惠州硕贝德无线科技股份有限公司

Huizhou Speed Wireless Technology Co.,Ltd

Specifications For WiFi Antenna of Project G5-T3

Customer/ Project		G5-T3 WiFi Antenna	Frequency Band		2400-2500MHz
SCT P/N		F-KY-31-0080-000-K0	Version		V3.0
Date		2022.08.11			
SPEED					
Checked by	RF	TXJ	Designed by	RF	ZXX
	ME	XL		ME	SML
	QC		Remark		
Customer					
Date					
Confirmed by		RF			
		ME			
Remark					

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修订记录

Date	Revision version	Change Description	Author
2022.07.19	V1.0	Initial version	ZXX
2022.07.29	V2.0	Optimization antenna Version	ZXX
2022.08.11	V3.0	Latest antenna Version	ZXX

1 Project Overview

This document is the specifications of the G5-T3 with WiFi antenna. The antenna solution is to make LDS wiring on the outside of the exterior surface bracket. The installation position is shown in Figure 1 **:**

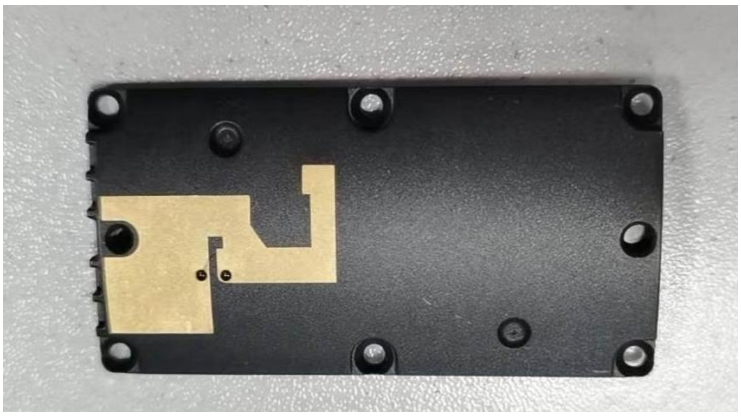


Figure 1 Antenna picture

2 Antenna Specification

Antenna Form	Plastic Stent+LDS
Working Bands	2400~2500MHz
Peak Gain	N/A
Efficency	＞30%
VSWR	＜2
Impedance	50ohm
Polarization	Linear polarization
A/R	N/A
Radiation Pattern	Omnidirectional
Feed Mode	Pin
power capacity	33dBm
Size(L*W*H)	58mm*30mm*4.3mm
Weight	N/A
Operating temperature	-30 ^{o}C to +80 ^{o}C
Storage temperature	-30 ^{o}C to +80 ^{o}C

3 Test Environment

The measuring equipment for antenna return loss, voltage standing wave ratio and isolation is Keysight E5071C vector network analyzer. As shown below:

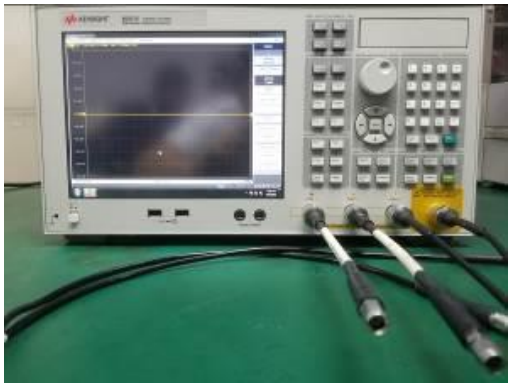


Figure 2 Keysight E5071C vector network analyzer

The efficiency, gain, and pattern of the antenna are all tested in a dark room at Satimo, France. The darkroom uses 64 probes to electronically scan the antenna's radiation performance, collect data, and then analyze and organize it through a computer, which can provide antenna testing in the 400MHz to 8.5GHz frequency.

Figure3 Satimo Darkroom

4 Test Results

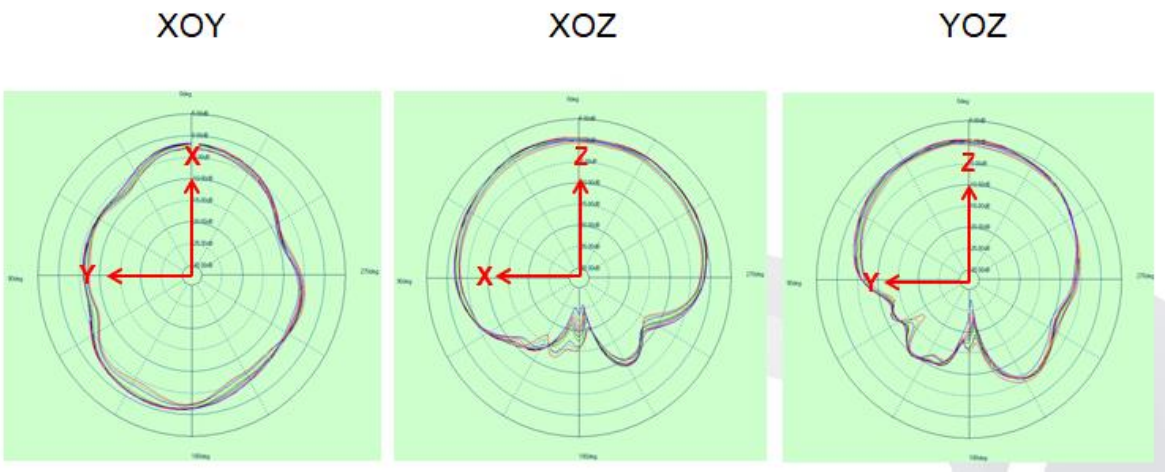
4.1 VSWR

Figure 4 VSWR

4.2 Passive Efficency and Gain

Frequency(MHz)	Efiiciency	Peak Gain (dBi)
2400	31.94%	0.29
2410	33.49%	0.32
2420	35.42%	0.48
2430	37.95%	0.60
2440	38.93%	0.77
2450	40.50%	0.95
2460	42.24%	1.04
2470	42.73%	1.15
2480	43.12%	1.25
2490	42.53%	1.40
2500	40.94%	1.11

4.3 Antenna 2D pattern



5 Structure Diagram