



承认书

SPECIFICATION FOR APPROVAL

客户 Customer: 龙辉

品牌 Brand: 启元

品名 Description: 2.4G 波浪形天线

规格/型号

Specification

/part no: 外置天线/50 Ω /2.4-2.5GHz/3.0dBi@
2.4G/黑色波浪形形天线

日期 Date: 2023.10.28

备注 Remark:

承认签章后请回复一份（或复印件）给我司，其余由贵公司留作存档。如果在签章的承认书（或复印件）回复给我司之前，下了有关此规格产品的订单且又无特别说明，那么我司就确定贵司已完全承认了。Please return one specification or one copy of it with your chop and signature of approval and retain the others for your record. In the event of an order being placed for this part number before the chop and signed with specification (or copy) is returned and without special explanation, it will be assumed that full approval have been given.

客户签字盖章:

拟制/日期 CHECKED/DATE	审核/日期 AUDITOR/DATE	批准/日期 APPROVED/DATE



规格书

客户料号

Customer P/N:

规格描述

Specification: 外置天线/50Ω/2.4-2.5GHz/3.0dBi@2.4G/黑色波浪形天线

品名 Description: 2.4G 波浪形天线

供应商 Supplier: 启元

生产商 Producer: 启元

备注 Remark:

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拟制/日期 CHECKED/DATE	审核/日期 AUDITOR/DATE	批准/日期 APPROVED/DATE
Zhang Bingxiang 2023.10.28	Wu Qianjin 2023.10.28	Luo Daxun 2023.10.28



天线照片 (Picture) :



(图片仅供参考，以图纸为准)

电气参数 (Electrical parameters) :

Frequency 频率范围	2.4~2.5GHz
Impedance 特性阻抗	50Ω
S.W.R. 电压驻波比	≤2.0
Antenna Gain 增益	3.0dBi±0.5@2.4GHz
Polarization 极化形式	垂直极化
Return Loss 回波损耗	-9.2dB MAX

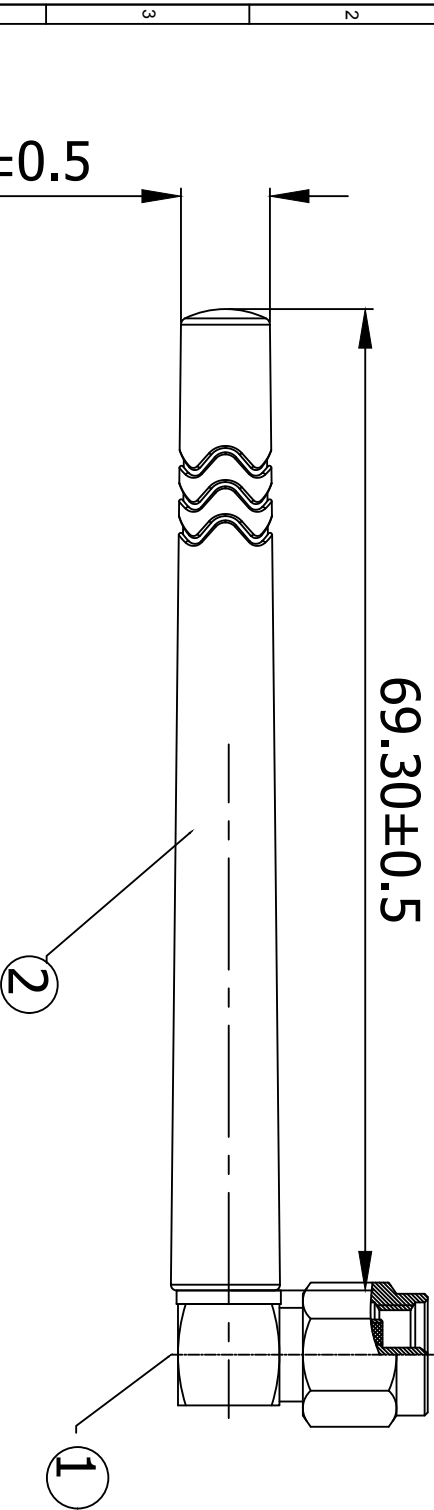
机械参数(Mechanical parameters):

Antenna Colour 天线颜色	黑色
RF Cable Model 射频线型号	RG178, 棕色
Connect Type 接口方式	

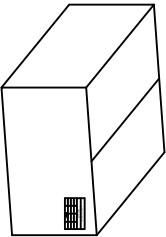
工作/储存温度 (Operating/ Storage Temperature) :

Operating Temperature 工作温度	-40~85℃
Storage Temperature 储存温度	-40~85℃

F		G
REV	DATE	DESCRIPTION
A	2023.10.28	NEW ISSUE



Specification:
Frequency Range : 2400~2500MHz
VSWR: 1.92:1max
Gain: 3.0dBi



1. 外箱需贴上1pcs/ROHS环保
标签至外箱标签上;
2. 外箱须贴上1pcs外箱标签至
外箱右上角。
- Pack full: 50pcs/PE Bag

2		塑胶体	1	
1			1	
NO	DESCRIPTION		QTY	REMARK
COSTOMER:		QY165		
PART NO :		HVG10031		
PARTNAME :				
R.F P/NO :		QY165-21S0004A		
REV	UNIT	SCALE	SIZE	SHEET
A	mm	1:1	A4	10F1

XXX ±5.0
XX ±3.0
X ±1.0
X ±0.5
XX ±0.1

APPROVED
CHECKED
DRAWING

朱卿

东莞市启元电子科技有限公司
QiYuan Electronic technology Co.,
LTD.



测试设备(Test equipment):



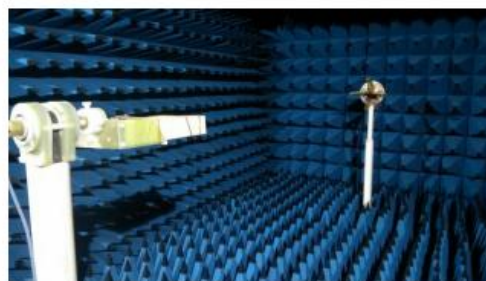
安捷伦 E5071C 网络分析仪



HP 8594E 频谱分析仪



CMW-500

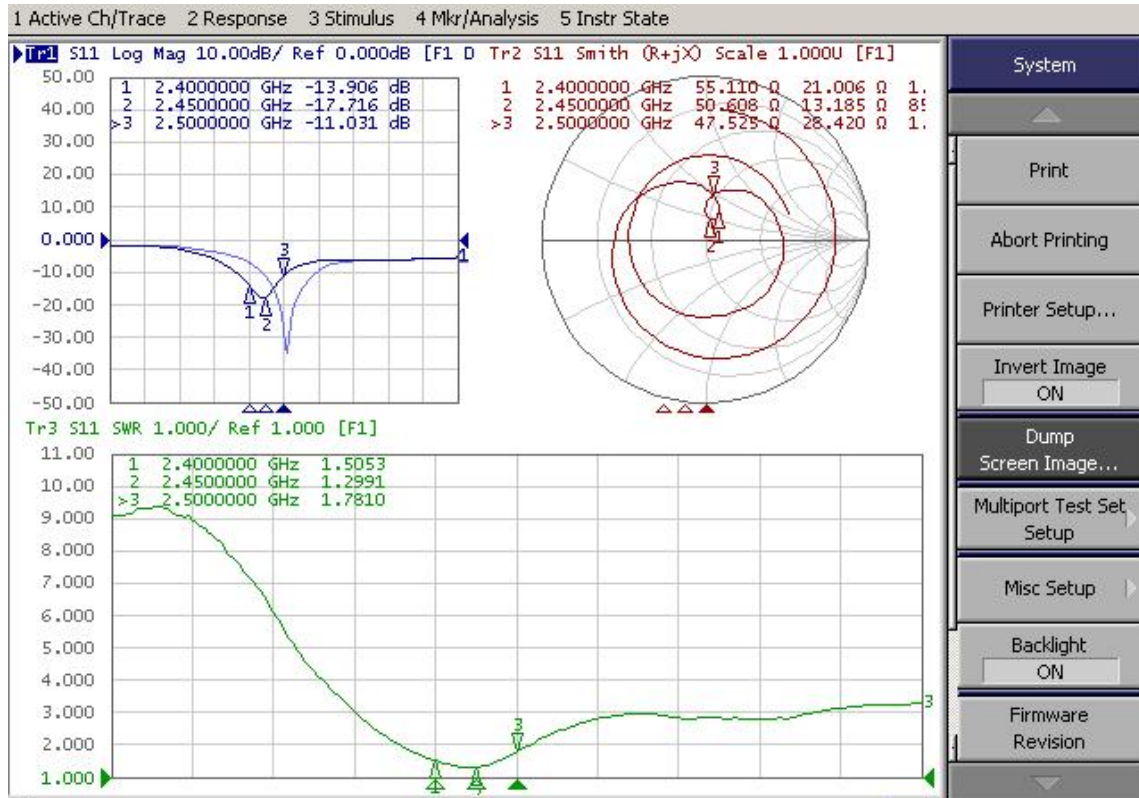


微波暗室



测试参数(Testing Parameters)

阻波比&回波损耗(V.S.W.R&Return Loss)



增益&效率(Gain&Efficiency)

FEITUKEJI											
Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Gain (dBi)	3.41	3.33	3.27	3.39	3.45	3.53	3.52	3.41	3.58	3.34	3.45
Efficiency (%)	65.72	68.41	69.44	68.68	69.10	70.02	71.74	68.89	69.35	67.20	66.89

2D、3D 场型图(2D、3D Radiation Patter)

