

Manufacturer	Shenzhen Xinsheng Zhiyuan communication equipment Co., LTD
Address	3rd floor, Building A, No. 50-1 Nipi Community, Hutian Road, Pingdi Street, Longgang District, Shenzhen
Antenna type	Internal antenna
Antenna Gain	0.79dBi for 2.4G, 1.46dBi for 5G
Model	TL-AH801

## 1. Test equipment and conditions:

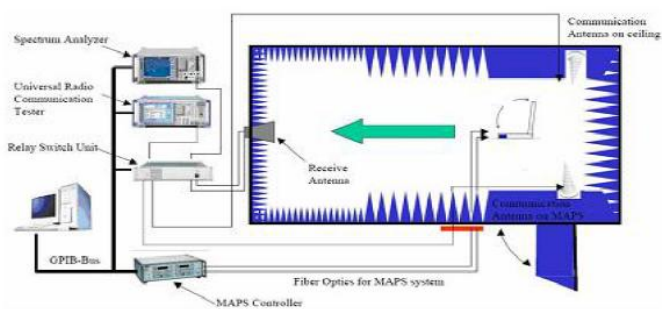
### 1.1. Network Analyzer

Agilent 8753D Agilent 5071B

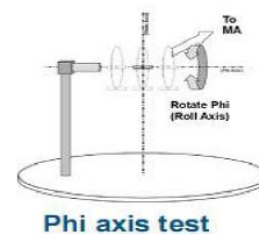
### 1.2. Communication test equipment

Agilent E5515C R&S CMW500

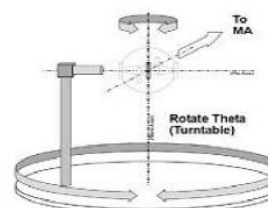
### 1.3. Test system



(Testing by 3D anechoic chamber)

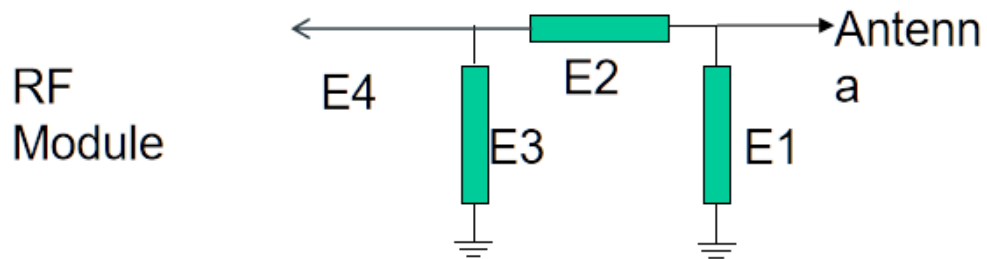


Phi axis test



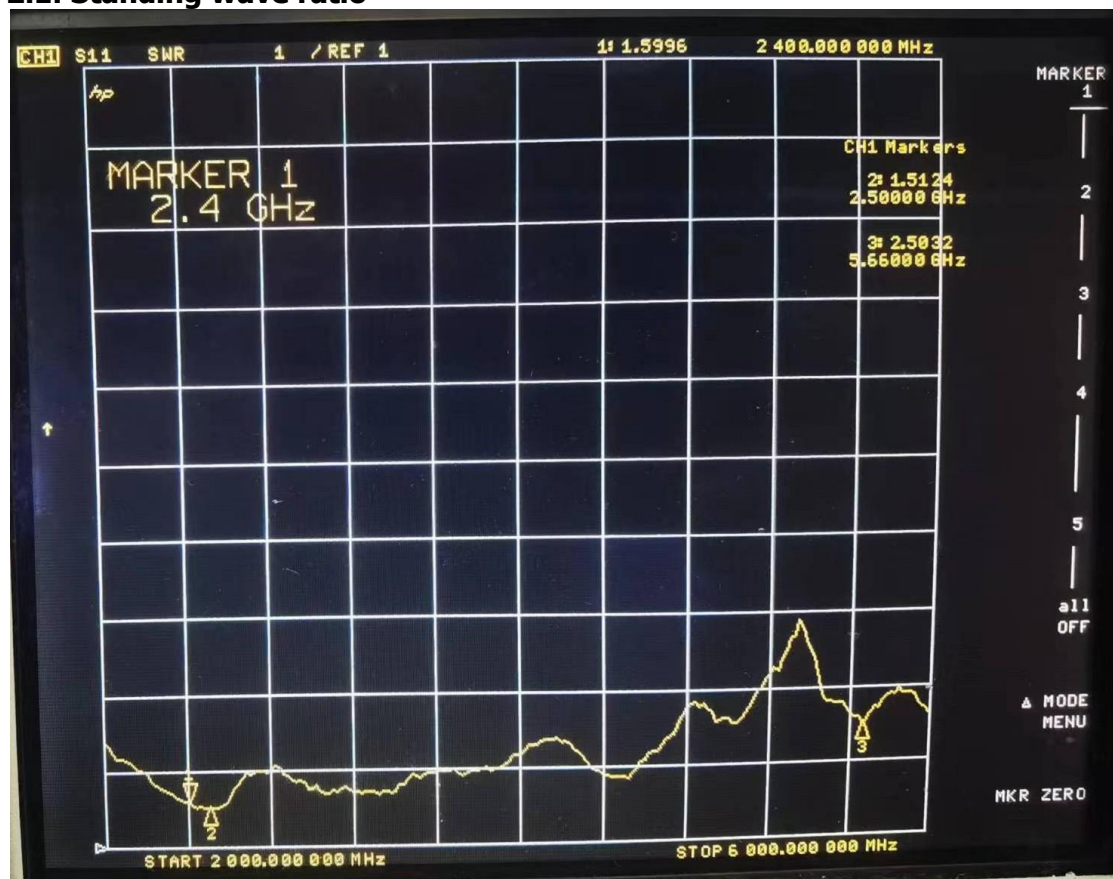
Theta axis test

## 1.4. Matching circuit



## 2. Test Data:

### 2.1. Standing wave ratio



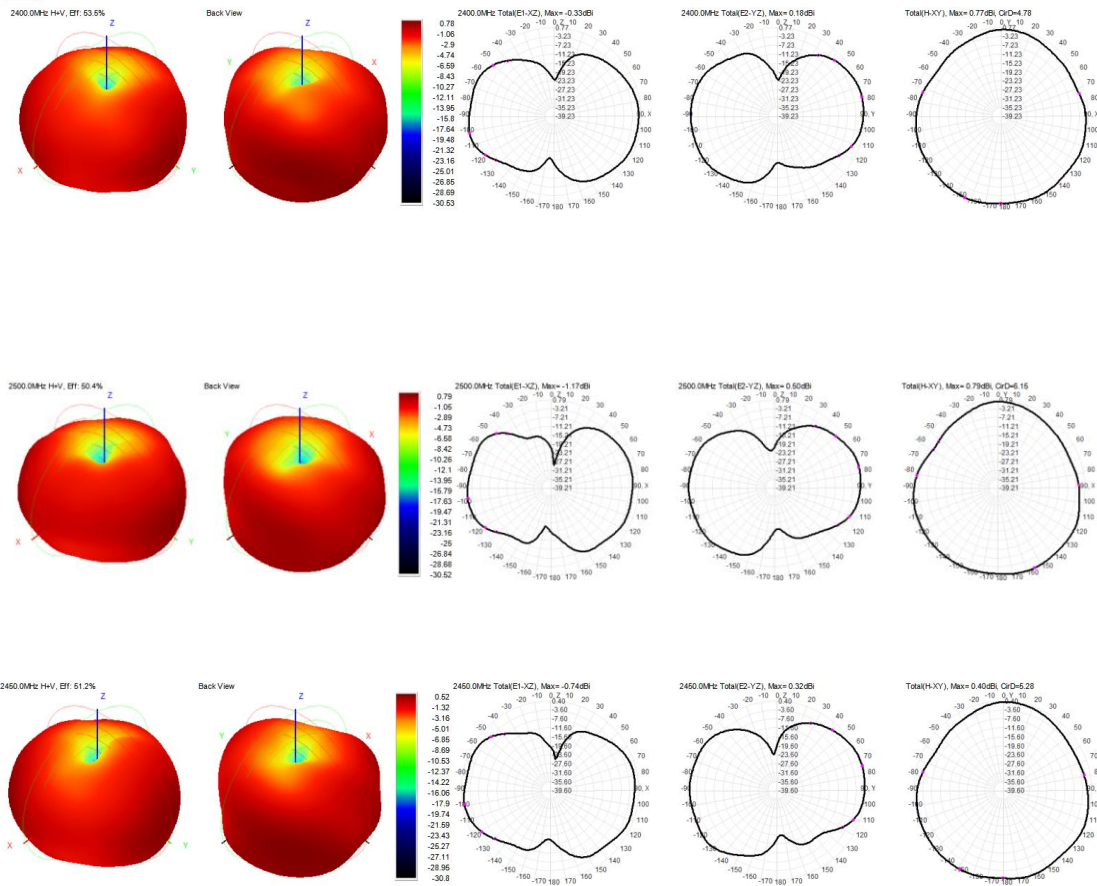
## 2.2.Efficiency

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

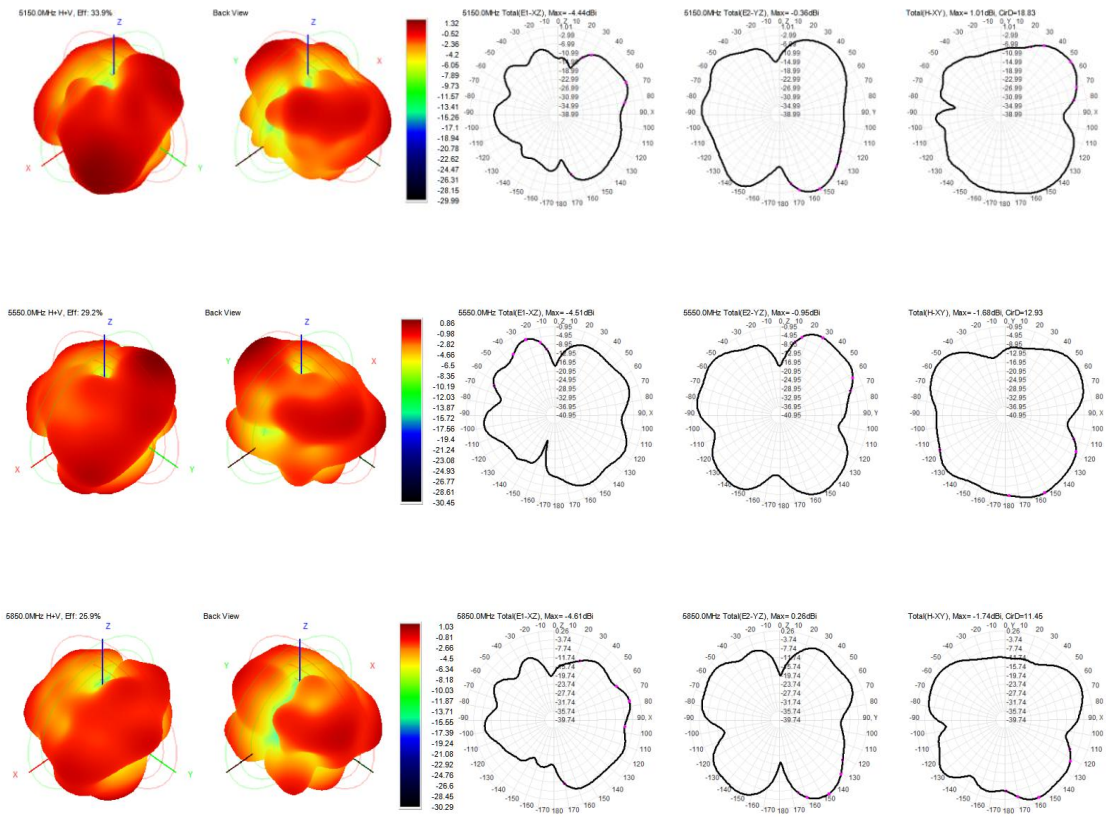
12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
<b>5150.0</b>	<b>5200.0</b>	<b>5250.0</b>	<b>5300.0</b>	<b>5350.0</b>	<b>5400.0</b>	<b>5450.0</b>	<b>5500.0</b>	<b>5550.0</b>	<b>5600.0</b>	<b>5650.0</b>	<b>5700.0</b>	<b>5750.0</b>	<b>5800.0</b>	<b>5850.0</b>
<b>-4.70</b>	<b>-4.70</b>	<b>-4.75</b>	<b>-4.61</b>	<b>-4.65</b>	<b>-4.86</b>	<b>-4.96</b>	<b>-5.48</b>	<b>-5.35</b>	<b>-5.61</b>	<b>-6.07</b>	<b>-5.95</b>	<b>-6.20</b>	<b>-6.16</b>	<b>-5.86</b>
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
<b>33.87</b>	<b>33.90</b>	<b>33.51</b>	<b>34.56</b>	<b>34.29</b>	<b>32.63</b>	<b>31.94</b>	<b>28.30</b>	<b>29.20</b>	<b>27.50</b>	<b>24.71</b>	<b>25.39</b>	<b>23.98</b>	<b>24.23</b>	<b>25.92</b>
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

## 2.3.Directivity diagram

### 2.4G



5G



3. Antenna drawing (MM):

