



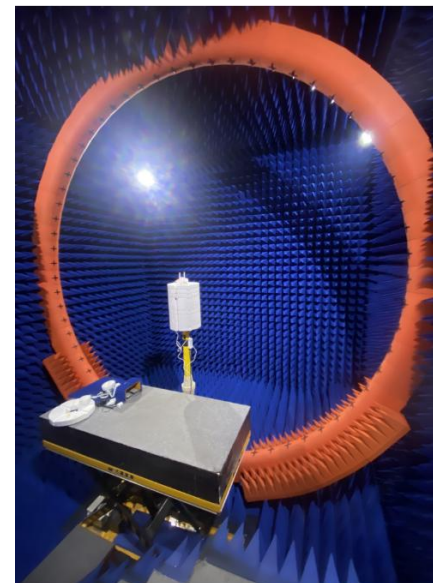
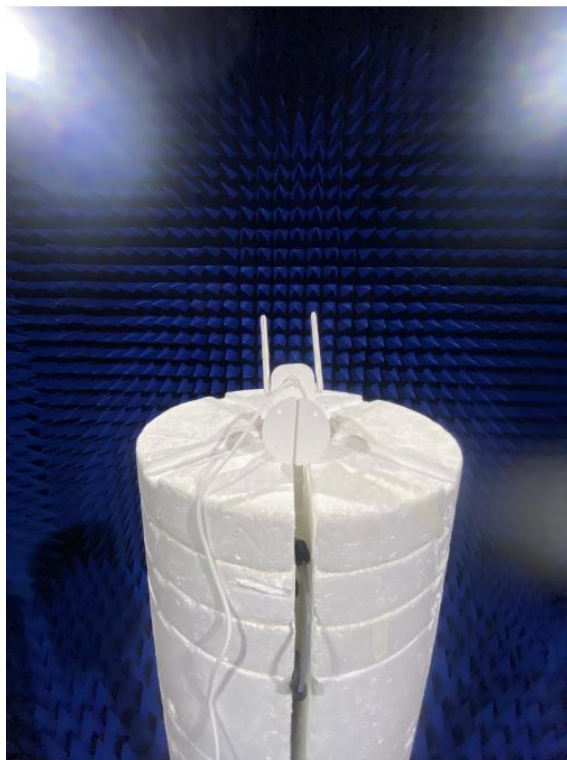
好天线 · 优比造

东莞市优比电子有限公司

Dongguan UB Electronics Co., Ltd

- Manufacture: Shenzhen Zhiling Technology Co., Ltd
- Address: Room 201, Building A, No.1 Qianwan Road, Qianhai Shenzhen-Hong Kong Cooperation Zone
Shenzhen
- Project Name:C4L
- Debugging frequency band: 2400-2500MHz 、 5180MHz-5240MHz 、 5745MHz-5825MHz
- Valuation date: 2022.12.31

Internal Antenna



Testing 3D microwave darkroom(6m*6m*6m)

Testing environment

Internal Antenna

Dongguan UB Electronics Co., Ltd



(5.1G+5.8G+2.4G)wifi Antenna

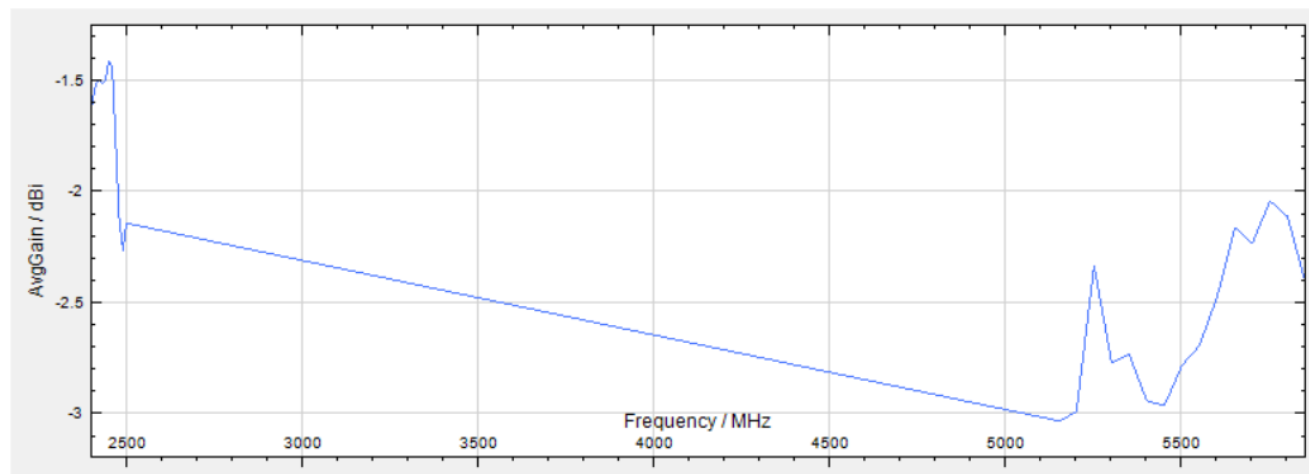
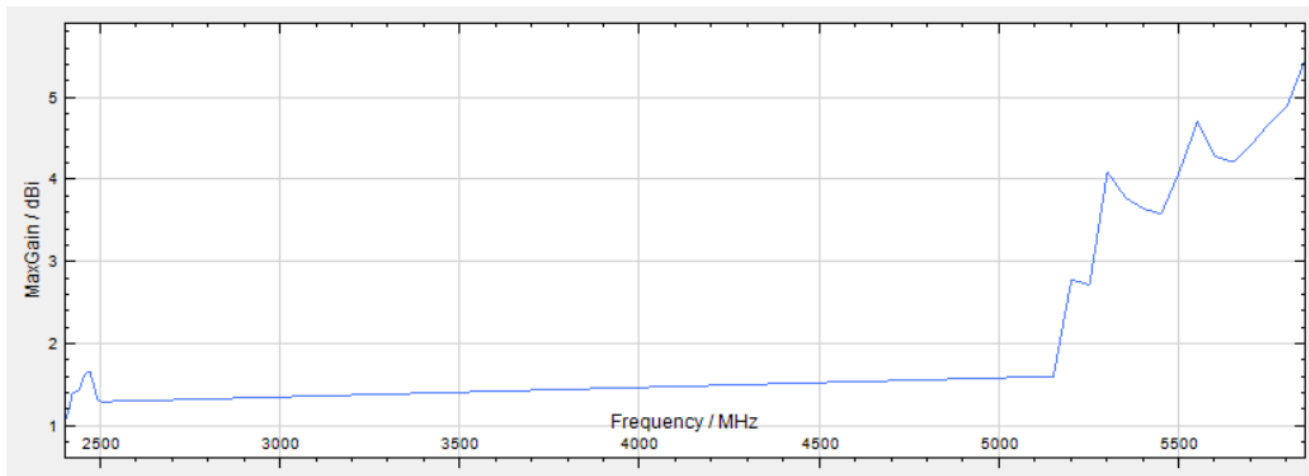
- Antenna name: wifi
- Covers : 2400MHz-2500MHz
5180MHz-5240MHz
5745MHz-5825MHz

VSWR & return loss



Frequency (MHz)	Return Loss (dB)	VSWR
2400	-16.92	1.33
2450	-32.01	1.05
2500	-20.18	1.21
5150	-12.48	1.62
5500	-15.30	1.41
5850	-11.87	1.68

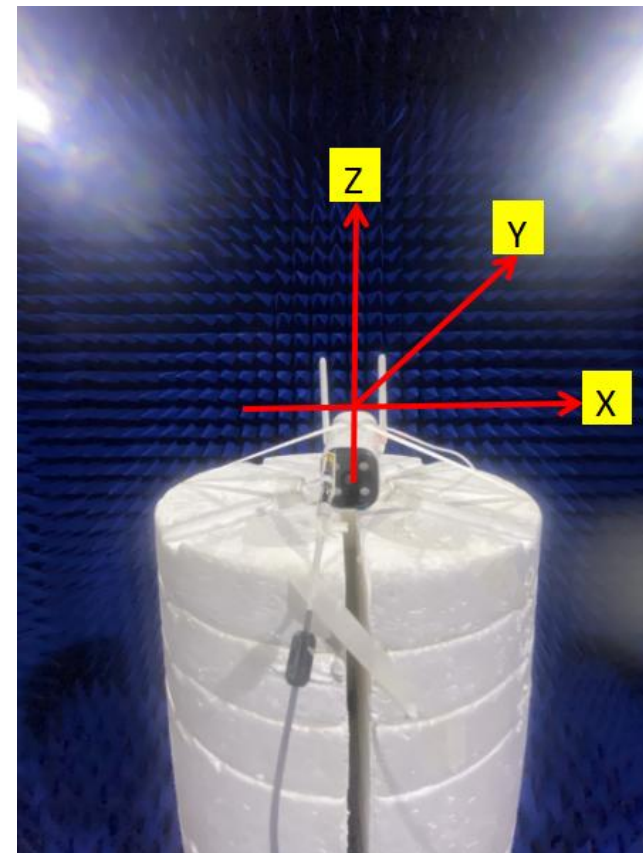
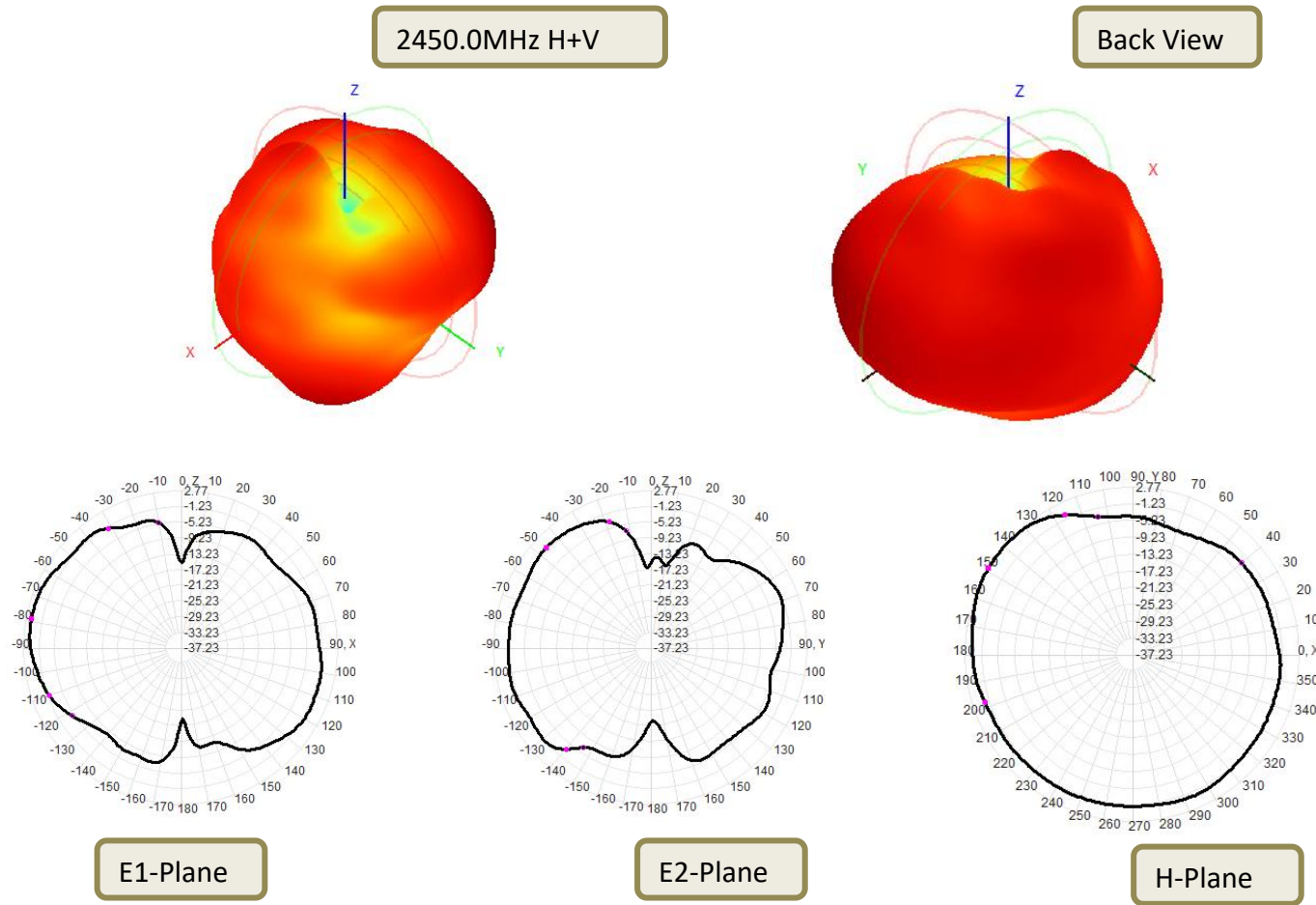
Efficiency and Gain



Frequency (MHz)	MaxGain (dBi)	AvgGain (dBi)
2400	1.06	-1.63
2410	1.19	-1.53
2420	1.41	-1.49
2430	1.42	-1.51
2440	1.45	-1.5
2450	1.59	-1.41
2460	1.66	-1.44
2470	1.66	-1.79
2480	1.5	-2.13
2490	1.33	-2.26
2500	1.3	-2.14
5150	1.61	-3.03
5200	2.79	-2.99
5250	2.72	-2.33
5300	4.1	-2.77
5350	3.79	-2.73
5400	3.65	-2.94
5450	3.59	-2.96
5500	4.1	-2.78
5550	4.71	-2.69
5600	4.29	-2.47
5650	4.22	-2.16
5700	4.43	-2.23
5750	4.69	-2.04
5800	4.9	-2.11
5850	5.47	-2.4

2.45GHz_Radiation Pattern_3D&2D

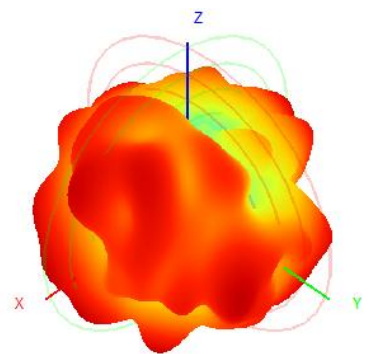
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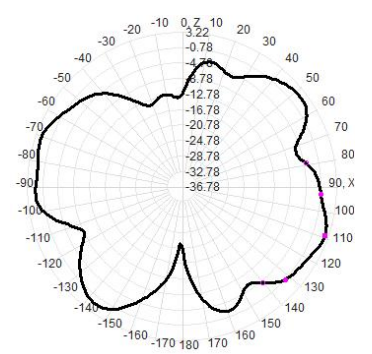
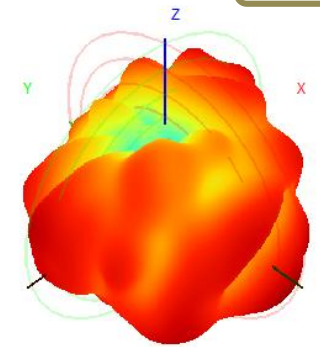
5.5GHz_Radiation Pattern_3D&2D

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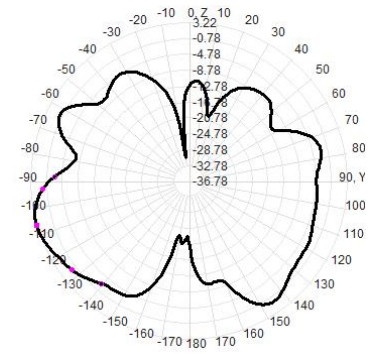
5500.0MHz H+V



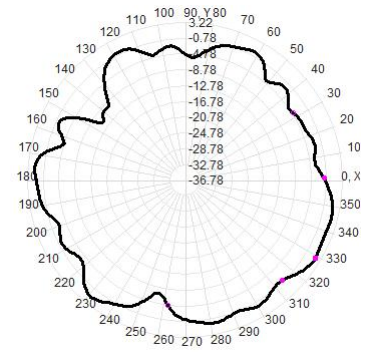
Back View



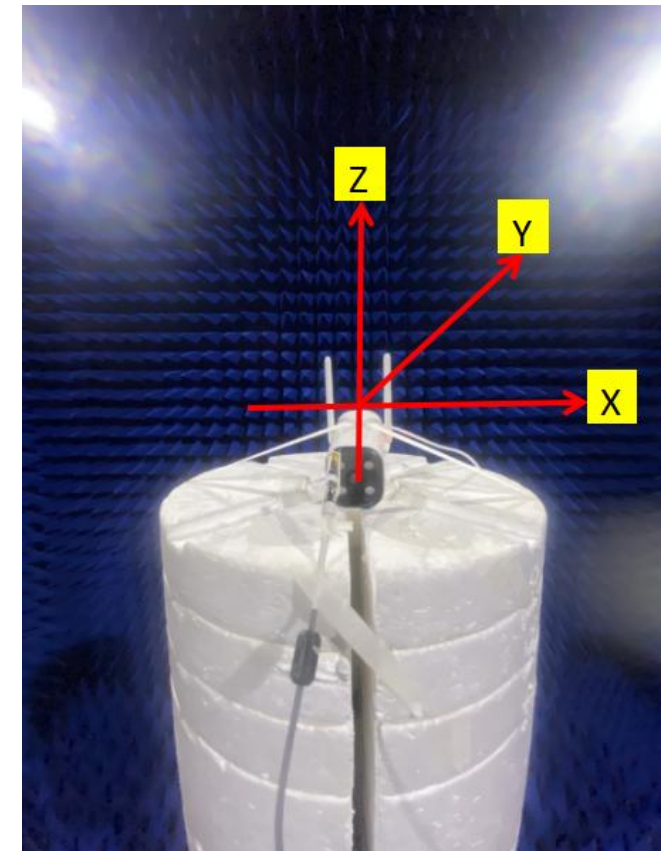
E1-Plane



E2-Plane



H-Plane



3D OTA test data

1#

802.11b : 11Mbps			
Channel	1	6	11
TRP	16.33	16.23	16.37
TIS	-85.22	-84.15	-85.31
802.11a: 54Mbps			
Channel	36	149	165
TRP	14.16	10.51	10.56
TIS	-70.83	-69.12	-69.21

2#

802.11b : 11Mbps			
Channel	1	6	11
TRP	16.25	16.35	16.28
TIS	-85.47	-85.21	-86.38
802.11a: 54Mbps			
Channel	36	149	165
TRP	10.84	8.16	8.39
TIS	-69.24	-67.42	-67.30

Module conduction data

Dongguan UB Electronics Co., Ltd

1#

802.11b : 11Mbps			
Channel	1	6	11
功率	17	17	17
灵敏度	-87	-86	-86
802.11a: 54Mbps			
Channel	36	149	165
功率	14.3	10.9	10.8
灵敏度	-71	-69	-69

2#

802.11b : 11Mbps			
Channel	1	6	11
功率	17	17	17
灵敏度	-87	-87	-87
802.11a: 54Mbps			
Channel	36	149	165
功率	11.3	8.5	8.5
灵敏度	-69	-67	-67

Conclusion

- 天线覆盖2400-2500MHz/5150-5850MHz根据以上数据分析，天线整体性能如下
- 天线效率：>60%，回波损耗:-10dB 以下，驻波比<1.7
- 2台机5G 传导有差异，导致OTA测试数据也有差异