

深圳市云顶通讯电子有限公司
Shenzhen Genting Communication Electronics Co., LTD

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承認書
APPROVAL SHEET

客 户
6HFGB@8E:

福斯康姆 Foscam

品 名 规 格 5DB 白色胶棒-SMA 公头公针-WIFI 天线
DESCRIPTION: 5DB White glue stick -SMA male needle -WIFI antenna

料 号
PART NO.:

客 户 料 号
CUS PART NO.:

日 期 2023. 10. 17
D A T E:

工 程 ENGINEERING DEPARTMENT	品 保 Q C DEPARTMENT	业 务 SALES DEPARTMENT

工 程 ENGINEERING DEPARTMENT	品 保 Q C DEPARTMENT	采 购 PURCHASING DEPARTMENT

※ Admitted that book in triplicate, please signed by your company.

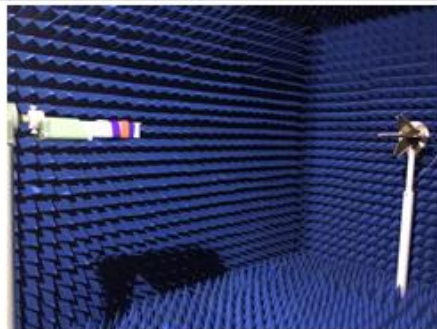
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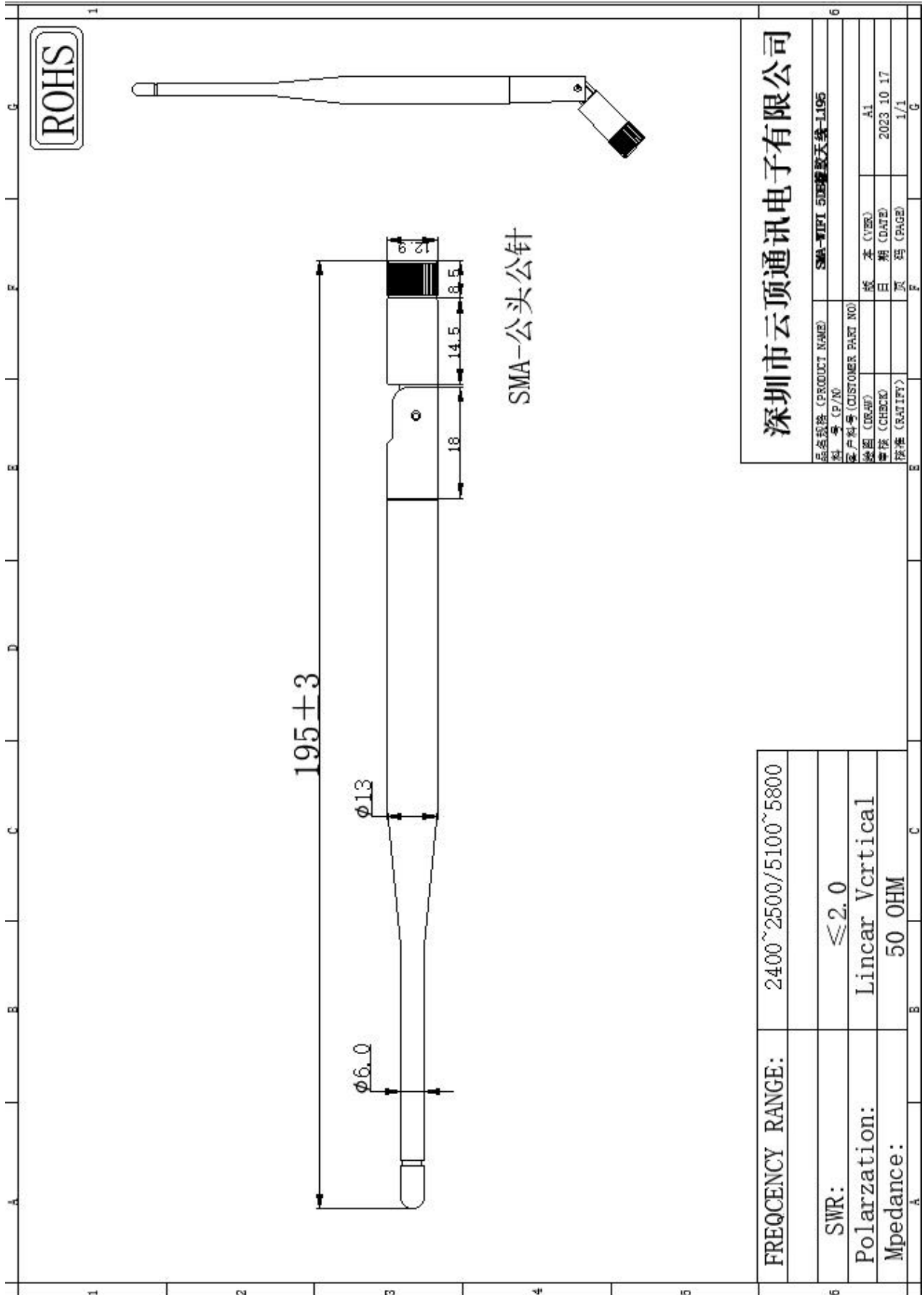
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1.测试项目与设备 Test items and equipment

	测试项目 Test item	设备 equipment
1. S11 参数 (S-parameter)	1. 回波损耗 (Return Loss) 2. 电压驻波比 (VSWR)	网络分析仪: Agilent E5071B Network analysis HP 8753D
2. 有源测试 (Active)	1. 发射功率 (TRP) 2. 接收灵敏度 (TIS)	1. 暗室: ETS 7x4x3 m (3D) Chamber Chamber ETS 5x3x3 m (3D) Chamber 2. 综合测试仪: Agilent 8960 E5515B ×2 StarPoint SP6011
3. 无源测试 (Passive)	1. 天线增益 (Gain) 2. 天线效率 (Efficiency)	1. 暗室: ETS 7x4x3 m (3D) Chamber Chamber ETS 5x3x3 m (3D) Chamber 2. 网络分析仪: Agilent E5071B Network analysis HP 8753D



2.天线结构图: Antenna structure diagram

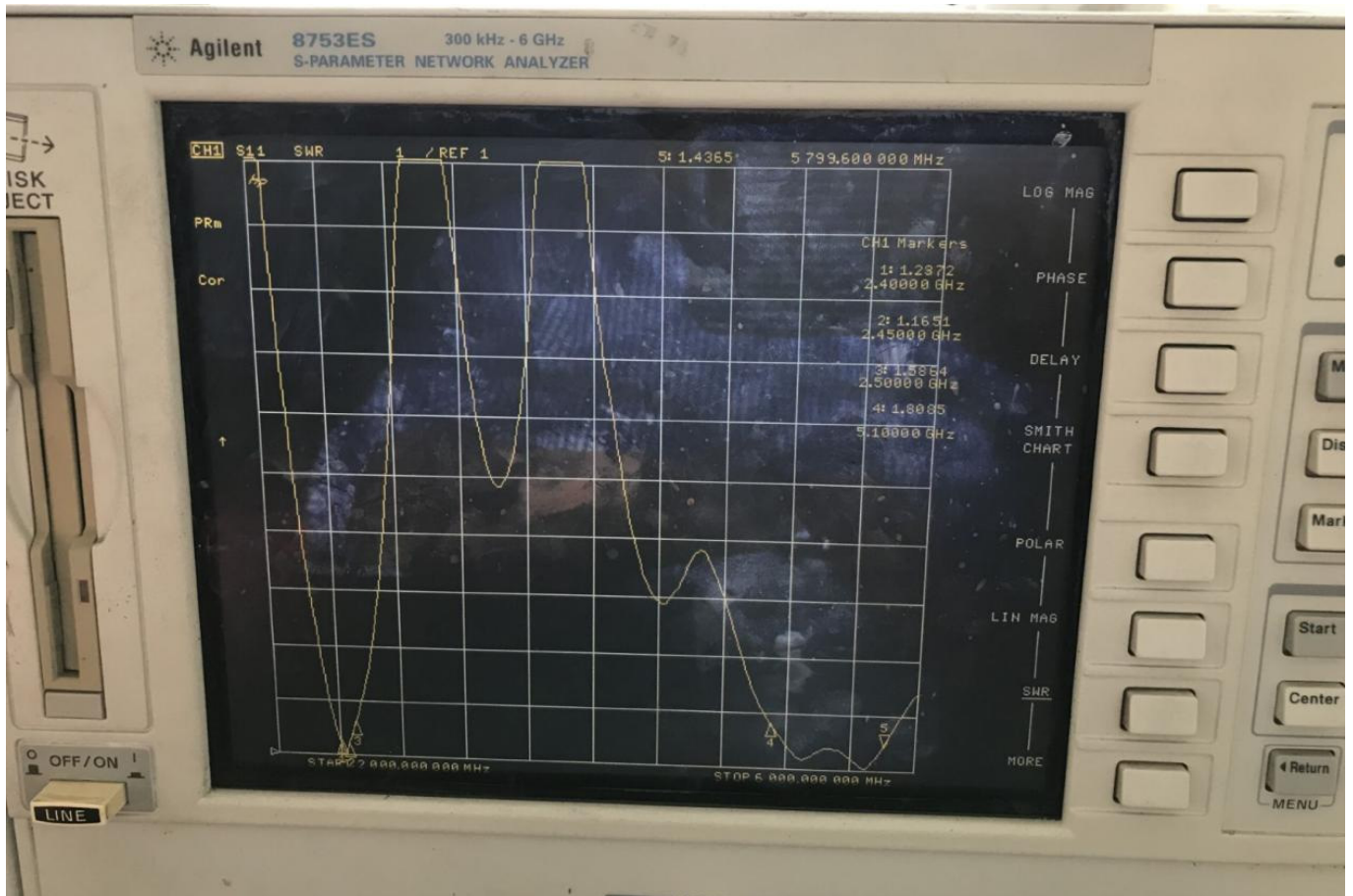


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3.天线性能SWR:



4.网络数据图: Network data graph

Passive Test For wifi								
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	Max (dB)	Min (dB)	Attenut Hor	Attenut Ver
2300	77.54	-1.1	4.36	2.21	4.36	-13.59	51.43	51.57
2310.53	79.5	-1	4.46	2.31	4.46	-14.65	51.55	51.74
2321.05	80.67	-0.93	4.46	2.31	4.46	-14.35	51.67	51.87
2331.58	80.14	-0.96	4.08	1.93	4.08	-14.64	51.78	52
2342.1	82.75	-0.82	4.05	1.9	4.05	-14.08	52.11	52.26
2352.63	78.18	-1.07	3.63	1.48	3.63	-15.49	52.12	52.2
2363.16	74.89	-1.26	3.39	1.24	3.39	-15.79	52.2	52.25
2373.68	76.69	-1.15	3.51	1.36	3.51	-15.79	52.42	52.47
2384.21	71.64	-1.45	3.26	1.11	3.26	-17.26	52.33	52.38
2394.73	70.36	-1.53	3.13	0.98	3.13	-18.86	52.38	52.48
2405.26	74.43	-1.28	3.28	1.13	3.28	-18.71	52.77	52.88
2415.79	75.95	-1.19	3.26	1.11	3.26	-20.94	53.09	53.18
2426.31	73.03	-1.36	2.85	0.7	2.85	-22.82	53.12	53.13
2436.84	70.35	-1.53	2.56	0.41	2.56	-22.47	53.18	53.11
2447.36	64.71	-1.89	2.28	0.13	2.28	-20.21	52.96	52.85
2457.89	61.4	-2.12	2.26	0.11	2.26	-20.29	52.96	52.81
2468.42	59.71	-2.24	2.37	0.22	2.37	-19.71	53.11	52.91
2478.94	61.57	-2.11	2.79	0.64	2.79	-19.01	53.28	53.15
2489.47	65.33	-1.85	3.15	1	3.15	-19.4	53.42	53.3
2499.99	65.36	-1.85	3.24	1.09	3.24	-17.4	53.38	53.22

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Passive Test For WIFI-5G										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	Attenut Hor	Attenut Ver
5100	60.24	-2.2	4.7	2.55	23.074	37.163	4.7	-22.76	57.95	57.06
5110	58.7	-2.31	4.8	2.65	22.481	36.217	4.8	-23.96	57.9	57.22
5120	55.87	-2.53	4.67	2.52	21.43	34.438	4.67	-28.25	57.99	57.21
5130	58.55	-2.32	5.06	2.91	22.621	35.927	5.06	-30.6	57.94	57.17
5140	56.68	-2.47	5.06	2.91	22.164	34.514	5.06	-26.27	57.95	57.28
5150	55.83	-2.53	5	2.85	22.168	33.664	5	-28.12	57.91	57.19
5160	54.49	-2.64	4.9	2.75	21.862	32.627	4.9	-24.23	57.9	57.07
5170	51.94	-2.85	4.74	2.59	21.096	30.842	4.74	-21.94	57.79	56.93
5180	53.24	-2.74	4.79	2.64	21.803	31.435	4.79	-21.09	57.75	57.18
5190	52.67	-2.78	4.82	2.67	21.887	30.779	4.82	-24.42	57.87	56.93
5200	53.51	-2.72	4.79	2.64	22.424	31.083	4.79	-28.29	57.55	56.83
5210	52.05	-2.84	4.69	2.54	22.1	29.948	4.69	-29.81	57.87	57.01
5220	53.97	-2.68	4.71	2.56	23.041	30.925	4.71	-22.7	57.54	56.84
5230	56.78	-2.46	4.77	2.62	24.444	32.338	4.77	-26.07	57.56	56.65
5240	56.72	-2.46	4.58	2.43	24.466	32.255	4.58	-33.17	57.24	56.56
5250	56.28	-2.5	4.57	2.42	24.371	31.913	4.57	-24.92	57.72	56.91
5260	58.61	-2.32	4.81	2.66	25.512	33.096	4.81	-22.22	57.47	56.56
5270	57.63	-2.39	4.74	2.59	25.19	32.436	4.74	-20.89	57.58	56.9
5280	57.8	-2.38	4.55	2.4	25.532	32.271	4.55	-21.57	57.62	56.89
5290	59.11	-2.28	4.72	2.57	26.377	32.734	4.72	-18.83	57.57	56.88
5300	56.83	-2.45	4.56	2.41	25.765	31.069	4.56	-19.7	57.16	56.32
5310	57.61	-2.39	4.34	2.19	26.439	31.172	4.34	-23.15	57.25	56.65
5320	61.19	-2.13	4.5	2.35	28.402	32.787	4.5	-24.4	57.4	56.64
5330	61.14	-2.14	4.46	2.31	28.588	32.556	4.46	-30.08	57.21	56.57
5340	64.54	-1.9	4.66	2.51	30.455	34.083	4.66	-19.92	57.95	57.29
5350	66.17	-1.79	4.84	2.69	31.582	34.586	4.84	-17.63	57.61	56.81
5360	66.89	-1.75	4.89	2.74	32.287	34.6	4.89	-15.61	57.66	56.82
5370	65.01	-1.87	4.76	2.61	31.695	33.312	4.76	-17.45	57.56	56.82
5380	65.28	-1.85	4.81	2.66	32.191	33.09	4.81	-20.38	57.78	57.07

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5390	63.88	-1.95	4.71	2.56	31.863	32.015	4.71	-22.9	57.53	56.62
5400	74.33	-1.29	5.31	3.16	37.415	36.917	5.31	-21.38	58.32	57.48
5410	75.31	-1.23	5.36	3.21	38.107	37.207	5.36	-23.02	58.2	57.29
5420	75.52	-1.22	5.27	3.12	38.401	37.115	5.27	-29.38	58.1	57.18
5430	73.51	-1.34	5.04	2.89	37.583	35.928	5.04	-28.19	58.01	57.03
5440	70.77	-1.5	4.7	2.55	36.385	34.381	4.7	-20.84	58.25	57.27
5450	75.37	-1.23	4.97	2.82	38.82	36.551	4.97	-18.14	58.49	57.41
5460	75.05	-1.25	4.77	2.62	38.831	36.217	4.77	-17.14	58.4	57.24
5470	76.03	-1.19	4.66	2.51	39.377	36.65	4.66	-17.54	58.69	57.59
5480	77.68	-1.1	4.58	2.43	40.417	37.26	4.58	-16.83	58.76	57.56
5490	74.38	-1.29	4.27	2.12	38.854	35.523	4.27	-17.77	58.79	57.51
5500	72.22	-1.41	4.15	2	37.927	34.297	4.15	-19.88	58.91	57.66
5510	71.34	-1.47	3.85	1.7	37.614	33.723	3.85	-17.76	59.05	57.67
5520	71.84	-1.44	3.76	1.61	38.177	33.666	3.76	-17.44	59.04	57.71
5530	70.8	-1.5	3.63	1.48	37.857	32.94	3.63	-16.91	59.3	58.01
5540	71.3	-1.47	3.48	1.33	38.344	32.955	3.48	-16.61	59.47	58.29
5550	72.42	-1.4	3.54	1.39	39.086	33.331	3.54	-17.13	59.82	58.58
5560	69.87	-1.56	3.4	1.25	37.571	32.303	3.4	-18.35	59.71	58.64
5570	67.24	-1.72	3.26	1.11	36.214	31.023	3.26	-19.27	60.02	59.04
5580	65.09	-1.86	2.96	0.81	35.08	30.008	2.96	-18.25	59.68	58.73
5590	63.58	-1.97	2.86	0.71	34.264	29.318	2.86	-19.94	59.8	59
5600	61.52	-2.11	2.51	0.36	33.222	28.297	2.51	-21.87	59.51	58.82
5610	59.11	-2.28	2.25	0.1	32.052	27.056	2.25	-22.8	59.73	59.13
5620	57.76	-2.38	1.84	-0.31	31.114	26.65	1.84	-26.33	59.94	59.22
5630	59.59	-2.25	2.12	-0.03	31.699	27.894	2.12	-21.72	60.02	59.46
5640	60.15	-2.21	2.07	-0.08	31.839	28.314	2.07	-20.25	60.38	59.77
5650	56.75	-2.46	2.02	-0.13	29.727	27.019	2.02	-21.66	60.1	59.5
5660	58.42	-2.33	2.46	0.31	30.372	28.05	2.46	-20.73	60.22	59.68
5670	57.06	-2.44	2.49	0.34	29.457	27.607	2.49	-20.64	60	59.42
5680	55.98	-2.52	2.46	0.31	28.897	27.085	2.46	-20.1	60.44	59.79
5690	59.05	-2.29	2.76	0.61	30.323	28.73	2.76	-18.01	60.68	60.03
5700	58.16	-2.35	2.74	0.59	29.674	28.487	2.74	-17.97	60.54	59.93
5710	57.25	-2.42	2.81	0.66	29.048	28.206	2.81	-17.79	60.75	60.28
5720	61.01	-2.15	3.04	0.89	31.075	29.938	3.04	-18.32	60.42	59.76
5730	63.02	-2.01	3.28	1.13	31.932	31.091	3.28	-18.2	60.61	60.07
5740	59.61	-2.25	3.05	0.9	30.344	29.263	3.05	-18.75	60.91	60.18
5750	59.88	-2.23	2.88	0.73	30.8	29.077	2.88	-21.24	60.86	60.31
5760	61.03	-2.14	2.84	0.69	31.755	29.27	2.84	-19.48	61.2	60.63
5770	59.98	-2.22	2.93	0.78	31.532	28.446	2.93	-21.06	60.81	60.17
5780	59.08	-2.29	2.94	0.79	31.307	27.773	2.94	-18.55	61.01	60.41
5790	58.25	-2.35	2.92	0.77	31.121	27.133	2.92	-19.95	60.81	60.08
5800	61.16	-2.14	2.94	0.79	32.678	28.477	2.94	-20.78	61.14	60.57

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电器技术参数

Technical parameters of electrical apparatus

电性能指标		Electrical Specifications	
频率范围	2400~2500/5100~5800MHz	Frequency Range	2400~2500/5100~5800MHz
电压驻波比	≤2.0	VSWR	≤2.0
输入阻抗	50 Ω	Input Impedance	50 Ω
最大输入功率	50W	Maximum Input Power	50W
机械指标		Mechanical Specifications	
天线颜色	白色	Antenna Color	White
接口形式	SMA 公头公针	Input connector	SMA MALE
天线长度	195mm	Cable length	195mm
工作温度	-40℃~+85℃	Working Temperature	-40℃~+85℃
工作湿度	20~80%	Working Humidity	20~80%

Antenna type: External antenna

Antenna model: SDA

环境性能测试 (Environment performance test) :

项目	测试条件	测试结果
储存环境	在没有指定的情况下测试温度、湿度、气压如下： 1. 温度为-30℃~+80℃ 2. 相对湿度为45%-85% 3. 气压为86kpa-106kpa	电气机械性能正常
高低温试验	在70℃与-40℃之间进行5次循环，然后在正常条件下1-2H，检查外观质量。	尺寸应满足规定并应满足于机械、电气性能
耐恒定湿热试验	相对湿度95±3%，试验温度：40℃.持续2H作用后，试品取出后5min之内测定电气性能，试品在正常条件下1-2H，检查外观质量	尺寸应满足规定并应满足于机械、电气性能
振动试验	振频范围10-55HZ，位移幅值：0.35MM，加速度幅值：50.0M/S，扫频循环次数：30次	电气机械性能正常
跌落试验	1M高空按照互相垂直的轴方向自由跌落3次	电气机械性能正常

Project	Test condition	Test results
Storage environment	Test temperature, humidity, pressure without stated condition as follwings:1.Temperature: -30 °C ~ +80 °C ;2.Relative humidity: 45%-85%;3, Pressure: 86kpa-106kpa	Electrical and mechanical performance normal
High and low temperature test	Having 5 times cycle between -40°C to 70°C,Then in common condition 1-2 hours test exterior quality.	Measurement satisfied with electrical and mechanical performance normal.
Resistance constant hot and humid test	Relative humidity:95±3%,Test temperature: 40°C,last 2 hours ,put it after 5 min test the electrical function .Test products during common condition 1-2 hours ,Then test exterior quality.	Measurement satisfied with electrical and mechanical performance normal.
Vibration test	Vibrate Frequency:10-55HZ; Distance :0.35mm;Acceleration :50.0m/s;Sweep frequency cycle:30 times	Electrical and mechanical performance normal
Fall test	From 1m height fall down 3 times freely (vertical direction)	Electrical and mechanical performance normal

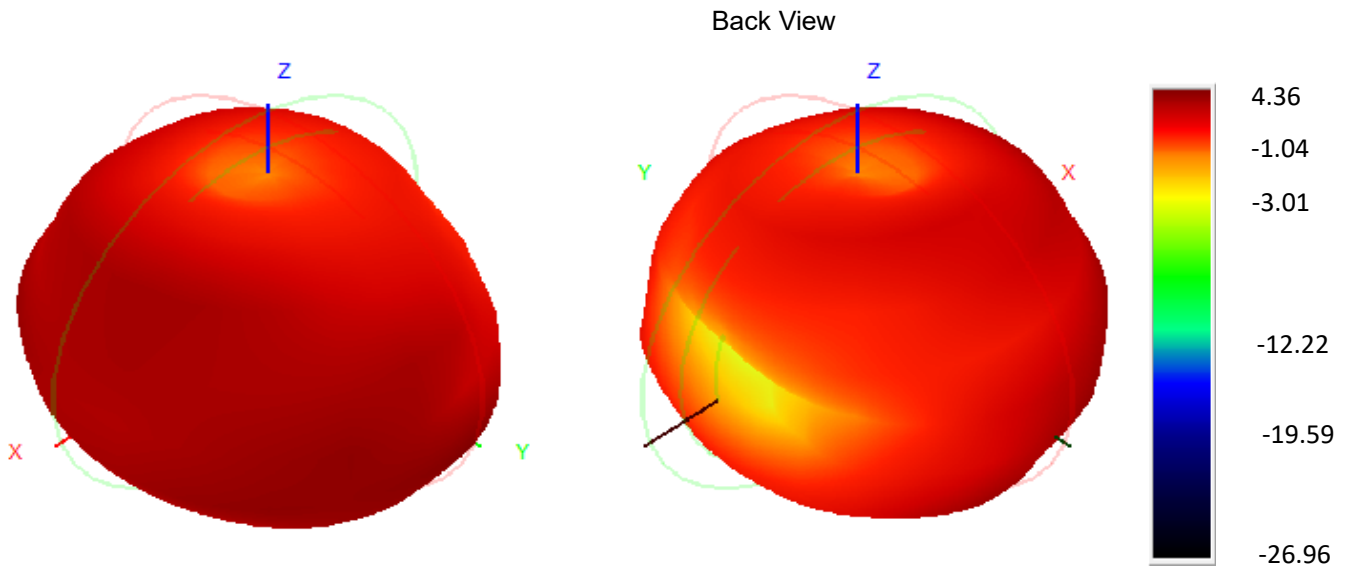
主要技术特性 (TECHNICAL SPECIFICATIONS):

温度范围 (Temperature):	-55~+155℃	
特性阻抗 (Impedance):	50 Ω	
频率范围 (Frequency Range):	DC~12.4GHz	
工作电压 (Working Voltage):	335V max(有效值)	
耐压 (Withstand Voltage):	1000V rms(海平面最小值)	
接触电阻 (Contact resistance):	内导体之间 (Center Contact)	≤3m Ω
	外导体之间 (Outer Contact)	≤2m Ω
绝缘电阻 (Insulation resistance):	≥5000m Ω	
电压驻波比 (VSWR):	直式 (Right angle)	≤1.10
耐用性 (Durability):	≥500次	

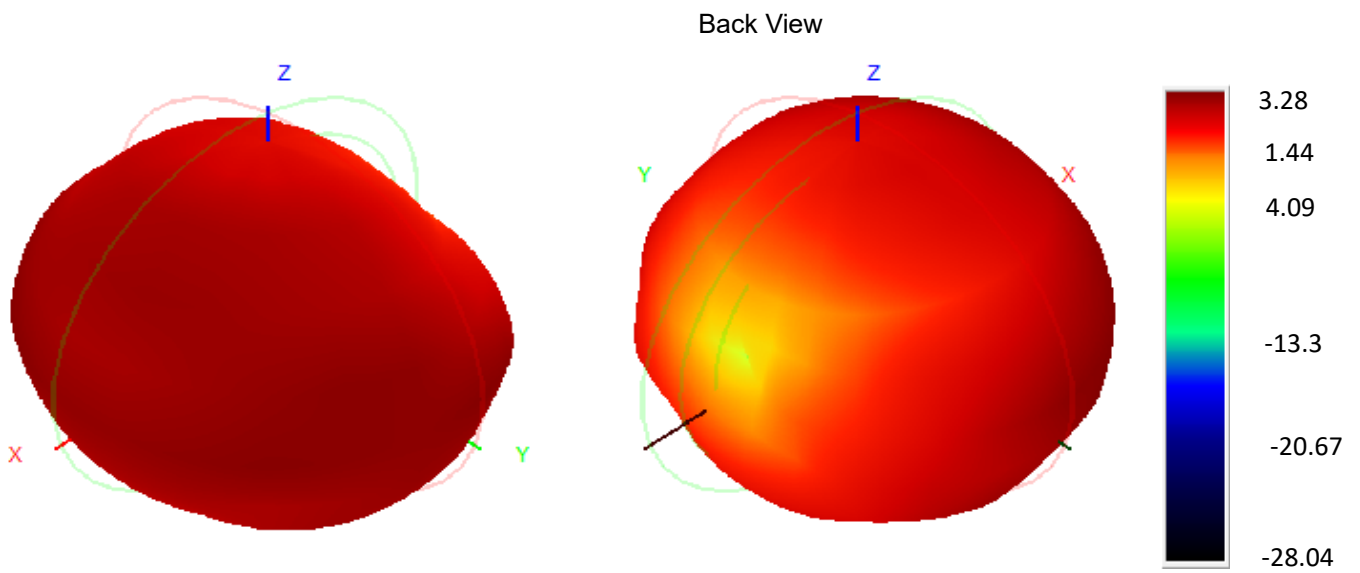
材料与涂覆 (MATERIAL AND PLATING):

壳体 (Shell):	黄铜 (Brass)	镀硬金 (Gold plated)
插针 (Contact pin):	黄铜 (Brass)	镀硬金 (Gold plated)
插孔 (Socket contact):	铍青铜 (Beryllium brass)	镀硬金 (Gold plated)
绝缘体 (Insulator):	聚四氟乙烯 (PTFE)	
O型密封件 (O-ring sealing):	硅橡胶 (6146 silastic)	
塑胶件 (Plastic parts):	ABS	

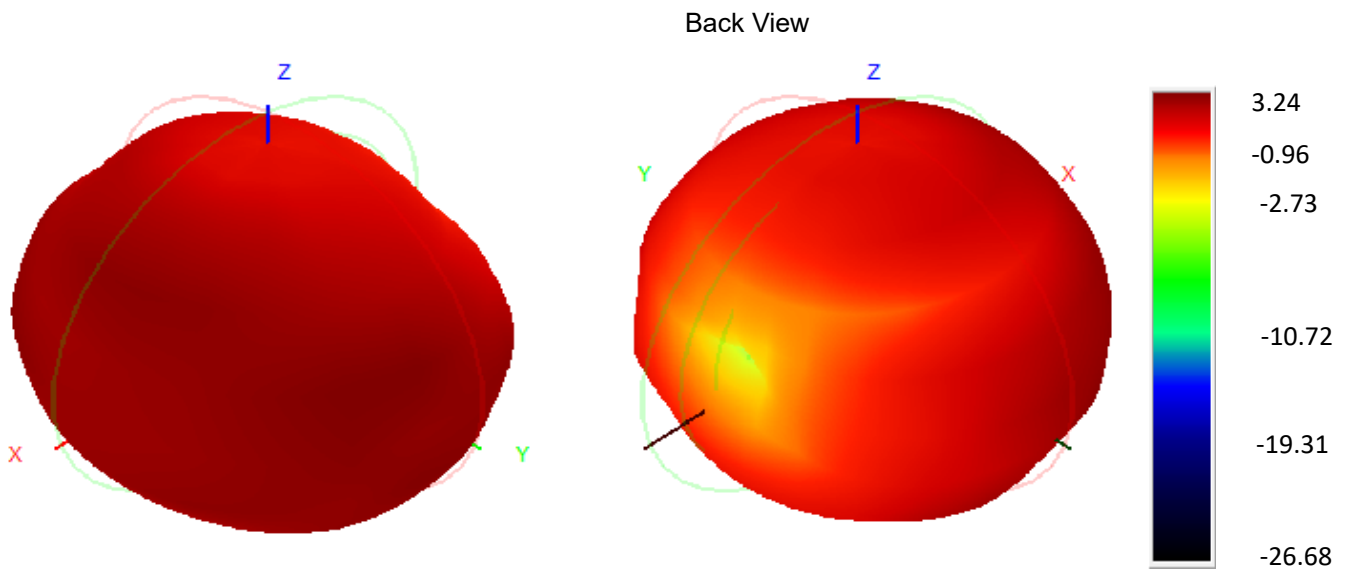
2300MHz



2405.26MHz

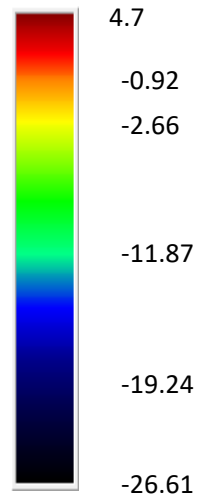
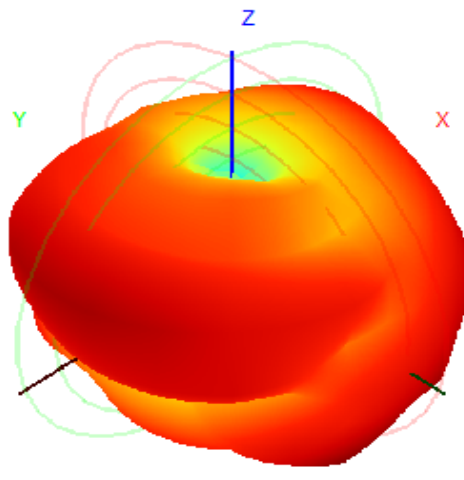
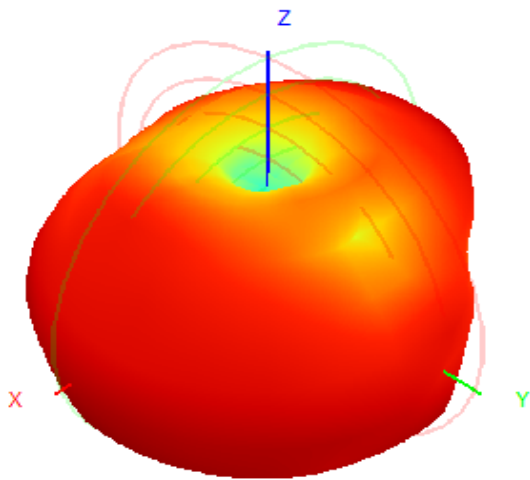


2499.99 MHz



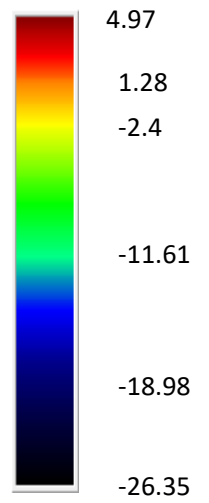
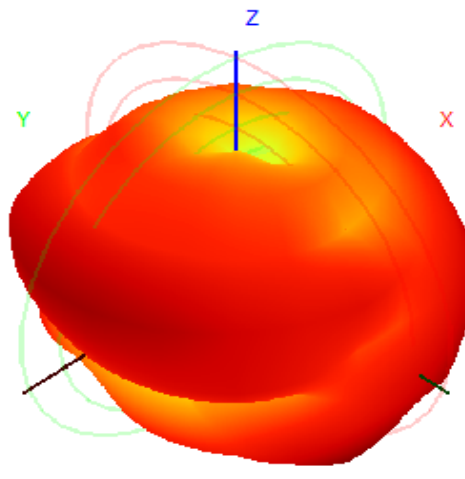
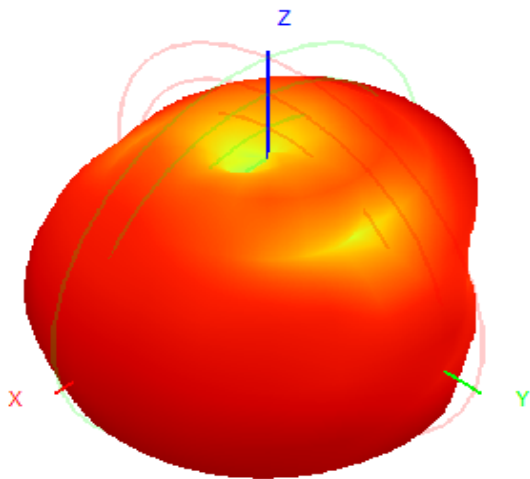
5100MHz

Back View



5450MHz

Back View



5800MHz

Back View

