

# SPEED TECHNOLOGY

SPEED Communication Technology Limited

## Approval sheet of Adonis Internal Antenna

Customer/Project	Adonis		Frequency Band	2.4-2.48GHz	
SCT P/N	F-0L-81-0003-000-K0		Version	Rev3.0	
Date	2024-11-21				
Material Code	F-0L-81-0003-000-KA				
SPEED					
Checked by	RF	林宏锋	Design by	RF	赖县强
	ME	吕诗琦		ME	周胜中
	QC	藍溢淼		Remark	
Customer					
Date					
Confirmed by	RF				
	ME				
Remark					

Manufacturer: Huizhou Speed AutoIN Technology Co., Ltd.

Address : No.138 Huize Avenue, Dongjiang High-tech Industrial Park, Zhongkai High-tech Zone, Huizhou

[www.speed-hz.com](http://www.speed-hz.com)

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

# Contents

1. Indication .....	3
2. Matching Circuit Description .....	3
3. Measurement Data .....	3
3.1    Return Loss .....	3
3.2    Gain & Radiation Patterns .....	3
3.3    Peak gain & Efficiency .....	3
4. Attachment .....	4
4.1    S11 Parameter .....	4
4.2    Radiation Pattern .....	4
5. Test setup in the production line .....	6
6. Antenna drawing .....	7

[www.speed-hz.com](http://www.speed-hz.com)

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

## 1. Indication

This report summarizes the electrical performance results of the proposed internal antenna to support the Adonis program. The antenna is in the form of a welded cable + connector to the FPCB

## 2. Matching Circuit Description

The matching circuit that is the customer provides with us.

## 3. Measurement Data

### 3.1 Return Loss

Return loss measurements (S11) were performed using Agilent E5071 Network Analyzer and the previously described test fixture. A ferrite-loaded coaxial cable was used to mitigate surface currents on the outside of the cabling. The testing was performed in free space.

Freq (MHz)	2400MHz	2480MHz
Return Loss	-7.6	-10.3

Tested by Agilent E5071C Network Analyzer

### 3.2 Gain & Radiation Patterns

The gain and efficiency of the antenna was measured in the Speed Communication Technology anechoic chamber. The chamber provides less than -40 dB reflectivity from 800 MHz through 6 GHz and 25cm diameter spherical quite zone. The measurement results are calibrated using both dipole and leaky wave horn standards.

### 3.3 Peak gain & Efficiency

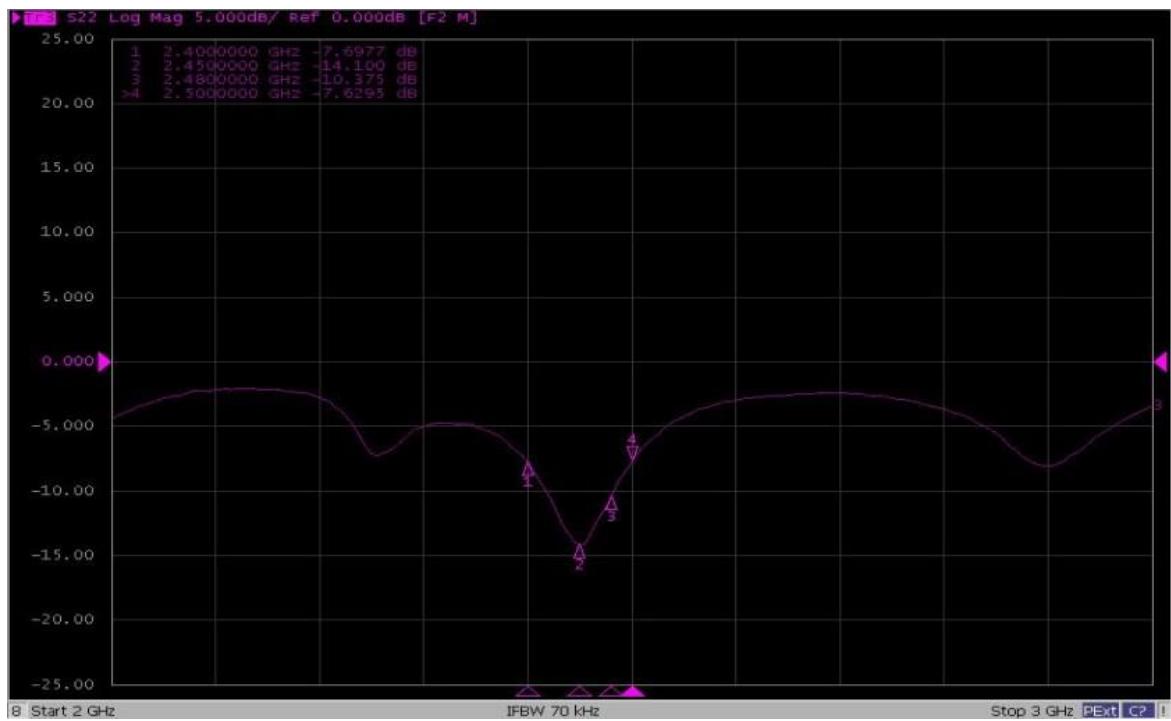
AUT	Frequency (MHz)	Efficiency (%)	Peak Gain(dBi)
Antenna	2400	10.6522	-2.2771
	2410	11.0938	-2.2411
	2420	12.3423	-1.553
	2430	13.0851	-1.287
	2440	13.9173	-1.0657
	2450	14.0214	-1.0821
	2460	15.9879	-0.8057
	2470	14.4314	-1.3911
	2480	13.4507	-1.5176

[www.speed-hz.com](http://www.speed-hz.com)

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

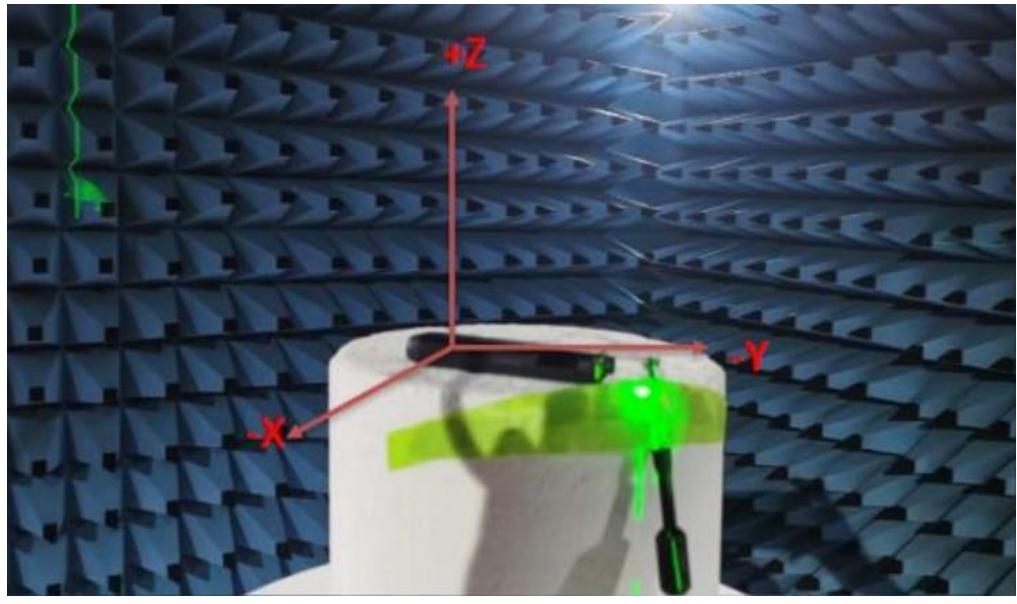
## 4. Attachment

### 4.1 S11 Parameter



Return Loss

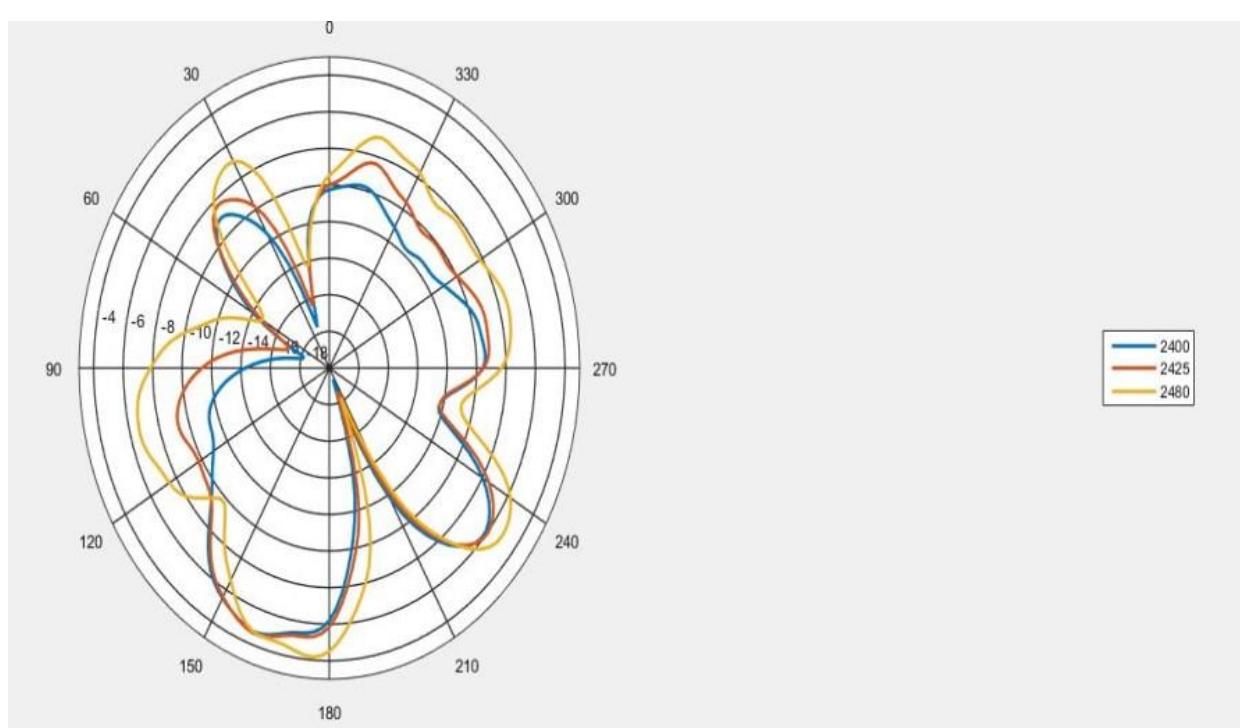
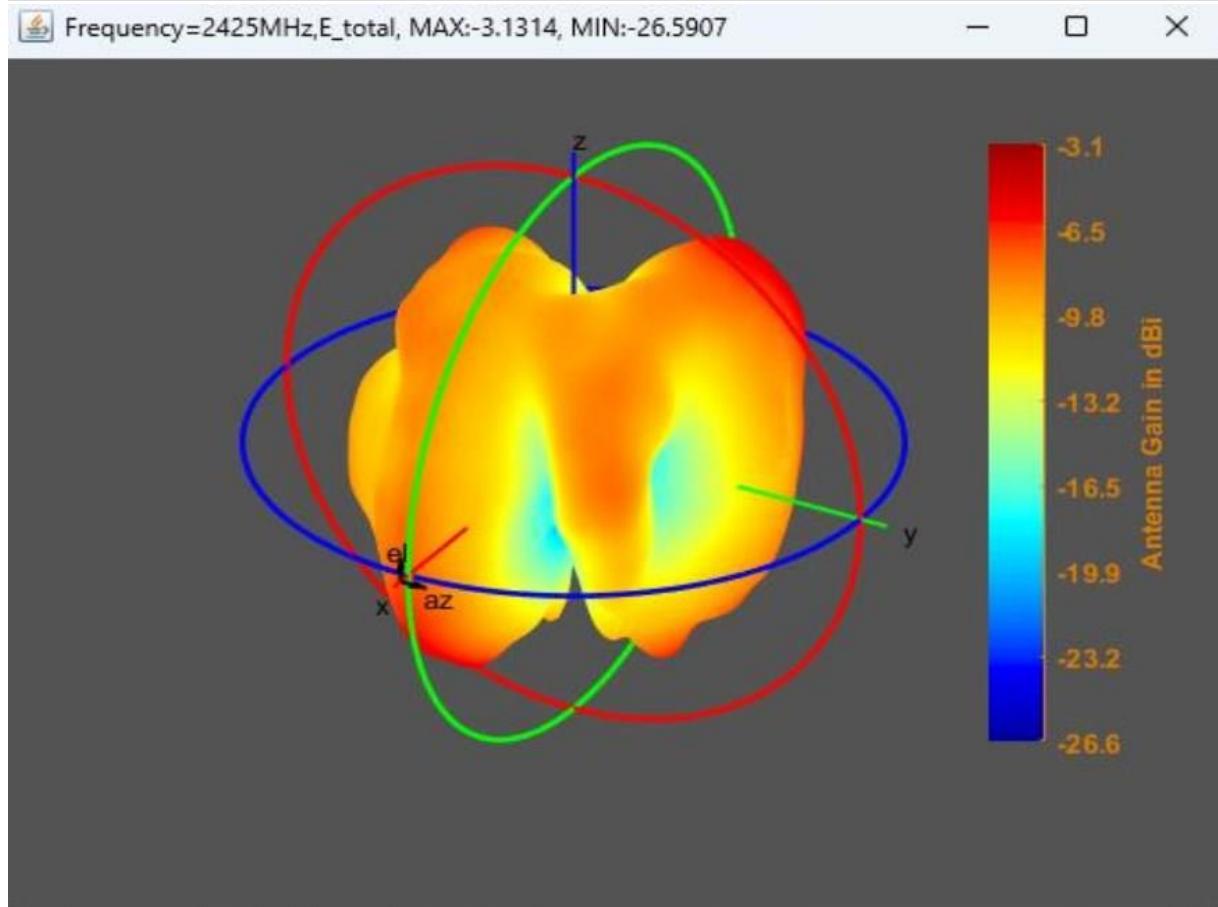
### 4.2 Radiation Pattern



Coordinate

[www.speed-hz.com](http://www.speed-hz.com)

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



[www.speed-hz.com](http://www.speed-hz.com)

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

## 5. Test setup in the production line

Test method: VSWR test

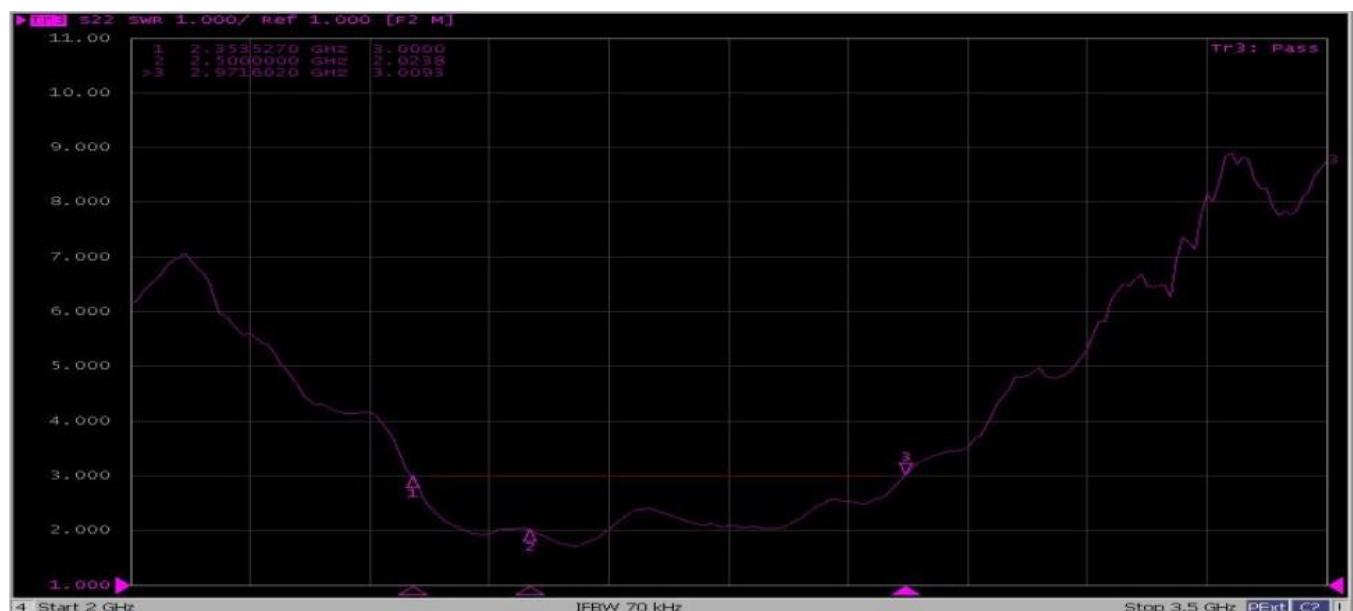
Marker and value range:

Marker1: 2.353GHz 3.00± 0.5

Marker2: 2.50GHz 2.0± 0.5

Marker3: 2.971GHz 3.00± 0.5

管控点	规格中值	管控公差
A	2353MHz	<b>±20MHz</b>
B	2971MHz	<b>±20MHz</b>



[www.speed-hz.com](http://www.speed-hz.com)

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

## 6. Antenna drawing

