

Approval Sheet

B03 pro Antenna

		Model Type	Yc-dtg-001
YC P/N	014-039-01	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: 8th Floor, No. 3 Elevator, Building E, Fengzhi Mei Industrial Park, Fenggang Town, Dongguan City			

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 .

2、Specification

2.1 Electrical Specification

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

Antenna Specification			
产品名称(Name)	Camera Antenna	产品型号(Model Type)	YC-dtg-001
电 性 能 指 标 (Electrical Specifications)			
频率范围 (Frenquency Range)	2400-2500MHz 5000-5800MHz	极化方式 (Polarization)	Vertical
输入阻抗(Impedance)	50 Ω	辐射方向	Omnidirectional
驻波比 (VSWR)	1.5	功率容量(Power)	50W
增益(Gain)	2.4G:2.97dBi 5G:1.51dBi	带宽 (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

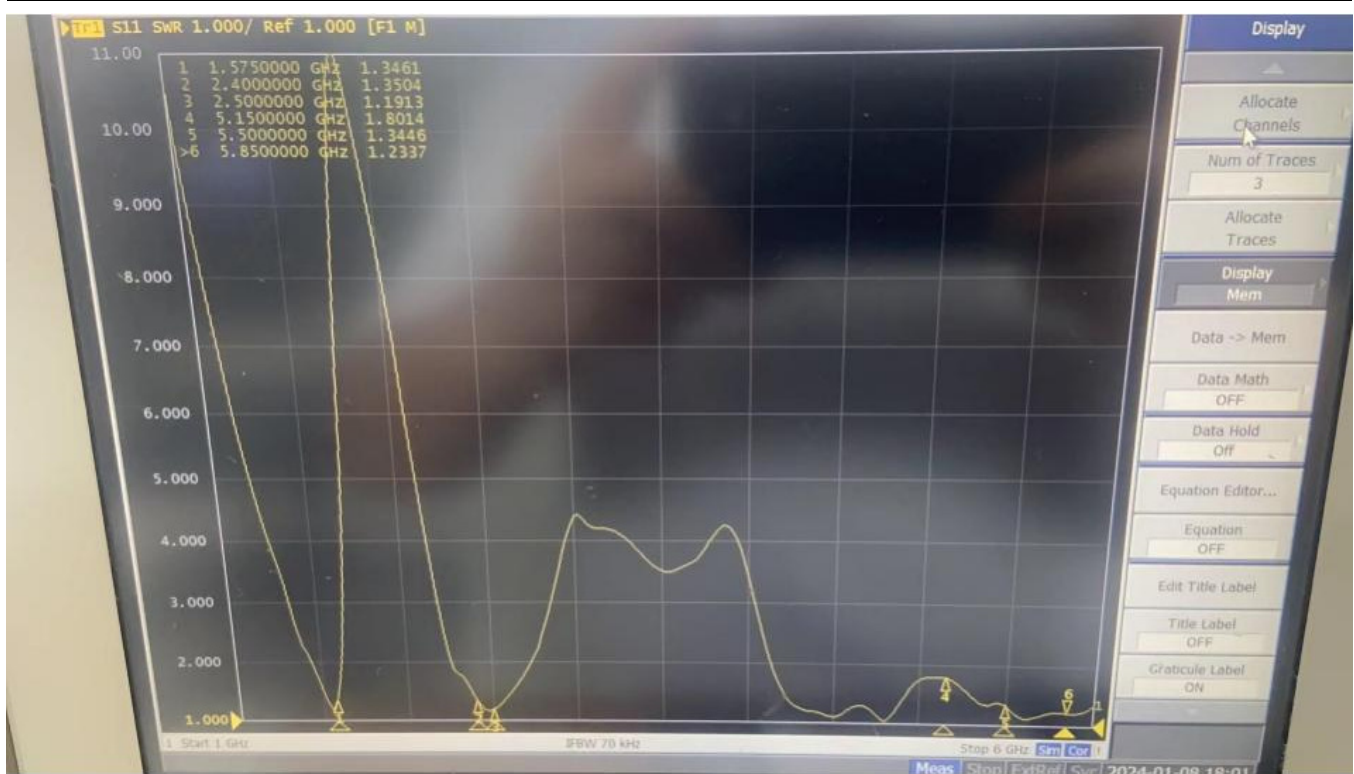
The structure and environmental testing is used to confirm that if the antenna performance is destroyed or affected after testing.

ITEM	Test Requirement	Acceptable criterion
1. Low Temperature	Temperature: -20°C Time: 24 hours	1.No visible damage 2.The electrical performance can reach the electrical specification
2. High Temperature	Temperature: 80°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

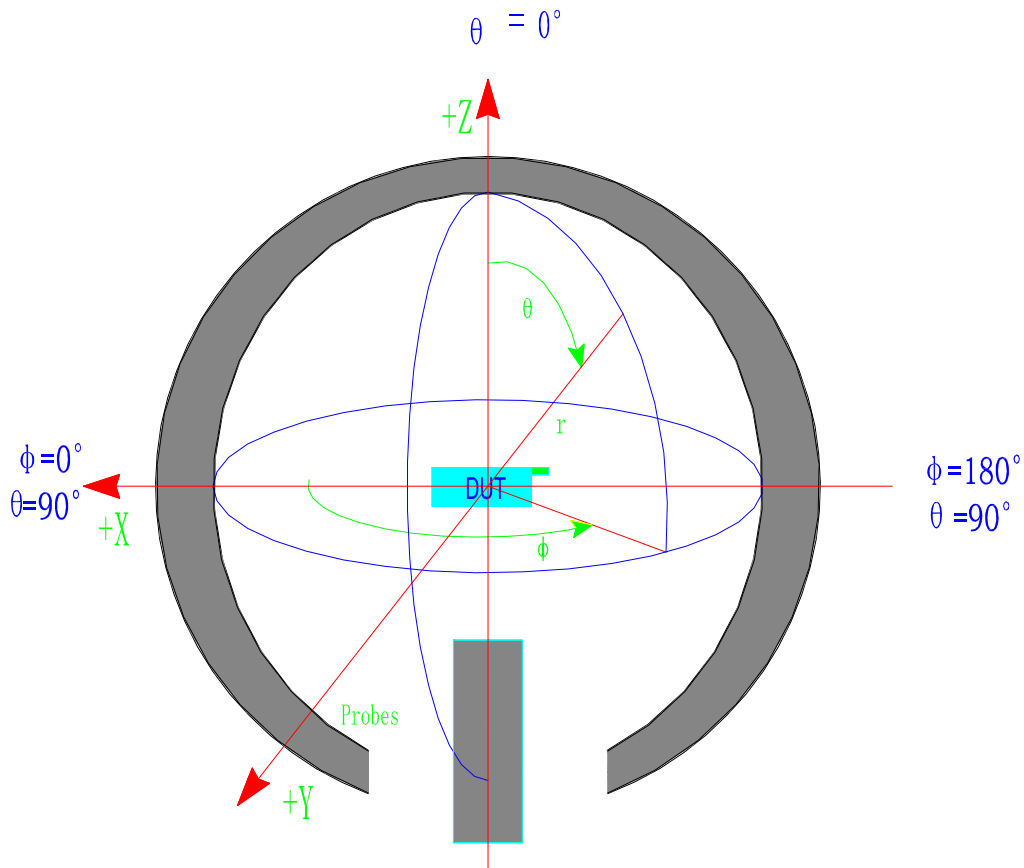
3.1 VSWR

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.



3.1.1 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

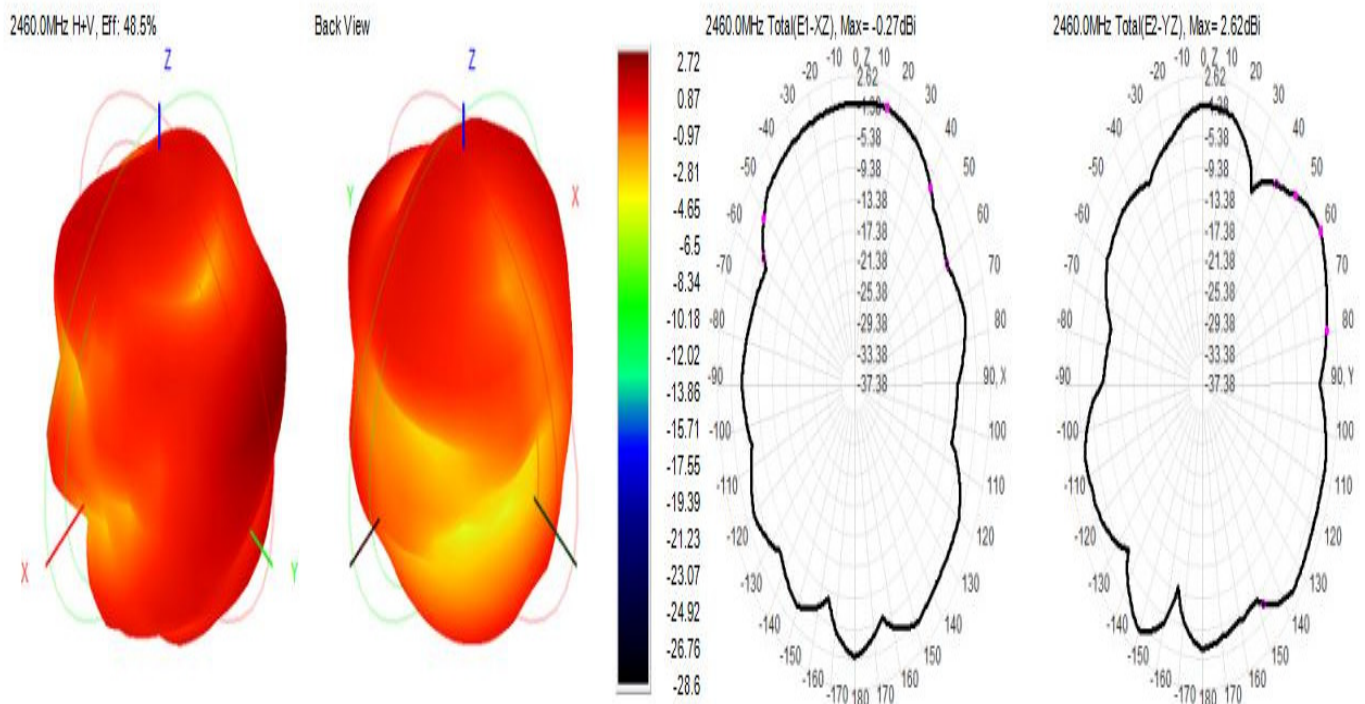
Gain indicates the passive performance of the antenna. The following chart shows the peak gain and average gain of the B03 pro antenna.

3.1.2 Efficiency

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

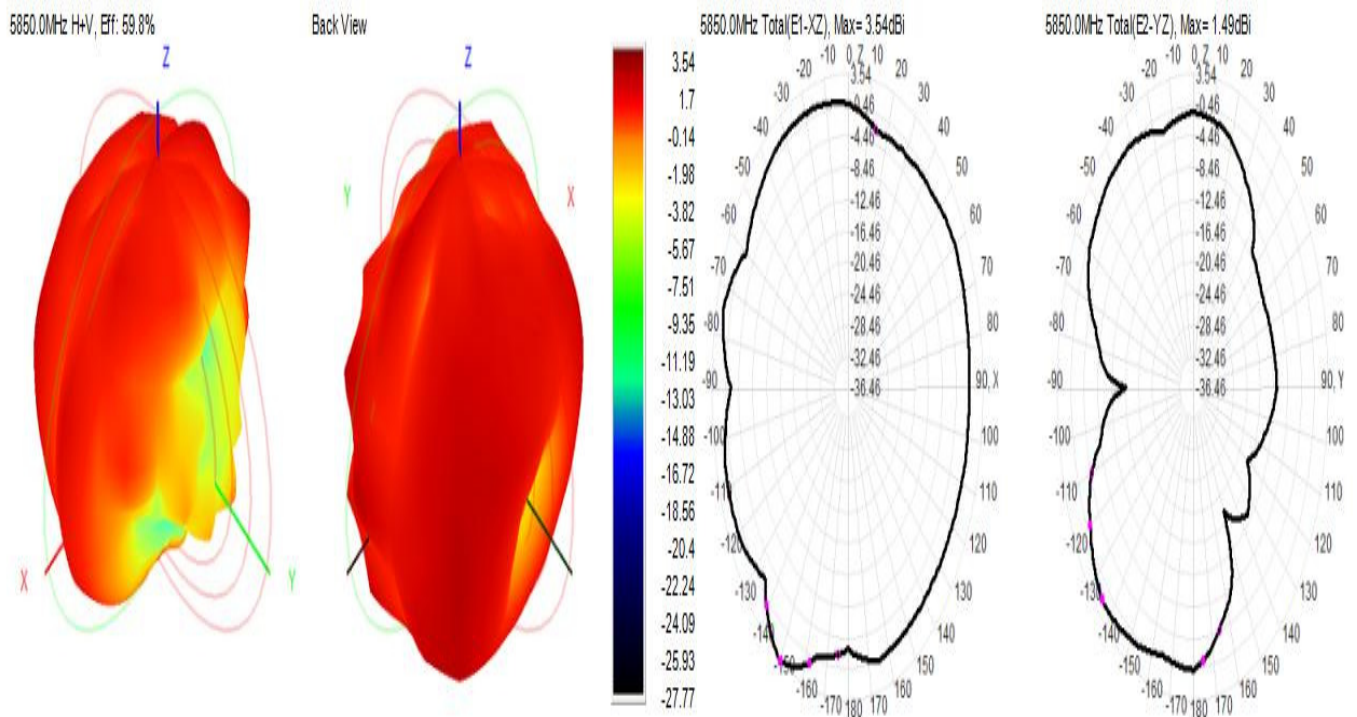
The following chart indicates the efficiency B03 pro antenna.

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



Confidential Information

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



4, Antenna Photo

