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# Antenna Test Report

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Report No.: AGC05587220901PA01

**PRODUCT DESIGNATION** : Car Audio Navigation  
**BRAND NAME** : N/A  
**MODEL NAME** : U720AC-29M, LP880(World) , La Paz 880 World WIRED  
**APPLICANT** : GUANGZHOU LIUHUAN INFORMATION TECHNOLOGY CO.,LTD.  
**DATE OF ISSUE** : Sep.13, 2022  
**REPORT VERSION** : V1.0



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**REPORT REVISE RECORD**

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Sep.13,2022	Valid	Initial release

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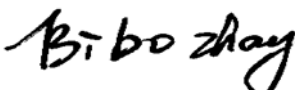
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## 1. PRODUCT INFORMATON

General information	
Applicant	GUANGZHOU LIUHUAN INFORMATION TECHNOLOGY CO.,LTD.
Address	ROOM 1101 OF BUILDING 2, ROOM 802 OF BUILDING 1 , NO.6, YUNPU FOUR ROAD, HUANGPU DISTRICT 510032, GUANGZHOUN,CHINA
Manufacturer	Guangdong Coagent Electronic Technology Co., Ltd.
Address	Foshan City, Southwest Industrial Park, Sanshui District, Guangdong Haobangshou Electronic Technology Co., Ltd
Factory	Guangdong Coagent Electronic Technology Co., Ltd.
Address	Foshan City, Southwest Industrial Park, Sanshui District, Guangdong Haobangshou Electronic Technology Co., Ltd
Product Designation	Car Audio Navigation
Brand Name	N/A
Test Model	U720AC-29M
Series Model	LP880(World), La Paz 880 World WIRED
Difference Description	Different customers, different model names, different label stickers
Date of test	Sep.13,2022
Report Template	AGCRT-ER-PA/V1.0
Technical information	
Frequency Range	2400-2500MHz
Test Frequencies	2400MHz, 2410MHz, 2420MHz, 2430MHz, 2440MHz, 2450MHz, 2460MHz, 2470MHz, 2480MHz, 2490MHz, 2500MHz
Antenna Type	PCB antenna
Dimensions	19mm*8mm
Impedance	50 Ω
Maximum test values	Gain: -3.002dBi; Efficiency: 29.500%; VSWR: 1.151:1

The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd.  
The test results of this report relate only to the tested sample identified in this report.

Prepared By   
 Bibo Zhang  
 (Project Engineer) Sep. 13, 2022

Reviewed By   
 Calvin Liu  
 (Reviewer) Sep. 13, 2022

Approved By   
 Max Zhang  
 (Authorized Officer) Sep. 13, 2022

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## 2. TEST FACILITY

<b>Test Site</b>	Attestation of Global Compliance (Shenzhen) Co., Ltd
<b>Location</b>	1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

## 3. TEST EQUIPMENT LIST

Equipment	Manufacturer	Model	Cal. Date	Cal. Due
ANTENNA MEASUREMENT SYSTEM	ETS-Lindgren	AMS-8600	Nov. 26, 2021	Nov. 25, 2022
Network Analyzer	R&S	ZVL-6	Oct. 16, 2021	Oct. 15, 2022
Test software	ETS-Lindgren	EMQuest (Ver V1.12)	N/A	N/A

## 4. MEASUREMENT UNCERTAINTY

The uncertainty is calculated using the methods suggested in the "Guide to the Expression of Uncertainty in measurement" (GUM) published by CISPR and ANSI.

- Uncertainty of VSWR,  $U_c = \pm 1.5\text{dB}$
- Uncertainty of Gain,  $U_c = \pm 0.8\text{dB}$

## 5. TEST SUMMARY LIST

NO.	Test item	Remark
1	VSWR	--
2	Gain and efficiency	--
3	Radiation pattern	--

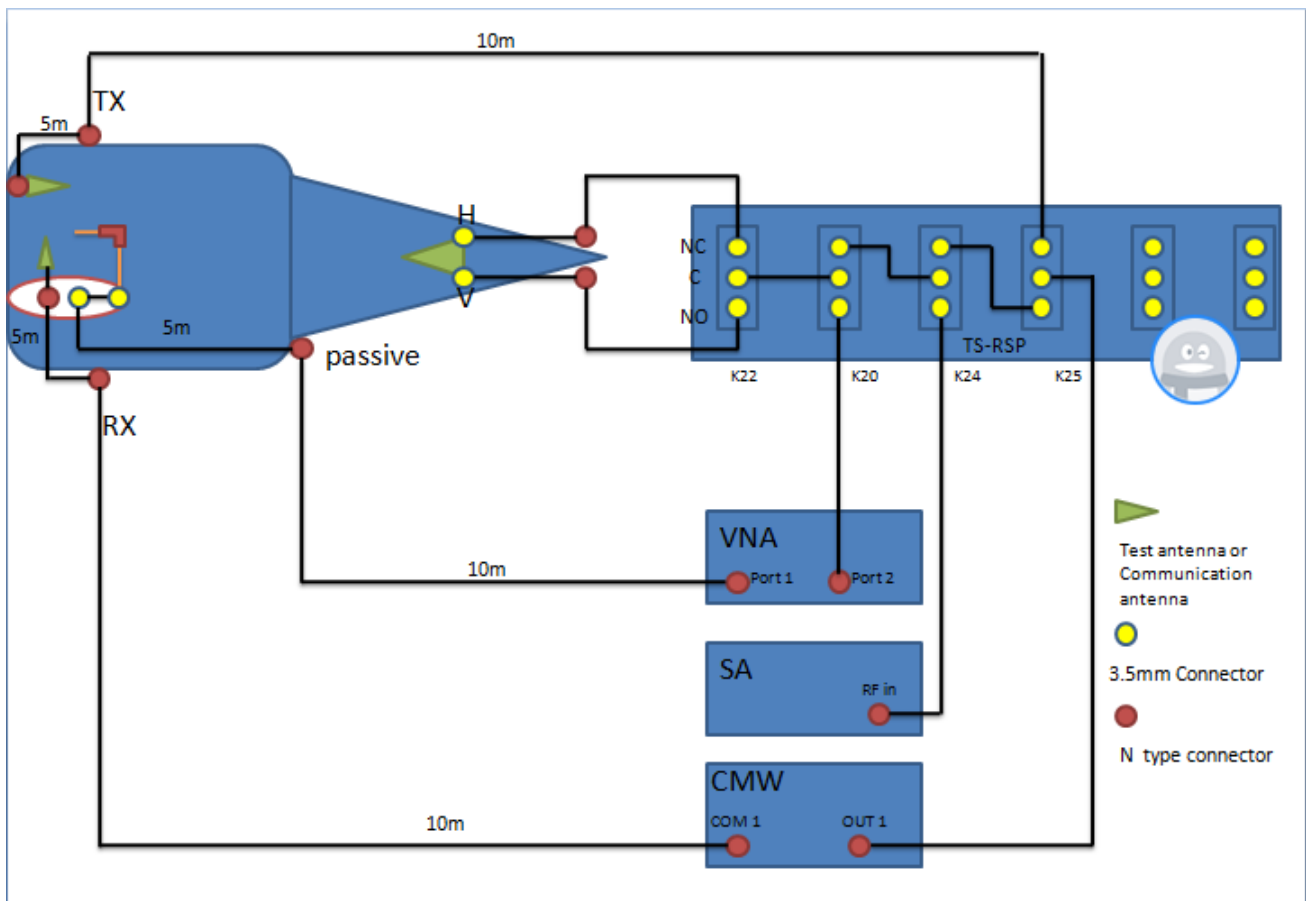
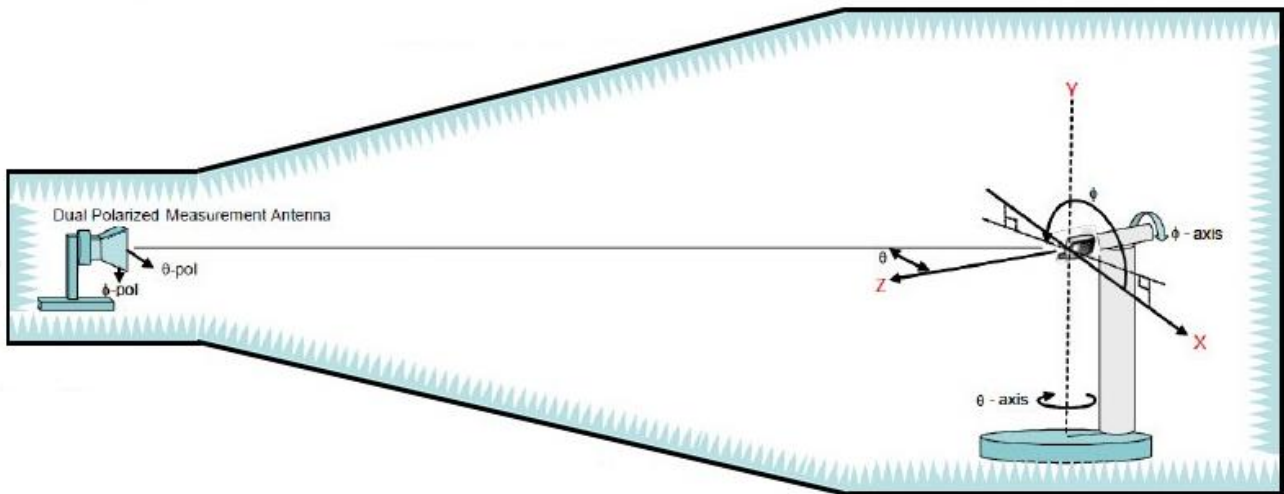
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## 6. TEST SETUP

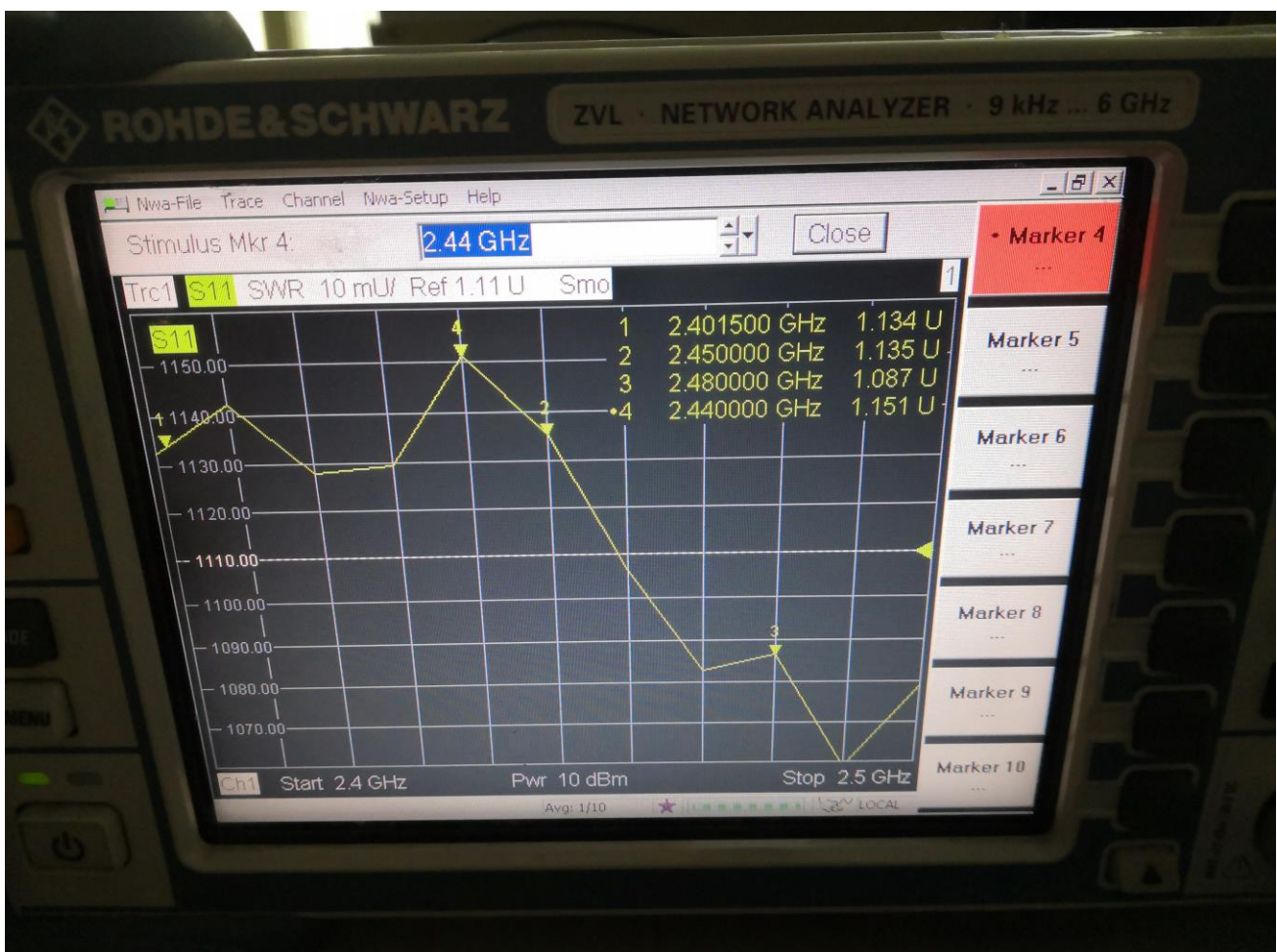


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## 7. TEST RESULTS

### 7.1. VSWR

Frequency(MHz)	VSWR
2402	1.134:1
2440	1.151:1
2450	1.135:1
2480	1.087:1



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## 7.2. GAIN AND EFFICIENCY

Frequency(MHz)	Efficiency(dB)	Efficiency(%)	Gain(dBi)
2400	-9.098	24.050	-4.374
2410	-9.071	24.221	-4.378
2420	-9.174	23.575	-4.533
2430	-8.934	25.109	-4.232
2440	-8.823	25.850	-3.962
2450	-8.768	26.227	-3.784
2460	-8.723	26.536	-3.627
2470	-8.742	26.406	-3.558
2480	-8.509	28.052	-3.300
2490	-8.387	28.951	-3.161
2500	-8.314	29.500	-3.002

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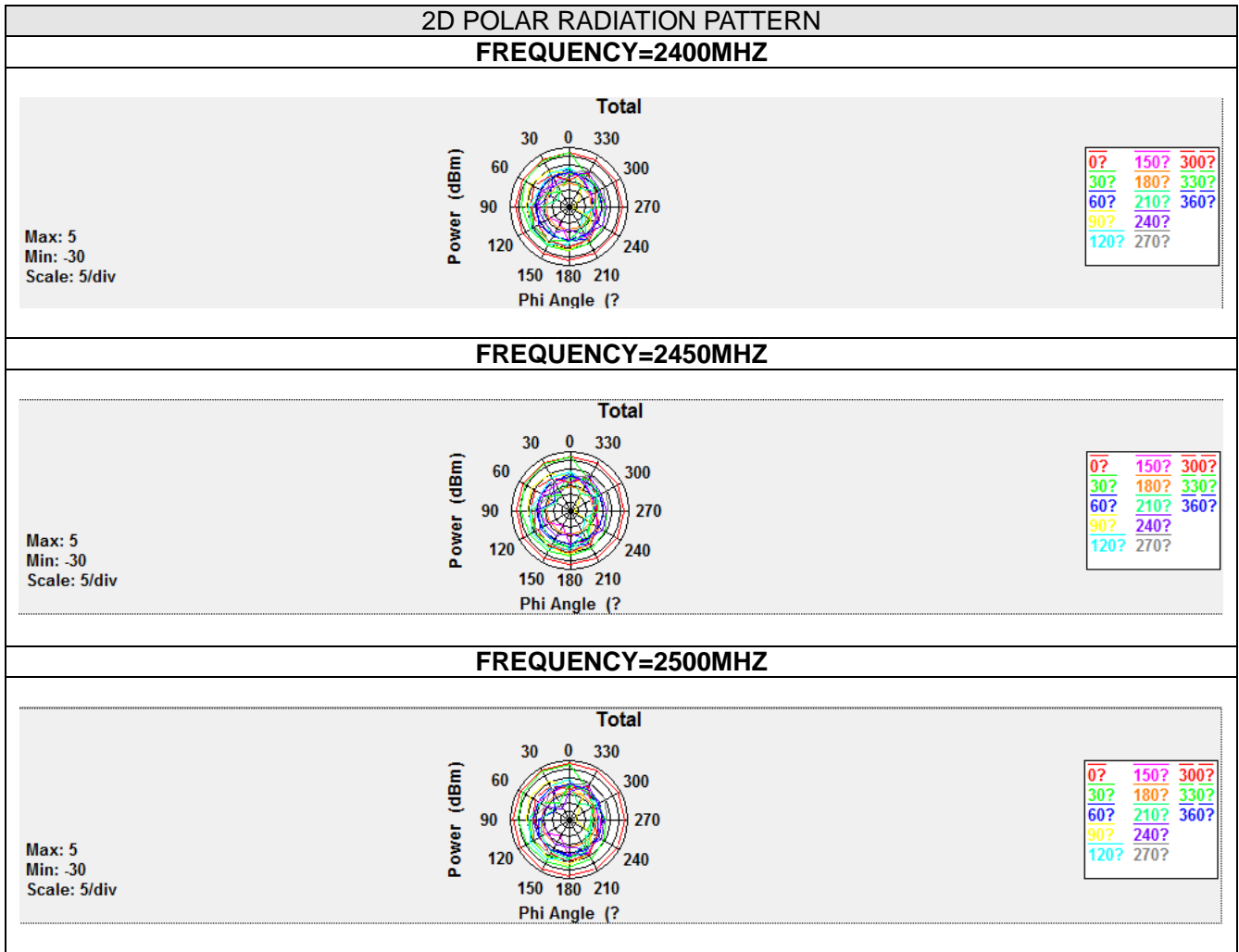
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### 7.3. RADIATION PATTERN

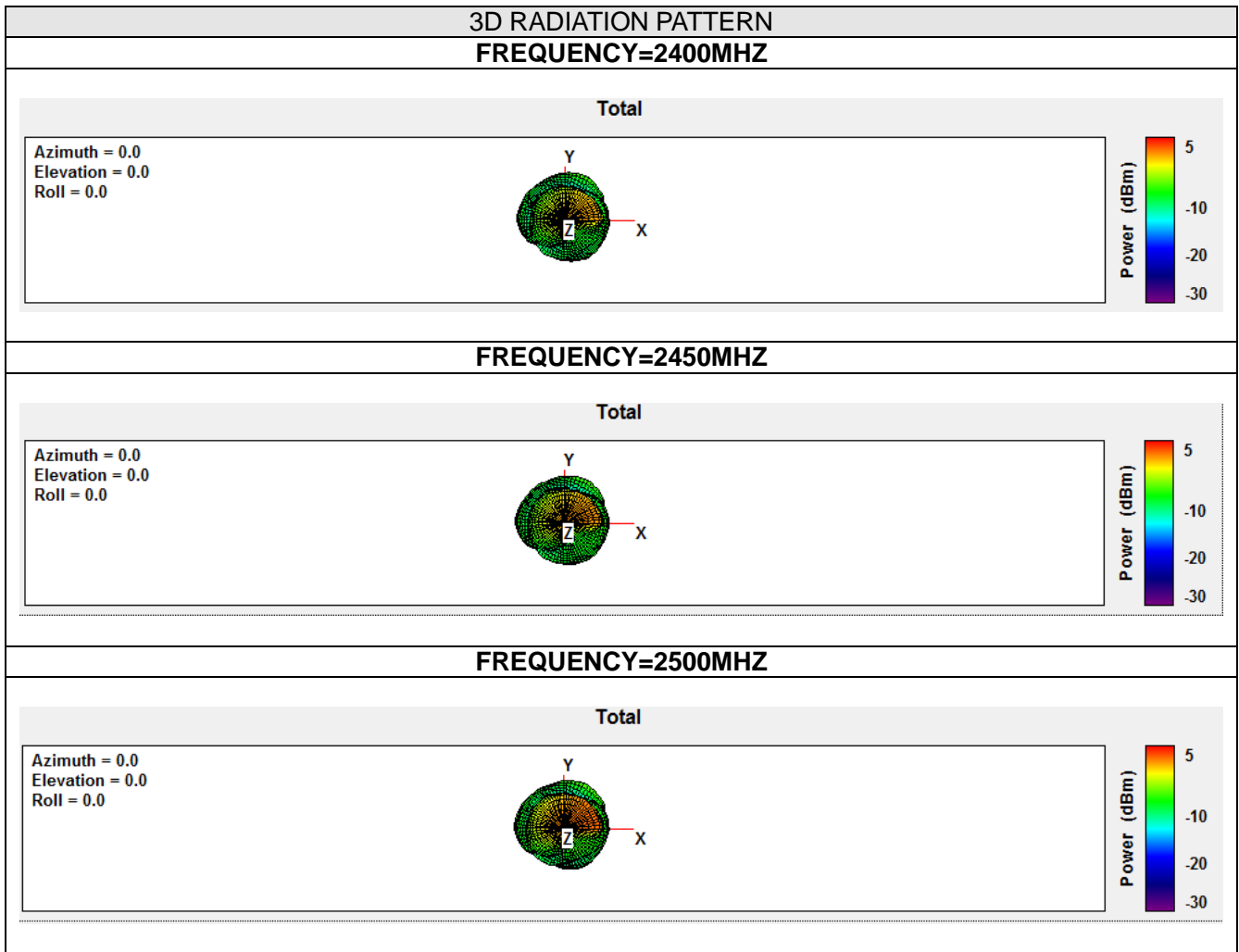


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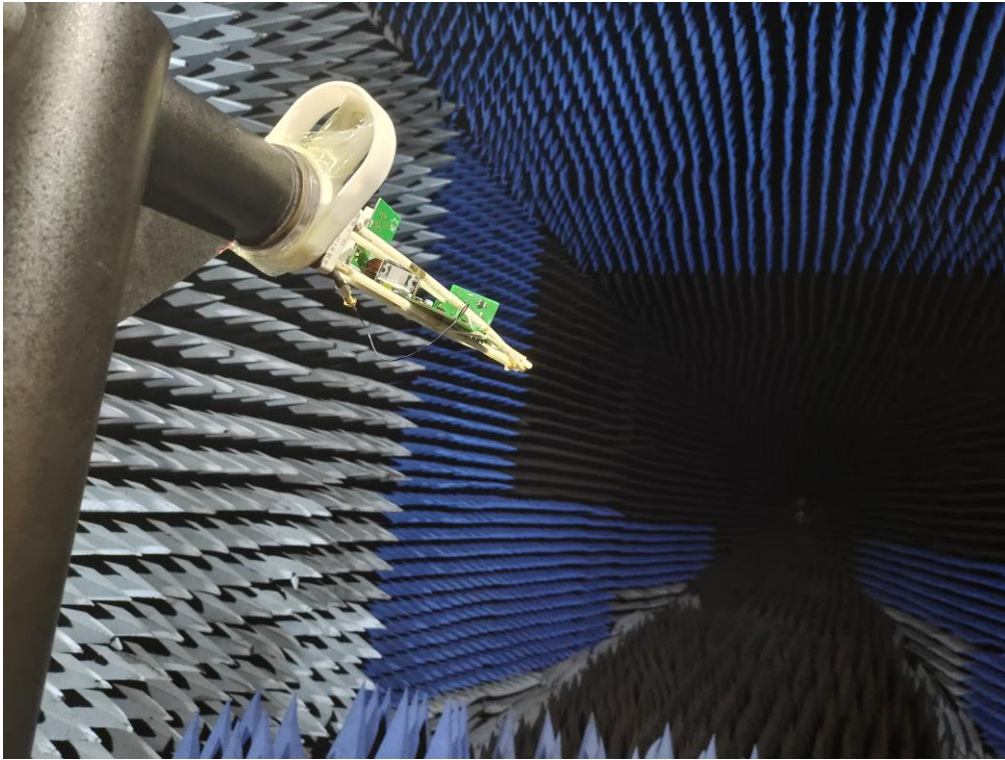
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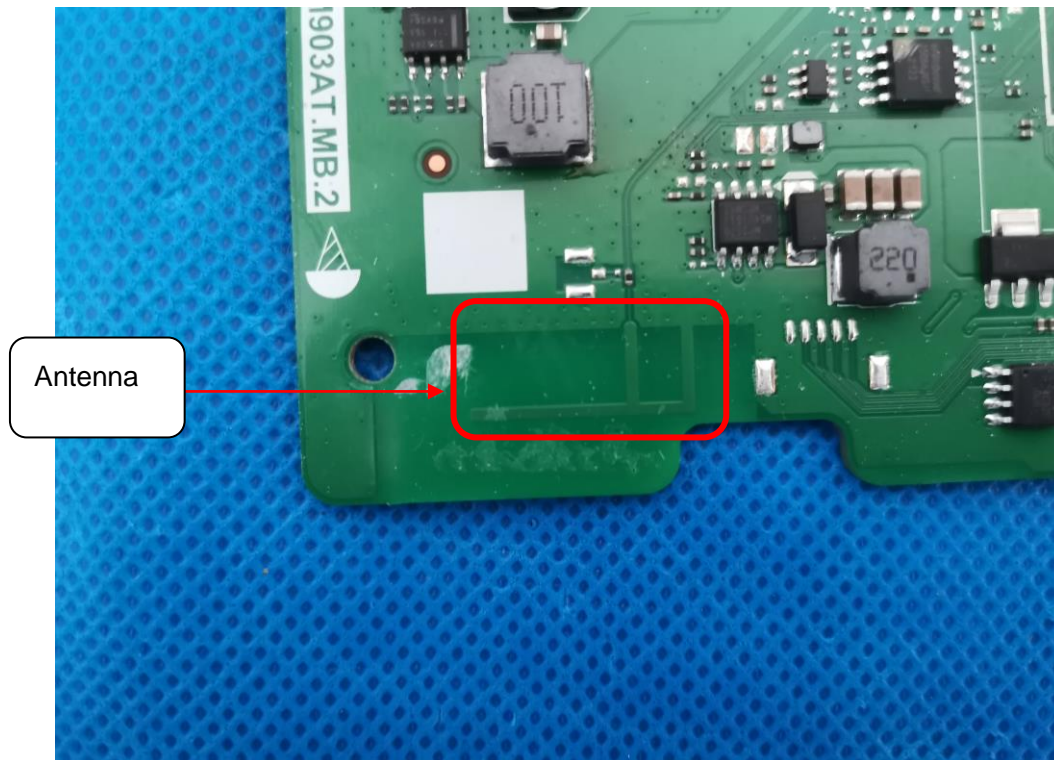
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**APPENDIX A: PHOTOGRAPHS OF TEST SETUP**

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## APPENDIX B: PHOTOGRAPHS OF EUT

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----END OF REPORT----

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## Conditions of Issuance of Test Reports

1. All samples and goods are accepted by the Attestation of Global Compliance (Shenzhen) Co., Ltd. (the “Company”) solely for testing and reporting in accordance with the following terms and conditions. The company provides its services on the basis that such terms and conditions constitute express agreement between the company and any person, firm or company requesting its services (the “Clients”).
2. Any report issued by Company as a result of this application for testing services (the “Report”) shall be issued in confidence to the Clients and the Report will be strictly treated as such by the Company. It may not be reproduced either in its entirety or in part and it may not be used for advertising or other unauthorized purposes without the written consent of the Company. The Clients to whom the Report is issued may, however, show or send it, or a certified copy thereof prepared by the Company to its customer, supplier or other persons directly concerned. The Company will not, without the consent of the Clients, enter into any discussion or correspondence with any third party concerning the contents of the Report, unless required by the relevant governmental authorities, laws or court orders.
3. The Company shall not be called or be liable to be called to give evidence or testimony on the Report in a court of law without its prior written consent, unless required by the relevant governmental authorities, laws or court orders.
4. In the event of the improper use of the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other additional remedies which may be appropriate.
5. Samples submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company.
6. The Company will not be liable for or accept responsibility for any loss or damage however arising from the use of information contained in any of its Reports or in any communication whatsoever about its said tests or investigations.
7. Clients wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing.
8. The Company is not responsible for recalling the electronic version of the original report when any revision is made to them. The Client assumes the responsibility to providing the revised version to any interested party who uses them.
9. Subject to the variable length of retention time for test data and report stored hereinto as otherwise specifically required by individual accreditation authorities, the Company will only keep the supporting test data and information of the test report for a period of six years. The data and information will be disposed of after the aforementioned retention period has elapsed. Under no circumstances shall we provide any data and information which has been disposed of after retention period. Under no circumstances shall we be liable for damage of any kind, including (but not limited to) compensatory damages, lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind, whether based on breach of contract of warranty, tort (including negligence), product liability or otherwise, even if we are informed in advance of the possibility of such damages.

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