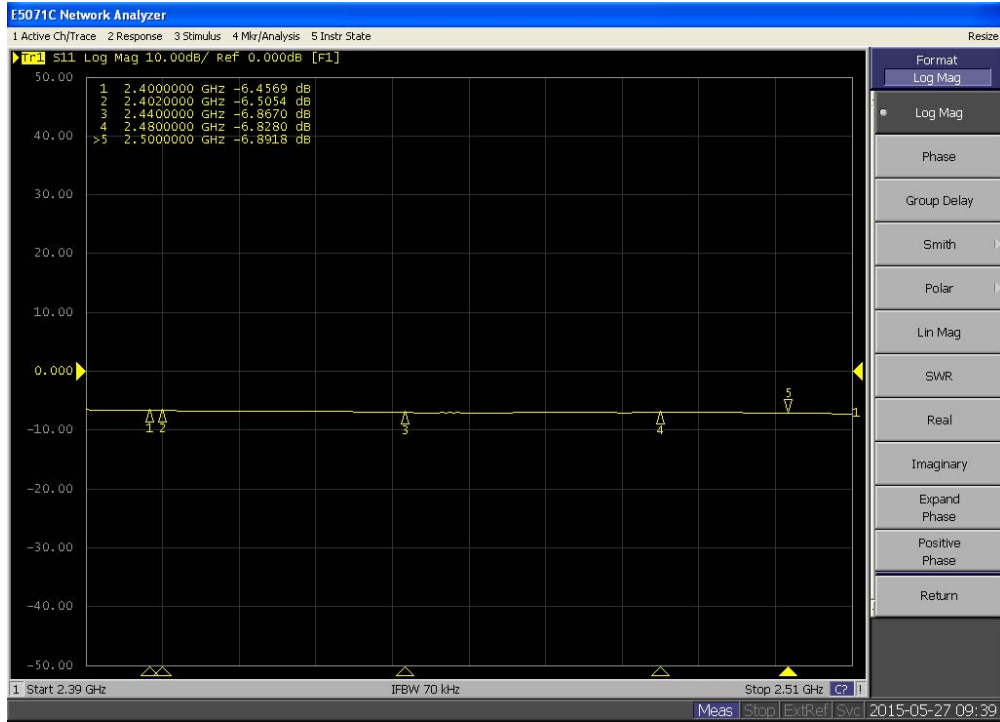
4.1 GAIN AND EFFICIENCY

Frequency	Gain (dBi)	Efficiency (%)
2400MHz	-1.57	25%
2402MHz	-1.56	25%
2440MHz	0	27%
2480MHz	-0.55	29%
2500MHz	-0.80	29%

4.2 INSERTION LOSS/RETURN LOSS/VSWR

Frequency	Input Impedance(Ω)	Return Loss (dB)	VSWR
2400MHz	38.898	-6.456	2.636
2402MHz	37.396	-6.505	2.623
2440MHz	22.250	-6.867	2.603
2480MHz	18.410	-6.828	2.566
2500MHz	18.817	-6.891	2.529

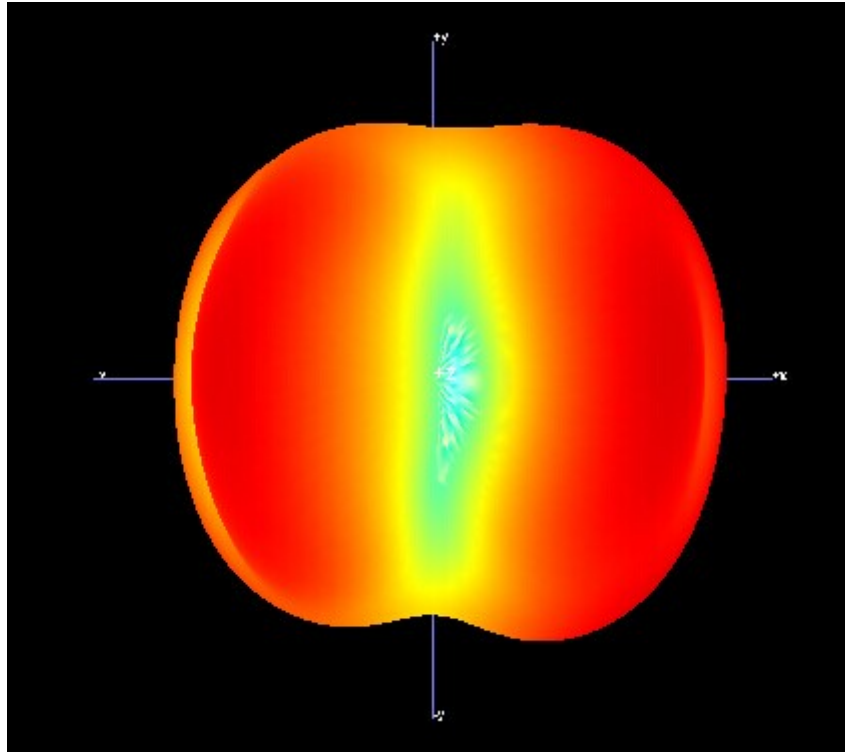




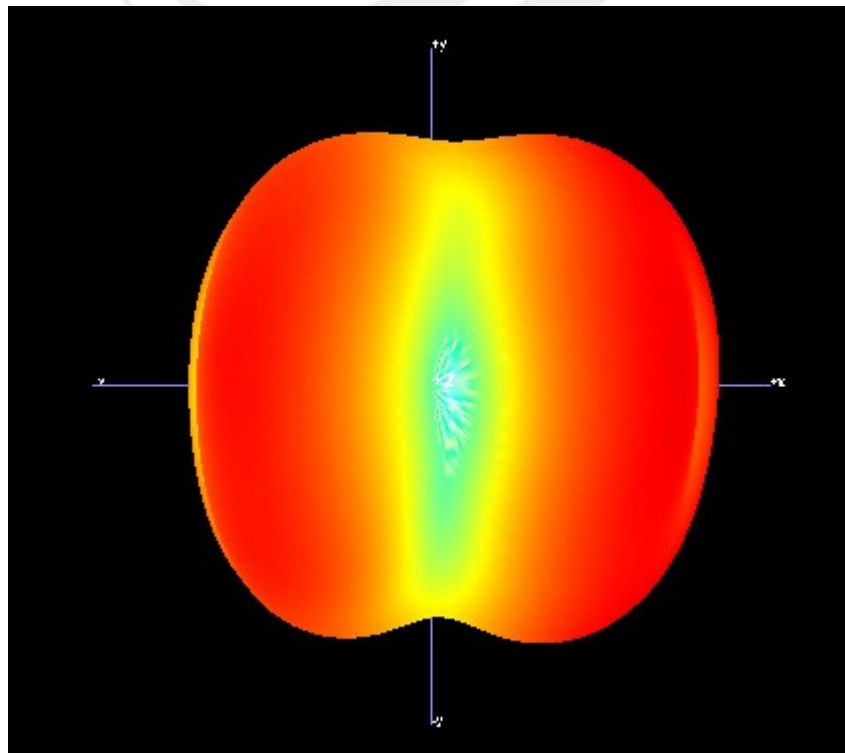
ANNEX 1 RADIATION PATTERN

3D Pattern

2400MHz

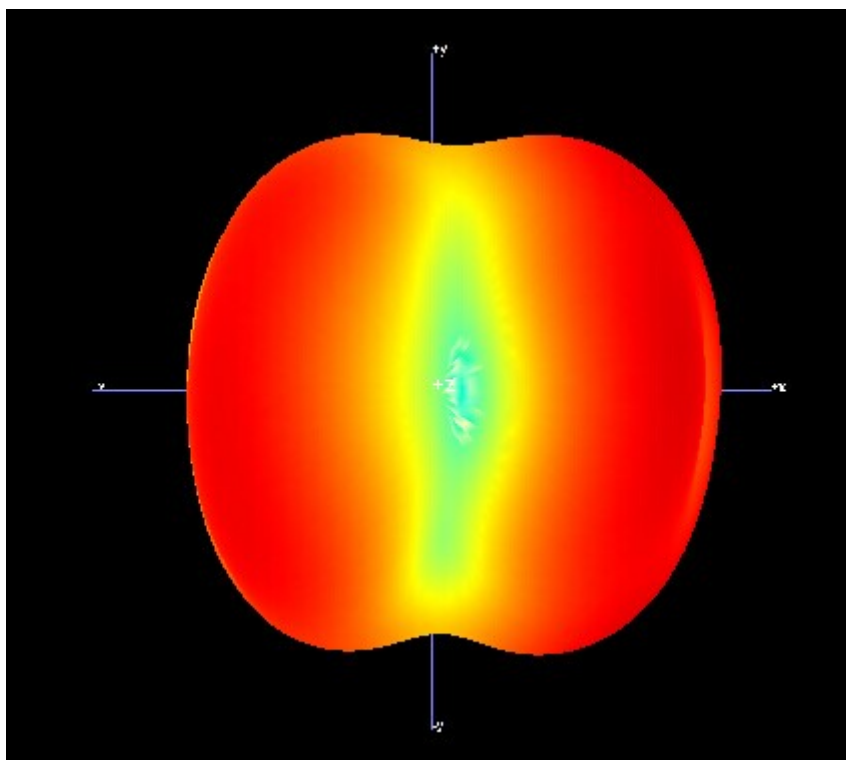


2480MHz





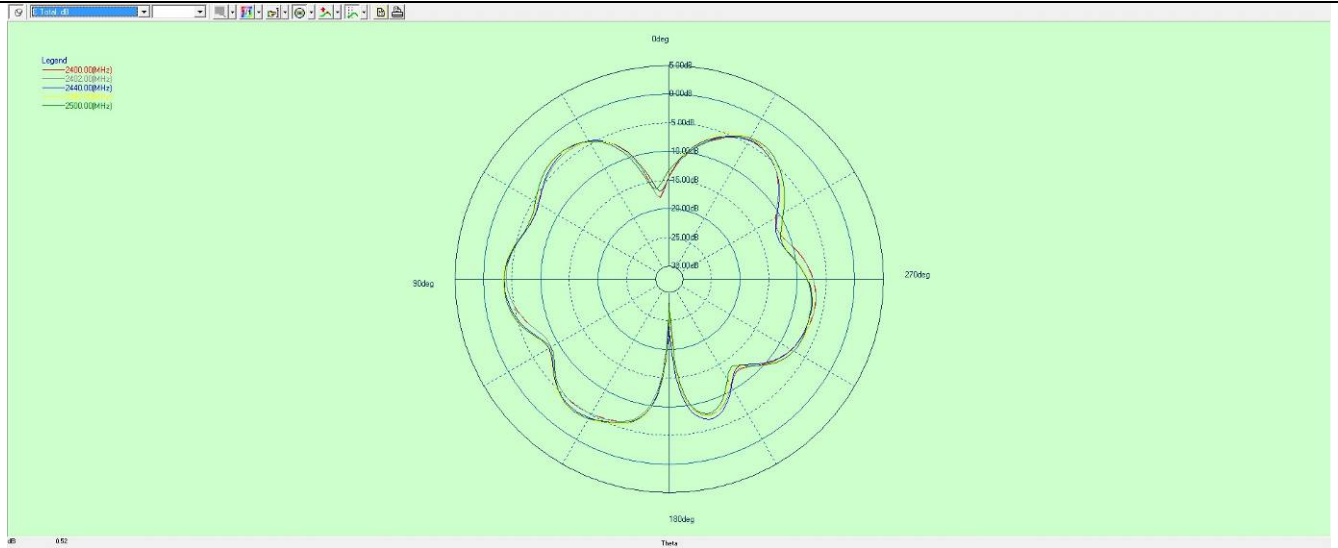
2500MHz



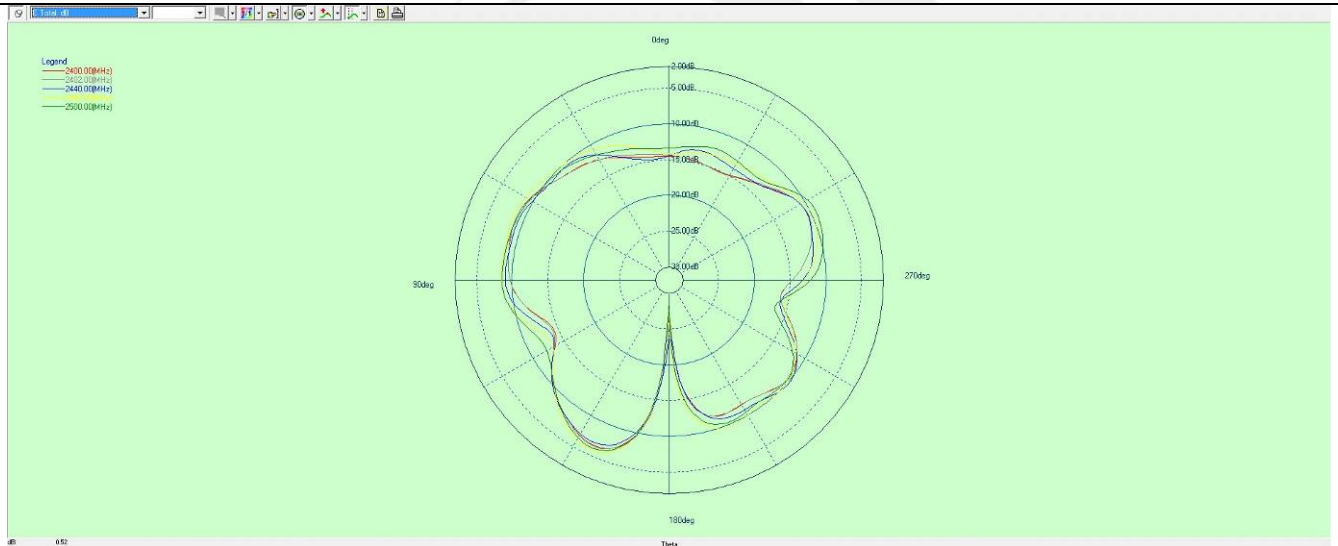


1D Radiation Pattern

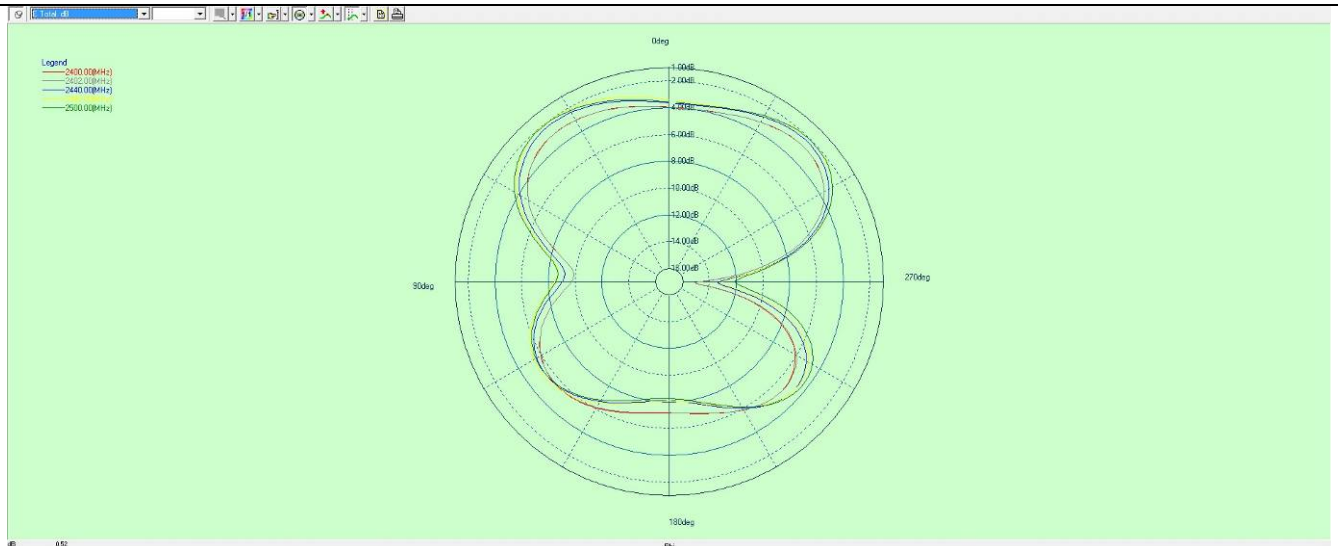
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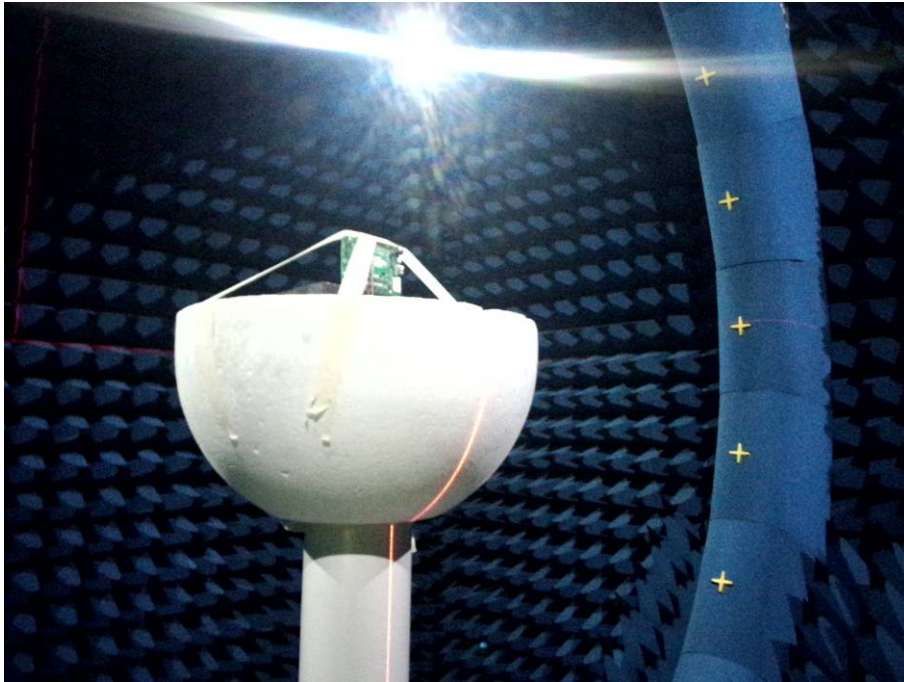
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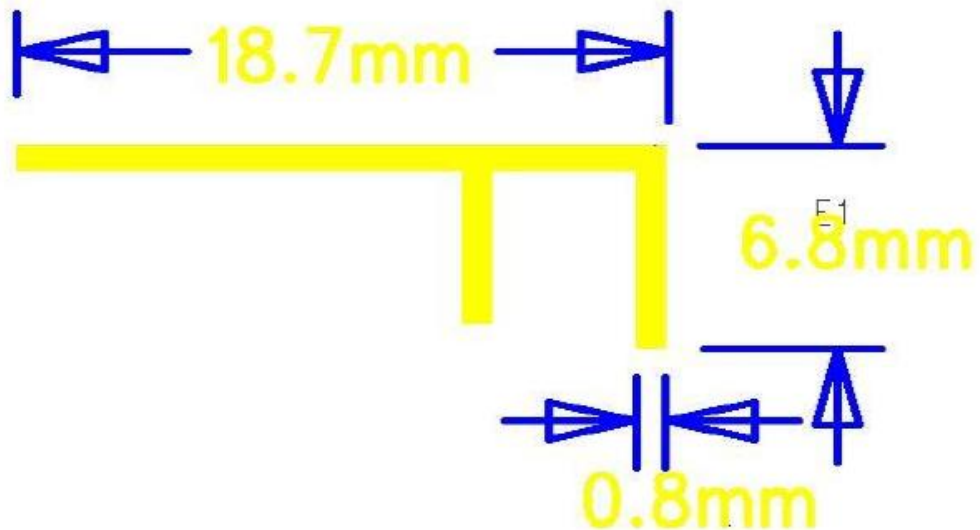
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ANNEX 2 TEST SETUP PHOTO

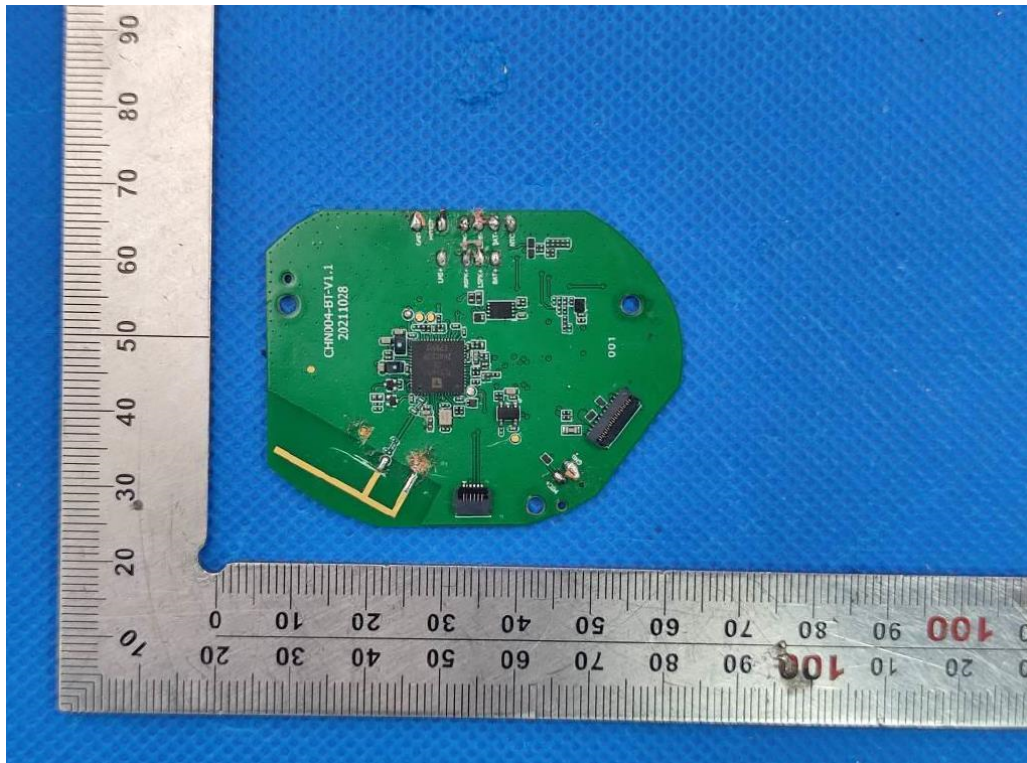


ANNEX 3 ANTENNA DIMENSIONS





ANNEX 4 EUT PHOTO



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

