

Design Specifications	Typical	Units
天线形式	FPC+端子线	
工作频率(working Frequency)	4G: 698-894,1710-2000 WIFI: 2400-2500	MHz
增益 (Gain)	4G: -2.87 ~ 4.18 WIFI: 3.93 ~ 4.97	dBi
天线效率 (Antenna efficiency)	4G: 30.47 ~ 62.40 WIFI: 52.63 ~ 66.37	%
电压驻波比 (VSWR)	<7	
极化方式(Polarization)	线极化	
轴比(Axial Ratio)	当天线为圆极化时，备注在工作带宽内的轴比大小	N/A
辐射方向(Radiation pattern)	全向	
馈电阻抗(impedance)	50 ohm	
功率容量(Power handling)	33	dBm
天线接口(Interface)	IPEX	
天线尺寸(Overall dimensions)	见图纸部分	
重量(Weight)	无要求	
工作温度(Operatin Temp)	-30 ----- 70	°
储存温度(Storing Temp)	-30 ----- 70	°

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DSGW-230 4G&WIFI 天线规格书

1、规格：报告主要提供 DSGW-230 4G&WIFI 天线的各项电性能参数的测试状况。（如下图一所示） The report mainly provides the test status of various electrical performance parameters of DSGW-230 4G&WIFI antenna. (Figure 1 below indicate)



图一 DSGW-230 4G&WIFI 天线

2、电器性能 Electrical performance

2.1 规格标准 Specification standard

DSGW-230 4G&WIFI 天线工作频段在 **698-894,1710-2000MHz & 2400-2500MHz**。
DSGW-230 4G&WIFI antenna operating band in 698-894,1710-2000MHz & 2400-2500MHz

2.2 天线的匹配电路 Antenna matching circuit

DSGW-230 4G&WIFI 天线匹配主板自带匹配。
DSGW-230 4G&WIFI antenna matching Motherboard comes with matching.

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2.3 驻波比(VSWR)的测试

A. 测试的设置

VSWR 测试装置依次连接为: 8714ET 网络分析仪 → 50 欧姆的同轴 Cable → 120mm 长的铜管 → 测试治具。

测试治具的处理: 从 DSGW-230 4G&WIFI 天线 50 欧姆测试点处用一根电缆引出 SMA 接头, 与套有扼流圈的铜管连接, 再依次连接其他装置。

Test jig handling: From DSGW-230 4G&WIFI antenna 50 ohm test point with a cable leading SMA connector, and sleeve The copper pipe with the choke is connected, and then the other devices are connected in turn.

B. VSWR

下表所示为 DSGW-230 4G&WIFI 天线工作频段边缘频点的驻波比数值。测试所得的 VSWR, 相关波形图如附件所示。

The following table shows the value of standing wave ratio at the edge frequency of

the operating band of DSGW-230 4G&WIFI antenna. VSWR test results, relevantThe waveform diagram is shown in the attachment.

频段	频率 (MHz)	VSWR
4G	698	3.66
	894	2.85
	1710	2.42
	2000	3.31
WIFI	2400	1.34
	2500	1.65
	5200	1.50
	5800	1.24

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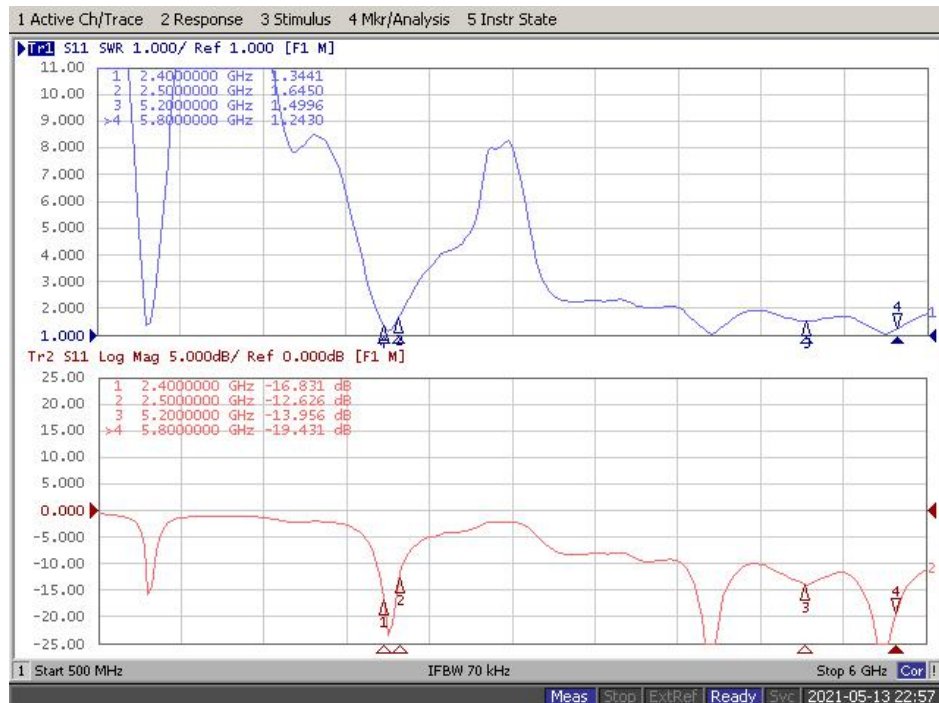
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2.3.1 S11 参数 S11 Parameters

4G:



WIFI:



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2.3.2 无源天线效率 Passive antenna efficiency

4G:

Freq(MHz)	Gain(dBi)	Efficiency(dB)	Efficiency(%)
698	-1.42	-3.75	42.19
708	-0.94	-3.43	45.39
718	-0.53	-3.50	44.64
728	-1.01	-4.27	37.41
738	-1.44	-4.85	32.76
748	-1.64	-4.82	32.96
758	-1.73	-4.66	34.20
768	-2.28	-4.67	34.13
778	-2.59	-4.62	34.48
788	-2.65	-4.58	34.82
798	-2.34	-4.62	34.55
808	-2.21	-4.63	34.43
818	-1.98	-4.70	33.92
828	-1.85	-4.77	33.38
838	-1.76	-4.86	32.63
848	-1.97	-5.02	31.45
858	-2.30	-5.16	30.51
868	-2.47	-5.16	30.47
878	-2.59	-5.07	31.12
888	-2.87	-4.98	31.74
894	-2.67	-5.02	31.50
1710	2.29	-3.29	46.90
1730	3.11	-2.70	53.69
1750	3.41	-2.47	56.58
1770	3.69	-2.31	58.72
1790	3.92	-2.20	60.21
1810	4.07	-2.07	62.04
1830	4.18	-2.05	62.40
1850	3.84	-2.33	58.54
1870	3.60	-2.66	54.15
1890	3.26	-3.04	49.65
1910	3.32	-3.01	50.01
1930	3.10	-3.24	47.39
1950	2.65	-3.55	44.14
1970	2.38	-3.59	43.75
1990	2.26	-3.63	43.32
2000	2.00	-3.70	42.62

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WIFI:

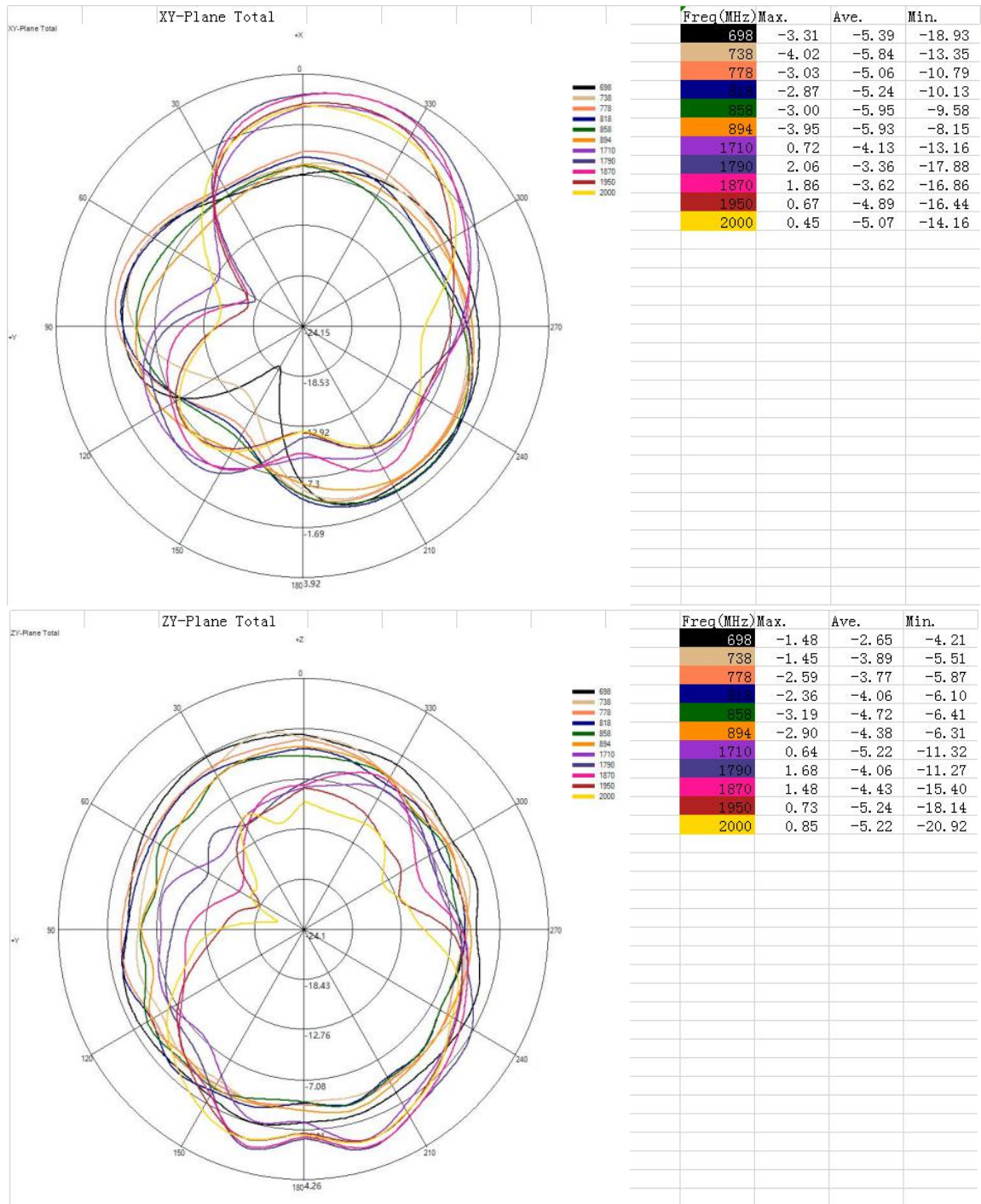
Freq (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency (%)
2400	3.93	-2.04	62.57
2410	3.97	-2.04	62.56
2420	4.06	-2.04	62.54
2430	4.03	-2.03	62.69
2440	4.06	-2.02	62.83
2450	4.36	-1.84	65.47
2460	4.46	-1.80	66.02
2470	4.56	-1.78	66.37
2480	4.51	-1.81	65.94
2490	4.49	-1.81	65.94
2500	4.26	-1.98	63.41
5200	4.24	-2.44	56.99
5240	4.27	-2.60	55.00
5280	4.76	-2.79	52.63
5320	4.64	-2.54	55.67
5360	4.74	-2.60	54.96
5400	4.97	-2.59	55.03
5440	4.76	-2.27	59.35
5480	4.78	-2.25	59.63
5520	4.87	-2.16	60.84
5560	4.77	-1.99	63.25
5600	4.46	-2.03	62.65
5640	4.78	-1.92	64.21
5680	4.90	-1.84	65.46
5720	4.37	-2.07	62.03
5760	4.41	-2.18	60.56
5800	4.51	-2.11	61.59

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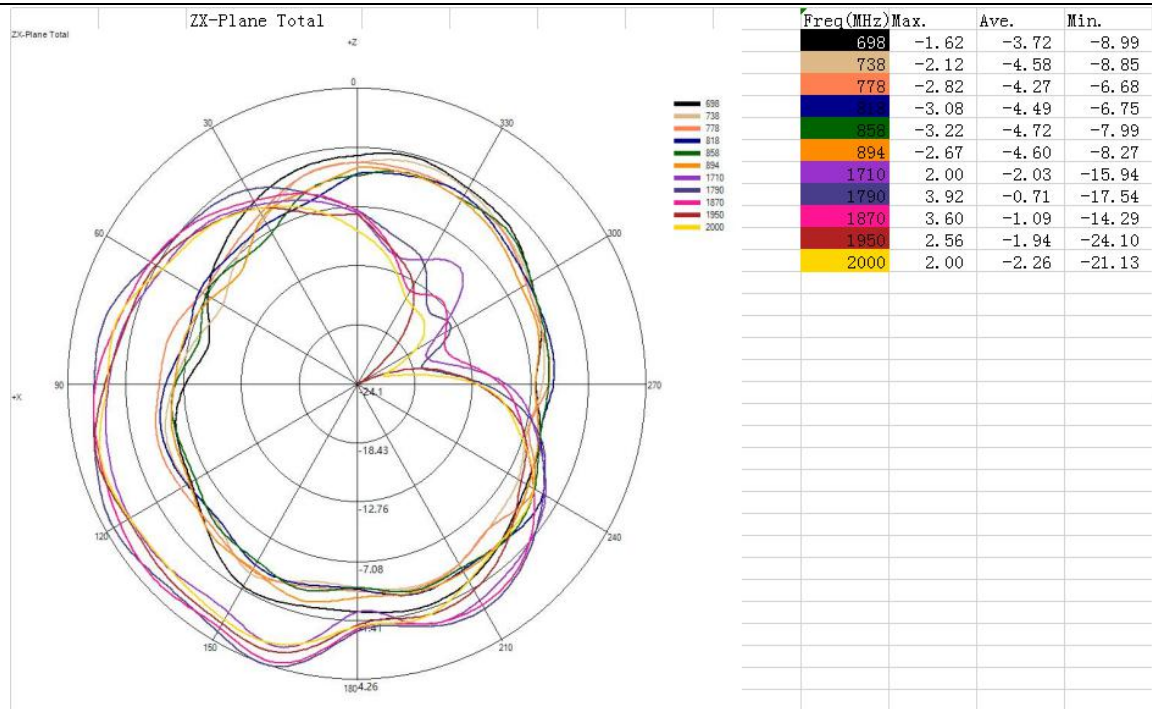
2.3.3 方向图 Directional diagram

4G:



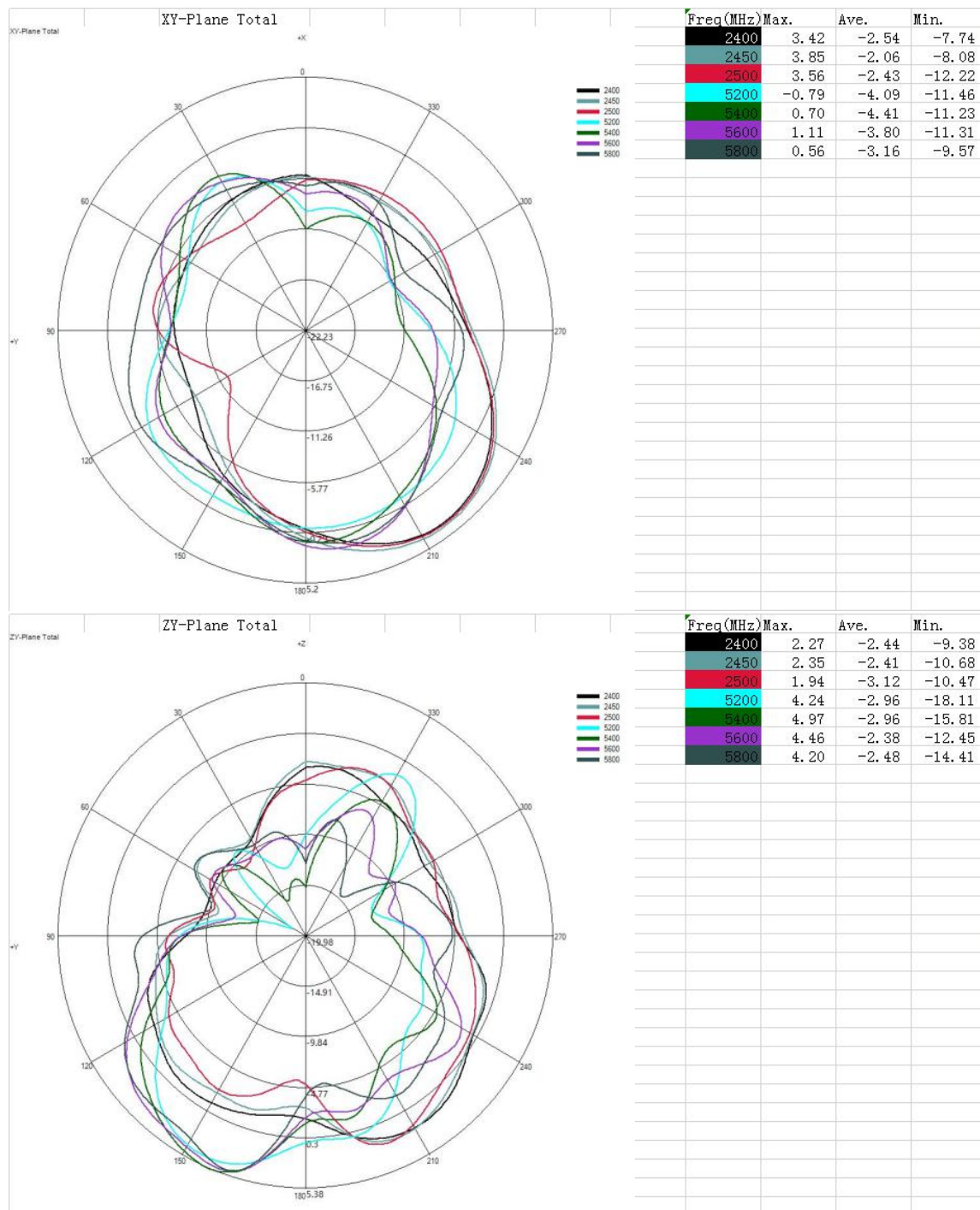
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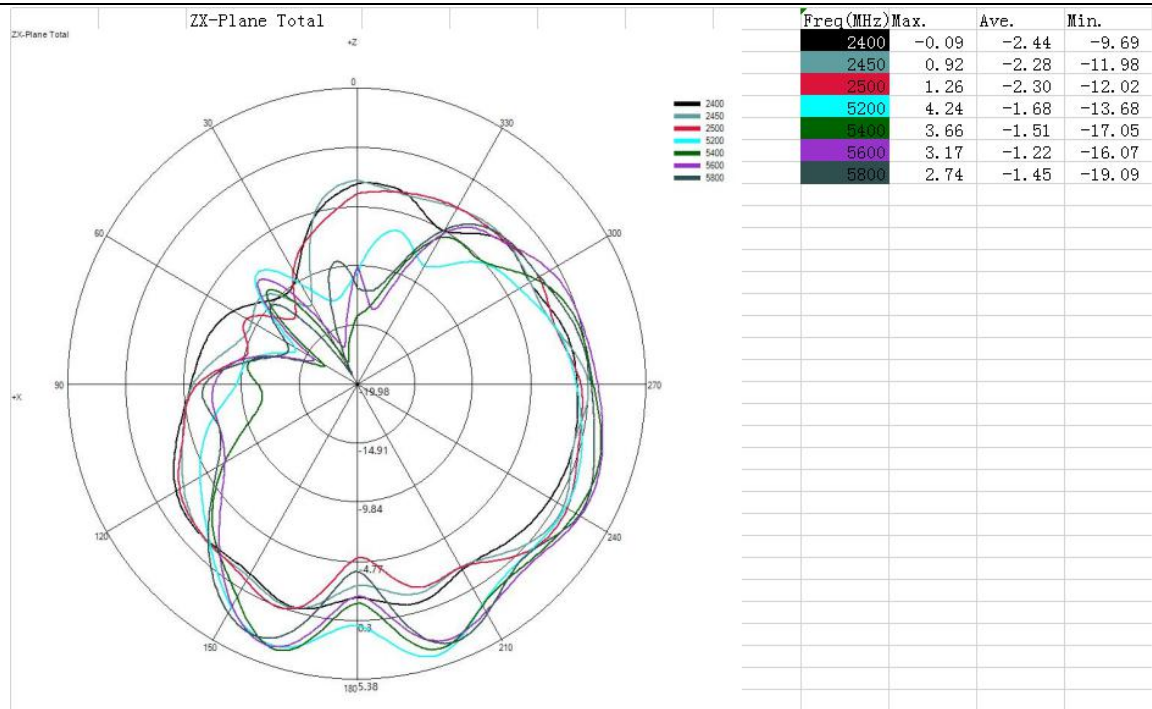
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3、建议与结论 Suggestion and conclusion

此报告是根据客户提供 DSGW-230 4G&WIFI 天线的最终版测得的天线电气性能。

从如上测试数据可以看到，此天线提供了较好的电气性能。

维力谷研发期盼您的确认，谢谢合作！

This report is based on the electrical performance of the antenna as measured by the final version of the DSGW-230 4G&WIFI antenna supplied by the customer.

As can be seen from the above test data, this antenna provides better electrical performance.

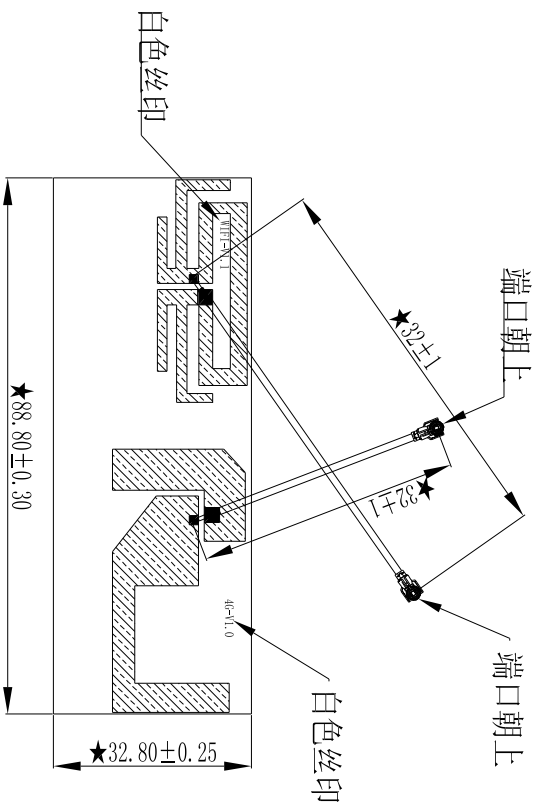
Weiligu R & D looks forward to your confirmation, thank you for your cooperation!

4、图面样品、外观见附档：

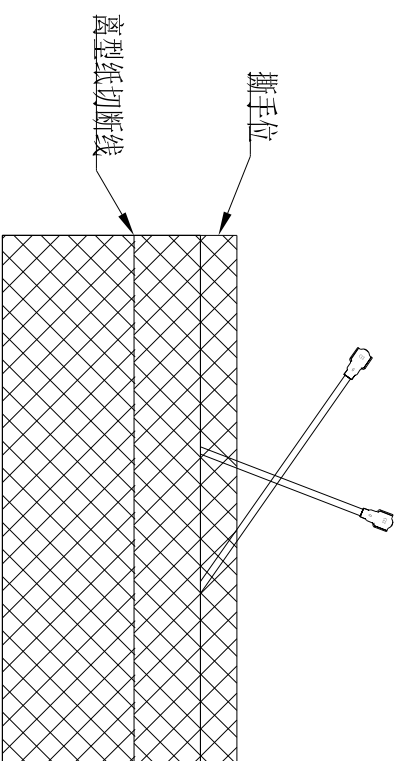
Drawing sample and appearance are in the attached file:

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正面



反面

- 注:
- 1、打★为必测尺寸, 其它尺寸以实配为准;
 - 2、外观不得有色差、划伤、毛边、露铜, 丝印不良, 撕手未切断等缺陷;
 - 3、具体要求详见VLG质量文件VLG/JY8.2-08中第六条款规定。

3	端子	一代镀金端子		2	
2	RG113线材	RG113线材	黑色	2	
1	FPC	PI	黑色	1	
Name	Material	Color	Treatment	Amount	Remark

VLG 深圳市维力谷无线技术股份有限公司 Shenzhen VLG Wireless Technology Co., Ltd									
第三角法	机种	DSGW-230	日期	2022.05.20	页码	1/1			
0~10 ±0.10	品名	4G&WIFI天线	绘图		RF确认				
10~20 ±0.15	料号	V2183-003-A-01	品质审核						
20~40 ±0.20	材质		结构审核						
> 40 ±0.25	模面处理								
请勿实测图样位置	外观处理		单位	mm	比例		版本	R.A	