Seeking value and win-win situation

Shenzhen qianmu communication technology co., ltd

Shenzhen Qianmu Communication Technology Co.,Ltd.

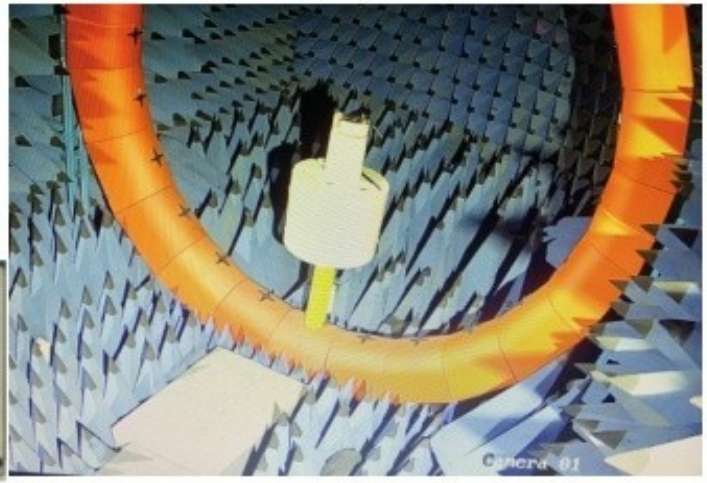
Focus on antenna scheme, design and production.

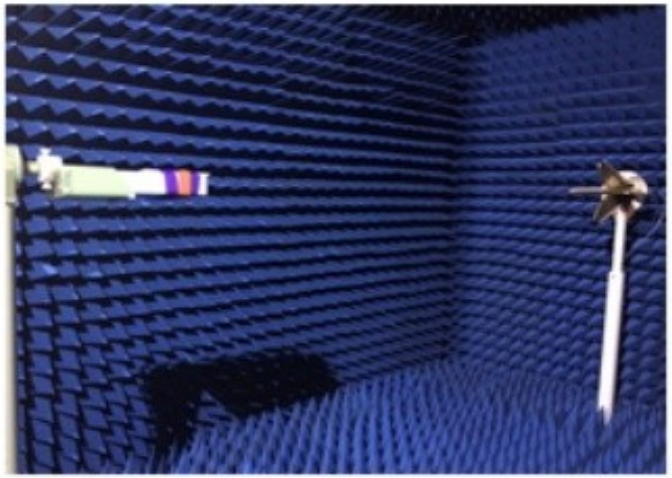
Guest: Peicheng
Item: P12-YKT606 Date: April 9, 2024
Edition: A1

Frequency: ZHENG LI GUO

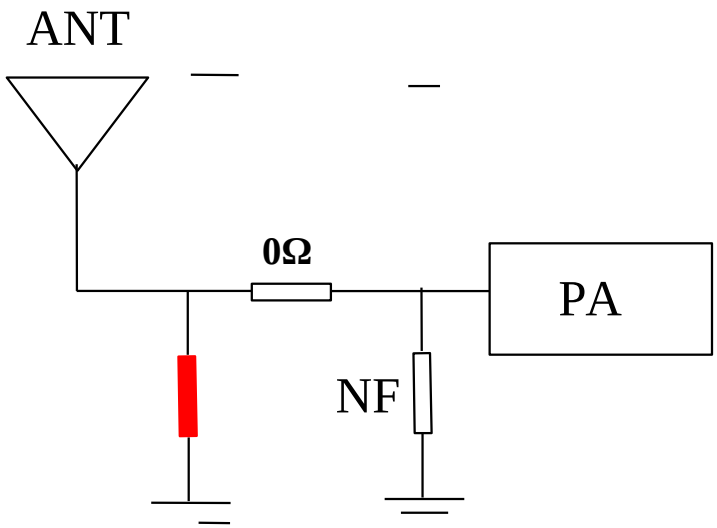
testing environment

2. Active testing (Active)	1. Transmit power (TRP) 2. Receiving sensitivity (TIS) 3. frequency error 4. Screen off, screen on	1. Darkroom: flying picture 7x4x3 m (24-probe 3D) Chamber ETS 5x3x3 m (3D) Chamber 2. Comprehensive tester: Agilent 8960 ×2 CMW500 ×3/CMU200
3. Passive testing (Passive)	1. Antenna Gain (gain) 2. Antenna Efficiency	1. Darkroom: flying picture 7x4x3 m (24-probe 3D) Chamber ETS 5x3x3 m (3D) Chamber 2. Network analyzer: Agilent E5071B





Matching circuit - WIFI antenna



The original matching circuit has not changed.

Description of previous debugging records

date	version	Main board number	Debugging record description
2024-4-9	A		FPC modification sample debugging machine

WIFI antenna 2400-2500Mz active data

Antenna state	FPC modified sample		
	WIFI2400~2500Mz 802.11b 11MBps		
Channel	one	six	11
TRP	12.85	13.02	13.18
TIS	-80.73	-80.92	-80.54

WIFI antenna 5000-5800Mz active number

Antenna state	FPC modified sample		
	WIFI5000~5800Mz 802.11a 54MBps		
Channel	36	161	165
TRP	10.53	10.74	10.89
TIS	-67.89	-67.83	-67.91

Seeking value and win-win situation

WIFI ② transmit antenna efficiency and gain:

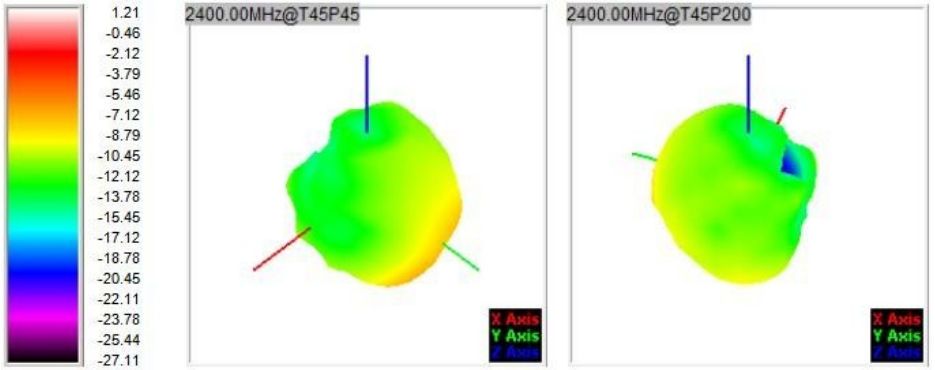
Frequency ID	one	2	three	four	five	six	seven	eight	nine	10	11
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Point Values											
Ant. Port Input Pwr. (dBm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot. Rad. Pwr. (dBm)	-4.44	-4.50	-5.21	-5.19	-4.92	-4.97	-5.15	-5.00	-4.94	-4.97	-5.15
Peak EIRP (dBm)	2.10	2.04	1.78	1.84	2.01	1.80	1.47	0.53	0.94	1.80	1.47
Directivity (dBi)	6.54	6.54	6.99	7.03	6.93	6.76	6.62	5.53	5.88	6.76	6.62
Efficiency (dB)	-4.44	-4.50	-5.21	-5.19	-4.92	-4.97	-5.15	-5.00	-4.94	-4.97	-5.15
Efficiency (%)	36.00	35.50	30.10	30.20	32.20	31.90	30.50	31.60	32.10	31.90	30.50
Gain (dBi)	1.21	1.24	1.36	1.78	1.84	2.00	1.80	1.47	one point three seven	1.36	1.12
NHPRP ±Pi/4 (dBm)	-7.19	-7.17	-7.09	-6.82	-6.80	-6.51	-6.55	-6.72	-6.66	-6.50	-6.53
NHPRP ±Pi/6 (dBm)	-8.71	-8.66	-8.57	-8.29	-8.28	-7.99	-8.02	-8.19	-8.14	-7.97	-7.98
NHPRP ±Pi/8 (dBm)	-9.88	-9.81	-9.71	-9.44	-9.43	-9.12	-9.12	-9.27	-9.20	-9.01	-9.01
Upper Hem. PRP (dBm)	-10.09	-10.10	-9.99	-9.68	-9.60	-9.21	-9.21	-9.36	-9.29	-9.10	-9.08
Lower Hem. PRP (dBm)	-7.44	-7.42	-7.37	-7.13	-7.15	-6.94	-7.02	-7.22	-7.17	-7.00	-7.04
Upper Hem. PRP (%)	9.79	9.78	10.03	10.78	10.96	11.99	12.00	11.58	11.78	12.31	12.35
Lower Hem. PRP (%)	18.05	18.11	18.32	19.34	19.29	20.25	19.87	18.96	19.20	19.97	19.76

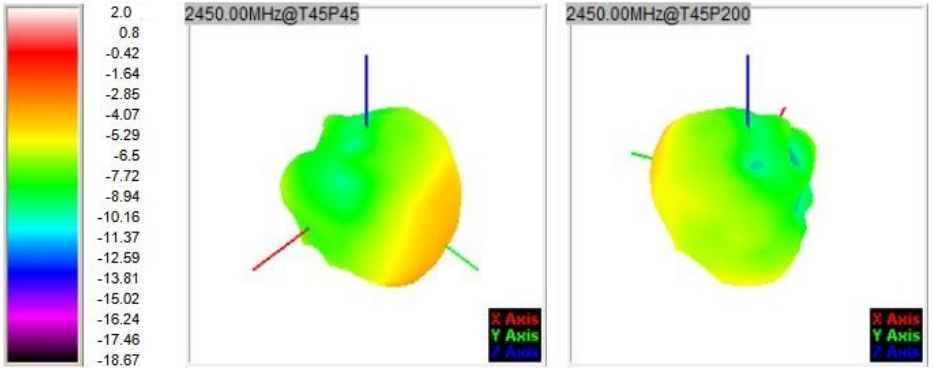
Frequency ID	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Frequency (MHz)	5150.0	5200.0	5250.0	5300.0	5350.0	5400.0	5450.0	5500.0	5550.0	5600.0	5650.0	5700.0	5750.0	5800.0	5850.0
Point Values															
Ant. Port Input Pwr. (dBm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot. Rad. Pwr. (dBm)	-3.92	-3.85	-3.91	-4.20	-4.72	-4.94	-5.01	-5.05	-4.72	-4.83	-5.02	-4.76	-5.19	-5.21	-4.76
Peak EIRP (dBm)	2.31	2.39	1.86	1.33	1.29	0.52	0.13	0.38	0.36	0.07	-0.47	-0.82	-1.24	-0.74	0.00
Directivity (dBi)	6.22	6.23	5.77	5.53	6.01	5.46	5.14	5.43	5.08	4.90	4.55	3.93	3.96	4.47	4.76
Efficiency (dB)	-3.92	-3.85	-3.91	-4.20	-4.72	-4.94	-5.01	-5.05	-4.72	-4.83	-5.02	-4.76	-5.19	-5.21	-4.76
Efficiency (%)	40.60	41.20	40.70	38.00	33.80	32.00	31.60	31.20	33.80	32.90	31.50	33.40	30.20	30.10	33.40
Gain (dBi)	2.31	2.39	1.86	1.33	1.29	0.52	0.13	0.38	0.36	0.07	-0.47	-0.82	-1.24	-0.74	0.00
NHPRP ±Pi/4 (dBm)	-5.20	-5.15	-5.09	-5.25	-5.84	-6.08	-6.00	-6.08	-5.82	-5.93	-6.23	-6.04	-6.42	-6.49	-6.13
NHPRP ±Pi/6 (dBm)	-6.65	-6.65	-6.52	-6.63	-7.34	-7.59	-7.32	-7.44	-7.20	-7.29	-7.68	-7.53	-7.92	-8.10	-7.80
NHPRP ±Pi/8 (dBm)	-7.82	-7.86	-7.70	-7.75	-8.62	-8.89	-8.43	-8.62	-8.41	-8.47	-8.95	-8.81	-9.15	-9.43	-9.19
Upper Hem. PRP (dBm)	-5.67	-5.57	-5.86	-6.33	-6.70	-7.17	-7.55	-7.66	-7.45	-7.66	-7.78	-7.73	-8.52	-8.75	-8.58
Lower Hem. PRP (dBm)	-8.70	-8.69	-8.32	-8.33	-9.08	-8.91	-8.54	-8.51	-8.02	-8.03	-8.29	-7.81	-7.91	-7.75	-7.10
Upper Hem. PRP (%)	27.08	27.71	25.92	23.28	21.39	19.19	17.58	17.15	18.00	17.13	16.65	16.87	14.07	13.34	13.88

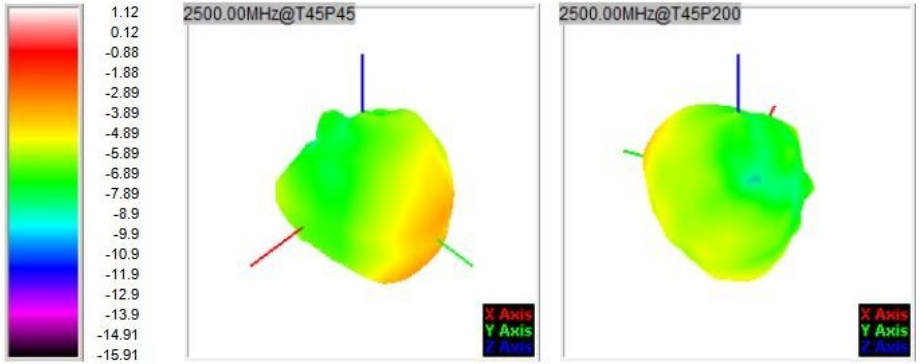
Lower Hem. PRP (%)	13.50	13.52	14.73	14.70	12.36	12.85	13.98	14.09	15.76	15.73	14.84	16.57	16.18	16.80	19.52

WIFI ② transmitting antenna Apple map:

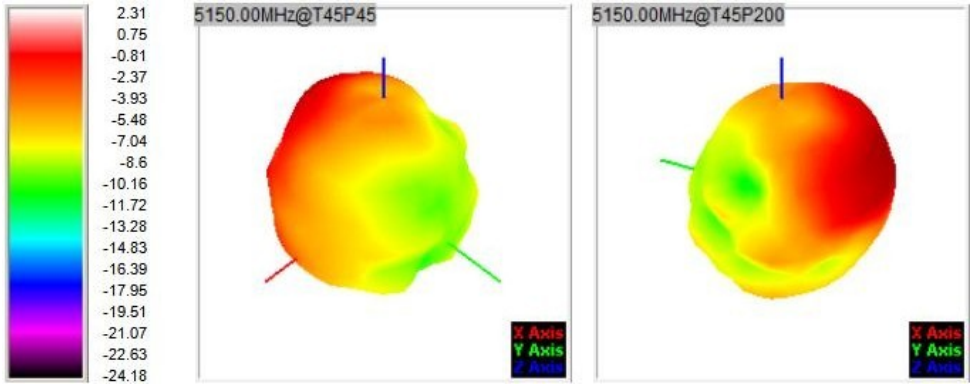
2.4G

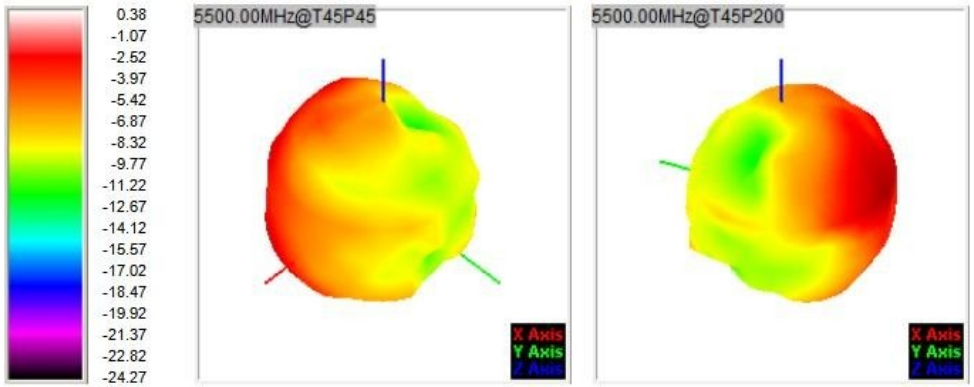


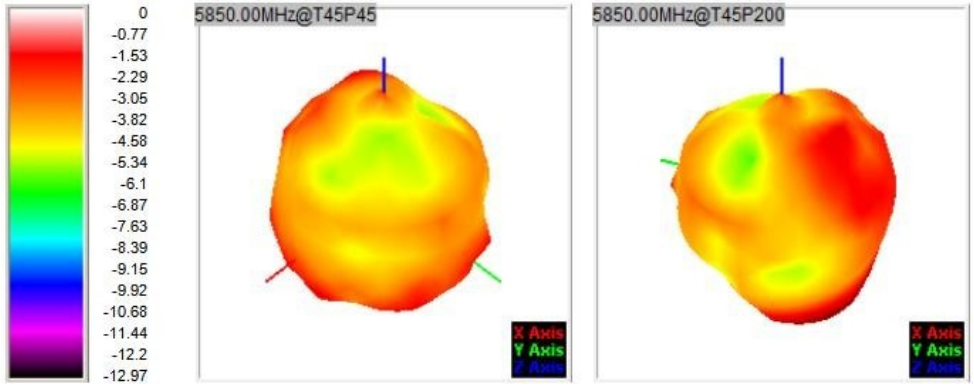




5.8G

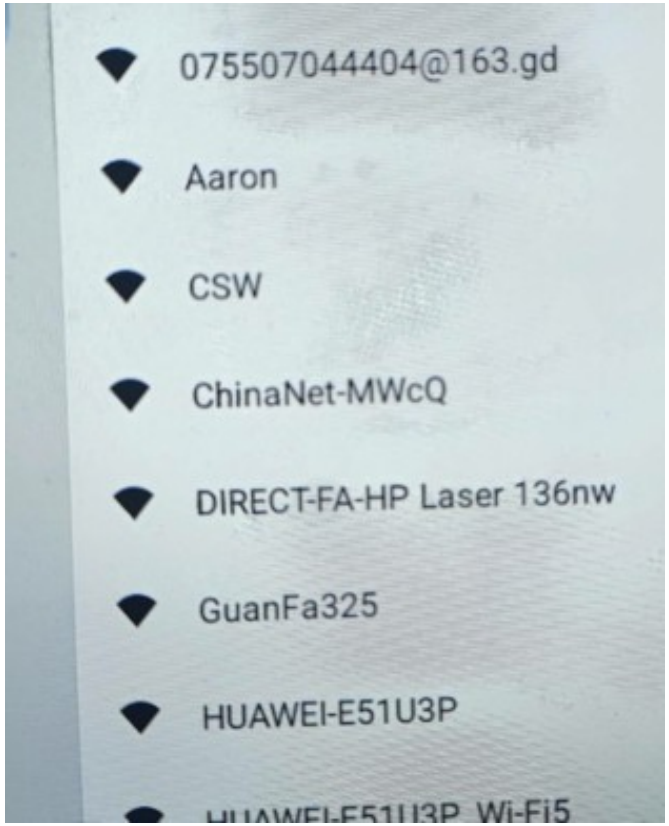






1. The antenna copper leakage area is grounded with conductive cloth.
2. Here it is insulated with transparent adhesive tape.
3。 Conductive foam is attached here to ground the screen.

GPS and WIFI measured map



WIFI measured map

Prompt explanation

Tip:

1. This data only refers to the data generated by the prototype provided by the customer, and does not represent the final mass production state of the customer; 2. Please carefully confirm the description of matching circuit modification and environmental treatment in our report;

3. Please provide a trial prototype to our company for secondary verification before mass production; Please inform in advance if there are any material replacement, software update and environmental treatment.

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 prototype; Prevent the machine from being different from the debugging machine;

Five: Our company does not accept the machine data and miscellaneous implied test data other than our debugging, but it can be used for reference, except for the darkroom. If there is any difference in the data, the debugging machine shall prevail to find out the reason.

thank you

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