

Antenna test report

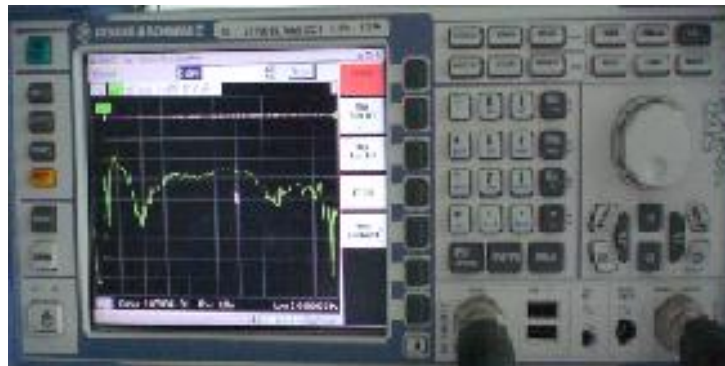
client		project name		Date	2023. 04. 03
Radio frequency engineer		structural engineer		frequ ency band	WIFI:2. 4G 5. 8G

The test was conducted in free space (anechoic chamber) .

Satimo 3D Chamber $6 \times 4 \times 4$ (m)

Agilent 8960 E5515c

network analyzer-R&S ZVL2.MatchingCircuit



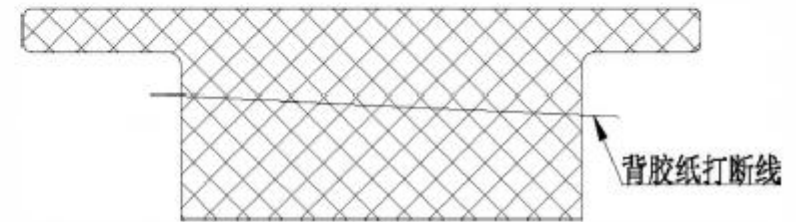
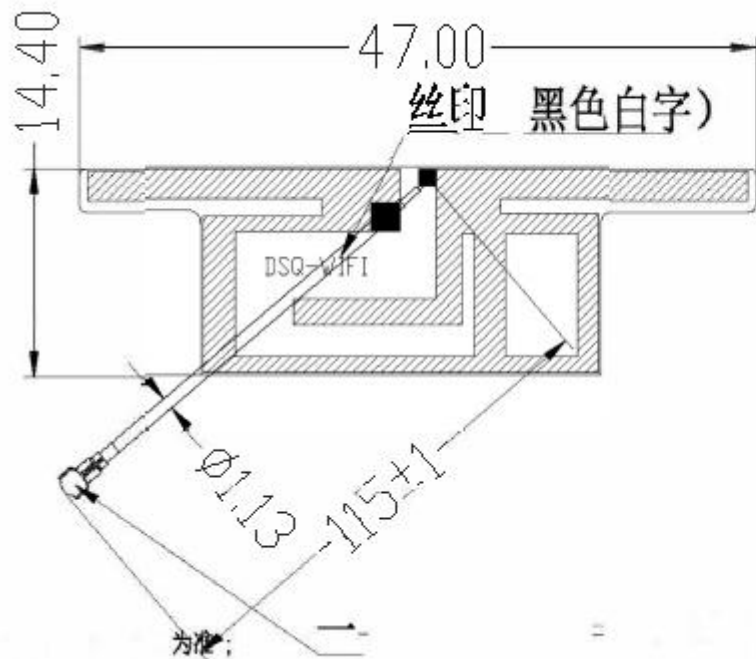
2.1 Test site

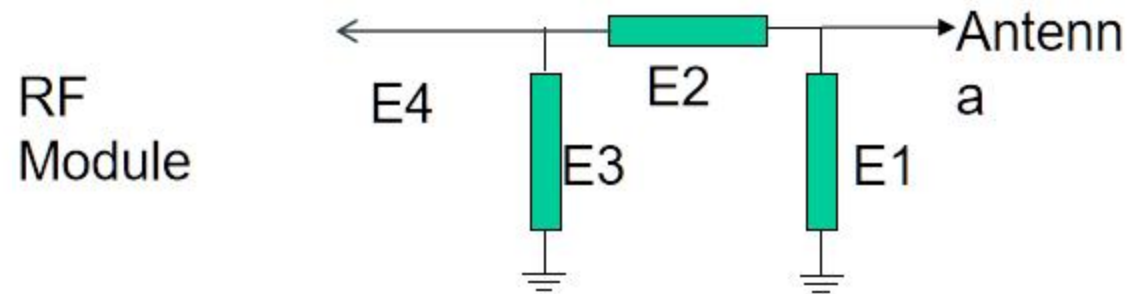
YESHENGTONG microwave anechoic chamber: test frequency range is 400MHz -- 6GHz, static zone range is 50cm circle, reflectance is less than -50 dB。

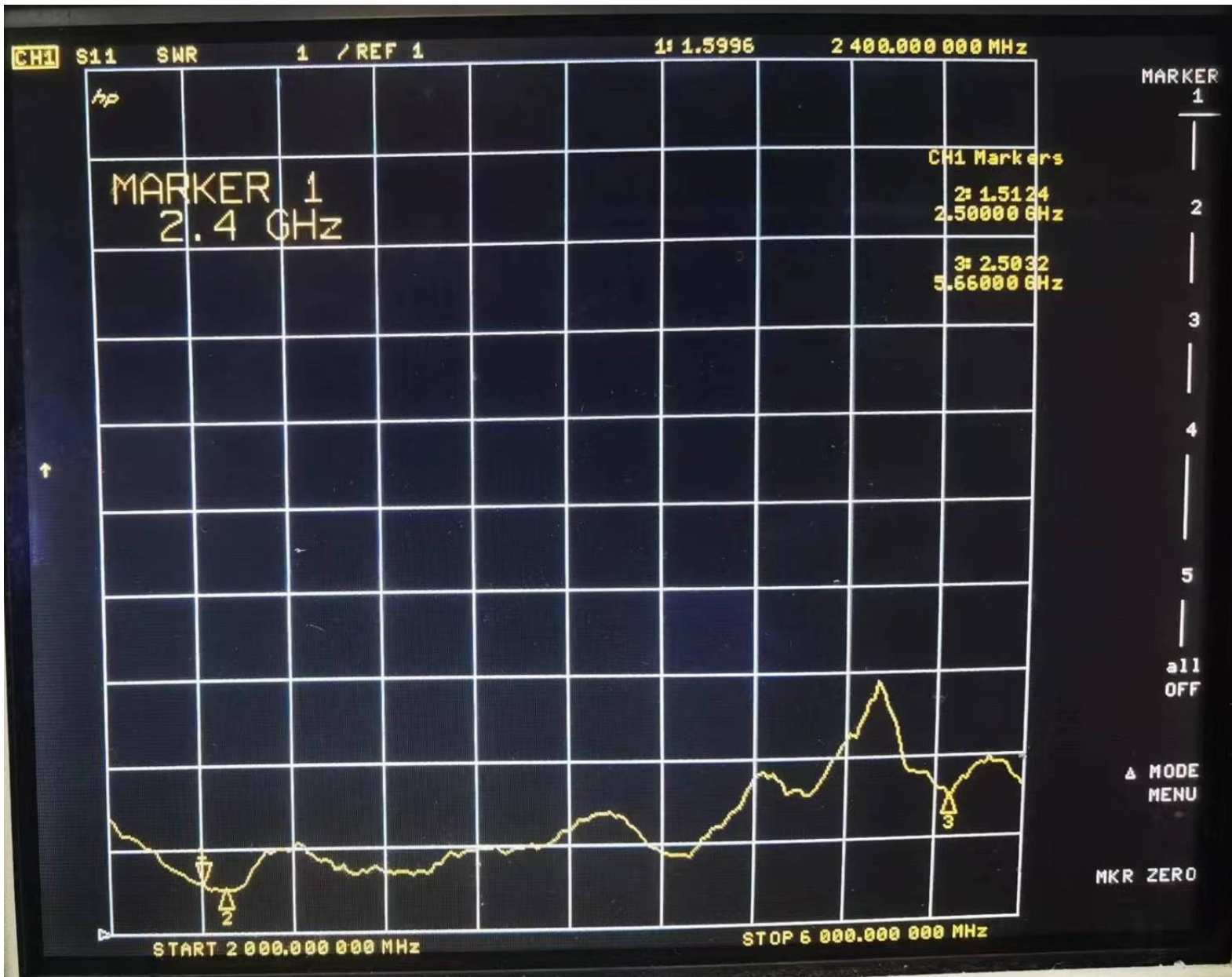
2.2 Instrument for testing

R&S ZVL network analyzer, Agilent8960 E5515C, CMW500, standard horn antenna, French SATIMO-SG18SYSTEM system, printer, etc.

unit: mm





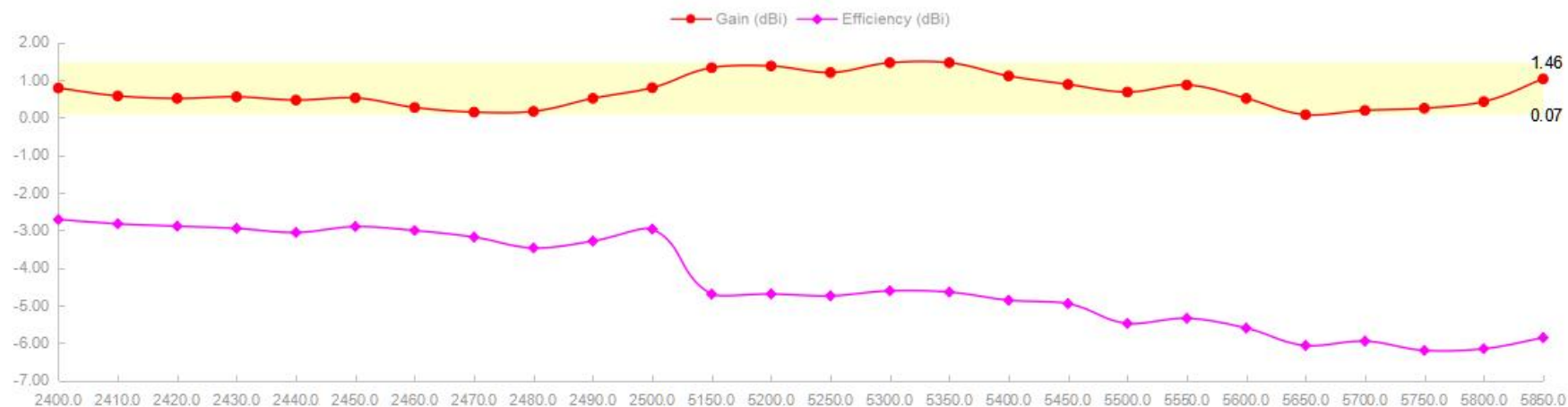
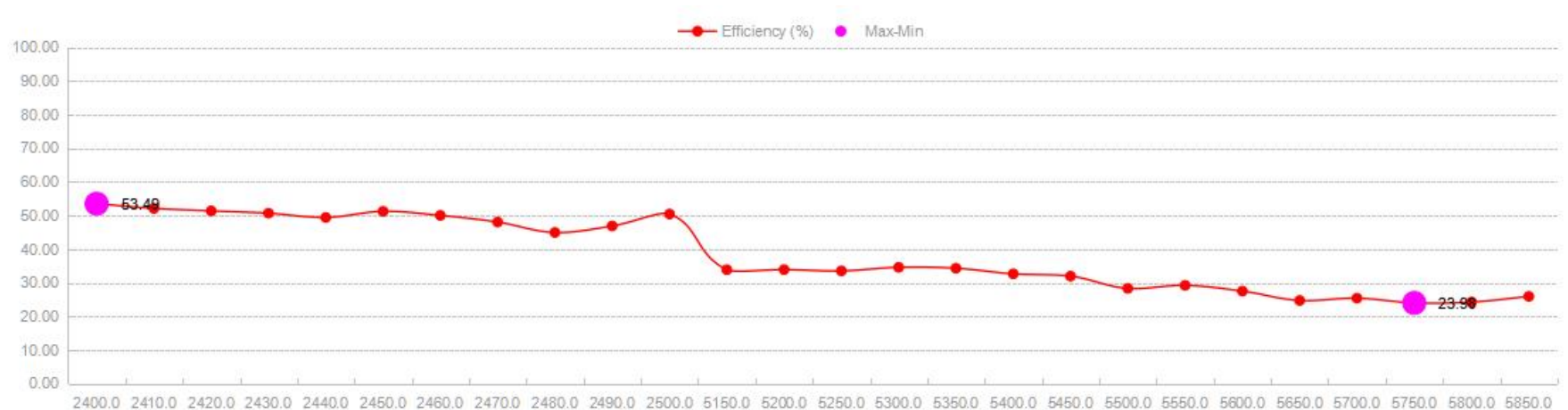


Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Efficiency (dBi)	-2.72	-2.83	-2.89	-2.95	-3.06	-2.91	-3.01	-3.18	-3.47	-3.29	-2.97
Gain (dBi)	0.78	0.57	0.51	0.55	0.46	0.52	0.26	0.14	0.16	0.51	0.79
Efficiency (%)	53.49	52.10	51.35	50.66	49.40	51.22	50.01	48.03	44.93	46.87	50.43
Directivity (dB)	3.50	3.40	3.40	3.50	3.52	3.43	3.27	3.33	3.64	3.80	3.76
Peak Gain Position (Theta)	92.00	75.00	81.00	79.00	77.00	77.00	77.00	91.00	91.00	91.00	91.00
Peak Gain Position (Phi)	247.00	227.00	236.00	232.00	228.00	224.00	223.00	292.00	293.00	294.00	295.00
Efficiency ThetaPol (%)	51.75	50.36	49.52	48.81	47.53	49.30	48.24	46.24	43.16	45.07	48.59
Efficiency PhiPol (%)	1.74	1.74	1.83	1.85	1.87	1.92	1.77	1.79	1.77	1.80	1.83
Upper Hem. Efficiency (%)	27.91	27.45	27.44	27.34	26.75	27.60	26.56	25.25	23.65	24.98	27.52
Lower Hem. Efficiency (%)	25.59	24.65	23.91	23.32	22.65	23.62	23.45	22.78	21.29	21.89	22.90

T90(H)圆度	4.78	4.81	4.98	5.34	5.48	5.28	5.07	5.21	5.76	6.03	6.15
Gain 15deg (dBi)											
E1(XZ)波瓣宽度	69.00	71.00	71.00	71.00	70.00	73.00	75.00	76.00	76.00	76.00	76.00
E1(XZ)前后比	5.51	5.92	6.12	5.65	5.16	4.98	5.26	5.70	5.73	5.38	5.01
E2(YZ)波瓣宽度	66.00	66.00	67.00	68.00	68.00	68.00	66.00	65.00	64.00	62.00	61.00
E2(YZ)前后比	5.53	5.76	6.27	6.51	6.68	6.72	6.10	5.40	4.87	4.84	5.33
最大增益处轴比(P)	15.72	14.97	15.17	13.56	12.54	12.94	13.73	27.28	27.21	28.19	29.25
仰角10度最差(大)轴比(P)	64.23	58.47	60.21	57.12	56.58	59.00	69.98	80.38	63.08	68.34	57.59
Hc(XY)波瓣宽度	213.00	216.00	214.00	206.00	202.00	204.00	209.00	208.00	202.00	193.00	191.00
Hc(XY)前后比	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00
左旋圆极化效率(%)	28.24	27.21	27.42	26.75	26.11	27.29	26.33	26.00	24.70	25.83	27.74
右旋圆极化效率(%)	25.25	24.89	23.94	23.91	23.29	23.93	23.68	22.03	20.24	21.04	22.69

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
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
-4.70	-4.70	-4.75	-4.61	-4.65	-4.86	-4.96	-5.48	-5.35	-5.61	-6.07	-5.95	-6.20	-6.16	-5.86
1.32	1.37	1.20	1.46	1.46	1.10	0.88	0.68	0.86	0.51	0.07	0.19	0.24	0.42	1.03
33.87	33.90	33.51	34.56	34.29	32.63	31.94	28.30	29.20	27.50	24.71	25.39	23.98	24.23	25.92
6.03	6.07	5.94	6.07	6.10	5.97	5.84	6.16	6.21	6.11	6.14	6.14	6.45	6.58	6.89
80.00	146.00	146.00	146.00	146.00	146.00	143.00	32.00	29.00	144.00	145.00	144.00	144.00	144.00	144.00
35.00	69.00	67.00	69.00	71.00	69.00	45.00	121.00	117.00	46.00	48.00	49.00	52.00	54.00	59.00
23.21	23.18	22.92	23.80	23.44	22.02	21.19	18.49	18.70	17.18	15.12	15.39	14.43	14.48	15.44
10.66	10.71	10.60	10.76	10.85	10.61	10.76	9.81	10.50	10.32	9.59	10.00	9.55	9.75	10.49
18.32	18.38	18.57	19.27	19.42	18.63	18.46	16.47	16.86	15.60	13.95	14.23	13.09	13.03	13.62
15.55	15.52	14.94	15.29	14.87	14.00	13.48	11.83	12.34	11.90	10.76	11.16	10.89	11.20	12.30

18.83	17.14	15.65	15.15	13.73	12.95	14.20	15.41	12.93	12.32	10.90	10.88	11.99	11.43	11.45
50.00	58.00	24.00	23.00	23.00	22.00	23.00	23.00	23.00	44.00	44.00	47.00	36.00	33.00	33.00
1.67	0.33	2.62	2.39	2.63	2.84	1.84	2.21	1.97	0.35	0.28	1.17	1.22	2.42	2.17
33.00	34.00	38.00	32.00	31.00	31.00	30.00	47.00	47.00	43.00	36.00	33.00	32.00	31.00	29.00
0.00	0.00	0.09	0.17	0.31	0.56	0.92	0.34	0.47	0.29	0.00	0.00	0.06	0.08	0.19
42.56	4.88	16.44	13.87	12.62	12.96	25.38	13.02	11.15	31.43	24.68	20.43	17.18	16.45	14.13
75.02	68.18	55.71	64.91	73.12	82.01	71.60	49.03	48.32	51.85	48.86	53.77	56.91	51.77	50.91
38.00	38.00	54.00	53.00	55.00	60.00	42.00	40.00	60.00	56.00	51.00	47.00	47.00	46.00	48.00
0.60	0.57	0.46	0.27	0.24	0.19	0.15	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18.84	18.06	16.90	17.21	16.86	15.99	15.67	16.24	17.12	13.37	12.28	12.82	12.23	12.44	13.22
15.03	15.84	16.62	17.35	17.43	16.64	16.27	12.05	12.08	14.13	12.43	12.56	11.75	11.79	12.71



2.4G 3D diagram of passive test data

