Approval Sheet

D36 pro Antenna

		Model Type	Yc-dtg-001
YC P/N	**014-039-01**	Band	2.4g/5.8g
Color	White	Version	REV:A
Designed and tested by	ANDY	Checked by	JACK
		Date	2025-02-07
Manufacturer:Dongguan Yichuang Electronics Co., Ltd			
Address:8th Floor, Elevator No. 3, Building E, Fengzhimei Industrial Park, Fenggang Town, Dongguan City, Guangdong Province, China			

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1、Summary

This report summarizes the electrical performance results of the proposed Internal antenna to support D36 pro program. The antenna is 2.4G/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 D36 gram.

产品测试参数			
产品名称(Name)	D36	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）	垂直 /vertical
输入阻抗(Impedance)	50 Ω	辐射方向	全向 /Omnidirectional
驻波比（VSWR）	1.5	功率容量(Power)	50W
增益(Gain)	2.4G:2.97dBi 5G:3.58dBi	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 ofyc-dtg-001 pro is supplied by our client.

2.3 Structure specification

2.3.1 Structure

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

2.3.2 Test requirement

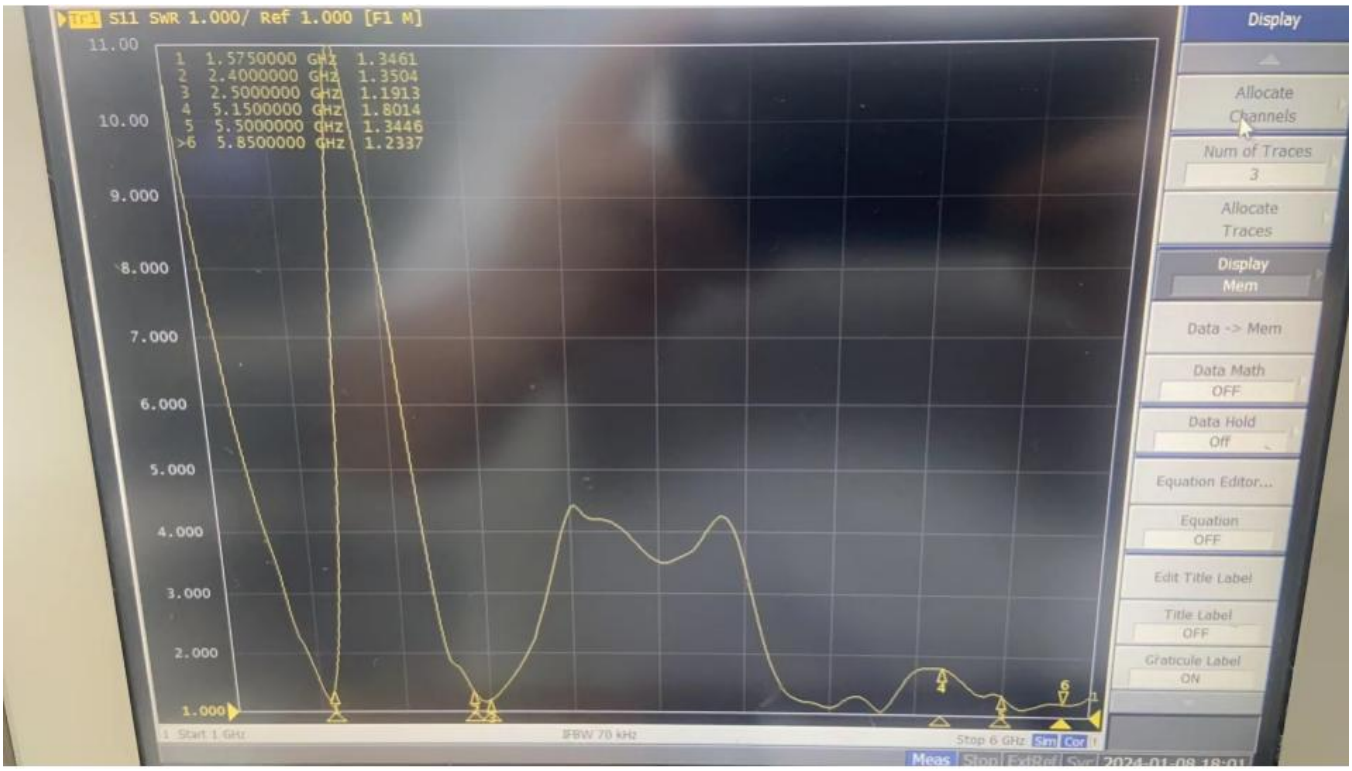
The structure and environmental testing is used to confirm that if the antenna performance is destroyed or affected after testing.

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±0.1% nad salt fog PH value: 6.5-7.0 Temperature; 35±1% 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

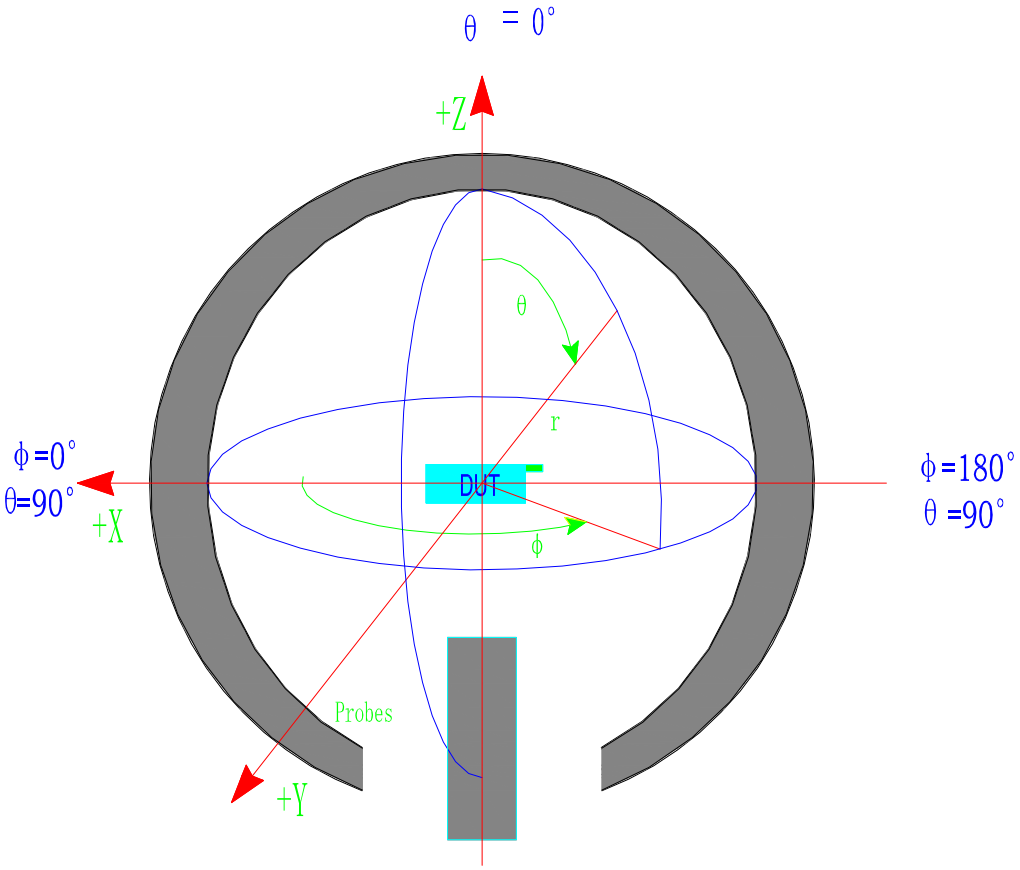
3.1 VSWR

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 D36 pro program.



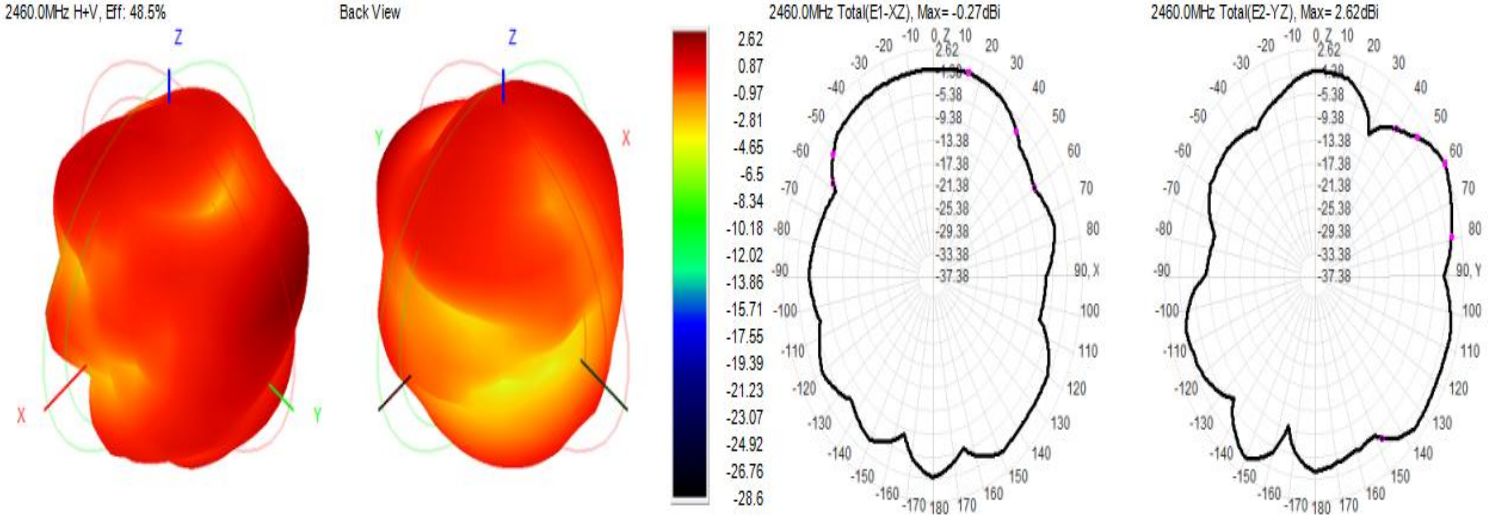
3.1.3 Gain & Radiation Patterns

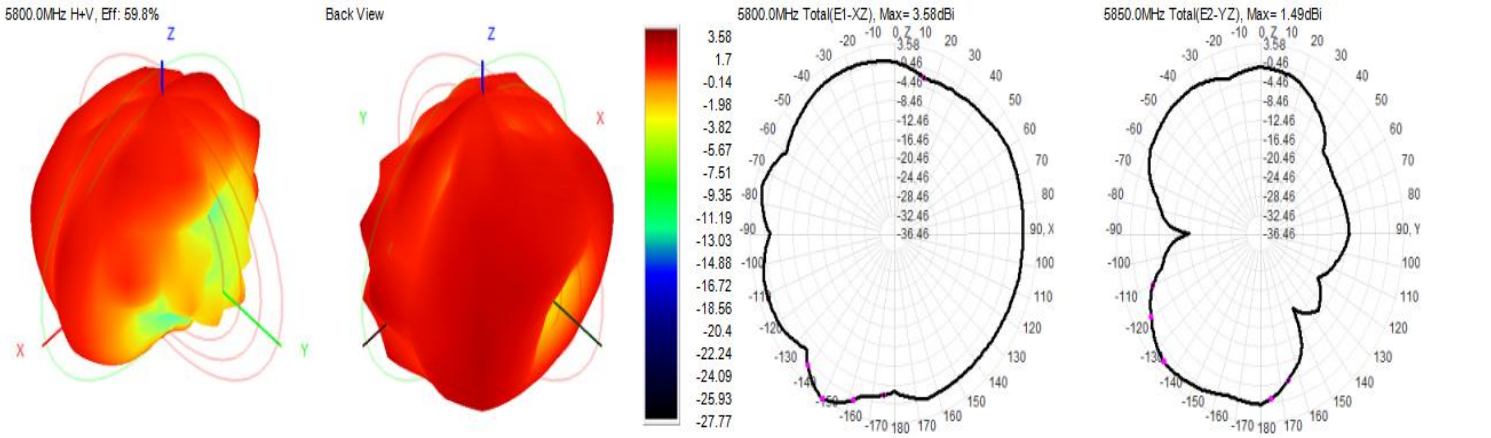
The gain and efficiency of the antenna are measured in the Welletronics' anechoic chamber. The chamber provides less than –40 dB reflectivity from 800 MHz through 6 GHz and a 40cm diameter spherical quite zone. The measurement results are calibrated using both dipole and leaky wave horn standards.



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 D36 pro antenna.


2460.0MHz H+V, Eff: 48.5%
Back View
2460.0MHz Total(E1-XZ), Max= -0.27dBi
2460.0MHz Total(E2-YZ), Max= 2.62dBi


5800.0MHz H+V, Eff: 59.8%
Back View
5800.0MHz Total(E1-XZ), Max= 3.58dBi
5850.0MHz Total(E2-YZ), Max= 1.49dBi

3.1.4 Efficiency

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

The following chart indicates the efficiency D36 pro antenna.

Frequency	Efficieny(%)	Gain(dB)
2390000000	53%	2.75
2400000000	54%	2.81
2410000000	55%	2.91
2420000000	56%	2.97
2450000000	53%	2.86
2460000000	52%	2.62
2480000000	51%	2.88
2500000000	50%	2.93

Frequency	Efficieny(%)	Gain(dB)
500000000	50%	3.05
520000000	52%	3.45
530000000	52%	3.51
540000000	58%	3.47
550000000	55%	3.06
560000000	54%	3.45
580000000	51%	3.58
590000000	54%	3.33