

Dongguan Gao Chang Electronic Technology
Co., Ltd.

Product specification book
Product specification

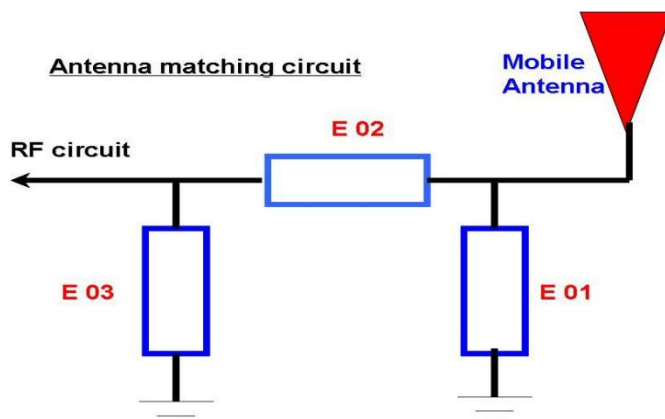
Guest: _____
CUSTOMER: _____
Guest case number: _____
CUSTOMER P/N: _____
Our serial number: GC-N794FPC-L60
OUR MODEL NO: _____
Product name/specification: 2.4G-794 built-in antenna
SPECIFICATIONS: _____
Number of samples: 0
Q, TY: _____
Date: November 13, 2025

Dongguan Gao Chang Electronic Technology Co., Ltd.			Customer recognition
engineering Engineering	Quality assurance Quality	check and ratify Approved	Signature (seal)
Xiegong	Miss. Huang	senior engineer	

1. Technical Specification

A. Electrical Characteristics	
Working Frequency Range	2400~2500MHz
S.W.R.	2400~2500MHz:<2.0
Antenna Gain(avg.)	2400~2500MHz: 1.88dBi
Impedance	50ohm
B. Material	
brass	
C. Environmental	
Operation Temperature	-45℃~+85℃
Storage Temperature	-45℃~+85℃

2. Matching Circuits matching circuit



Element	Value	Vender
E1(0402)	OPEN	/

E2(0402)	SHORT	50 Ω
E3(0402)	OPEN	/

Note: Matching has not changed.

3. Curing antenna S11 testing result. Passive testing

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 express ing the same thing. A high VSWR is indication that the signal is reflected prior to being radiated by the antenna.

Standing wave VSWR

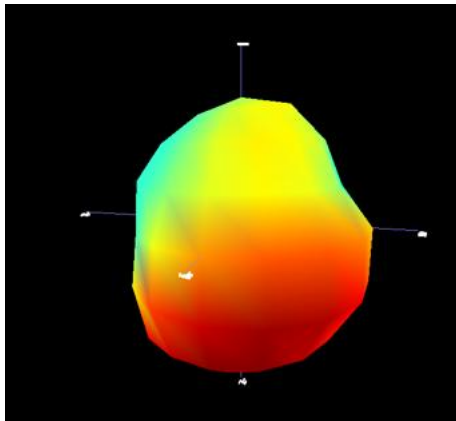


Product Number: **GC-N794FPC-L60**

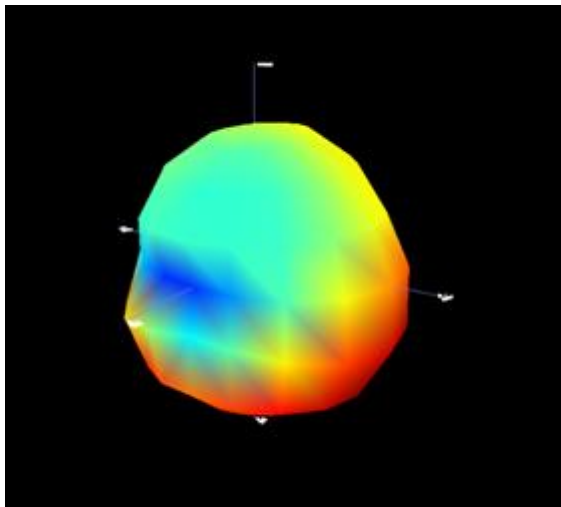
Marker	2400MHz	2450MHz	2500MHz
S.W.R	<2.0		

4. Test the 3D report

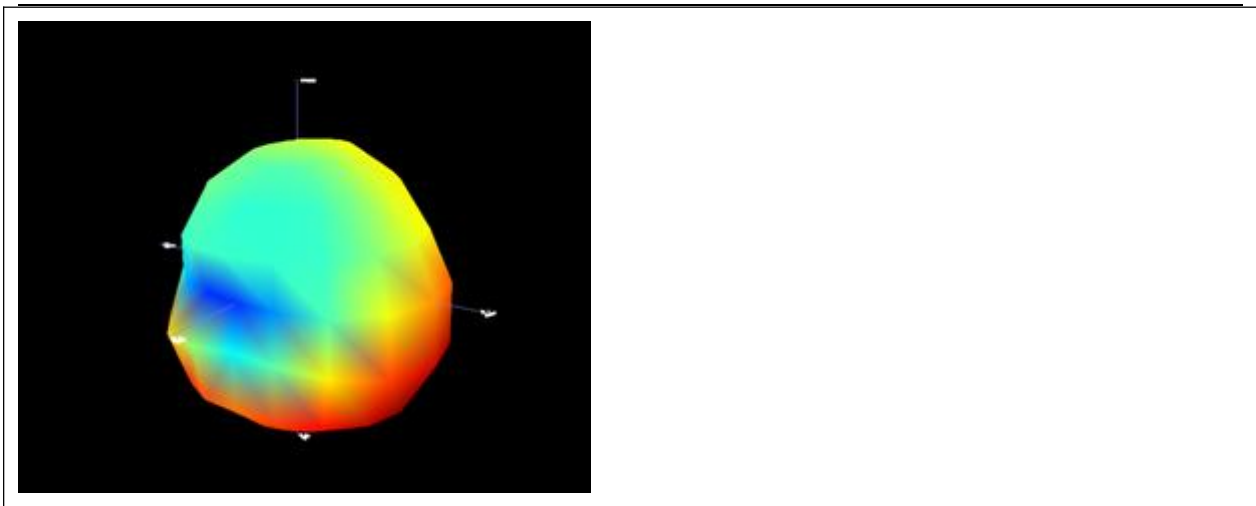
Frequency: 2400MHZ gain: 1.43dbi



Frequency: 2450MHZ gain: 1.37dbi



Frequency: 2500MHZ gain: 1.88dbi



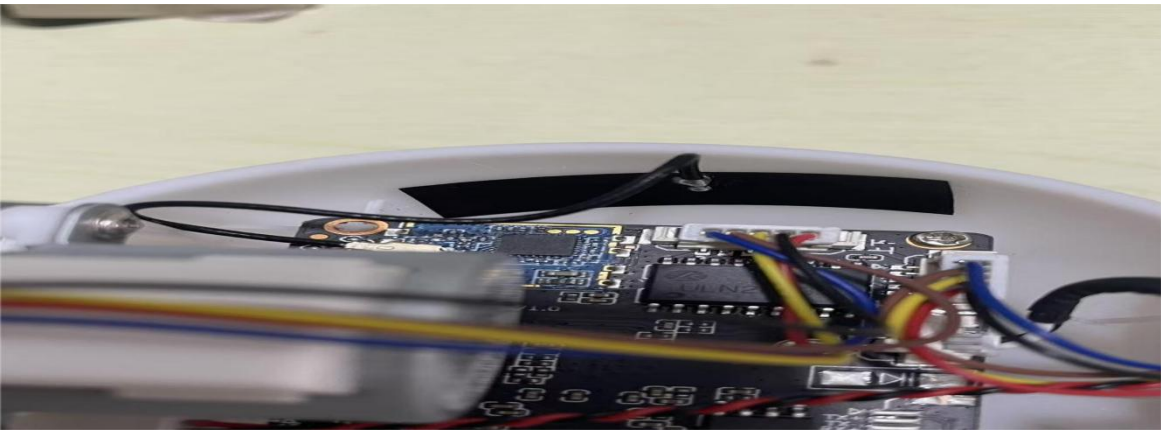
Passive data

Passive Test For 2.4G												
Freq (MHz)	Effi (%)	Effi (dE)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dE)	Min (dE)	irectivity (dBi)	Beamwidth (3dB)	AttH (dE)	AttV (dE)
2400	44.39	-3.53	1.43	-0.72	20.922	23.467	1.43	-13.3	4.96	30	45.51	45.06
2450	47.05	-3.27	1.37	-0.78	21.867	25.18	1.37	-14.36	4.64	30	45.36	44.92
2500	49.8	-3.03	1.88	-0.27	23.286	26.518	1.88	-13.77	4.9	60	45.93	45.51

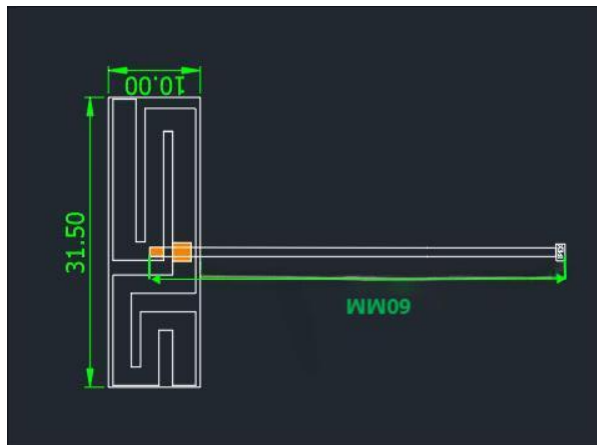
Active data

Test Result	Wifi 2G TRP			Test Result	Wifi 2G TIS		
	1	6	11		1	6	11
Frequency (MHz)	2412	2437	2462	Frequency (MHz)	2412	2437	2462
TRP (dBm)	15.75	16.69	16.91	TIS (dBm)	-86.6	-85.97	-86.44
EIRP peak	21.54	22.37	22.42	EIS peak	17.42	17.36	18.26

antenna position



5. Product appearance diagram



Product physical 2.4G- built-in FPC 1.13 black line outlet length 60MM

Salt spray test

Test purpose: To test the salt spray corrosion resistance of the antenna.

Test method:

Solution content: 5% sodium chloride solution (prepared with distilled water, 95 ml distilled water +5 g sodium chloride)

Put the antenna into the salt spray test box and hang it with a rope to avoid uneven spraying of the solution or missing the surface.

The antenna should be put into the test box immediately. The experimental period is 48 hours. During the experiment, it shall not be taken out in the middle.

After the experiment, take out the antenna, clean it with cotton cloth and ion air gun, leave it for 49 hours and dry it at room temperature, and then check its appearance, mechanical properties and electrical properties.

Trial inspection report	admit	confirm	Tester Yanggong
Test content and antenna model: 2.4G built-in antenna.		foundry	
Test purpose: to test the changes of antenna appearance, mechanical properties and electrical properties in salt fog environment.			
Test quantity: 5pcs			
Before the test			

Project no.		exterior	Mechanical properties and electrical properties
1#		comply with the requirements	comply with the requirements
2#		comply with the requirements	comply with the requirements
3#		comply with the requirements	comply with the requirements
4#		comply with the requirements	comply with the requirements
5#		comply with the requirements	comply with the requirements
After the test			
Project no.			
1#		comply with the requirements	comply with the requirements
2#		comply with the requirements	comply with the requirements
3#		comply with the requirements	comply with the requirements
4#		comply with the requirements	comply with the requirements
5#		comply with the requirements	comply with the requirements

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		requiremen ts	
Results: After the salt spray test, the appearance is ok, the antenna is in good contact with the motherboard (multimeter test is conducted), and the mechanical properties have not changed. According to the signal test, the standing wave changes in the range of 0.3, which meets the allowable test requirements. . To sum up, the 2.4G built-in antenna meets the requirements of salt spray test.			