TEST REPORT

Applicant:	Shenzhen Zhixu Technology Co., LTD
Address:	1101, Building A, Guoren Building, Keji Zhongsan Road, Gaoxin Park, Nanshan District, Shenzhen City, China.
Equipment Type:	PCB Onboard Antenna
Model Name:	ZXD1888
Brand Name:	Kashimura
Test Standard:	ANSI/IEEE Std 149-1979
Test Date:	Sep. 23, 2022
Date of Issue:	Sep. 27, 2022

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Mai Jintian **Checked by:** Tolan Tu **Approved by:** Wei Yanquan (Chief Engineer)

Revision History

Version	Issue Date	Revisions
Rev. 01	Sep. 27, 2022	Initial Issue

TABLE OF CONTENTS

1 GENERAL INFORMATION 3

1.1 Test Laboratory 3

1.2 Test Location 3

2 PRODUCT INFORMATION 4

2.1 Applicant Information 4

2.2 Manufacturer Information 4

2.3 General Description for Equipment under Test (EUT) 4

2.4 Ancillary Equipment 4

2.5 Technical Information 4

3 SUMMARY OF TEST RESULTS 5

3.1 Test Standards 5

3.2 Test Verdict 5

3.3 Test Uncertainty 5

4 GENERAL TEST CONFIGURATIONS 6

4.1 Test Condition 6

4.2 Test Equipment List 6

4.3 Test Setup 7

ANNEX A TEST RESULTS 8

A.1 Gain and Efficiency 8

ANNEX B RADIATION PATTERN 9

ANNEX C TEST SETUP PHOTOS 12

ANNEX D EUT PHOTO 12

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

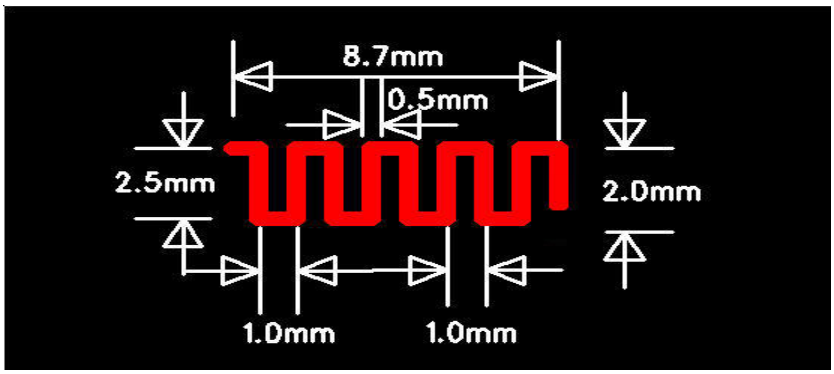
Applicant	Shenzhen Zhixu Technology Co., LTD
Address	1101, Building A, Guoren Building, Keji Zhongsan Road, Gaoxin Park, Nanshan District, Shenzhen City, China.

2.2 Manufacturer Information

Manufacturer	Shenzhen Zhixu Technology Co., LTD
Address	1101, Building A, Guoren Building, Keji Zhongsan Road, Gaoxin Park, Nanshan District, Shenzhen City, China.

2.3 General Description for Equipment under Test (EUT)

EUT Name	PCB Onboard Antenna
Model Name Under Test	ZXD1888
Antenna Type	PCB Antenna
Dimensions	8.7*3.0mm



2.4 Ancillary Equipment

Note: Not applicable.

2.5 Technical Information

Test Frequencies	2400MHz, 2410MHz, 2420MHz, 2430MHz, 2440MHz, 2450MHz, 2460MHz, 2470MHz, 2480MHz, 2490MHz, 2500MHz

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	ANSI/IEEE Std 149-1979	IEEE Standard Test Procedures for Antennas

3.2 Test Verdict

Report Section	Description	Remark
ANNEX A.1	Gain and Efficiency	--
ANNEX B	Radiation Pattern	--

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	±1.92dB

4 GENERAL TEST CONFIGURATIONS

4.1 Test Condition

Environment Parameter	Selected Values During Tests			
	Ambient Pressure(KPa)	Temperature(℃)	Voltage	Relative Humidity (%)
Normal Temperature, Normal Voltage (NTNV)	101	25	N/A	50

4.2 Test Equipment List

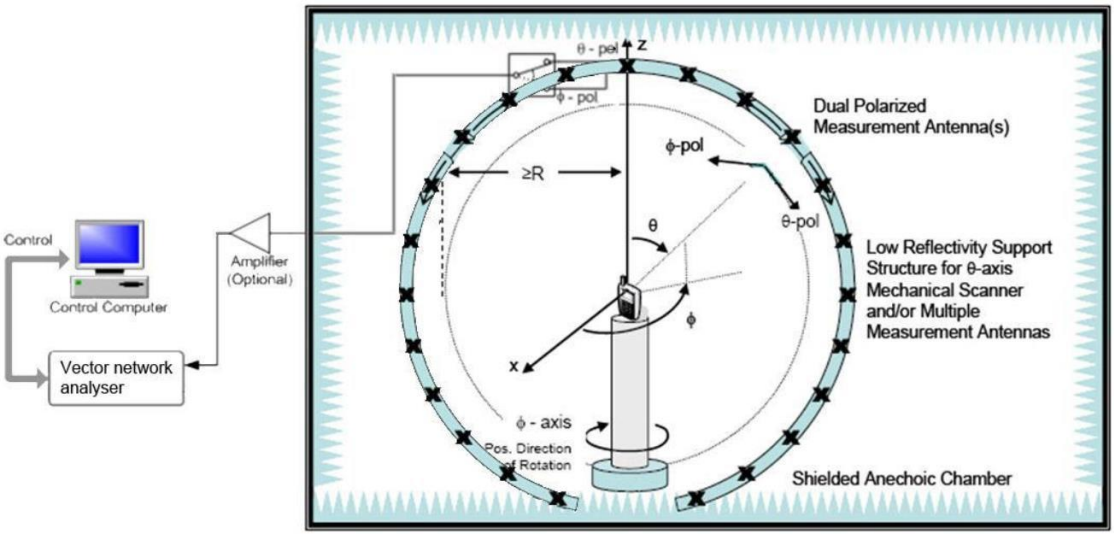
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
SG24 Multi-probe Antenna Measurement System	SATIMO	SG24-L	1101855-0001	2021.11.12	2024.11.11
Vector Network Analyzer	Agilent	E5071B	MY42404001	2022.04.02	2023.04.01

Description	Manufacturer	Name	Version
Test Software	MVG	SPM	V 1.8

Add: Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China

4.3 Test Setup

4.3.1 Antenna gain, efficiency and radiation pattern test setup



ANNEX A TEST RESULTS

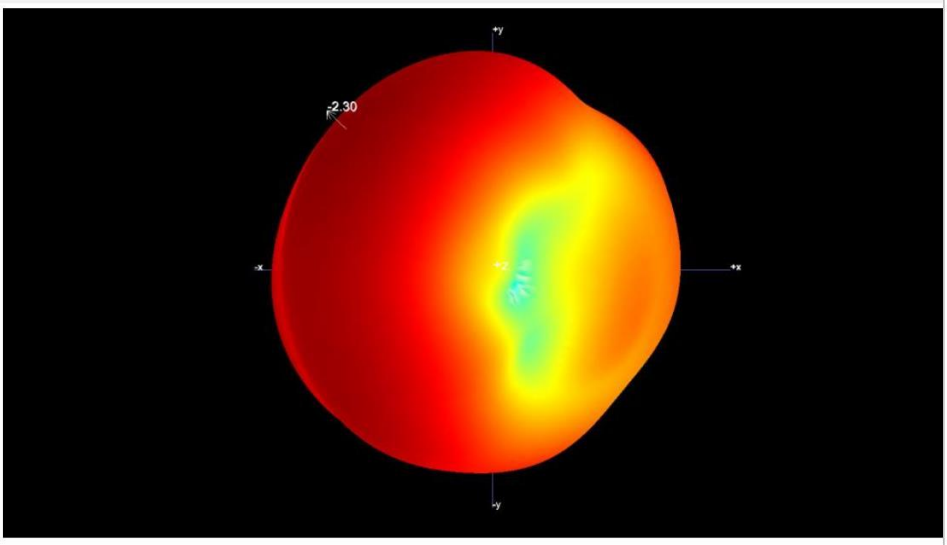
A.1 Gain and Efficiency

Frequency	Gain (dBi)	Efficiency (%)
2400MHz	**-2.30**	20
2410MHz	-2.40	20
2420MHz	-2.49	**21**
2430MHz	-2.57	20
2440MHz	-2.69	19
2450MHz	-2.86	19
2460MHz	-3.06	19
2470MHz	-3.23	19
2480MHz	-3.29	18
2490MHz	-3.22	18
2500MHz	-3.58	18

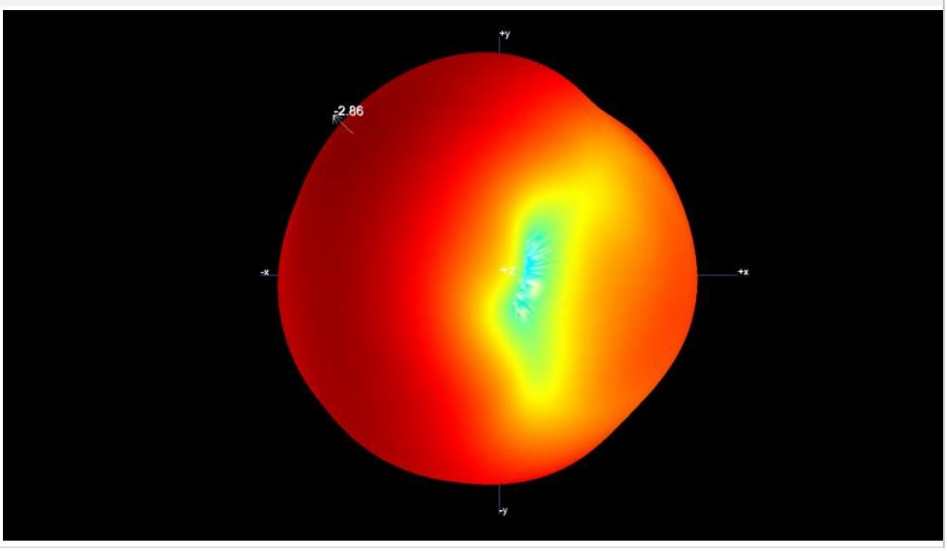
ANNEX B RADIATION PATTERN

B.1 3D Pattern

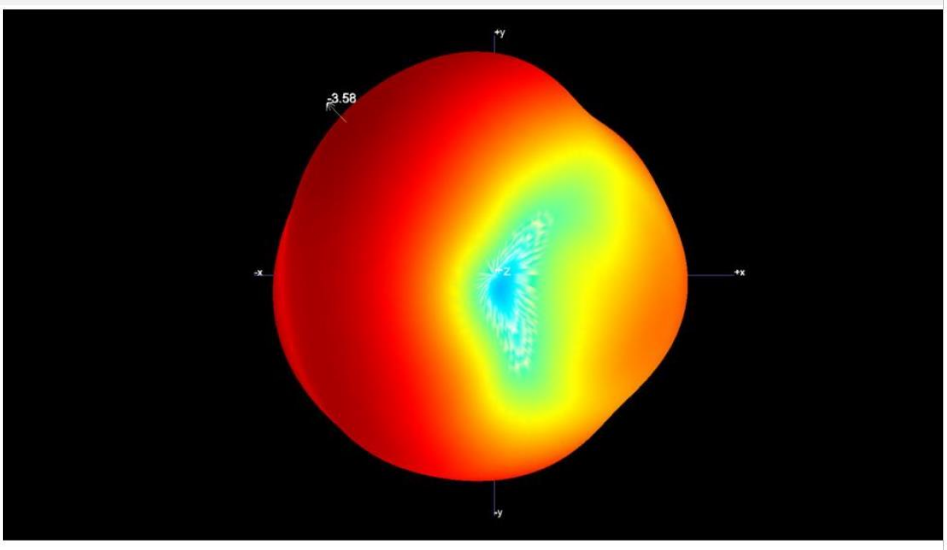
B1.1 3D Pattern for 2400MHz



B1.2 3D Pattern for 2450MHz

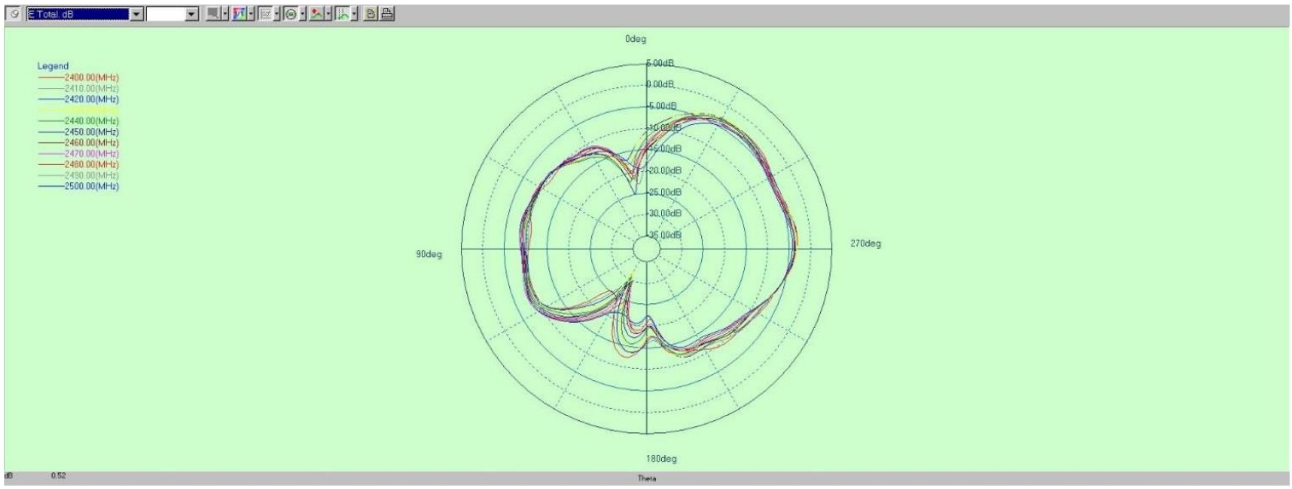


B1.3 3D Pattern for 2500MHz

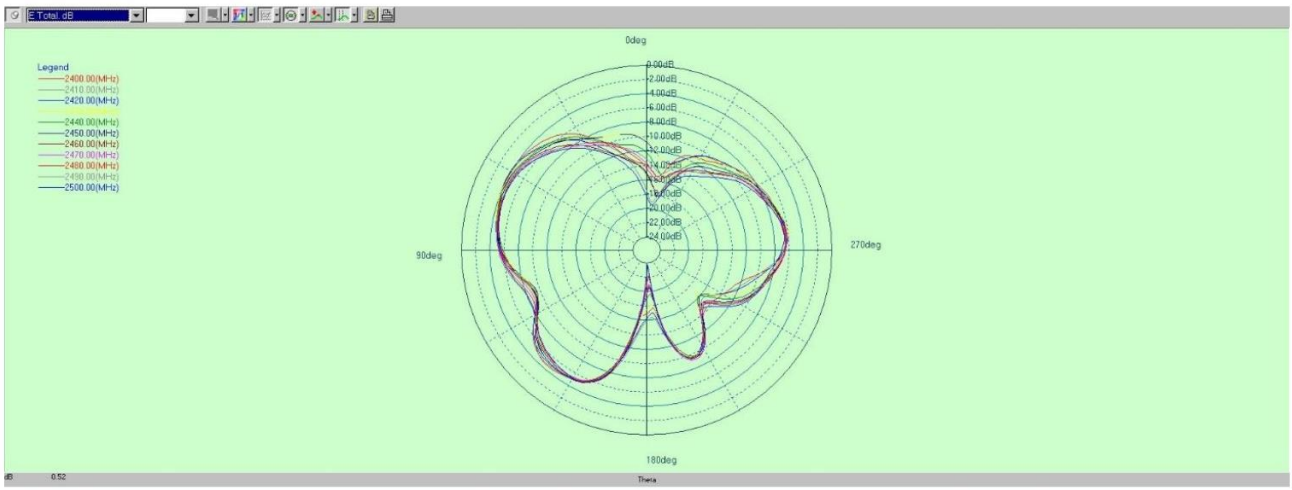


B.2 1D Radiation Pattern

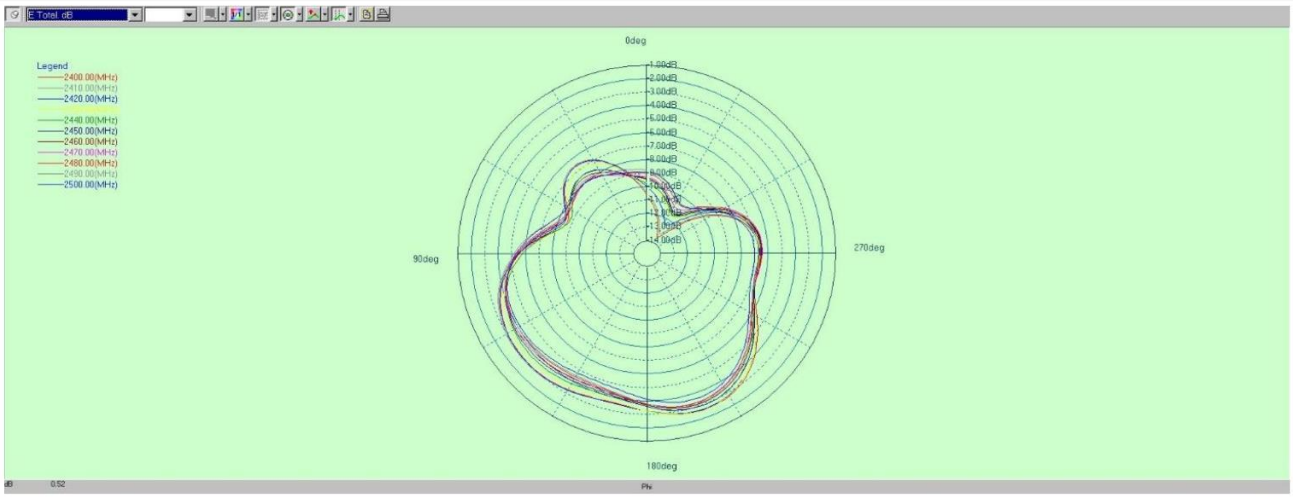
B2.1 PHI=0



B2.2 PHI=90



B2.3 THETA=90



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