No.:
WTSSZ2024-0198-E

TEST REPORT

NAME OF SAMPLE	:	433MHz PCB onboard antenna
CLIENT	:	SHENZHEN ZHIHUANG TECHNOLOGY CO., LTD
CLASSIFICATION OF TEST	:	N/A

CVC Testing Technology (Shenzhen) Co., Ltd.

Client	**Name : SHENZHEN ZHIHUANG TECHNOLOGY CO., LTD** **Address : 101 No, 30 FuKeng 2 Road, Anliang 5 Village, YuanShan Street, LongGangDistrict,ShenZhen, China**
Manufacturer	**Name : SHENZHEN ZHIHUANG TECHNOLOGY CO., LTD** **Address : 101 No, 30 FuKeng 2 Road, Anliang 5 Village, YuanShan Street, LongGangDistrict,ShenZhen, China**
Equipment Under Test	**Name : 433MHz PCB onboard antenna** **Model/Type: 175A_RF433** **Additional Model: N/A** **Trade mark : N/A** **Serial NO.:N/A** **Sample NO.: 1-1**

Date of Receipt.	**2024.03.20**	Date of Testing	**2024.03.20～2024.03.25**

Test Specification	**Test Result**
ANSI/IEEE Std 149-1979 IEEE Standard Test Procedures for Antennas	N/A

Evaluation of Test Result	The Gain,Efficiency and Radiation Pattern of 433MHz PCB onboard antenna had been tested and the test results were shown on pages 8 to 22. Seal of CVC **Issue Date: 2024.03.26**

Tested by:	Reviewed by:	Approved by:
Cai Jianyu	Huang Meng	Dong Sanbi
Name Signature	Name Signature	Name Signature

Other Aspects: NONE.

Abbreviations:OK, Pass= passed Fail = failed N/A= not applicable EUT= equipment, sample(s) under tested

This test report relates only to the EUT, and shall not be reproduced except in full, without written approval of CVC.

TABLE OF CONTENTS

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
WTSSZ2024-0198-E	Original release	2024.03.26

1. SUMMARY OF TEST RESULTS

Test Item	Result
Gain(Peak Gain)	-7.79 dBi

2. GENERAL INFORMATION

2.1 General Product Information

PRODUCT	433MHz PCB onboard antenna
BRAND	N/A
TEST MODEL	175A_RF433
ADDITIONAL MODEL	N/A
ANTENNA TYPE	PCB Antenna
FREQUENCY RANGE	432MHz~448 MHz
ANTENNA DIMENSIONS	28mm × 22mm

Remark:

1. For more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
2. Since the above data and/or information is provided by the client, CVC is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.

2.2 Test Condition

ENVIRONMENT PARAMETER	Ambient Pressure (KPa)	Temperature (℃)	Voltage	Relative Humidity (%)
NORMAL TEMPERATURE,NORMAL VOLTAGE	101	22.7	N/A	54.2

2.3 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT:

Item	Uncertainty
Gain	±0.3dB

2.4 Test Location

The tests and measurements refer to this report were performed by EMC testing Lab. of CVC Testing Technology (Shenzhen) Co., Ltd.

Lab Address:No. 1301, Guanguang Road, Xinlan Community, Guanlan Street, Longhua District, Shenzhen City, Guangdong Province 518110 P.R.China

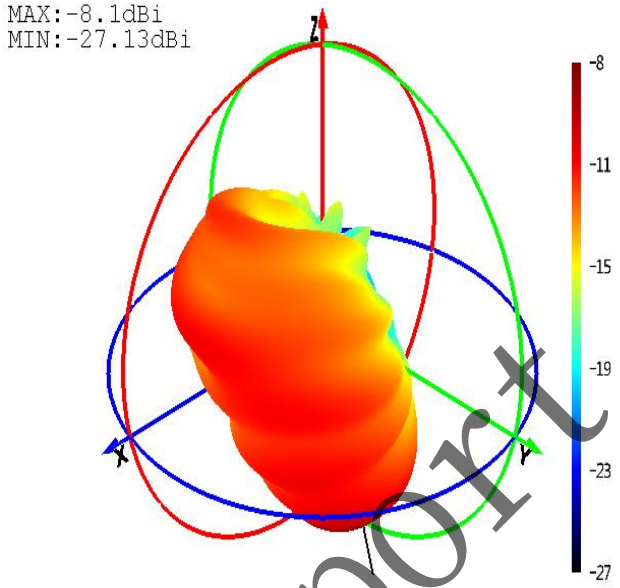
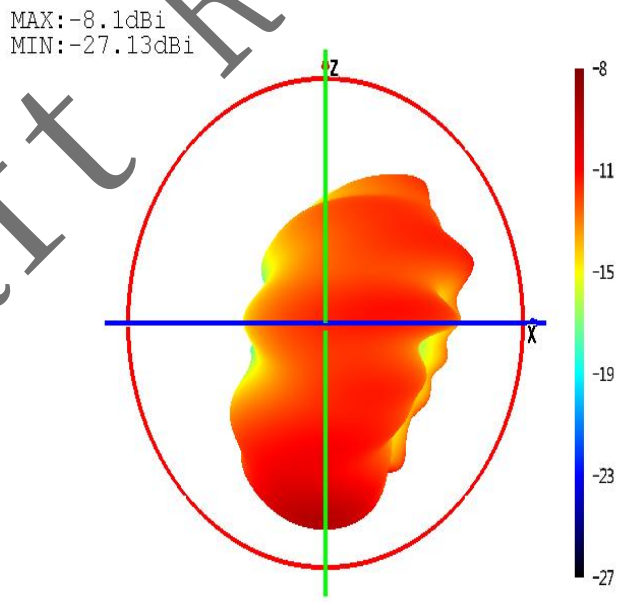
Post Code：518110 Tel：0755-23763060-8805
Fax：0755-23763060 E-mail：sz-kf@cvc.org.cn
http://www.cvc.org.cn

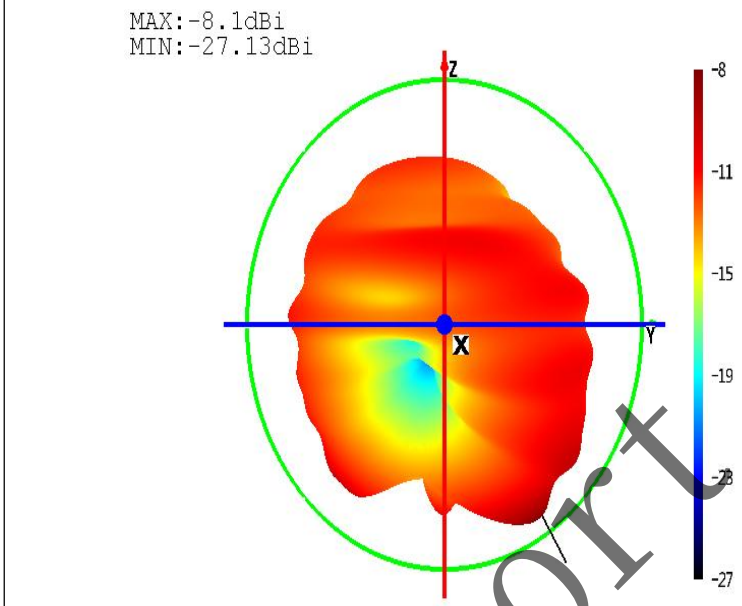
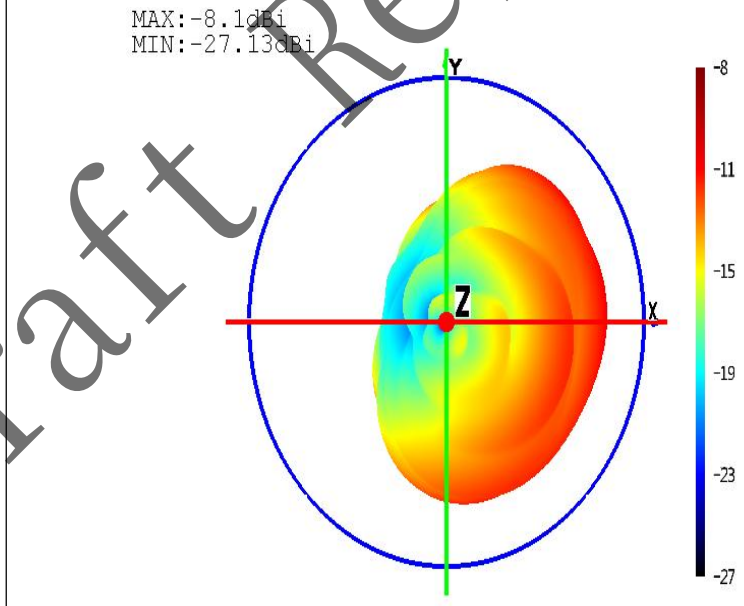
3. ANTENNA GAIN EFFICIENCY AND RADIATION PATTERN

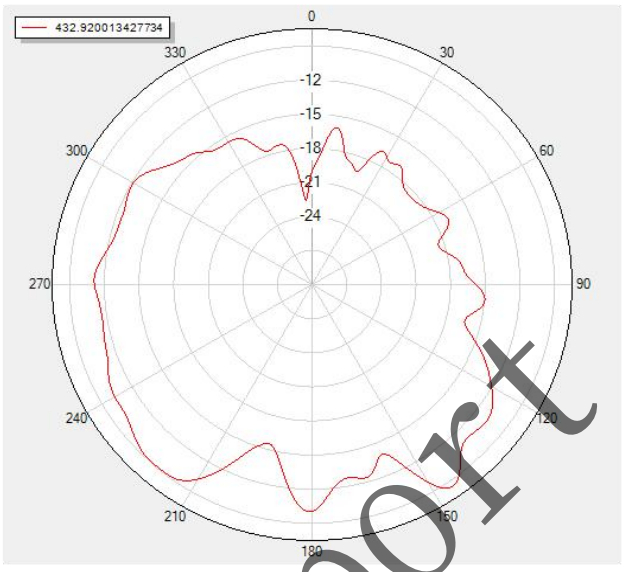
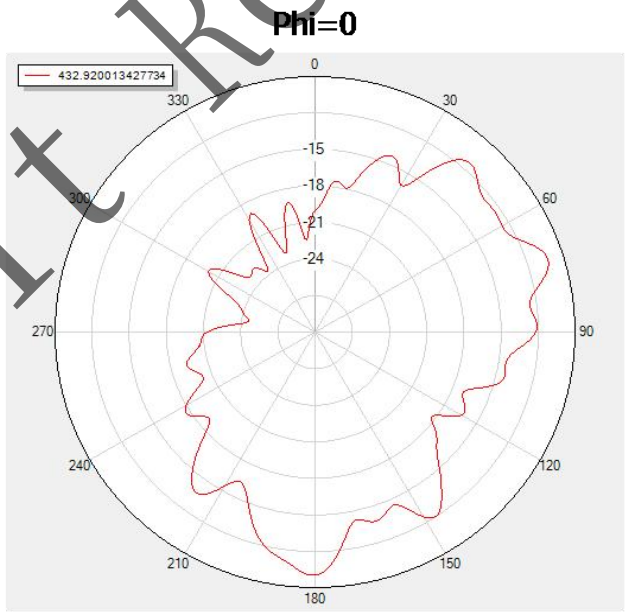
3.1 Test Results

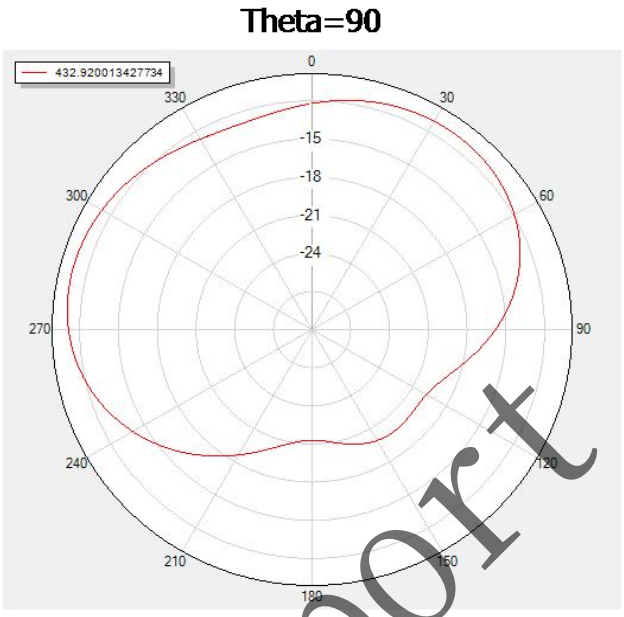
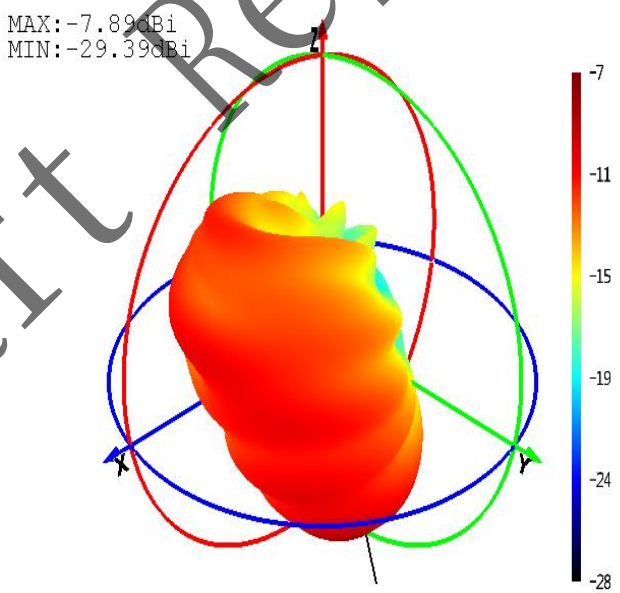
Test Model	175A_RF433	
Sample No.	1-1	
Frequency (MHz)	Gain(dBi)	Efficiency(%)
432.92	-8.10	4.34
433.92	-7.89	4.69
434.92	**-7.79**	**5.02**
447.725	-9.26	3.89

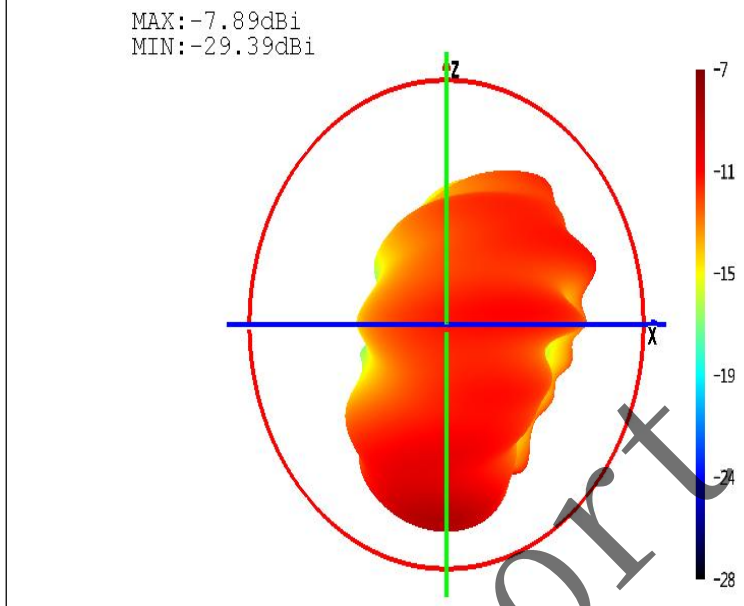
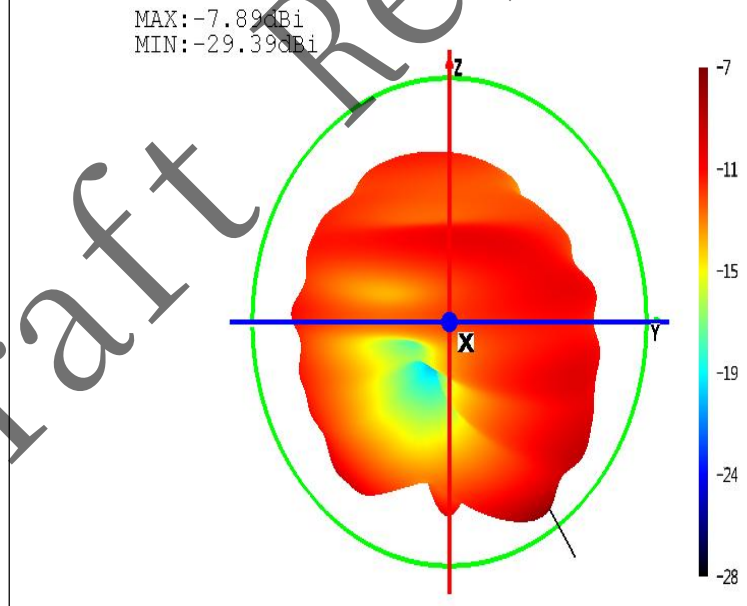
3.2 Test Graphs

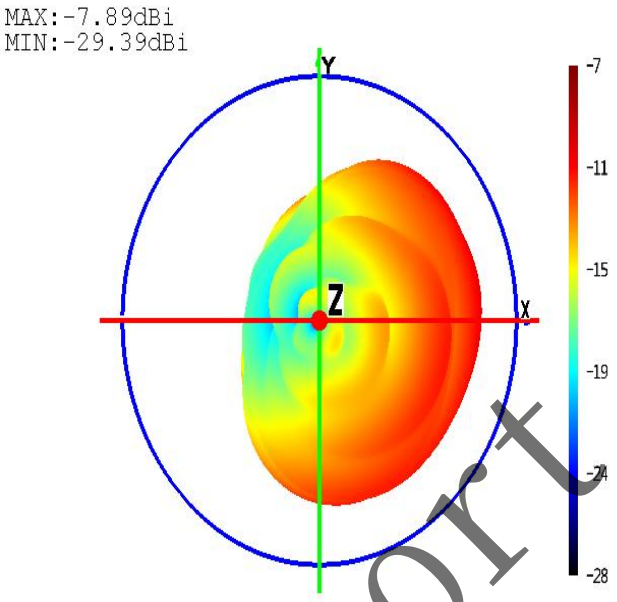
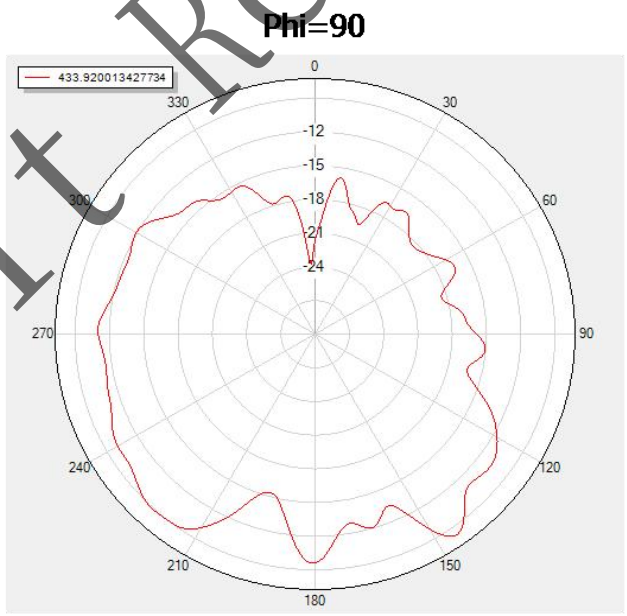
432.92MHz	
432.92MHz	

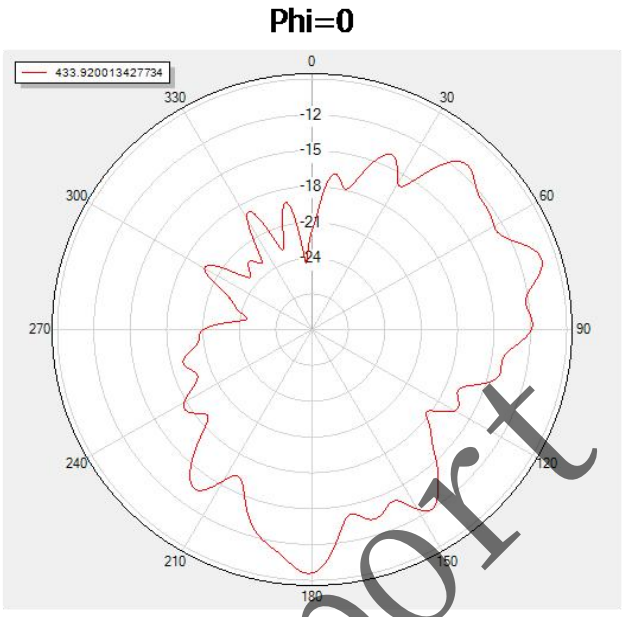
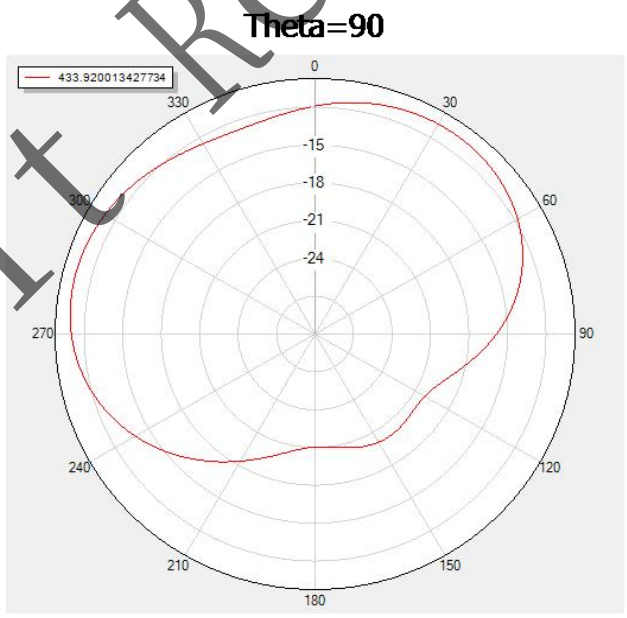
432.92MHz	
432.92MHz	

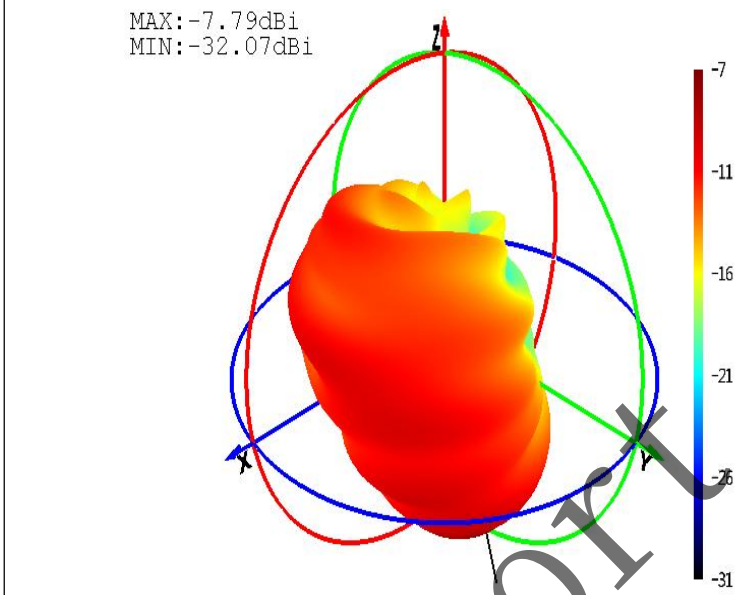
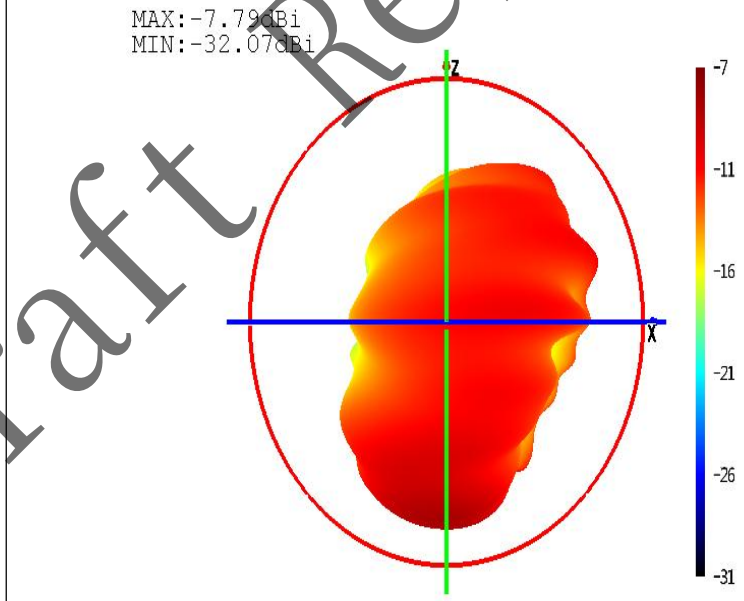
432.92MHz	
432.92MHz	

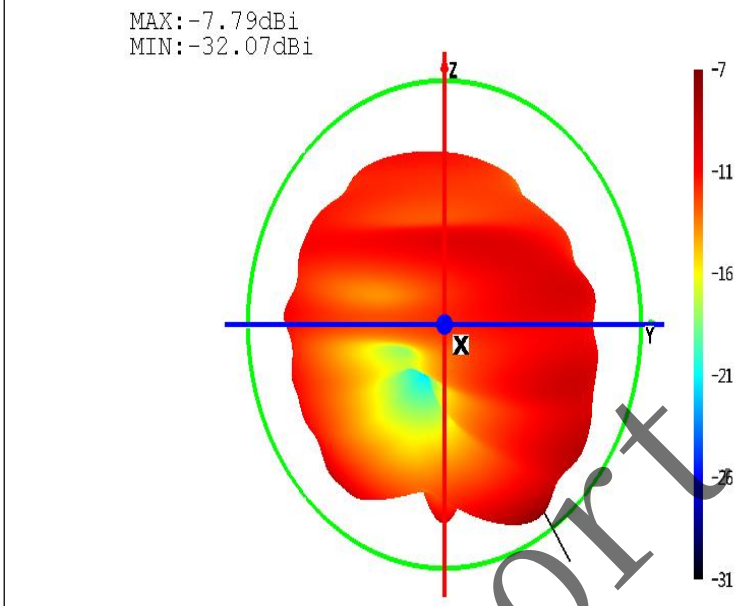
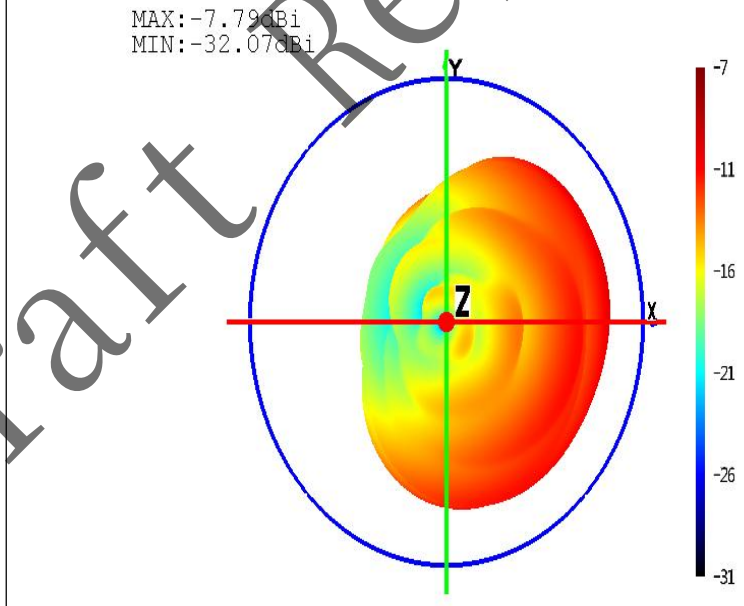
432.92MHz	
433.92MHz	

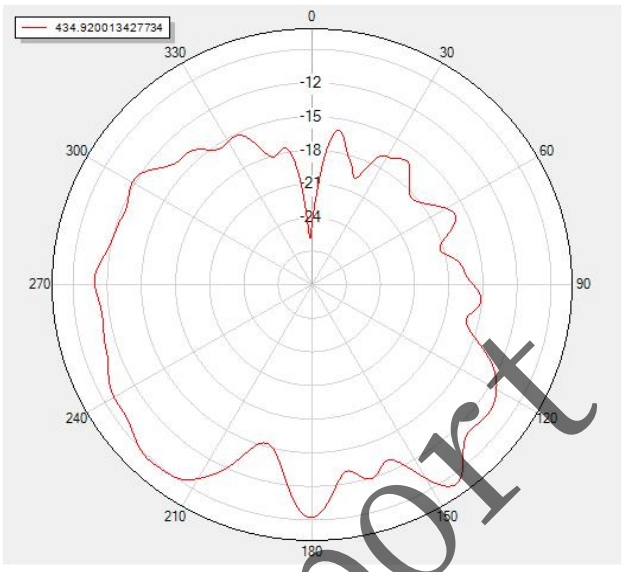
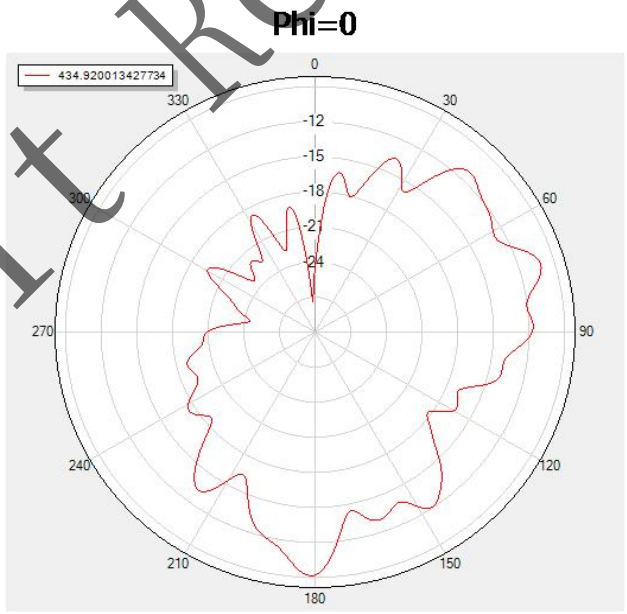
433.92MHz	
433.92MHz	

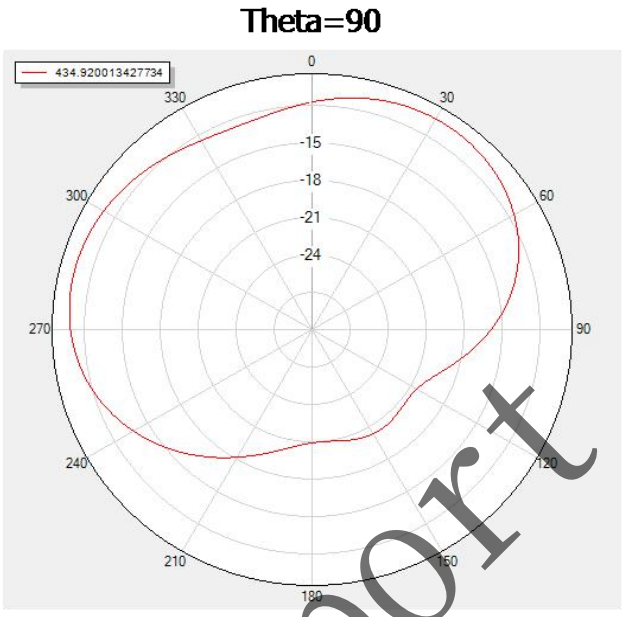
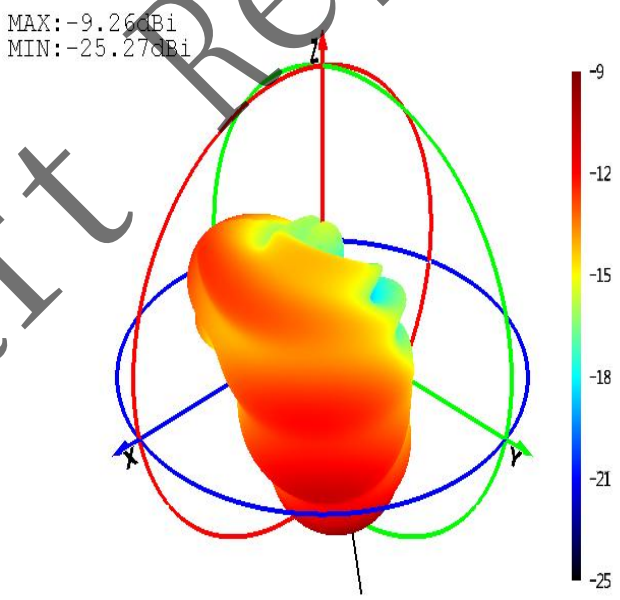
433.92MHz	
433.92MHz	

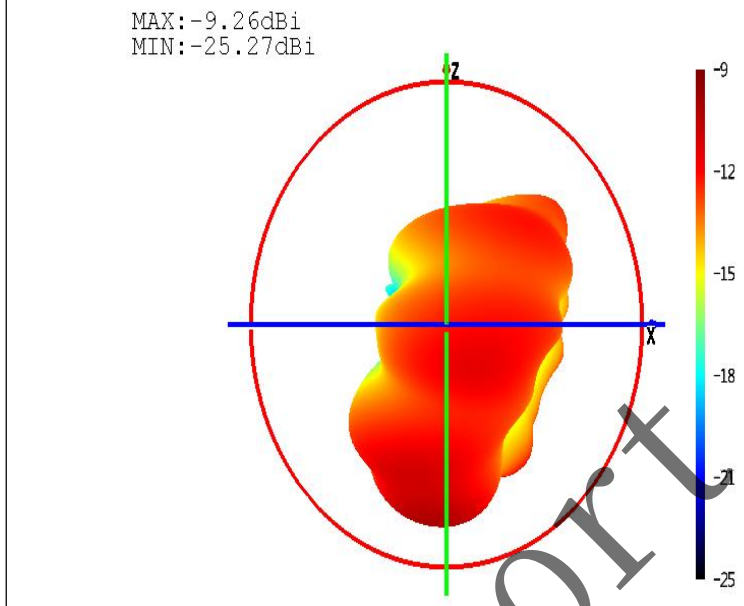
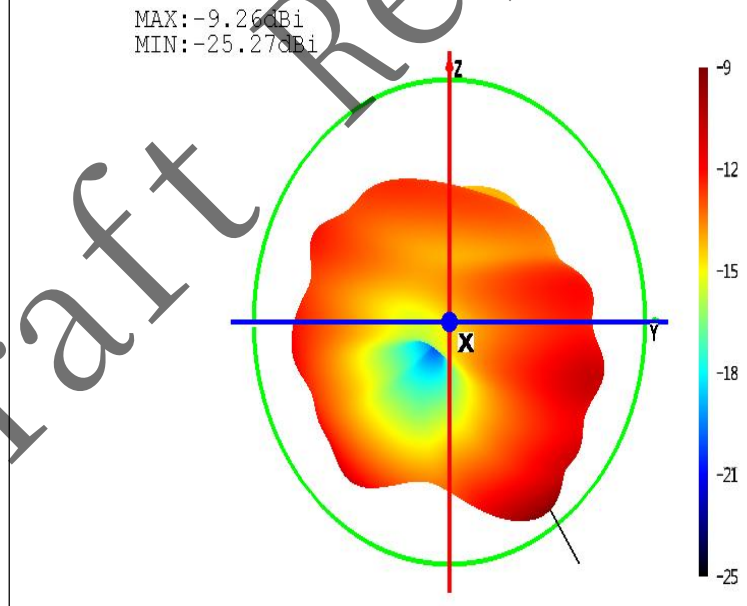
433.92MHz	
433.92MHz	

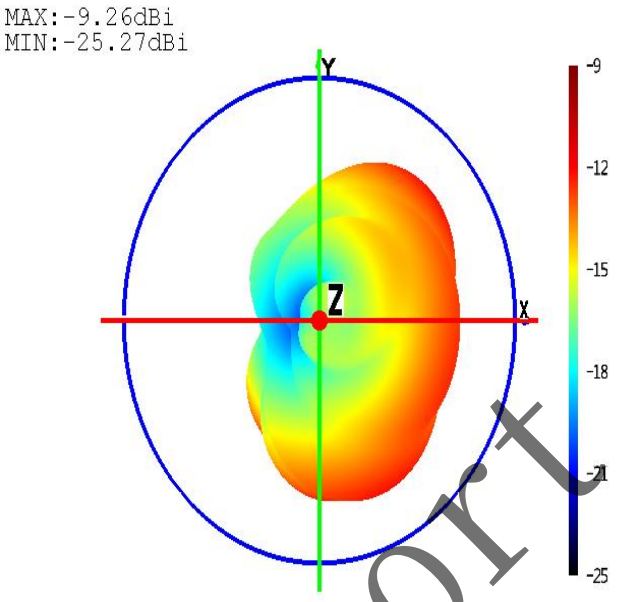
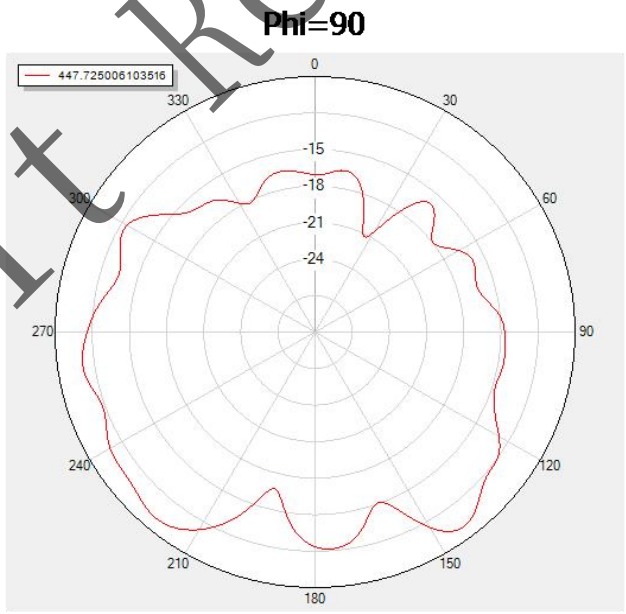
434.92MHz	
434.92MHz	

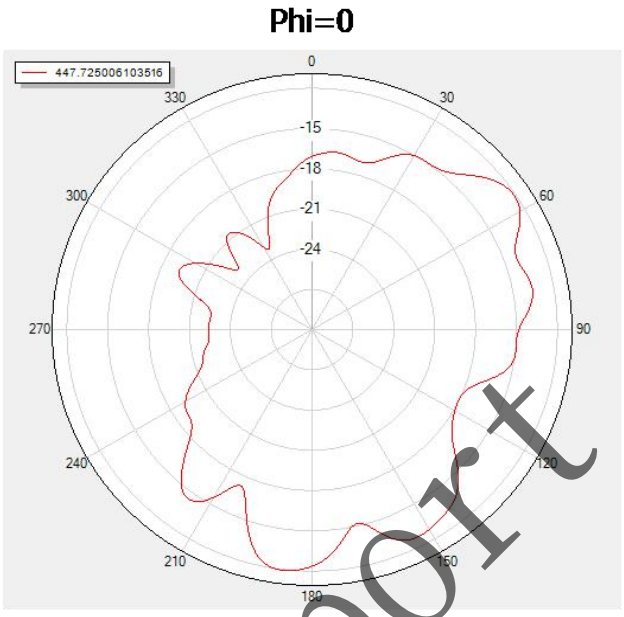
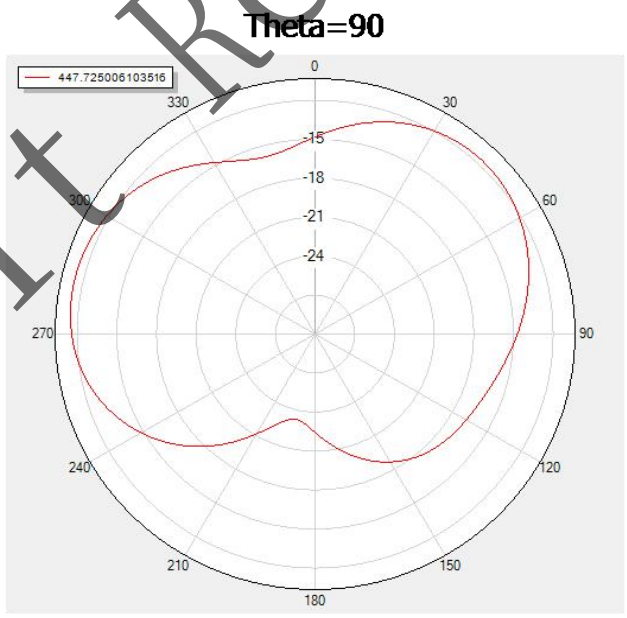
434.92MHz	
434.92MHz	

434.92MHz	
434.92MHz	

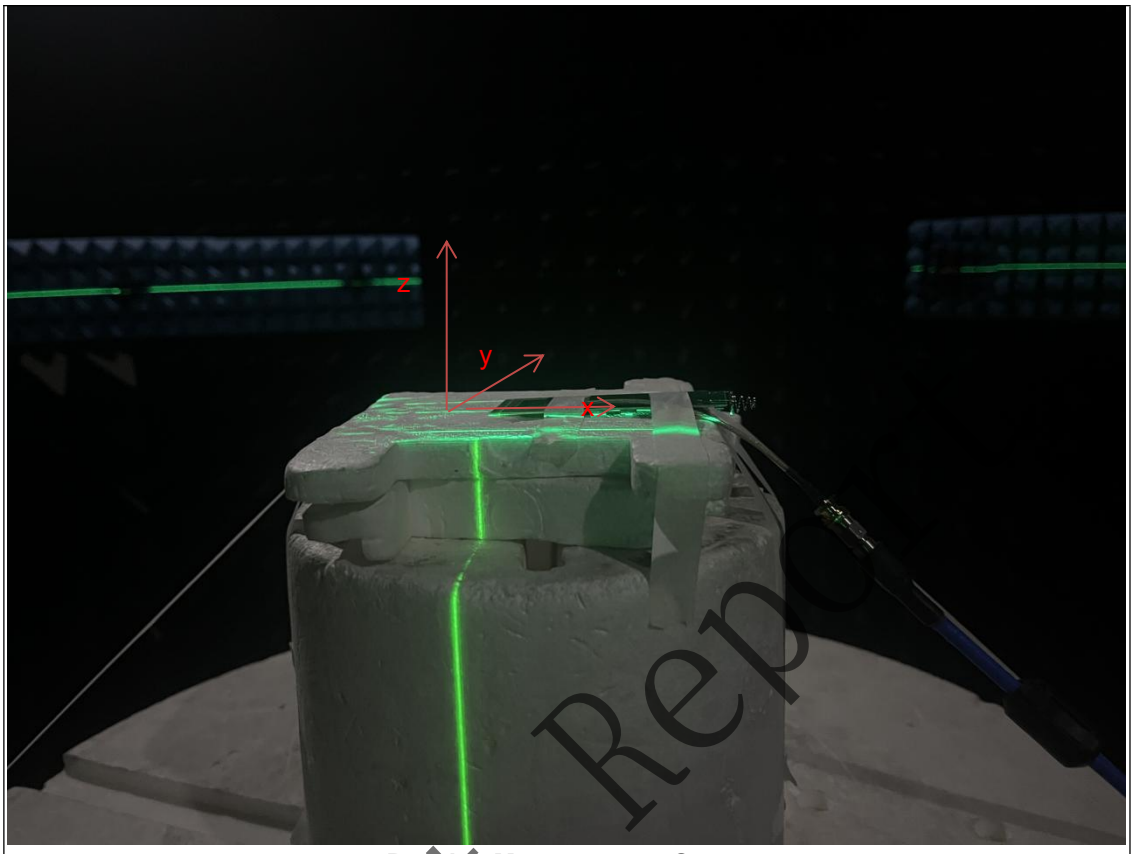
434.92MHz	
447.725MHz	

447.725MHz	
447.725MHz	

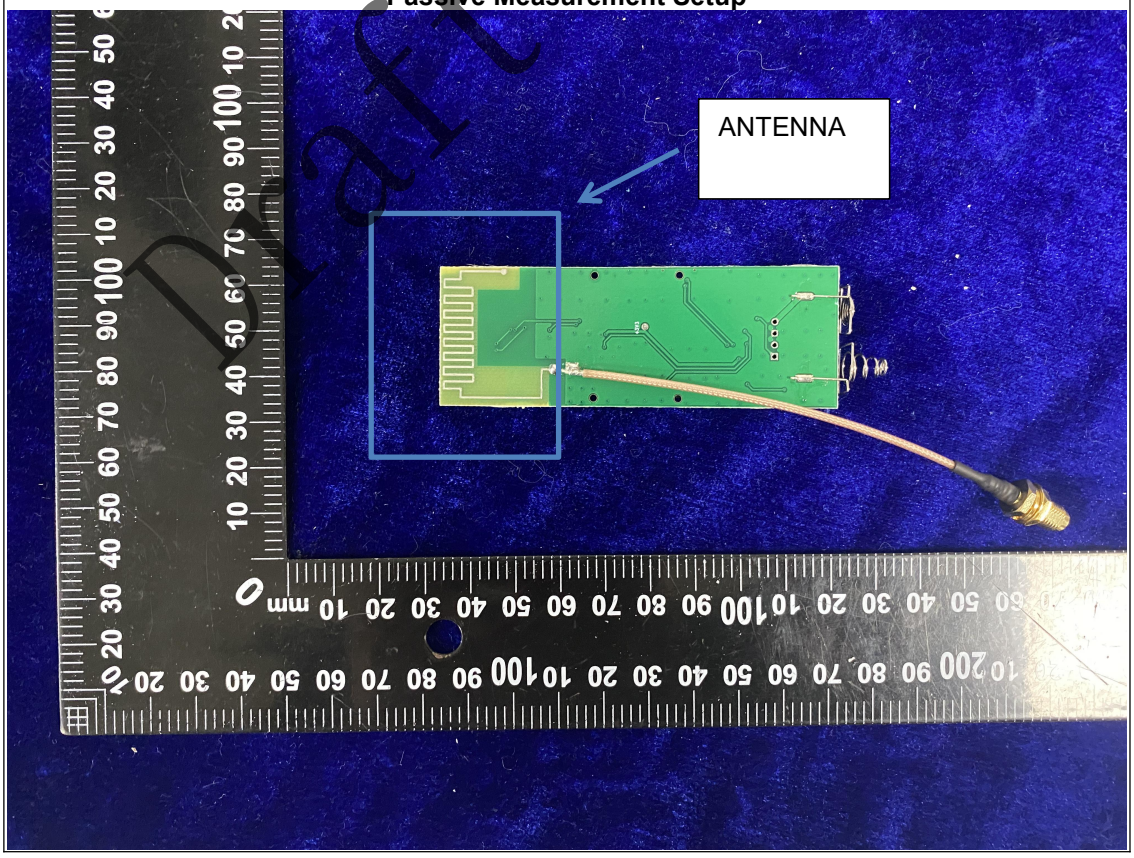
447.725MHz	
447.725MHz	

447.725MHz	
447.725MHz	

4. PHOTOGRAPH OF TEST SET UP



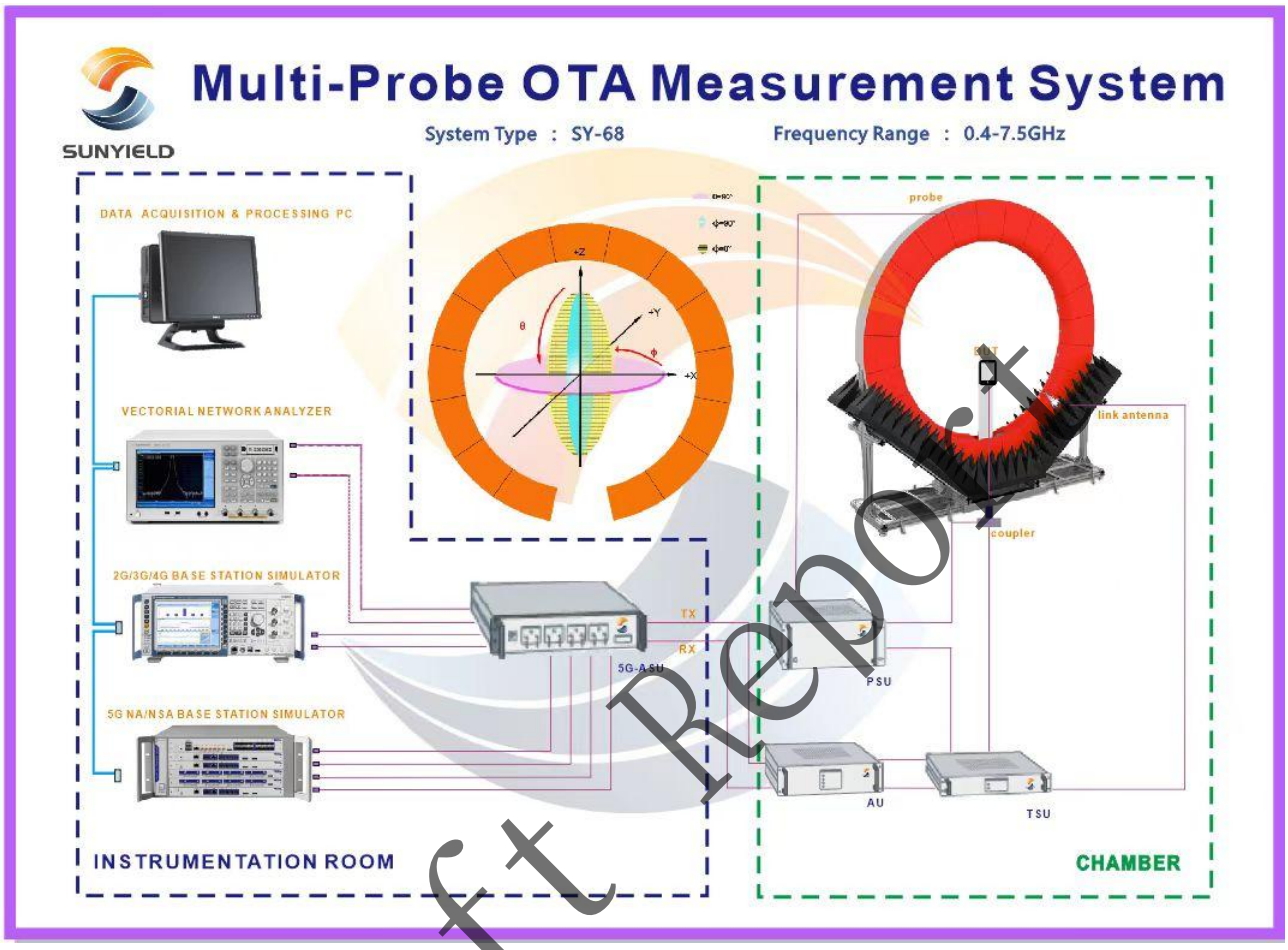
Passive Measurement Setup



APPENDIX A

Test Equipment	Equipment No.	Serial No.	Manufacturer	Type/Mode	Cal.Due	Using
Shielded Room	CS0300038	20211221	SUN YIELD	6m*6m*6m	2024/12/20	√
Vector Network Analyzer	CS0300067	101544	R&S	ZNB40	2024/5/25	√
Automatic switching unit	CS0300039	81612472	/	5G ACTIVE SWITCHING UNIT	/	√

APPENDIX B



Important

(1) The test report is invalid without the official stamp of CVC;

(2) Any part photocopies of the test report are forbidden without the written permission from CVC;

(3) The test report is invalid without the signatures of Approval and Reviewer;

(4) The test report is invalid if altered;

(5) Objections to the test report must be submitted to CVC within 15 days.

(6) Generally, commission test is responsible for the tested samples only.

(7) As for the test result "-" or "N/A" means "not applicable", "/" means "not test", "P" means "pass" and "F" means "fail"

The test data and test results given in this test report should only be used for purposes of scientific research, teaching and internal quality control when the CMA symbol is not presented.

Address of the laboratory:
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