SYNZEN

# DATASHEET

CYLLENE1 | SZW-N-5W40 | IP65 Terminal | WI-FI7

## Features:

WI-FI: 2400-2500; 5150-5850; 5925-7125MHz
>5.0dBi Peak Gain, >60% Efficiency

Dimensions: 195.3 x Ø13.0mm
Connector: SMA Male
IP 65
RoHs Compliant

# Contents

# Introduction

CYLLENE1 (SZW-N-5W40) is a high-performance terminal Wi-Fi 7 antenna designed to provide reliable tri-band connectivity across 2.4 GHz, 5 GHz, and 7 GHz frequency ranges. Built for demanding deployment environments, this antenna integrates rugged mechanical construction with stable RF characteristics, making it well suited for industrial, outdoor, and mission-critical applications.

Engineered with IP65 protection, the enclosure is sealed against dust ingress and low-pressure water jets, ensuring long-term operational reliability in harsh conditions. The design maintains high radiation efficiency, consistent gain, and optimized impedance matching across all supported Wi-Fi 7 bands, supporting the high data throughput, low latency, and extended spectrum performance expected from next generation wireless systems.

**Applications**

- Industrial IoT terminals
- Outdoor access points
- Smart manufacturing systems
- EV charging infrastructure
- Transportation and logistics equipment
- Surveillance and smart city deployments
- Fixed wireless communication terminals

**Key Features**

- Tri-band Wi-Fi 7 operation: 2.4 GHz, 5 GHz, and 7 GHz
- IP65 rated environmental sealing
- Optimized VSWR across operating bands
- High radiation efficiency with stable gain performance
- True omnidirectional radiation pattern
- Durable terminal mount form factor
- Supports high throughput Wi-Fi 7 modules

# Mechanical Specifications

| Parameter | |
|---|---|
| **Part Number** | SZW-N-5W40 |
| **Name** | CYLLENE1 |
| **Dimensions (mm)** | 195.30 x Ø13.00 |
| **Antenna Type** | Terminal |

# Electrical / RF Specifications

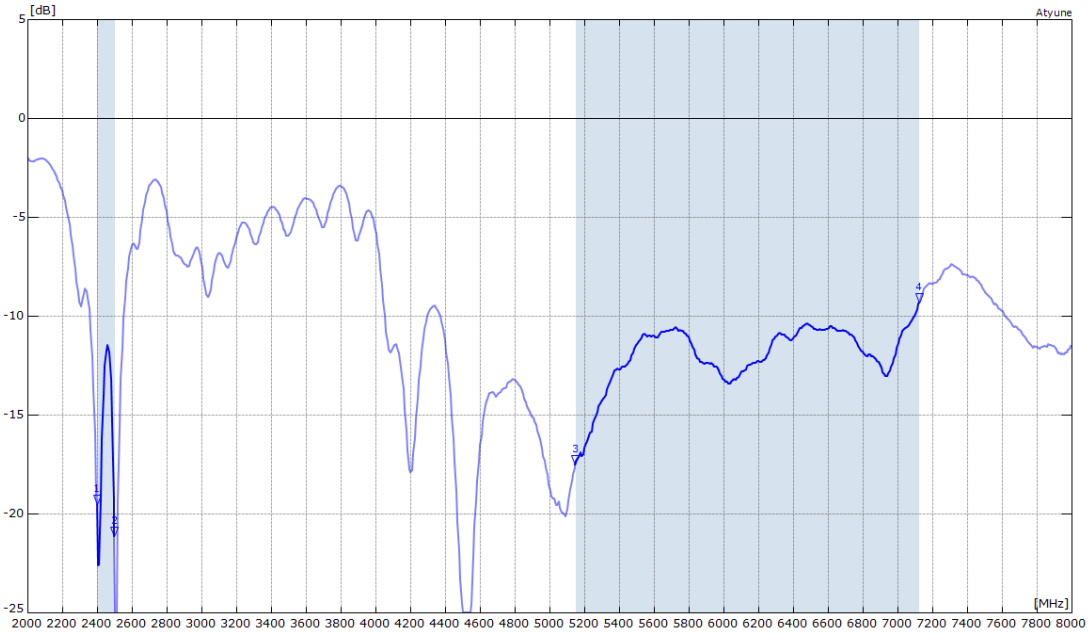
| Band | Frequency Range (MHz) | Average Efficiency (%) | Peak Gain (dBi) | VSWR (worst case) | Impedance |
|---|---|---|---|---|---|
| 2.4GHz Wi-Fi | 2400-2500 | 76.7 | 4.75 | 1.73:1 | 50 Ω |
| 5.8GHz Wi-Fi | 5150-5850 | 68.5 | 4.41 | 1.82:1 | |
| 7.1Ghz Wi-Fi | 5925-7125 | 69.4 | 5.42 | 1.94:1 | |

# Environmental

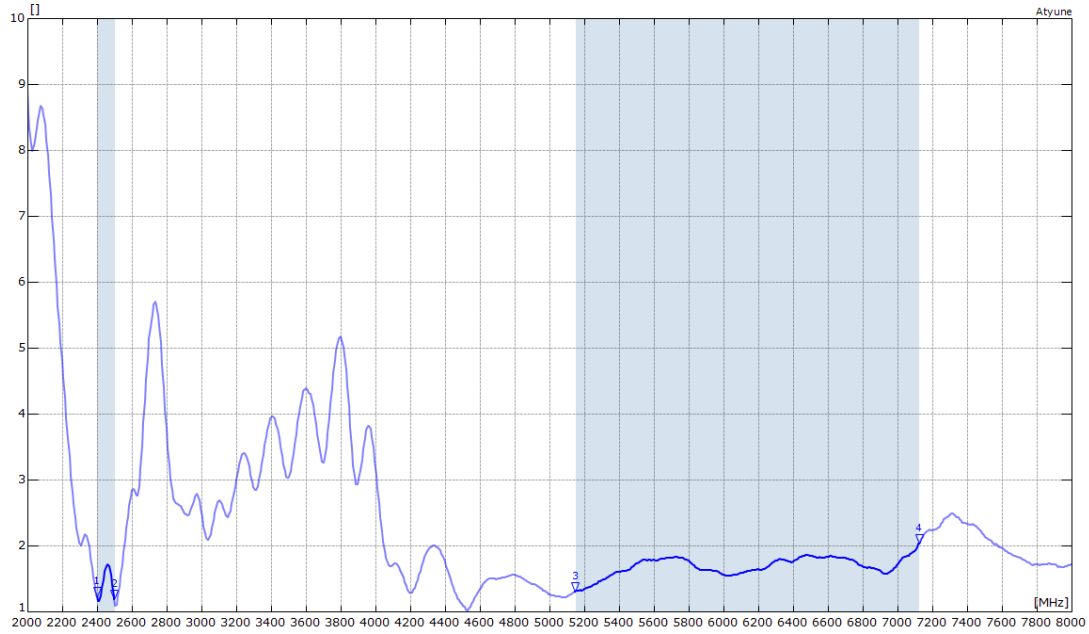
| Parameter | |
|---|---|
| Operational Temperature | -35 to +75°C |
| Storage Temperature | -35 to +75°C |
| IP Rating | IP65 |
| RoHs and REACH compliant | Yes |

# RF Characteristics

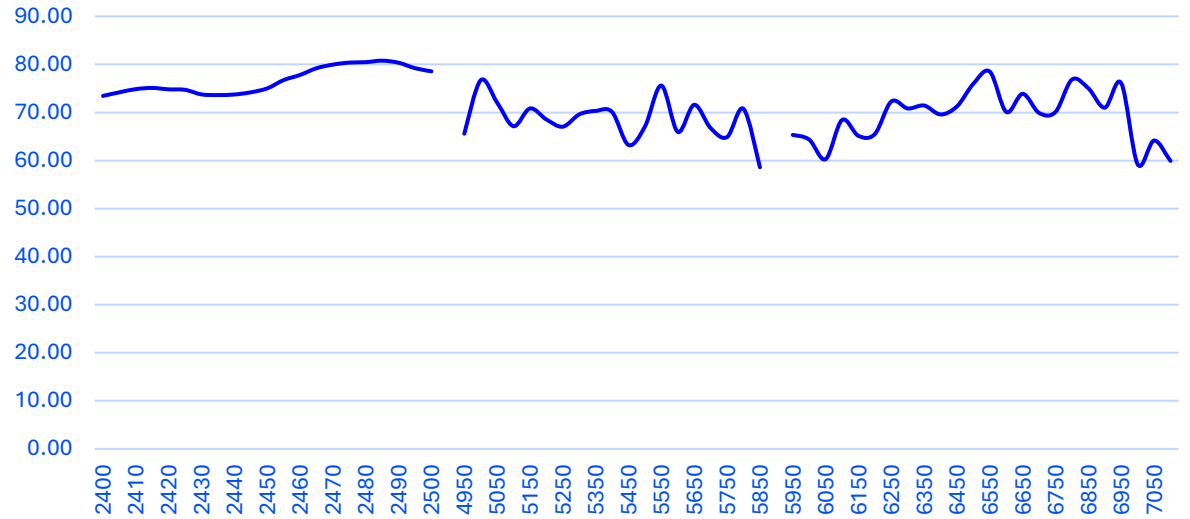
## Return loss



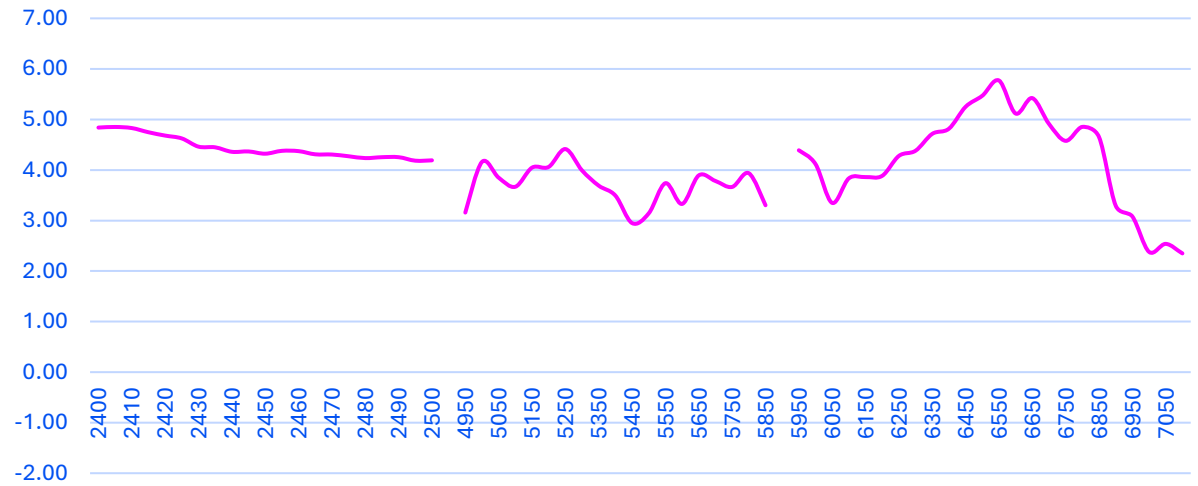

## VSWR



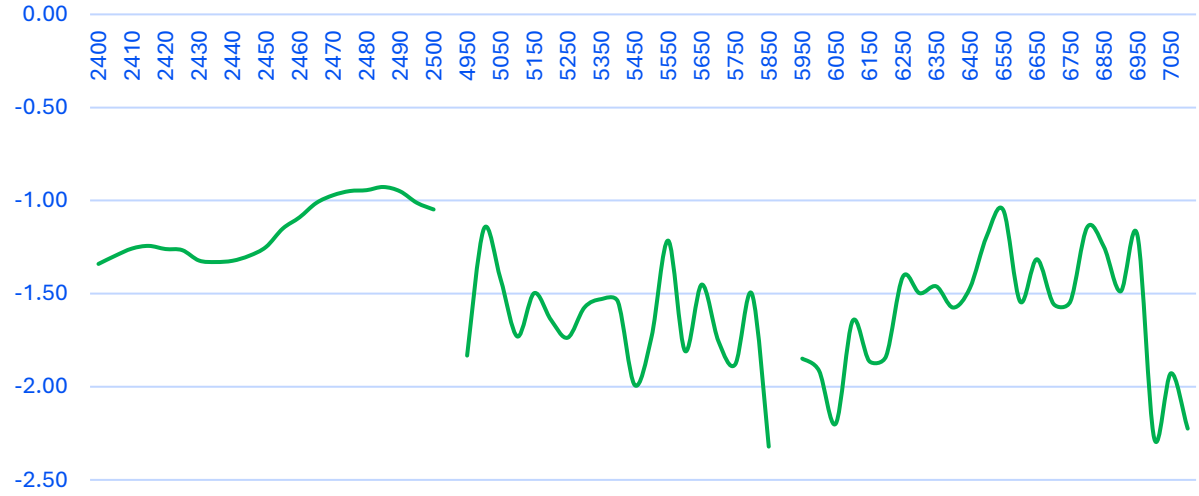
## Efficiency




## Peak Gain

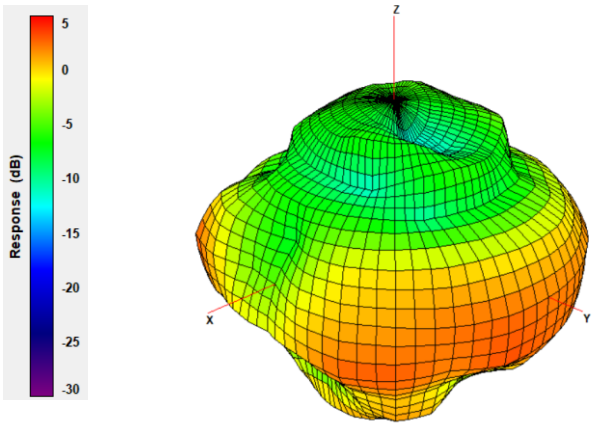


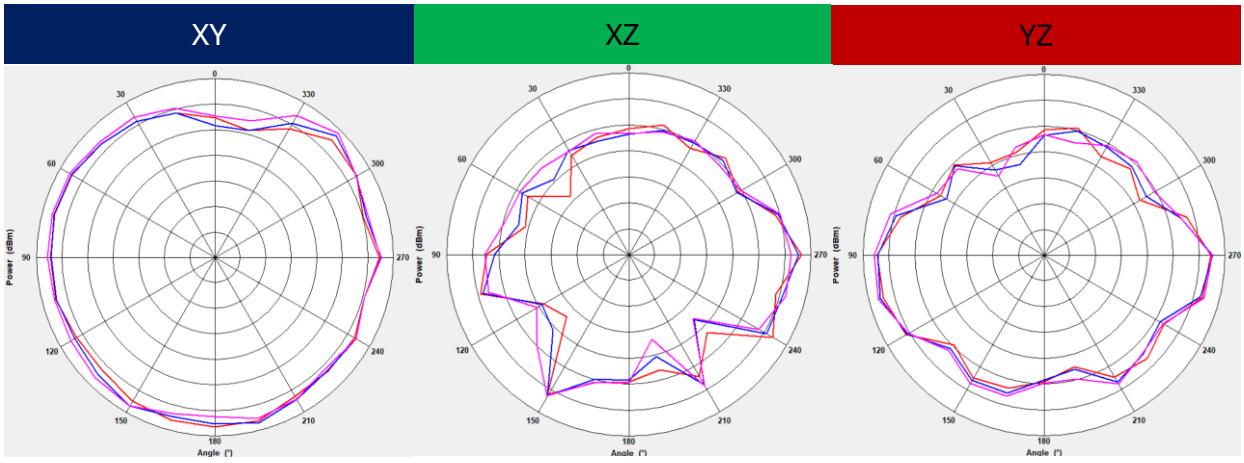

## Average Gain



# RF Radiation Patterns

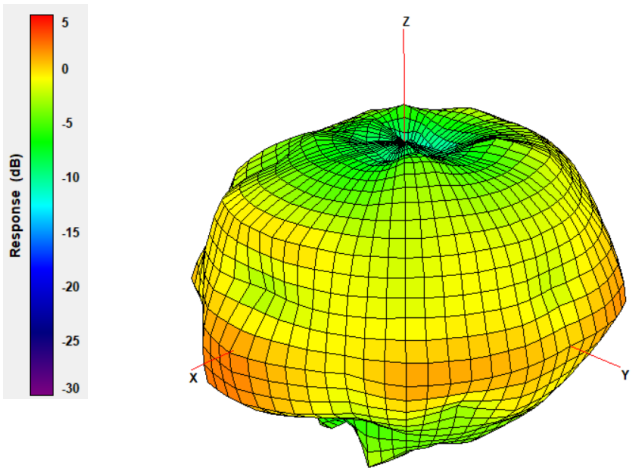
## RF Radiation Patterns at 2450MHz

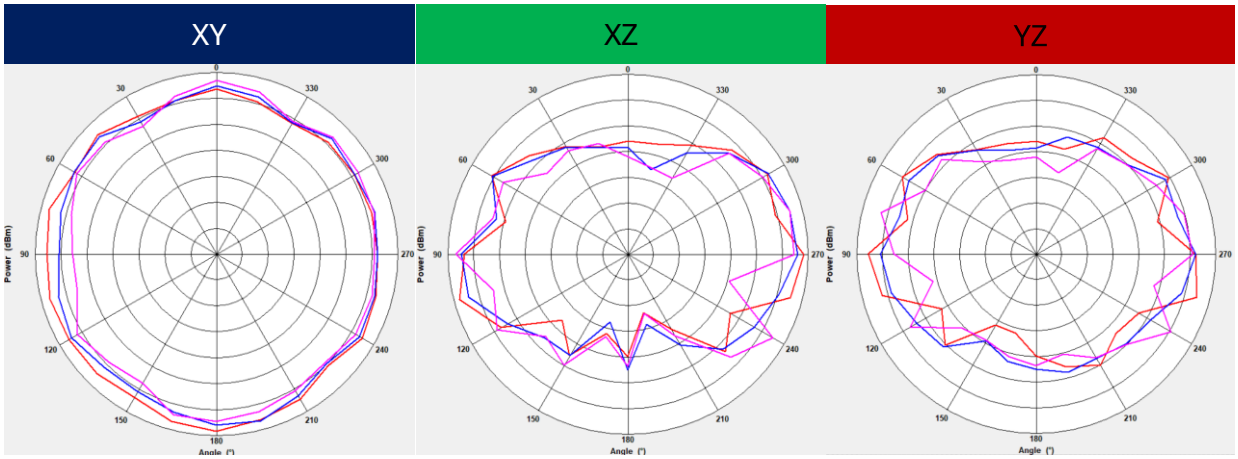



Max: 5
Min-30
Scale: 5/div
2400
2450
2500

# RF Radiation Patterns at 5500MHz

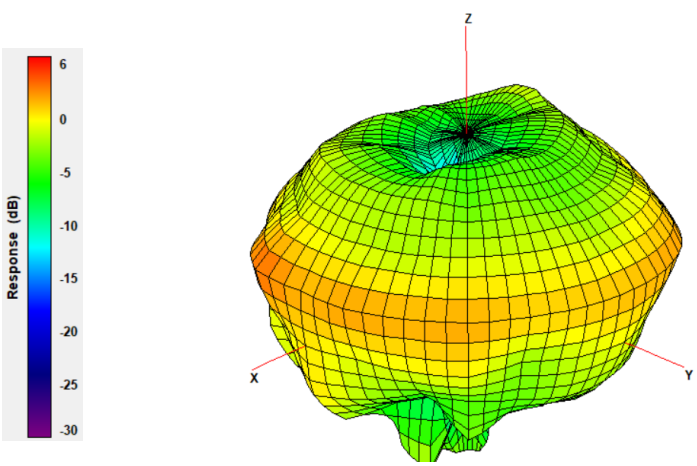


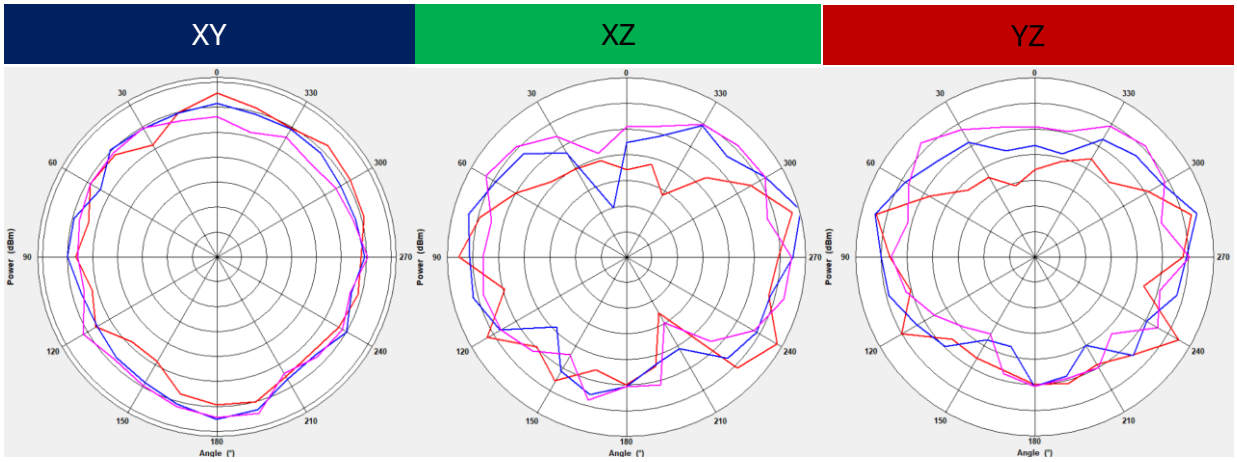




Max: 5
Min-30
Scale: 5/div

5150
5500
5850

# RF Radiation Patterns at 6500MHz

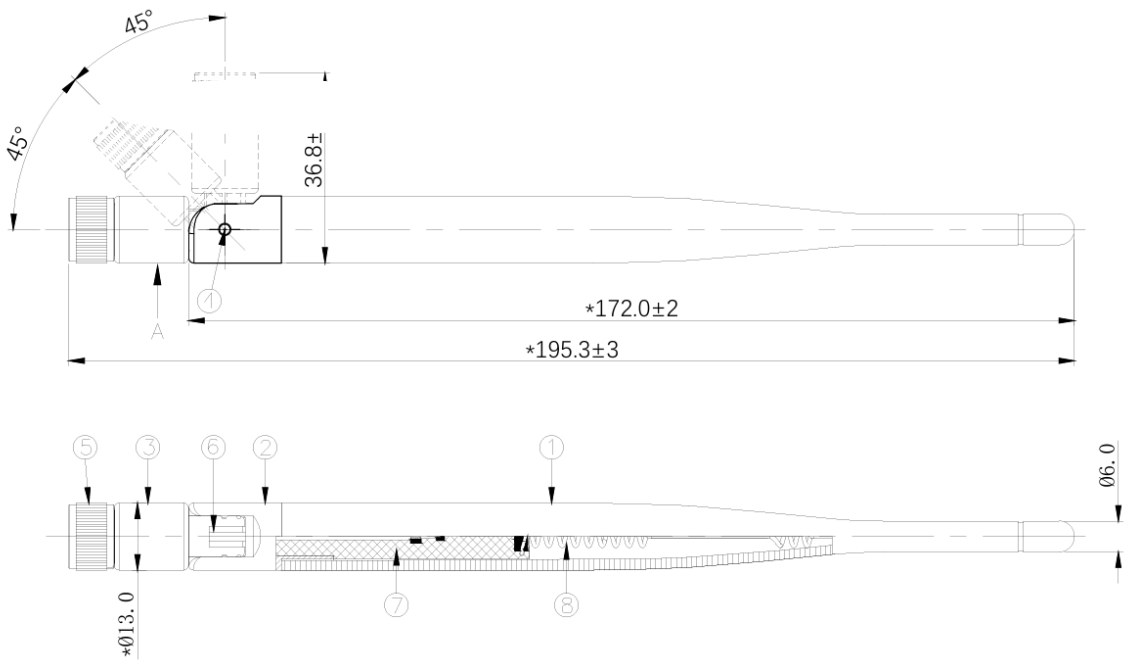



Max: 5
Min-30
Scale: 5/div

5950
6500
7100

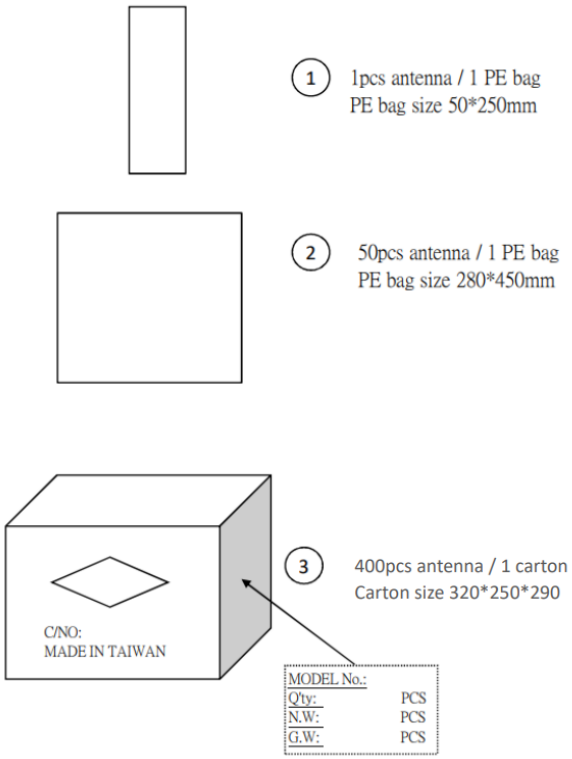
# Mechanical Drawing




1.Specification:
Frequency Range:2400-2500&5150-5850 &5925-7125MHz
Impendance:50Ω
VSWR:2.5MAX
Peak Gain:5.0dBi
2. **Waterproof:IP65 rating**
3.These Products are in conformity with ROHS 2.0
4.Strict sizes are marked with "*",and "()" for reference

| NO. | DESCRIPTION | Q'TY |
|---|---|---|
| 8 | Spring | Spring;Brass | 1 |
| 7 | PCB | FR4;Color:Black | 1 |
| 6 | Cable | RG-178 50 Ohm Translucent Brown | 1 |
| 5 | Connector | SMA,Male;Black plastic shell;Screw thread,Nickel-Plated | 1 |
| 4 | Rivet | POM,Color:Black | 2 |
| 3 | Antenna Base | PC+PBT,Color:Black | 1 |
| 2 | Antenna Base | PC,Color:Black | 1 |
| 1 | Antenna Body | TPEE,Color:Black | 1 |

# Packaging




# Material Regulation

The antenna has been assessed to conform to RoHS requirements. A certificate of conformance is available upon request.