



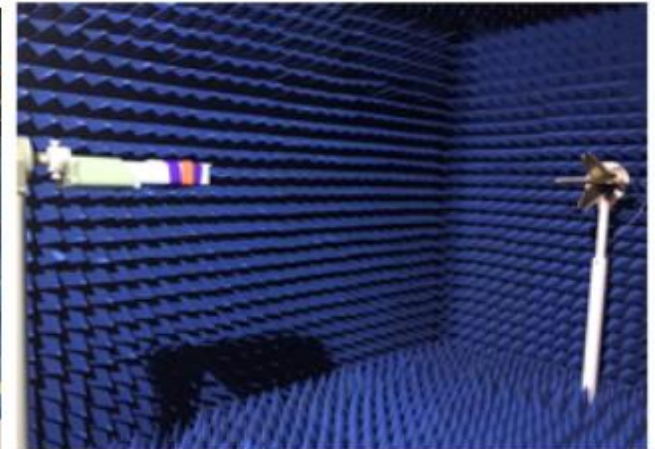
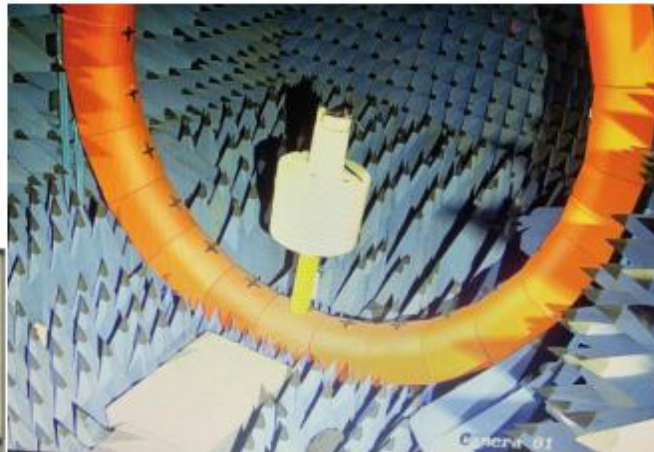
Shenzhen Qianmu Communication Technology Co., Ltd.

Clientele :
Project : Q3
Date : 2024.12.06
Radio Frequency: XU JUN JIE



Test environment

	Test items	equipment
1. S-parameter	1. Log Mag 2. SWR	Network Analyzer: Agilent E5071B ×2 HP 8753D PROTEK A338
2. Active	1. TRP 2. TIS 3. Frequency error 4. Screen off, screen on	1. Darkroom: 7x4x3 m (24 3D) Chamber ETS 5x3x3 m (3D) Chamber 2. Comprehensive tester: Agilent 8960 ×2 CMW500 ×3/CMU200
3. Passive	1. Gain 2. Efficiency	1. Darkroom: 7x4x3 m (24 3D) Chamber ETS 5x3x3 m (3D) Chamber 2. Network analyzer: Agilent E5071B



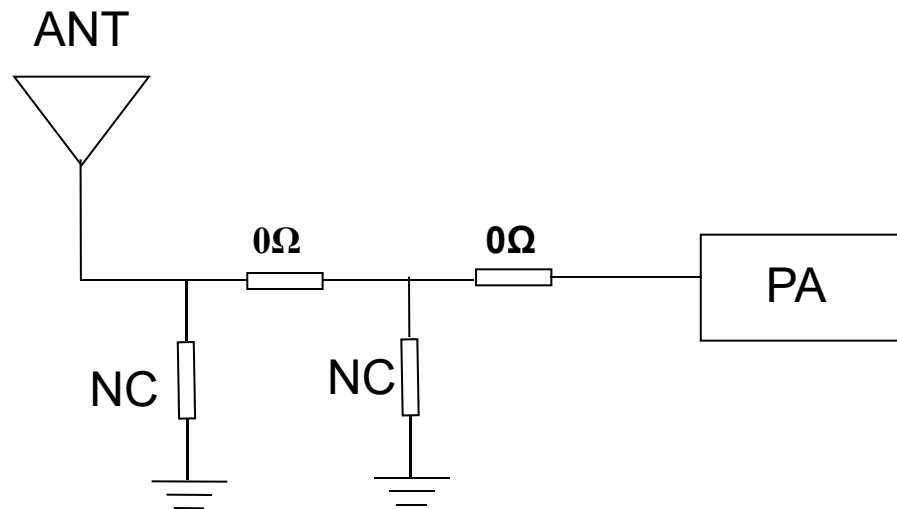


Machine debugging instructions

model	projector						
Version	motherboard						
Antenna Overview	Main antenna	Frequency band		Antenna status	Antenna type	Design Area	match
		2G	N/A	N/A	N/A	N/A	N/A
		3G	N/A				
		4G	N/A				
	Other antennas	WIFI/BT	2. 4/5G	FPC	PIFA	N/A	N/A
		GPS	N/A				
		Episode	N/A	N/A	N/A	N/A	N/A



Matching Circuit-Antenna





TRP/TIS

Antenna status	FPC		
WiFi 2400–2500MHz 802.11b 11MBps			
Channel	1	6	11
TRP	14.23	14.07	14.19
TIS	−79.23	−79.56	−80.21
WiFi 5000–5800MHz 802.11a 54MBps			
Channel	64	161	165
TRP	12.39	12.17	12.36
TIS	−68.78	−69.36	−69.31



Efficiency/Gain

FEITUKEJI											
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)	-4.74	-4.64	-4.60	-4.56	-4.49	-4.26	-4.04	-3.90	-3.82	-3.66	-3.53
Peak EIRP (dBm)	1.61	1.70	1.98	2.19	2.35	2.43	2.28	1.93	2.09	2.29	2.37
Directivity (dBi)	6.35	6.34	6.58	6.75	6.84	6.69	6.32	5.84	5.91	5.95	5.91
Efficiency (dB)	-4.74	-4.64	-4.60	-4.56	-4.49	-4.26	-4.04	-3.90	-3.82	-3.66	-3.53
Efficiency (%)	33.60	34.30	34.70	35.00	35.60	37.50	39.40	40.70	41.50	43.10	44.30
Gain (dBi)	1.61	1.70	1.98	2.19	2.35	2.43	2.28	1.93	2.09	2.29	2.37
NHPRP $\pm$ Pi/4 (dBm)	-6.69	-6.63	-6.58	-6.47	-6.35	-6.08	-5.82	-5.65	-5.54	-5.35	-5.23
NHPRP $\pm$ Pi/6 (dBm)	-8.37	-8.32	-8.22	-8.07	-7.94	-7.68	-7.44	-7.30	-7.21	-7.04	-6.92
NHPRP $\pm$ Pi/8 (dBm)	-9.62	-9.58	-9.46	-9.29	-9.17	-8.94	-8.74	-8.63	-8.54	-8.36	-8.23
Upper Hem. PRP (dBm)	-7.96	-7.67	-7.50	-7.42	-7.38	-7.20	-7.01	-6.90	-6.86	-6.73	-6.59
Lower Hem. PRP (dBm)	-7.55	-7.63	-7.73	-7.71	-7.61	-7.35	-7.09	-6.92	-6.81	-6.61	-6.50
Upper Hem. PRP (%)	16.01	17.09	17.79	18.10	18.26	19.06	19.92	20.40	20.60	21.25	21.91
Lower Hem. PRP (%)	17.57	17.24	16.86	16.93	17.34	18.42	19.52	20.31	20.86	21.83	22.40

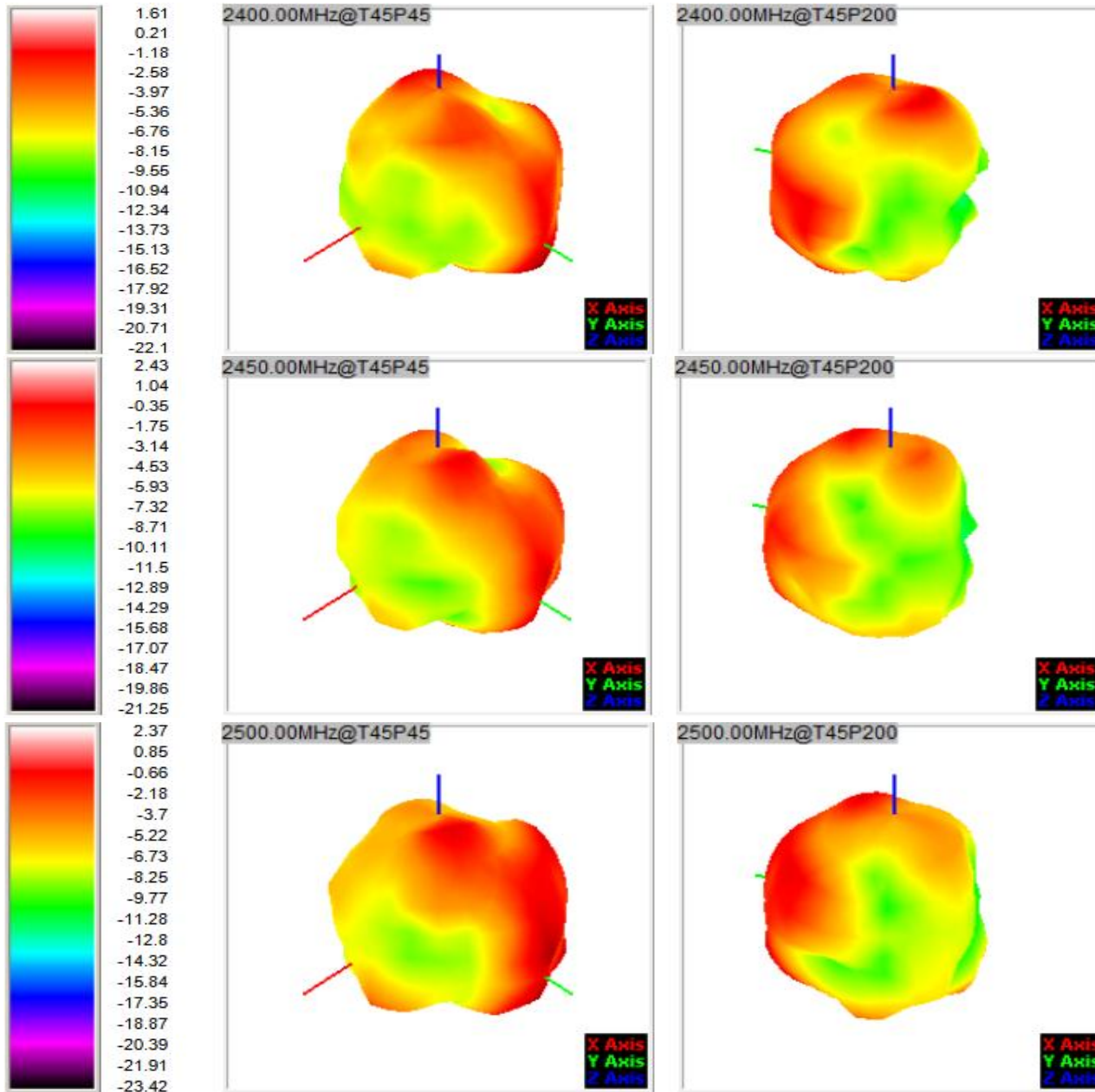


Efficiency/Gain

FEITUKEJI															
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)	-4.26	-4.26	-4.22	-3.83	-4.35	-4.68	-4.06	-4.45	-4.52	-4.12	-4.38	-4.21	-3.90	-4.15	-3.79
Peak EIRP (dBm)	1.91	1.69	1.28	1.54	1.55	2.11	3.13	2.67	2.27	1.76	1.68	2.08	2.66	2.34	3.51
Directivity (dBi)	6.17	5.95	5.49	5.37	5.90	6.78	7.19	7.13	6.78	5.89	6.06	6.29	6.56	6.49	7.30
Efficiency (dB)	-4.26	-4.26	-4.22	-3.83	-4.35	-4.68	-4.06	-4.45	-4.52	-4.12	-4.38	-4.21	-3.90	-4.15	-3.79
Efficiency (%)	37.50	37.50	37.90	41.40	36.80	34.10	39.20	35.90	35.30	38.70	36.50	37.90	40.70	38.50	41.80
Gain (dBi)	1.91	1.69	1.28	1.54	1.55	2.11	3.13	2.67	2.27	1.76	1.68	2.08	2.66	2.34	3.51
NHPRP $\pm$ Pi/4 (dBm)	-5.57	-5.66	-5.74	-5.26	-5.83	-6.33	-5.61	-5.96	-5.97	-5.47	-5.75	-5.51	-5.21	-5.46	-5.07
NHPRP $\pm$ Pi/6 (dBm)	-7.18	-7.35	-7.45	-6.83	-7.42	-8.03	-7.16	-7.48	-7.52	-6.94	-7.25	-7.01	-6.70	-6.94	-6.57
NHPRP $\pm$ Pi/8 (dBm)	-8.49	-8.81	-8.94	-8.11	-8.70	-9.31	-8.30	-8.62	-8.72	-8.08	-8.47	-8.24	-7.89	-8.11	-7.75
Upper Hem. PRP (dBm)	-7.30	-7.27	-7.37	-7.11	-7.47	-7.83	-7.41	-7.91	-8.12	-7.72	-7.86	-7.89	-7.67	-7.75	-7.50
Lower Hem. PRP (dBm)	-7.24	-7.28	-7.08	-6.59	-7.25	-7.55	-6.76	-7.06	-7.01	-6.62	-6.96	-6.65	-6.26	-6.64	-6.21
Upper Hem. PRP (%)	18.63	18.77	18.30	19.47	17.91	16.49	18.17	16.20	15.42	16.90	16.36	16.27	17.09	16.78	17.80
Lower Hem. PRP (%)	18.86	18.69	19.58	21.90	18.85	17.58	21.07	19.66	19.93	21.78	20.13	21.64	23.64	21.68	23.95

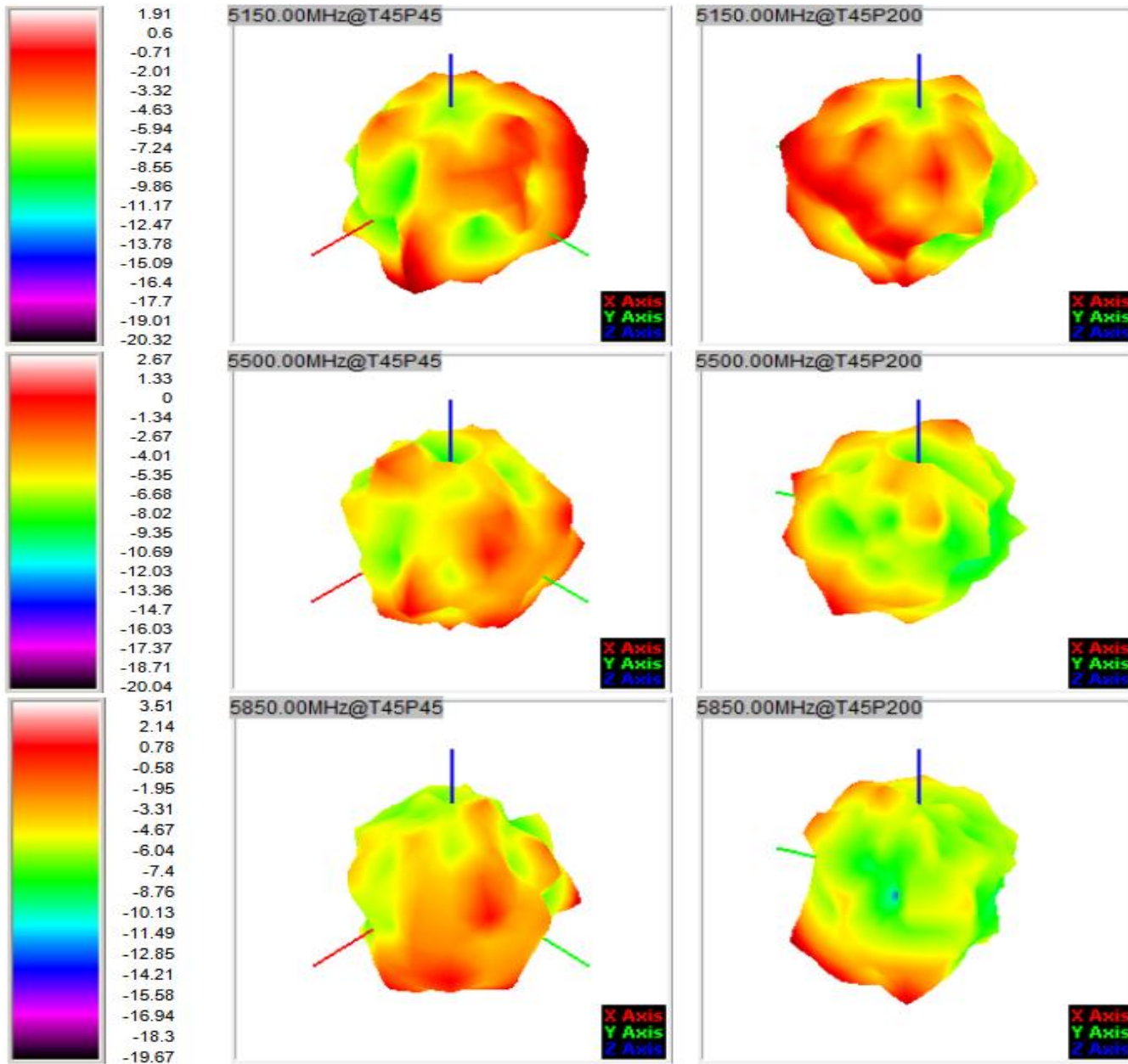


3D Pattern





3D Pattern





Antenna size diagram:

