

深圳市深超通讯科技有限公司

产 品 规 格 书
Product specification

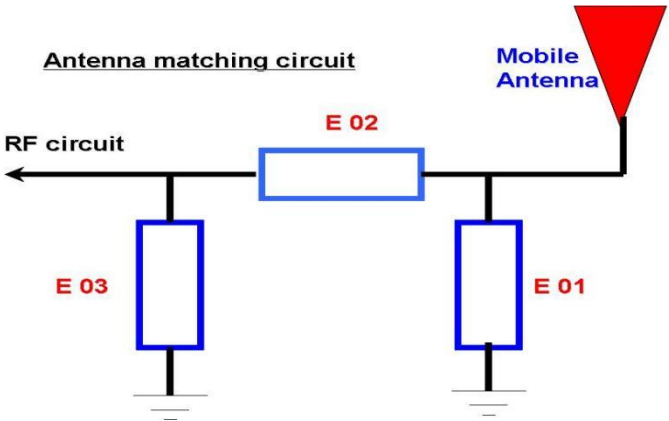
客 户:	
CUSTOMER:	
客 户 案 号:	
CUSTOMER P/N:	
本 厂 编 号:	SC-N453FPC-L80
OUR MODEL NO:	
品 名 / 规 格:	2.4G-N453 Built-in antenna
SPECIFICATIONS:	
样 品 数:	0
Q' TY:	
日 期:	2023-11-7

深圳市深超通讯科技有限公司			Customer approval
工程 Engineering	品保 Quality	核准 Approved	Signed
Mr. Xie	Miss. Huang	Mr. Gao	

1. Technical Specification 技术规格

A. Electrical Characteristics	
Working Frequency Range	2400~2500MHz
S.W.R.	2400~2500MHz:<3.0
Antenna Gain(avg.)	2400~2500MHz: 3.25 dBi
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	/

NOTE: Matching has not changed.

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.

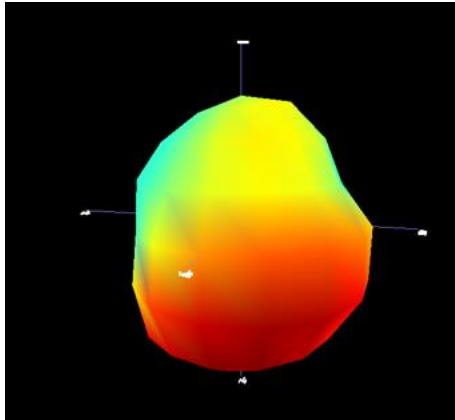
驻波 VSWR



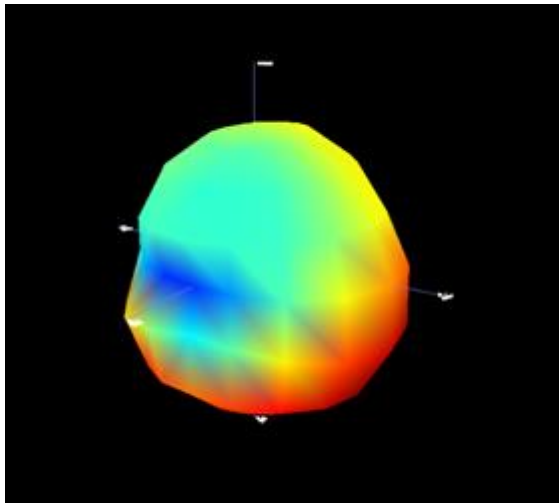
Marker	2400MHz	2450MHz	2500MHz
S.W.R	<3.0		

4.Test 3D report

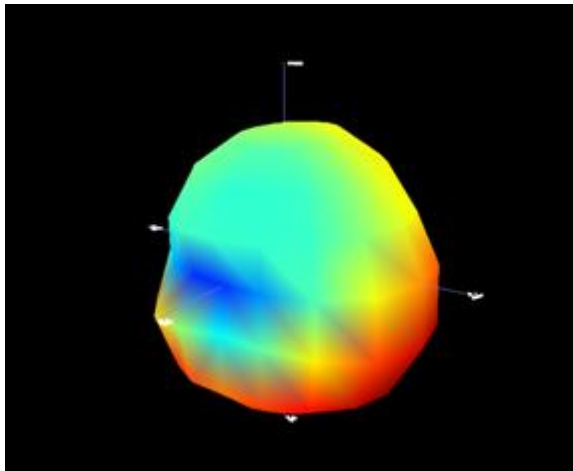
Frequency: 2400MHZ Gain: 2.98dbi



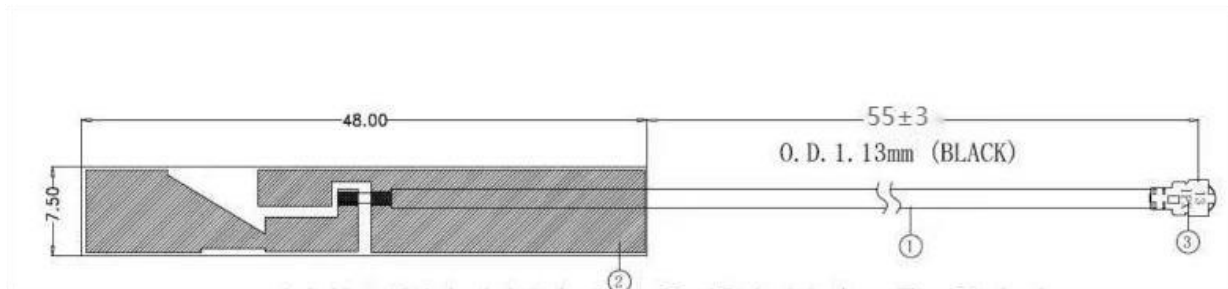
Frequency: 2450MHZ Gain: 3.25dbi



Frequency: 2500MHZ Gain: 3.15dbi



5. Product Appearance



The actual product is 2.4G-built-in fpc 1.13 black wire, outlet length 80MM

Salt spray test

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

experiment method:

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

Put the antenna into the salt spray test chamber and hang it with a rope to prevent the solution from being sprayed unevenly or not reaching the surface.

The antenna needs to be placed in the test box immediately. The experimental period is 48 hours. During the experiment, it must not be taken out halfway.

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

Experiment Report		approval	Confirmed by Mr.Dai	Tester Mr .Yang
Test content and antenna model: 2.4G built-in antenna				
Test purpose: To test the changes in antenna appearance, mechanical properties, and electrical properties of the antenna in a salt spray environment.				
Testing quantity: 5pcs				
Before the Test				
Project NO.			Appearance	Mechanical and electrical properties
1#			Meet the requirements	Meet the requirements
2#			Meet the requirements	Meet the requirements
3#			Meet the requirements	Meet the requirements
4#			Meet the requirements	Meet the requirements
5#			Meet the requirements	Meet the requirements
After the Test				
Project NO.				
1#			Meet the requirements	Meet the requirements
2#			Meet the requirements	Meet the requirements
3#			Meet the requirements	Meet the requirements
4#			Meet the requirements	Meet the requirements
5#			Meet the requirements	Meet the requirements
Result judgment: The salt spray test is over, the appearance is ok, the antenna and the motherboard are in good contact (the multimeter tests continuity), and the mechanical properties have not changed. In the signal test, the standing wave changes within the range of ±0.3, which is in line				

Product Number: **SC-N453FPC-L80**

with the allowable test requirements. To sum up, the 2.4G built-in antenna meets the salt spray test requirements.