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1. Project information

1.1 Mockup picture



2. Matching circuit

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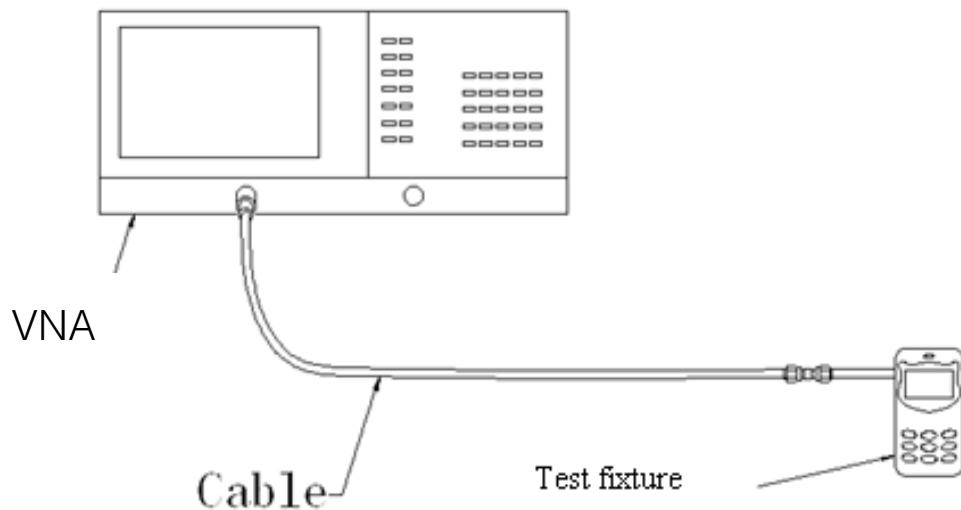
3. Antenna passive testing data

3.1 S11 Description of the test method

Test the equipment: Vector network analyzer (Agilent E5071C)

Test methodology: Use a 50 ohm CABLE cable to export from the instrument test port, use the calibration piece to calibrate and connect the SMA connector of the test fixture, and record the return loss and standing wave ratio corresponding to the relevant frequency point.

Below is a schematic picture of the test:

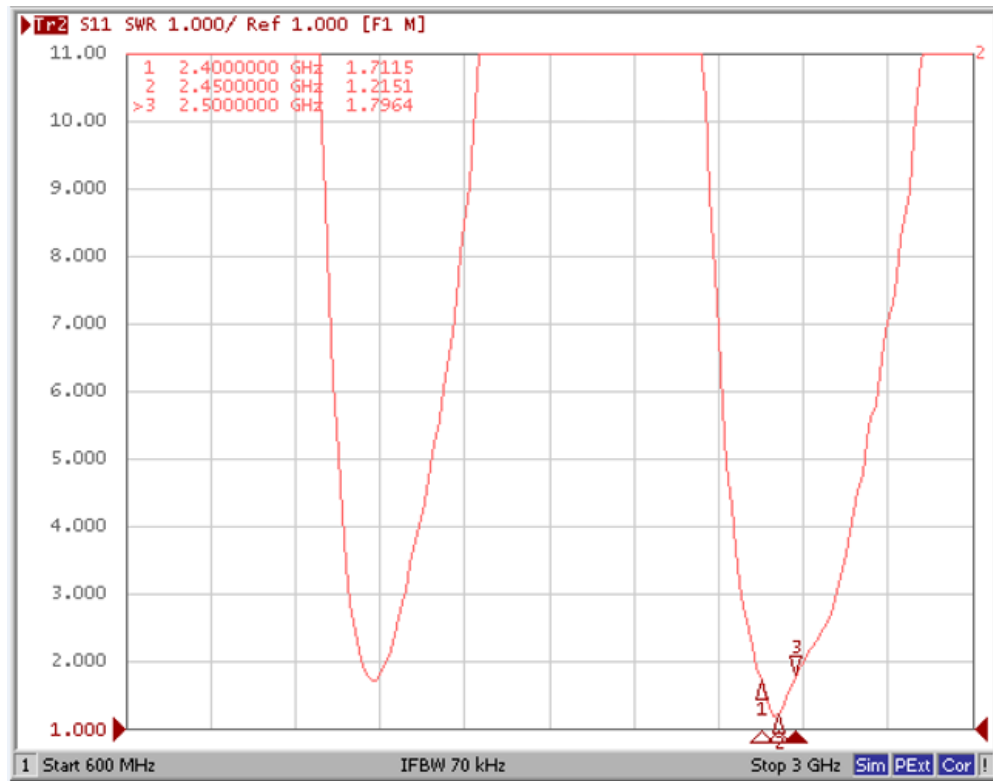


Test schematic diagram

3.2 S11 Test parameters

(Freq.) MHz	2400	2450	2500
VSWR	1.71	1.21	1.79

VSWR



3.3 Antenna efficiency and gain

Freq (MHz)	Effi (%)	Gain (dBi)
2400	54.33	2.12
2410	53.21	2.06
2420	54.58	2.34
2430	54.2	2.46
2440	55.21	2.7
2450	54.45	2.81
2460	51.76	2.57
2470	54.83	3.02
2480	53.7	2.93
2490	53.95	3.23
2500	52.48	3.12

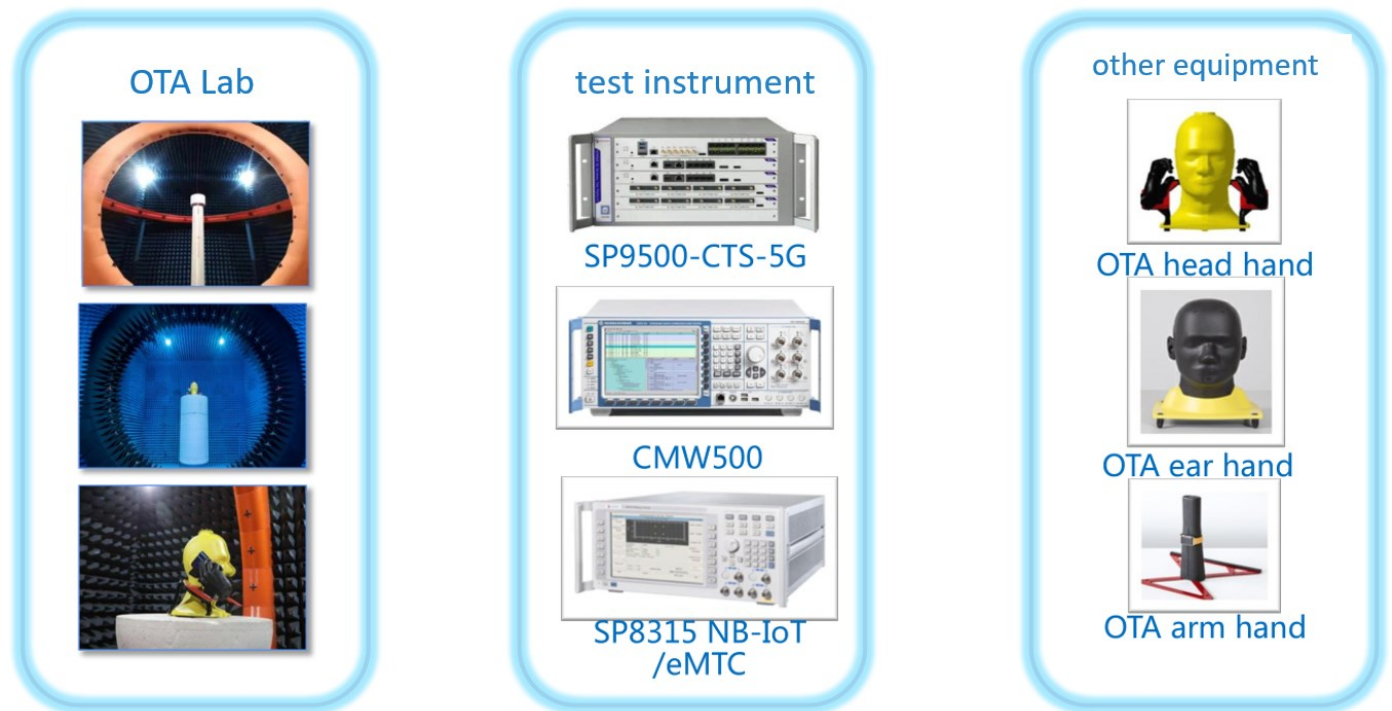
4. Antenna active testing data

4.1 Test the environment

Test the system: Multi-probe OTA measurement system (XH-IoT)

Test the environment: Temperature $22^{\circ}\text{C}\pm 3^{\circ}\text{C}$, humidity $50\%\pm 15\%$

Test the equipment: When testing passive data, use the network analyzer R&S ZND/ Agilent E5071C
When testing active data, use the Agilent 8960/CMW500/SP9500E/SP8315



4.2 OTA Active test data

WIFI:

Band	Channel	TRP (dBm)	TIS(dBm)
WIFI_B (11M)	1	14.13	-81.16
	6	14.53	-81.56
	11	14.5	-81.38
WIFI_G (54M)	1	14.53	-71.55
	6	14.58	-71.55

	11	15.07	-71.55
WIFI_N_ISM (65M)	1	11.66	-69.43
	6	11.44	-69.27
	11	11.15	-69.31

BT:

Measurement	Band	Channel	Total
TRP	BLUETOOTH	0	-4.61
TRP	BLUETOOTH	39	-3.82
TIS(EIRP)	BLUETOOTH	0	-87.61
TIS(EIRP)	BLUETOOTH	39	-88.2

5. Electrical performance

Frequency range (MHz)	2400MHz-2500MHz
VSWR	< 2.0 (in-device)
efficiency (%)	50%-60%
Peak gain (dbi)	3.02
Polarization mode	Linear
Radiation field pattern	Omni-Directional

6. Mechanical properties

Installation mode	clasp
Joint type	Kexincheng the second-generation terminal
Wire specification	0.8 1black Coaxial line
Antenna size (mm)	45.97*3.7*0.6mm
material	FR4
Operating temperature (°C)	- 30 °C ~ + 65 °C

Storage temperature (°C)	- 30 °C ~ + 65 °C
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7. Environmental treatment methods

Unchanged

8. Standard for mass production antennas

When the antenna is mass-produced, the VSWR is used as the mass production test standard.

According to the differences in the project itself, the following criteria are given:

Freq. (MHz)	Mass production standards
2400-2500	$VSWR(\text{Production performance}) < VSWR(\text{Confirmed performance}) + 0.5$

9. Engineering drawings

Silk screen white characters

