

深圳力同创科技有限公司

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天线规格书

Antenna specification





客户 client	金科诺电子科技有限公司 Jinkenuo electronic technology co., ltd	项目名 project name	CW02-TX-V2. 1
频段 frequency band	2400MHZ-2500MHZ	RF工程 RF engineering	黄瑞乐 Huang ruile
日期 date	2023/04/20	电话 telephone	18682200138

testing tool

网络分析仪&综测仪 Network analyzer & comprehensive measuring instrument	Agelent Techmologies E5071B & R&S CMW500
暗室 darkroom	Atenlab M3
测试工程 Test engineer	黄瑞乐 Huang ruile
温度 temperature	25℃
湿度 humidity	65% (RH)





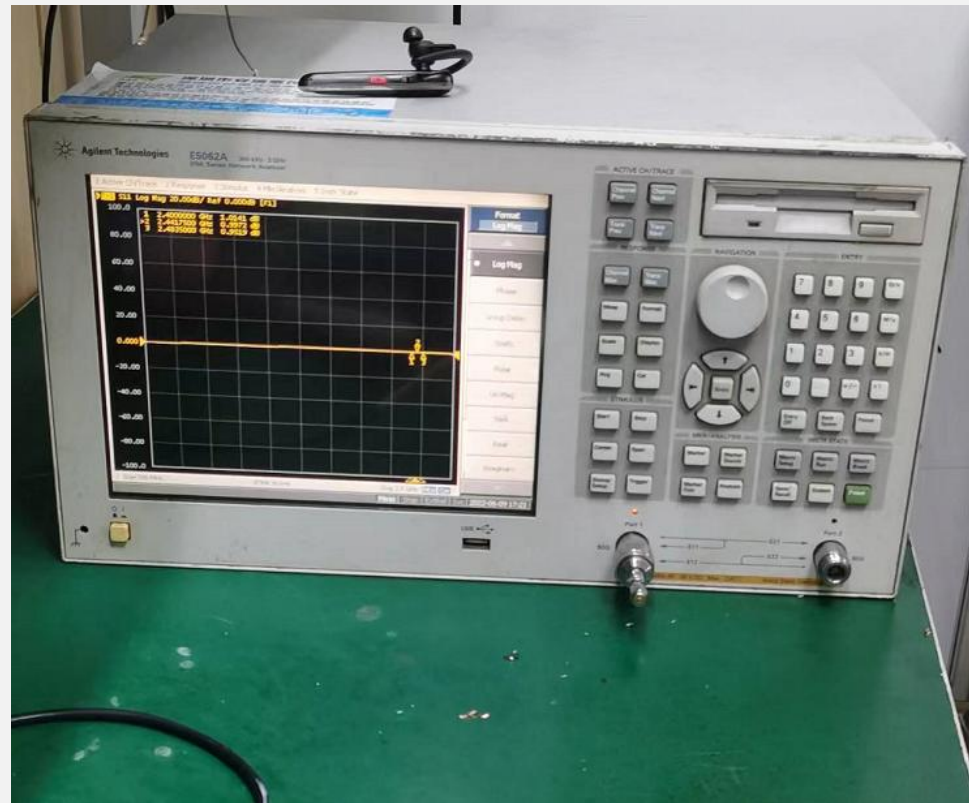
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1. Test system description---S Parameter

1.1. Test Setup

1.1.1 VNA Test Setup

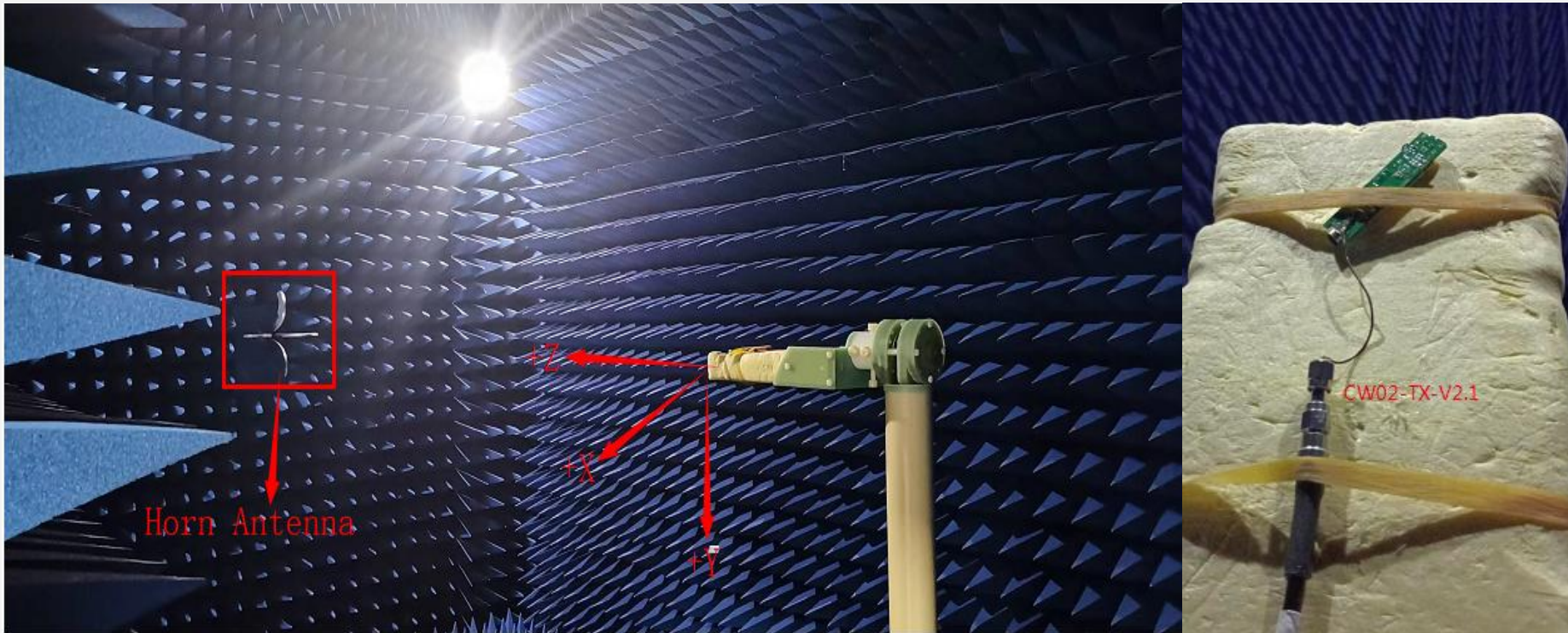
S parameter measurements (S_{11}) were performed using an Keysight 5062A Network Analyzer and previously described tests fixtures. The isolation between antennas is also tested. The testing was performed with apparatus in free space.



2. Test system description--- Anechoic Chamber Test Setup

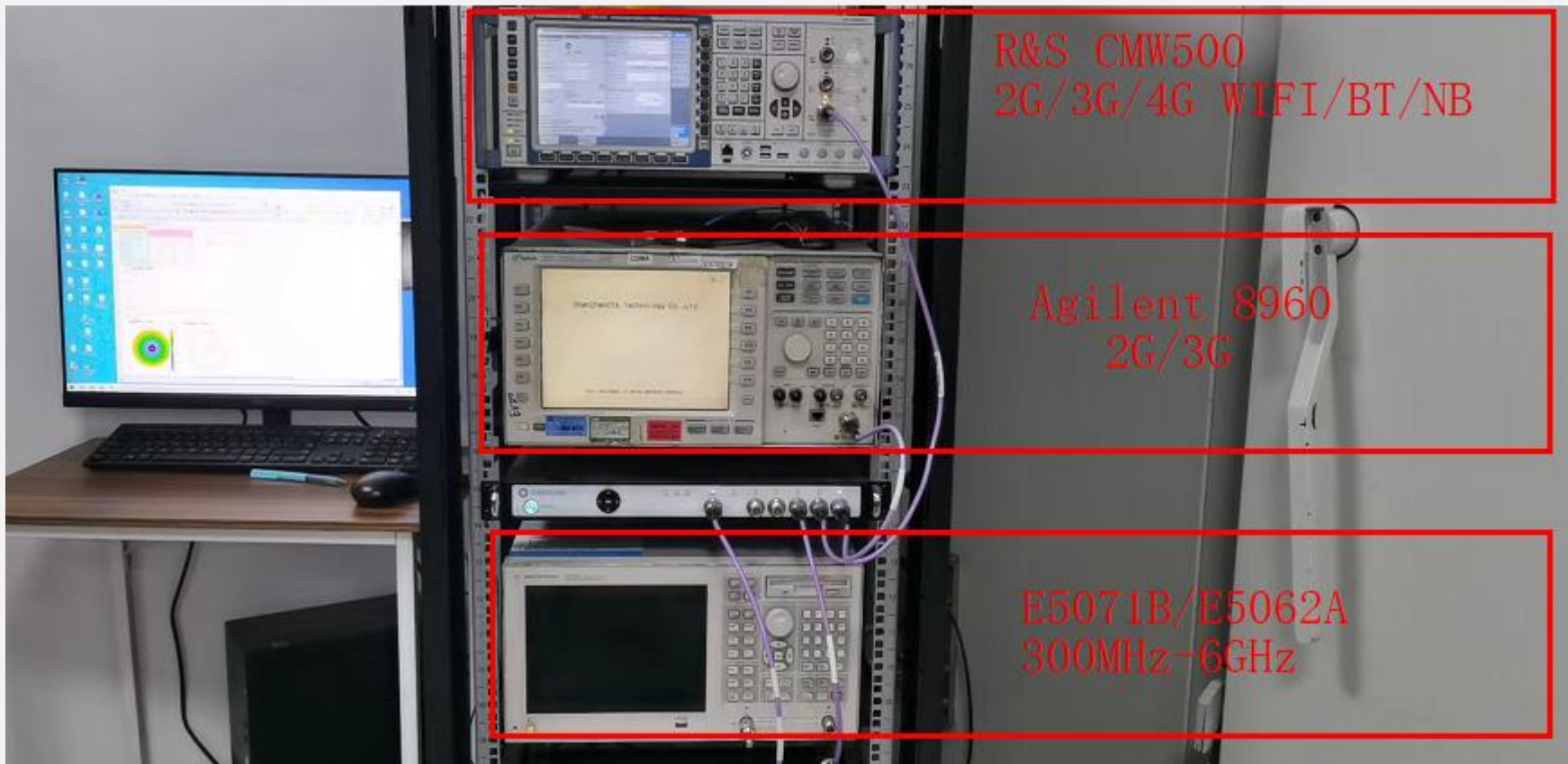
1.1.1 Anechoic Chamber Test Setup

The gain of the antenna was measured in the anechoic chamber(ETS-3D). The chamber provides less than -30 dB reflectivity from 400 MHz through 6 GHz. The chamber size is:7m*4m*3m.The measurement results are calibrated using a leaky wave horn standard. We can measure the antenna gain and efficiency accurately.



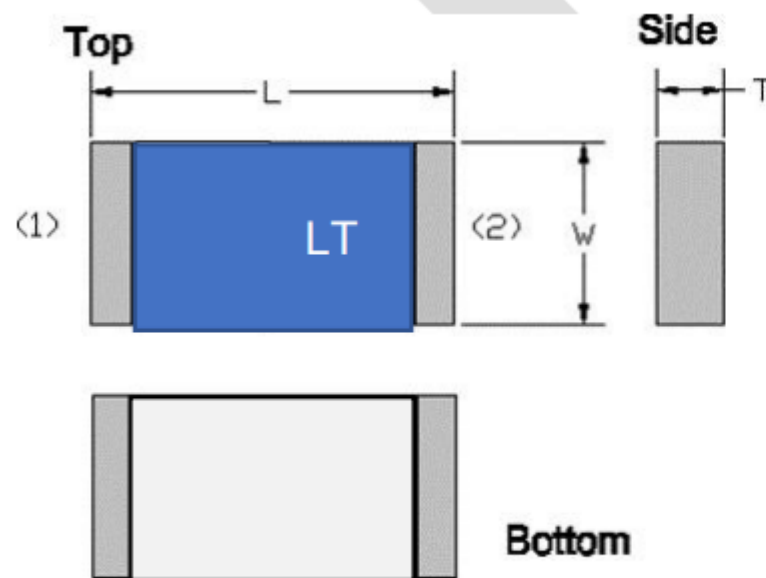
3. Test system description--- Test Instruments

1.1.3 Instruments



4. 天线类型 Antenna type

2.1 3216F245T01 贴片陶瓷双极性天线 3216F245T01 patch ceramic bipolar antenna

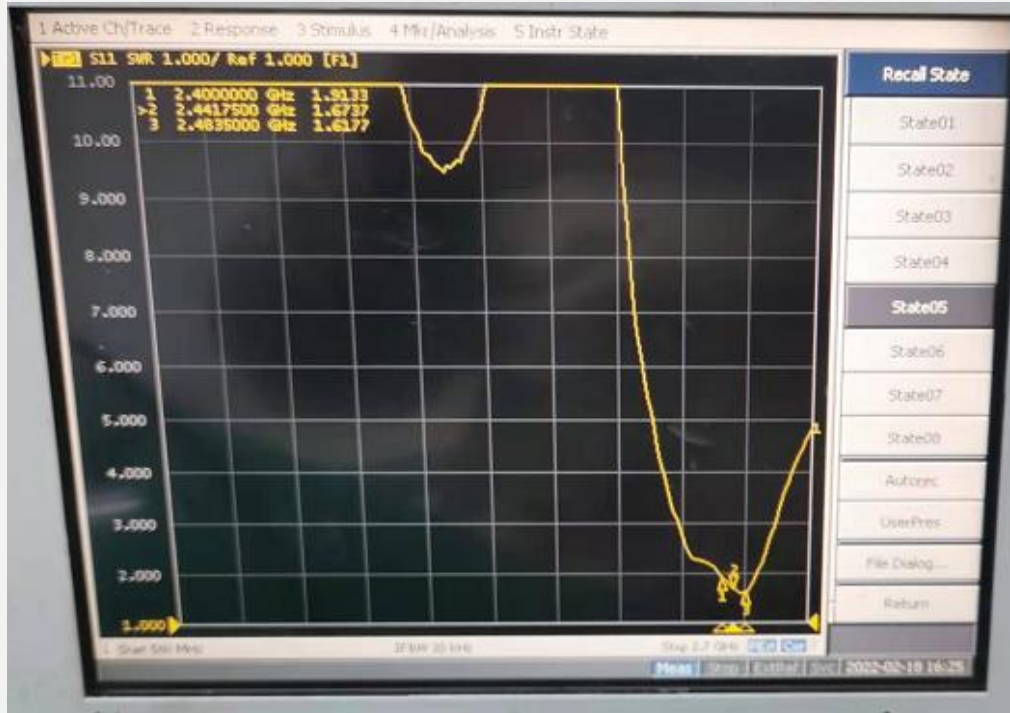


Dimension (mm)	
L	3.20 ± 0.20
W	1.60 ± 0.20
T	0.45 ± 0.20

No.	Terminal Name
1	Feeding/GNG
2	GND/Feeding

5. Test Result---Return Loss and Efficiency

S11 (2400MHz-2483.5MHz) : CW02-TX-V2.1



MARKERS:	MHz	MHz	MHz
E5062A-MP.S1P - S11			
1.	2400	1.91	3. 2483.5 1.67
2.	2441	1.67	4. 2500

MARKERS:	MHz	dB	MHz	dB	MHz	dB
E5062A-MP.S1P - S11						
1.	2400	-10.21	3.	2483.5	-12.83	
2.	2441	-12.14	4.	2500		

6.Gain efficiency

Data (2.4G-2.5G) :

CW02-TX-V2.1天线增益与效率
CW02-TX-V2.1 Antenna gain and efficiency

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)
2400	64.66	-1.89	3.08	0.93
2410	61.18	-2.13	2.93	0.78
2420	57.38	-2.41	2.68	0.53
2430	58.07	-2.36	2.61	0.46
2440	57.1	-2.43	2.4	0.25
2450	63.97	-1.94	2.77	0.62
2460	60.99	-2.15	2.4	0.25
2470	57.75	-2.38	2.09	-0.06
2480	67.15	-1.73	2.63	0.48
2490	61.91	-2.08	2.25	0.1
2500	62.66	-2.03	2.29	0.14

7. Gain evaluation diagram

