



Shenzhen TCT Co., Ltd.

Product Name: 5.8G 4dBi Rubber Antenna
Product model: TCTQ5800-4V60Z

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Fax: 0755-83392168
Address: 5th Floor, Building D, Yusheng Third Industrial Zone, Jiuwei,
Xixiang, Baoan District, Shenzhen



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Electrical Specifications	
Model	TCTQ5800-4V60Z
FreqRange	5100-5900MHz
Gain	4.5±0.5dBi
Horizontal Beamwidth	360 °
Vertical Beamwidth	60±15°
VSWR	≤1.8
Impedance	50 Ω
Polarization	vertical
Max. Power	50W
Connector	RP-SMA-J
Mechanical Specifications	
mm(Dimension)	196x21.5x13 mm
kg (Weight0)	25g
material	copper
Radome Color	Black
Radome material	PC+PBT
Operating temperaturec	-40~55 °

1. Technical Specification



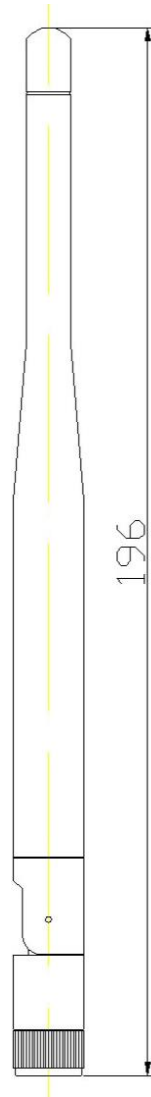
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1. Antenna Dimensions



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1. Scope of application

The terminal rubber antenna is suitable for wireless transmission such as WLAN WIMAX, and the operating frequency is in the 5G band, which is convenient and quick to use.

2. Electrical performance test test method

The measurement block diagram is shown in Figure 1. The antenna test simulation diagram. The antenna far-field test system is a set of equipment that automatically completes the antenna's far-field measurement task under the control of a PC. The microcomputer outputs four control signals to the corresponding servo driver through the interface, respectively controls the movement of the azimuth axis, polarization axis and the polarization axis of the transmitting antenna of the antenna under test, and realizes the control of the 5071B vector network analyzer through the IEEE-488 interface. , complete the collection of the amplitude and phase signals of the antenna under test, and analyze the characteristic parameters of the antenna's far-field radiation field to obtain the antenna direction coefficient (or gain), half-power lobe width, arbitrary level lobe width, zero position and A series of parameters such as the position of each side lobe and the corresponding level value, the zero value depth of the monopulse antenna, and the difference slope.

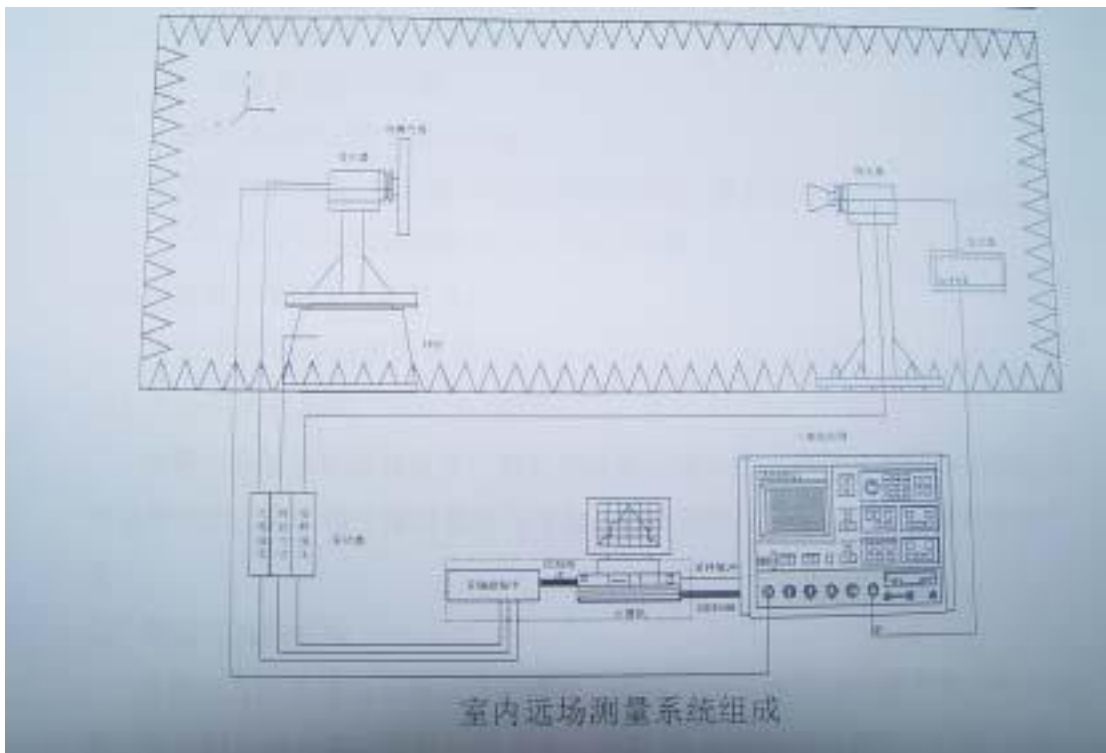


Figure 1 Antenna test block diagram

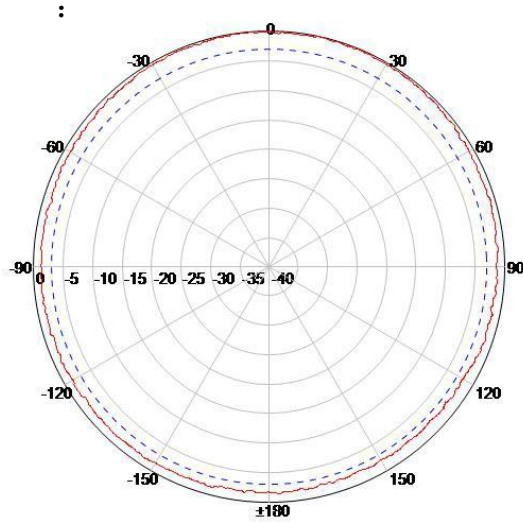


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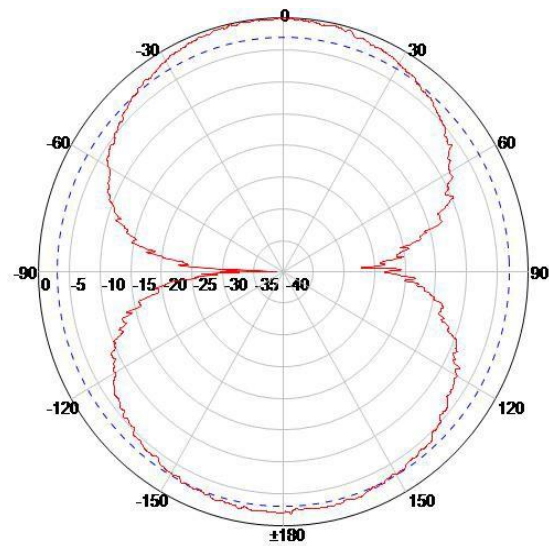
1. The measurement block diagram is shown in Figure 1. Measurement steps:

- (1) The antenna under test is aligned with the same polarization as the source antenna, and the antenna under test is connected with the receiver through switching;
- (2) The antenna under test is rotated 360° around the vertical axis on the test turntable, and the received level is recorded as a function of the angle, and the horizontal beam width of the antenna is obtained from the curve;
- (3) The antenna under test and the source antenna are rotated 90° at the same time, and the vertical beam width of the antenna can be measured by the same method;
- (4) In order to express the radiation characteristics of the antenna in a given frequency band, the horizontal and vertical beamwidths of at least three frequency points, high, medium and low, are measured in the working frequency band.

The direction diagram of the test is as follows



E- Plane



H- Plane



Standing wave ratio measurement

The measurement block diagram is shown in Figure 2.

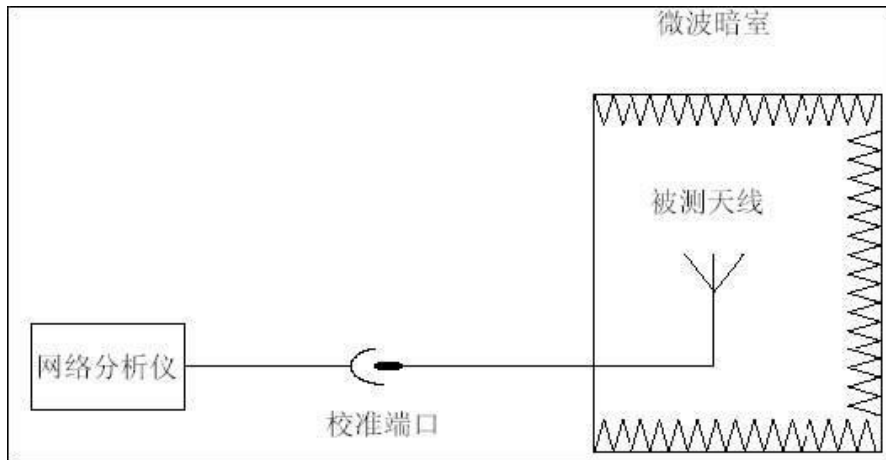


Figure 2 Antenna VSWR measurement block diagram

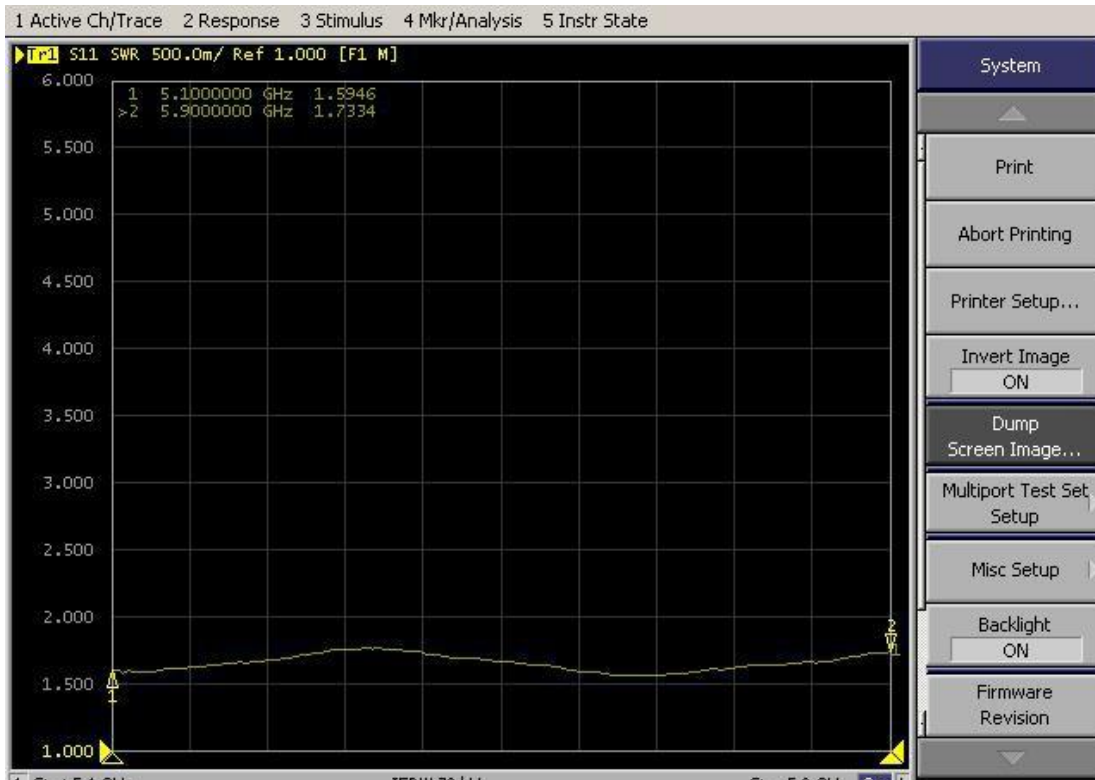
Measurement conditions: The antenna under test should be installed in a free space or simulated free space (no echo chamber) that is relatively free of reflection and far enough away from the measuring equipment and the measuring personnel. The inspection method is as follows: when the antenna under test (including its Bracket structure) move at least half a wavelength in 8 horizontal directions separated by 45°, and when moving up and down by half a wavelength, if the change of the voltage standing wave ratio is less than 10%, the test field is considered to be qualified.

Measurement steps:

- (1) Install the antenna under test in a free space or simulated free space that meets the measurement conditions;
- (2) The test port uses a short circuit or an open circuit to replace the antenna under test for system calibration;
- (3) Connect the test port to the antenna under test, and directly read the VSWR or return loss of the antenna under test on the display. The standing wave test data are shown in Table 2 and the standing wave diagram.



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VSWR

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testing regulations

Inspection classification: product inspection is divided into two types: type inspection (routine inspection) and factory inspection (delivery inspection).

Type inspection: conduct a comprehensive inspection of the indicators specified in the technical conditions of the product, generally once every two years. Type inspection must be carried out when one of the following situations is encountered:

- (1) Trial type identification of new products or old products transferred to factories;
- (2) After the official production, if there are major changes in the structure, material and process, which may affect the performance of the product;
- (3) After the product has been discontinued for a long time, when the production is resumed;
- (4) When there is a big difference between the factory inspection results and the last type inspection;
- (5) When the state or industry quality supervision agency deems it necessary.

The type inspection adopts one sampling according to GB 2829: n=3, Ac=0, Re=1, the discrimination level is III, and the quality level (RQL) of the unqualified level is 65.

The factory inspection items should be carried out according to the provisions of Table 4.

Table 4 Factory inspection items, qualified quality level and inspection level

Check item	skills requirement	AQL	Check level
General Structural Requirements	Refer to Antenna Specifications	6.5	II
VSWR	Refer to Antenna Specifications	2.5	S-3

5. Marking, packaging, transportation, storage

6.1 Logo

Products should have product logo and outer packaging logo.

There should be a product mark on the antenna, the basic content of which is: Manufacturer's name:

Product Name: Trademark:



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Product Model: Frequency Band, Gain:

Inspection pass mark.

The outer packaging mark shall comply with the relevant provisions of Chapter II of GB 191-90.

6.1 Packaging

The basic content of the packaging requirements shall comply with the provisions in GB 3873-83. The documents that come with the product are:

Product certification;

Product manual in Chinese; packing list;

list of accessories;

Other relevant technical information.

6.2 Transport

The antenna can be transported by means of transportation such as airplanes, cars, trains, ships, etc. During transportation, avoid large vibrations and collisions as much as possible, and abide by the regulations on the signs outside the box.

6.3 Storage

Packaged products should be placed in a ventilated and dry warehouse without acid, alkaline and other corrosive gases in the surrounding air. The storage period is not more than two years, and if the storage exceeds two years, it needs to be re-measured and can be used after passing the inspection.

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Damp heat resistance, high temperature, low temperature, high and low temperature test report

Test product	Rubber Antenna Element			Model/Specification	TCTQ5800-4V60Z
device name	Constant temperature test box	Device model		manufacturer number	Number of samples 5
Pilot projects	Damp heat resistance test High temperature test Low temperature test				High and low temperature test
experiment method	Put the sample into the constant temperature experimental box, adjust the temperature to 50 °C, humidity is 100% RH The test was performed by placing in an incubator for 96 hours.	Put the sample in a constant temperature experimental box, adjust the temperature to 85 °C, and place it in the constant temperature box for 24 hours for testing.	Put the sample into the constant temperature experimental box, adjust the temperature to -20 °C, and place it in the constant temperature box for 24 hours for testing.	Put the sample into the constant temperature experimental box and adjust the temperature to +88°C for 30 minutes, and then at -25°C for 30 minutes, a total of 5 cycles for testing.	
test date					
Humidity in the test chamber (%RH)	95% RH				
Temperature inside the test chamber (°C)	50°C	85°C	-20°C	+88°C、-25°C	
Continuous test time (h)	96 h	24 h	24h	High and low temperature for 30 minutes each, total cycle 5 times	
Recovery time (h)	1.5 h	1 h	1 h	1 h	
Test Standard	The temperature is 40±2°C, and the relative humidity is 90-95% in an incubator for 96 hours, and it is recovered at room temperature for 1-2 hours.	The temperature is 80±5°C, placed in the incubator for 24 hours, recover at room temperature for 1-2 hours.	The temperature is -25 ± 3 °C, placed in a constant temperature box of 24 hours, and recovered at room temperature for 1-2 hours.	Keep it for 30 minutes at a temperature of +85°C, and then keep it for 30 minutes at a temperature of -25°C, for a total of 5 cycles. Warm up for 1-2 hours.	

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test results		
Test sample number	Outcome assessment	Remark
Q-01	qualified	
Q-02	qualified	

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5. Pull test report

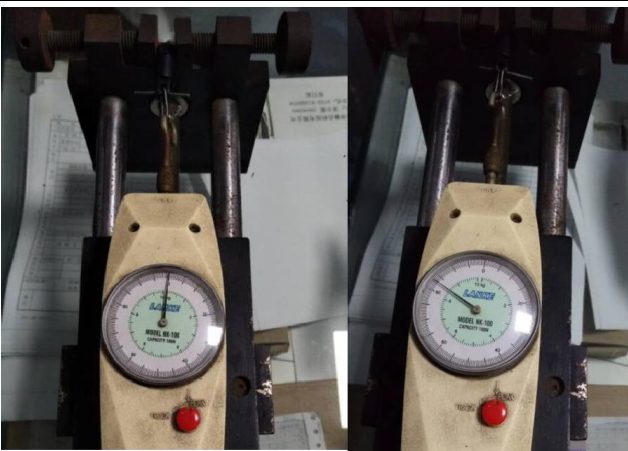


thrust test report

test name	Pull (Push) Force Test	test number	20171109002
Part No	TCTQ5800-4V60Z	Product Specifications	SMA Jack Under the glue
test date	2017/11/9	样品数量	5PCS
testing method	<p>测试示意图</p>  <p>During the test, clamp the product into the test equipment, twist the screw to pull the product away from the product, and confirm whether the test data meets the test standard, and judge the product as OK or NG according to the test</p>		



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Test location and standard:	1. The holding force of SMA Jack and the lower part (plastic part) ≥ 8kg				
sample code	1	2	3	4	5
test value	8.4kg	9.3kg	9.5kg	9.4kg	9.9kg
result	The SMA and the lower solid are not separated	The SMA and the lower solid are not separated	The SMA and the lower solid are not separated	The SMA and the lower solid are not separated	The SMA and the lower solid are not separated
determination	OK	OK	OK	OK	OK

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Comprehensive judgment	OK <input type="checkbox"/> NG
	Remark:

Reviewer: Huang Wei

Inspector: Liang Xiaofen

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