

Dongguan Gaochang Electronic Technology Co., Ltd

Product specification

CUSTOMER: _____

CUSTOMER P/N: _____

OUR MODEL NO: **GC-2458TG2-L=170MM**

SPECIFICATIONS: **2.4G -5.8G 铜管天线 L=170MM**

Q' TY: _____

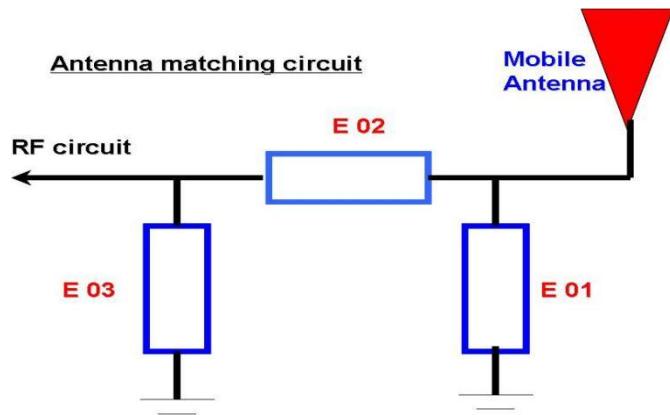
Date: **2024-9-27**

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

1. Technical Specification

A. Electrical Characteristics	
Working Frequency Range	2400~5800MHz
S.W.R.	2400~5800MHz:<2.0
Antenna Gain(avg.)	2400~5800MHz: 3dBi±0.5dBi
Impedance	50ohm
B. Material	
brass	
C. Environmental	
Operation Temperature	-45°C~+85°C
Storage Temperature	-45°C~+85°C

2. Matching Circuits



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

E3(0402)	OPEN	/
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注:匹配未更改。

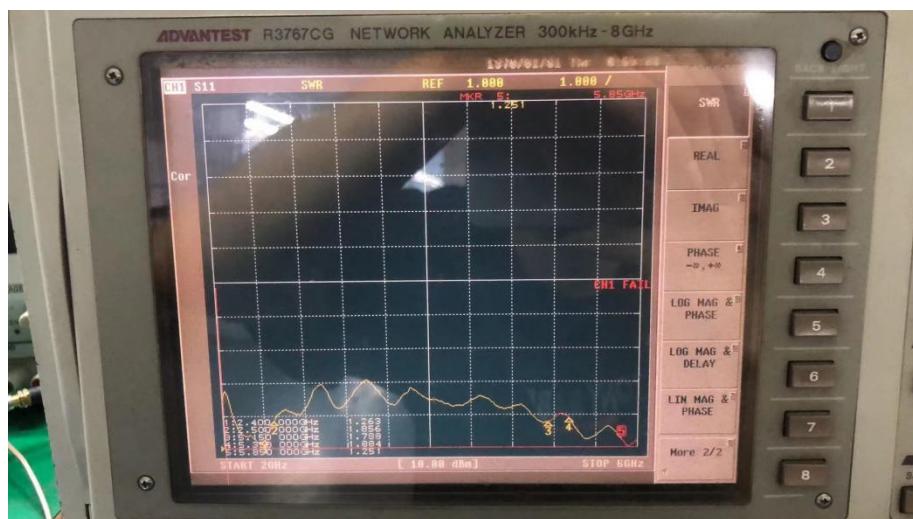
3. Curing antenna S11 Testing Result.

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 ratio(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.

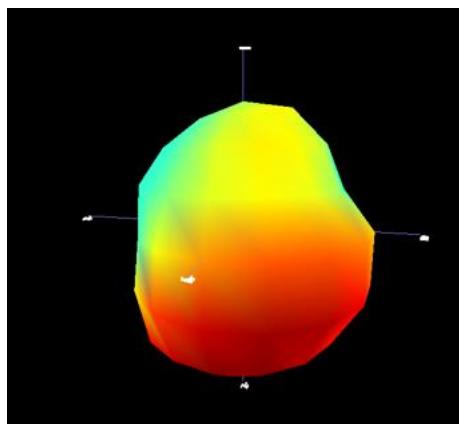
驻波 VSWR



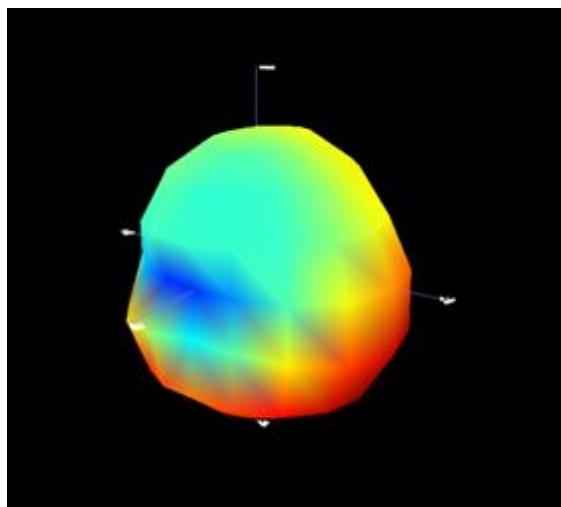
Marker	2400MHz	5500MHz	5800MHz
S.W.R	<2.0		

4. Test 3D report

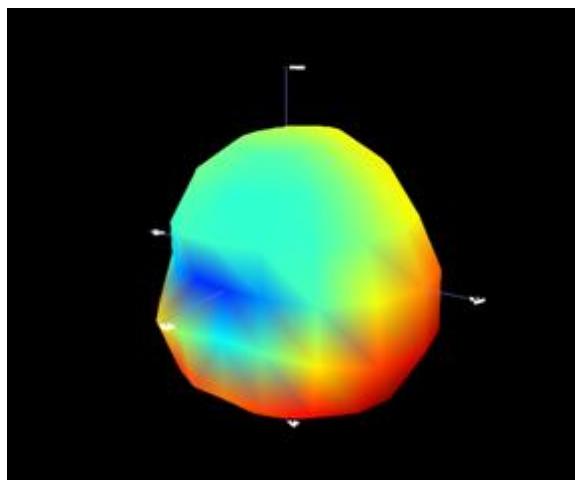
frequency: 2400MHZ gain: 3.58dbi



frequency: 5500MHZ gain: 4.63dbi



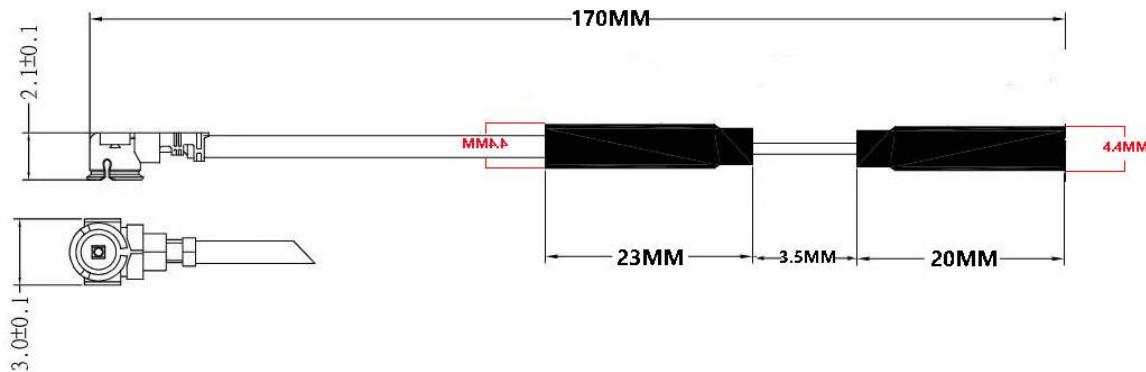
frequency: 5800MHZ gain: 3.63dbi



5. Passive test data

Passive Test For 2.4G-5.8G												
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHIS (%)	DHIS (%)	Max (dB)	Min (dB)	irectivit (dBi)	Beamwidth (3dB)	AttH (dB)	AttV (dB)
2400	54.29	-2.65	3.58	1.43	19.05	35.235	3.58	-16.76	6.23	30	45.51	45.06
2450	54.3	-2.65	3.7	1.55	19.753	34.549	3.7	-19.52	6.35	30	45.36	44.92
2500	57.59	-2.4	4.73	2.58	20.818	36.775	4.73	-16.22	7.12	30	45.93	45.51
5500	53.94	-2.68	4.63	2.48	27.172	26.772	4.63	-11.08	7.31	60	50.05	50.1
5550	53.2	-2.74	4.56	2.41	26.454	26.744	4.56	-11.88	7.3	60	50.39	50.49
5600	52.03	-2.84	4.23	2.08	26.484	25.545	4.23	-10.74	7.07	60	50.3	50.36
5650	52.52	-2.8	4.21	2.06	27.509	25.016	4.21	-11.9	7.01	30	50.34	50.36
5700	54.07	-2.67	4.03	1.88	28.181	25.886	4.03	-12.96	6.7	60	50.48	50.46
5750	57.49	-2.4	3.53	1.38	30.126	27.365	3.53	-12.27	5.93	90	50.66	50.59
5800	54.97	-2.6	3.63	1.48	29.088	25.887	3.63	-11.43	6.22	60	50.5	50.47

6. Product appearance diagram



Product Physical 1.13 Black L=170MM

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	confir m 代工	Test personnel 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 experiment				
NO.		appear ance	Mechanical and electrical properties	
1#		PASS	PASS	
2#		PASS	PASS	
3#		PASS	PASS	
4#		PASS	PASS	
5#		PASS	PASS	
After the experiment				
NO.				
1#		PASS	PASS	
2#		PASS	PASS	
3#		PASS	PASS	
4#		PASS	PASS	
5#		PASS	PASS	
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.				