

测试报告书

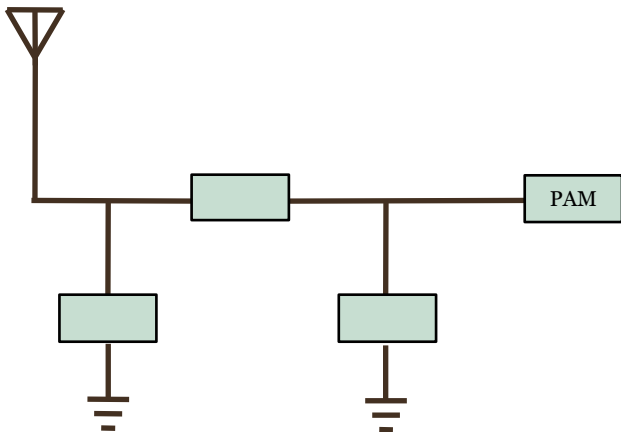
Test report

Model Name :DZZ-LC600-IDU-1-V02;DZZ-LC600-IDU-2-V02

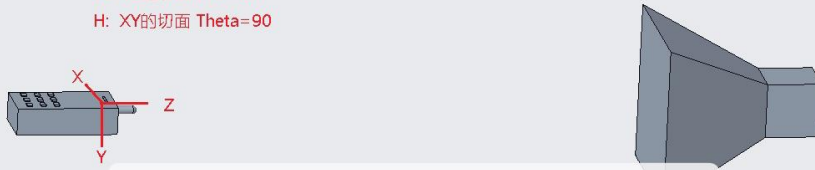
深圳市得自在科技有限公司
Shenzhen Be-Comfortable Technology Co. Ltd

目 录 (catalogue) :

1. 项目信息 (Model Information)
2. 无源驻波及匹配 (Passive and Matching)
3. 3D有源测试数据 (3D Active Test Data)
4. 环境处理 (Environmental treatment)
5. 总结 (Summary)

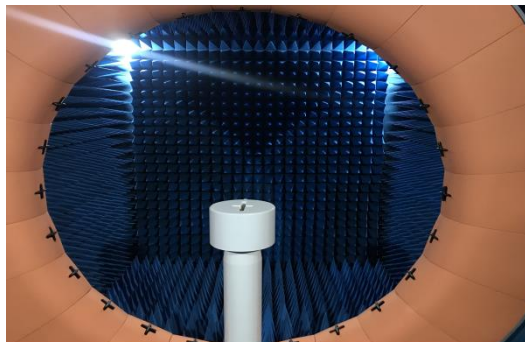
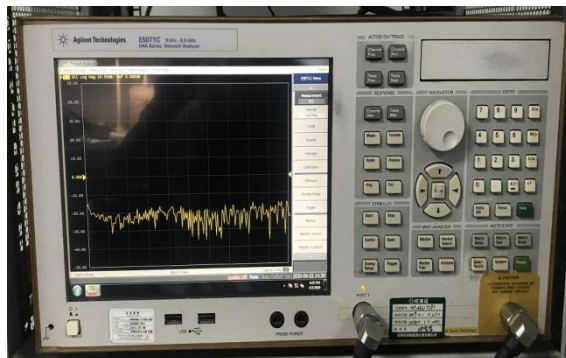
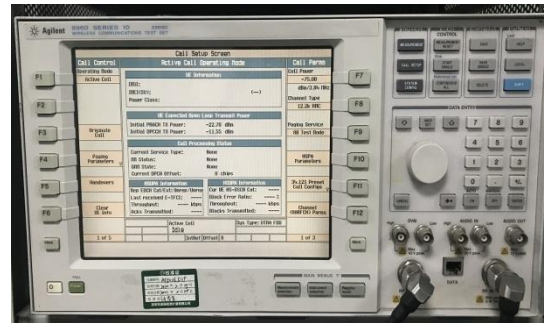
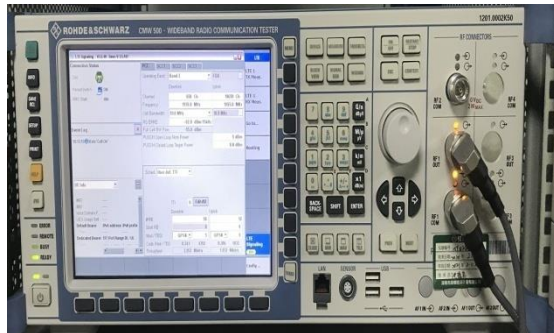
Manufacturer		RF	
Model Name		Email	
Antenna Type	PIFA	Band	
Model pictures:	Matching Circuit : 		

E1: XZ的切面 PHI=0
E2: YZ的切面 PHI=90
H: XY的切面 Theta=90



以喇叭天线为参考

Take the horn antenna as a reference



3D test system: Shielded dark room
Test environment: temperature 22°C±3°C,
humidity 50%±15%

Test equipment: When testing passive data, use the network

Analyzers **Agilent E5071C**

When testing active data, use the heliometer

8960/CMW500

Test Picture: left

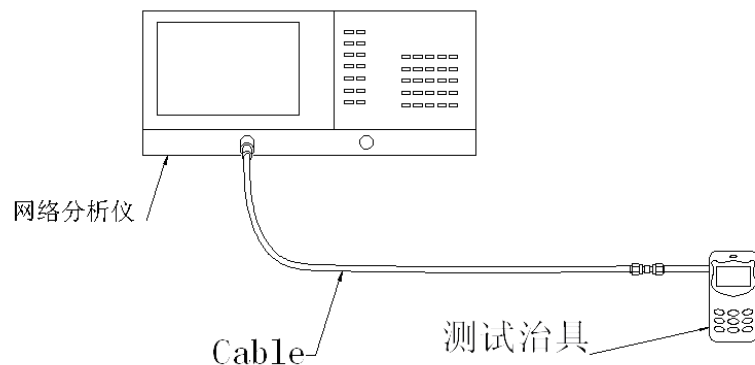
总全向辐射功率 (TIRP)

$$TIRP \equiv \frac{\pi}{2NM} \sum_{i=1}^{N-1} \sum_{j=0}^{M-1} [Eirp_{\theta}(\theta_i, \phi_j) + Eirp_{\phi}(\theta_i, \phi_j)] \sin(\theta_i)$$

总全向辐射灵敏度 (TIRS)

$$TIRS \equiv \frac{2NM}{\pi \sum_{i=1}^{N-1} \sum_{j=0}^{M-1} \left[\frac{1}{EIS_{\theta}(\theta_i, \phi_j)} + \frac{1}{EIS_{\phi}(\theta_i, \phi_j)} \right] \sin(\theta_i)}$$

S11Parameters



S11 Test method description

Test equipment.

Network analyzer (E5071C

30k-8.5Ghz)

Test method.

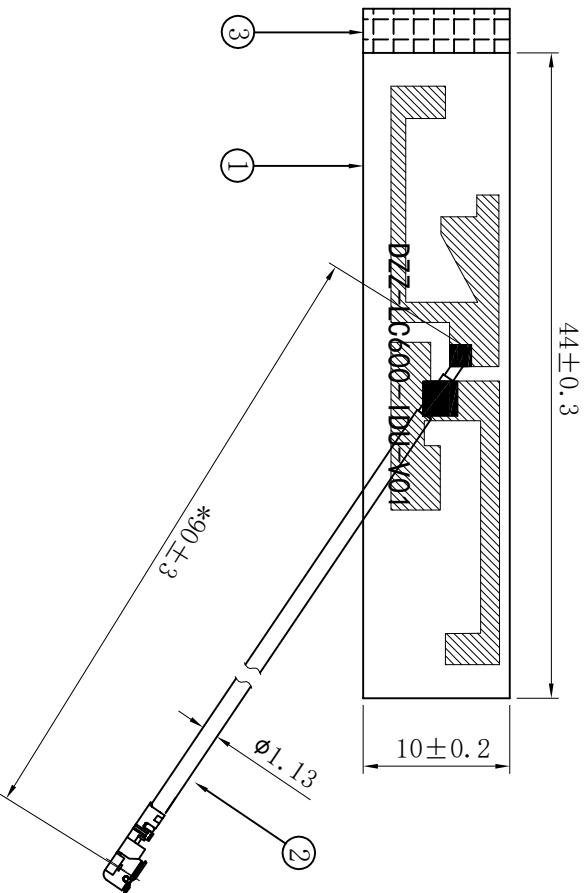
A 50-ohm CABLE is exported from the test port of the instrument, calibrated with calibration parts and then connected to the prototype.

The SMA connector of the prototype is calibrated with a calibration piece, and the return loss and VSWR corresponding to the relevant frequency points are recorded.

Antenna location



Rev	Description	Date	Remark
A	New drawing		



端口侧立向上

- 技术要求:
1. 标“*”尺寸为重点管控尺寸;
 2. 未标注尺寸依照图纸;
 3. 无虚焊、假焊、连锡、短路、断路等焊接不良现象;
 4. 所有部件需符合RoHS要求;
 5. 成品需全检性能。

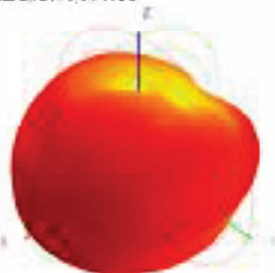
Be-Comfortable		深圳市得自在科技有限公司	
—— 得自在 ——		SHEN ZHEN BE-COMFORTABLE CO., LTD	
		Project LC600-1DU	
0~10 ±0.05		Part Name WIFI-1天线	
10~18 ±0.10		Part No. M12-8325-R0A	
18~30 ±0.12		Material /	
30~40 ±0.15		DWG No. M12-8325-R0A	
40~ ±0.20		Date 2022-11-26	
Angle ±0.5°		Designed by 李从放	
		Checked by 周洪亮	
		Approved by PE	
		Unit mm	
		Scale 1:1	
		Rev A	

No.	Part No.	Name	Specification	Amount	Remark
3		双面胶	3M9448A	1	
2		同轴线+端子	1.13 双锡线 黑色+1代	1	
1		PCB	单面板 FR4 0.8MM 绿色	1	

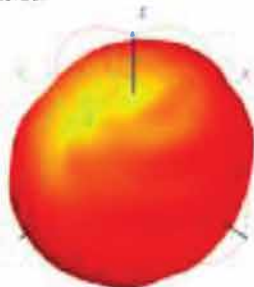
1	2	3	4	5	6	7	8
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Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Efficiency (dBi)	-2.01	-2.10	-2.13	-2.03	-1.95	-1.85	-1.63	-1.47	-1.39	-1.30	-1.15
Gain (dBi)	2.22	2.25	2.48	2.25	1.89	2.06	2.23	2.33	2.34	2.52	2.55
Efficiency (%)	63.01	61.71	61.19	62.68	63.83	65.30	68.65	71.33	72.66	74.08	76.74

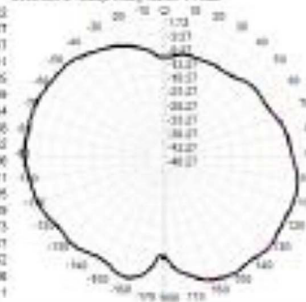
2400.0MHz, 0.0-40.0%



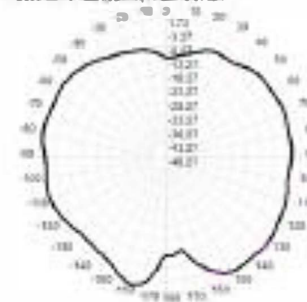
Side View



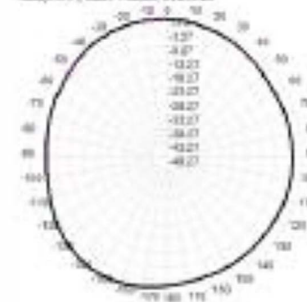
2400.0MHz Total (F1, J2), Max: 1.75dB



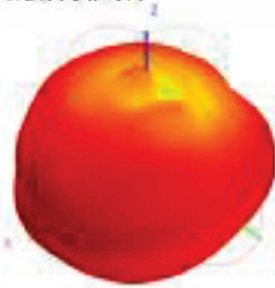
2400.0MHz Total (F2, J2), Max: 2.27dB



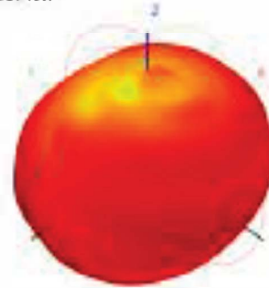
Total (F, J2), Max: 1.83dB, C/AC=0.25



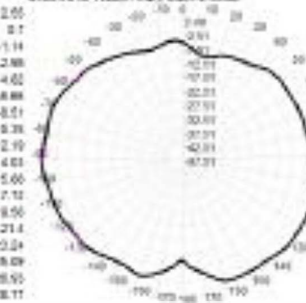
2400.0MHz, 0.0-17.76%



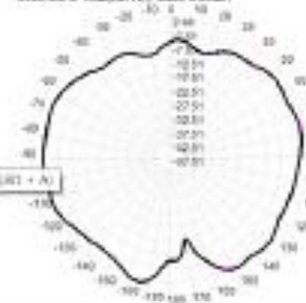
Side View



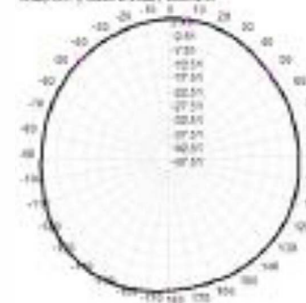
2400.0MHz Total (F1, J2), Max: 2.39dB



2400.0MHz Total (F2, J2), Max: 2.28dB

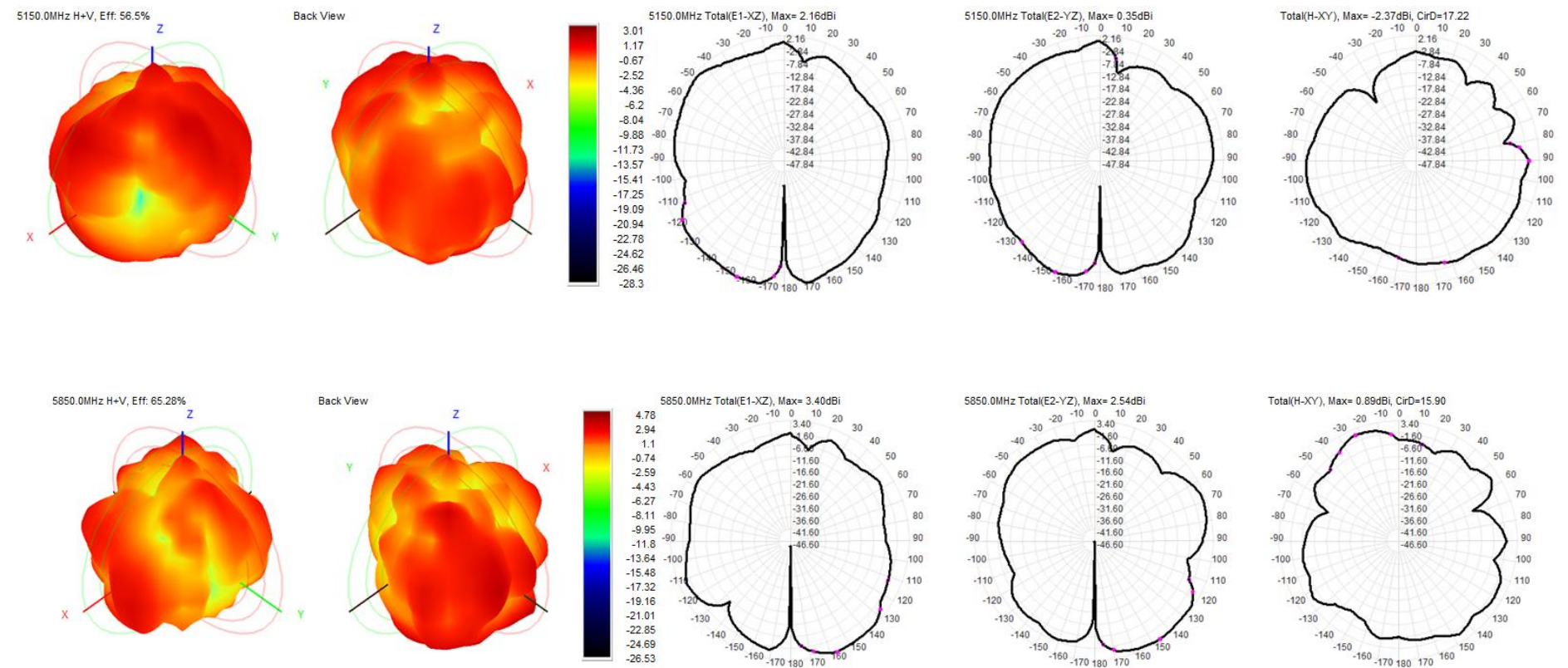


Total (F, J2), Max: 2.48dB, C/AC=0.25





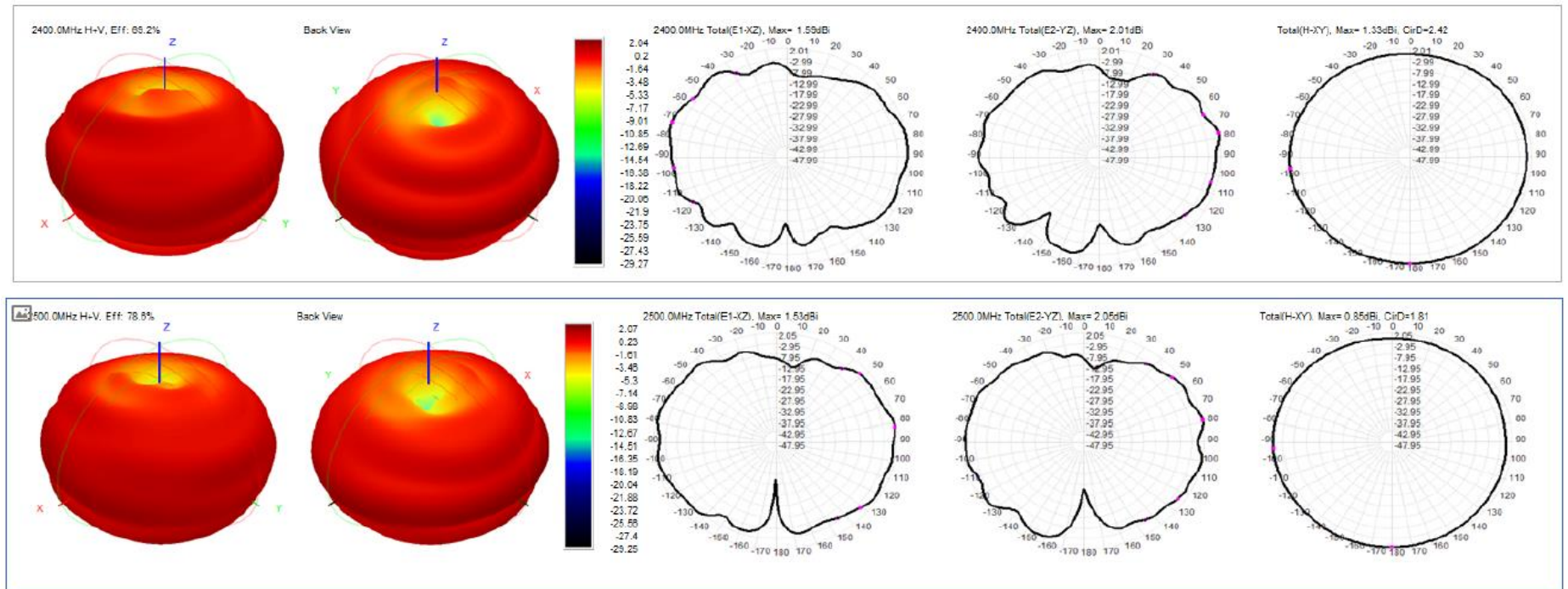
Frequency ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Frequency (MHz)	5150.0	5200.0	5250.0	5300.0	5350.0	5400.0	5450.0	5500.0	5550.0	5600.0	5650.0	5700.0	5750.0	5800.0	5850.0
Efficiency (dBi)	-3.10	-3.18	-3.13	-3.10	-2.95	-2.91	-2.95	-2.78	-2.59	-2.55	-2.40	-2.25	-2.11	-2.08	-2.20
Gain (dBi)	3.01	2.78	2.37	2.17	2.24	2.11	2.07	2.56	2.95	3.14	3.86	4.47	4.55	4.68	4.78
Efficiency (%)	56.50	58.03	58.59	59.01	60.68	61.20	60.74	62.75	65.13	65.64	67.60	65.56	61.50	61.94	65.28



Antenna Location



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)	-1.60	-1.50	-1.40	-1.28	-1.29	-1.37	-1.37	-1.43	-1.43	-1.21	-1.04
Gain (dBi)	2.04	2.35	2.42	2.23	1.58	1.77	1.65	1.69	2.04	2.16	2.07
Efficiency (%)	69.18	70.80	72.50	74.40	74.36	73.03	72.96	71.91	71.90	75.63	78.63



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
4.91	5.21	5.42	5.42	5.24	5.09	4.95	4.54	4.15	4.17	4.46	4.42	4.58	4.83	5.22
63.04	62.18	59.81	58.17	61.42	58.29	55.43	56.39	61.22	62.31	63.12	65.76	64.64	60.24	61.47

