

东莞市高畅电子科技有限公司

产 品 规 格 书
Product specification

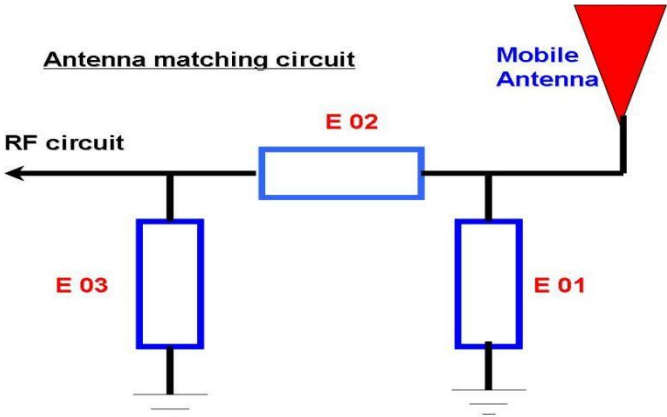
客 户:	
CUSTOMER:	
客 户 案 号:	
CUSTOMER P/N:	
本 厂 编 号:	GC-2400D3 W-L=280MM
OUR MODEL NO:	
品 名 / 规 格:	WIFI-3DB
SPECIFICATIONS:	
样 品 数:	0
Q' TY:	
日 期:	2025-12-11

东莞市高畅电子科技有限公司			客户承认
工程 Engineering	品保 Quality	核准 Approved	签名（盖章）
谢工	高工	陈工	

1. Technical Specification 技术规格

A. Electrical Characteristics	
Working Frequency Range	2400~2500MHz
S.W.R.	2400~2500MHz:<2.0
Antenna Gain(avg.)	2400~2500MHz: 2.39dBi
Impedance	50ohm
B. Material	
brass	
C. Environmental	
Operation Temperature	-45℃~+85℃
Storage Temperature	-45℃~+85℃

2. Matching Circuits 匹配电路



Element	Value	Vender
E1(0402)	OPEN	/
E2(0402)	SHORT	50 Ω
E3(0402)	OPEN	/

注:匹配未更改。

3. Curing antenna S11 Testing Result. 无源测试

The S11 parameter was performed using a Agilent 8753D Network Analyzer and BEST'S test fixture that was using customer-providing device.

VSWR (Voltage standing wave ratio)

The Voltage Standing Wave Ratio (VSWR) is an indication of how good the impedance match is. VSWR is often abbreviated as SWR. If the transmission line and the antenna are not matched, the antenna will not accept all the power from the transmission line. The part it does not accept is reflected back and forth between the transmitter and the antenna. This sets up a fixed wave pattern along the line which we can measure and which is called the voltage standing wave ration(VSWR).The VSWR (ratio of maximum voltage to the minimum voltage along the line)expresses the degree of match between the transmission line and the antenna. When the VSWR is 1 to 1(1:1) the match is perfect and all the energy is transferred to the antenna prior to be radiated. When the VSWR is 1.5:1, 96% of the power reaches the antenna. By definition VSWR can never be less than 1.VSWR and reflected power are different ways of measuring and expressing the same thing. A high VSWR is indication that the signal is reflected prior to being radiated by the antenna.

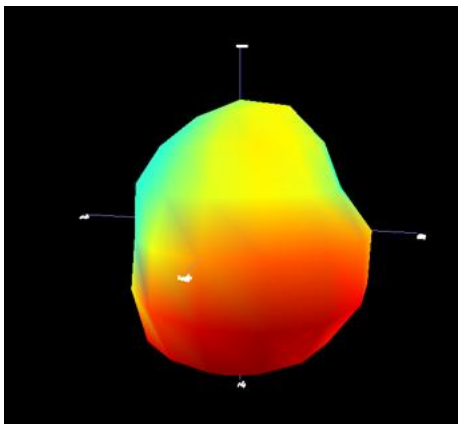
驻波 VSWR



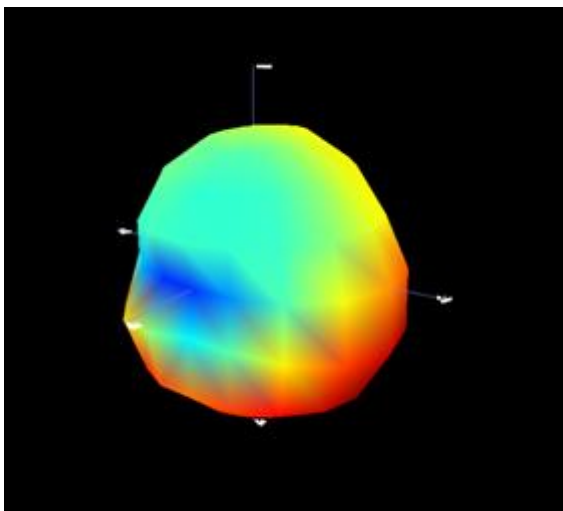
Marker	2400MHz	2450MHz	2500MHz
S.W.R	<2.0		

4.测试 3D 报告

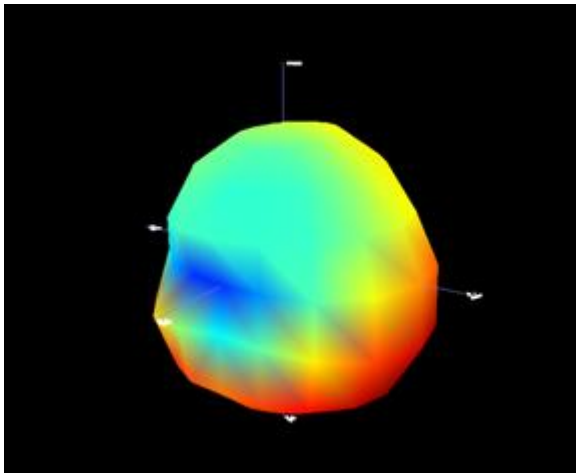
频率：2400MHZ 增益：2.39dbi



频率：2450MHZ 增益：2.14dbi



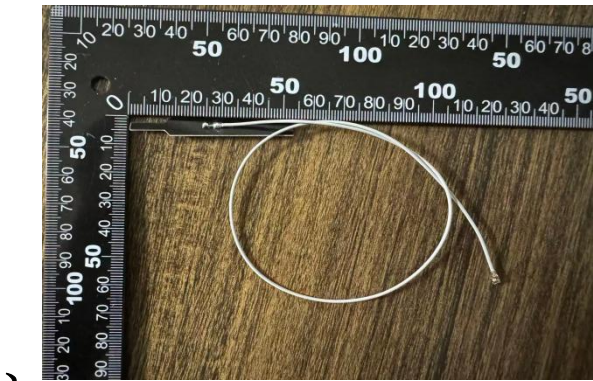
频率：2500MHZ 增益：1.79dbi



5. 测试数据

Passive Test For WIFI2.4												
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	irectivity (dBi)	Beamwidth (3dB)	AttH (dB)	AttV (dB)
2400	65.3	-1.85	2.39	0.24	39.738	25.561	2.39	-17.74	4.24	30	46.18	46.07
2410	64.53	-1.9	2.31	0.16	39.606	24.922	2.31	-17.73	4.22	60	45.78	45.63
2420	62	-2.08	2.05	-0.1	38.261	23.743	2.05	-17.87	4.12	60	46.26	46.12
2430	64.16	-1.93	2.01	-0.14	39.365	24.793	2.01	-20.33	3.94	60	45.65	45.5
2440	67.43	-1.71	1.96	-0.19	40.852	26.577	1.96	-20.54	3.67	60	46.3	46.18
2450	72.23	-1.41	2.14	-0.01	43.015	29.217	2.14	-21.79	3.55	60	46.12	45.96
2460	70.79	-1.5	2.01	-0.14	41.348	29.439	2.01	-20.99	3.51	60	46.12	45.98
2470	68.85	-1.62	1.78	-0.37	39.391	29.457	1.78	-21.13	3.4	60	46.05	45.94
2480	68.39	-1.65	1.7	-0.45	38.399	29.986	1.7	-19.47	3.35	60	45.82	45.78
2490	68.8	-1.62	1.75	-0.4	37.958	30.837	1.75	-17.7	3.37	60	46.03	46.01
2500	66.93	-1.74	1.79	-0.36	36.232	30.693	1.79	-16.71	3.53	60	46.01	45.99

6. 产品外观图



产品实物出 1.13 灰线出线长 280MM-IPEX(N2048)

一盐雾测试

测试目的：测试天线抗盐雾腐蚀能力

试验方法：

溶液含量：5%氯化钠溶液（用蒸馏水配制，95 毫升蒸馏水+5 克氯化钠）

将天线放入盐雾试验箱内，用绳子悬挂起来，以免溶液喷洒不均或有得表面喷不到。

天线需立即放入测试箱。实验周期为 48 个小时。实验过程中，不得中途取出。

实验结束后，取出天线，用棉布和离子风枪清洁，放置 49 小时进行常温干燥后，对天线外观，

机械性能，及电性能检查。

试 验 报 告			承认	确认 代工	试验人 杨工
试验内容及天线型号:2. 4G 外置天线					
试验目的:测试天线在盐雾环境下，天线的天线外观，机械性能，及电性能变化。					
测试数量：5pcs					
试验前					
项目 NO.				外观	机械性能及电性能
1#				符合要求	符合要求
2#				符合要求	符合要求
3#				符合要求	符合要求
4#				符合要求	符合要求
5#				符合要求	符合要求
试验后					
项目 NO.					
1#				符合要求	符合要求
2#				符合要求	符合要求
3#				符合要求	符合要求
4#				符合要求	符合要求
5#				符合要求	符合要求
结果判定:盐雾测试结束，外观 ok，天线与主板接触良好，（万用表测试导通），机械性能没有改变。信号测试，驻波在±0.3 范围变化，符合测试允许要求范围。。综上所述，2. 4G 外置天线符合盐雾测试要求。					