

APPROVAL SHEET

Supplier name: Guangzhou Vision enthalpy Technology Co., LTD

Supplier material name: Coaxial Cable antenna

Supplier specifications and model: Coaxial Cable antenna ,2.4-2.5GHz, 5.1~7.1GHz, 20.1×218.68mm, Green, I-PEX1, PCB, 4COAX, Double-sided tape 3M5908, 4PCS-Coaxial Cable

CVTE Item number: 004.032.0052887

Admission edition: A0

Drawing version number (no drawing): A0

Supplier acknowledgement column		
lay down	examine and verify	ratify
Jack	Lucy	

Supplier Address: ROOM 202, BUILDING B, NO.238, GUANGPU EAST ROAD, HUANGPU DISTRICT, GUANGZHOU CITY, GUANGDONG PROVINCE, CHINA

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.

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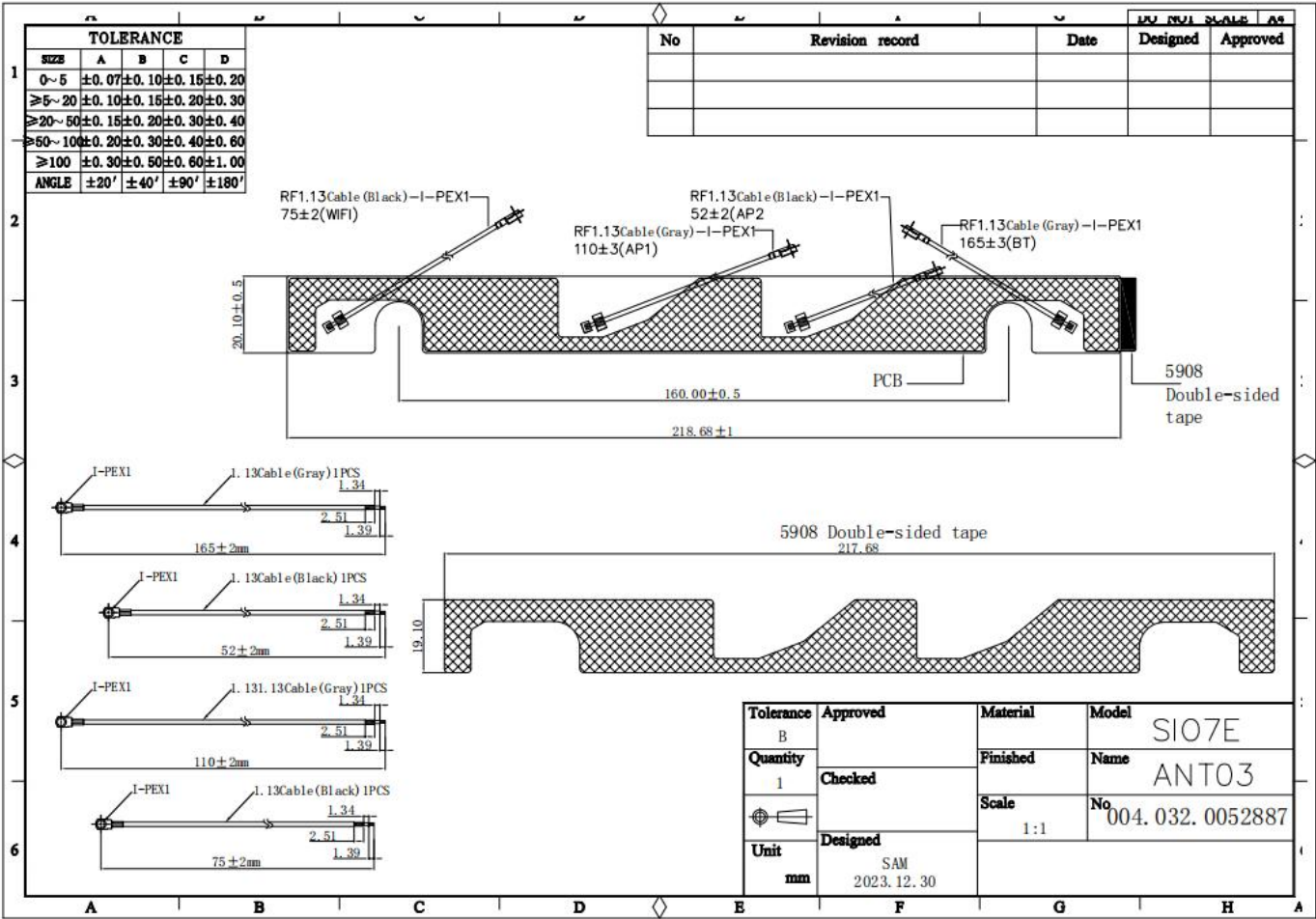
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Document revision resume form				
Edition	Date	Develop / Modify / Repeal content	Lay Down	Approval
A/0	2024-01-19	New Edition	Yue Ting	Feng Xianqiang

2. Product Photos



3. Product Drawings, Specifications



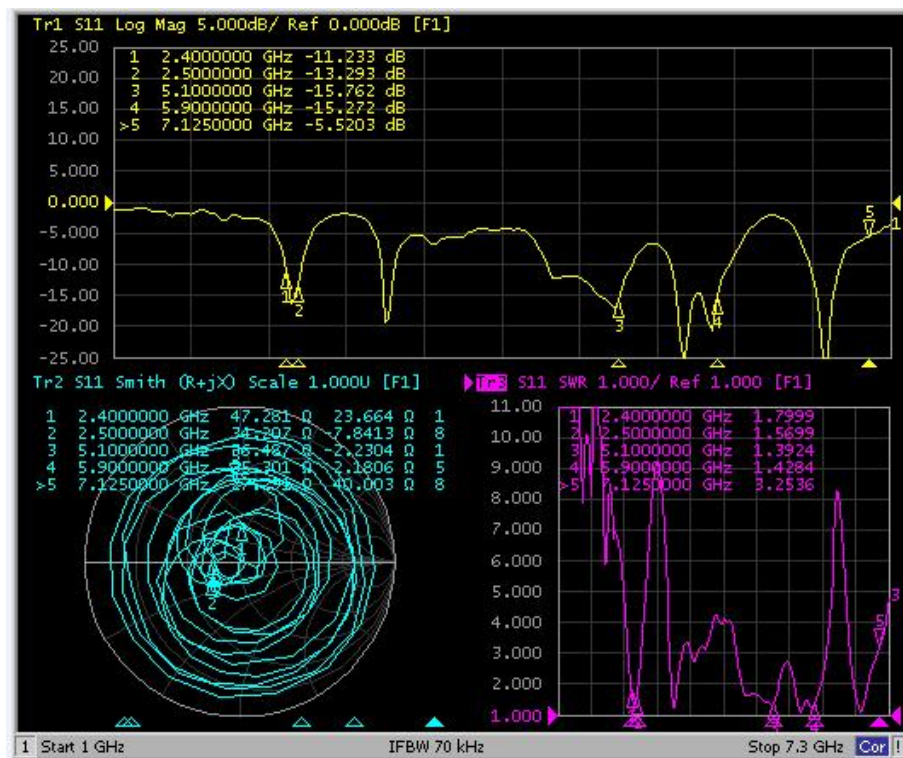
4. performance Parameter

4-1 Performance Parameters

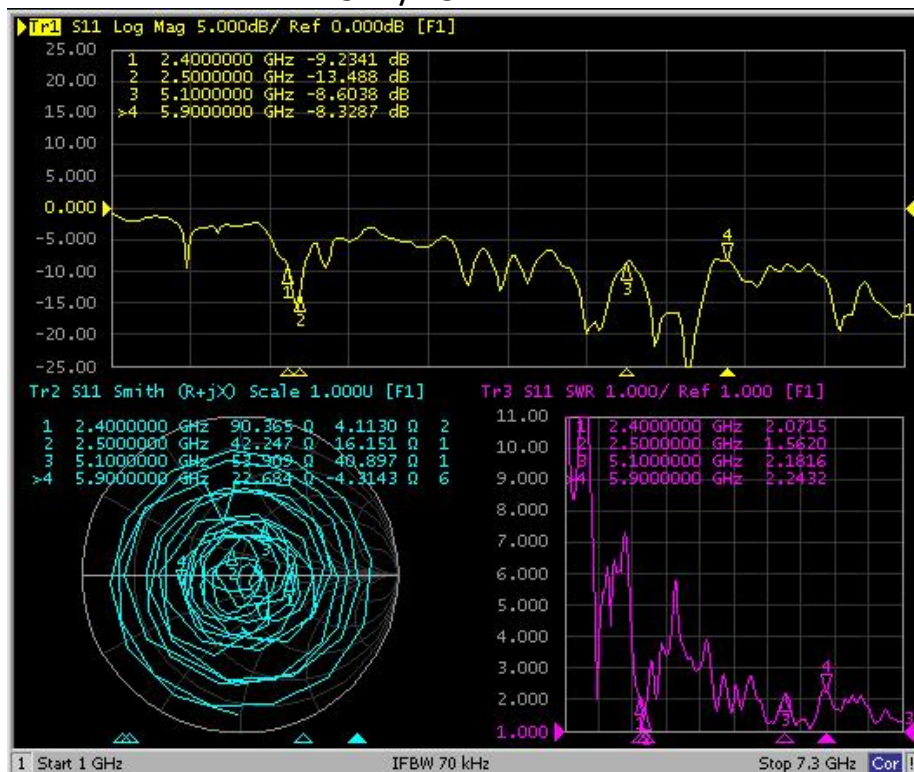
Electrical Parameters	
Frequency Range	2.4-2.5GHz 5.15-5.85GHz 7.12GHz
Input Impedence	50 Ω
Standing-wave Ratio	sample for reference
Gain	/
Power Capacity	/
Through The Test	Thoroughfare
Polarization Mode	Linear
Radiation Direction	/
Connector Model	I-PEX terminal 1 generation * 4
Mechanical Parameters	
Terminal Maintenance Force	/
Antenna Material	PCB
Coax	Grey-Black 1.13 Cable
Salt Spray Test	24H
Enviromental Parameter	
Working Temperature	-30℃~65℃

4-2 Performance Test(Local parts of the entire machine)

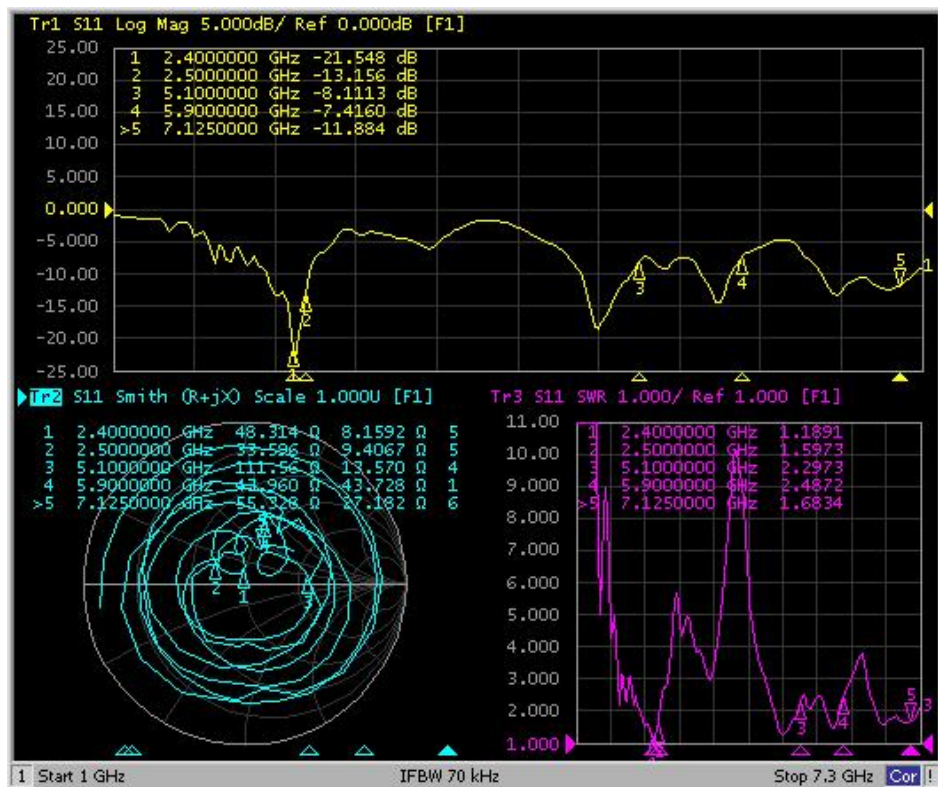
S11/VSWR WIFI



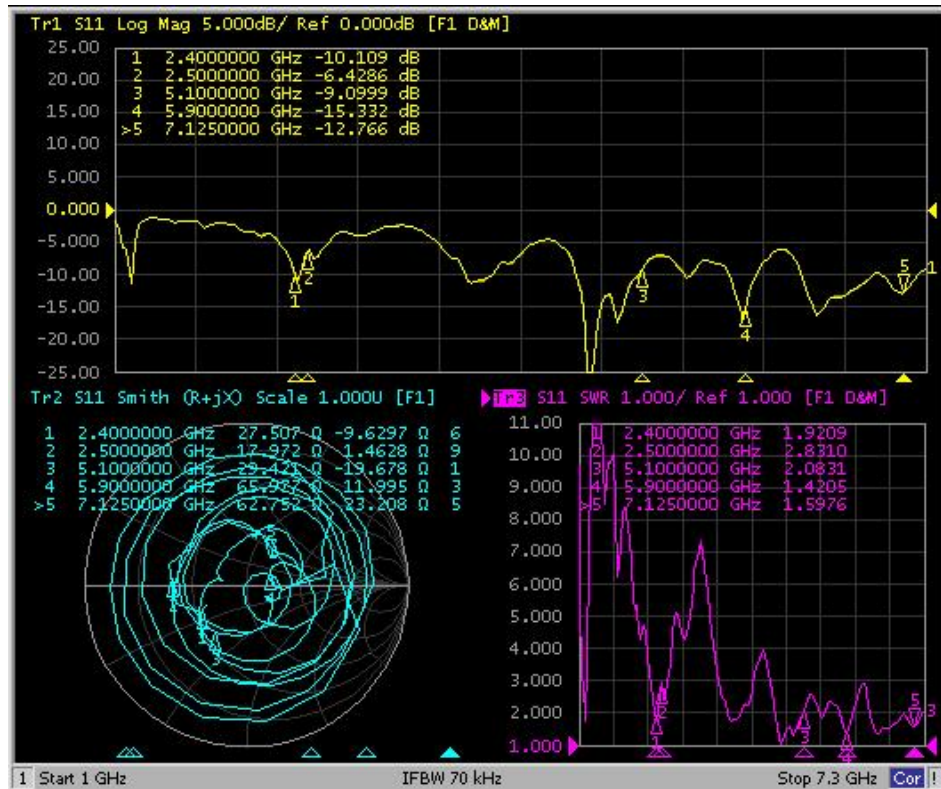
S11/VSWR BT



S11/VSWR AP2



S11/VSWR AP1



4-3 Antenna Efficiency (Local parts of the entire machine) WIFI

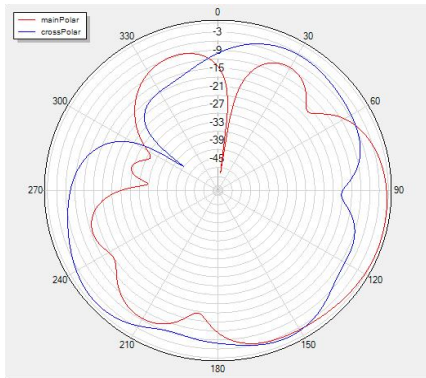
frequency 频率 (MHz)	gain 增益 (dBi)	efficiency 效率(dB)	efficiency 效率(%)
2400	3.59	-2.81	52.36
2410	4.18	-2.68	53.96
2420	4.28	-2.42	57.27
2430	4.21	-2.23	59.89
2440	4.25	-2.11	61.54
2450	4.01	-2.06	62.18
2460	3.88	-2.08	61.96
2470	3.94	-2.21	60.18
2480	3.83	-2.31	58.69
2490	3.69	-2.25	59.63
2500	3.68	-2.12	61.43

frequency 频率(MHz)	gain 增益(dBi)	efficiency 效率(dB)	efficiency 效率(%)
5100	4.54	-3.03	49.76
5150	4.17	-2.99	50.18
5200	4.12	-3.64	43.24
5250	4.02	-3.36	46.12
5300	4.43	-3.55	44.18
5350	4.09	-3.83	41.44
5400	3.71	-4.27	37.39
5450	3.48	-4.16	38.34
5500	3.3	-4.57	34.9
5550	3.56	-4.85	32.75
5600	4.02	-4.79	33.22
5650	4.54	-3.69	42.77
5700	4.68	-3.54	44.31
5750	4.4	-3.47	45.03
5800	3.9	-3.36	46.16
5850	3.39	-3.63	43.34
5900	3.2	-3.79	41.76

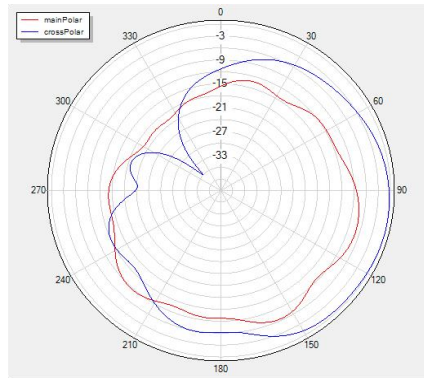
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5920	2.72	-4	39.77
5960	2.14	-3.98	39.97
6000	1.56	-4.19	38.08
6040	1.3	-4.45	35.93
6080	1.05	-5.1	30.88
6120	0.36	-5.79	26.35
6160	-0.51	-6.56	22.07
6200	-1.05	-6.37	23.06
6240	-2.42	-6.60	21.89
6280	-2.88	-6.64	21.66
6320	-2.86	-6.49	22.42
6360	-3.23	-6.64	21.7
6400	-3.39	-6.76	21.07
6440	-3.17	-6.55	22.11
6480	-2.44	-6.23	23.8
6520	-2.25	-5.75	26.58

frequency 频率(MHz)	gain 增益(dBi)	efficiency 效率(dB)	efficiency 效率(%)
6560	-1.84	-5.59	27.62
6600	-0.86	-5.27	29.71
6640	-0.57	-5.18	30.31
6680	-0.12	-4.6	34.67
6720	0.38	-4.2	38.05
6760	0.1	-4.23	37.75
6800	0.35	-4.23	37.75
6840	0.85	-4.13	38.64
6880	0.32	-4.34	36.82
6920	0.26	-4.29	37.23
6960	0.02	-4.48	35.62
7000	-0.02	-4.77	33.37
7040	-0.27	-4.99	31.7
7080	-1.24	-5.24	29.93
7120	-1.86	-5.78	26.42
7160	-2.12	-6.01	24.89

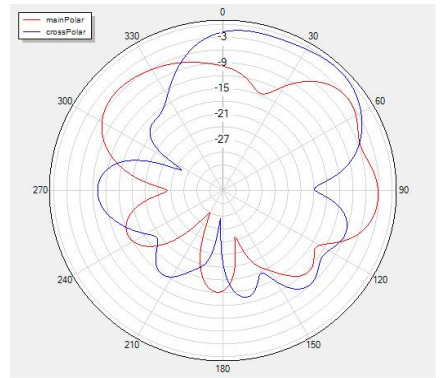
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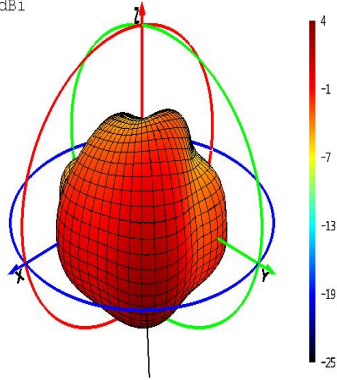
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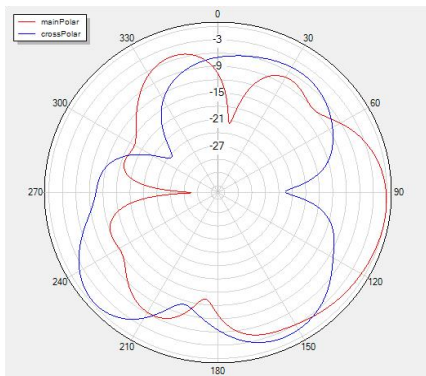
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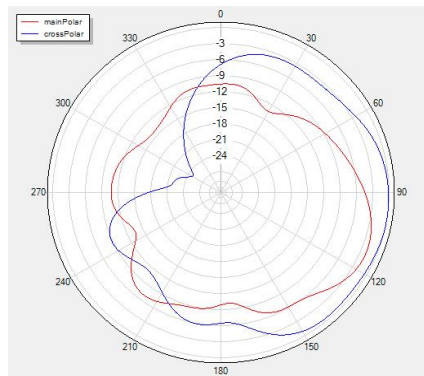
MAX: 3.59dBi
MIN: -26dBi



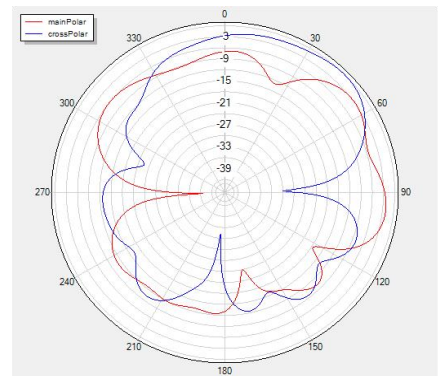
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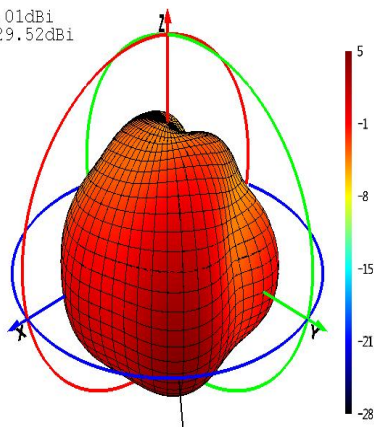
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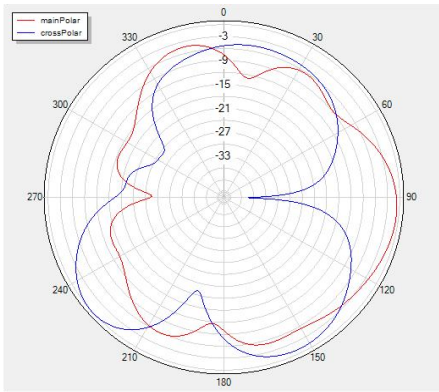
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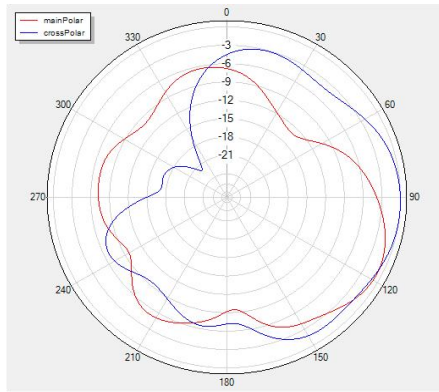
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MIN: -29.52dBi



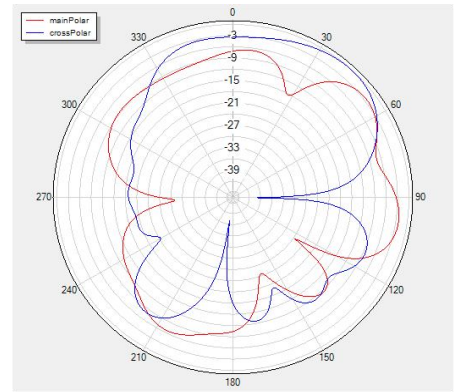
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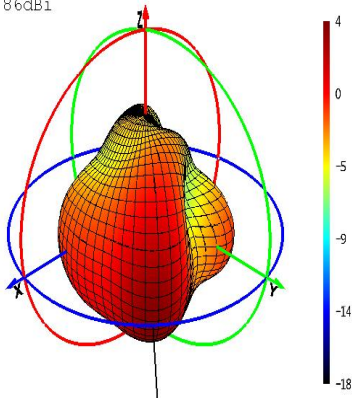
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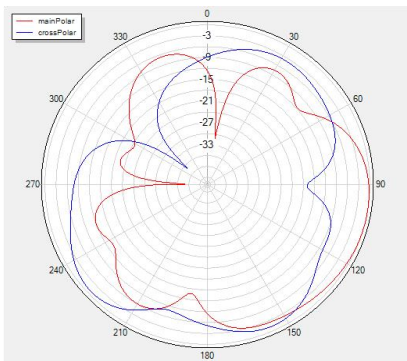
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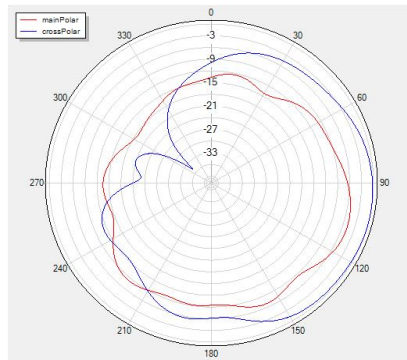
MAX: 3.83dBi
MIN: -18.86dBi



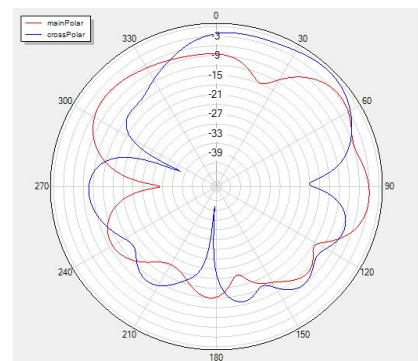
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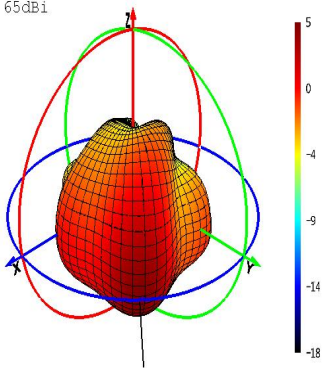
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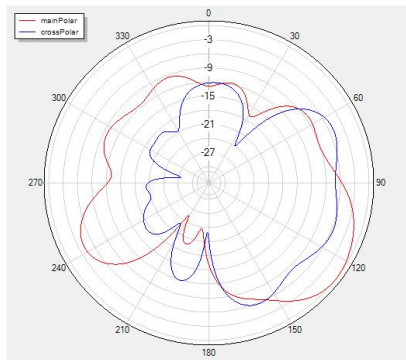
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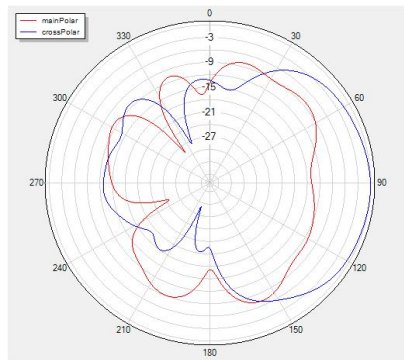
MAX: 4.28dBi
MIN: -19.65dBi



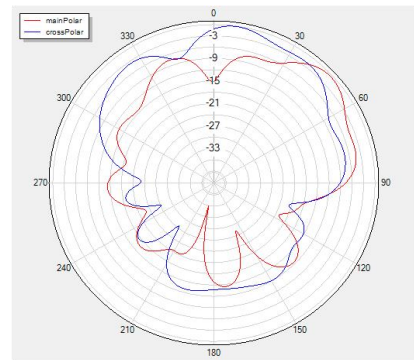
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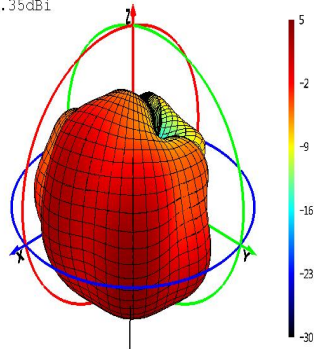
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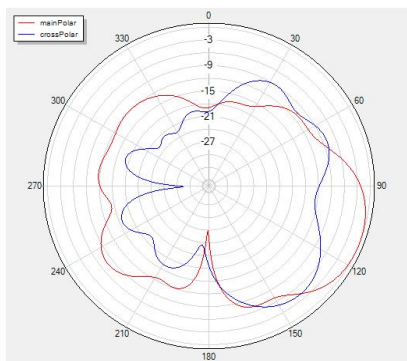
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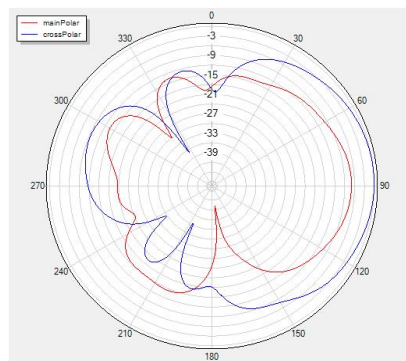
MAX: 4.54dBi
MIN: -31.35dBi



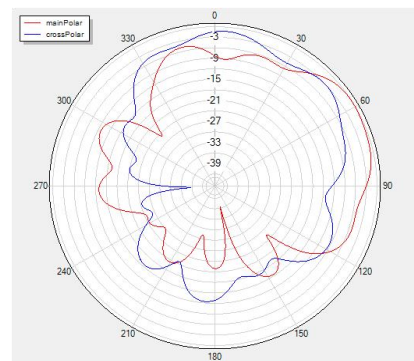
Phi=90 freq=5450MHz



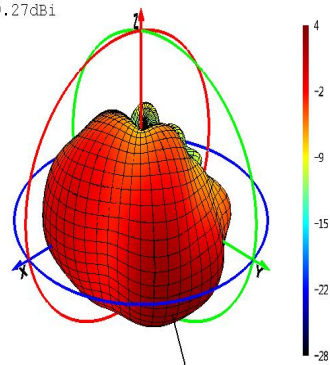
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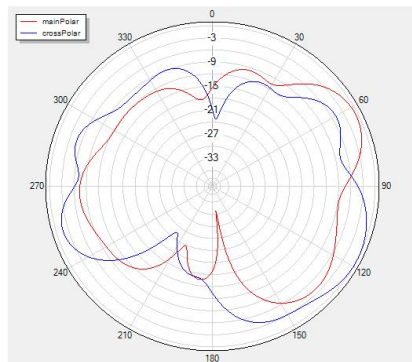
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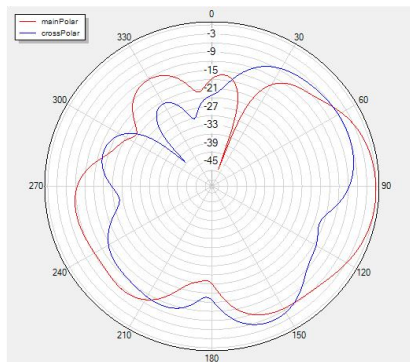
MAX: 3.48dBi
MIN: -29.27dBi



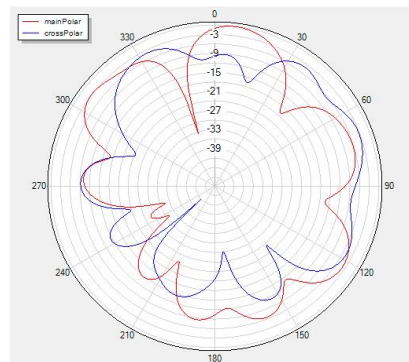
Phi=90 freq=5900MHz



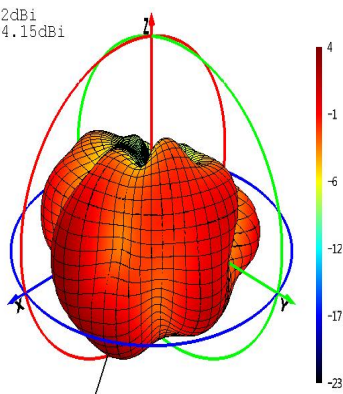
Phi=0 freq=5900MHz



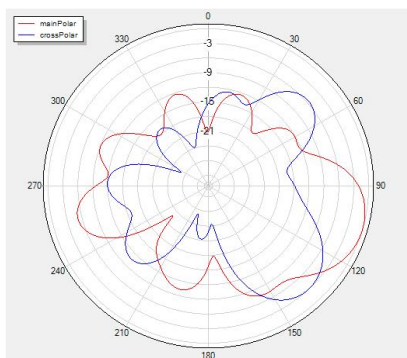
Theta=90 freq=5900MHz



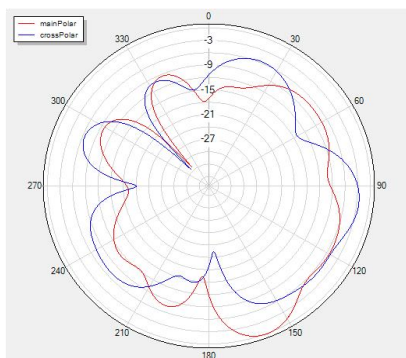
MAX: 3.2dBi
MIN: -24.15dBi



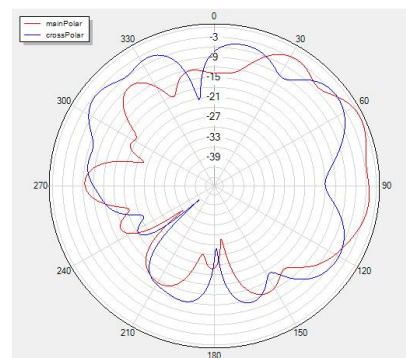
Phi=90 freq=5700MHz



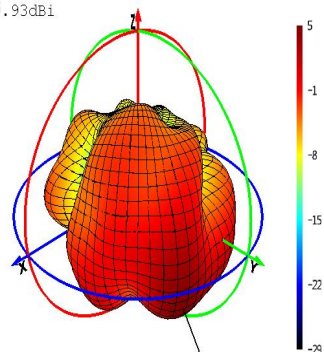
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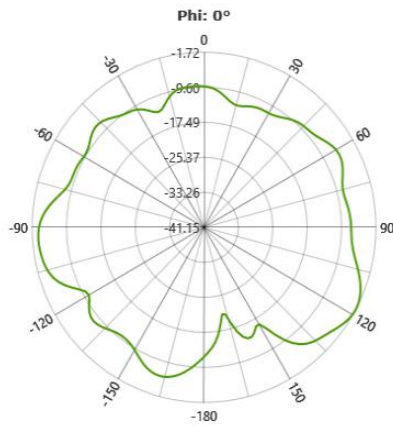
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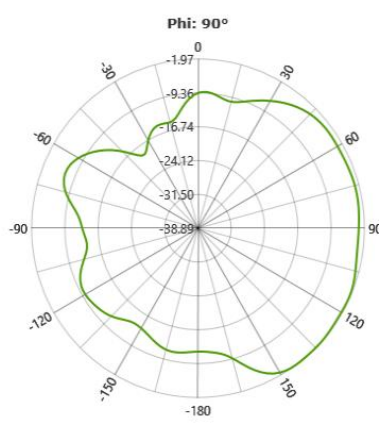
MAX: 4.68dBi
MIN: -29.93dBi



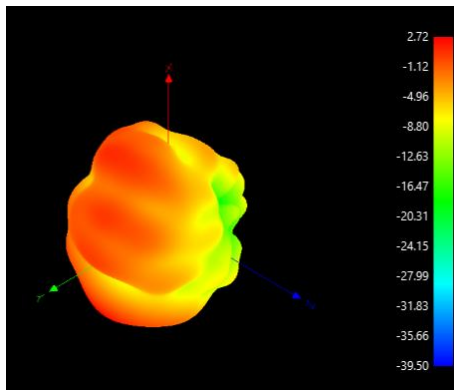
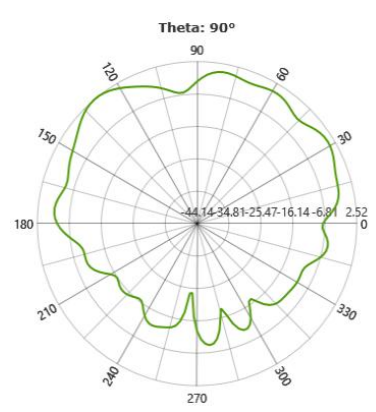
Phi=0 5920MHz



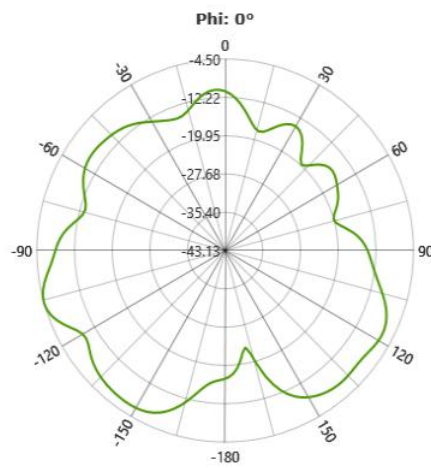
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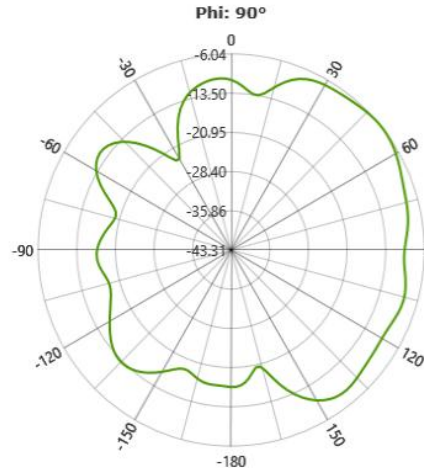
Theta=90 5920MHz



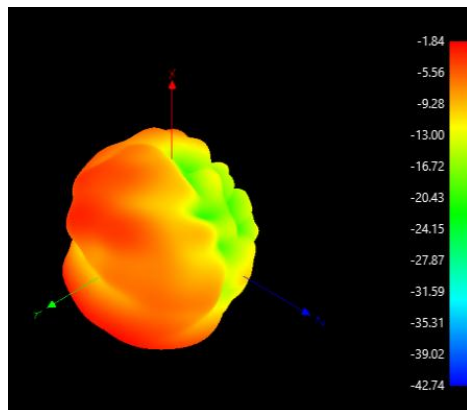
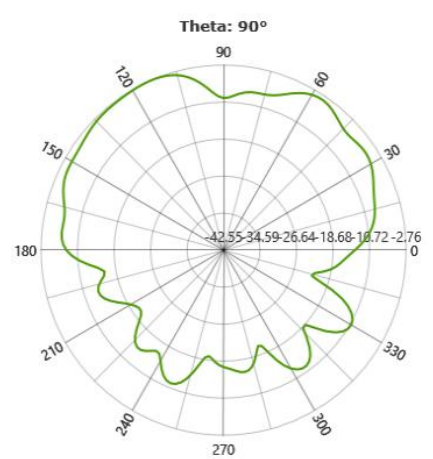
Phi=0 6560MHz



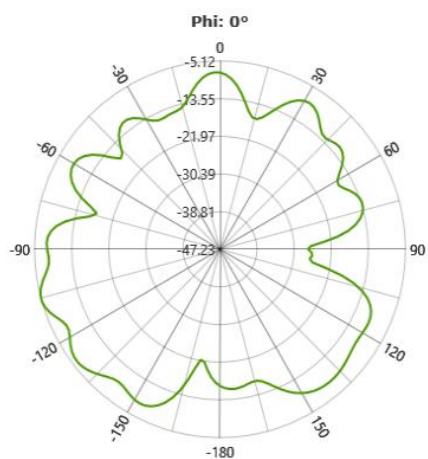
Phi=90 6560MHz



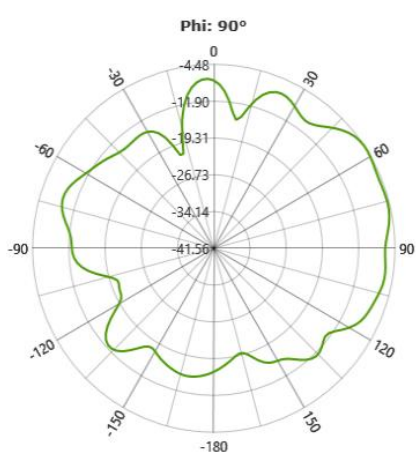
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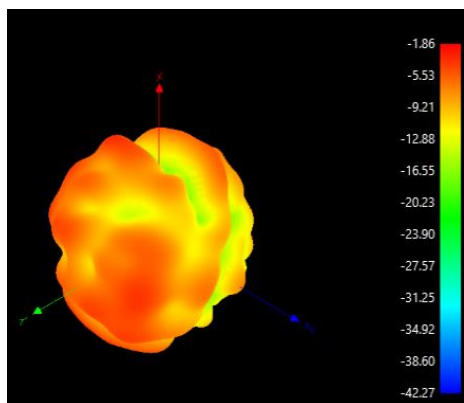
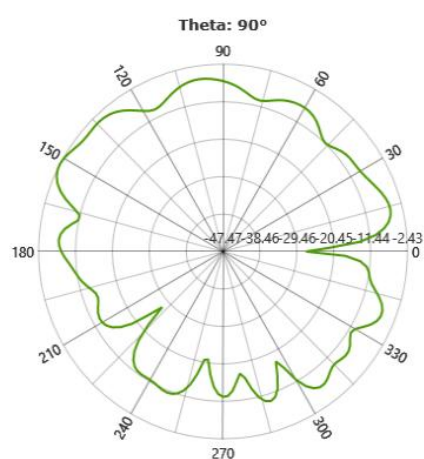
Phi=0 7120MHz



Phi=90 7120MHz



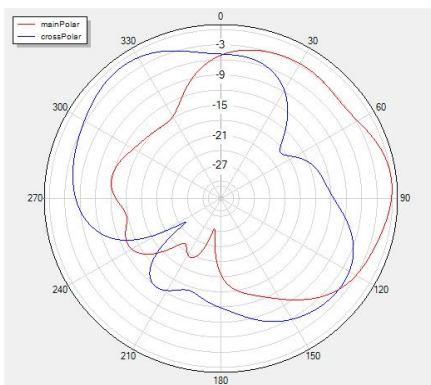
Theta=90 7120MHz



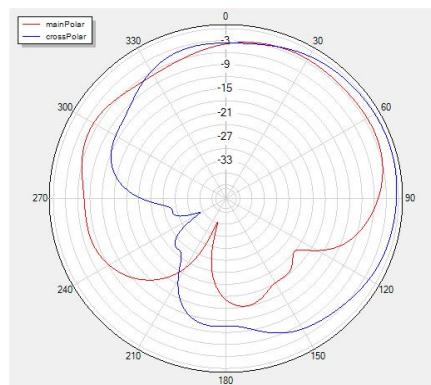
Antenna Efficiency (Local parts of the entire machine)BT

frequency 频率(MHz)	gain 增益 (dBi)	efficiency 效率(dB)	efficiency 效率(%)
2400	2.65	-4.16	38.34
2410	2.98	-3.70	42.68
2420	2.91	-3.39	45.77
2430	2.85	-3.05	49.56
2440	2.93	-3.06	49.46
2450	2.72	-3.04	49.68
2460	2.61	-3.06	49.41
2470	2.56	-3.20	47.81
2480	2.32	-3.34	46.35
2490	2.17	-3.27	47.08
2500	2.17	-3.19	47.97

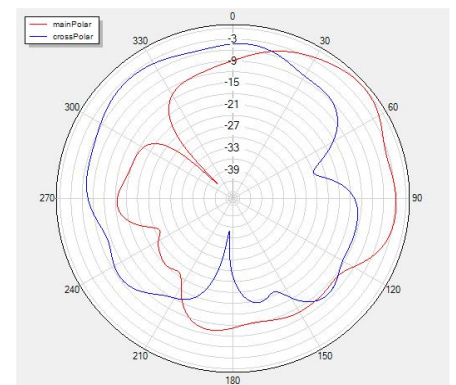
Phi=90 freq=2410MHz



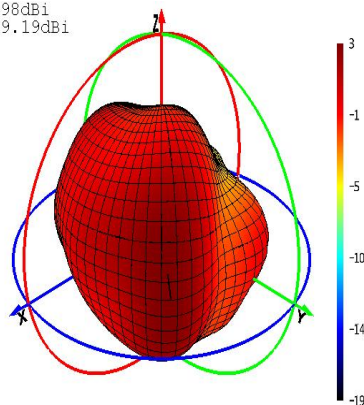
Phi=0 freq=2410MHz



Theta=90 freq=2410MHz



MAX: 2.98dBi
MIN: -19.19dBi

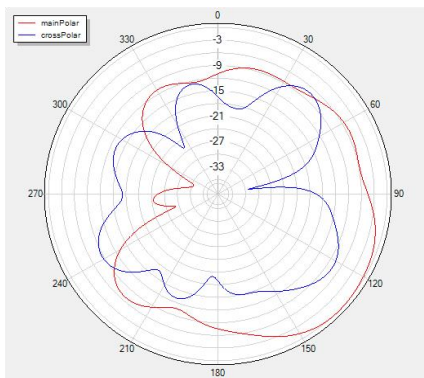


Antenna Efficiency (Local parts of the entire machine)AP2

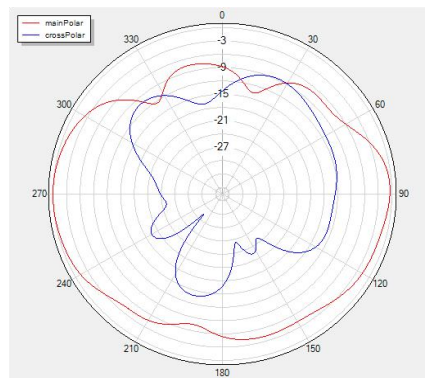
frequency 频率 (MHz)	gain 增益 (dBi)	efficiency 效率(dB)	efficiency 效率(%)
2400	2.51	-3.18	48.11
2410	2.38	-3.06	49.45
2420	1.99	-3.04	49.66
2430	1.62	-2.92	51.1
2440	1.85	-2.94	50.77
2450	2.04	-2.89	51.4
2460	2.1	-2.87	51.64
2470	2.04	-2.97	50.47
2480	1.71	-3.04	49.71
2490	1.3	-2.94	50.82
2500	1.07	-2.85	51.88

frequency 频率 (MHz)	gain 增益 (dBi)	efficiency 效率(dB)	efficiency 效率(%)
5100	2.85	-3.83	41.41
5150	3.03	-3.56	44.07
5200	3.11	-3.78	41.88
5250	2.98	-3.48	44.89
5300	3.43	-3.65	43.15
5350	3.23	-3.79	41.81
5400	3.53	-4.37	36.6
5450	3.36	-4.42	36.17
5500	2.36	-5.14	30.62
5550	1.57	-5.28	29.65
5600	0.72	-5.31	29.48
5650	1.81	-4.15	38.45
5700	2.32	-3.93	40.49
5750	2.34	-4.09	38.99
5800	1.98	-4.49	35.6
5850	1.25	-5.24	29.91
5900	0.8	-5.83	26.1

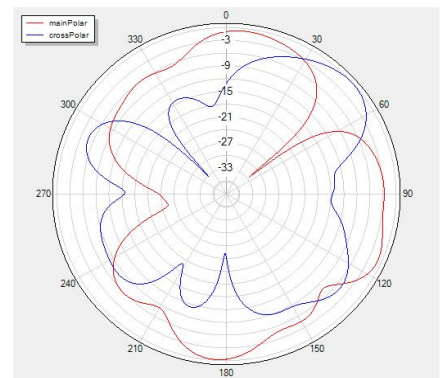
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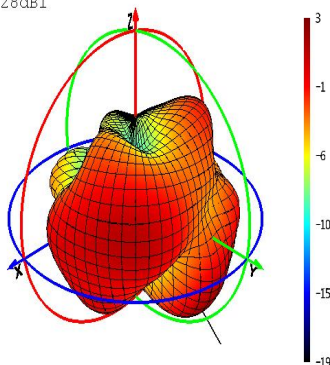
Phi=0 freq=2400MHz



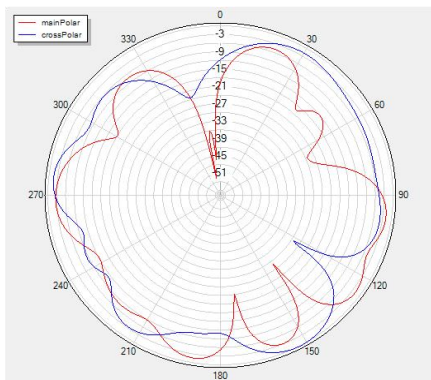
Theta=90 freq=2400MHz



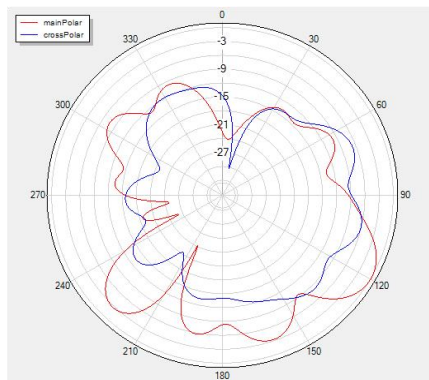
MAX: 2.51dBi
MIN: -20.28dBi



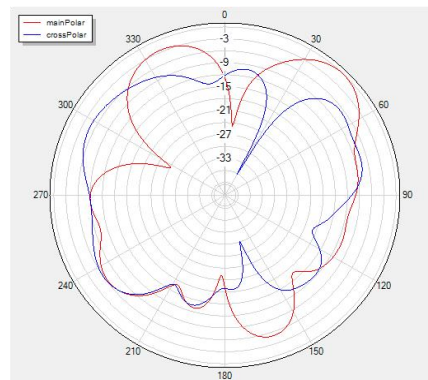
Phi=90 freq=5400MHz



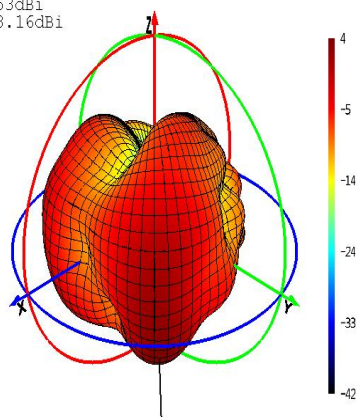
Phi=0 freq=5400MHz



Theta=90 freq=5400MHz



MAX: 3.53dBi
MIN: -43.16dBi

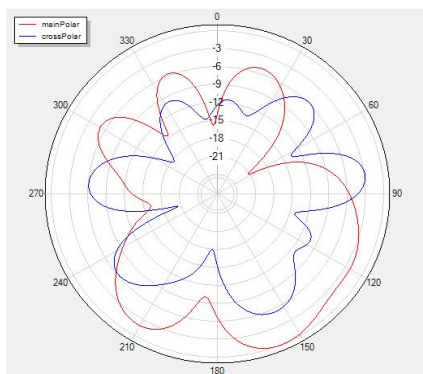


Antenna Efficiency (Local parts of the entire machine)AP1

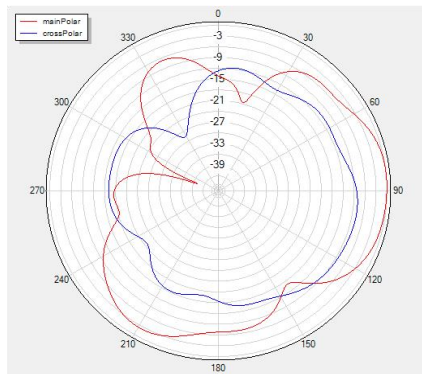
frequency 频率 (MHz)	gain 增益 (dBi)	efficiency 效率(dB)	efficiency 效率(%)
2400	3.09	-3.60	43.64
2410	3.13	-3.44	45.33
2420	3.15	-3.40	45.7
2430	2.92	-3.43	45.44
2440	2.84	-3.50	44.62
2450	2.64	-3.60	43.69
2460	2.78	-3.76	42.07
2470	3.04	-4.06	39.3
2480	3.08	-4.19	38.14
2490	3.05	-3.98	39.98
2500	3.13	-3.73	42.35

frequency 频率 (MHz)	gain 增益 (dBi)	efficiency 效率(dB)	efficiency 效率(%)
5100	2.32	-4.41	36.23
5150	3.24	-3.94	40.34
5200	4.03	-3.95	40.26
5250	3.89	-3.68	42.89
5300	3.47	-3.95	40.25
5350	3.19	-4.09	38.97
5400	3.77	-4.16	38.33
5450	3.67	-4.11	38.86
5500	2.7	-4.93	32.15
5550	2.27	-4.88	32.48
5600	2.04	-4.55	35.06
5650	3.02	-3.56	44.1
5700	3.61	-3.63	43.3
5750	3.8	-3.94	40.41
5800	3.02	-4.45	35.88
5850	1.45	-5.16	30.5
5900	1.19	-5.67	27.1

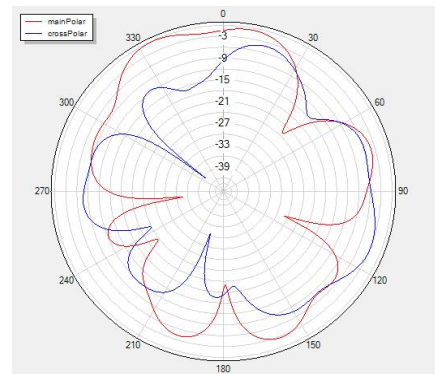
Phi=90 freq=2420MHz



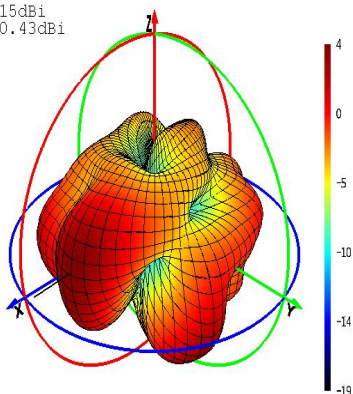
Phi=0 freq=2420MHz



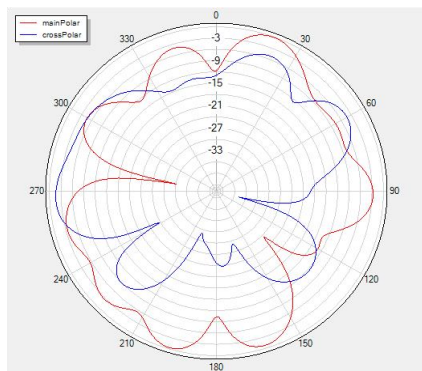
Theta=90 freq=2420MHz



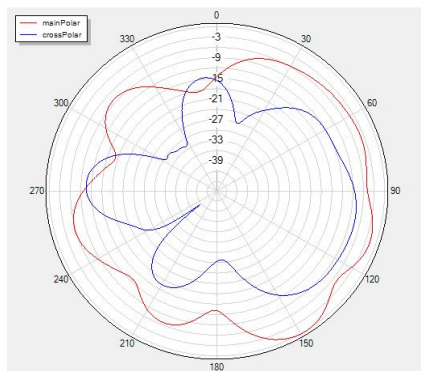
MAX: 3.15dBi
MIN: -20.43dBi



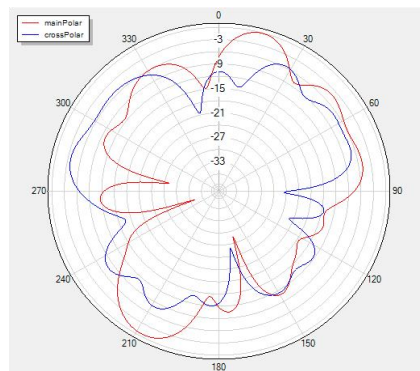
Phi=90 freq=5200MHz



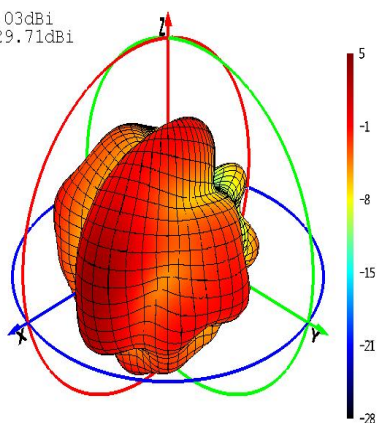
Phi=0 freq=5200MHz



Theta=90 freq=5200MHz



MAX: 4.03dBi
MIN: -29.71dBi



5. Packaging Standard

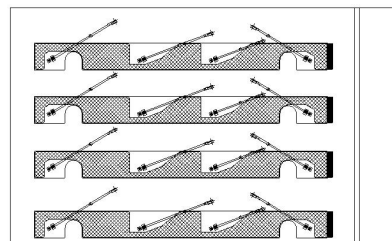
Product Material No. : 004.032.0052887

Product specification: Coaxial Cable antenna, 2.4 ~ 2.5GHz, 5.1 ~ 7.1GHz, 20.1 × 218.68mm, Green, I-PEX1, PCB, 4COAX, Double-sided tape 3M5908, 4PCS-Coaxial Cable

li. Packaging requirements and operation instructions:

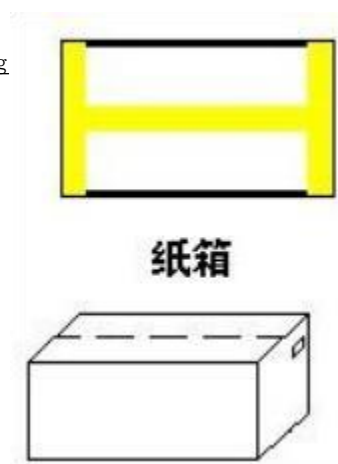
1. Internal packaging:

Product 50 PCS small Pe bag into the big 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;

6. Reliability test report

7-1. 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. Test List Of Raw Materials

原材料测试清单 Raw Material Test List														
客户编码 (Customer P/N): 004.032.0052887				物料名称 (Part Name) Coaxial Cable ANT				供应商 (Vendor)				供应商标号 (Vendor P/N)		
No (序号)	Raw Material Name (原材料 料名称)	Raw Material Description (原材料描述)	Raw Material Supplier (原材料供应 商)								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)	Cu+6 (六价 铜)	PBBs (聚溴 化苯 酯)	PBDEs (聚溴 化苯 醚)	邻苯二甲酸二 (2-乙基己)酯 (DEHP)	邻苯二甲酸二 丁酯 (DBP)	邻苯二甲酸丁 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	2023/8/8	
	RF 端子 RF Connector	C5210	dingrong	13	ND	ND	ND	ND	ND	ND	ND	ND	2023/5/11	
		镀镍 NI	tonghua	30	ND	ND	ND	ND	ND	ND	ND	ND	2023/8/17	
		镀金 AU	tonghua	10	ND	ND	ND	ND	ND	ND	ND	ND	2023/8/17	
	PCB- ANTENNA	RF4	GOLDENMAX INTERNATI ONAL	8	ND	ND	ND	ND	ND	ND	ND	ND	2023/10/11	
		Solder resist Ink	ZHAOQING CHAOYANG	ND	ND	ND	ND	ND	ND	ND	ND	ND	2023/5/25	
	sided tape	背胶5908	Runda New Materials	ND	ND	ND	ND	ND	ND	ND	ND	ND	2023/10/23	
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是否含三氧化二锑： ☐ 含有YES ☒ 不含有NO														

8. 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