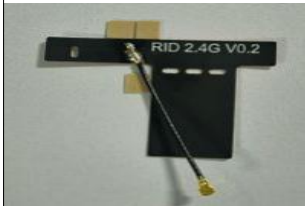


VLG TECHNOLOGY

VLG Wireless Technology Co., Ltd. sent sample antenna acknowledgement

Customer/ project name	Deep Sea Excellence/RID	Band	2400MHZ-2500MHZ
VLG Part number	V2160-006-A-01	Version	R: A
RF	You Yanli	Confirm	Quality Yu Hong
Structure	He Farong	PM	Bai Fenglian
Date	2023-9-6		
Customer project name & number	Customer Project Name:		
	Customer Project Number:		
Customer Confirmation			
RF	Quality		
Structure	PM		
Date			
R&D project customer satisfaction survey (please make a comment on our R&D or PM management personnel work to urge us to better serve you)			
RF technicians	☐ Satisfied	☐ Basically satisfied	☐ Dissatisfied
Structural technicians	☐ Satisfied	☐ Basically satisfied	☐ Dissatisfied
Project Management (PM Managers)	☐ Satisfied	☐ Basically satisfied	☐ Dissatisfied
Any advice or suggestion:			
Antenna picture:			

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2 Antenna test equipment.....	3
3 Electrical performance.....	4
3.1 Specifications.....	4
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4 Product diagram.....	6

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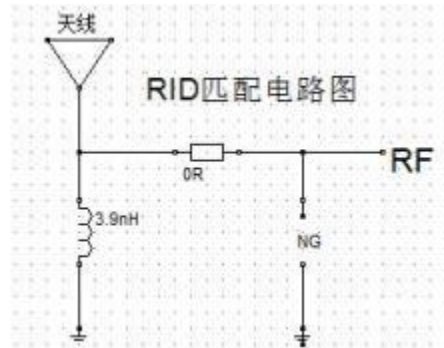
VLG Communication has possession of proprietary information provided in this report and this proprietary information shall be kept in strict confidence and not disclosed to any person or firm without the prior written consent of VLG Communication Technology.

1 Antenna matching diagram

The RID antenna is composed of FPC+ coaxial line, and the matching circuit of this project is as follows:



Antenna Bonding Diagram



2 Antenna test equipment

Antenna input characteristics were tested using the Agilent E5071C vector network analyzer; The antenna radiation characteristics were tested using the Satimo Starlab 3D near-field anechoic chamber and the Agilent 8960 E5515 comprehensive test instrument. The darkroom test coordinates are as follows:

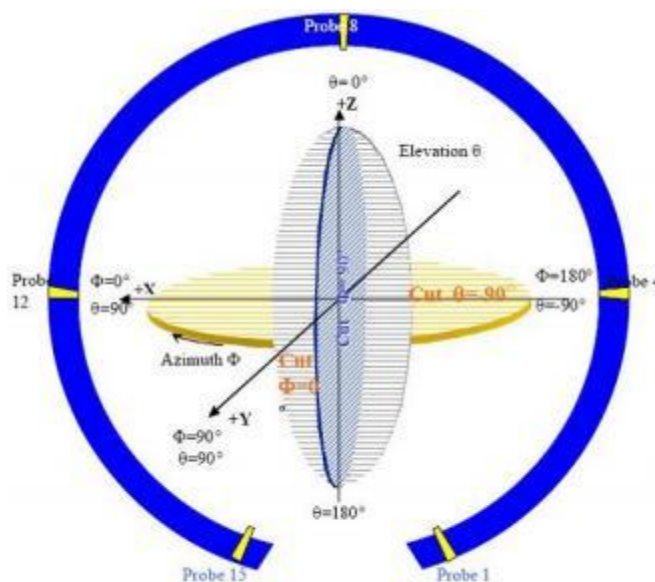


图4 3D微波暗室测试坐标系(back view)

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3 Electrical performance

3.1 Specifications

RID antennas operate in the frequency band of 2400-2500MHz; Resonance is generated in this frequency band. The following table is a test specification for the performance of VLG for RID antennas.

	Frequency (MHz)	VSWR	Frequency (MHz)	VSWR
Band	Transmitter		Receiver	
2400MHZ-2500MHZ		≤ 2.5		≤ 2.5

3.2 Passive S11 parameters:

Voltage Standing Wave Ratio (VSWR)



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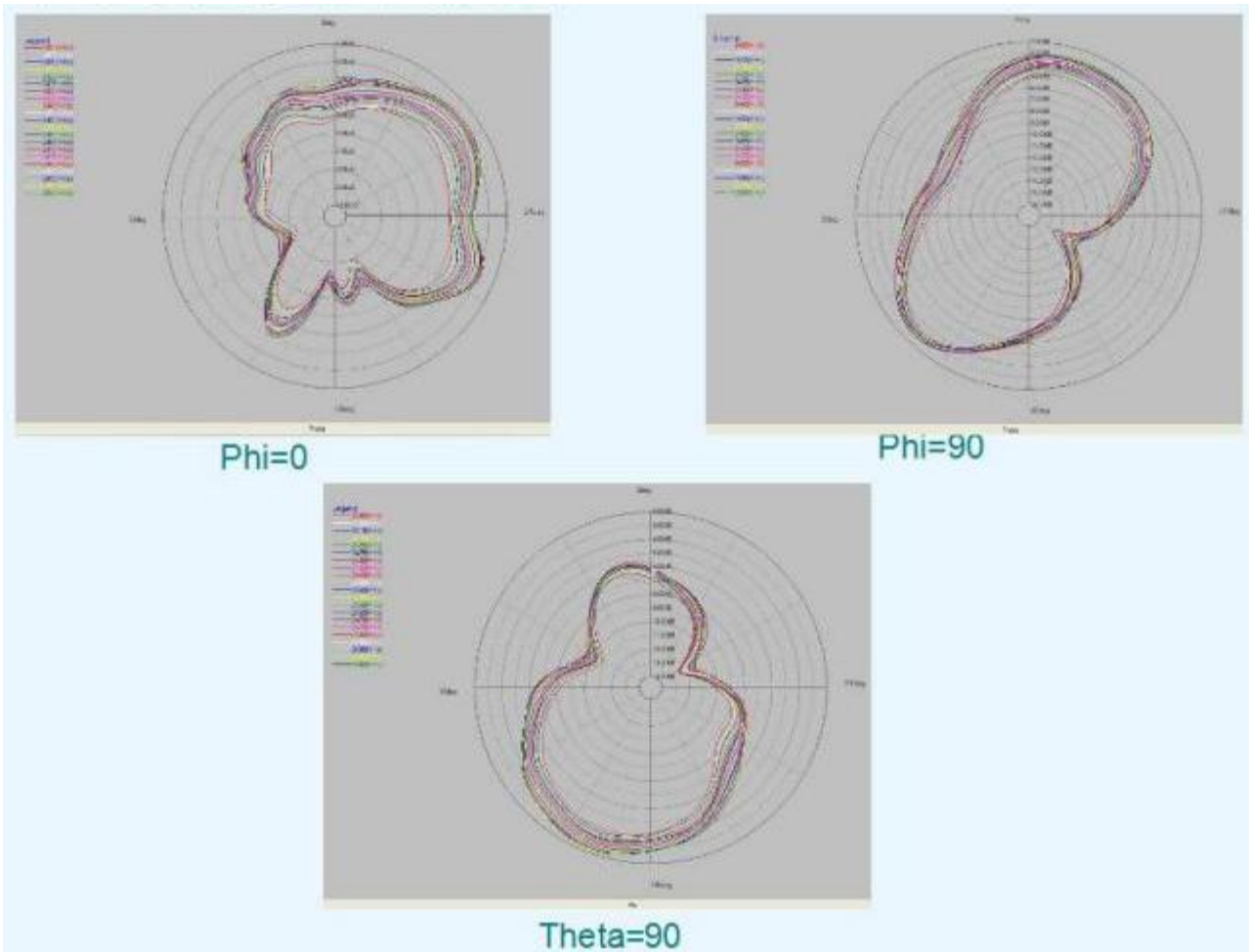
3.3 Passive source test data:

Frequency (MHZ)	Efficiency (%)	Efficiency . dB	Peak Gain .dB
2400	23%	-6.35	-3.41
2405	24%	-6.22	-3.29
2410	24%	-6.12	-3.19
2415	25%	-5.97	-3.03
2420	26%	-5.85	-2.94
2425	27%	-5.72	-2.84
2430	27%	-5.62	-2.69
2435	28%	-5.46	-2.51
2440	29%	-5.40	-2.43
2445	29%	-5.33	-2.33
2450	27%	-5.73	-2.25
2455	28%	-5.61	-2.10
2460	27%	-5.68	-2.00
2465	28%	-5.56	-1.86
2470	28%	-5.56	-1.87
2475	28%	-5.54	-1.77
2480	28%	-5.53	-1.72
2485	28%	-5.47	-1.64
2490	29%	-5.45	-1.65
2495	28%	-5.46	-1.65
2500	28%	-5.49	-1.63

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3.4 RED Antenna: 2.4G-2.5GHz antenna patterns



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1

2

3

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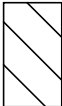
6

7

8

版本	变更履历	设计	日期
R:A	初版	何发荣	20230720

A



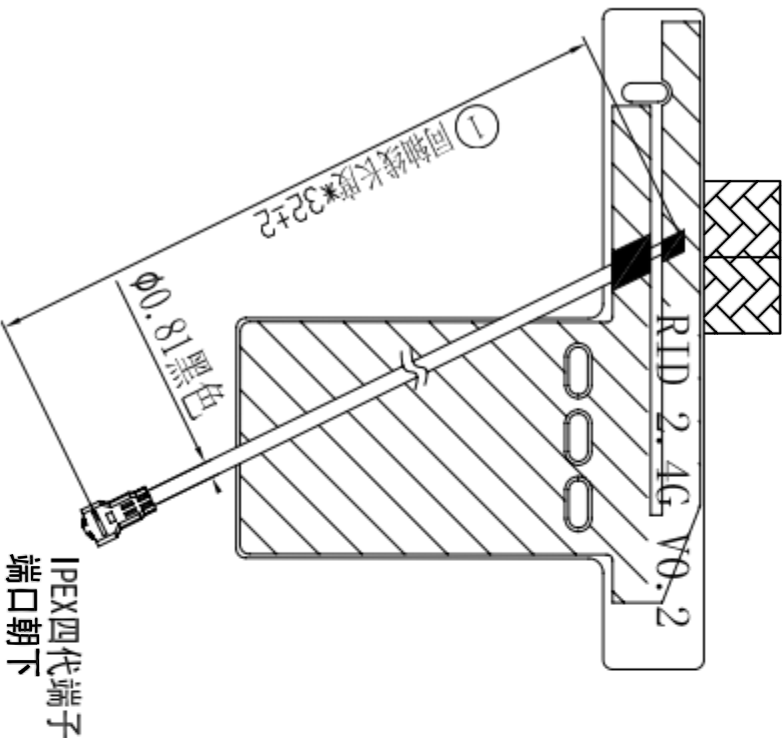
线路区域



焊点



离型纸手撕位



注:

1. 打“*”为严格控制尺寸（必测等级A）其它为设计参考尺寸等级C;
2. 没有破损/划伤等外观不良;
3. 需通过VLG品质部门要求的各项测试;
4. 任何用料的修改必须通过VLG研发部的书面同意;

由 Autodesk 教育版产品制作

A

B

C

D

D

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 机种号 V2160-006-01

0~10 ±0.10 项目名 RID

11~20 ±0.15 品名 FPC-2.4G天线

21~40 ±0.20 料号 V2160-006-A-01

>40 ±0.25 版本 R:A

图幅 A4 比例 1:1 单位 mm 页码 1/1

绘图 何发荣

射频频 郭益河

品质 李振

审核 王成

批准 廖兴永