

Dongguan Gaochang Electronic Technology Co., Ltd

Product specification

CUSTOMER: _____

CUSTOMER P/N: _____

OUR MODEL NO: GC-2400TG-L=220MM-IP

SPECIFICATIONS: 2.4G Copper tube antenna L=220MM-IP

Q' TY: _____

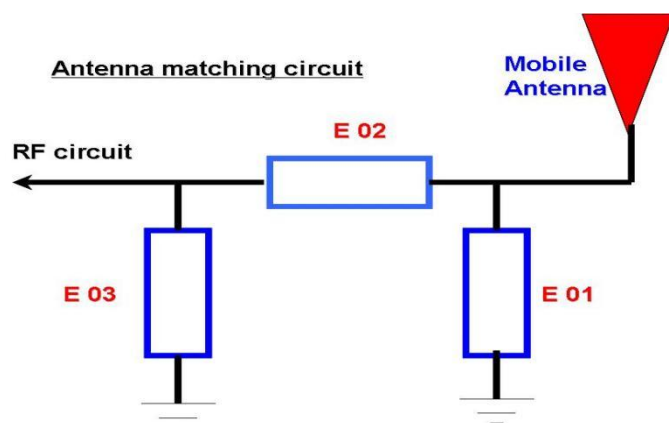
2026-4-22

Dongguan Gaochang Electronic Technology Co., Ltd			The customer admitted
Engineering	Quality	Approved	Signature (Seal)
谢工	黄工	高工	

1. Technical Specification

A. Electrical Characteristics	
Working Frequency Range	2400~2500MHz
S.W.R.	2400~2500MHz:<2.0
Antenna Gain(avg.)	2400~2500MHz: 3.31dBi
Impedance	50ohm
B. Material	
brass	
C. Environmental	
Operation Temperature	-45℃~+85℃
Storage Temperature	-45℃~+85℃

2. Matching Circuits



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

3. Curing antenna S11 Testing Result.

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.

VSWR

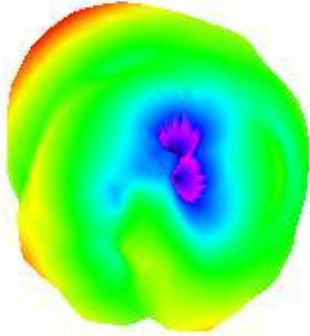


Marker	2400MHz	2450MHz	2500MHz
S.W.R	<2.0		

4.Passive test data

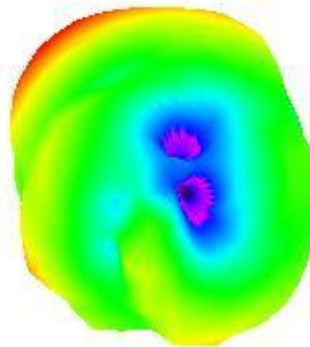
frequency: 2400MHZ gain: 2.82dbi

2400.000MHz



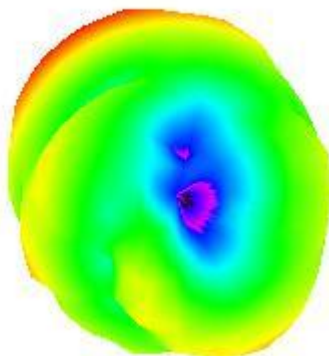
frequency: 2450MHZ gain: 3.37dbi

2450.000MHz



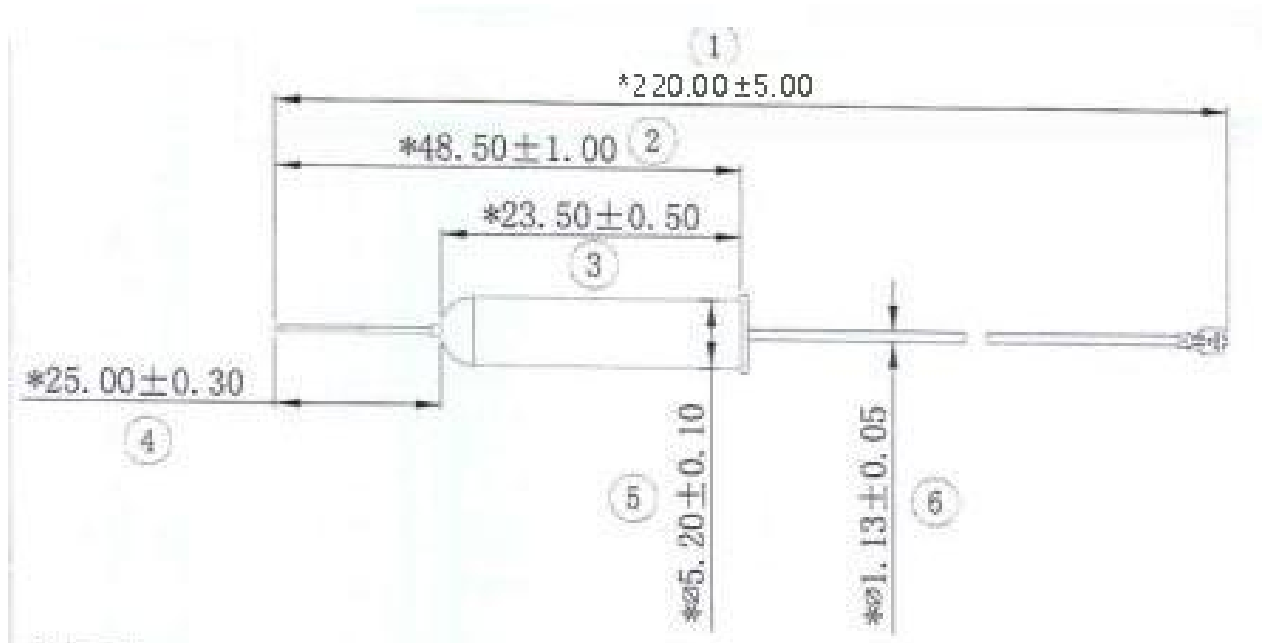
frequency: 2500MHZ gain: 3.31dbi

2500.000MHz



Frequency (MHZ)	Efficiency	Efficiency . dB	Gain . dB
2400	73%	-1.35	3.33
2410	74%	-1.29	3.37
2420	75%	-1.24	3.48
2430	77%	-1.16	3.65
2440	76%	-1.17	3.74
2450	74%	-1.29	3.79
2460	72%	-1.45	3.66
2470	72%	-1.43	3.79
2480	70%	-1.53	3.59
2490	70%	-1.53	3.44
2500	70%	-1.55	3.45

5.Product appearance diagram



Product physical 1.13 Black L=220MM-IPEX (5.2*23*1.05 rubber plug)

Salt spray test Test purpose: To test the antenna's resistance to salt spray corrosion

Test method: Solution content: 5% sodium chloride solution (prepared with distilled water, 95ml distilled water+5g sodium chloride) Place the antenna in the salt spray test chamber and hang it with a rope to prevent uneven solution spraying or surface failure. The antenna needs to be immediately placed in the testing box. The experimental period is 48 hours. During the experiment, it is not allowed to remove it midway. After the experiment, remove the antenna, clean it with cotton cloth and ion air gun, and let it dry at room temperature for 49 hours. Then, inspect the appearance, mechanical properties, and electrical properties of the antenna.

Test report		admit	confirm 代工	Test subject 杨工			
		Test content and antenna model: 2.4G built-in antenna					
Test objective: To test the appearance, mechanical properties, and electrical performance changes of the antenna in a salt spray environment.							
Test quantity: 5pcs							
Before the test							
project NO.			appear ance	Mechanical and electrical properties			
1#			N/A	N/A			
2#			N/A	N/A			
3#			N/A	N/A			
4#			N/A	N/A			
5#			N/A	N/A			
after the experiment							
project NO.							
1#			N/A	N/A			
2#			N/A	N/A			
3#			N/A	N/A			
4#			N/A	N/A			
5#			N/A	N/A			
Result judgment: The salt spray test has ended, the appearance is OK, the antenna is in good contact with the motherboard (multimeter test is conductive), and the mechanical properties have not changed. Signal testing shows that the standing wave varies within a range of ± 0.3 , which meets the allowable testing requirements.. In summary, the 2.4G built-in antenna meets the requirements of salt spray testing.							