

# XQ491\_GH4911

## Specification of Antenna

### CATALOGUE

1.	DESCRIBE .....	2
2.	ELECTRICAL SPECIFICATION .....	3
2.1.	Frequency band.....	3
2.2.	impedance.....	3
2.3.	VSWR&RL .....	3
2.4.	Maximum of antenna gain .....	6
2.5.	TRP&TIS .....	7
3.	Antenna Dimensions .....	10
3.1.	Aerial images .....	10
3.2.	Structure size.....	12

## 1. DESCRIBE

This specification applies to XQ491-GH4911 main antenna, diversity antenna, BT/WIFI/GPS antenna

The antenna is in the form of built-in antenna PIFA

The antenna is made of FPC

## 2. ELECTRICAL SPECIFICATION

### 2.1. Frequency band

Band	Operation Frequency Range(MHz)
GSM850/900/1800/1900 WCDMA Band2/4/5/8 LTE2/3/4/5/7/12/20/28/66/71	617-698; 699~ 746 ;791~ 862; 824~894;880-960; 1710~1990; 1850-1990;1710-2155;2500~2690
BT/WIFI	2.4~2.5GHz, 5.15~5.85GHz
GPS	1575.42MHz

### 2.2. impedance

50  $\Omega$

### 2.3. VSWR&RL

Test equipment: Agilent E5071C

test method:

- 1、 Install the main antenna on the test prototype;
- 2、 Weld the RF test point on the PCB with 50  $\omega$  coaxial line, and then connect it to the network analyzer;
- 3、 ensure that the mobile phone away from the surrounding metal at least 20cm above.

Test result:

Main antenna voltage standing wave ratio



Frequency (MHz)	600	700	824	1710	1990	2170	2690
VSWR	4.45	2.73	4.92	1.32	2.84	1.47	2.36

Diversity antenna voltage standing wave ratio:



Frequency (MHz)	880	824	1880	2350	2690
VSWR	8.21	5.49	1.81	2.08	5.18

BT/WIFI/GPS standing-wave ratio SWR:



Frequency (MHz)	1575.42	2400	2450	2500
VSWR	1.27	1.22	1.61	2.40

2.4. Maximum of antenna gain

Main antenna:

GSM850: -2dBi

GSM900: -1.0dBi

DCS 1800: 0dBi

PCS1900: 2dBi

WCDMA BAND2: 2dBi

WCDMA BAND4: 0dBi

WCDMA BAND5: -2dBi

WCDMA BAND8: -1.0dBi

LTE BAND2: 2.0dBi

LTE BAND4: 0dBi

LTE BAND5: -2dBi

LTE BAND7: 2dBi

LTE BAND12: -3dBi

LTE BAND20: -0.5dBi

LTE BAND28: -2dBi

LTE BAND66: 0dbi

LTE BAND71: -4dbi

DRX antenna:

WCDMA BAND2: -0.5dBi

WCDMA BAND4: -1.0dBi

WCDMA BAND5: -1.0dBi

WCDMA BAND8: -1.5dBi

LTE BAND2: -1.0dBi

LTE BAND4: -1.5dBi

LTE BAND5: -2.0dBi

LTE BAND7: -2.5dBi

LTE BAND12: -1.5dBi

LTE BAND20: -2.0dBi

LTE BAND12: -1.5dBi

Bluetooth/2.4G Wi-Fi/5G Wi-Fi: 1.2dBi

GPS: 2dBi

## 2.5. TRP&TIS

OTA test result:

Band	Channel	TRP Limit Value	TRP Test Value(dBm)
			FS
GSM850	128	27	27.5
	190		27.8
	251		27.6
GSM900	975	NA	28.2
	37		28.3
	124		26.9
DCS1800	512	NA	25.8
	698		25.6
	885		25.6
PCS1900	512	24.5	26.5
	661		27.3
	810		27.4
WCDMA Band 2	9262	20	20.2
	9400		20.3
	9538		20.4
WCDMA Band 4	1312	20	20.1
	1413		20.5
	1513		20.3
WCDMA Band 5	4132	18	18.4
	4183		18.8
	1233		19.1
LTE Band2	18650	20	20.1
	18900		20.5
	19150		20.6
LTE Band4	20000	20	20.1
	20175		20.4
	20350		20.5
LTE Band5	20450	18	18.3
	20525		18.6
	20600		18.4
LTE Band7	20800	NA	17.2
	21100		17.5
	21400		17.8
LTE Band12	23060	18	18.4
	23095		18.7
	23130		18.8
LTE Band28	27260	18	18.4
	27435		18.6
	27610		19.0
Band	Channel	TIS Limit Value	TRP Test Value(dBm)
			FS



GSM850	128	-104	
	190		
	251		-104.5
GSM900	975	NA	
	37		
	124		-101.5
DCS1800	512	NA	
	698		
	885		-106.9
PCS1900	512	-104	
	661		
	810		-107.4
WCDMA Band 2	9662	-104	
	9800		
	9938		-106.2
WCDMA Band 4	1537	-104	
	1638		
	1738		-107.1
WCDMA Band 5	4357	-103	
	4410		
	4458		-107.5
LTE Band2	650	-94	
	900		
	1150		-96.8
LTE Band4	2000	-94	
	2175		
	2350		-98.1
LTE Band5	2450	-94	
	2525		
	2600		-96.1
LTE Band7	2800	NA	
	3100		
	3400		-93.2
LTE Band12	5060	-94	
	5090		
	5130		-95.2
LTE Band28	9260	-94	
	9435		
	9610		-95.1

### 3. Antenna Dimensions

#### 3.1 AERIAL IMAGES

main antenna:

The latest version is V03, and the screen print on the main test prototype sent out now is V02. Only the screen printing is different

Our company did not inform to change the screen printing, the supplier changed the screen printing, the wire is not moved.

Our company has confirmed that the antenna of the main test machine sent out is only different from that of the later standby machine.

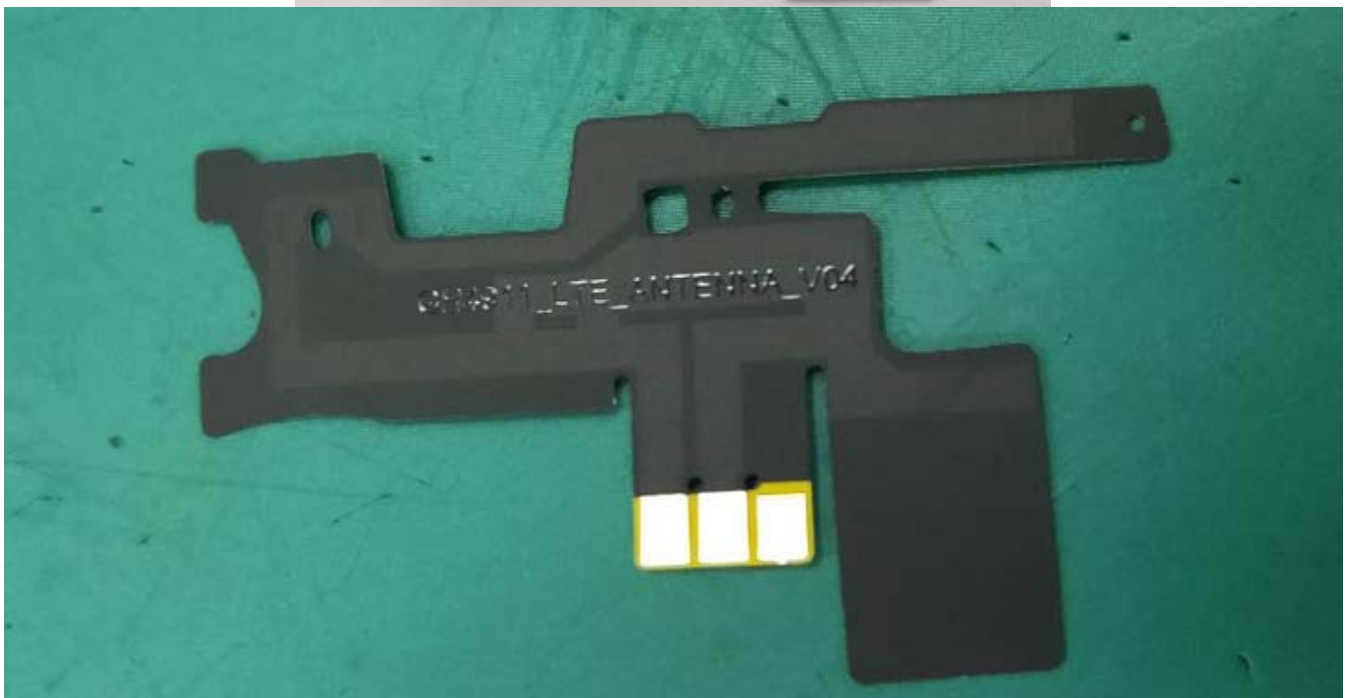


Diversity antenna:

The latest one is V04, and the screen print on the main test prototype sent out at present is V02.

The V02 antenna on the main test prototype is only different from the V04 on the standby plane sent out later.

The antenna of the main test machine has been cut by hand, and the internal wiring is consistent with that of V04.



### GPS/BT/WIFI Antenna

The latest version is V03, and the screen print on the main test prototype sent out now is V02. Only the screen printing is different.

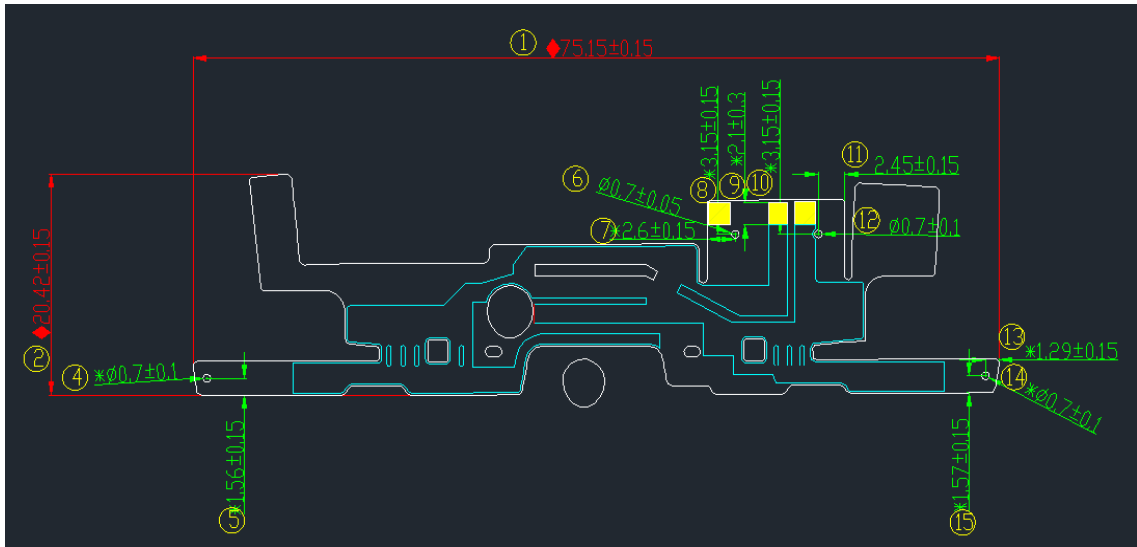
Our company did not inform to change the screen printing, the supplier changed the screen printing, the wire is not moved.

Our company has confirmed that the antenna of the main test machine sent out is only different from that of the later standby machine

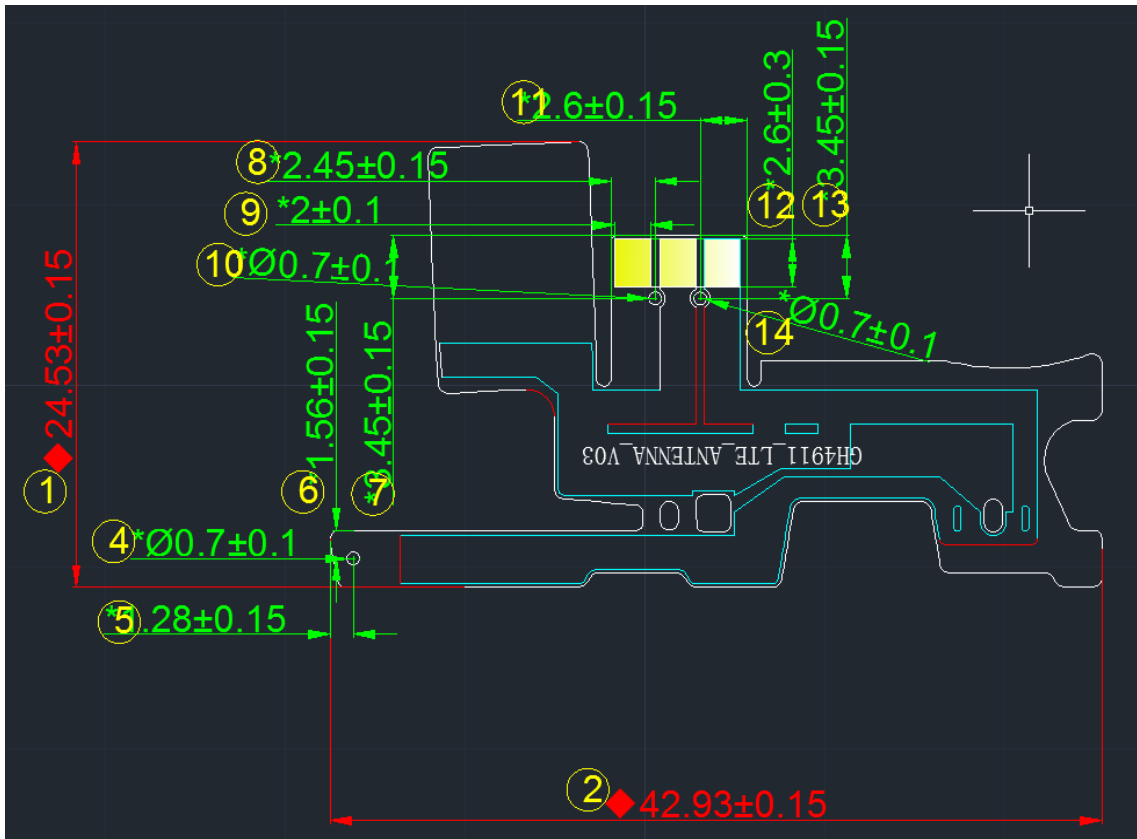


### 3.2 STRUCTURE SIZE

main antenna:



diversity antenna:



GPS/BT/wifi:

