

APPROVAL SHEET

Supplier name: Guangzhou Vision enthalpy Technology Co., LTD

Supplier material name: External antenna

Supplier specifications and model: External antenna,
2.4~2.5GHz, 3dBi, 5.15~5.85GHz, 5dBi, 200mm, White, SMA Coverarmy
green ; Laser Mark 3, SHKJ

CVTE Item number: 004.032.0052863

Admission edition: A0

Drawing version number (no drawing): A0

Supplier acknowledgement column		
lay down	examine and verify	ratify
Jack	Lucy	

Supplier Address:

telephone:

portraiture:

Note: Supplier commitment and confirmation, Suppliers to Guangzhou bin electronic technology Co., Ltd., and its affiliated companies (including but not limited to Guangzhou visual source electronic Technology Co., Ltd., Guangzhou electronic Technology Co., Ltd., Guangzhou into information technology Co., Ltd., Guangzhou, medical equipment technology Co., Ltd., Guangzhou yi intelligent electronic technology Co., Ltd., Guangzhou farce ear acoustic technology Co., Ltd., Guangzhou rui xin electronic Technology Co., Ltd., Qingdao source dynamic wisdom sports technology Co., Ltd., Guangzhou radium morning automatic control technology Co., Ltd., Guangzhou Liuhuan Information Technology Co., Ltd.) (known as "CVTE") supply of materials, Are able to meet the standards stipulated in this admission, Without the supplier. The scanned copy, photocopy and faxed copy of this admission letter shall have the same legal effect as the original copy.

Contents Directory

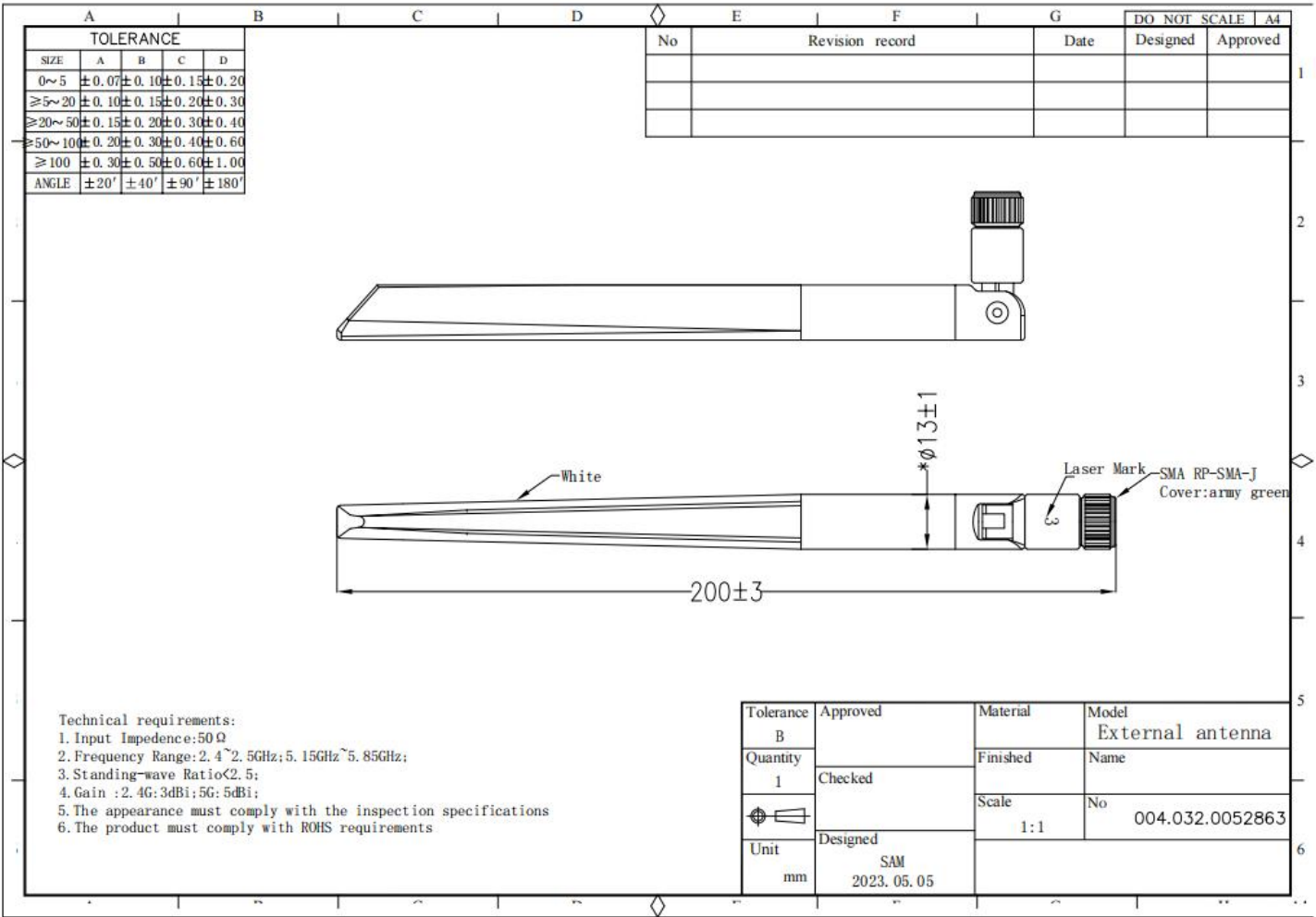
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Document revision resume form				
Edition	Date	Develop / Modify / Repeal content	Lay Down	Approval
A/0	2024-01-05	New Edition	Yue Ting	Feng Xianqiang

2. Product Photos



Product Drawings, Specifications



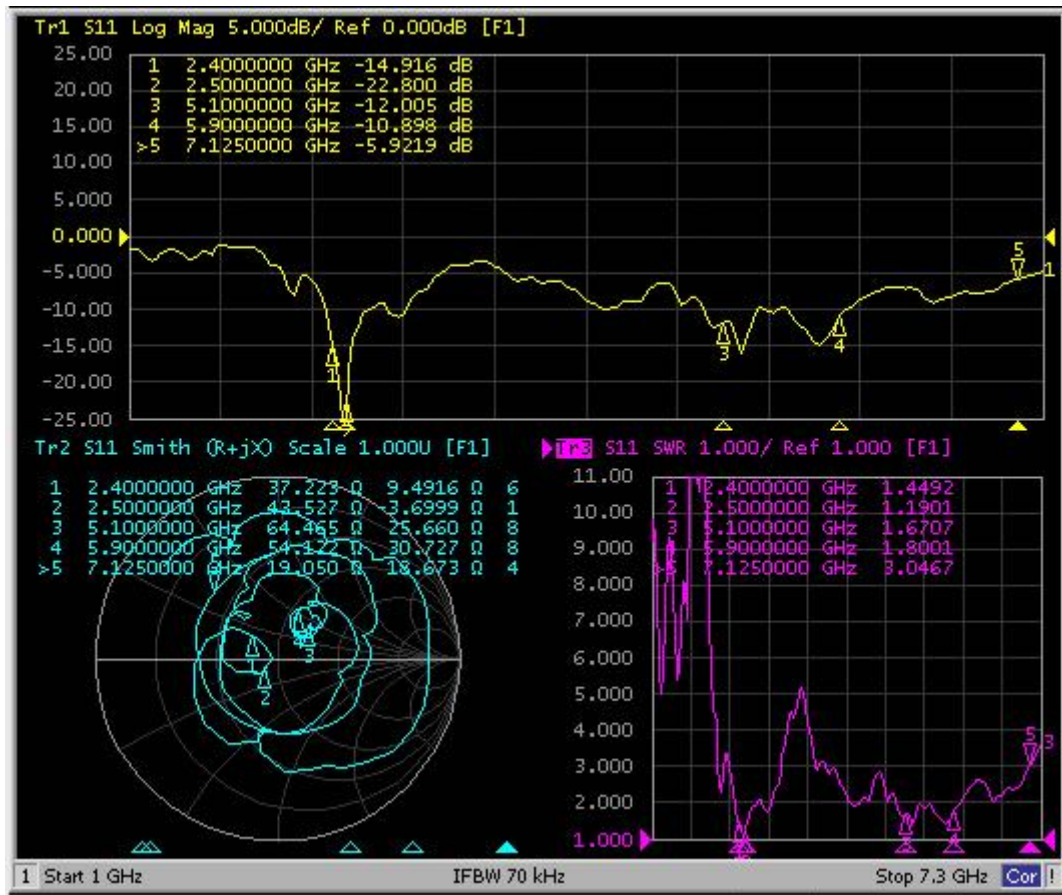
3.performance Parameter

3-1 Performance Parameters

Electrical Parameters	
Frequency Range	2.4-2.5GHz 5.1-5.9GHz
Input Impedence	50Ω
Standing-wave Ratio	≤2.5
Gain	
Power Capacity	/
Through The Test	Thoroughfare
Polarization Mode	Linear
Radiation Direction	/
Connector Model	RP-SMA-J
Mechanical Parameters	
Terminal Maintenance Force	PCB+Spring
Antenna Material	Cu
Coax	GR178
Salt Spray Test	24H
Enviromental Parameter	
Working Temperature	-30℃~65℃

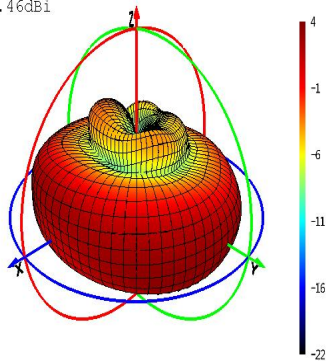
3-2Performance Test

S11&SWR

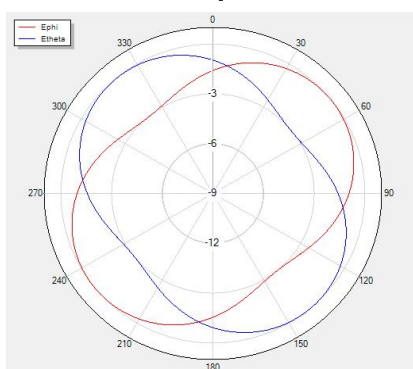


2400 MHz

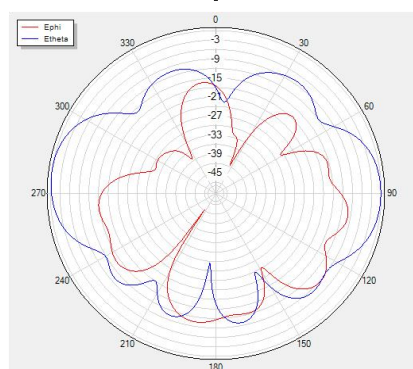
MAX: 3.55dBi
MIN: -22.46dBi



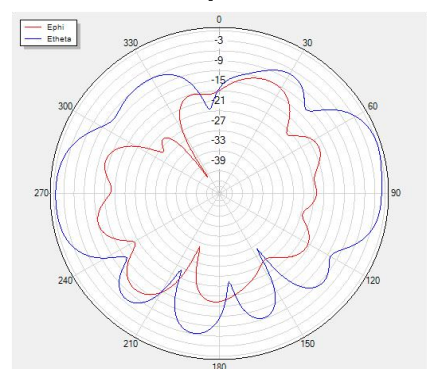
Theta=0 freq=2400MHz



Phi=90 freq=2400MHz

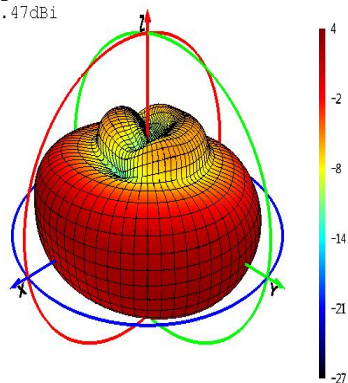


Phi=0 freq=2400MHz

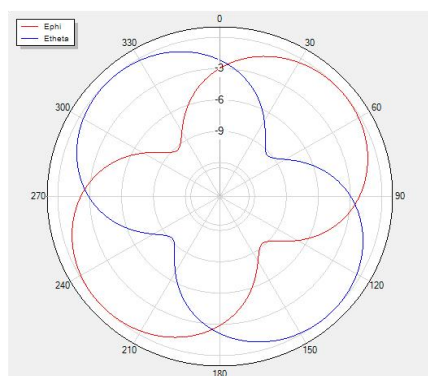


2450 MHz

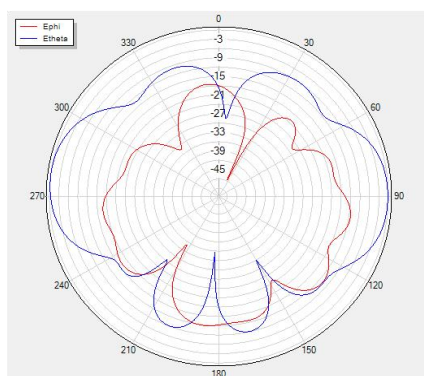
MAX: 4dB_i
MIN: -27.47dB_i



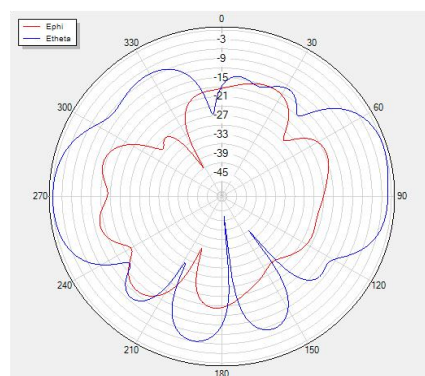
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Phi=90 freq=2450MHz

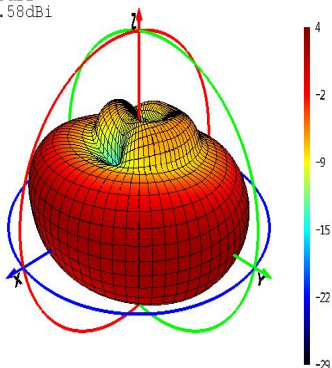


Phi=0 freq=2450MHz

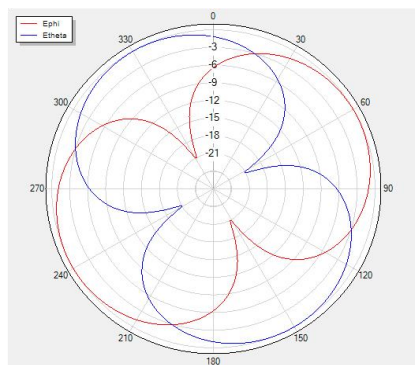


2500 MHz

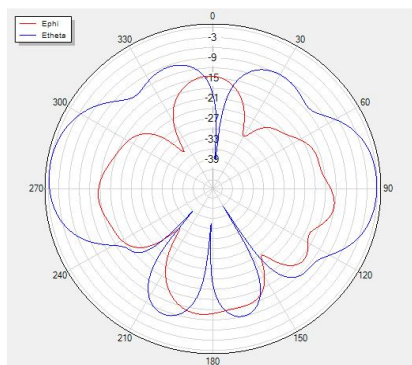
MAX: 3.65dB_i
MIN: -29.58dB_i



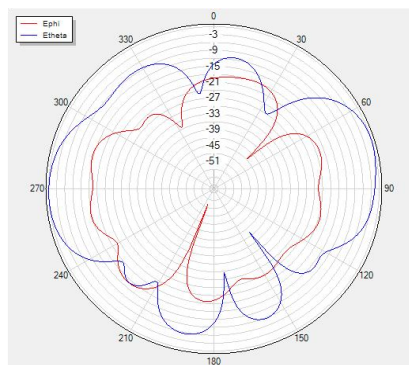
Theta=0 freq=2500MHz



Phi=90 freq=2500MHz

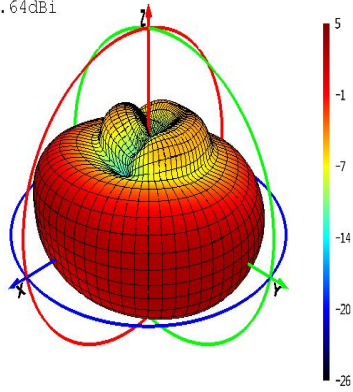


Phi=0 freq=2500MHz



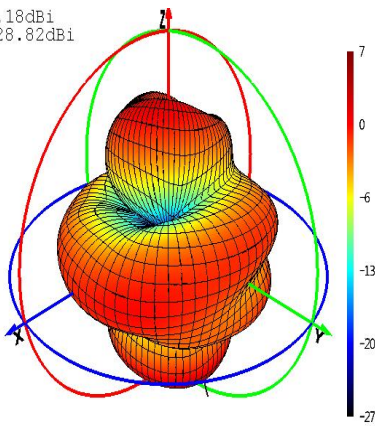
2470 MHz

MAX: 4.08dBi
MIN: -27.64dBi

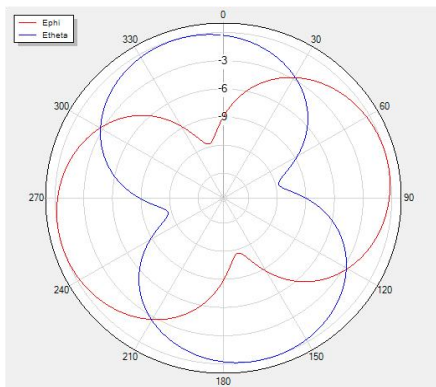


5100 MHz

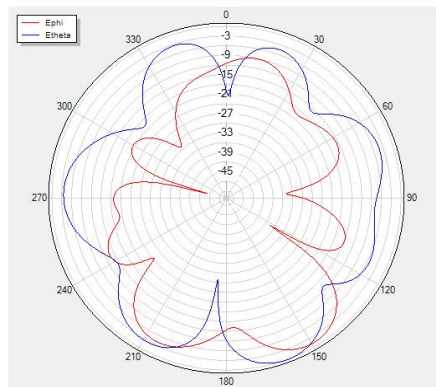
MAX: 6.18dBi
MIN: -28.82dBi



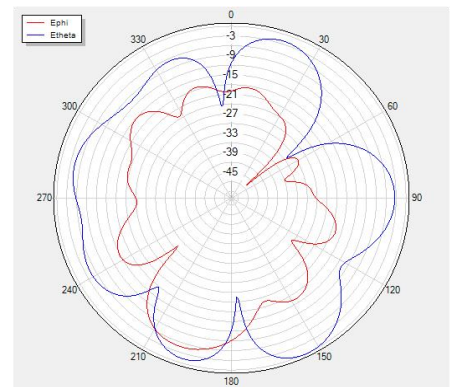
Theta=0 freq=5100MHz



Phi=90 freq=5100MHz

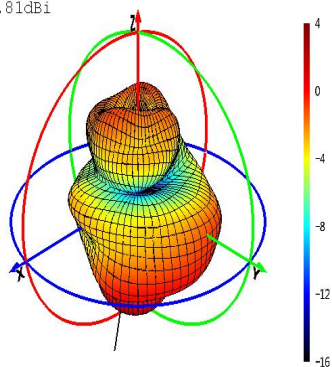


Phi=0 freq=5100MHz

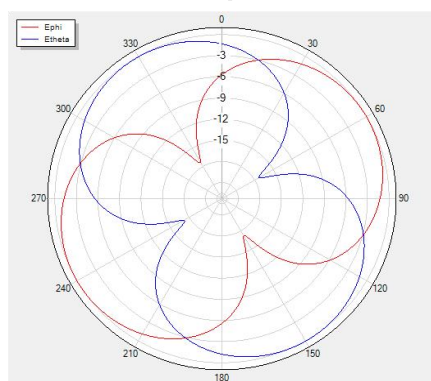


5450 MHz

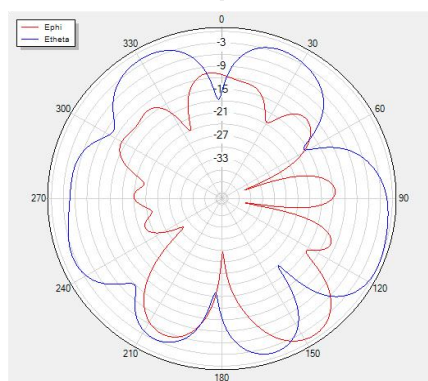
MAX: 3.53dBi
MIN: -16.81dBi



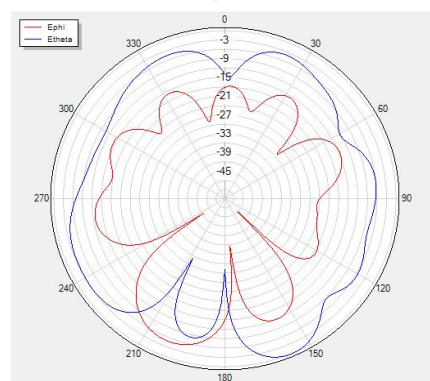
Theta=0 freq=5450MHz



Phi=90 freq=5450MHz

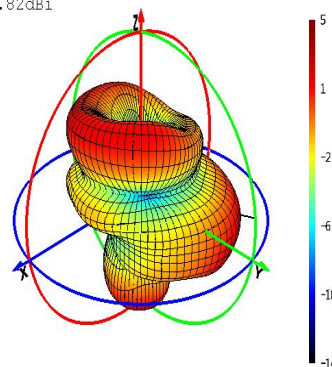


Phi=0 freq=5450MHz

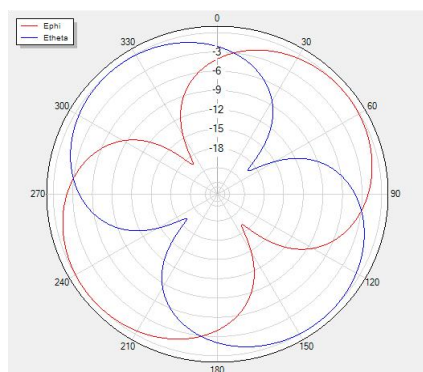


5900 MHz

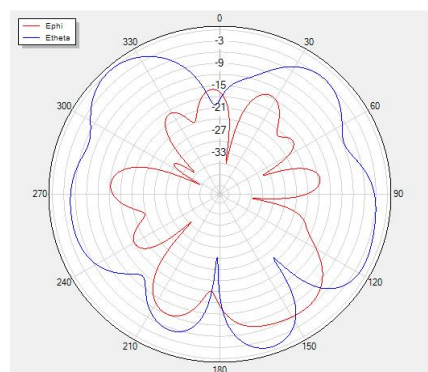
MAX: 4.21dBi
MIN: -14.82dBi



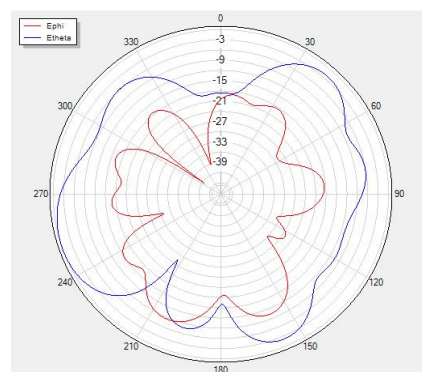
Theta=0 freq=5900MHz



Phi=90 freq=5900MHz

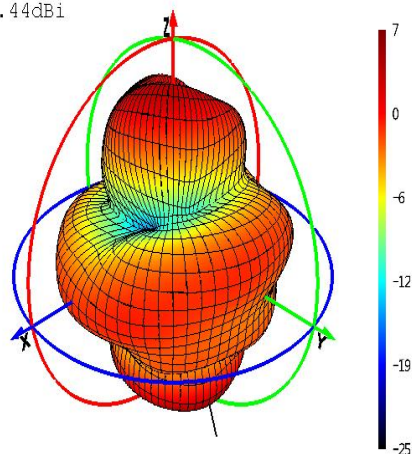


Phi=0 freq=5900MHz



5200 MHz

MAX: 6.14dBi
MIN: -26.44dBi



3-3 Antenna Efficiency

frequency 频率 (MHz)	gain 增益 (dBi)	efficiency 效率(dB)	efficiency 效率(%)
2400	3.55	-1.76	66.63
2410	3.75	-1.62	68.92
2420	3.88	-1.29	74.33
2430	3.93	-1.06	78.33
2440	4.04	-1.17	76.35
2450	4	-1.06	78.43
2460	3.94	-0.86	82.08
2470	4.08	-0.89	81.42
2480	4.07	-0.92	80.85
2490	3.77	-1.27	74.59
2500	3.65	-1.31	73.96

frequency 频率 (MHz)	gain 增益 (dBi)	efficiency 效率(dB)	efficiency 效率(%)
5100	6.18	-1.36	73.07
5150	6.13	-1.16	76.61
5200	6.14	-1.42	72.06
5250	4.62	-2.35	58.27
5300	4.58	-2.55	55.65
5350	4.05	-2.35	58.27
5400	4.47	-1.86	65.19
5450	3.53	-2.19	60.39
5500	3.2	-2.25	59.6
5550	3.29	-2.16	60.78
5600	3.89	-1.41	72.28
5650	3.75	-1.38	72.74
5700	3.89	-1.35	73.3
5750	3.85	-1.56	69.79
5800	3.89	-1.58	69.47
5850	4.09	-1.44	71.85
5900	4.21	-1.62	68.79

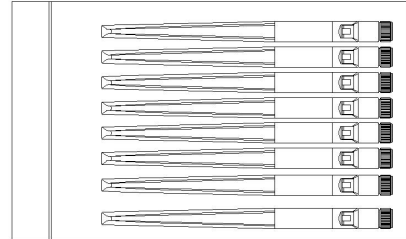
4. Packaging Standard

Product Material No. : 004.032.0052863

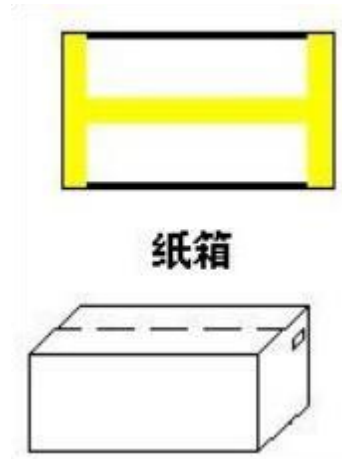
Product specification: External antenna, 2.4~2.5GHz, 3dBi, 5.15~5.85GHz, 5dBi, 200mm, White, SMA Coverarmy green ; Laser Mark 3, SHKJ

li. Packaging requirements and operation instructions:

1. Internal packaging:
Product 50 PCS into the small PE bag



2. Packaging:
Quantity / box according to the actual packing



matters need attention:

1. Whether to add a partition board, pearl cotton;
2. Attachment of labels, such as ROHS;

5. Reliability test report

5-1. Reliability test standards

test item		test method	acceptance standard	Judgment results
1	V . S . W . R	Set the network analyzer parameters for testing	According to the specifications to be tested	P ASS
2	Plug in damage	Set the network analyzer parameters for testing	According to the specifications to be tested	P ASS
3	salt atmosphere	Temperature 35° C humidity 95% saline concentration 5%; test for 24 hours	After 2H, there was no obvious bad appearance: frequency offset of 5%	P ASS
4	constant temperature and humidity	Temperature 80° C test 12H to -40° C Test 12H: Humidity 90%: Test 24 hours	After 2H, there was no obvious bad appearance: frequency offset of 5%	P ASS
5	strain relief test	Tometer test product connector and terminal tension greater than; 1 Kgf	Visual inspection / measurement meets SOP requirements, no shedding, poor contact	PASS

6.Disabled Material Guarantee

禁用物质保证(Certification of Restricted Substance)

我方保证所提供的物料，完全遵守签核的广州视源电子科技股份有限公司/或其子公司的质量和环保协议中的各项条款，物料中禁用物含量，符合最新版《有害物质管理规范》中的各项标准.

We hereby certify that all the Material fully conform to the requirements of the ShiRuan/or its affiliated companies Declaration of Conformity that had been signed, and the maximum concentration value of restricted substance in Materials comply with the latest 《Regulations on the management of hazardous substances.》

公司盖章

7.Raw Material Test List

原材料测试清单 Raw Material Test List																	
客户编码 (Customer P/N): 004.032.0052862 004.032.0052863 004.032.0052864				物料名称 (Part Name) 外置天线			供应商 (Vendor)			供应商标号 (Vendor P/N)							
No (序号)	Raw Material Name (原材料 名称)	Raw Material description (原材料描述)	Raw Material Supplier (原材料供应 商)	Banned Substance Content/ppm (禁止物质含量/ppm)										Test Lab 检测机构	Test Report Number (检测报告号)	Test Date (测试日期)	Remark (备注)
				Pb (铅)	Cd (镉)	Hg (汞)	Cs+6 (六价 铬)	PBBs (聚溴 化苯)	PBDEs (聚溴 化苯 醚)	邻苯二甲酸二 (2-乙基己)醇 (DEHP)	邻苯二甲酸二 丁酯 (DBP)	邻苯二甲酸二 苄酯 (BBP)	邻苯二甲酸二 异丁酯 (DIBP)				
1	1.13 Cable	Coaxial Cable	tian mai	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	SGS	SZXEC23001776703	2023/8/8	
	SMA	铜 Cu	jin hai	31298		N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	SGS	NGBEC23001515004	2023/4/28	
		PTFE	华美五金	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	华测	A2220455368101001C	2022.10.13	
		镀镍 Ni	TONGHUA	30	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	SGS	CANEC23007797304	2023/8/17	
		金 Au	TONGHUA	10	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	SGS	CANEC23007797302	2023/8/17	
	塑胶件	塑胶	YUEANG	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	SGS	CANEC23000452601	2023/3/2		
	弹簧	碳钢	升阳金属	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	SGS	CANEC2300222702	2023/1/11		
	PCB	RF4	金安国纪科	8	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	SGS	CANEC23010851106	2023/10/11	
		油墨	超阳电子	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D	SGS	CANEC23003293208	2023/5/25	
上述均质材料如果属非金属，还需回答三个问题： ①是否含卤素： ☒ 含有YES ☐ 不含有NO ②是否含红磷： ☐ 含有YES ☒ 不含有NO ③是否含三氧化二锡： ☐ 含有YES ☒ 不含有NO																	