

# Approval Sheet

## B03 pro Antenna

Customer	Shenzhen JOJO Vision Technology Co.,LTD	Model Type	Yc-dtg-001
YC P/N	<b>014-039-01</b>	Band	2.4/5.8G
Color	Black	Version	REV:A
Designed and tested by	ANDY	Checked by	JACK
Date		Date	2025-05-17
Antenna manufacturer:Dongguan YC tech Electronic co,Ltd			
Address: 04, Building D, Weihuada Industrial Park, No. 5 Lirong Road, Xinshi Community, Dalang Subdistrict, Longhua District, Shenzhen City			

# Index

<b>1. Summary.....</b>	<b>3</b>
<b>2. Specificaiton.....</b>	<b>3</b>
<b>2.1 Electrical Specification.....</b>	<b>3</b>
<b>2.2 Matching Circuit Description.....</b>	<b>4</b>
<b>2.3 Structure specification.....</b>	<b>4</b>
<b>2.3.1 Structure.....</b>	<b>5</b>
<b>2.3.2 Test requirement .....</b>	<b>5</b>
<b>3. Measurement Data .....</b>	<b>5</b>
<b>3.1 Passive test result .....</b>	<b>5</b>
<b>    3.1.1 Test Set-up .....</b>	<b>5</b>
<b>3.1.2 VSWR.....</b>	<b>5</b>
<b>3.1.3 Gain &amp; Radiation Patterns .....</b>	<b>6</b>
<b>3.1.4 Efficiency.....</b>	<b>6</b>
<b>4.Antenna Size Diagram.....</b>	<b>7</b>

## 1、Summary

This report summarizes the electrical performance results of the proposed Internal antenna to support B03pro program. The antenna is 2.4/5.8G band PIFA . (see Figure1).



Figure 1: Proposed Antenna

## 2、Specification

### 2.1 Electrical Specification

The specification is based on the design result. The following table indicates the electrical performance of B03 gram.

Specification			
Name	B03	Model Type	YC-dtg-001
Electrical Specifications			
Frequency Range	2400-2500MHz 5000-5800Mhz	Polarization	Vertical
Impedance	50 $\Omega$	Direction	All direction
VSWR	1.5	Power	50W
Bandwidth	136/980MHz		

## 2.2 Matching Circuit Description

A matching circuit is designed to provide the required impedance match across the bands. The matching circuit of yc-dtg-001 pro is supplied by our client.

## 2.3 Structure specification

### 2.3.1 Structure

The antenna of dtg-001 pro program is composed by a plastic support.

### 2.3.2 Test requirement

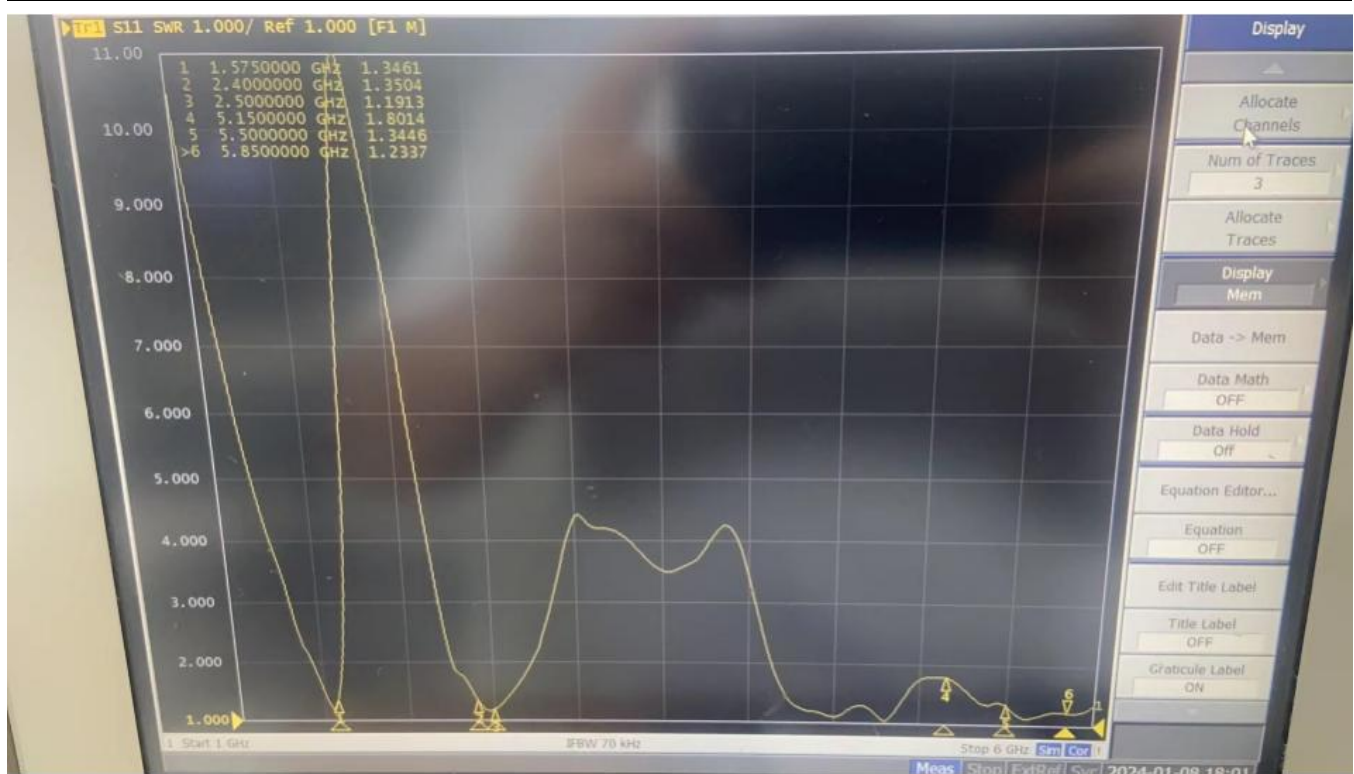
The structure and environmental testing is used to confirm that if the antenna performance is destroyed or affected after testing.

ITEM	Test Requirement	Acceptable criterion
1. Low Temperature	Temperature: $-20^{\circ}\text{C}$ Time: 24 hours	1.No visible damage 2.The electrical performance can reach the electrical specification
2. High Temperature	Temperature: $80^{\circ}\text{C}$ Time: 24 hours	1.No visible damage 2.The electrical performance can reach the electrical specification
3.Salt fog testing	$5 \pm 0.1\%$ nad salt fog PH value: 6.5-7.0 Temperature; $35 \pm 1^{\circ}\text{C}$ Time: 24 hours	1. No obvious color change 2. No rust on the metal 3. The appearance of the antenna doesn't flake off

## 3. Measurement Data

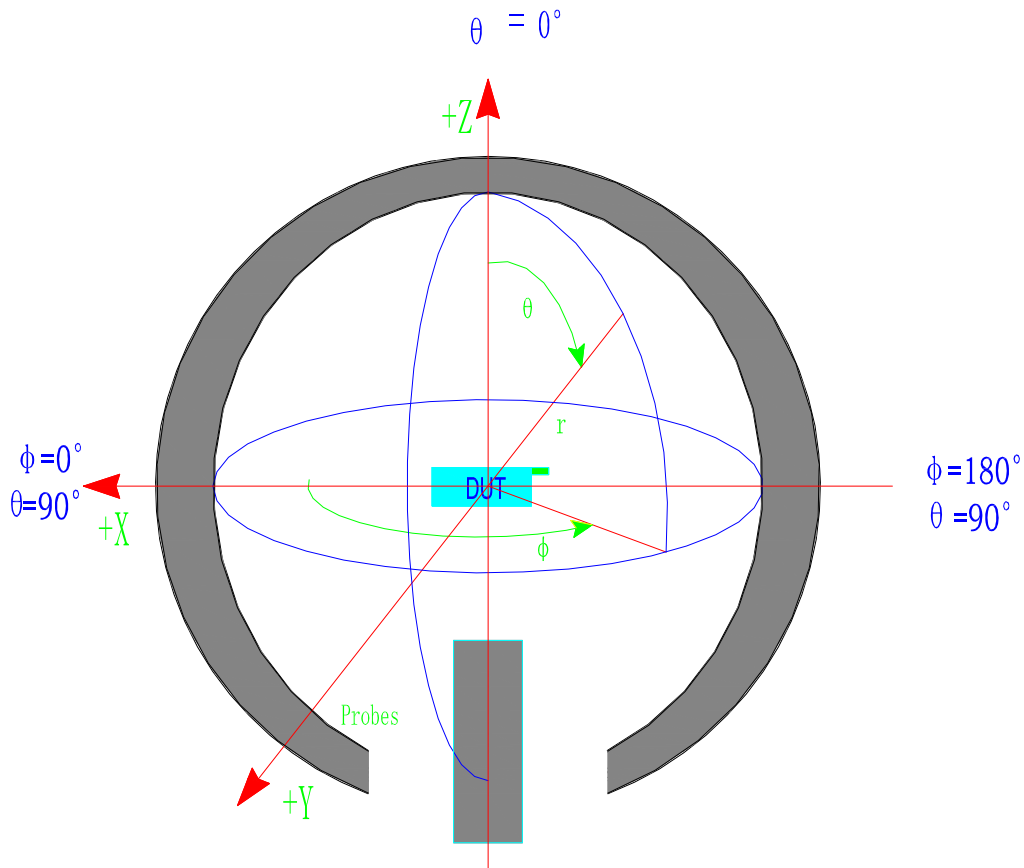
### 3.1 VSWR

VSWR measurements ( $S_{11}$ ) are performed using Agilent 5071B Network Analyzer and the previously described test fixture. A ferrite-loaded coaxial cable is used to mitigate surface currents on the outside of the cabling. The testing was performed in free space. The following chart shows the VSWR of the antenna of B03 pro program.



### 3.1.3 Gain & Radiation Patterns

The gain and efficiency of the antenna are measured in the Welletronics' anechoic chamber. The chamber provides less than  $-40$  dB reflectivity from 800 MHz through 6 GHz and a 40cm diameter spherical quiet zone. The measurement results are calibrated using both dipole and leaky wave horn standards.



Structure of CTIA approved Satimo SG24 system

Gain indicates the passive performance of the antenna. The following chart shows the peak gain and average gain of the B03 pro antenna.

### 3.1.4 Efficiency

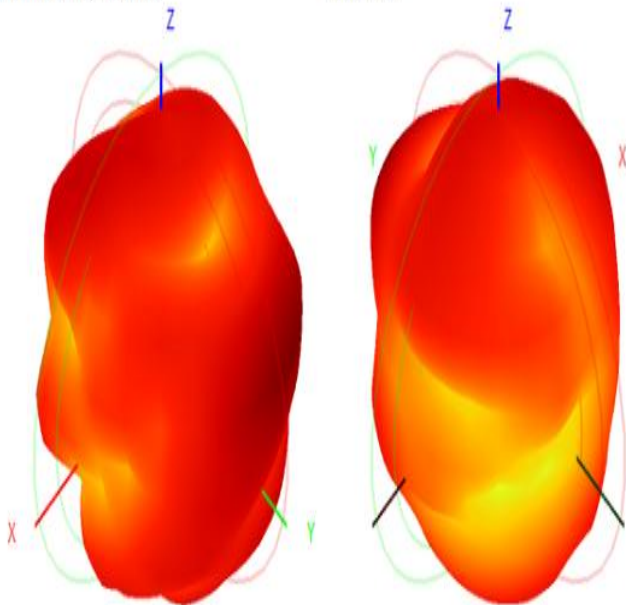
Efficiency shows the radiation capability of the antenna designed by WELLETRONICS.

The following chart indicates the efficiency B03 pro antenna.

Frequency (Mhz)	Efficiency (%)	Gain (dBi)
2390	53%	2.75dBi
2400	54%	2.81dBi
2410	55%	2.91dBi
2420	56%	2.97dBi
2450	53%	2.62dBi
2460	48.5%	2.62dBi
2480	48%	2.60dBi
2500	47%	2.53dBi

2460.0MHz H+V, Eff: 48.5%

Back View

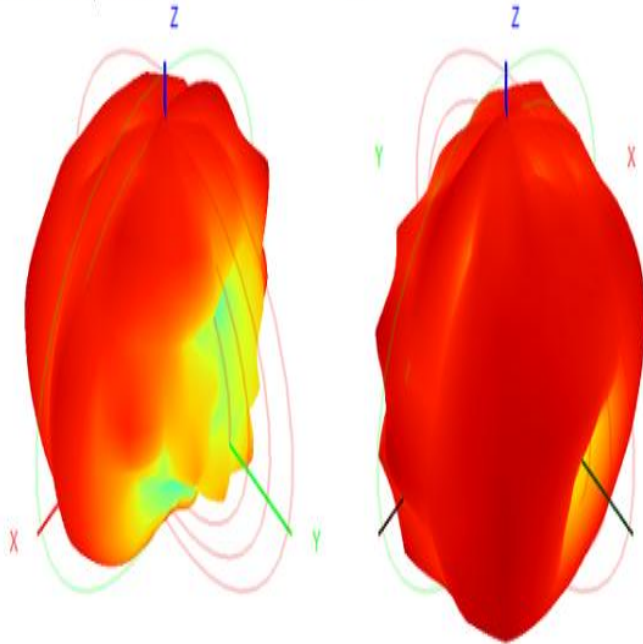


# Confidential Information

Frequency (Mhz)	Efficiency (%)	Gain (dBi)
5000	50%	1.05dBi
5200	52%	1.45dBi
5300	52%	1.51dBi
5400	58%	1.47dBi
5500	55%	1.06dBi
5600	54%	1.45dBi
5850	59.8%	1.49dBi
5900	54%	1.33dBi

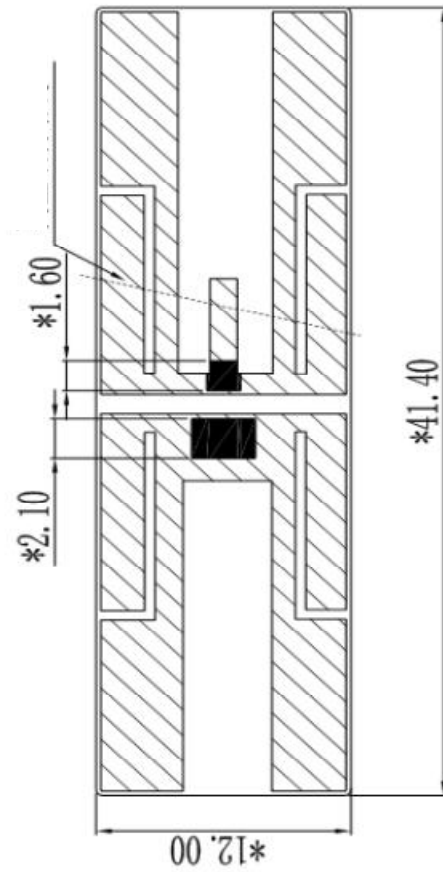
5850.0MHz H+V, Eff: 59.8%

Back View





## 7, Antenna Size Diagram



(Unit: mm)