

Design Specifications	Typical	Units
Antenna form	FPC+ terminal wire	
Operating frequency	2400-2500	MHz
Gain	1.79 ~ 3.79	dBi
Antenna efficiency	42.81 ~ 60.18	%
Voltage standing wave ratio (VSWR).	<3	
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	°C
Storage Temp	-30 ----- 70	°C

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DSGW-090 ZIGBEE antenna datasheet

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

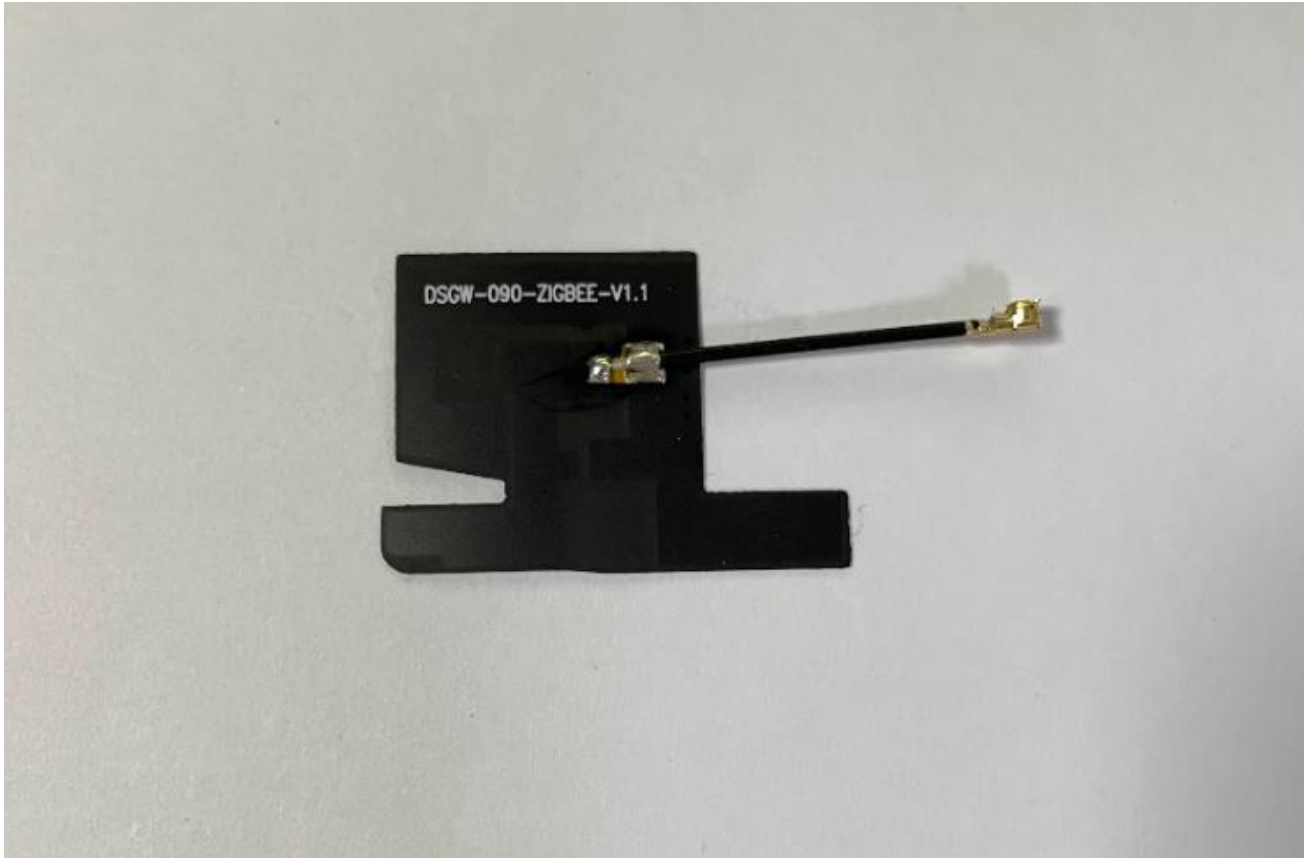


Figure 1 DSGW-090 ZIGBEE antenna

2. Electrical performance

2.1 Specifications

The DSGW-090 ZIGBEE antenna operates in **the 2400-2500MHz** band.

2.2 Antenna matching circuit

DSGW-090 ZIGBEE antenna matching motherboard comes with matching.

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2.3 Testing 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

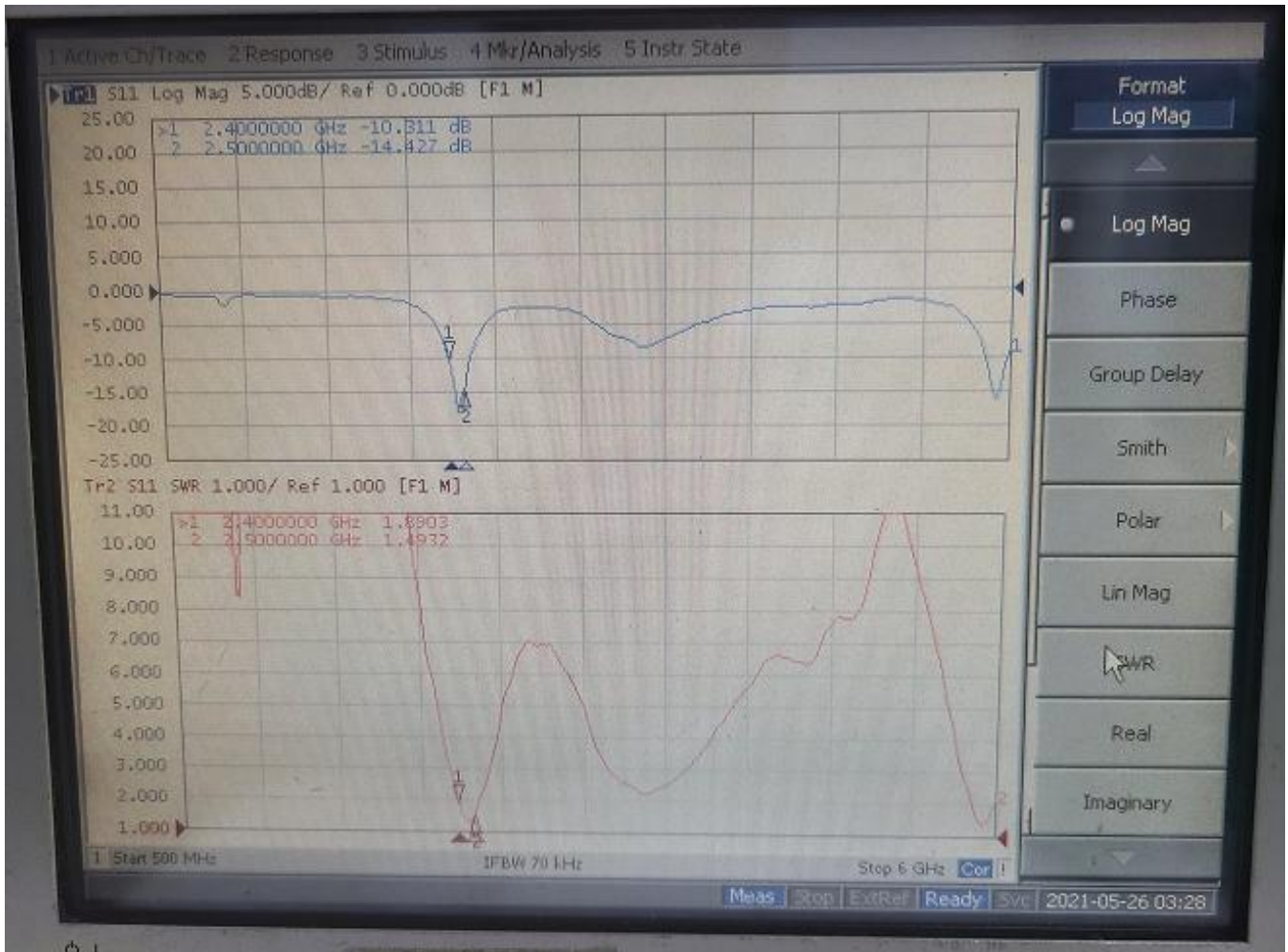
The following table shows the VSWR values at the edge frequency of the DSGW-090 ZIGBEE antenna operating band. The VSWR and correlation wave plot obtained by the test are shown in the annex.

Band	Frequency (MHz).	VSWR
ZigBee	2400	1.89
	2500	1.49

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2.3.1 S11 parameters



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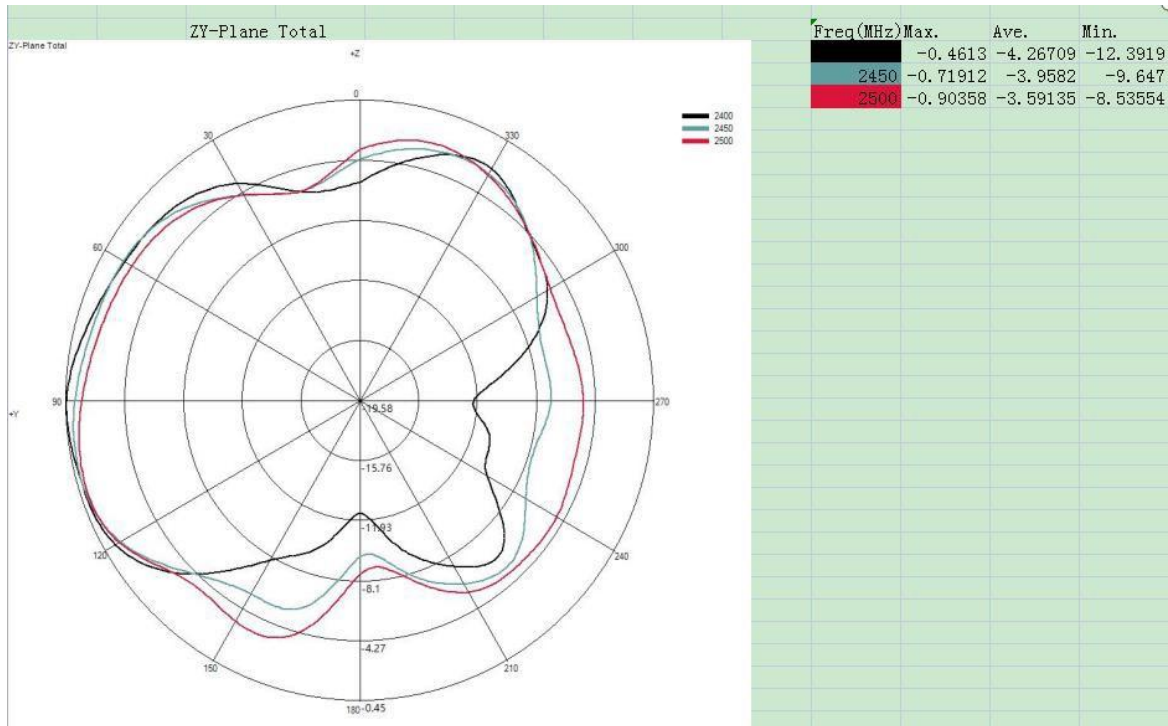
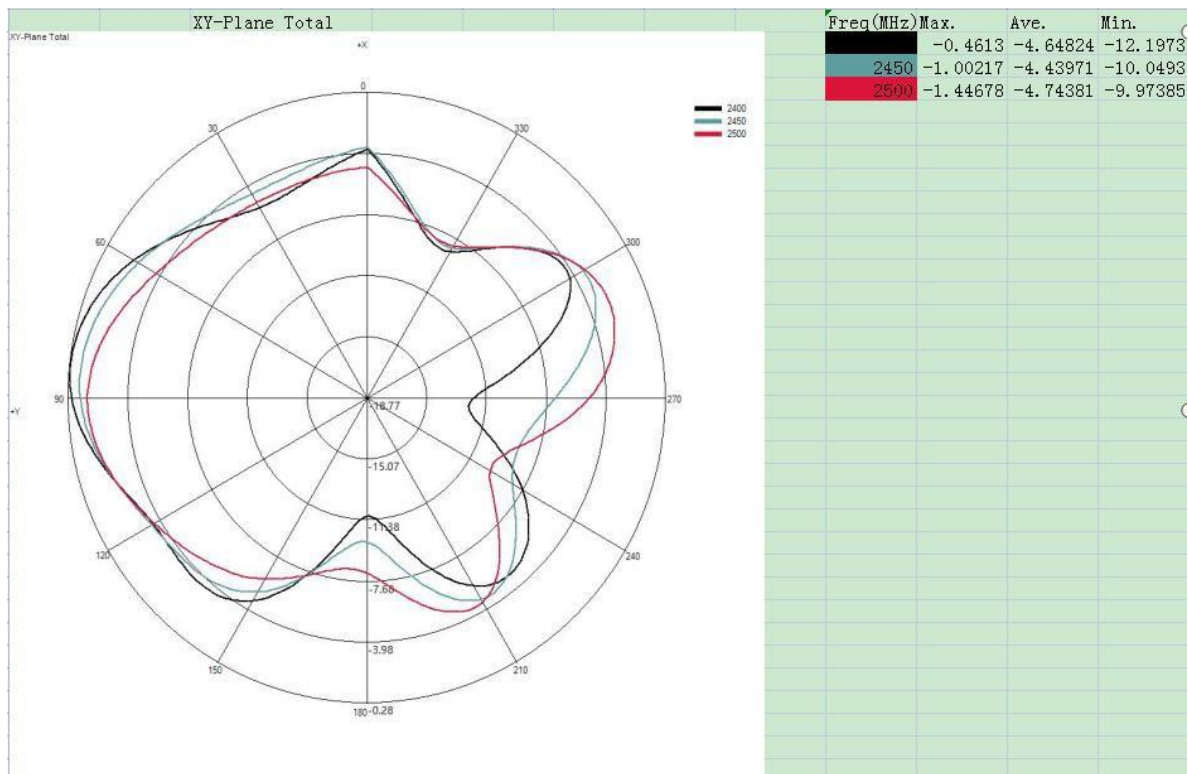
2.3.2 Passive antenna efficiency

Freq(MHz)	Gain(dBi)	Efficiency(dB)	Efficiency(%)
2400	1.74	-3.68	42.81
2410	1.90	-3.57	44.00
2420	2.21	-3.36	46.08
2430	2.46	-3.17	48.20
2440	2.66	-3.01	50.05
2450	2.98	-2.67	54.08
2460	3.29	-2.43	57.10
2470	3.54	-2.24	59.69
2480	3.73	-2.21	60.18
2490	3.79	-2.27	59.24
2500	3.49	-2.63	54.53

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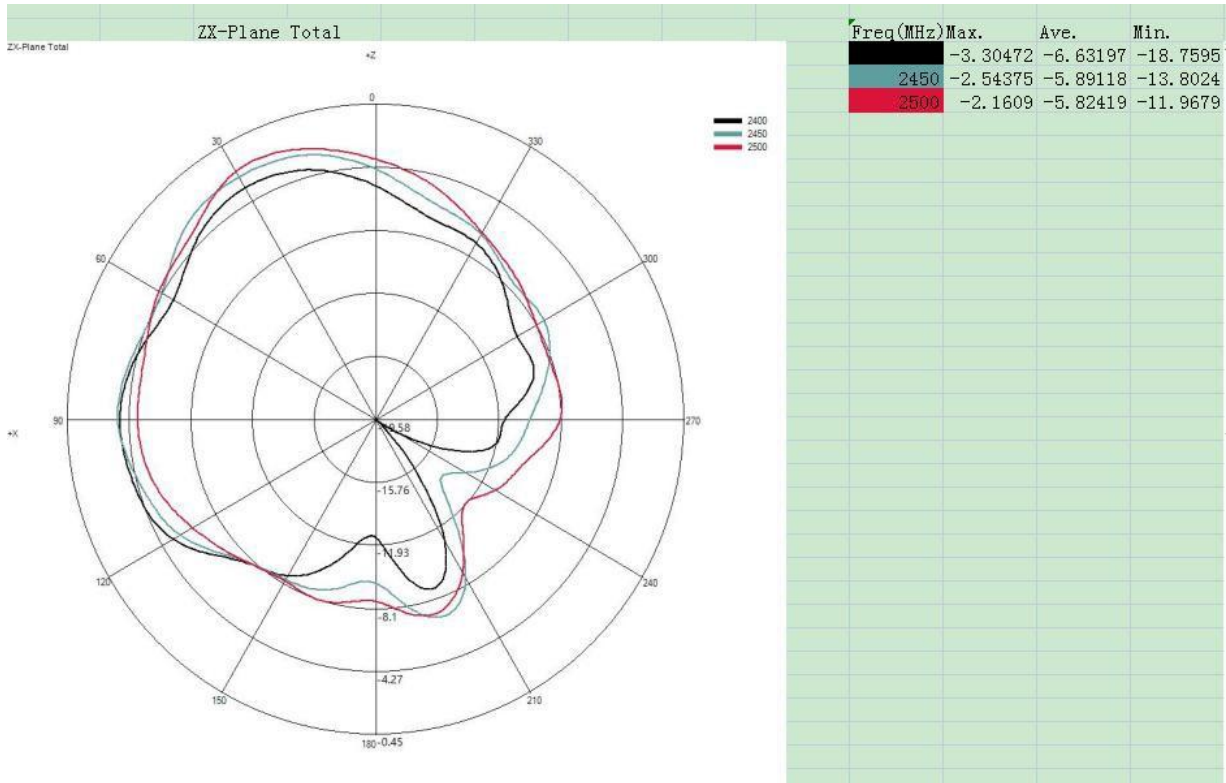
2.3.3 Directional diagram



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Confidential Information



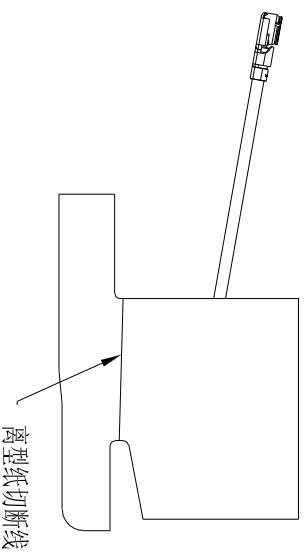
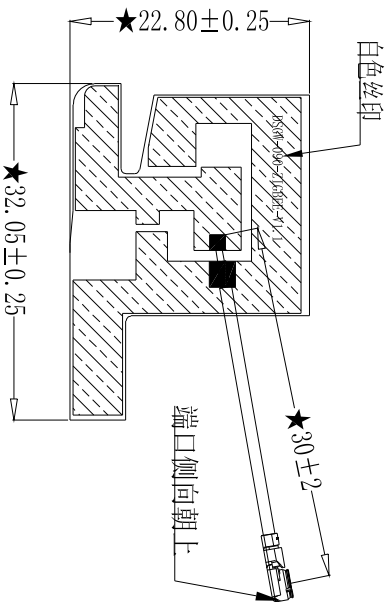
3. Recommendations and conclusions

This report is provided by customers DSGW-090 ZIGBEE. The 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、具体要求要求见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	

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	日期	页码
0~10 ±0.10	DSGW-090	2022.05.28	1/1
10~20 ±0.15	ZIGBEE天线成品		
20~40 ±0.20	V2183-004-A-04		
> 40 ±0.25	材质	品质审核	
	表面处理	结构审核	
	外观处理	单位 mm	比例
		批准	版本 R.A

序号	修改内容	版本	备注
1	修改内容	4	收回:

5	6	7	8
请勿实测图样位置	外观处理	单位 mm	比例
		批准	版本 R.A