



深圳市东信通电子科技有限公司

ShenZhen Eastong Electronic technology Co., LTD

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District, Shenzhen

## APPROVAL SHEET FOR

斯密斯图

### HD02-WIFI ANT (2.4G band internal antenna)

<b>Issued by</b>		<b>Checked by</b>	
<b>Confirmed by</b>		<b>Date</b>	<b>2025-08-23</b>
<b>Customer Confirm</b>			

Project: 斯密斯图-HD02 WIFI 天线		Author: 许小荣	File Name: <b>斯密斯图 HD02-WIFI 天线-APP-RA</b>
Date: 2025-08-23			
Rev:	Language:	Check:	
A	ENG		

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## Revision History

Date	Revision	Description of Changes
2025-08-23	R:A	Antenna performance approved by customer

## 1 SUMMARY

## 2 GENERAL DESCRIPTION

### 2.1 Definitions

## 3 MECHANICAL DESCRIPTION

## 4 ELECTRICAL PERFORMANCE

### 4.1 Set-up

- 4.1.1 VSWR and return loss
- 4.1.2 Efficiency, Gain and TRP/TIS
- 4.1.3 Matching Circuit Description

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- 4.2.2 Active result

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## 6 CONCLUSION

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# 1 Summary

This report summarizes the electrical results of the proposed antenna to support the HD02-WIFI program. We test the antenna with the latest version handset .

## 2 General Description

### 2.1 Definitions

VSWR: Voltage Standing Wave Rate

## 3 Mechanical Description

## 4 Electrical Performance

### 4.1 Set-up

#### 4.1.1 VSWR and return loss

VSWR measurements ( $S_{11}$ ) were performed using an Agilent E5070B Network Analyzer and the previously described test fixture. Coaxial chokes were used to mitigate surface currents on the outside of the cabling. The testing was performed in free space.

#### 4.1.2 Efficiency, Gain and TRP/TIS

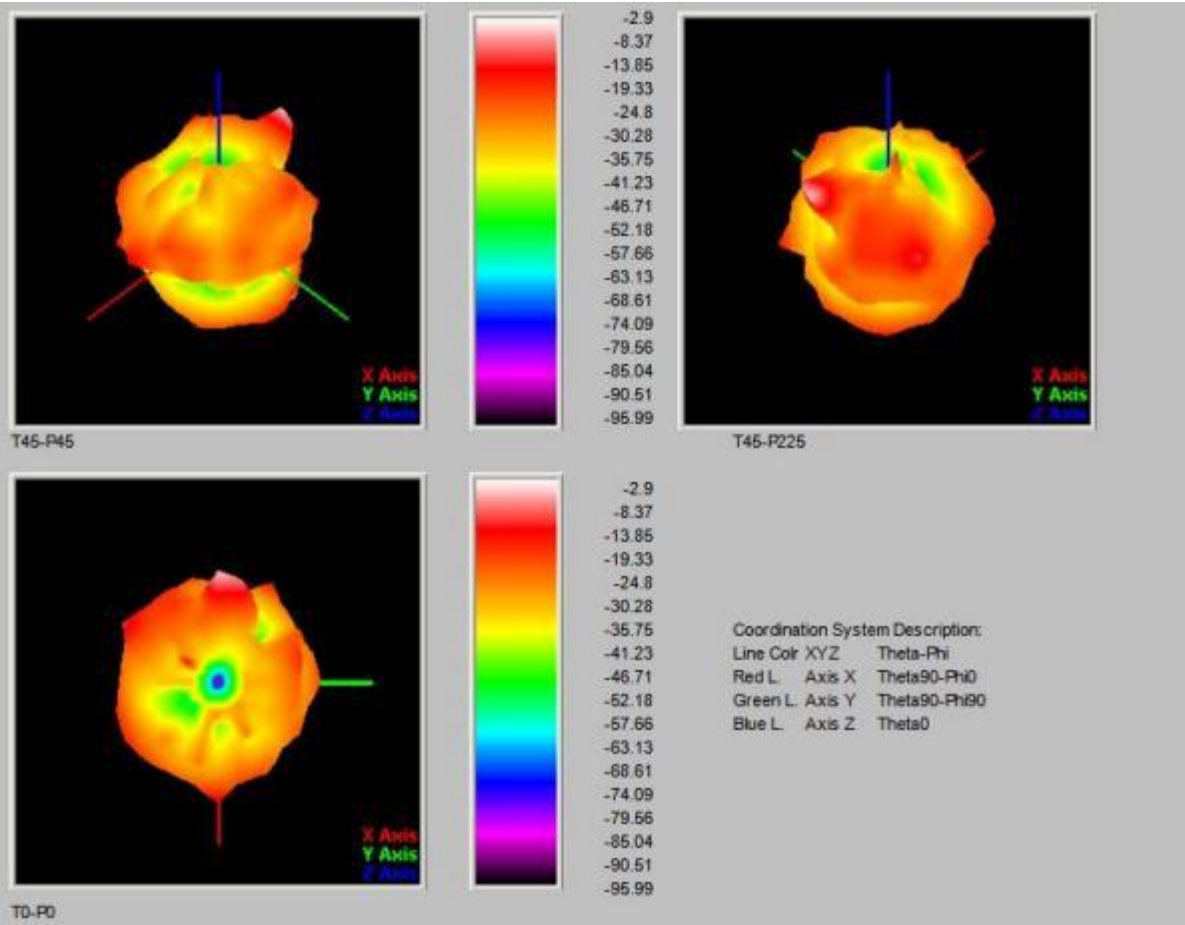
The gain of the antenna was measured in Dong Xin's 3D anechoic chamber in Shenzhen. The chamber is capable of doing tests from 380MHz to 6GHz. Coaxial chokes on the feed cable were used to mitigate surface currents. The measurement results are calibrated using dipole standards. For TRP and TIS the chamber uses a Agilent 8960 to establish the connection with the mobile device. During TRP tests the 8960 reads the power received through the chamber probes whilst during TIS tests the 8960 transmits through the probe. All data is afterwards corrected by a calibration table.

#### 4.1.3 Matching Circuit Description

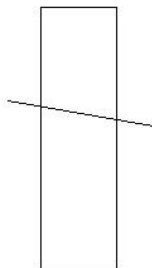
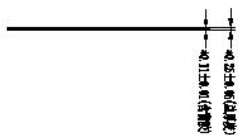
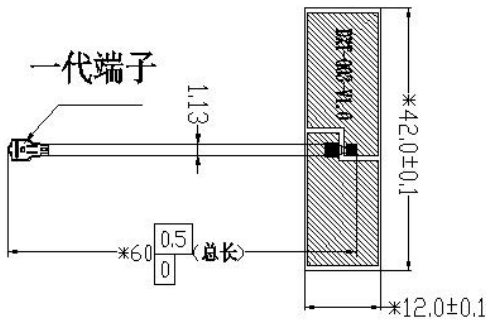
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4.2 Measurement Data

Freq. (MHz)	TRP (dBm)	Gain (dBi)	Directivity (dBi)	Efficiency (%)
2400.0	2400.00	-2.90	3.39	23.5%
2410.0	2410.00	-4.71	1.42	24.4%
2420.0	2420.00	-3.41	1.66	31.2%
2430.0	2430.00	-2.81	2.62	28.6%
2440.0	2440.00	-1.60	3.36	31.9%
2450.0	2450.00	-2.57	1.43	39.8%
2460.0	2460.00	-1.55	3.13	34.0%
2470.0	2470.00	1.57	5.79	37.8%
2480.0	2480.00	-1.39	3.65	31.4%
2490.0	2490.00	-0.89	3.64	35.3%
2500.0	2500.00	-2.36	2.46	32.9%



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注:

- 1、打\*为配合尺寸,打\*为重点尺寸,"Trim"为后继需调整尺寸;
- 2、打★为必测尺寸,未标尺寸参考3D图纸;其它尺寸以实配为准;
- 3、走线面除焊盘外其它区域需铺黑油(哑光)。
- 4、 区域为走线区域, 区域为焊盘区域(镀金), 区域为附胶区域(3M300/9471LSE)
- 5、FPC表面油墨均匀,不可有起皱镀金不良等现象。
- 6、字符颜色要求:黑油绿字,白油亮白字。

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第三角法		机种		DAT-003-AT		日期	2025-09-08		页码	1/1	
未注公差参见标准		品名		PVC_MH1		设计	CDE		审核		
10以下		料号				工程					
10~20		材质		PI(聚酰亚胺)-对半		射频					
20~40		表面处理									
40以上		外部处理		黑色		确认					
请参见测试纸						mm		比例		FIT 版本 1:1	