



深圳市天逸源电子科技有限公司  
Shenzhen Tianyiyuan Elec&Technology CO.,Ltd

## SPECIFICATION FOR APPROVAL

Name: WIFI/BT 2.4G Antenna

Item No: QZ009

Customer Name: Shenzhen Wan Hui Xin Yuan Technology Co.,Ltd.

Company stamp: \_\_\_\_\_

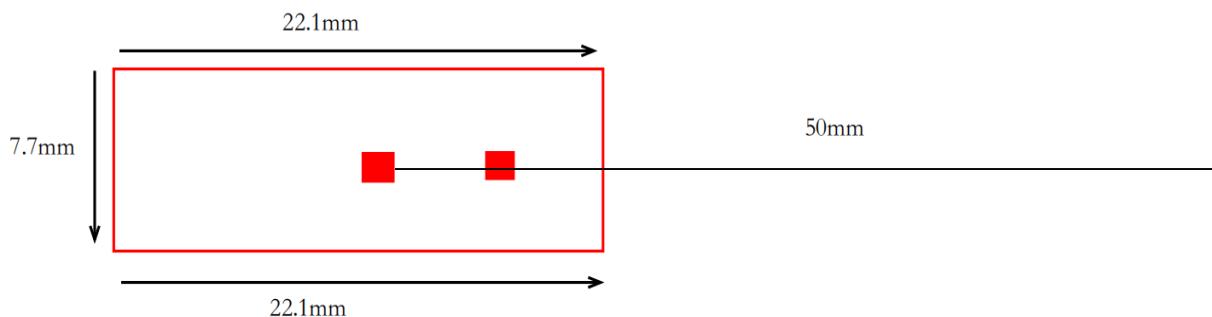
Drawing			Customer approve
MADE	CHECKED	APPROVED	
QIU	<b>Jiang Zhiyuan</b>	<b>Tang Xiaohong</b>	
DATE: 2021. 10.28			DATE

## WIFI Specification

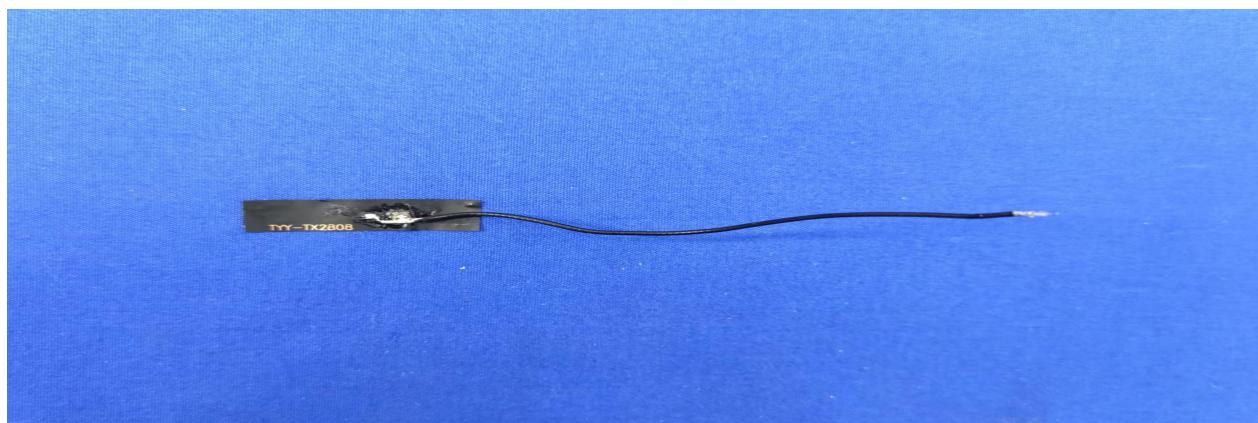
### 1. Specification

This report is mainly for electric performance and specification of WiFi antenna provided by Shenzhen Wan Hui Xin Yuan Technology Co.,Ltd. QZ009 is built-in WiFi antenna and made of FPC+RF (see as attachment 1).

#### Attachment 1 QZ009 WIFI Antenna

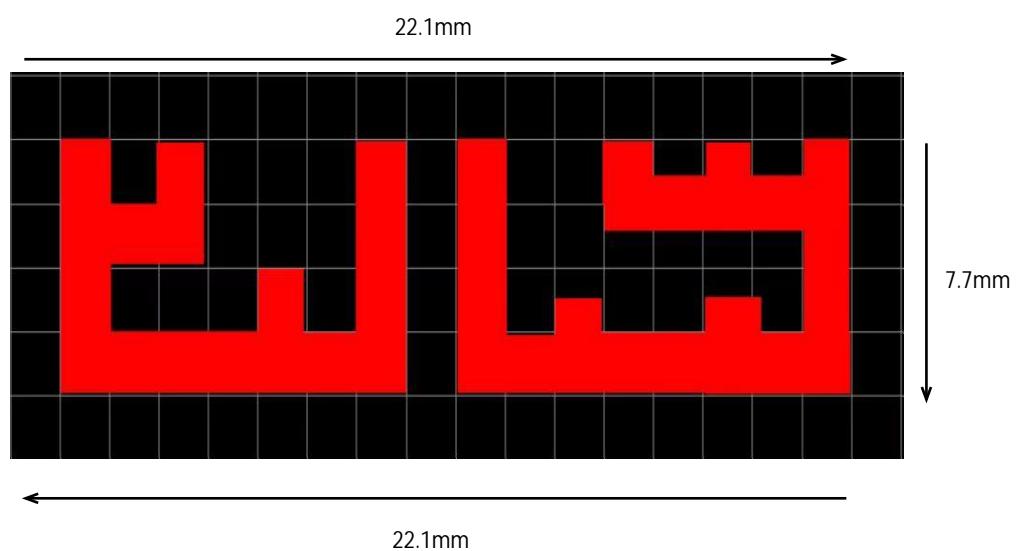


#### Attachment 2 QZ009 WIFI Antenna (The antenna length: 85+/-2mm)



#### Attachment 3 Assembly Drawing

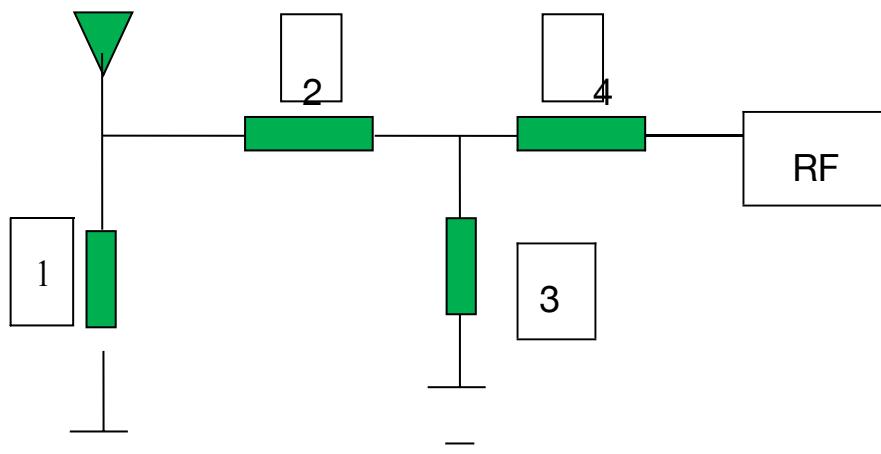






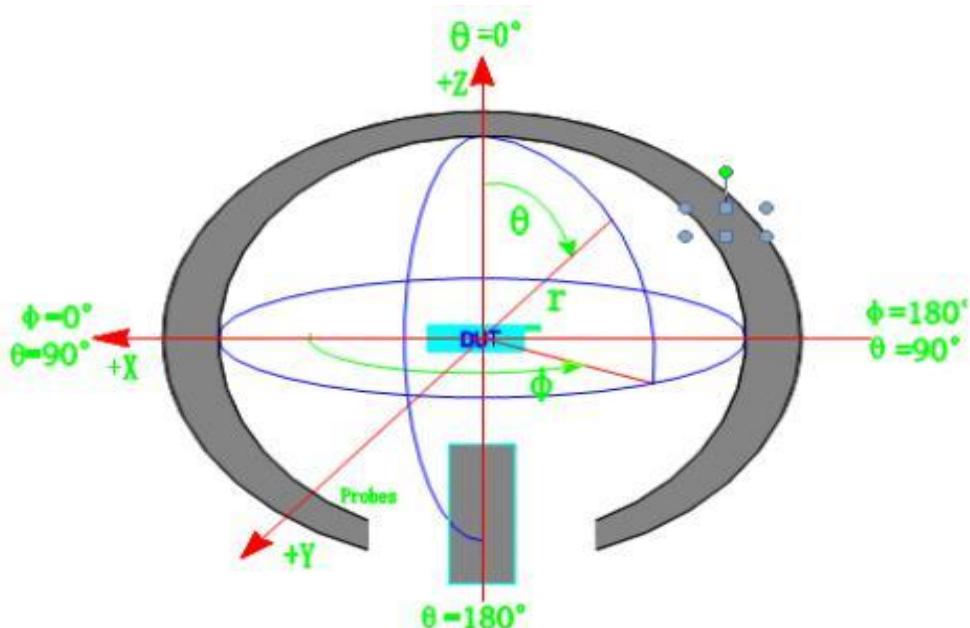
## 2. Electrical Performance

2. 1 Building-out circuit of WIFI antenna (provided by Shenzhen Wan Hui Xin Yuan Technology Co.,Ltd.)



Component No.	1	2	3	4
WIFI Best	NC	0 Ohm	NC	
Original (spare)	50 Ohm matched			

#### Attachment 4 WIFI Return Loss



### 4、Device 3D Dynamic Test

#### 4.1 Test Environment

TCT Microwave Dark Room: test frequency range: 800MHz—6GHz, quite zone: 50cm all around, reflectivity < -90 dB (see as attachment 4 and 5).

#### 4.4 Environment Treatment

Environment Treatment: No

### 3、Device 3D Dynamic Test

#### 3.1 Test Environment

TCT Microwave Dark Room: test frequency range: 600MHz—6GHz, quite zone: 50cm all around, reflectivity < -90 dB (see as attachment 4 and 5).

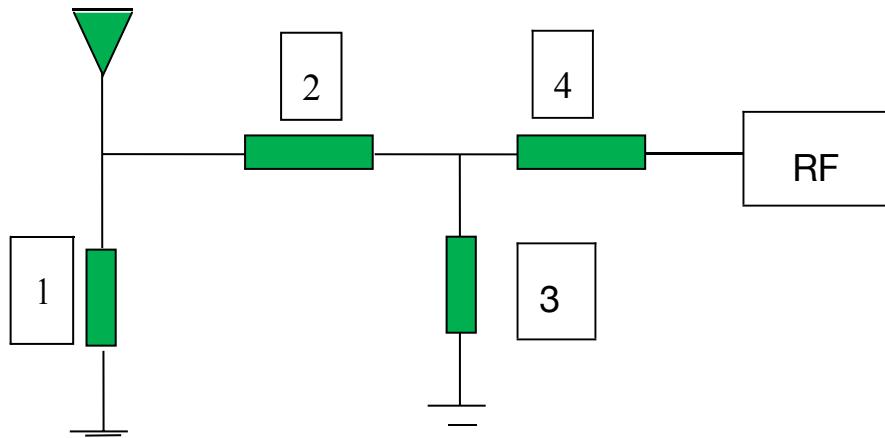
#### 3.2 Environment Treatment

Environment Treatment: No

### No Source Test Report

## 2. Electric Performance

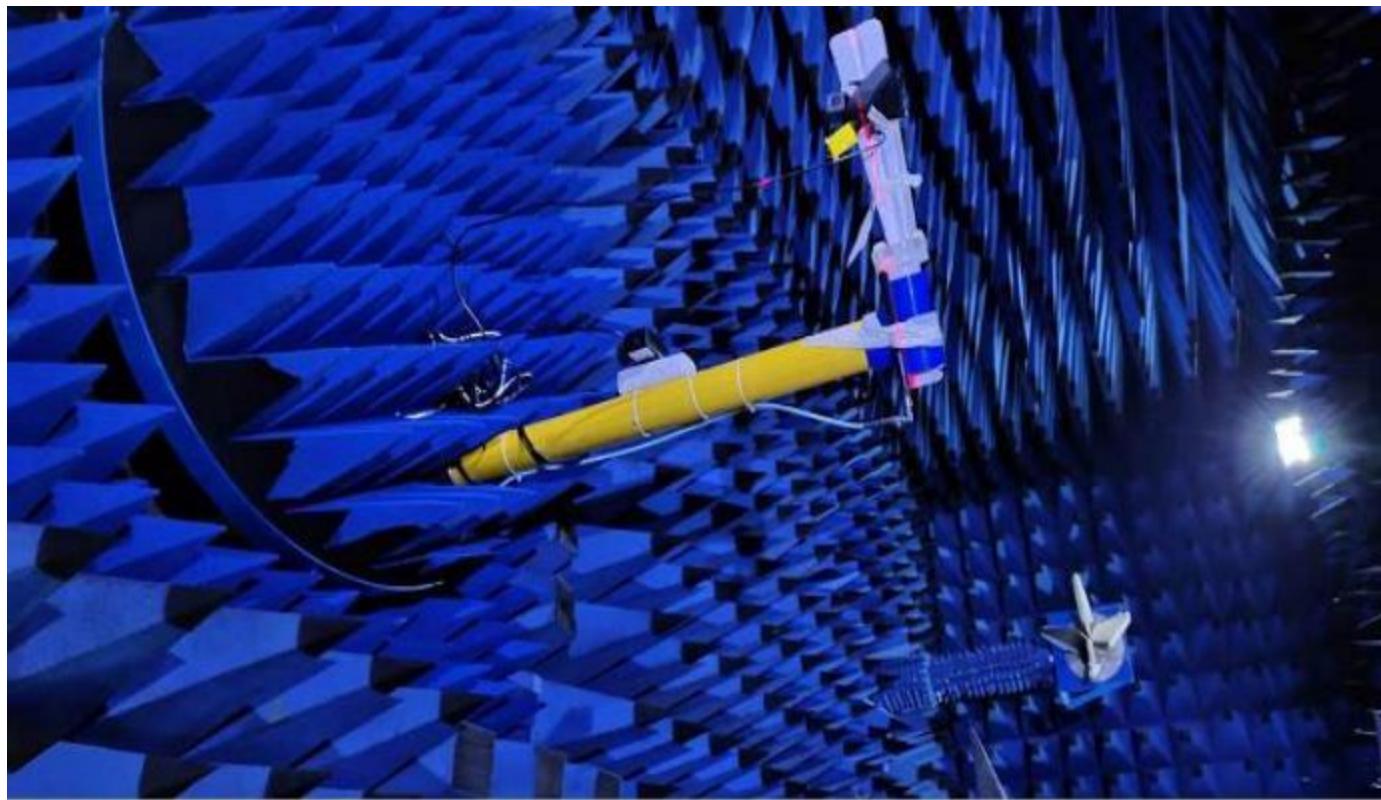
2. 1 Building-out circuit of WIFI antenna (provided by Shenzhen Wan Hui Xin Yuan Technology Co.,Ltd.)



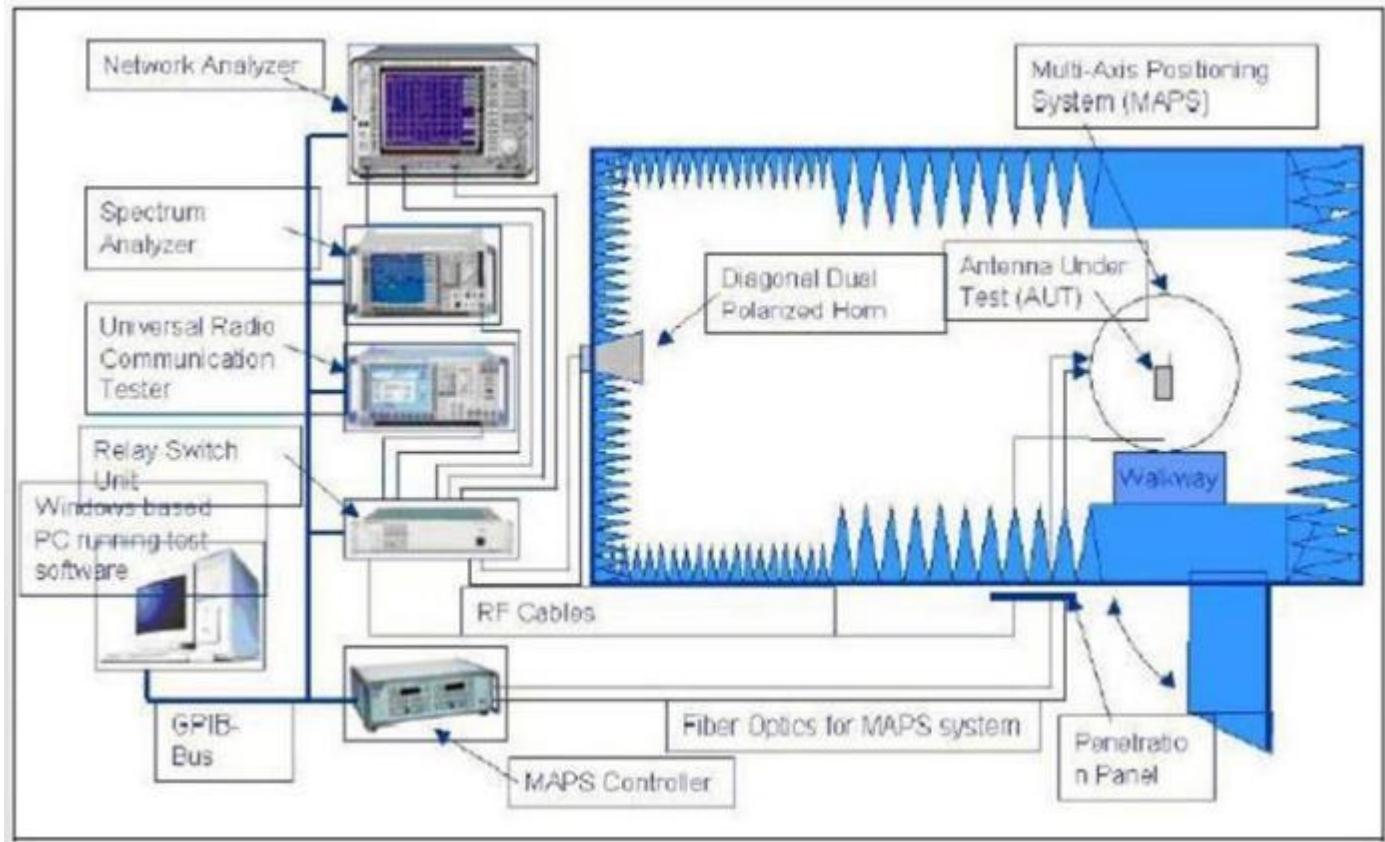
Component No.	1	2	3	4
WIFI Best	NC	0 Ohm	NC	
Original (spare)	50 Ohm matched			

#### Attachment 5 OTA Microwave Dark Room Test Instruments





**Attachment 6 Test Environment: OTA743 Dark room, W500/8960 /8753ES/5071C,  
The device is put in opposite side 4 meters away from standard speaker**



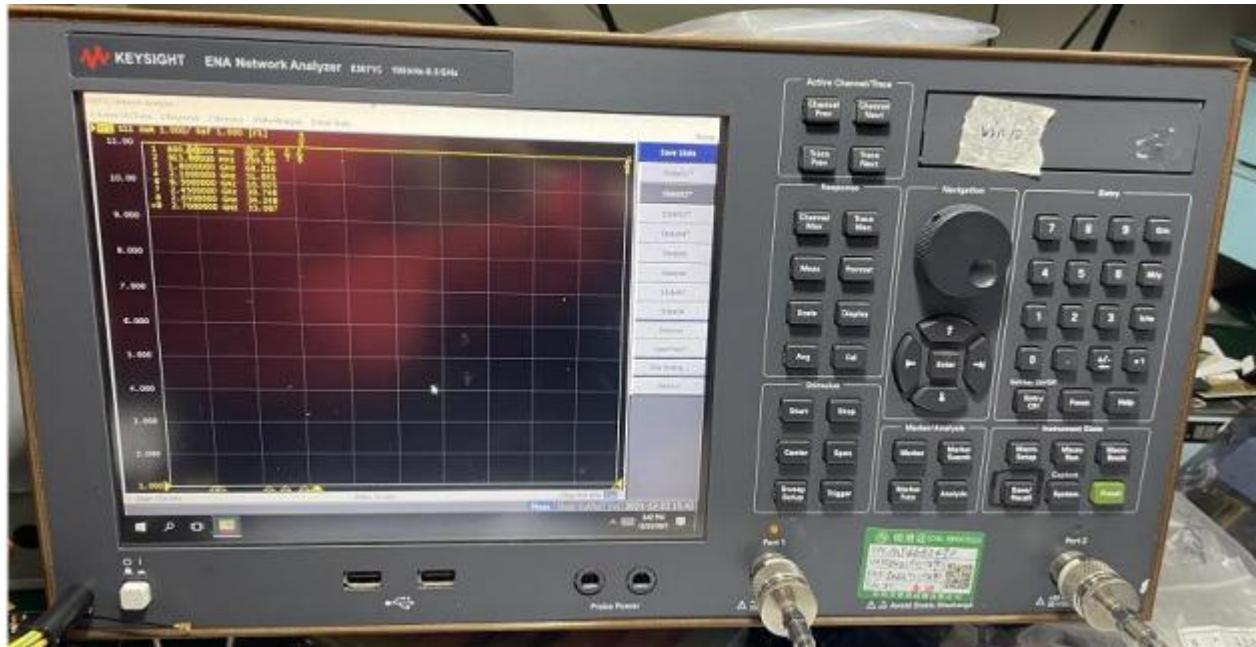
## 2.3 VSWR Test

### 2.3.1. Test Setup

The test setup of VSWR is Agilent E5071B network analyzer ®50 Ohm Coaxial Cable®120mm length copper pipe® test fixture

The treatment of test fixture: use a hard cable to lead out the SMA-J connector from the 50 ohm test point of the antenna on the flat PCB, connect it to the copper tube with the choke coil, and then connect to other devices in turn.

### Attachment 7 Network analyzer 5071C

**Attachment 8 WiFi Standing-wave ratio**

Frequency(MHz)	2400	2500	5700	5800	
VSWR	1.4	1.1	1.4	1.9	

Passive Test For WIFI2.4									
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBD)	UHIS (%)	DHIS (%)	Max (dB)	Min (dB)	
2400	43.95	-3.57	-0.72	-2.87	22.25	21.698	-0.72	-12.16	
2410	43.52	-3.61	-0.91	-3.06	22.415	21.104	-0.91	-12.45	
2420	45	-3.47	-0.96	-3.11	23.009	21.99	-0.96	-12.41	
2430	49.14	-3.09	-0.79	-2.94	24.634	24.508	-0.79	-11.4	
2440	53.26	-2.74	-0.33	-2.48	26.45	26.814	-0.33	-9.93	
2450	50.97	-2.93	-0.25	-2.4	25.52	25.449	-0.25	-8.85	
2460	51.31	-2.9	0.06	-2.09	26.097	25.217	0.06	-7.82	
2470	55.9	-2.53	0.81	-1.34	29.041	26.86	0.81	-7.61	
2480	56.23	-2.5	1.08	-1.07	30.089	26.14	1.08	-7.74	
2490	52.94	-2.76	1.07	-1.08	29.191	23.747	1.07	-8.26	
2500	54.56	-2.63	1.64	-0.51	30.839	23.721	1.64	-8.8	

## ANT1 Direction of figure

