

天线测试报告

产品名称:	无线发射、接收模块
产品型号:	WKXT1AM2511
频 率:	2.4、5GHz
检测日期:	2026.03.10
检测目的:	天线性能测试
拟 制:	包海滨
审 核:	侯德伟
批 准:	高照

Revision history

版本	日期	状态
V1.0	2026-03-10	首版

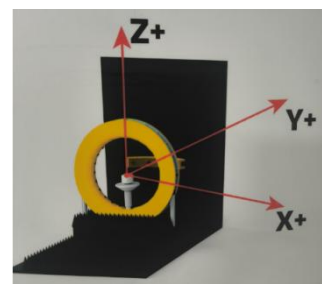
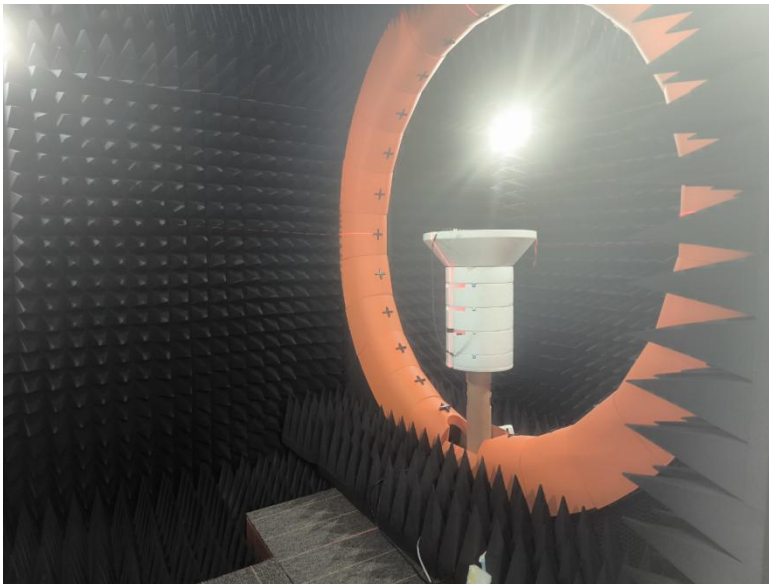
1、 天线位置

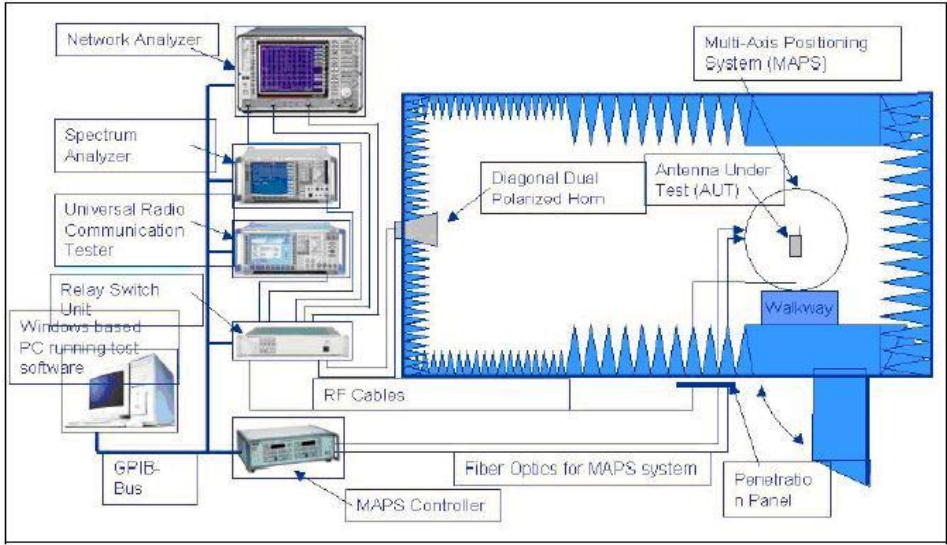
1.1 模块放置要求

1.1.1、 PCB 天线

Refer to Operational Description_Ant. Info.

2、 测试环境





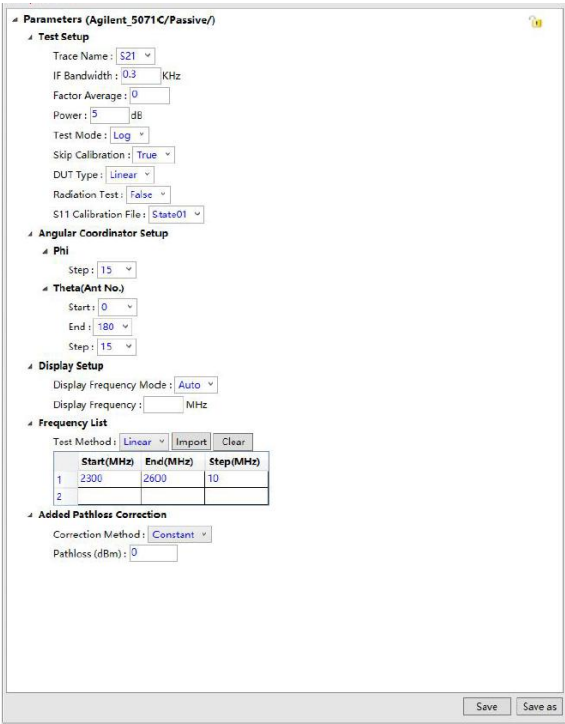
校准设备表	测试仪器	制造商	型号	系列号	校准日期	校准过期日期
	网络分析仪	Keysight	E5071C	MY47002902	2023. 04. 01	2024. 03. 30
	CMM500天线测试系统	GTS	1800	/	2023. 04. 01	2024. 03. 30

制造商：Huizhou Gaoshengda Technology Co., Ltd.

测试机构：SHENZHEN HANYANG ANTENNA DESIGN CO.LTD.

测试标准：通用标准

测试设置照片：



3、 天线驻波比 ($\leq 2\text{dB}$)

WFO 天线驻波比



WF1 天线驻波比

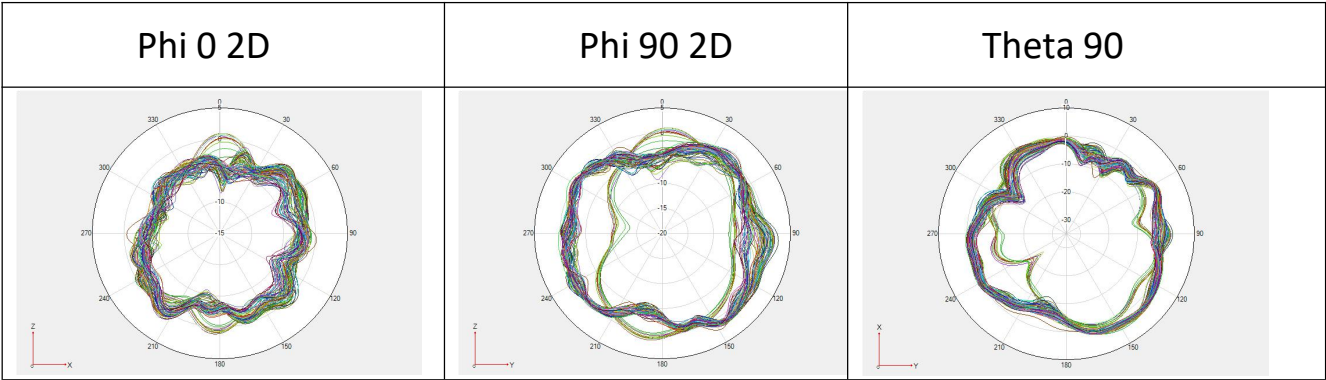


BT 天线驻波比

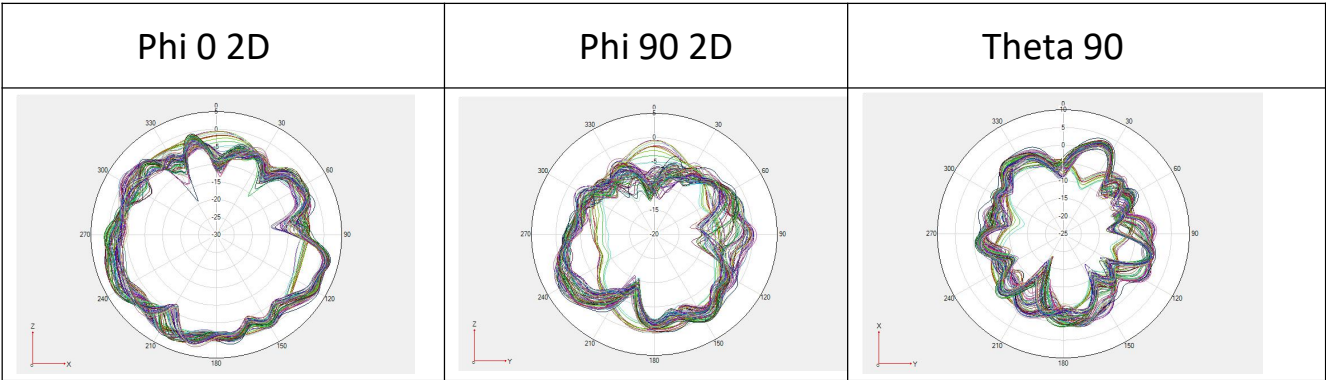


4、方向图

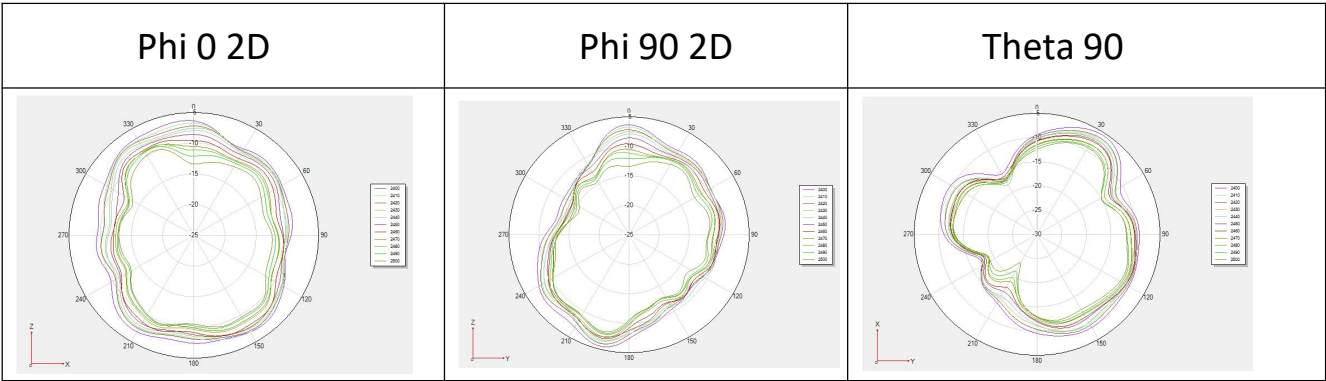
WF0 方向图



WF1 方向图

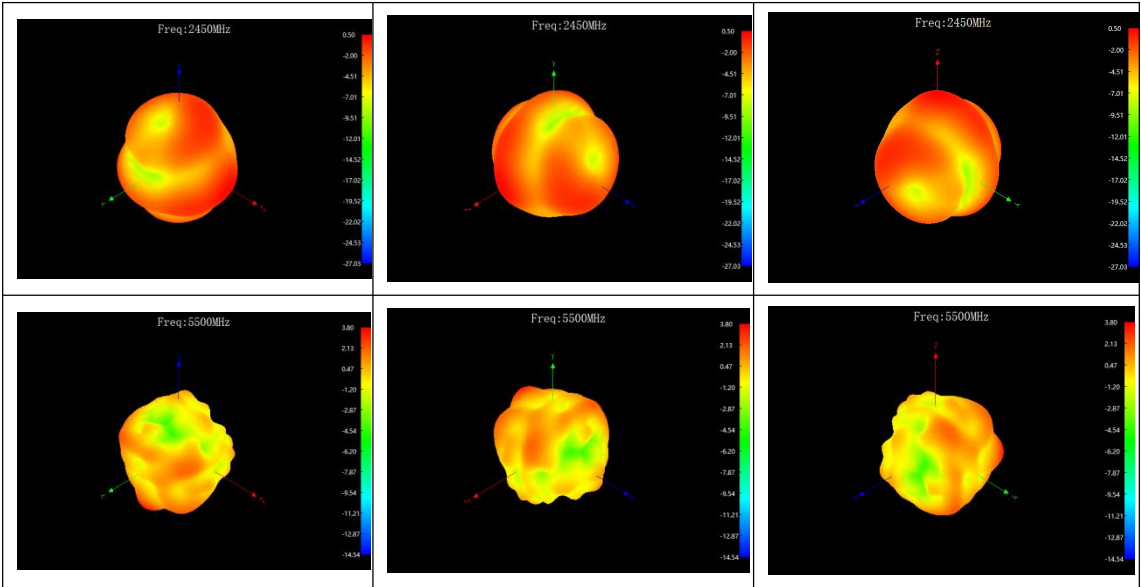


BT 方向图

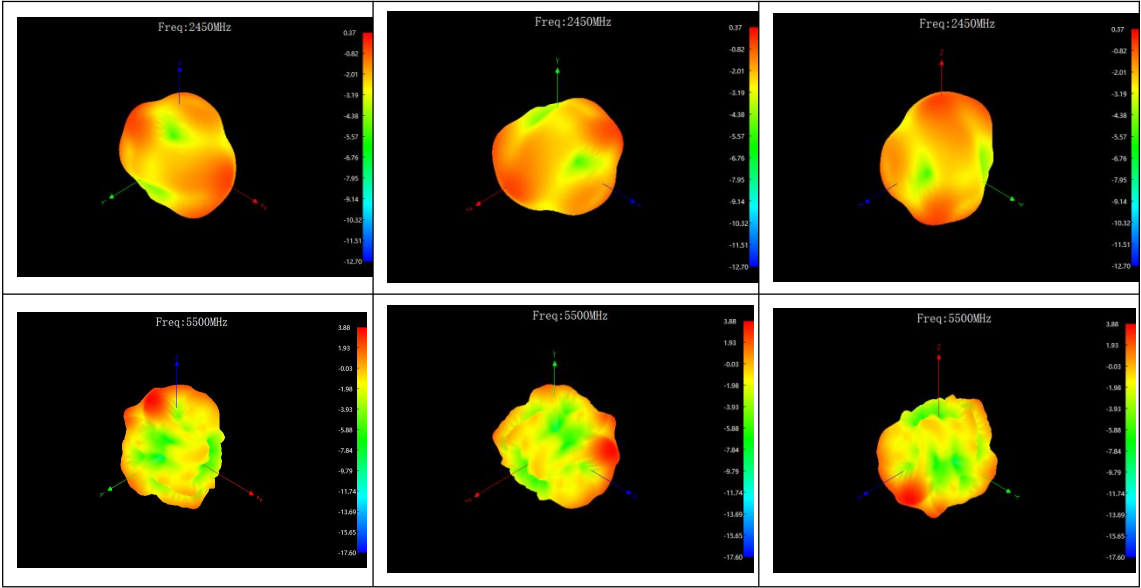


5、 3D Etotal

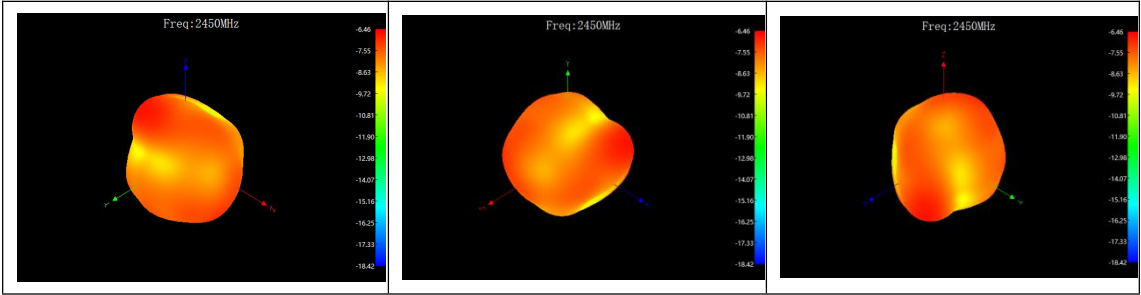
WF0 3D 图



WF1 3D 图



BT 3D 图



6、天线效率和增益

WFO

Frequency/Mhz	MaxGain/dBi	Efficiency / %
2400	0.86	37.33
2410	0.88	37.33
2420	1.48	41.02
2430	1.1	40.27
2440	1.26	41.59
2450	0.5	38.46
2460	1.03	41.98
2470	0.85	42.76
2480	1.1	43.45
2490	0.31	38.02
2500	0	35.16
5150	2.45	69.66
5160	2.07	68.87
5170	2.04	69.5
5180	2.85	67.92
5190	2.5	70.47
5200	2.84	71.78
5210	2.47	70.63
5220	2.97	67.14
5230	2.8	69.5
5240	2.54	67.92
5250	2.44	69.98
5260	2.18	68.71
5270	2.56	71.12
5280	2.12	70.47
5290	2.24	70.47
5300	2.84	71.45
5310	2.36	71.45
5320	2.4	70.79
5330	2.56	69.18
5340	2.71	67.61
5350	2.74	67.76
5360	2.58	69.02
5370	2.49	70.15
5380	2.1	65.16
5390	2.35	68.39
5400	2.06	66.83
5410	2.3	67.76
5420	2.47	69.98

5430	2.18	71.29
5440	2.98	72.61
5450	2.34	74.13
5460	2.46	72.44
5470	2.74	72.44
5480	2.06	74.13
5490	2.19	69.82
5500	2.8	64.71
5510	2.18	66.83
5520	2.33	62.37
5530	2.83	64.42
5540	2.75	62.66
5550	2.74	66.83
5560	2.24	68.55
5570	2.83	75.68
5580	2.02	71.94
5590	2.12	72.78
5600	2.56	63.1
5610	2.3	61.09
5620	2.57	63.68
5630	2.01	67.3
5640	2.29	66.53
5650	2.46	62.09
5660	2.76	62.52
5670	2.52	64.42
5680	2.2	66.83
5690	2.01	67.61
5700	2.76	64.57
5710	2.12	62.09
5720	2.44	61.8
5730	2.75	65.77
5740	2.6	65.46
5750	2.5	67.3
5760	2.55	63.39
5770	2.95	63.1
5780	2.79	61.24
5790	2.07	64.42
5800	2.41	57.81
5810	2.48	59.84
5820	2.23	56.49
5830	2.52	63.53
5840	2.46	66.68
5850	2.73	74.47

WF1

Frequency/Mhz	MaxGain/dBi	Efficiency / %
2400	0.48	38.02
2410	0.46	37.84
2420	1.12	41.11
2430	0.79	39.9
2440	1.07	41.4
2450	0.37	37.58
2460	1	40.18
2470	0.71	39.26
2480	0.82	38.28
2490	-0.11	32.73
2500	-0.33	30.41
5150	2.39	57.28
5160	2.81	55.59
5170	2.87	55.98
5180	2.7	55.08
5190	2.3	56.75
5200	2.05	55.46
5210	2.33	53.09
5220	2.78	50.93
5230	2.68	53.95
5240	2.82	53.21
5250	2.3	54.95
5260	2.87	54.08
5270	2.07	55.59
5280	2.27	56.75
5290	2.24	56.36
5300	2.25	57.68
5310	2.02	57.28
5320	2.87	56.62
5330	2.06	55.46
5340	2.6	53.46
5350	2.08	52.12
5360	2.23	52.72
5370	.27	55.85
5380	2.67	52.48
5390	2.55	58.21
5400	2.34	56.89
5410	2.81	57.68
5420	2.78	56.1
5430	2.33	58.08
5440	2.4	61.38

5450	2.56	61.94
5460	2.62	60.81
5470	2.11	61.8
5480	2.53	66.68
5490	2.17	60.67
5500	2.88	55.21
5510	2.01	53.95
5520	2.38	49.77
5530	2.91	51.4
5540	2.71	48.75
5550	2.87	51.05
5560	2.82	52.6
5570	2.95	58.88
5580	2.85	57.02
5590	2.02	57.41
5600	2.43	48.53
5610	2.44	46.34
5620	2.63	48.31
5630	2.58	52
5640	2.32	50.93
5650	2.49	44.87
5660	2.74	45.08
5670	2.23	44.98
5680	2.01	46.13
5690	2.99	48.08
5700	2.85	45.92
5710	2.72	42.76
5720	2.88	41.3
5730	2.71	43.55
5740	2.72	42.95
5750	2.57	45.19
5760	2.37	42.85
5770	2.41	41.98
5780	2.38	40.93
5790	2.34	43.35
5800	1.56	37.76
5810	2.08	39.36
5820	2.15	37.33
5830	2.16	42.46
5840	2.05	45.71
5850	2.76	53.46

BT 效率与增益

BT		
Frequency/Mhz	MaxGain/dBi	Efficiency / %
2400	2.17	27.99
2410	1.86	23.77
2420	1.67	22.75
2430	1.37	20.89
2440	1.8	23.01
2450	1.72	22.28
2460	1.68	22.54
2470	1.02	19.68
2480	0.92	19.1
2490	0.54	18.16
2500	1.14	20.37