SHENZHEN KEMUTONG ELECTRONICS CO.,LTD

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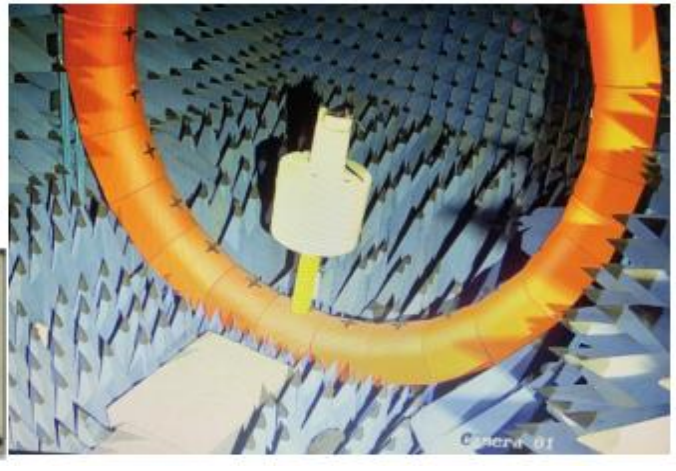
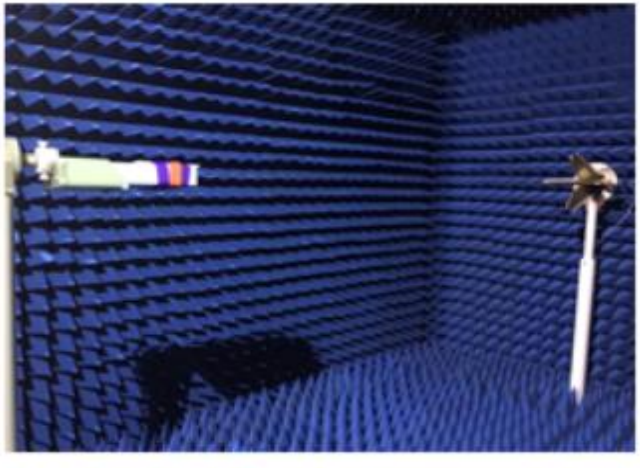
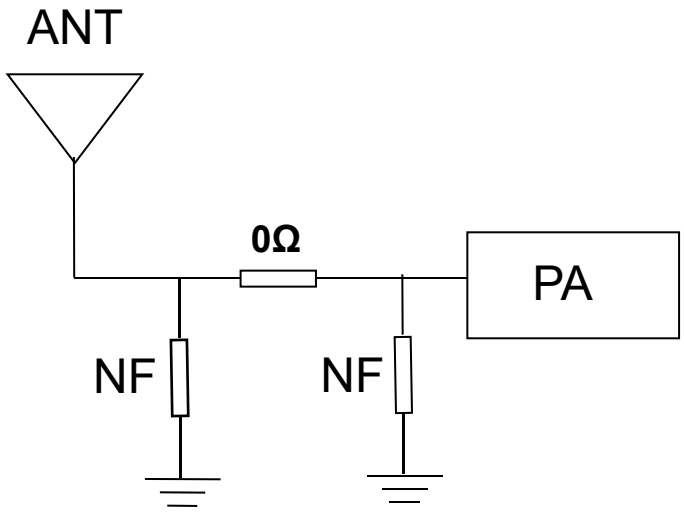
Test environment

	Test items	equipment
1. S parameters (S-parameter)	1. Return Loss 2. Voltage Standing Wave Ratio (VSWR)	Network Analyzer: Agilent E5071B × 2 HP 8753D PROTEK A338
2. Active test (Active)	1. Transmit power (TRP) 2. Receiver sensitivity (TIS) 3. Frequency error 4. Screen off, screen on	1. Darkroom: Flying Pictures 7x4x3 m (24 probes 3D) Chamber ETS 5x3x3 m (3D) Chamber 2. Integrated tester: Agilent 8960 × 2 CMW500 × 3/CMU200
3. Passive test (Passive)	1. Antenna gain (Gain) 2. Antenna Efficiency	1. Darkroom: Flying Pictures 7x4x3 m (24 probes 3D) Chamber ETS 5x3x3 m (3D) Chamber 2. Network analyzer: Agilent E5071B



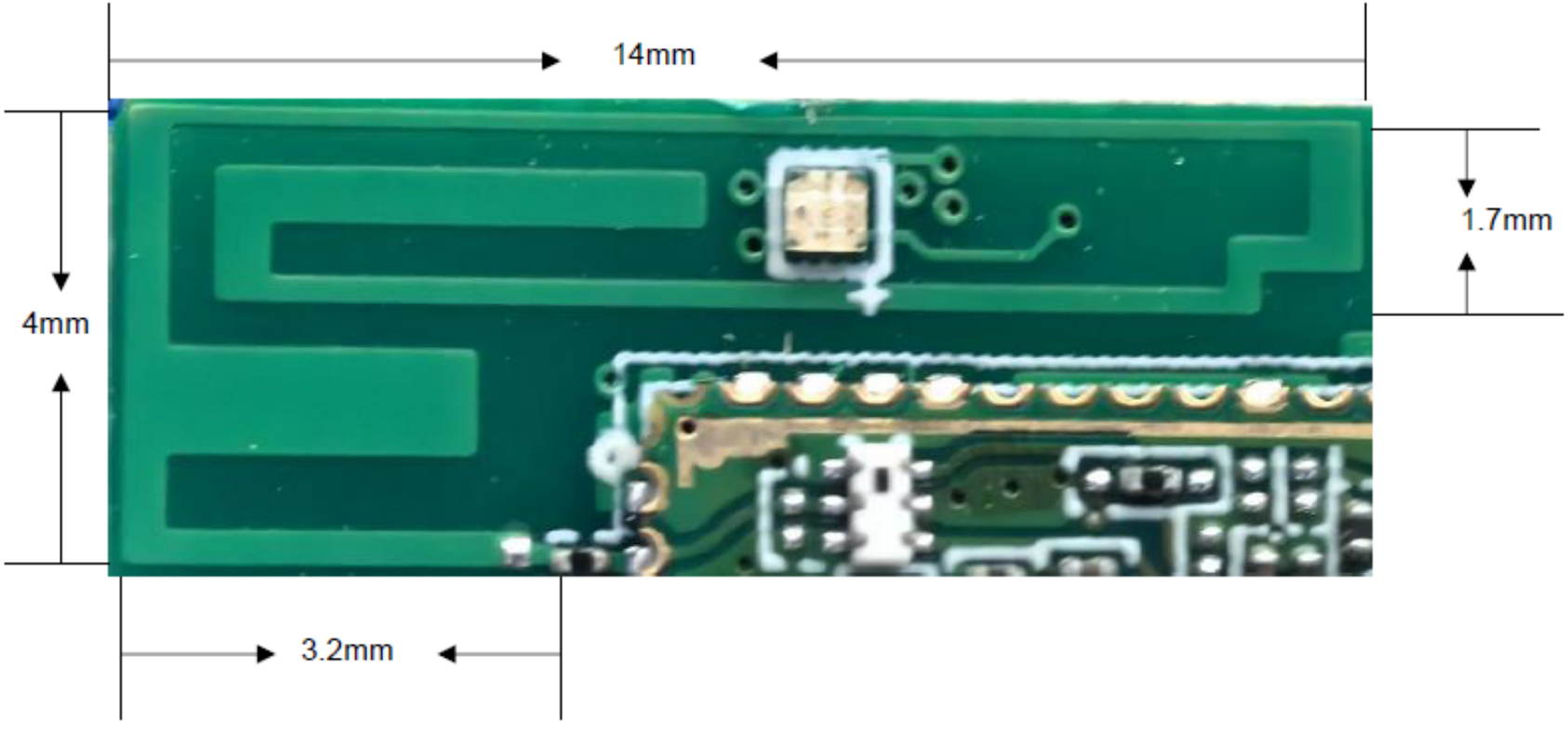


Matching Circuit - WIFI Antenna



The original matching circuit is unchanged

size/mm

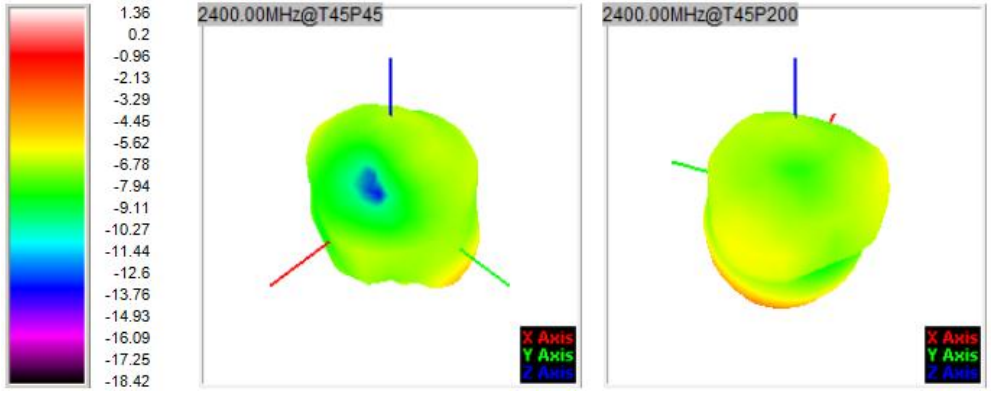


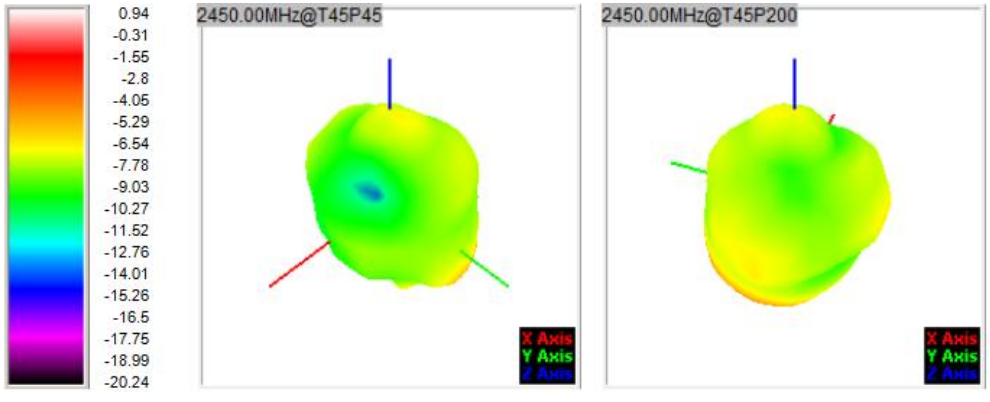
WIFI/BT antenna efficiency and gain :

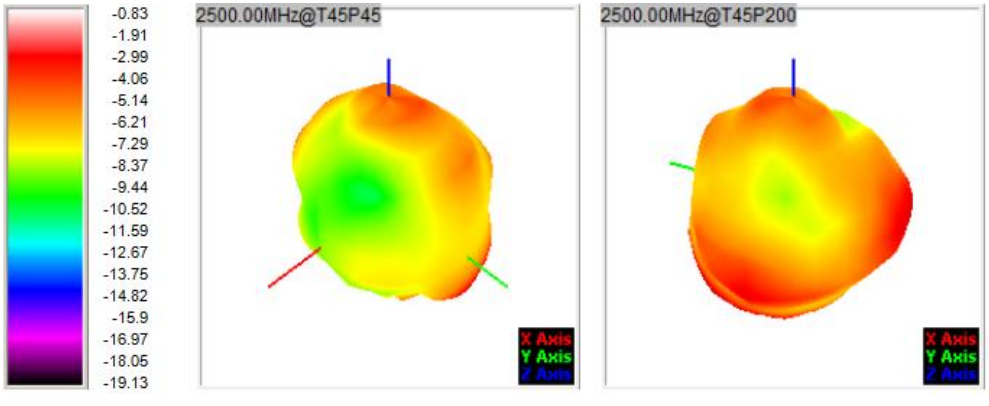
FEITUKEJI

Frequency ID	1	2	3	3	4	5	6	7	8	9	10	11	12	11
Frequency (MHz)	**1574.0**	**1575.0**	**1576.0**	**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	0.00	0.00	0.00
Tot. Rad. Pwr. (dBm)	**-6.68**	**-6.66**	**-6.65**	**-4.83**	**-4.94**	**-5.03**	**-4.87**	**-5.04**	**-4.89**	**-5.19**	**-5.62**	**-5.78**	**-5.79**	**-6.01**
Peak EIRP (dBm)	**-2.07**	**-2.06**	**-2.05**	**1.36**	**1.20**	**1.10**	**1.24**	**0.96**	**0.94**	**0.49**	**-0.08**	**-0.37**	**-0.49**	**-0.83**
Directivity (dBi)	4.61	4.60	4.60	6.19	6.14	6.13	6.11	6.00	5.83	5.67	5.54	5.42	5.30	5.18
Efficiency (dB)	**-6.68**	**-6.66**	**-6.65**	**-4.83**	**-4.94**	**-5.03**	**-4.87**	**-5.04**	**-4.89**	**-5.19**	**-5.62**	**-5.78**	**-5.79**	**-6.01**
Efficiency (%)	**21.50**	**21.60**	**21.60**	**32.90**	**32.00**	**31.40**	**32.60**	**31.40**	**32.40**	**30.30**	**27.40**	**26.40**	**26.40**	**25.00**
Gain (dBi)	-2.07	-2.06	-2.05	1.36	1.20	1.10	1.24	0.96	0.94	0.49	-0.08	-0.37	-0.49	-0.83
NHPRP ±Pi/4 (dBm)	-7.35	-7.33	-7.32	-6.43	-6.58	-6.70	-6.57	-6.75	-6.62	-6.92	-7.34	-7.48	-7.44	-7.65
NHPRP ±Pi/6 (dBm)	-8.66	-8.64	-8.63	-8.19	-8.35	-8.48	-8.33	-8.49	-8.33	-8.60	-8.99	-9.09	-9.02	-9.20
NHPRP ±Pi/8 (dBm)	-9.76	-9.74	-9.73	-9.53	-9.69	-9.81	-9.65	-9.78	-9.60	-9.84	-10.20	-10.26	-10.16	-10.32
Upper Hem. PRP (dBm)	-10.66	-10.66	-10.66	-8.75	-8.87	-8.94	-8.75	-8.86	-8.67	-8.96	-9.41	-9.57	-9.55	-9.70
Lower Hem. PRP (dBm)	-8.90	-8.87	-8.85	-7.08	-7.20	-7.29	-7.16	-7.36	-7.25	-7.55	-7.97	-8.14	-8.16	-8.44
Upper Hem. PRP (%)	8.59	8.59	8.59	13.33	12.97	12.76	13.34	12.99	13.57	12.71	11.46	11.04	11.10	10.72
Lower Hem. PRP (%)	12.89	12.97	13.03	19.57	19.06	18.66	19.24	18.37	18.83	17.59	15.97	15.36	15.29	14.33

WIFI/BT antenna directional diagram :







WIFI antenna active data

Antenna status	FPC sample		
	WIFI 2400~2500MHz 802.11b 11MBps		
Channel	1	6	11
TRP	13.56	13.77	14.43
TIS	-81.05	-81.46	-81.5

Tips

hint:

1. This data is only for the data generated by the prototype provided by the customer, and does not represent the final mass production status of the customer;
2. Please carefully confirm the matching circuit modification and environmental treatment instructions in our report;
3. Please provide a trial production sample to our company for secondary verification before mass production; if there is any material change, software update, or environmental treatment, please inform us in advance;
4. If the customer needs a third-party retest, or sends the sample to the customer for testing, please come to our company for verification before sending the sample to prevent the machine from being different from the debugged machine;
5. Our company does not accept data from machines other than those debugged by us and data from other darkroom tests , but it can be used as a reference, except for the certification darkroom. If there is a difference in the data, the debugged machine shall prevail to find the cause.

Thanks !

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