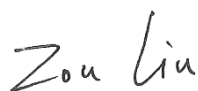


TEST REPORT

Applicant: Sahara Presentation Systems Ltd
Address: Unit 4, Blueprint Erith, Church Manorway, Erith,
DA8 1DG
Equipment Type: PCB Antenna
Model Name: SRM.WLST40.01
Brand Name: N/A
Test Standard: IEEE Std 149-2021
Sample Arrival Date: Mar. 06, 2023
Test Date: Mar. 07, 2023
Date of Issue: Jun. 12, 2024

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Mai Jintian**Checked by:** Zou Liu**Approved by:** Tolan Tu
(Testing Director)

Revision History

Version	Issue Date	Revisions
<u>Rev. 01</u>	<u>Jun. 12, 2024</u>	<u>Initial Issue</u>

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1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Phone Number	+86 755 6685 0100

1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
Location	☒ Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
	☐ 1/F, Building B, Ganghongji High-tech Intelligent Industrial Park, No. 1008, Songbai Road, Yangguang Community, Xili Sub-district, Nanshan District, Shenzhen, Guangdong Province, P. R. China

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Sahara Presentation Systems Ltd
Address	Unit 4, Blueprint Erith, Church Manorway, Erith, DA8 1DG
Contact Person	Robert Xenos
Telephone Number	07712404099
E-mail Address	rob.xenos@clevertouch.com

2.2 Manufacturer Information

Manufacturer	Sahara Presentation Systems Ltd
Address	Unit 4, Blueprint Erith, Church Manorway, Erith, DA8 1DG

2.3 General Description for Equipment under Test (EUT)

EUT Name	PCB Antenna
Model Name Under Test	SRM.WLST40.01
Antenna Type	PCB Antenna
Dimensions	12.2*7.8 mm

Note: This report contains test data for two EUT, In this report, 1#, 2# are used to represent the corresponding EUT and corresponding test data.

2.4 Ancillary Equipment

Note: Not applicable.

2.5 Technical Information

1#

Frequency Range	2400MHz ~ 2483.5MHz
-----------------	---------------------

2#

Frequency Range	5150MHz ~ 5895MHz
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3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	IEEE Std 149-2021	IEEE Standard Test Procedures for Antennas

3.2 Test Verdict

Report Section	Description	Remark
ANNEX A.1	Gain and Efficiency	--
ANNEX B	Radiation Pattern	--
Note: Compared with the EUT of test report BL-SZ2330262-901, the EUT of this report shows different things as below: 1. Updated information for manufacturers and applicants. Other hardware circuit and software are the same as EUT referred to in test report BL-SZ2330262-901. Therefore, in addition to the above differences, all test data and EUT information are derived from the report BL-SZ2330262-901 published by Shenzhen BALUN Technology Co., Ltd. on Mar. 15, 2023.		

3.3 Test Uncertainty

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

Item	Uncertainty
Gain	$\pm 1.92\text{dB}$

4 GENERAL TEST CONFIGURATIONS

4.1 Test Condition

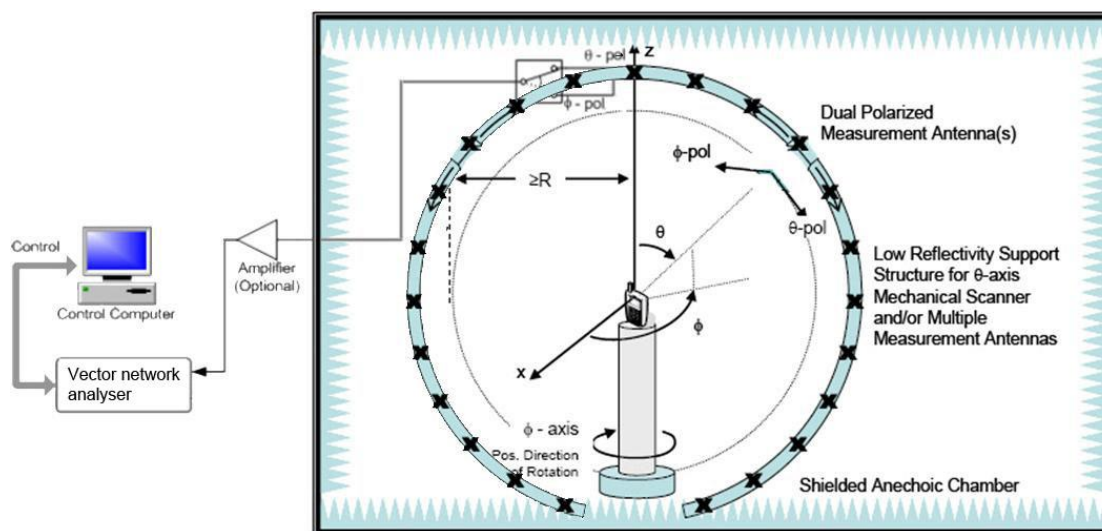
Environment Parameter	Selected Values During Tests			
	Ambient Pressure(KPa)	Temperature(°C)	Voltage	Relative Humidity (%)
Normal Temperature, Normal Voltage (NTNV)	101	22.1	N/A	34

4.2 Test Equipment List

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
SG24 Multi-probe Antenna Measurement System	SATIMO	SG24-L	1101855- 0001	2021.11.12	2024.11.11
Vector Network Analyzer	Agilent	E5071B	MY42404001	2022.04.02	2023.04.01
Description	Manufacturer	Name		Version	
Test Software	MVG	SPM		V 1.8	

4.3 Test Setup

4.3.1 Antenna gain, efficiency and radiation pattern test setup



4.4 Test Frequencies

1#

Test Frequencies	2400MHz, 2410MHz, 2420MHz, 2430MHz, 2440MHz, 2450MHz, 2460MHz, 2470MHz, 2480MHz, 2483.5MHz
------------------	--

2#

Test Frequencies	5150MHz, 5200MHz, 5250MHz, 5300MHz, 5350MHz, 5400MHz, 5450MHz, 5500MHz, 5550MHz, 5600MHz, 5650MHz, 5700MHz, 5750MHz, 5800MHz, 5850MHz, 5895MHz
------------------	--

ANNEX A TEST RESULTS

A.1 Gain and Efficiency

1#

Frequency	Gain (dBi)	Efficiency (%)
2400MHz	0.59	49
2410MHz	0.47	49
2420MHz	0.39	49
2430MHz	0.66	51
2440MHz	0.65	53
2450MHz	1.09	54
2460MHz	1.11	54
2470MHz	1.21	57
2480MHz	1.55	59
2483.5MHz	1.55	60

2#

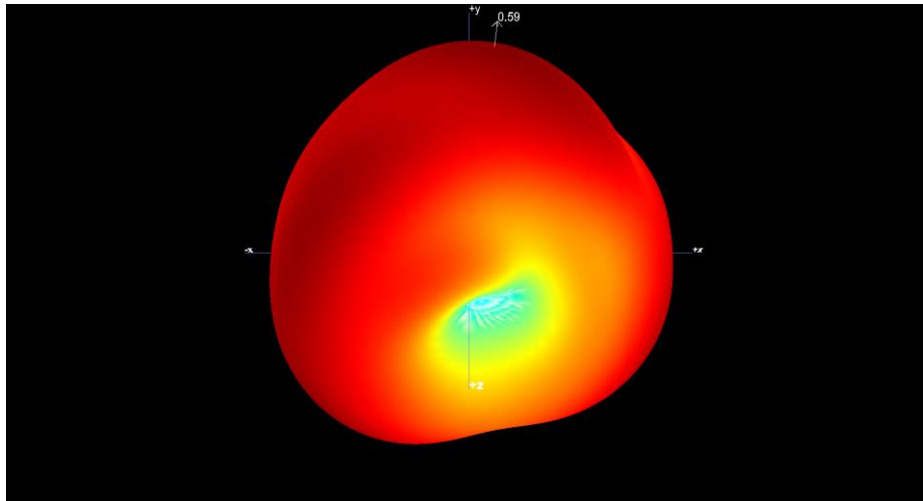
Frequency	Gain (dBi)	Efficiency (%)
5150MHz	-0.57	19
5200MHz	-0.61	19
5250MHz	0.00	23
5300MHz	1.08	30
5350MHz	0.69	28
5400MHz	0.08	25
5450MHz	0.40	26
5500MHz	1.24	32
5550MHz	1.62	34
5600MHz	1.48	30
5650MHz	2.03	32
5700MHz	3.52	43
5750MHz	4.50	52
5800MHz	5.23	58
5850MHz	5.41	59
5895MHz	5.39	57

ANNEX B RADIATION PATTERN

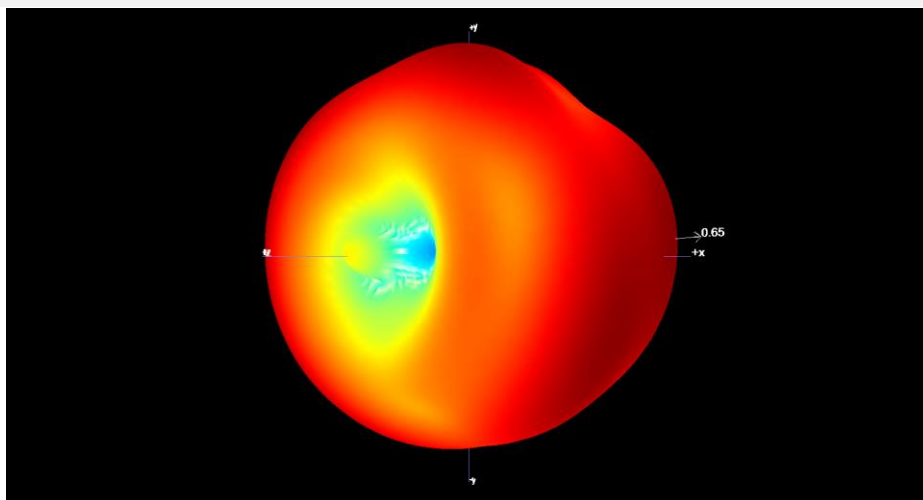
B.1 3D Pattern

1#

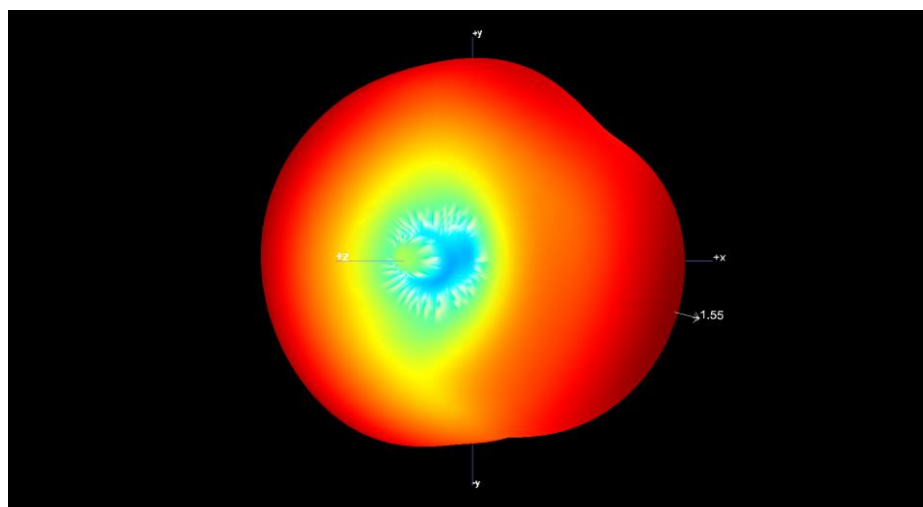
B1.1 3D Pattern for 2400MHz



B1.2 3D Pattern for 2440MHz

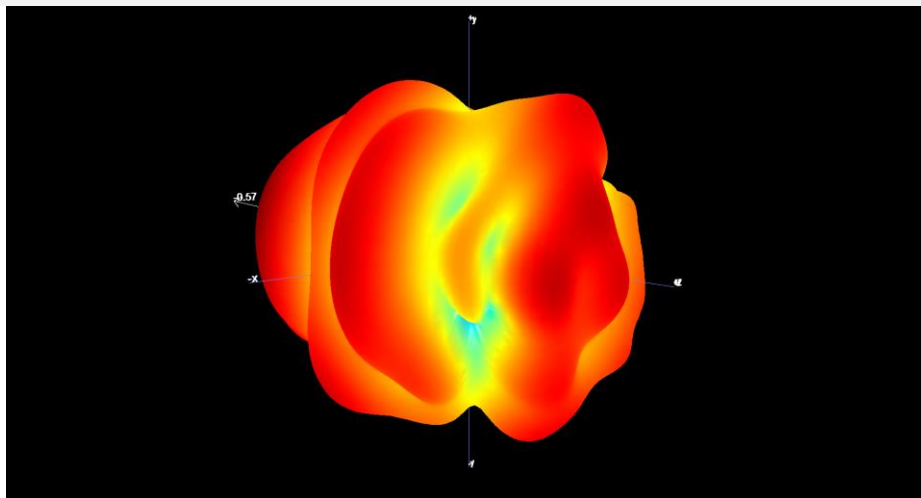


B1.3 3D Pattern for 2483.5MHz

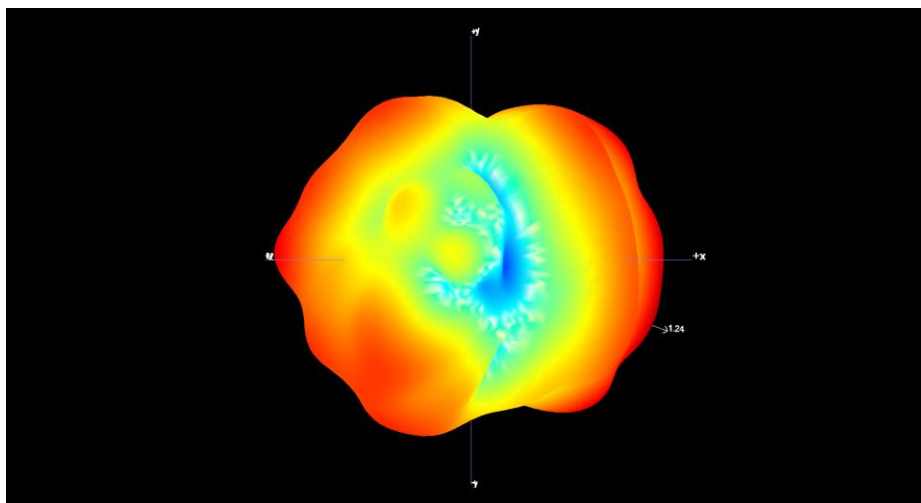


2#

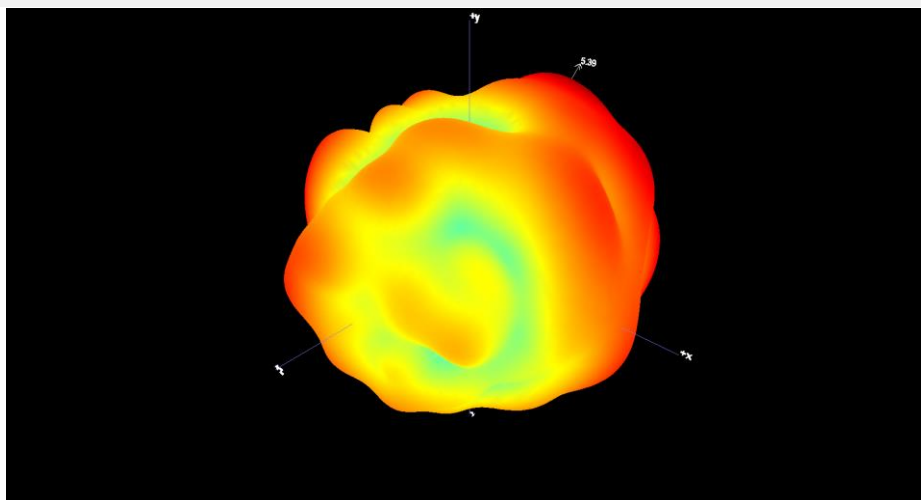
B1.1 3D Pattern for 5150MHz



B1.2 3D Pattern for 5500MHz



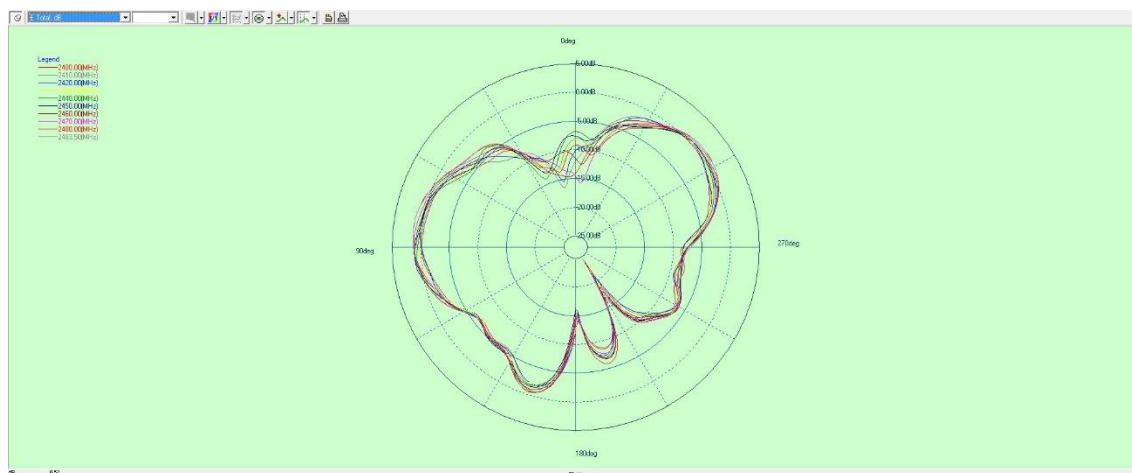
B1.3 3D Pattern for 5895MHz



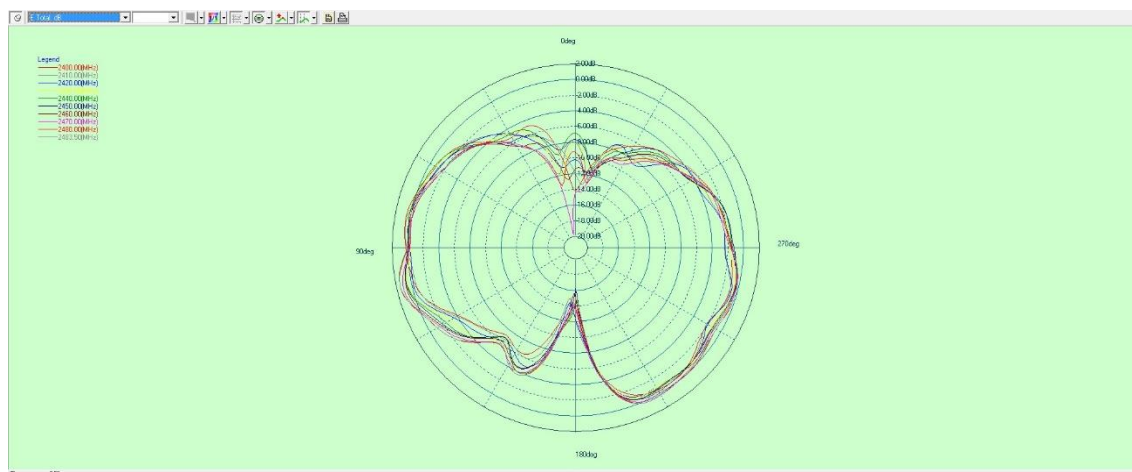
B.2 1D Radiation Pattern

1#

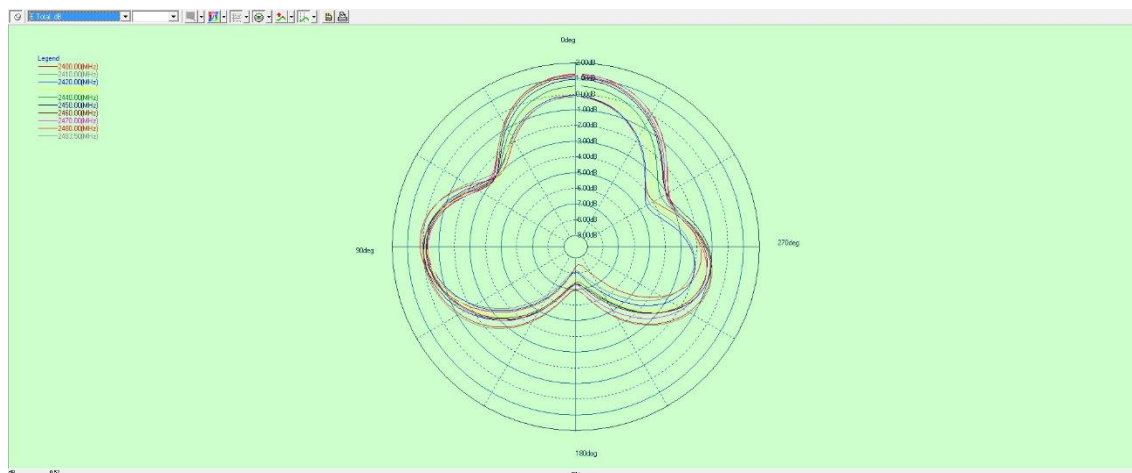
B2.1 PHI=0

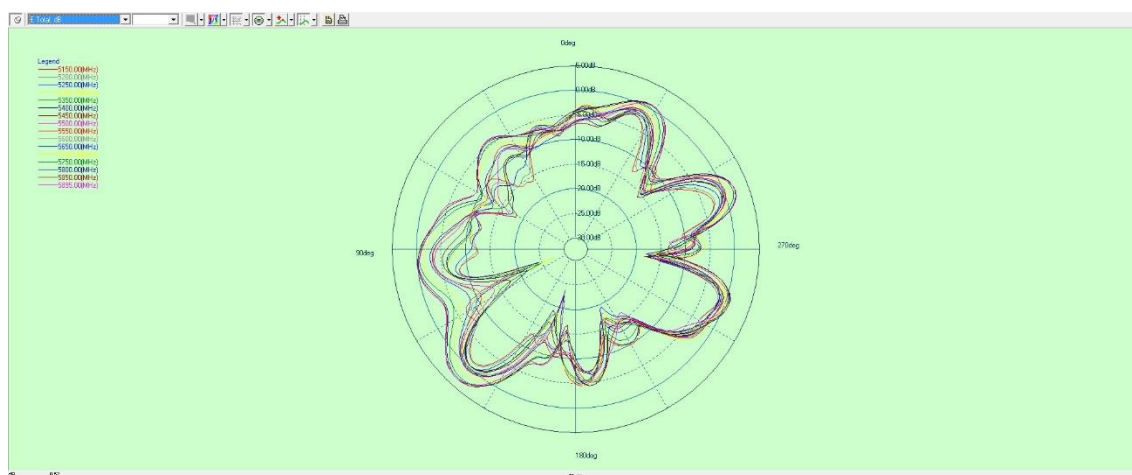
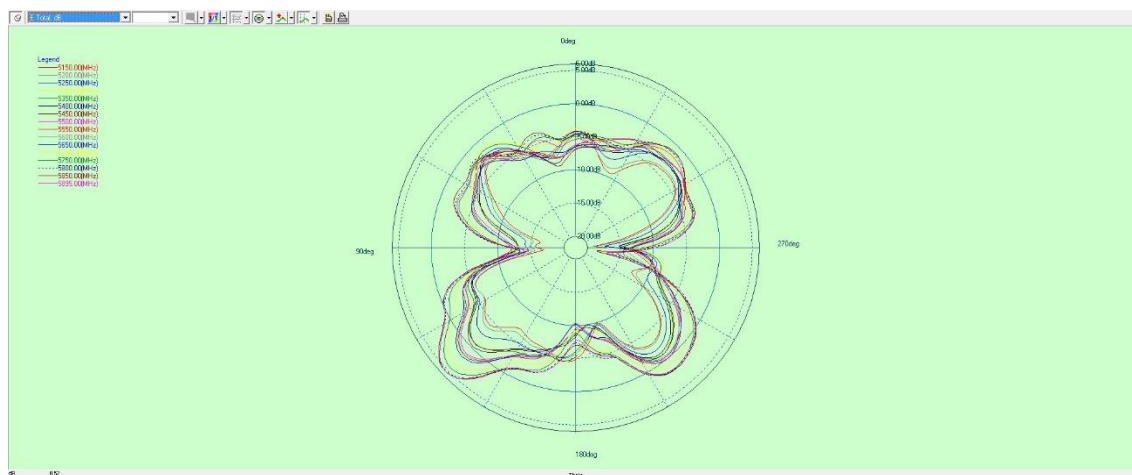
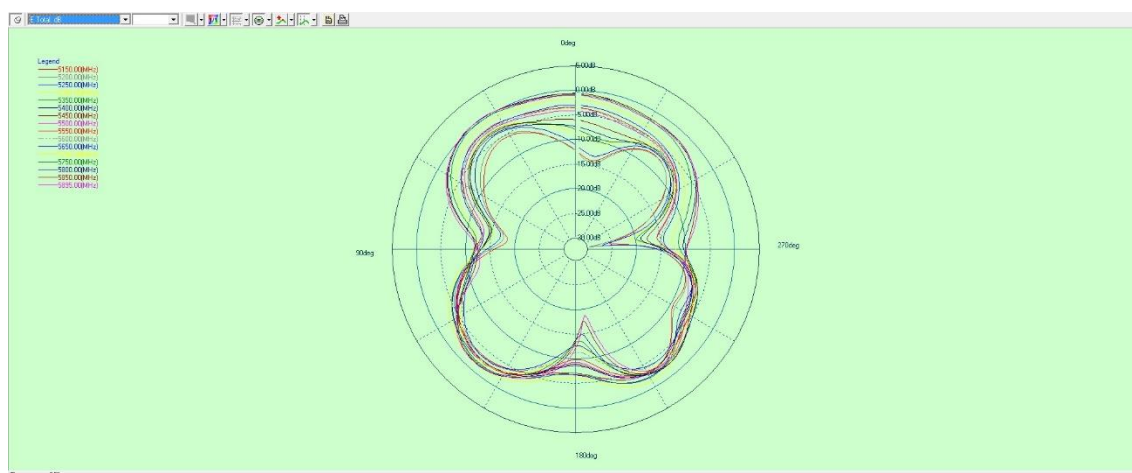


B2.2 PHI=90



B2.3 THETA=90



2#**B2.4 PHI=0****B2.5 PHI=90****B2.6 THETA=90**

ANNEX C TEST SETUP PHOTO

Please refer the document “BL-SZ2450444-AO.PDF”.

ANNEX D EUT PHOTO

Please refer the document “BL-SZ2450444-AA.PDF”.

Statement

1. The laboratory guarantees the scientificity, accuracy and impartiality of the test, and is responsible for all the information in the report, except the information provided by the customer. The customer is responsible for the impact of the information provided on the validity of the results.
2. The report without China inspection body and laboratory Mandatory Approval (CMA) mark has no effect of proving to the society.
3. For the report with CNAS mark or A2LA mark, the items marked with "☆" are not within the accredited scope.
4. This report is invalid if it is altered, without the signature of the testing and approval personnel, or without the "inspection and testing dedicated stamp" or test report stamp.
5. The test data and results are only valid for the tested samples provided by the customer.
6. This report shall not be partially reproduced without the written permission of the laboratory.
7. Any objection shall be raised to the laboratory within 30 days after receiving the report.

--END OF REPORT--