

承认书

SPECIFICATION FOR APPROVA

客户名称： 惠州市博实结科技有限公司				
贵司料号：				
我司名称： 深圳市博佳通讯设备有限公司 SHENZHEN BOJIA COMMUNICATIONS DEVICE CO.,LTD				
产品型号： BJ2400 吸盘-3M-FAKRA-C-K1.5 白色 B 型				
我司料号： 1、新品承认（Newly Approved） 2、材料变更再承认（Material Approved） 3、规格变更再承认（SPEC Approved）				
VERSION	DATE	PREPARED BY	CHECKED	APPROVED
V3.0	2023-03-29	杨诗慧	向建均	刘远
博佳承认（签章处）				
客户确认				
品管部		生产部	技术部	
姓名：		姓名：	姓名：	
电话：		电话：	电话：	
客户承认（签章处）				

地址：深圳市龙岗区横岗镇排榜社区四联路砖厂工业区 2 号厂房 2 楼

Address: Building 2, 2nd Floor, Brick Factory Industrial Zone, Silian Road, Paiban Community, Henggang Town, Longgang District, Shenzhen, China

TEL:0755-89565430

FAX:0755-28229907

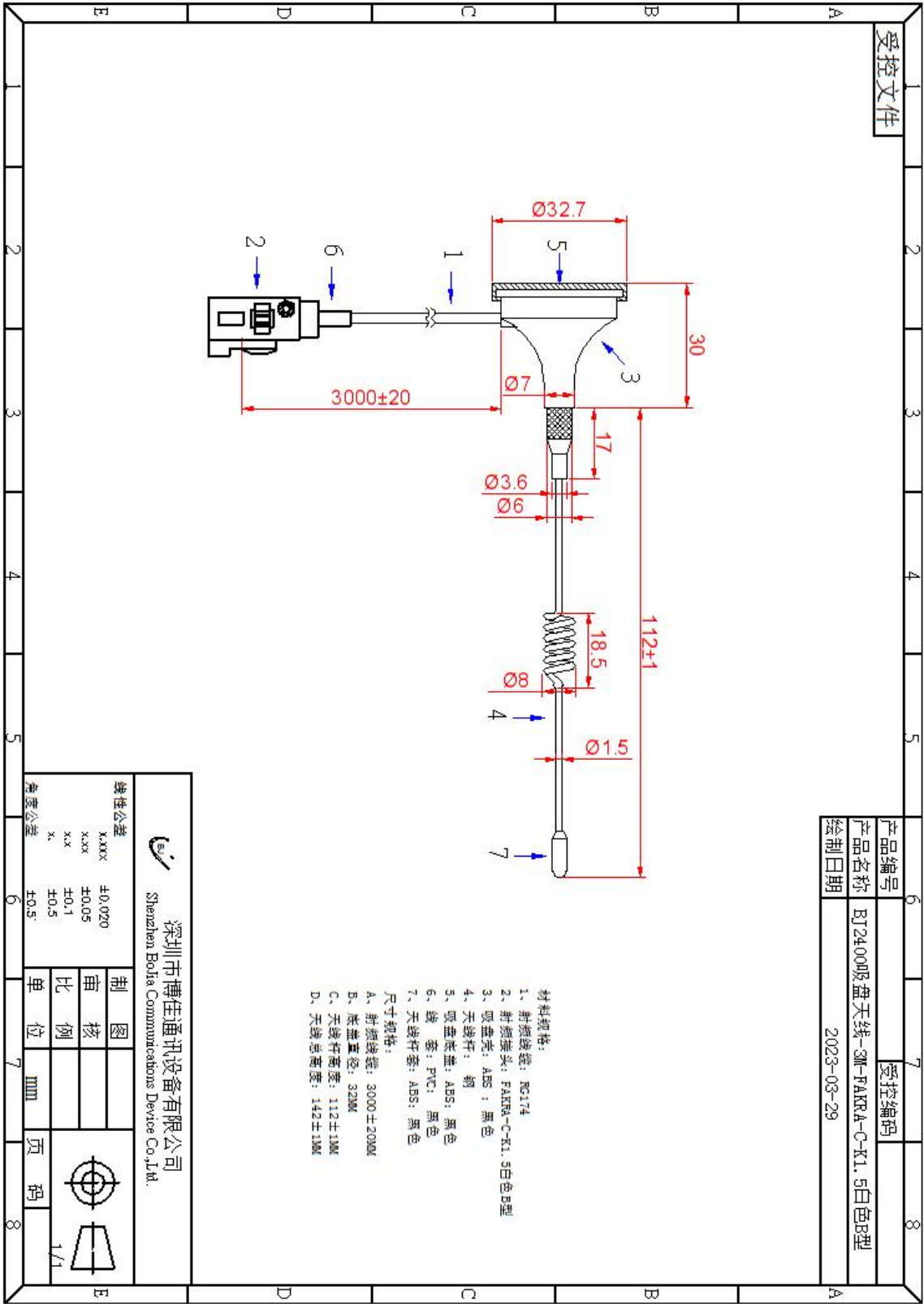
TEL:0755-89565907

BJ2400 吸盘天线

一、技术参数:

Model 型号	BJ2400
Frequency Range 频率范围-MHz	2400~2500
Gain 增益-dBi	5.32
VSWR 电压驻波比	≤2.0
Input impedance 输入阻抗-Ω	50
Polarization 极化方式	Vertical 垂直
Maximum Power 最大功率-W	20
Connector Type 连接器型号	FAKRA-C-K1.5 白色 B 型
Cable Length 电缆长度-m	3000±10
Cable 线材	RG174
Installation 安装方式	螺丝口连接 磁吸附粘贴 Screw port to connect the magnetic adsorption paste

二、结构图 Structure Picture

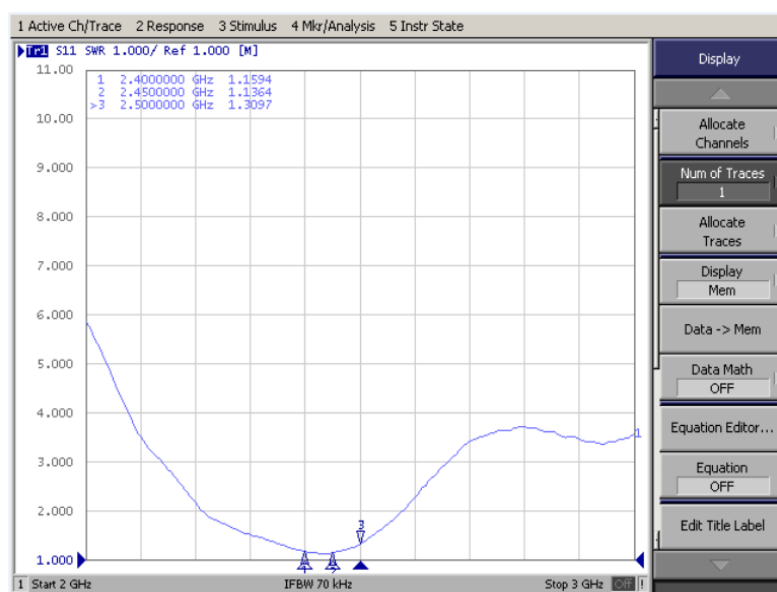


三、实物图



测试数据Test data

SWR



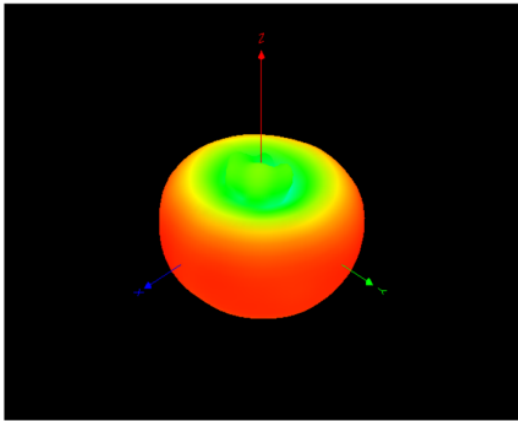
效率&增益Efficiency & Gain:

Efficiency&Gain

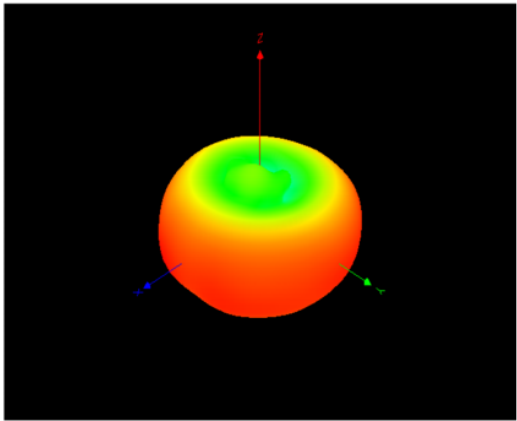
Frequency / MHz	Efficiency / %	Gain/ dBi
2400	71.34	4.52
2410	67.25	5.32
2420	72.13	5.01
2430	68.34	4.68
2440	71.33	4.82
2450	69.52	4.85
2460	75.24	5.06
2470	72.23	5.12
2480	70.35	5.02
2490	71.34	4.85
2500	71.25	4.89

方向图（3D图） Patten

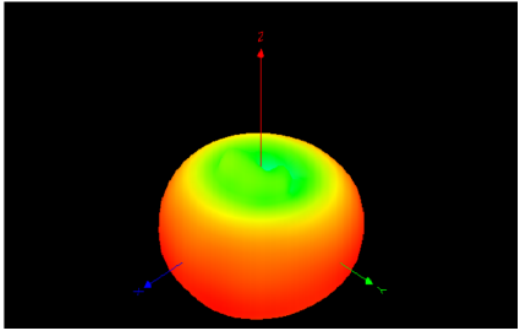
2400MHz



2450MHz

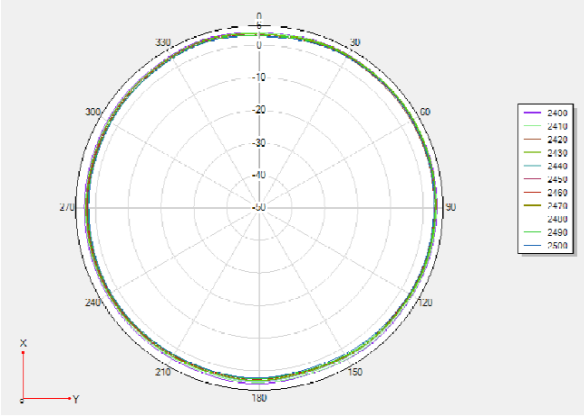


2500MHz

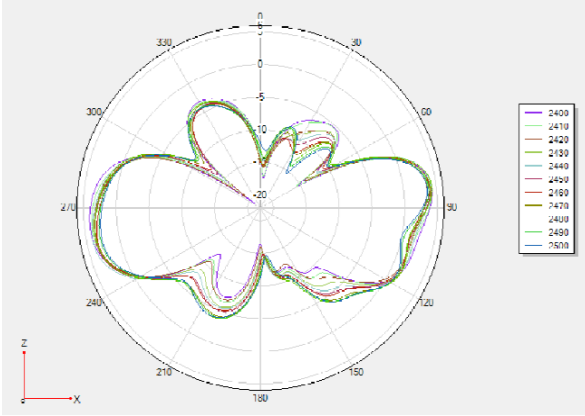


2D图

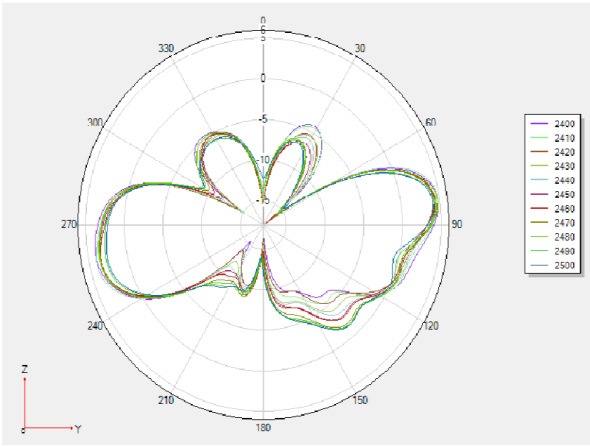
XOY 面



ZOX 面



ZOY 面



目录/Catalogue

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二. Technical Parameter /技术参数

1. Antenna/天线

No/序号	Part Name/项目	SPEC/规格	
1	Frequency Range/ 频率范围	824-960MHz&1710-2690 MHz	
2	Impendence/阻抗	50 ohm nominal	
3	Gain/增益	Low Band	-2.90 dBi
		High Band	-1.13dBi
4	Polarization/极化	LINE	
5	VSWR/驻波比	<2.0	
6	Efficiency/效率	≥10% AVG	
7	RF Cable/射频连接线	RG174 线 2 米	
8	RF Connector/连接器	SMA 镀金公头公针	

2. Environmental Characteristics/环境特性

No/序号	Part Name/项目	SPEC/规格
1	Operation Humidity /工作湿度	5~95%不冷凝
2	Operating Temperature/ 工作温度	-30~+105℃
3	Store Temperatuer/工作 储存温度	-35~+105℃
4	Salt Spray Test/ 盐雾试验	24H

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射频性能测量报告

RF Performance Test Report

客户名称 Customer Name	博实结	项目名称 Project Name	海外视频机 (GF-GD 系列)	盛邦尔料号 Surbaner P/N	3160-180-00590
频段 Band	824-960MHz& 1710-2690MHz	测试日期 Test Date	2023/09/01	测试人 Inspector	曾心荣

天线测试设备简介

Antenna Test Equipment Introduction

测试天线输入特性使用 Agilent E5071C and Agilent 5062A 矢量网络分析仪；辐射特性利用 Satimo 三维近场暗室进行测试，并分别使用 8960 E5515 和 Agilent E4438C 进行了分析。暗房的测试坐标如下：

Test of antenna input characteristics using Agilent E5071C and Agilent 5062A vector network analyzer; The radiation pattern of the antenna are tested using the Satimo starlab 3D near field Anechoic Chamber, and the instrument is used to agilent8960 E5515 and Agilent E4438C. The test coordinates of the darkroom are as follows:

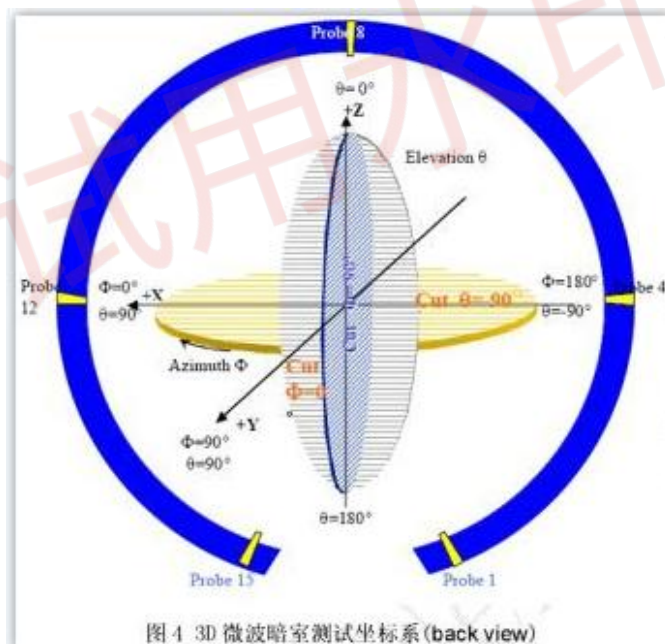


图 4 3D 微波暗室测试坐标系 (back view)

1. S11 参数测量/S11 Parameter-VSWR

使用一根 50 Ω 同轴电缆连接到天线，然后该电缆连接到网络分析仪测量 S11 参数，被测量产品远离金属至少 20 厘米。

Measuring Method is a 50 Ω coaxial cable is connected to the antenna. Then this cable is connected to a network analyzer to measure the S11 parameter, Keeping this fixture away from metal at least 20cm.

Product Overview & Dimension



Test System

Sequence Number	Test Item	equipment
S parameter	VSWR	Agilent 5071C & Agilent 5062A
OTA Test	TRP&TIS	Agilent 8960 E5515C& Agilent 4438C&CMW500 &CMW270 ETS&SATIMO
Gain & Efficiency	Gain & Efficiency	ETS&SATIMO Agilent 5071C



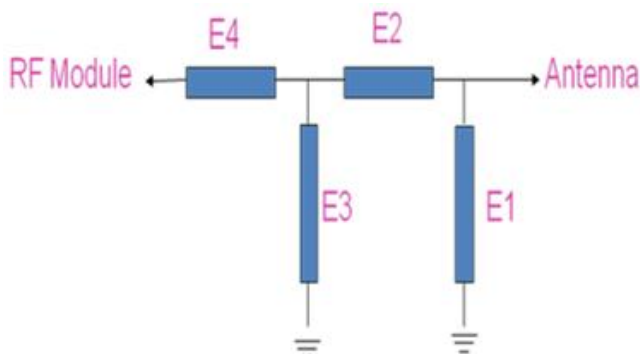
地址：深圳市宝安区西乡街道鹤洲社区恒丰工业城 B25 栋 2 楼 TEL: 0755-82790675 FAX: 0755-82809726

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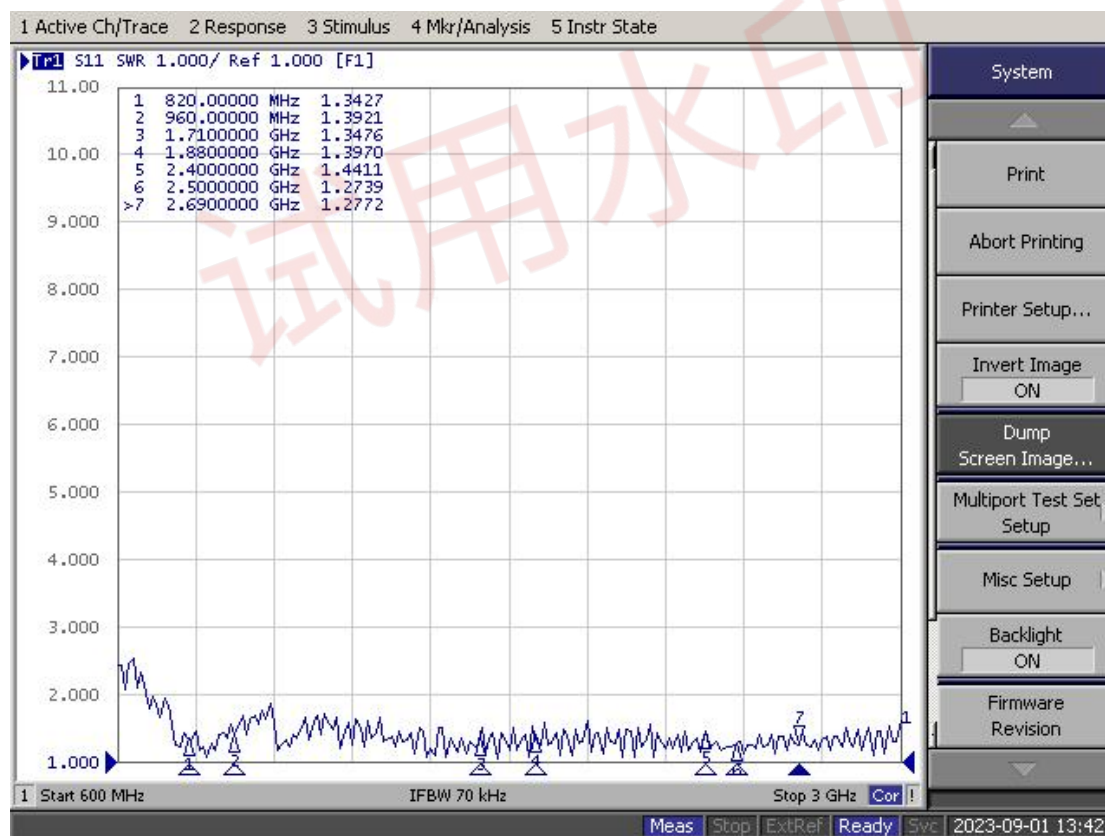
2. 天线匹配网络/Antenna Matching Network



Element	Capacitor	Inductor
E1	N/A	N/A
E2	N/A	N/A
E3	N/A	N/A
E4	N/A	N/A

PCB 板端匹配电路未改动

S11 Parameter-VSWR



Frequency (mhz)	820	960	1710	1880	2400	2500	2690
VSWR	1.34	1.39	1.34	1.39	1.44	1.27	1.27

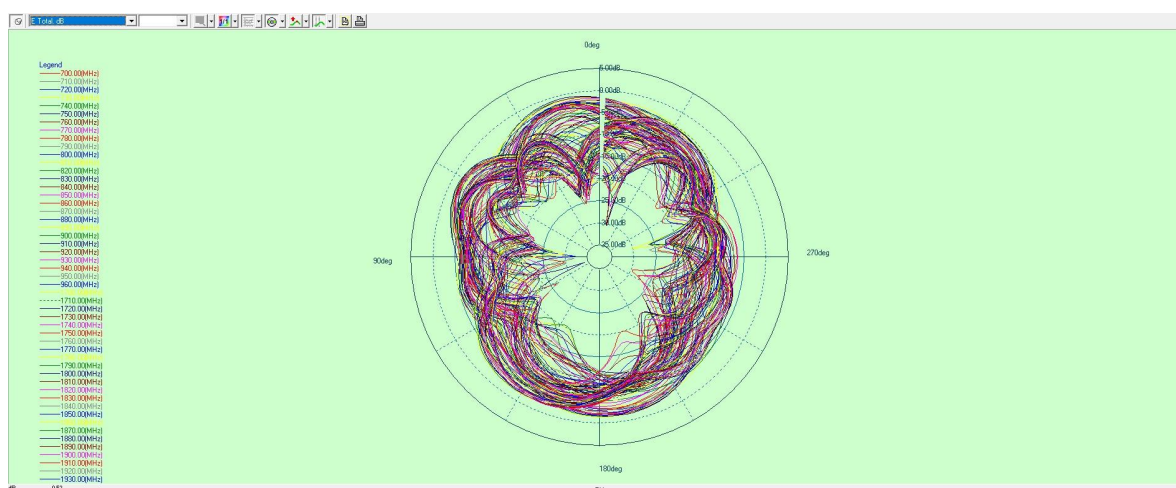
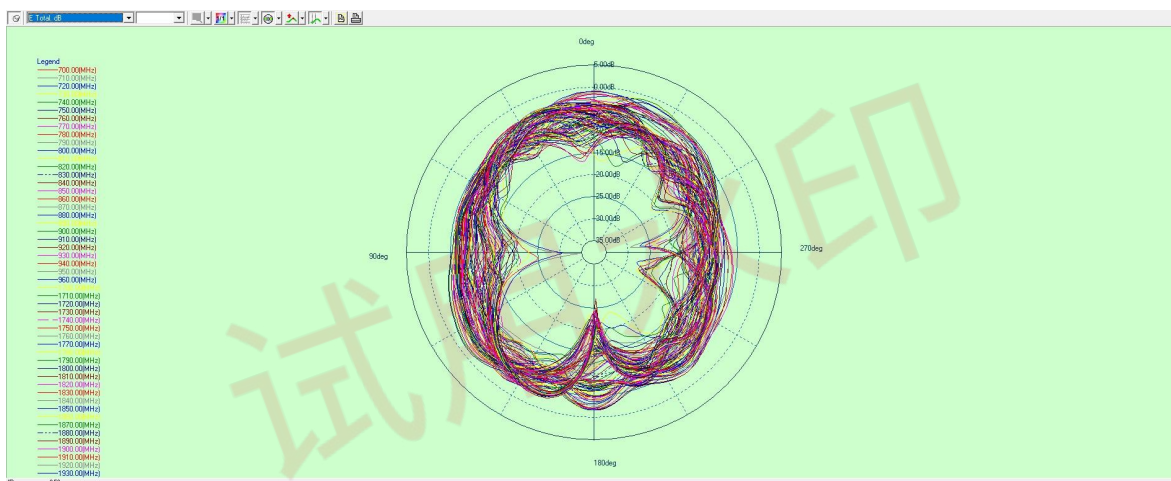
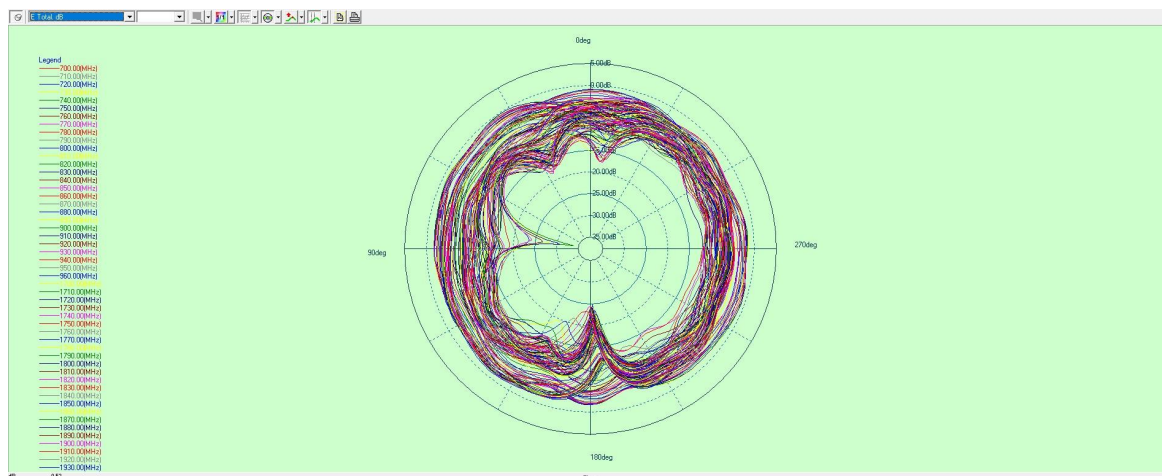
地址：深圳市宝安区西乡街道鹤洲社区恒丰工业城 B25 栋 2 楼 TEL: 0755-82790675 FAX: 0755-82809726

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2D Pattern



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3.Gain & Efficiency

Frequency (MHz)	Efficiency (%)	Peak GAIN (dBi)
820	18.92	-2.52
960	31.08	-1.13
1710	21.46	-1.90
1880	16.53	-2.29
2170	17.22	-2.69
2400	14.90	-2.17
2500	18.59	-1.78
2690	16.94	-2.90

产品包装规范

Product packaging specifications

产品包装规范	
page: 1 of 1	
项目名: 海外视频机 (GF-GD系列)	版本: A
客 户: 博实结	成品名称: 4G天线
一: 成品天线 二: 每PE袋装1PCS产品 (以实际包装为准)。 三: 装箱, 每500袋装一箱, 一箱共500PCS产品 (以实际包装为准)。 四: 封箱, 外箱贴我司生产标签和ROHS标签。	



样品尺寸测量报告

Sample Dimensions Test Report

客户名称 Customer Name	博实结	客户料号 Customer P/N	1301-01082	盛邦尔料号 Surbaner P/N	3160-180-00590
测试日期 Test Date	2023/09/05	样品数量 Sample Qty.	3	测试人 Inspector	曾心荣
尺寸编号 Dimension No.	标准 Standard	样品 1 Sample 1	样品 2 Sample 2	样品 3 Sample 3	Pass/NG
①长度	137.80±2mm	137.82	137.80	137.78	Pass
②宽度	23.00±1mm	23.02	23.00	22.98	Pass
③厚度	7.40±0.5mm	7.42	7.40	7.38	Pass
④线长	2000±30mm	2002	2000	1998	Pass
⑤					
⑥					
⑦					
最终结论 Conclusion					PASS
测试人&日期 Inspector & Date	曾心荣 2023/09/05		批准&日期 Approval & Date		

可靠性测试报告

Reliability Test Report

客户名称 Customer Name	博实结	客户料号 Customer P/N	1301-01082	盛邦尔料号 Surbaner P/N	3160-180-00590	
测试日期 Test Date	2023/09/04	样品数量 Sample Qty.	3	测试人 Inspector	何春辉	
测试项目 Test Item	要求 Requirement	试验设备 testing equipment	样品 1 Sample 1	样品 2 Sample 2	样品 3 Sample 3	判定 PASS/NG
高温存储	在+105℃条件下暴露 24H, 恢复 2H 后进行测试电气性能正常	恒温恒湿箱	OK	OK	OK	Pass
低温存储	在-30℃条件下暴露 24H, 恢复 2H 后进行测试电气性能正常	恒温恒湿箱	OK	OK	OK	Pass
高温工作	在+105℃条件下通电工作 24H 电气性能正常	恒温恒湿箱	OK	OK	OK	Pass
低温工作	在-35℃条件下通电工作 24H 电气性能正常	恒温恒湿箱	OK	OK	OK	Pass
连接器盐雾试验	(5 ± 0.5)%氯化钠、pH 值为 6.5~7.2, 实验箱温度 (35 ± 2) °C ☒ 24H ☐ 48H	盐雾试验机	OK	OK	OK	Pass
连接器铆压拉拔力	RG174 线接 SMA 连接器 ≥60N	推拉力计	64N	66N	68N	Pass
最终结论 Conclusion						Pass
测试人 & 日期 Inspector & Date	何春辉 2023/09/05		批准 & 日期 Approval & Date			