Shenzhen Xuhang Communication Technology Co., Ltd

Antenna Report

No.: PJXCE2101253 Date: Nov. 14, 2023

CUSTOMER	GuangXi BeiLiu JinBao Electronic Co., Ltd.
CUSTOMER NO.	PJ580
PART NAME	BT Antenna
SUPPLIER NO.	On board BT antenna

Prepared by: _____ Luo Yongshi, Raime
Report Engineer

Reviewed by: _____ Zeng Xingji, Tommy
Supervisor

Approved by: _____ Shang wei, Cindy
Authorized signatory

DIRECTORY

Contents

1 . General Information ……3
1.1 General information of testing institutions 3
1.2 Testing principle..... 3
1.3 Test equipment..... 4
1.4 Test environment..... 4
1.5 Statement..... 4
2. Sample Information ……...5
2.1 Client information..... 5
2.2 Description of EUT(S) 5
2.3 Antenna Photo & Length (mm) 6
3. Test Results ……6
3.1 Test standard 6
3.2 Test uncertainty 7
3.3 Test data..... 7
3.3.1 Typical free space efficiency and gain 7
3.3.2 Typical free space radiation pattern..... 7

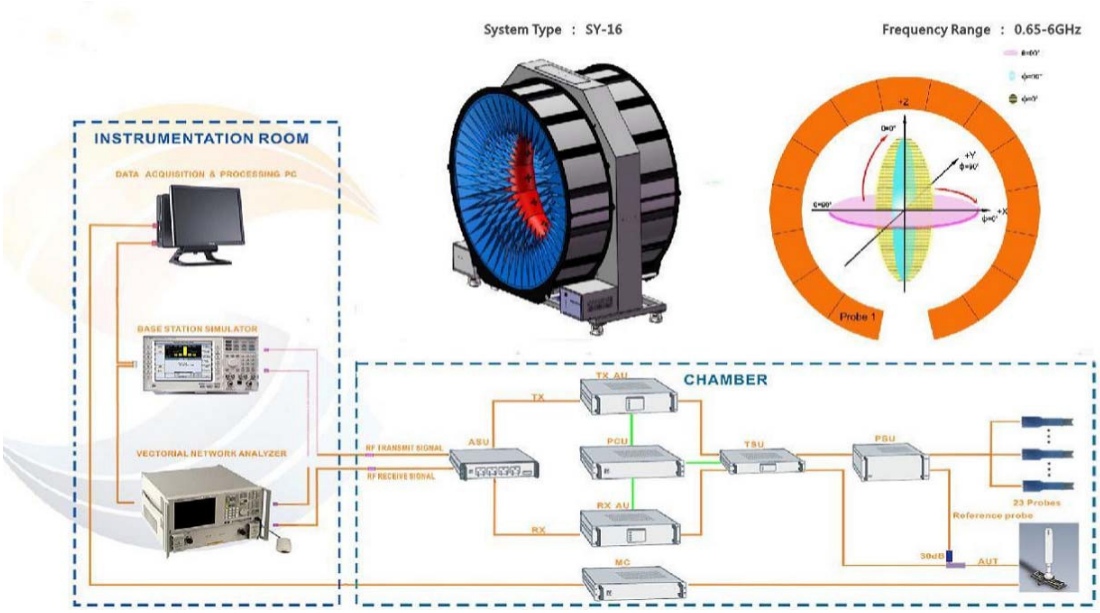
1. General Information

1.1 General information of testing institutions

Name	**Shenzhen Xuhang Communication Technology Co., Ltd.**
Address	Room 213, 2nd Floor, Building 1, Huiyixin Maker Center, Longhua District, Shenzhen
Tel	18588291966
E-mail	970307612@qq.com
Equipment	All equipment in this report is installed in Room 213, 2nd Floor, Building 1, Huiyixin Maker Center, Longhua District,

1.2 Testing principle

Xuhang Multi Probe Testing System



1.3 Test equipment

Equipment	Model No.	Serial No.	Manufacturer	Calibration date	Next calibration date
16 probe microwave chamber	5*3*3	XH-LAB-RF-001	Outhali Technology	2023.2.27	2024.2.27
Network Analyzer	PROTEK A338	XH-LAB-RF-003	Outhali Technology	2023.2.27	2024.2.27
Network Analyzer	8753D	XH-LAB-RF-004	Outhali Technology	2023.2.27	2024.2.27

1.4 Test environment

Temperature	24.2°C
Humidity	58%RH
Pressure	100.23kPa

1.5 Statement

(1) The test results in the report are only applicable to the tested samples and the tested samples work under the environment described in the report.

（2）Only Shenzhen Xuhang Communication Technology Co., Ltd. have the right to modify the report, and the modification information shall be annotated in the revision form.

（3）Any objection to this report shall be raised within 30 days after formal confirmation of the report.

（4）This report is invalid if there is any evidence that the sample information provided is falsified.

（5）The report is invalid without the signature of the auditor and approver.

2. Sample Information

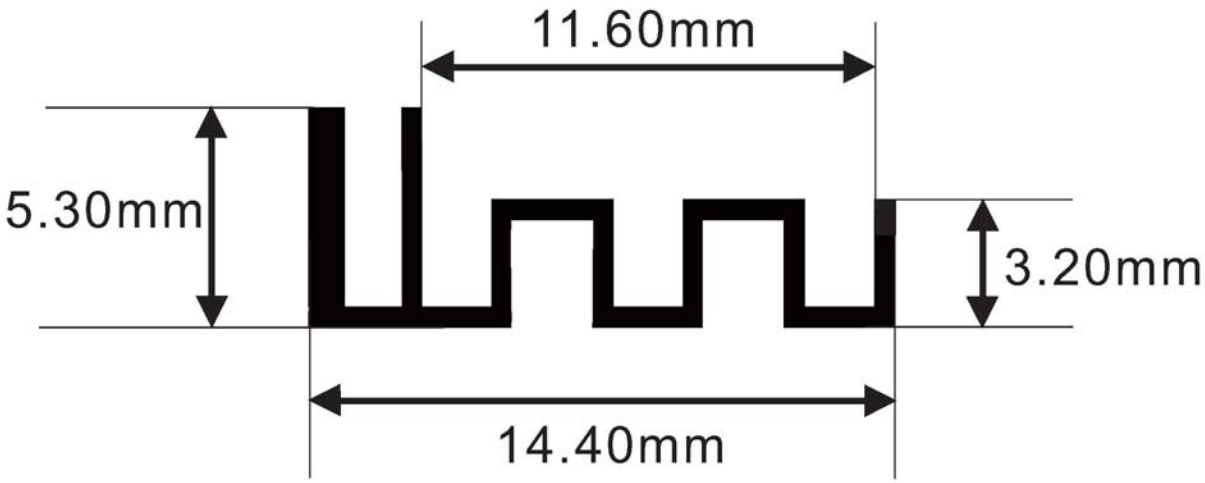
2.1 Client information

Name	GuangXi BeiLiu JinBao Electronic Co., Ltd.
Address	Xinshan Industrial Zone, Xiliang Town, Beiliu City, Yulin City, Guangxi, China
Contacts	Jim Wong
Tel	13686493273
E-mail	jimwongs@126.com

2.2 Description of EUT(S)

Product Name	Projector
Sample Model	PJ580
Size	Bluetooth
Serial No.	/
Test Item	Antenna gain; Efficiency; Radiation pattern
Frequency Range	2400-2500MHz
Received Date	2023.11.8
Test Date	2023.11.14
Remark	Location of onboard antenna

2.3 Antenna Photo & Length (mm)



3. Test Results

3.1 Test standard

Name	Parameter	Method	Standard no.
Mobile communication antenna	Antenna gain	Generic specification for antennas used in the mobile communications	GB/T 9410-2008
	Radiation pattern		
Antenna	Radiation efficiency	IEEE Standard Test Procedures for Antennas	ANSI/IEEE Std 149-1979
	Gain and directivity		

3.2 Test uncertainty

The uncertainty was calculated on the basis of the GUM published by ISO, using the inclusion factor of K=2 and the 95% confidence level to express the extended uncertainty.

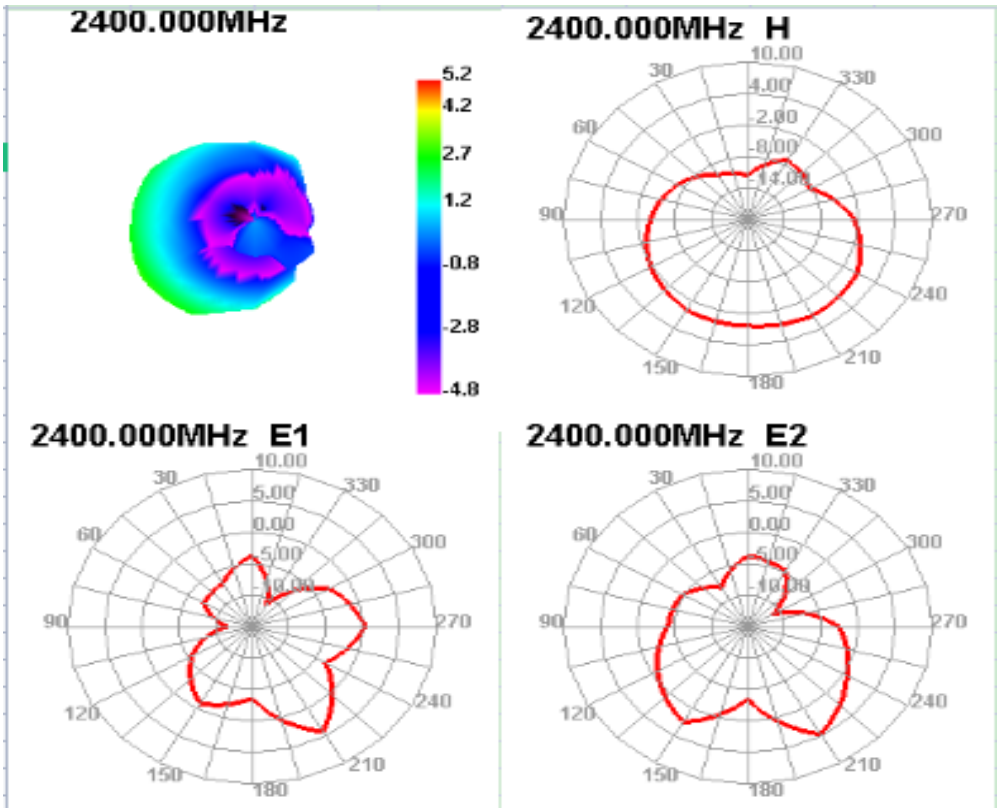
Item	Uncertainty
Antenna gain	±1dB
Radiation efficiency	±10%

3.3 Test data

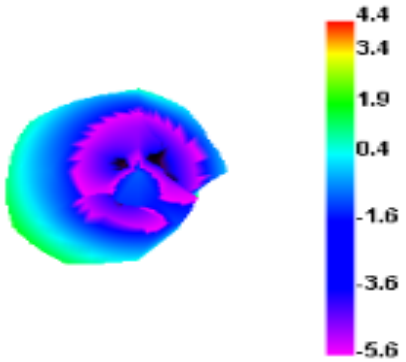
3.3.1 Typical free space efficiency and gain

Frequency (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Efficiency (%)	62.27	54.73	58.95	54.84	55.63	47.87	41.89	41.13	41.65	39.81	35.6
Peak Gain (dBi)	3.24	2.77	3.08	2.84	2.93	2.35	1.83	1.75	1.86	1.68	1.27

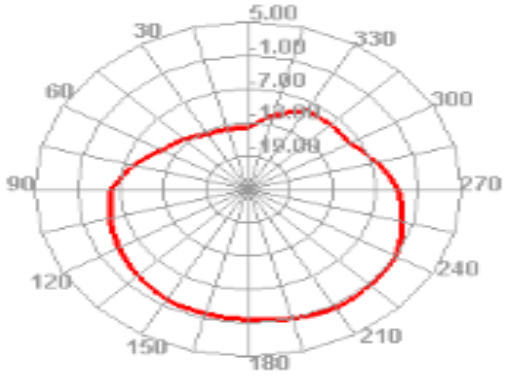
3.3.2 Typical free space radiation pattern



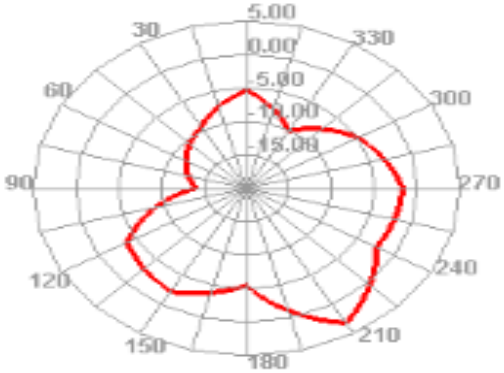
2450.000MHz



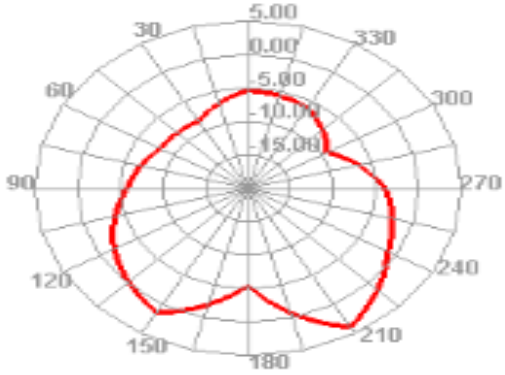
2450.000MHz H



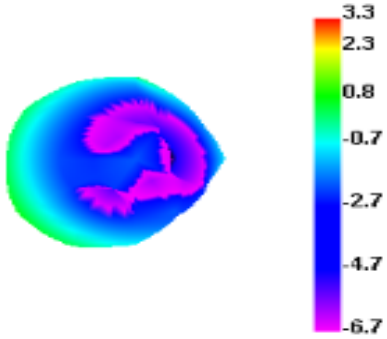
2450.000MHz E1



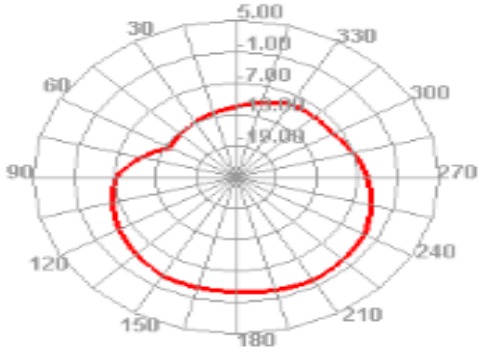
2450.000MHz E2



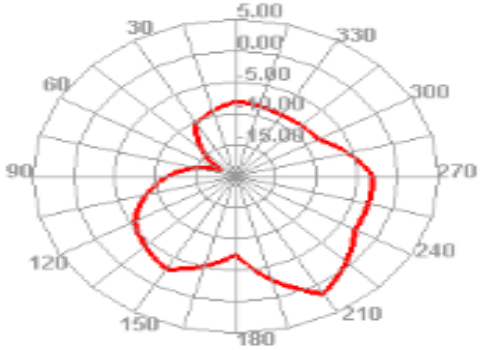
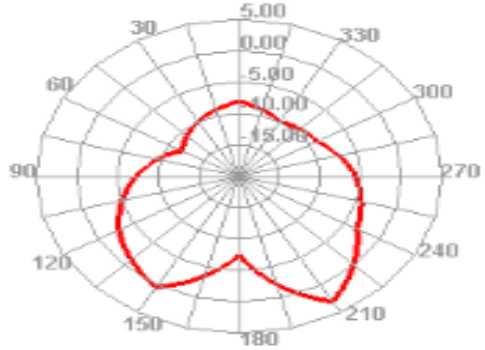
2500.000MHz



2500.000MHz H



2500.000MHz E1



2500.000MHz E2