



Shenzhen Qianmu Communication Technology Co.,Ltd.

Model:E26

Date:2023.1.3

Version:A1

Radio frequency:liu chu sheng



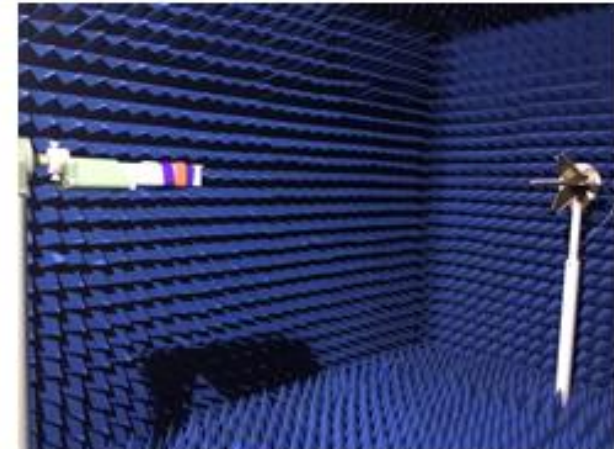
Content

1. Test environment
2. Description of previous debugging records
3. Matching circuit description
4. Active test data
5. Conduction test data
6. Call current sound simulation test
7. Environmental handling instructions
8. GPS/WIFI/BT passive parameters
9. GPS/WIFI/BT actual measurement results
10. Summary



Test environment

	Testing item	Device
1. S-parameter	1. Return Loss 2. VSWR	Network Analyzer: Agilent E5071B HP 8753D
2.Active test	1. Transmit power (TRP) 2. Receive sensitivity (TIS) 3.Frequency tolerance 4.Screen off, screen on	1. Darkroom : ETS 7x4x3 m (3D) Chamber;ETS 5x3x3 m (3D) Chamber 2.Comprehensive tester: Agilent 8960 E5515B ×2;StarPoint SP6011
3.Passive test	1.Antenna gain (Gain) 2.Antenna efficiency (Efficiency)	1. Darkroom : ETS 7x4x3 m (3D) Chamber ETS 5x3x3 m (3D) Chamber 2. Network Analyzer : Agilent E5071B HP 8753D





Description of previous debugging records

Date	Version	Debugging records
2023-01-03	A1	Bluetooth cable, testing sample

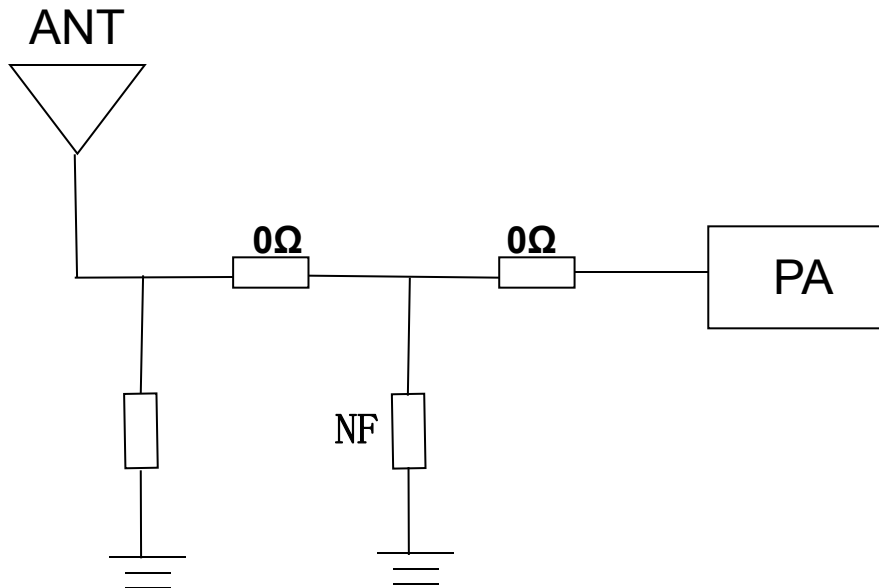


Machine debugging instructions

Model	BT calling smartwatch						
Version	PCBA						
Antenna overview		Condition of antenna		Condition of antenna	Antenna form	Design area	Matching changes
	Antenna	BT	2.4GHz~2.5 GHz	Antenna D:0.6mm L:30mm	Monopole	Bracket	None
Condition	Debugging the machine			Environmental treatment			

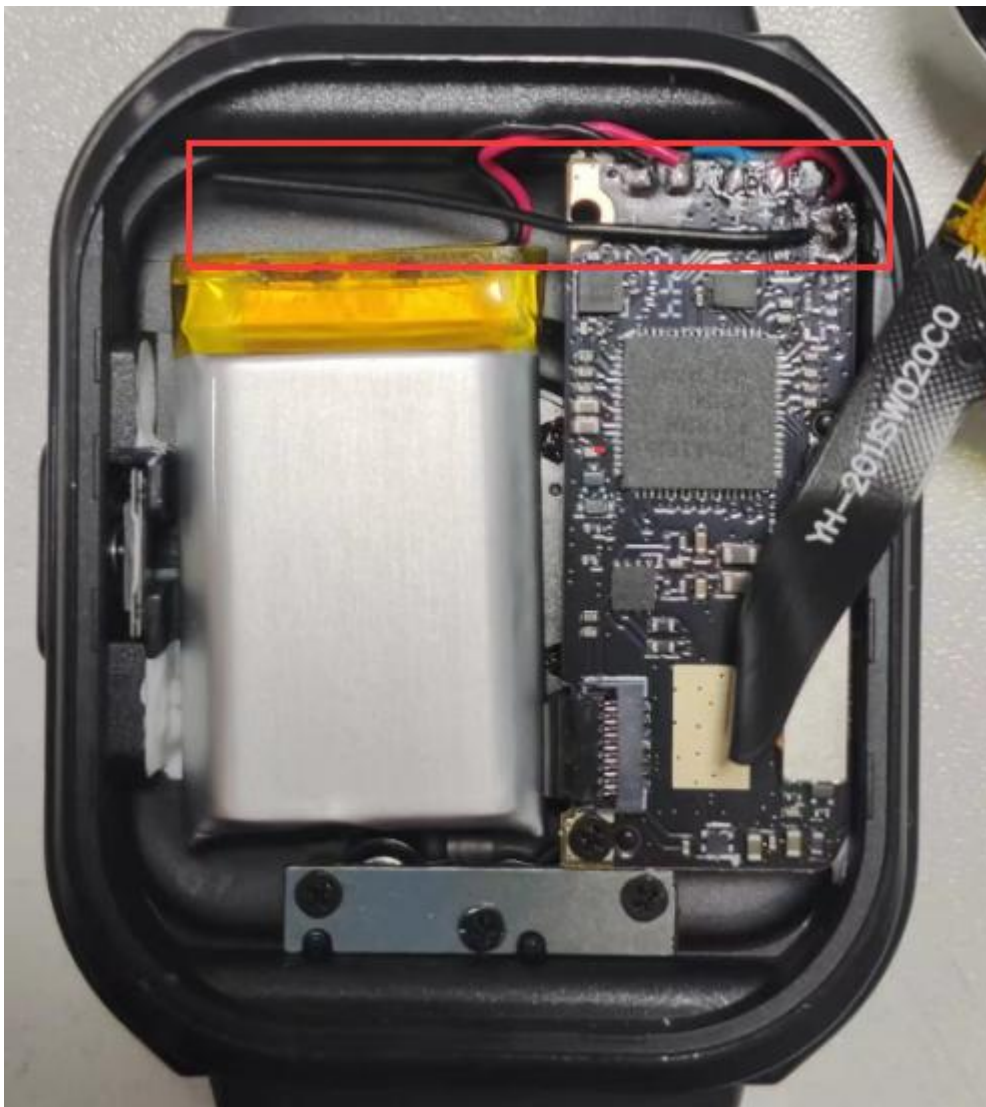


Matching circuit-BT antenna





Position of BT antenna :



Real measurement of BT antenna:

1. Connect the app via Android phone, and play music on the phone
(Indoor) Frontal test straight line distance is 35 meters without obstacles.

Back-to-back test straight line distance 25 meters without obstacles

2. Connect the app via Android phone, and make a call
(Indoor) Frontal test straight line distance is 10 meters without obstacles.

Back-to-back test straight line distance 5 meters without obstacles

3. Connect the app via Android phone, and find the watch from app
(Indoor) Frontal test straight line distance is 40 meters without obstacles.

Back-to-back test straight line distance 30 meters without obstacles



Testing APP

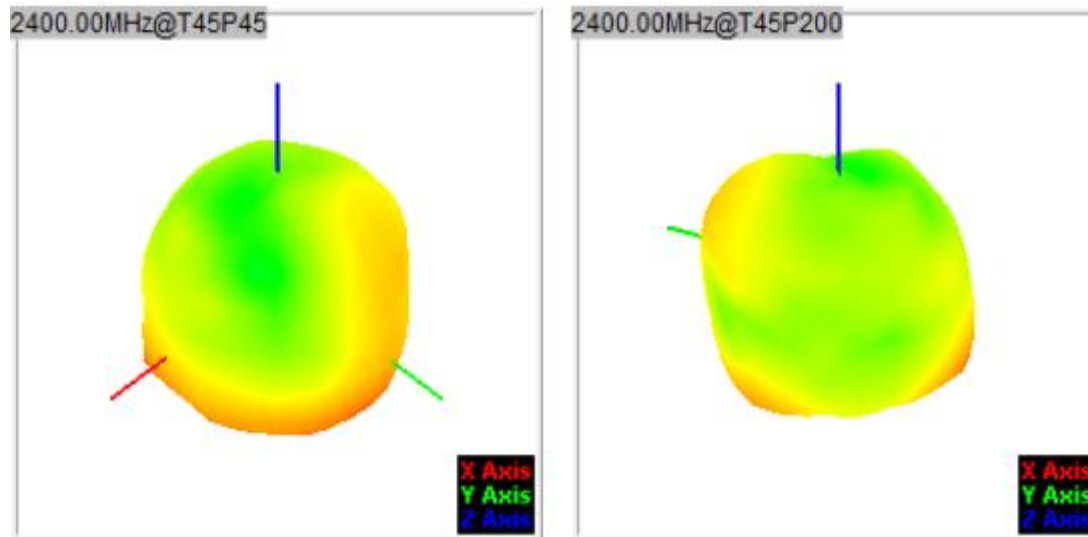


Antenna Passive Efficiency Gain Data

Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Point Values											
Ant. Port Input Pwr. (dBm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot. Rad. Pwr. (dBm)	-7.55	-7.70	-7.81	-7.66	-7.78	-7.52	-7.65	-7.84	-7.83	-7.63	-7.61
Peak EIRP (dBm)	-2.68	-2.69	-2.77	-2.59	-2.49	-2.14	-2.30	-2.55	-2.63	-2.48	-2.39
Directivity (dBi)	4.86	5.01	5.04	5.07	5.29	5.38	5.35	5.28	5.21	5.15	5.22
Efficiency (dB)	-7.55	-7.70	-7.81	-7.66	-7.78	-7.52	-7.65	-7.84	-7.83	-7.63	-7.61
Efficiency (%)	17.60	17.00	16.50	17.20	16.70	17.70	17.20	16.50	16.50	17.30	17.30
Gain (dBi)	-2.68	-2.69	-2.77	-2.59	-2.49	-2.14	-2.30	-2.55	-2.63	-2.48	-2.39
NHPRP \pm Pi/4 (dBm)	-9.03	-9.20	-9.35	-9.22	-9.35	-9.09	-9.21	-9.40	-9.41	-9.24	-9.28
NHPRP \pm Pi/6 (dBm)	-10.63	-10.78	-10.91	-10.76	-10.90	-10.63	-10.74	-10.93	-10.99	-10.89	-10.98
NHPRP \pm Pi/8 (dBm)	-11.89	-12.00	-12.11	-11.94	-12.07	-11.81	-11.93	-12.15	-12.25	-12.19	-12.33
Upper Hem. PRP (dBm)	-12.40	-12.50	-12.59	-12.41	-12.48	-12.14	-12.18	-12.28	-12.19	-11.93	-11.83
Lower Hem. PRP (dBm)	-9.27	-9.45	-9.57	-9.42	-9.58	-9.35	-9.53	-9.77	-9.82	-9.64	-9.68
Upper Hem. PRP (%)	5.76	5.63	5.51	5.74	5.65	6.11	6.05	5.91	6.04	6.42	6.57
Lower Hem. PRP (%)	11.84	11.36	11.03	11.42	11.02	11.61	11.14	10.54	10.43	10.86	10.77

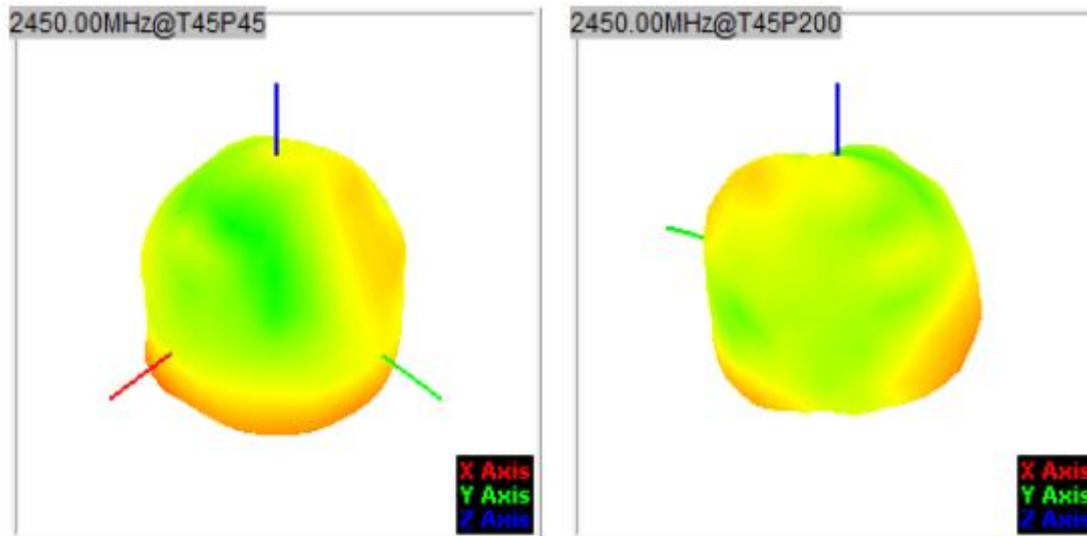


Antenna Patterns and Apple Diagrams



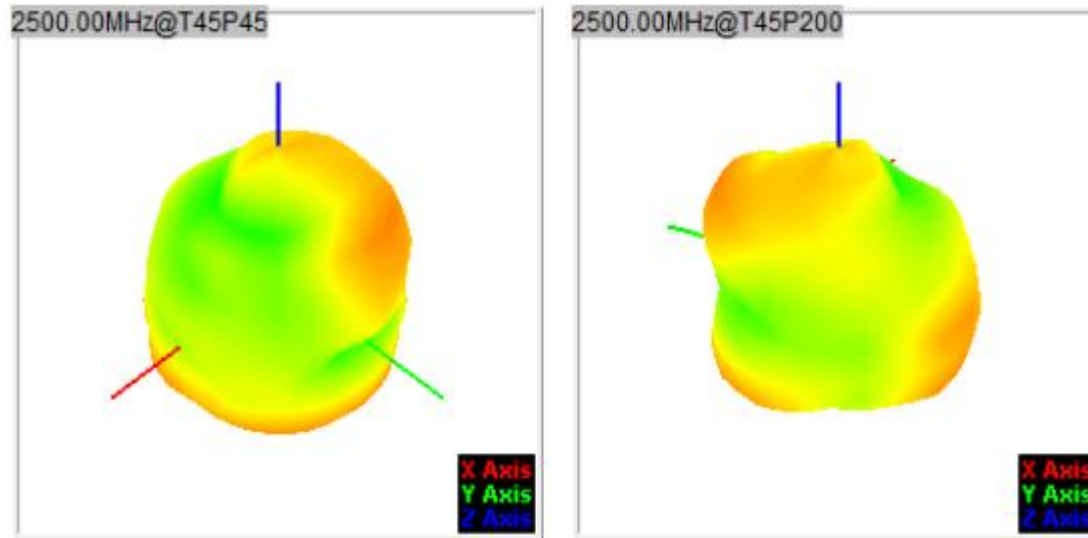


Antenna Patterns and Apple Diagrams





Antenna Patterns and Apple Diagrams





Tips

Tips:

1. This data is only generated by the testing sample provided by the customer and does not represent the final mass production status of the customer;
2. Customers are requested to carefully confirm the matching circuit modification and environmental treatment instructions in our report;
3. Before mass production, please provide a trial production sample to us for secondary verification; if there is any replacement of materials, software updates, environmental treatment, etc., please inform us in advance;
4. If the customer needs a third-party retest, or sends it to the customer for testing, please go to our company for verification before sending the sample; to prevent differences between the machine and the debugging machine;
- 5: Our company does not accept machine data other than our debugging and data from other darkroom tests, but it can be used as a reference, except for certified darkrooms. If there is a discrepancy in the data, the debugging machine shall prevail to find the reason.



Thanks

All information and copyright contained in this report belong to our company. Please do not disseminate it to third parties without our permission.