



## SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

SZEMC-TRF-01 Rev. A/0 Aug01,2022

Report No.: SZCR230300063201

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# ANTENNA PASSIVE TEST REPORT

**Application No.** SZCR2303000632AT  
**Applicant** GuangDong WauTech Co., Ltd  
**Manufacturer** GuangDong WauTech Co., Ltd  
**Product Name** PCB Antenna  
**Model No.** F2P28980  
**Standards** ANSI/IEEE Std 149-2008  
**Date Initial Sample(s) Received** 2023-03-10  
**Testing Start Date** 2023-03-11  
**Testing Finish Date** 2023-03-11 to 2023-03-21  
**Report Issue Date** 2022-03-22

\*In the configuration tested, the EUT detailed in this report complied with the standards specified above.

Kenx. Xu

Kenx Xu  
EMC Laboratory Manager



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Shenzhen Branch EMC Laboratory

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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2023-03-22		Original

Authorized for issue by:				
		Ian. Li		
		Prepared by Ian Li		
		Mark Mao		
		Reviewed by Mark Mao		
		Eric Fu		
		Approved by Eric Fu		



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## 2 Revision Version

Report No.	Version	Date	Memo
SZCR2303000632AT	00	03/22	Initial creation of report



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## 4 General Information

### 4.1 Testing Laboratory

Test Lab	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
Address	No.1 Workshop, M-10, Middle section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China 518057
Contact	Mark Mao
Tel.	+86 (0) 755 2532 8628
Fax	+86 (0) 755 2671 0594
E-mail	<a href="mailto:Mark.Mao@sgs.com">Mark.Mao@sgs.com</a>

### 4.2 Details of Applicant

Applicant's Name	GuangDong WauTech Co., Ltd
Applicant's Address	3 <sup>rd</sup> Building, 1Rd. NanHu, Xiegang Town, Dongguan Guangdong.
Contact	Joe Ji
Tel.	13802901125
E-mail	<a href="mailto:Joe.Ji@wauTech.com">Joe.Ji@wauTech.com</a>

### 4.3 Details of Manufacturer

Manufacturer's Name	GuangDong WauTech Co., Ltd
Manufacturer's Address	3 <sup>rd</sup> Building, 1Rd. NanHu, Xiegang Town, Dongguan Guangdong.
Contact	Joe Ji
Tel.	13802901125
E-mail	<a href="mailto:Joe.Ji@wauTech.com">Joe.Ji@wauTech.com</a>

### 4.4 General Description of EUT

Device Description:	Antenna Of Box Rocker
Device Manufacturer:	Guangdong Wautech Co., Ltd
Device Name:	PCB Antenna
Device Model:	F2P28980
Hardware Version:	N/A
Software Version:	N/A
S/N:	N/A



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### 4.5 Test Procedure

Testing is performed according to the **ANSI/IEEE Std 149-2008**.

### 4.6 Test Specification

Identity	Document Title
ANSI/IEEE Std 149-2008	IEEE Standard Test Procedures for Antennas

### 4.7 Laboratory Environment

Temperature	Min. =19℃ , Max. = 25℃	
Relative humidity	Min. =40%, Max. =72%	
Shield effect	0.7-6GHz	> 100dB
Ground resistance	<0.5Ω	



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### 4.8 Test Location

All tests were performed at:

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Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

### 4.9 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

### 4.10 Deviation from Standards

None

### 4.11 Abnormalities from Standard Conditions

None



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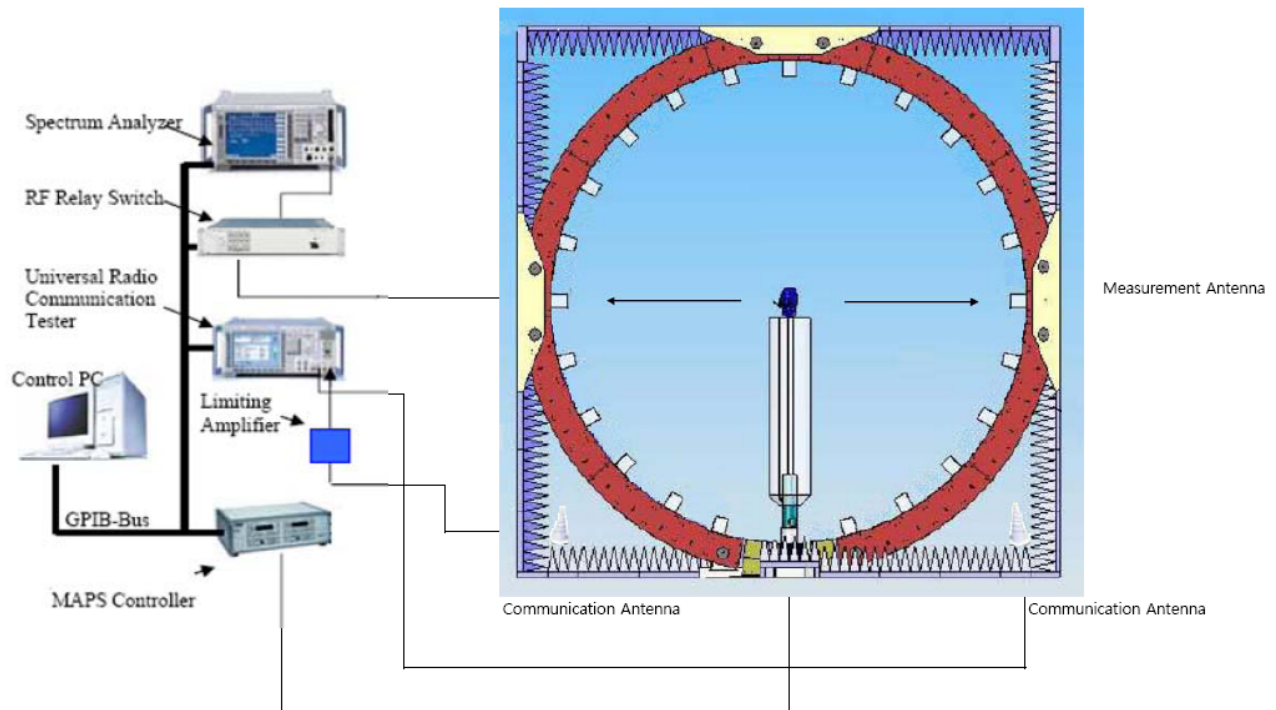
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## 5 OTA Measurements System Configuration

### 5.1 Test Configuration

Great-Circle-Cut method is used to measure the antenna 3D GAIN of EUT in OTA qualified anechoic chamber. Equipment Under Test (EUT) geometry centre vertical projection at the centre of platform, the distance from EUT to measurement antenna is 5m



F-1. OTA Measurement System Configuration



## 6 Equipment List

Type of Equipment	Model Number	Manufacture	Calibration Date	Valid Period
Network Analyzer	E5071C S/N MY46523591	Keysight	2022/4/11	2023/4/10



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## 7 Measurement Uncertainty

Item	410-470 MHz (dB)
Gain	0.88
Efficiency	0.88
Measurement Uncertainty (95% CONFIDENCE INTERVAL) K=2	



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## 8 Test Result

### 8.1 Test summary

product	Maximum Gain Data			
	Frequency (MHz)	Efficiency (dB)	Efficiency (%)	Gain (dBi)
Antenna	434	-3.88	34.65	1.61

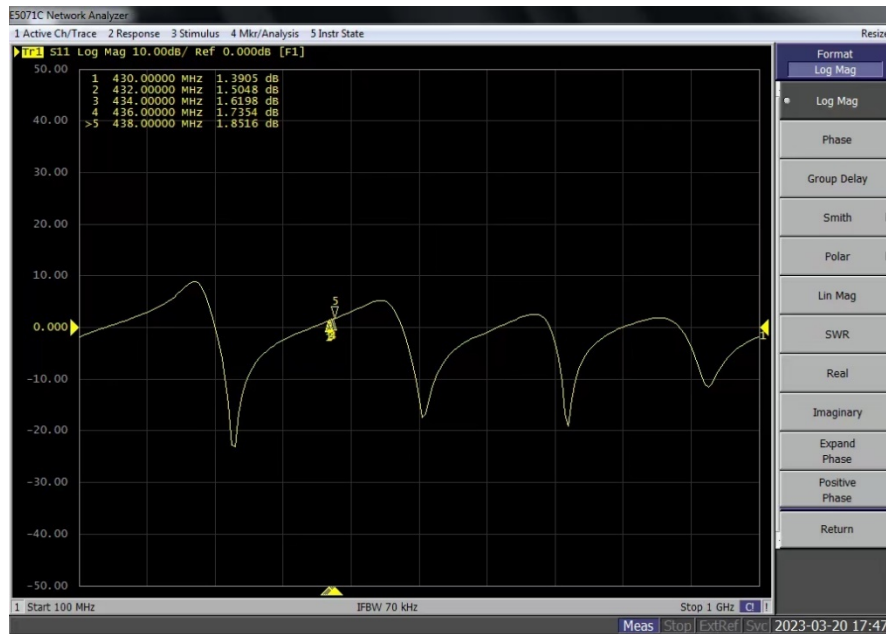
### 8.2 Antenna Test Results

Free Space			
Frequency (MHz)	Efficiency (dB)	Efficiency (%)	Gain (dBi)
434	-3.88	34.65	1.61

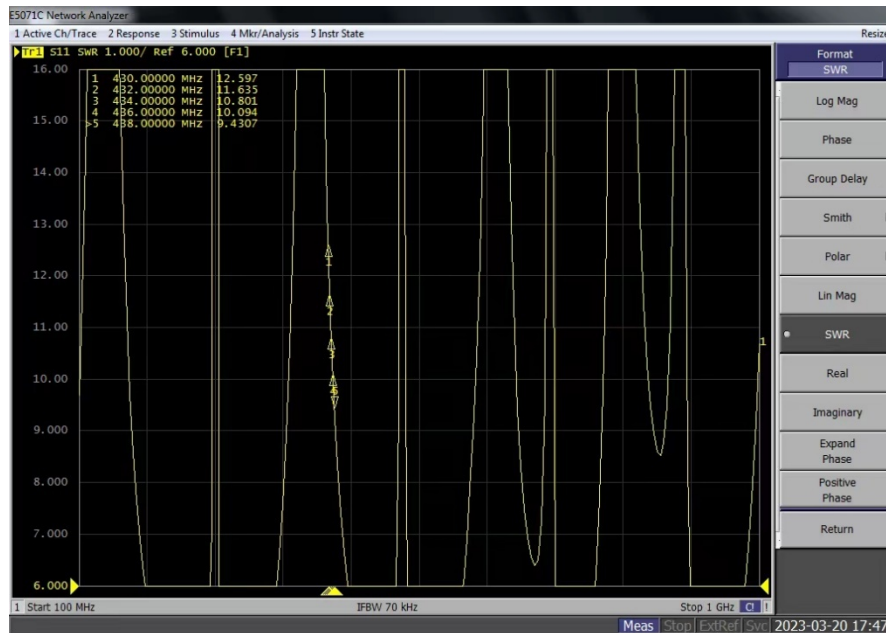


## 9 Pattern Plots

### Return Los



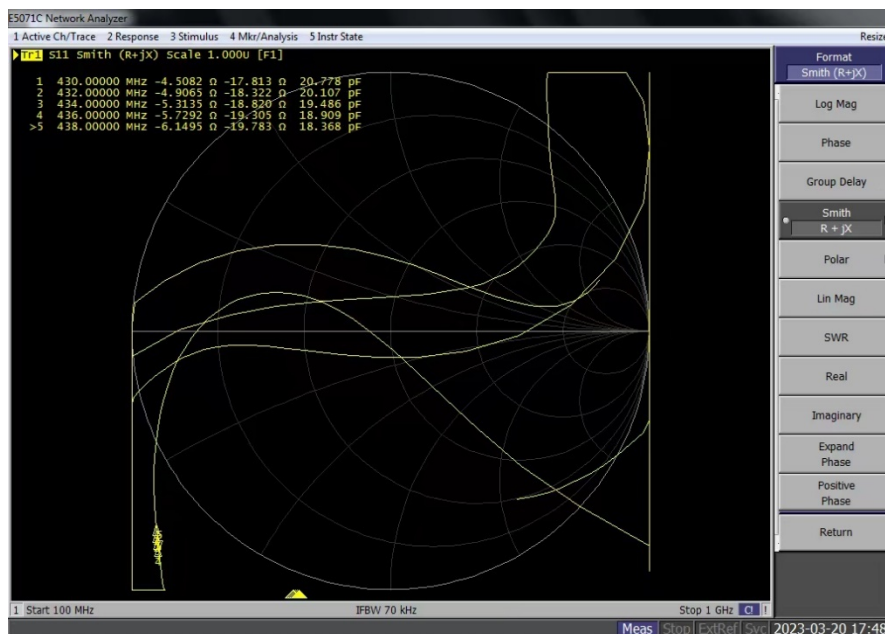
### VSWR



### Free Space



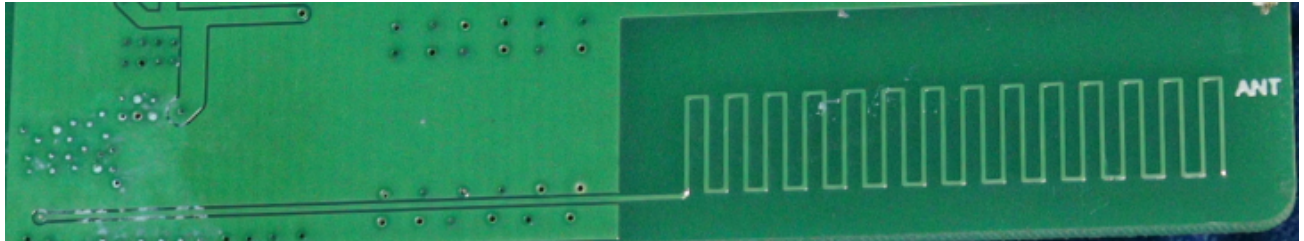
### Stimulus



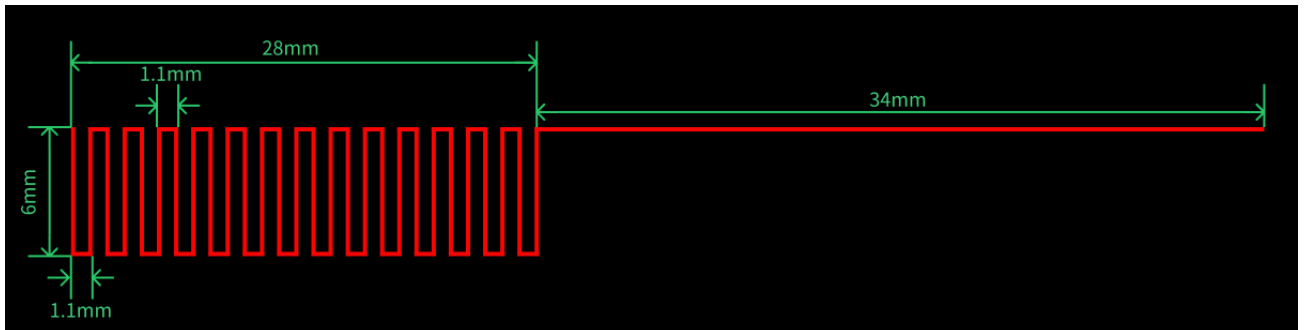


### 10 The EUT Photos

#### Photo of EUT



#### Size of the Antenna



- End of the Report -