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东莞市仁丰电子科技有限公司

Dongguan RF Electronic Technology Co., Ltd

规格书

SPECIFICATION FOR APPROVAL

客户名称

CUSTOMER NAME: 国光电器

产品名称

PRODUCT NAME: 2.4G BT 内置天线 L=280mm

客户料号

CUSTOMER P/N:

仁丰料号:

Ren Feng P/N: U00T02S000N06569 REV: A

	MANUFACTURER SIGNATURE	CUSTOMER SIGNATURE
CHECKED BY:	赵文天	
AUDITOR BY:	姚鑫	
APPROVED BY:	姚定军	
DATE:	2024-07-19	



东莞市仁丰电子科技有限公司

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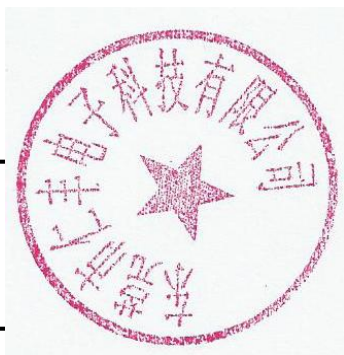
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一、变更履历(Change resume)：

版本	日期	变更记录
A	2024-07-19	初版发行

Contents

<i>Item</i>	<i>Description</i>
一、-----	封面 Cover
二、-----	履历表 Resume
三、-----	目录 Contents
四、-----	规格 Specifications sheets
五、-----	成品图 End product chart
六、-----	测试报告 Testing report



产品主要技术参数

Main technical specifications

主要技术指标		Main technical specifications	
频率范围 (MHZ)	2400~2500	Frequency Range (MHZ)	2400~2500
中心频率 特性阻抗(Ω)	50	Impedance(Ω)	50
增益(dBi)	≤ 3.75	Gain(dBi)	≤ 3.75
回波损耗	≤ -9.5	Return Loss(dB)	≤ -9.5
输出电压 驻波比	≤ 2.0	VSWR	≤ 2.0
极化方式	线极化	Polarization	Linear Polarization
方向性	全向性	Radiation	Omni-directional
连接方式	端子	Connector Type	MHF Plug

REV		DATE	DESCRIPTION	Change the code
A		2024-07-19	NEW ISSUE	

虚线处切断离型纸，
做手撕位

The diagram illustrates the antenna assembly with the following details:

- Top View:** Shows a rectangular substrate with a cross-hatched pattern. A dashed line indicates the tear-off point for the release paper. Dimensions include a width of 280 ± 3 mm and a length of 235 ± 3 mm. A small rectangular feature is dimensioned as 25 ± 3 mm.
- Side View:** Shows the profile of the assembly. The total height is 14.4 ± 0.2 mm. The substrate thickness is 0.2 ± 0.1 mm. The antenna element is labeled "2687A RF 0".
- Detail View (Callout 3):** A cross-sectional view of the antenna element, showing the "RFlink" logo and the text "2687A RF 0". A note indicates "此处需要打胶" (Glue is needed here) at the base of the element.
- Callouts:**
 - ①: Points to the antenna element.
 - ②: Points to the mounting base.
 - ③: Points to the detail view of the antenna element.
 - ④: Points to the substrate.
 - ⑤: Points to the glue application area.

规格Specification:
频率Frequency Range:2.4-2.5GHz

NO.		DESCRIPTION	Q'TY	REMARK
1	1	胶水	1	UV胶
2	1	海绵	1	海绵 ; 海绵胶
3	1	FPC	1	PI ;
4	1	端子	1	Copper ;
5	1	线材	1	φ1.37 Gray ;
带公差尺寸为检验尺寸				
产品符合环保RoHS2.0之要求				

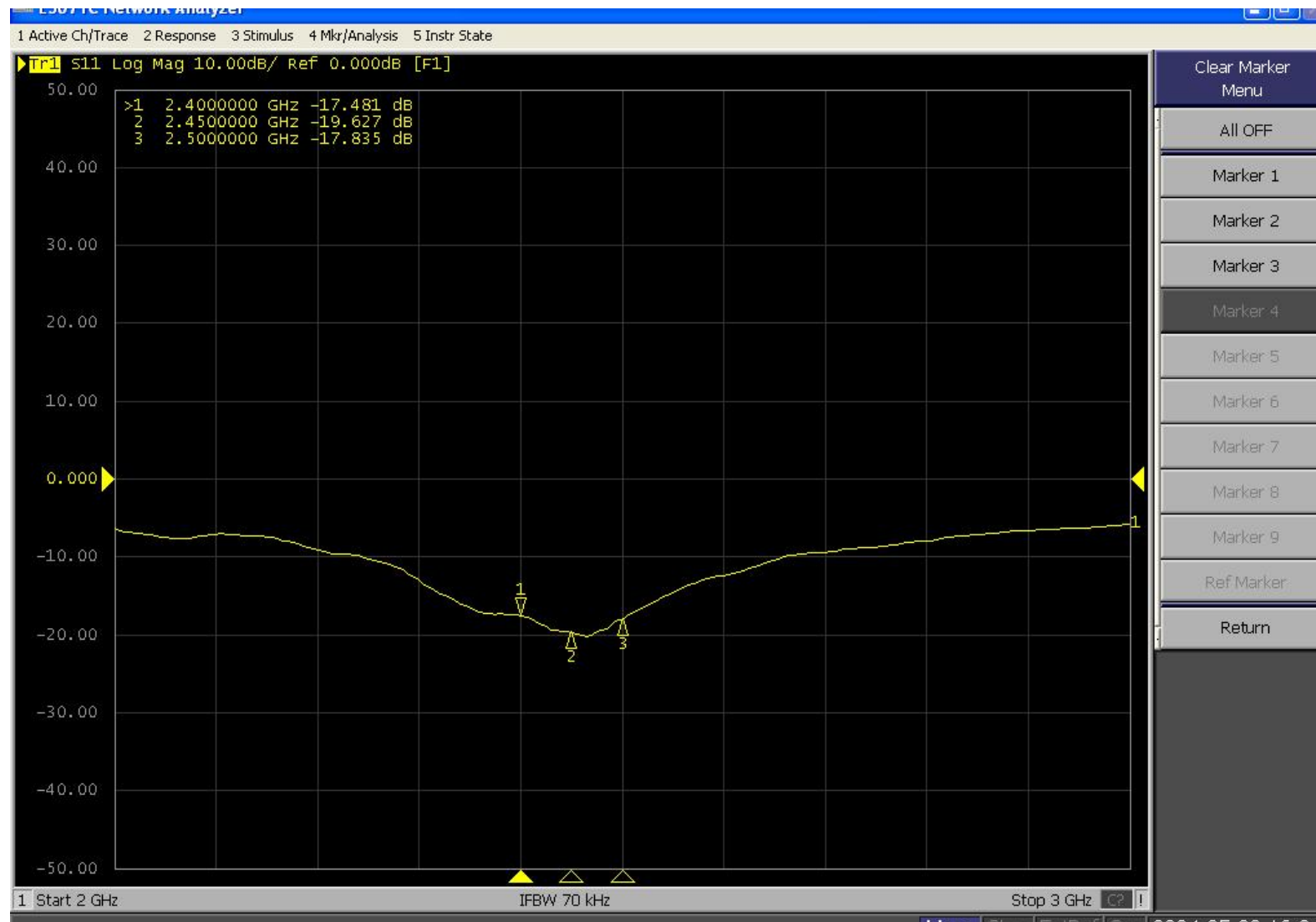
尺寸范围 (mm)		公差 (mm)
0<L≤6		±0.10
6<L≤30		±0.10
30<L≤90		±0.15
90<L≤180		±0.20
180<L≤315		±0.25
315<L≤800		±0.35
角度		±0.5°

APPROVED		CUSTOMER:	
CHECKED		PART NO. :	
DRAWING		PARTNAME : RF Antenna Assembly	
REV		R.F P/NO : U00T02S000N06569	
UNIT		SCALE	
mm		1:1	
A4		SHEET	
10F1		10F1	

RFlink
东莞市仁丰电子科技有限公司
RenFeng Electronic technology
Co., LTD.

无源S11 (Passive S11)

◆ 无源S11 (Passive S11) 原天线新位置



无源效率、增益测试报告 (Passive efficiency and gain test report)

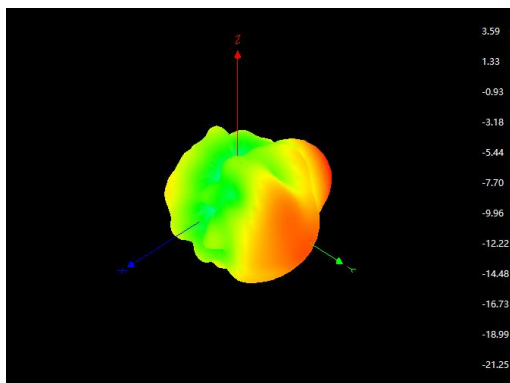
◆ 无源效率、增益测试报告 (Passive efficiency and gain test report) 新方案

Frequency / MHz	Efficiency / %	Gain/ dBi
2400	66.45	3.59
2410	67.17	3.43
2420	67.72	3.47
2430	68.27	3.57
2440	69.66	3.61
2450	69.35	3.75
2460	67.98	3.72
2470	65.54	3.69
2480	66.16	3.51
2490	64.34	3.11
2500	65.8	3.31

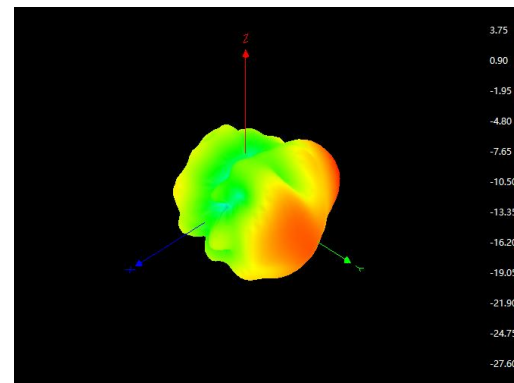
辐射方向图 (Radiation pattern)

◆ 辐射方向图 (Radiation pattern) 原天线新位置

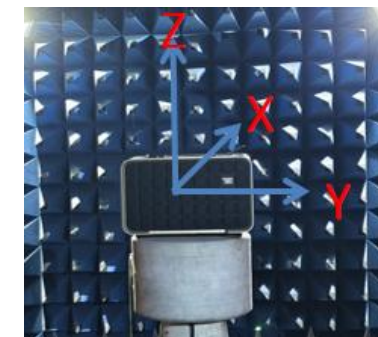
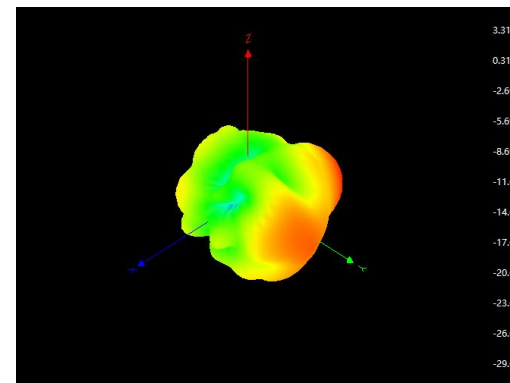
3D 2400MHz



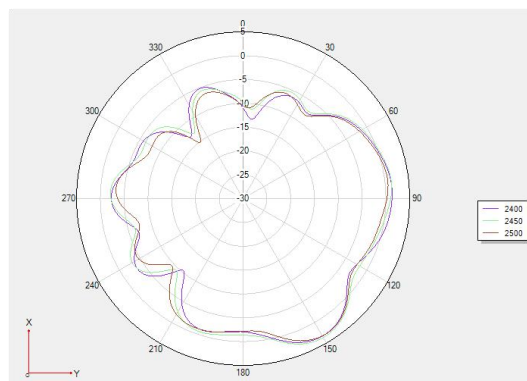
3D 2450MHz



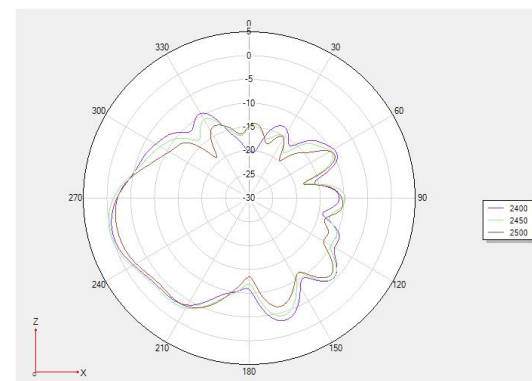
3D 2500MHz



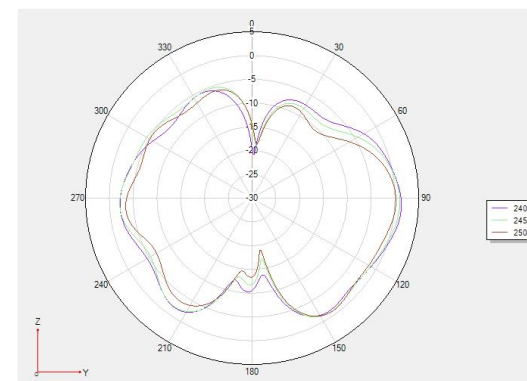
XY面



ZX面



ZY面



辐射方向图（Radiation pattern）

◆ 有源TIS、TRP（Active TIS、TRP）原天线新位置 #1

Item	Measurement	Azimuths	Elevations	Standard	Band	Channel	Frequency	Total
1	TRP	Every30	Every30	BLUETOOTH	BLUETOOTH	0	2402	6.26
2	TRP	Every30	Every30	BLUETOOTH	BLUETOOTH	39	2441	6.19
3	TRP	Every30	Every30	BLUETOOTH	BLUETOOTH	78	2480	6.01
4	TIS(EIRP)	Every30	Every30	BLUETOOTH	BLUETOOTH	0	2402	-91.01
5	TIS(EIRP)	Every30	Every30	BLUETOOTH	BLUETOOTH	39	2441	-90.84
6	TIS(EIRP)	Every30	Every30	BLUETOOTH	BLUETOOTH	78	2480	-90.11

辐射方向图（Radiation pattern）

◆ 有源TIS、TRP（Active TIS、TRP）原天线新位置 #2

Item	Measurement	Azimuths	Elevations	Standard	Band	Channel	Frequency	Total
1	TRP	Every30	Every30	BLUETOOTH	BLUETOOTH	0	2402	6.16
2	TRP	Every30	Every30	BLUETOOTH	BLUETOOTH	39	2441	6.1
3	TRP	Every30	Every30	BLUETOOTH	BLUETOOTH	78	2480	6.06
4	TIS(EIRP)	Every30	Every30	BLUETOOTH	BLUETOOTH	0	2402	-91.34
5	TIS(EIRP)	Every30	Every30	BLUETOOTH	BLUETOOTH	39	2441	-91.27
6	TIS(EIRP)	Every30	Every30	BLUETOOTH	BLUETOOTH	78	2480	-90.57

◆ 传导TIS、TRP (Conduction TIS、TRP)

Measurement	Channel	Frequency	Total
TRP	0	2402	8.93
TRP	39	2441	8.95
TRP	78	2480	8.89
TIS	0	2402	-95
TIS	39	2441	-96
TIS	78	2480	-96