

## 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 :

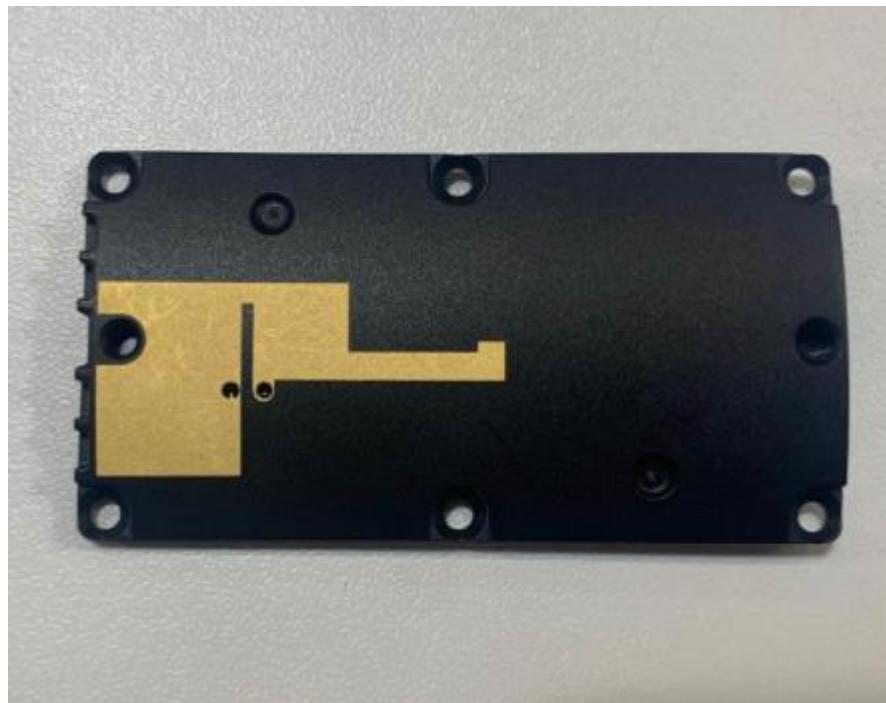


Figure 1 Antenna picture

## 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 °C to +80 °C    |
| Storage temperature   | -30 °C to +80 °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

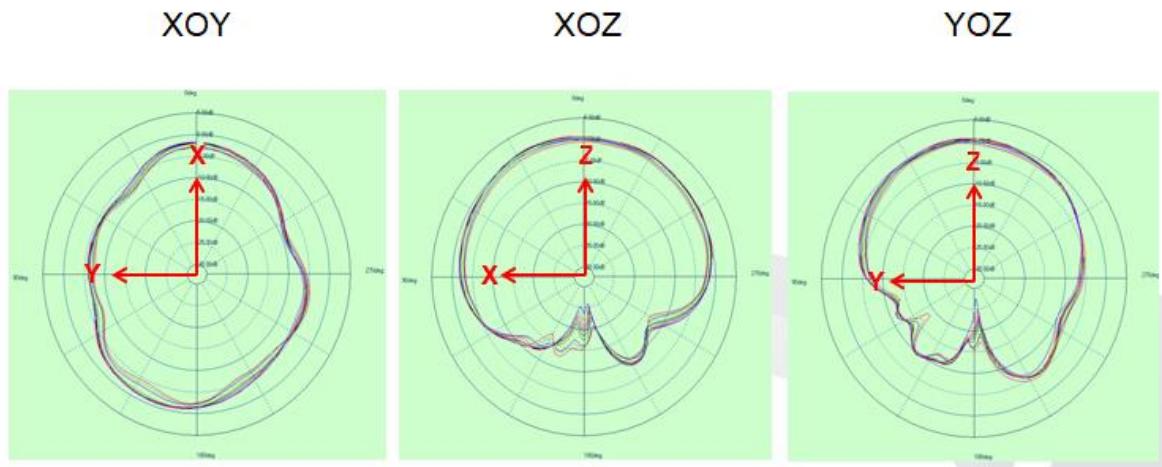


Figure 4 VSWR

### 4.2 Passive Efficiency 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

