Design Specifications	Typical	Units
Antenna form	FPC+ terminal wire	
Operating frequency	860-930	MHz
Gain	-3.04~ -1.80	DBi
Antenna efficiency	27.69~36.15	%
Voltage standing wave ratio (VSWR).	<4	
Polarization mode	Line polarization	
Axial Ratio	When the antenna is circularly polarized, note the size of the axis ratio within the operating bandwidth	N/A
Radiation pattern	Omnidirectional	
Feed-in impedance	50 ohm	
Power capacity	33	dBm
Antenna Interface	IPEX	
Antenna size	See the drawings section	
Weight	No requirements	
Operating temperature	-30 ----- 70	℃
Storage Temp	-30 ----- 70	℃

DSGW-090 ZWAVE antenna datasheet

1. **Specifications:** The report mainly provides the test status of various electrical performance parameters of DSGW-090 ZWAVE antenna. (Figure 1 below).

Figure 1 DSGW-090 ZWAVE antenna

2. Electrical performance

2.1 Specifications

The DSGW-090 ZWAVE antenna operates in **the 860-930MHz** band**.**

2.2 Antenna matching circuit

DSGW-090 ZWAVE antenna matching motherboard comes with matching.

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2.3 Testng of standing wave ratio (VSWR).

A. Setup for the test

The VSWR test rig is connected sequentially as the 8714ET Network Analyzer → 50 ohm coaxial Cable→ 120mm copper tube → EUT

Handling of the test fixture: from the antenna 50 ohm test point, a cable leads out the SMA connector, connects it with a copper tube with a choke, and then connects the other devices in turn.

B. VSWR

The following table shows the VSWR values for the edge frequency points in the operating band of the DSGW-090 ZWAVE antenna. The VSWR and correlation wave plot obtained by the test are shown in the annex.

Band	Frequency (MHz).	VSWR
Z-WAVE	860	2.45
	930	3.03

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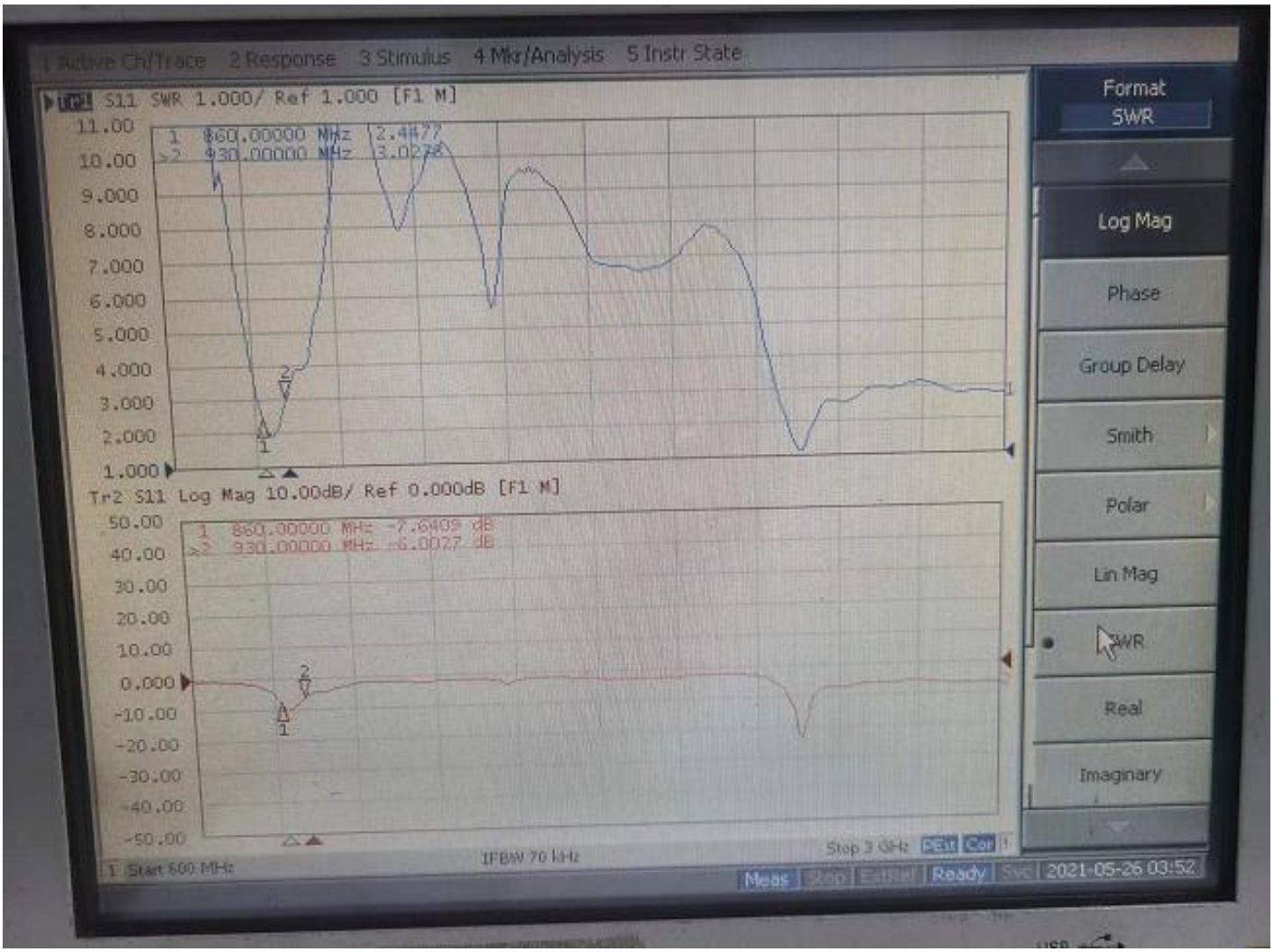
2.3.1 S11 parameters



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2.3.2 Passive antenna efficiency

Freq(MHz)	Gain(dBi)	Efficiency(dB)	Efficiency(%)
860	-2.34	-5.08	31.05
862	-2.35	-5.00	31.65
864	-2.30	-4.92	32.24
866	-2.23	-4.84	32.80
868	-2.10	-4.77	33.36
870	-1.96	-4.69	33.94
872	-1.90	-4.64	34.33
874	-1.97	-4.63	34.43
876	-2.07	-4.61	34.56
878	-2.07	-4.58	34.81
880	-2.00	-4.54	35.19
882	-1.92	-4.48	35.65
884	-1.83	-4.44	35.96
886	-1.80	-4.42	36.15
888	-1.82	-4.44	35.98
890	-1.85	-4.49	35.53
892	-1.91	-4.50	35.48
894	-1.91	-4.49	35.57
896	-1.88	-4.49	35.58
898	-1.89	-4.50	35.46
900	-1.96	-4.55	35.06
902	-2.06	-4.59	34.72
904	-2.19	-4.66	34.20
906	-2.25	-4.72	33.75
908	-2.21	-4.75	33.50
910	-2.23	-4.80	33.10
912	-2.32	-4.91	32.31
914	-2.44	-5.01	31.53
916	-2.51	-5.11	30.85
918	-2.57	-5.19	30.26
920	-2.69	-5.26	29.78
922	-2.83	-5.28	29.66
924	-2.79	-5.30	29.48
926	-2.83	-5.37	29.06
928	-2.93	-5.47	28.39
930	-3.04	-5.58	27.69

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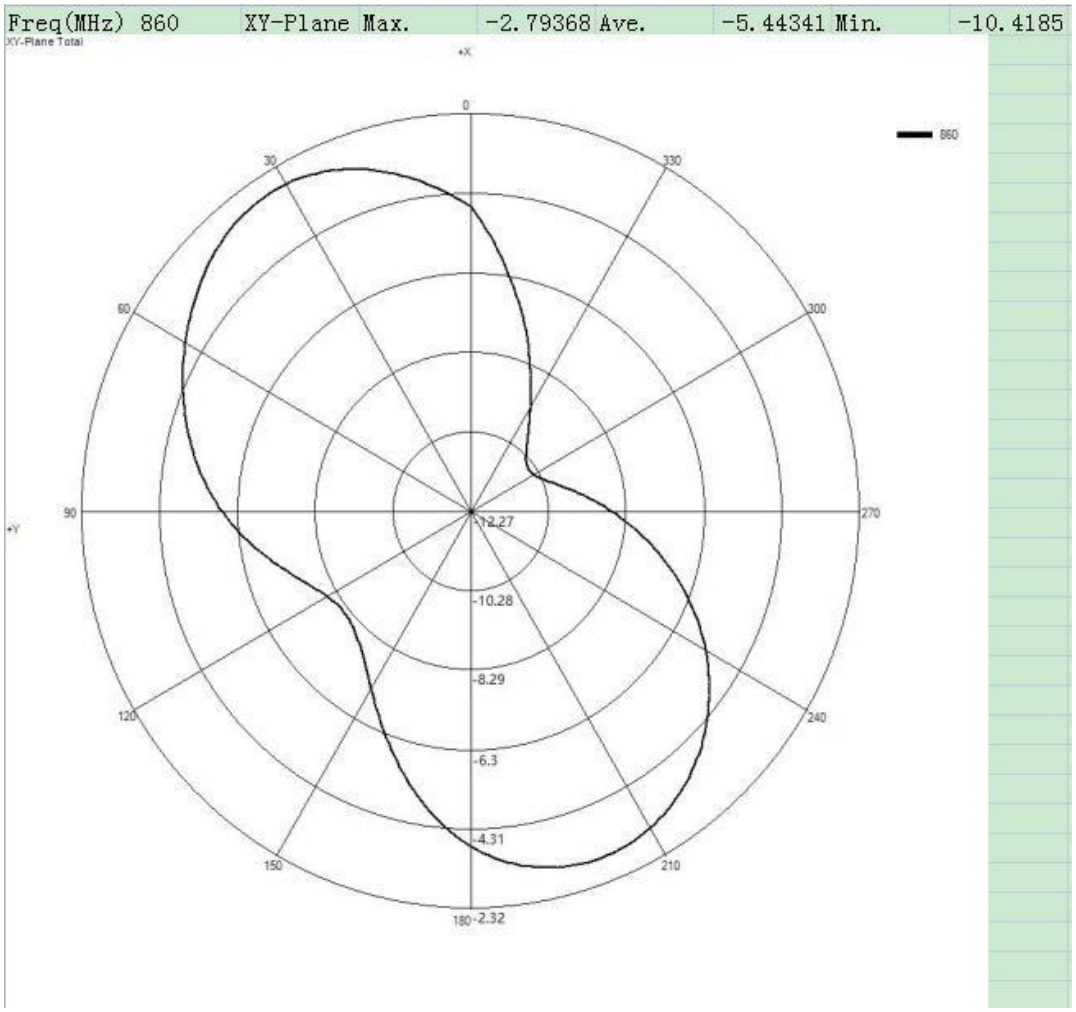
2.3.3 Directional diagram



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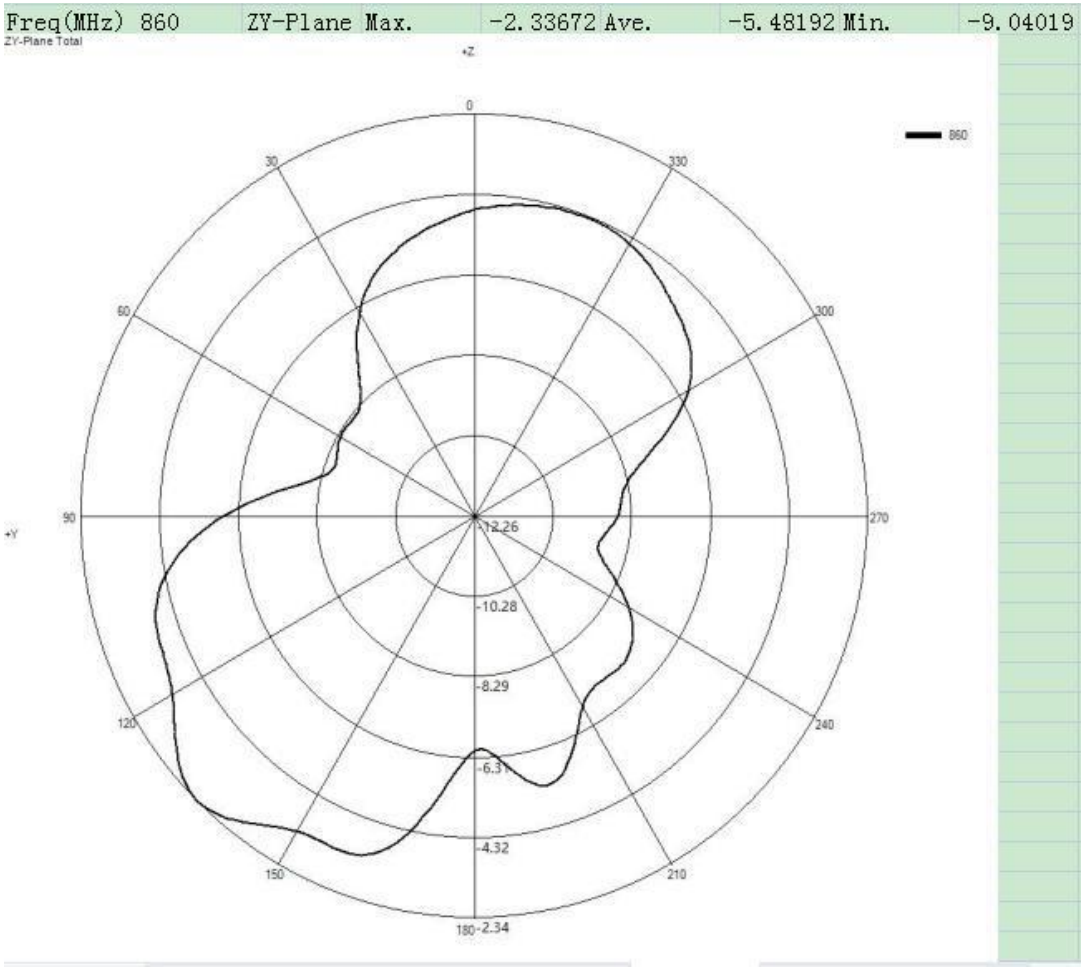

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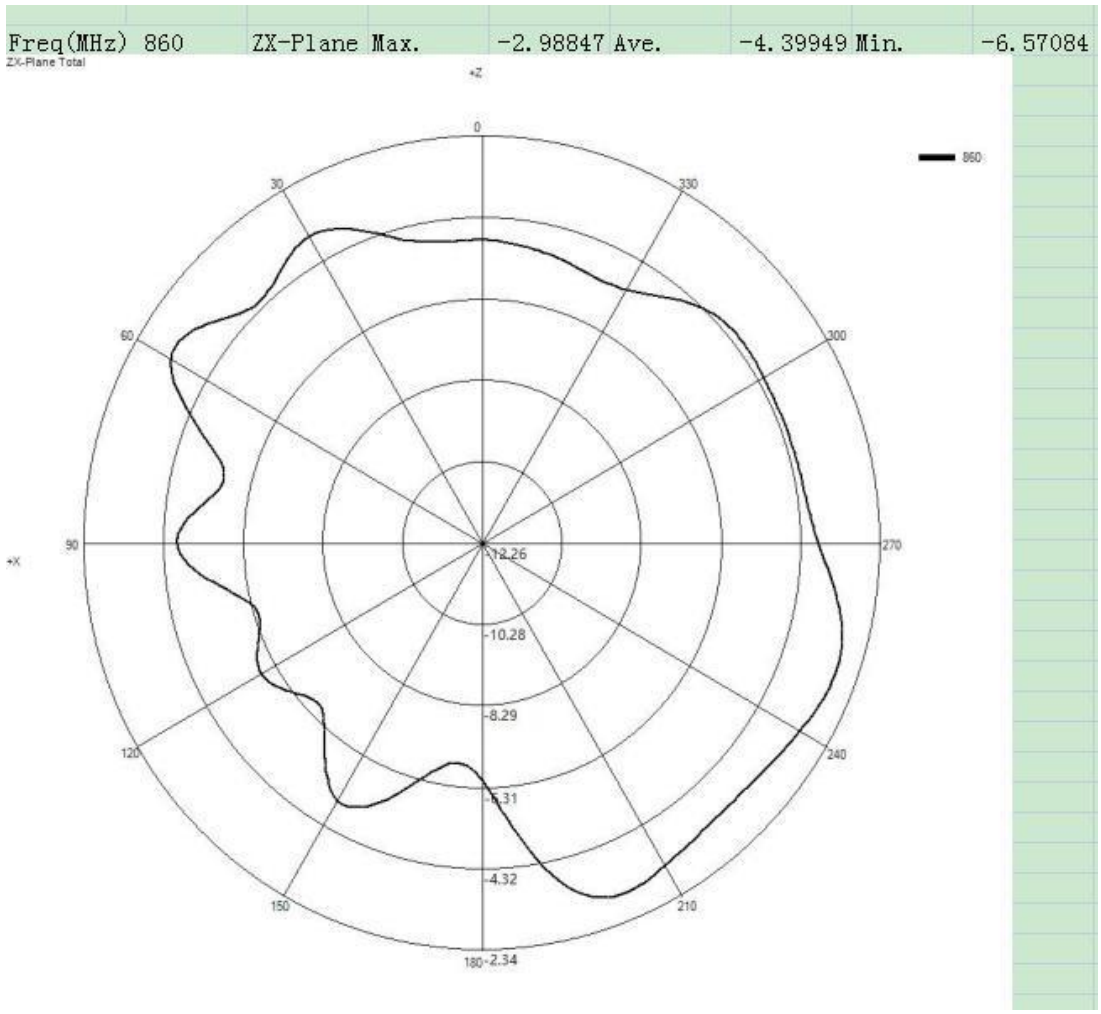

3. Recommendations and conclusions

This report is provided by customersDSGW-090 ZWAVEThe electrical performance of the antenna measured in the final version of the antenna。 As can be seen from the above test data, this antenna provides good electrical performance。 Weili Valley R&D looks forward to your confirmation, thank you for your cooperation！

4. See attached file for drawing samples and appearance

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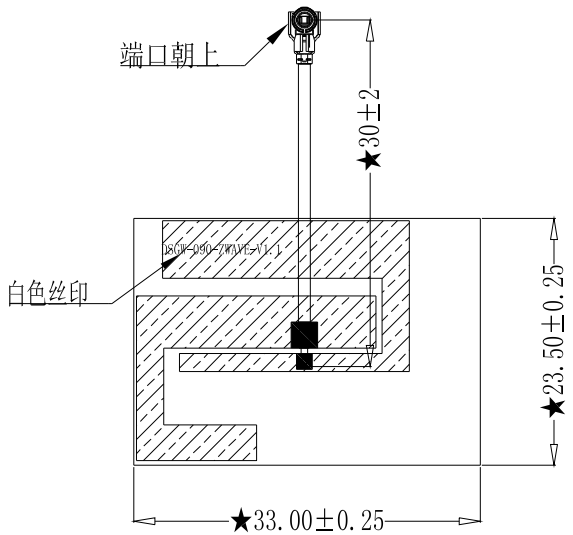

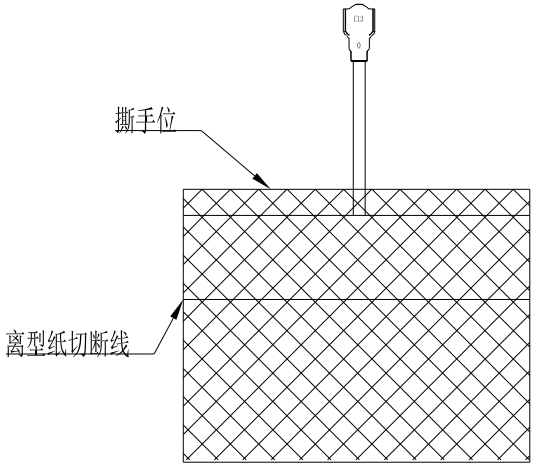

注:

1、打※为配合尺寸,打*为重点尺寸;

2、打★为必测尺寸，其它尺寸以实配为准;

3、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;

4、具体质量要求见VLG质量文件VLG/JY8.2-08中第六条款规定。

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

序号	修改内容	版本	备注
			收回:

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-090	日期	2022.05.28	页码	1/1
0～10	±0.10	○	0.02	品名	ZWAVE天线成品	绘图		RF确认	
10～20	±0.15	◎	⌀0.03	料号	V2183-004-A-03	品质审核			
20～40	±0.20	⊥	0.02	材质		结构审核		批准	
＞40	±0.25	▱	0.04	模面处理					
		⌓	0.02	外观处理		单位	mm	比例	版本 R:A

请勿实测图纸位置