亿铭远科技
One stop communication RF antenna solution service provider

Shenzhen Yimingyuan Technology Co., Ltd

Approval Sheet

APPROVAL SHEET

Customer	Huashengchang	Specs	BS-20-V1
Part Number	YMY006-BS-20-V1-021-A0	= Frequency Band	2.4G WIFI
Color	Black	Edition	REV:A0
Salesperson		Design	Huanghe
Structure		Confirm	Huanghe
Date	2023.11.29	Signing Date	Huanghe
Customer confirmation:			
Join hands to create the future			

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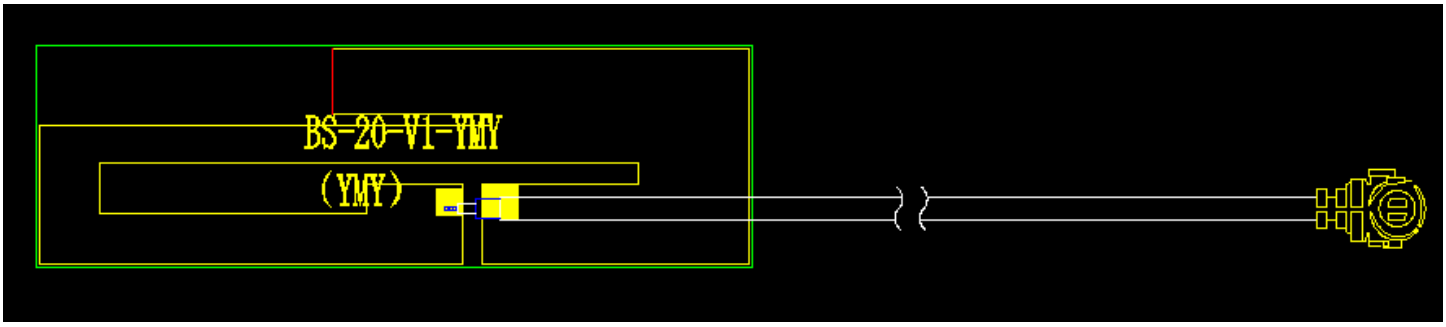
一、Product Specifications

The report mainly provides parameter testing of the BS-20-V1 antenna performance.

The BS-20-V1 antenna is a 2.4G WIFI antenna. (As shown in Figure 1)



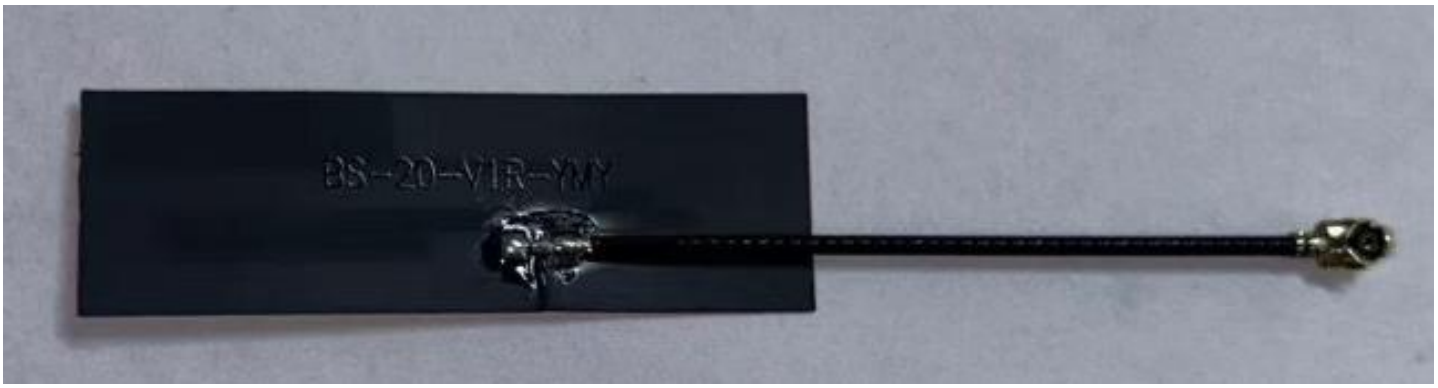
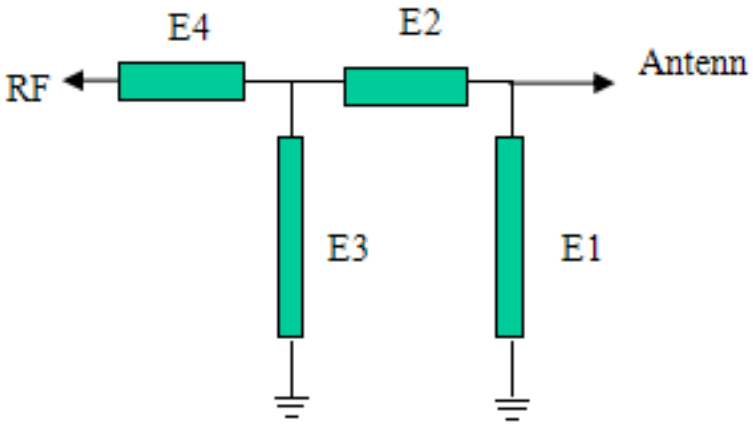


Figure 1 BS-20-V1 antenna

二、Electrical Performance

1. Specification Standards: The BS-20-V1 antenna operates in the 2400-2480MHZ frequency band, generating resonance in this band.

2. Antenna Matching Circuit: The structure of the antenna is FPC + coaxial line (first generation terminal). No change to the match.



No changes made

三、Parameter Testing

1. Testing Setup: VSWR test setup sequentially connected as: E5071B Network Analyzer → 50 Ohm Coaxial Cable → 110mm Copper Tube → Testing Jig. Processing of the testing jig: An SMA-J connector is drawn out with a rigid cable from the 50 Ohm test point of the antenna on the mobile phone PCB, connected to the copper tube with a choke coil, and then connected to other devices in sequence.

2. Testing Results: Everything is normal.

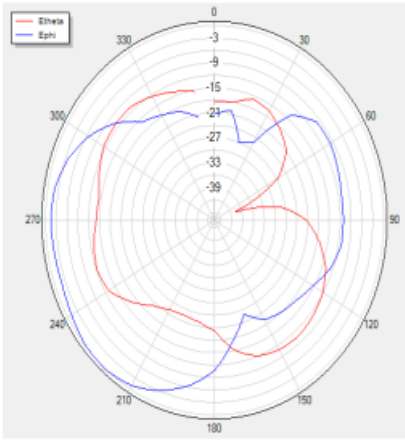
四、Active Testing Setup

1. Active testing setup sequentially connected as: Agilent8960 → 50 Ohm Coaxial Cable → Satimo S716 Testing System → Mobile Phone Under Test. Testing Site: YMY Microwave Anechoic Chamber: Testing frequency range is 400MHz—6GHz, quiet zone range is 40cm diameter, reflectivity less than -90 dB.

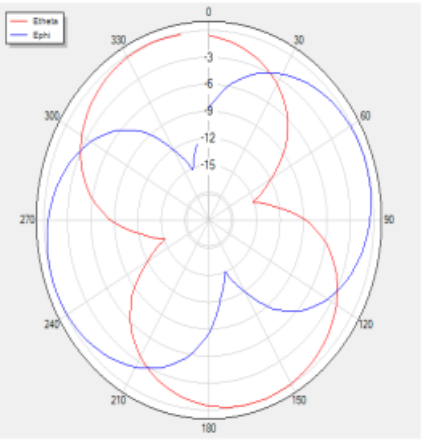
2. Testing Results: Maximum radiated power and maximum receive sensitivity reflect the antenna's maximum power radiation value and optimal reception performance in the entire radiation space. TRP and TIS reflect the antenna's average radiated power and average receive sensitivity, indicating the overall reception performance of the antenna.

Gain&Efficiency 增益和效率			
frequency 频率(MHz)	gain 增益(dBi)	efficiency 效率(dBi)	efficiency 效率(%)
2400	3.94	-1.89	64.67
2410	3.84	-2.01	62.92
2420	4.33	-1.59	69.37
2430	4.25	-1.9	64.57
2440	4.29	-1.99	63.19
2450	4	-2.25	59.54
2460	4.42	-2	63.03
2470	4.03	-2.43	57.09
2480	3.74	-2.57	55.29
2490	4.09	-2.27	59.31
2500	4.19	-2.25	59.58

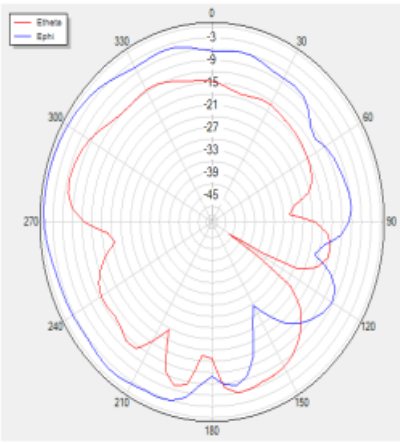
H Theta=90 freq=2450MHz



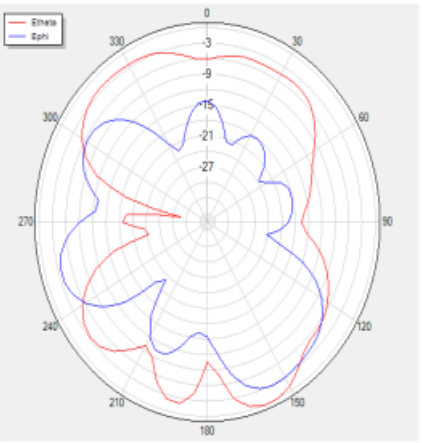
H Theta=0 freq=2450MHz

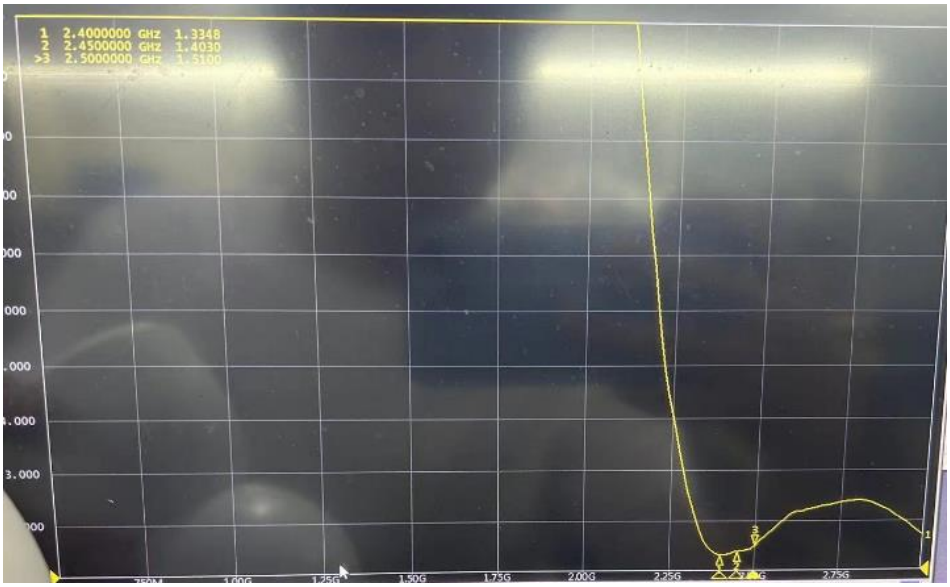


V Phi=90 freq=2450MHz

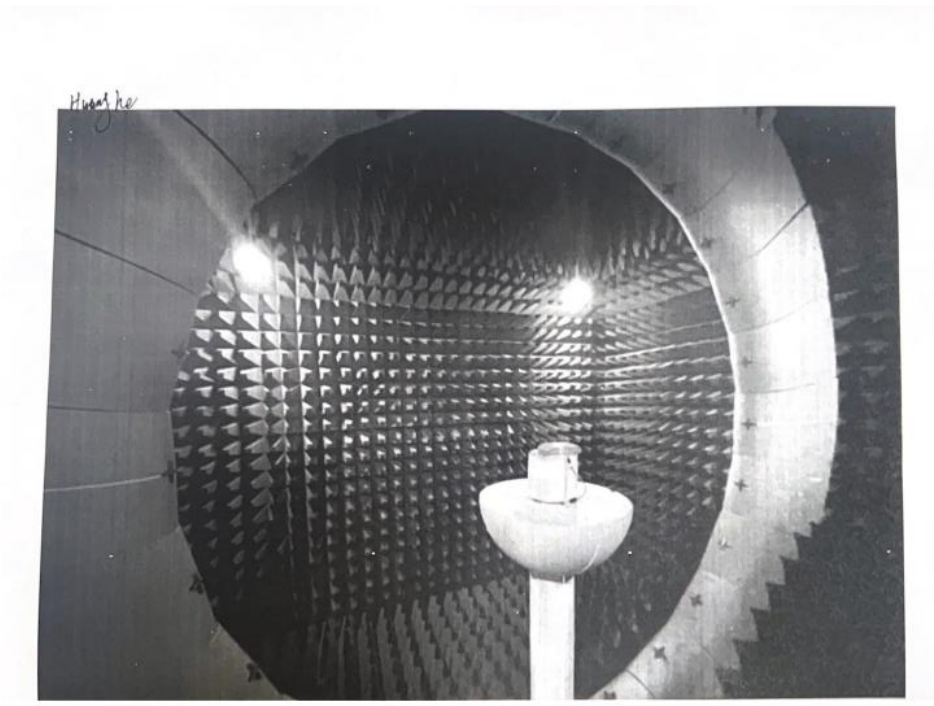


V Phi=0 freq=2450MHz





3. Test photos&Tester signature

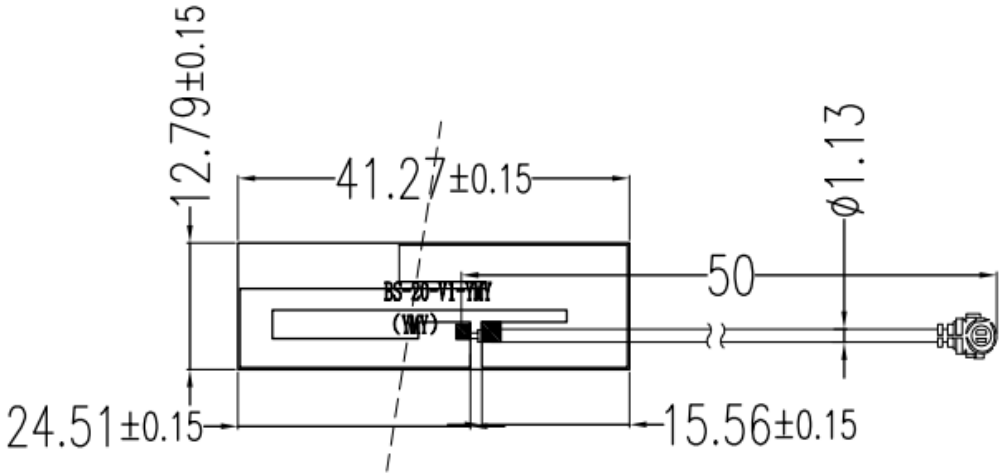


五、Recommendations and Conclusions

This report is based on the antenna's electrical performance measured from the customer-provided prototype. Please review it carefully.

六、structural drawings

丝印亮光字符 Silk-screened bright characters



正面 TOP

1. 材料 ：一对半电解铜基材,采用环保制程，符合ROHS要求。
Material: A pair of semi-electrolytic copper substrates, using environmentally friendly manufacturing process, in line with ROHS requirements.
2. 镀金：NI:1-2um AU:min0.5u″ 油墨：无卤油墨。
Gold plating: NI:1-2um AU:min0.5u" Ink: Halogen-free ink.
3. 胶带：3M9471.
Duct tape: 3M9471.
4. 带“ * ”尺寸为重点尺寸.
With"*"dimensions as the key dimensions.
5. 表面无压伤、划痕、无油污、斑点等缺陷。
The surface has no defects such as crushing, scratches, oil stains, spots, etc.
6. 图面尺寸用以检验外形功能和装配。
The drawing size is used to check the appearance, function and assembly.
7. 本图档为内部受控文件,未经我司允许严禁以任何形式进行传播。
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Shenzhen YiMingYuan Technology Co., Ltd.			
unit: MM		Model: BS-20-V1	date: 2022-02-18
一般公差General tolerance:		Part No: YMY006-BS-20-V1-021-A0	M D: QYL
I	±0.5		
.X	±0.25		
.XX	±0.10	Material: FPC	R F: HH
.XXX	±0.05	Surface treatment: clean	
ANGULAR	∠ ± 0.5°	Color: matt black / proportion: 1:1 / version: A1	

1.1.CALIBRATION CERTIFICATE

SUNYIELD 深圳市新益技术有限公司

第一章 校准结论

SY-24 测量系统进行的校准测试。所检测项目结果符合检测依据要求。

受检单位	深圳市安威无线科技有限公司
设备地址	深圳市龙华区大浪街道新石社区华联工业区 5 号 2 层楼
设备型号	SY-24
设备编号	SI1617
测试仪器	5071C、CMW500
测试环境	环境温度：22.9℃ 相对湿度：60.7%
测试结论	系统用 SH800 喇叭校准时用效率进行增益校准，然后与 SH800 标准值对比，系统经 SH800 增益校准后最大偏差 0.2dB，最小偏差 0.00dB 符合增益稳定性≤±0.3dB 的技术要求有源 有源数据 TRP 稳定性≤±0.24dB，TIS 稳定性≤±0.34dB，校准后系统符合验收报告 TRP 稳定性≤±0.5dB，TIS 稳定性≤±0.5dB 的要求。 深圳市新益技术有限公司 （盖章） 校准日期：2023 年 12 月 05 日 建议下次校准日期：2024 年 12 月 04 日

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广州力赛计量检测有限公司
Guangzhou LiSai Metrology & Test Co. ,Ltd.

ilac-MRA CNAS 中国认可 国际互认 校准 CALIBRATION CNAS L7127

校 准 证 书
CALIBRATION CERTIFICATE

扫一扫验真伪

证书编号： Certificate No.	2GB23082930676-0001
委 托 方： Client	深圳市安威无线科技有限公司
委托方地址： Address	深圳市龙华区大浪街道华宁路华联工业园5栋2楼
仪器/样品名称： Description	网络分析仪
型号/规格： Model/Type	E5071C
制造厂商： Manufacturer	Agilent Technologies
出厂编号： Serial No.	MY46104453
管 理 号： Asset No.	/
样品接收日期： Date of Receipt	2023-08-26 Y M D
结果： Conclusion	所校准项目合格(Passed at Calibration Items)
校准日期： Date of Calibration	2023-08-26 Y M D
建议下次校准日期： Due Date	2024-08-25 Y M D
校准： Calibration by	张家希
审核： Inspected by	钱国栋
授权签字人： Approved Signatory	方之潮

广州力赛计量检测有限公司 证书报告专用章

证书专用章 (Stamp)

本实验室地址：广东省广州市番禺区石碁镇农科所南街8号 @力赛计量实验室
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2.equipment list

NO.	Equipement Name	Serial No.	Type	Manufacturer	Ca.Date	Cal.Due Date
1	Network Analyzer	MY46104453	E5071C	Agilent	2023.08.26	2024.08.25
2	OTA Chamber	SI1617	SY-24	SUNYIELD	2023.12.05	2024.12.04

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