

2.4 GHZ CERAMIC PATCH

FULU

2.4 GHz Surface Mount Ceramic Patch Antenna

SZC-N-3W21

FREQUENCY
2400 to 2500 MHz

PEAK GAIN
2.0 dBi

POLARIZATION
RHCP

SIZE
12.0 × 12.0 × 4.0 mm

2.4 GHZ

2400 to 2500 MHz

Covers WLAN, Wi-Fi, ISM, Zigbee

Key Features

- For Wi-Fi / WLAN / ISM
- Surface mount
- High gain 2 dBi
- Dimensions: 12.0 × 12.0 × 4.0 mm

1 Introduction

Unveiling FULU (SZC-N-3W21), the compact ceramic patch antenna that measures a mere 12 × 12 × 4 mm, specially designed to meet the demanding needs of high-performance industrial applications within the 2.4 GHz frequency spectrum, including Wi-Fi, ISM, and Zigbee bands. This innovative product boasts a high gain which is directional. This attribute makes it an ideal choice for fixed wireless applications, where both transmission and reception are concentrated within a single hemisphere of the device, as seen in scenarios such as wireless meters mounted on reinforced concrete walls. Notably, FULU offers the versatility to be positioned anywhere on the device's ground-plane.

— Features

- ◆ For Wi-Fi / WLAN / ISM
- ◆ Surface mount
- ◆ High gain 2 dBi
- ◆ Dimensions: 12.0 × 12.0 × 4.0 mm

— Applications

- | | |
|---------------------|------------------------|
| ◆ Wireless Metering | ◆ Consumer Electronics |
| ◆ POS Terminals | ◆ Medical Devices |

2 Mechanical Specifications

Part Number	SZC-N-3W21
Name	FULU
Dimensions (mm)	12.0 × 12.0 × 4.0
Weight	<4 g
Antenna Type	SMD Patch
Material	Ceramic

3 Electrical / RF Specifications

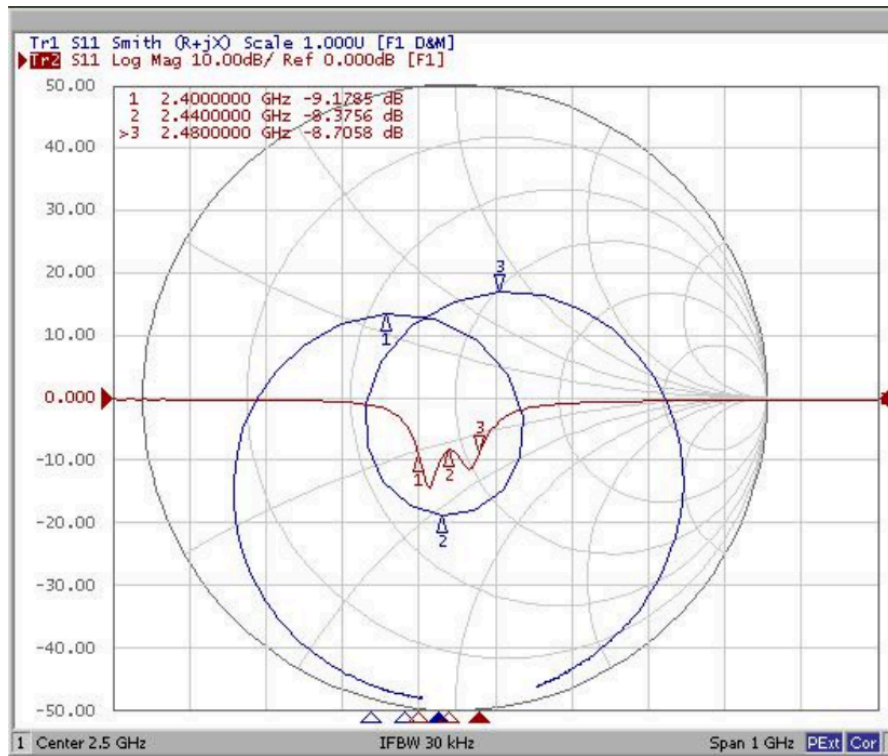
Band	Frequency Range (MHz)	Avg Efficiency (%)	Peak Gain (dBi)	Impedance	Polarization
WLAN / Wi-Fi / ISM	2400 to 2500	>60	2.0	50 Ω	RHCP

*All performance stated is measured on the SZDV-C-3W21 evaluation kit.

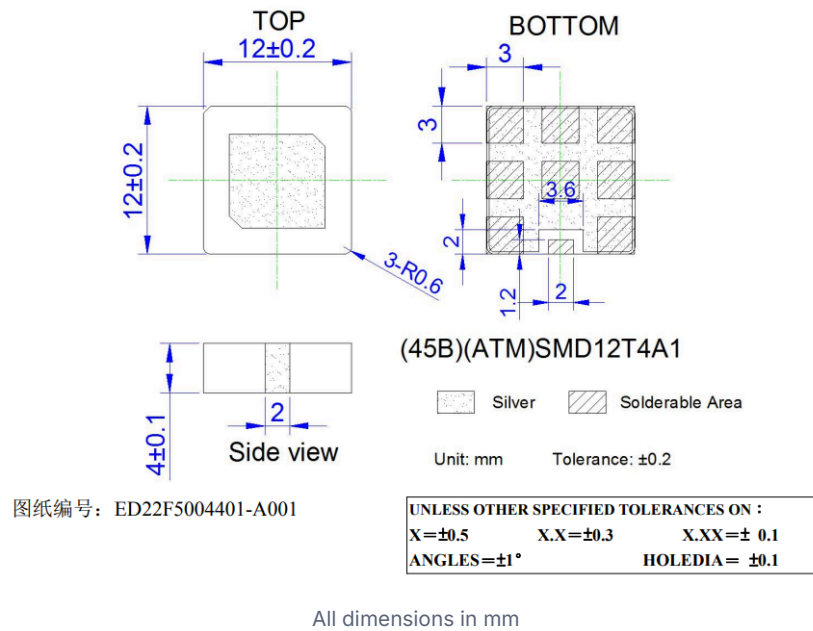
4 Environmental

Operational Temperature	-40 to +85°C
Storage Temperature	-10 to +40°C
Relative Humidity	≤75%
Moisture Sensitivity Level (MSL)	NA
RoHS and REACH compliant	Yes

5 S11 / Smith Chart



6 Antenna Mechanical Drawing



7 Materials

Content	Material	Specification
Antenna Substrate	Microwave dielectric	45 ±2
Electrode	Ag Plated	

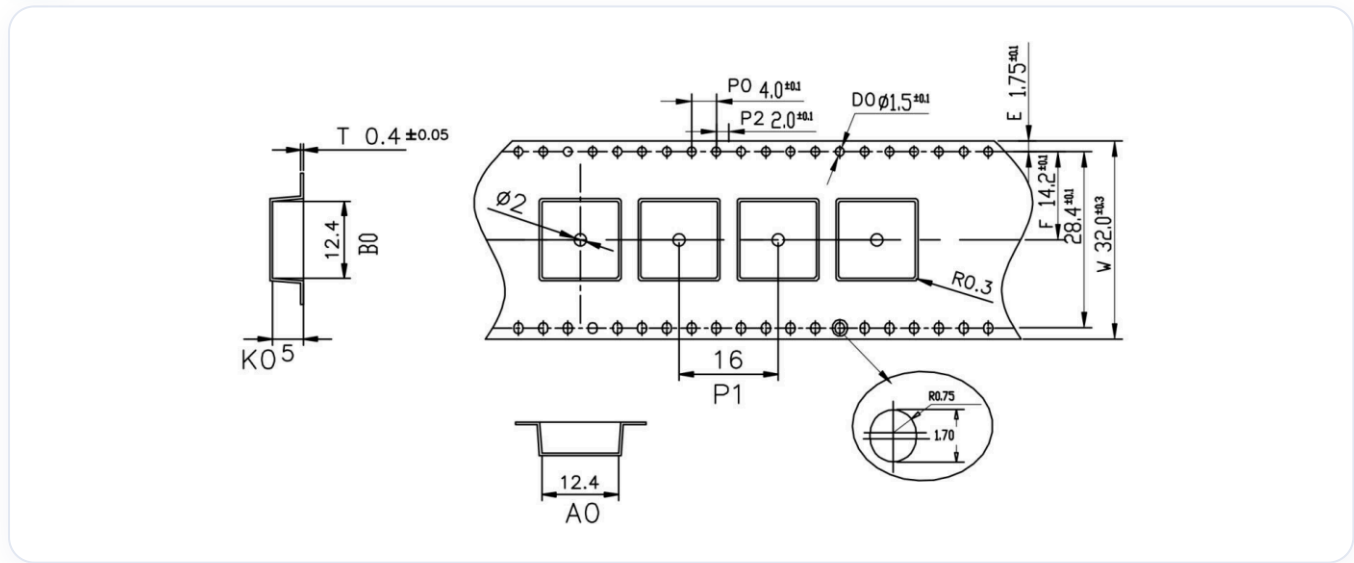
8

Technical drawing of the SMA Connector showing three views: top, front, and side.

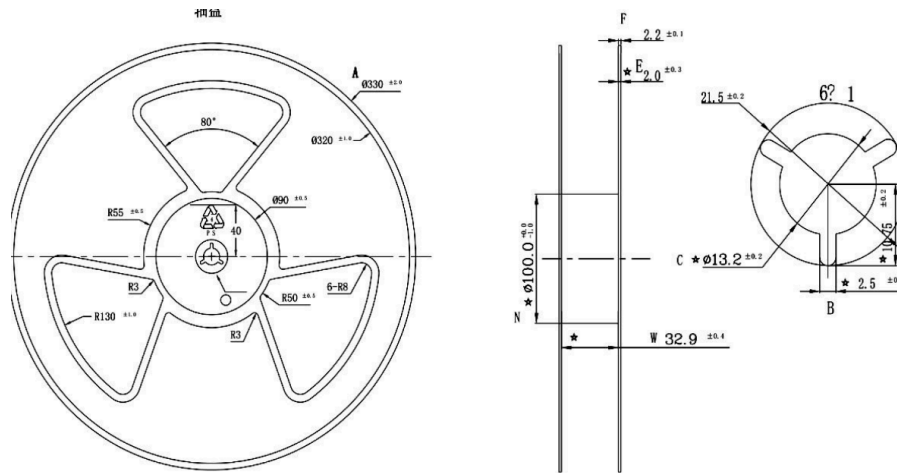
- Top View:** A square component with a width of 50 ± 1 mm and a height of 50 ± 1 mm. A small square feature is centered on the top surface.
- Front View:** A side profile showing the SMA Connector at the bottom. The connector has a threaded base and a flange.
- Side View:** A side profile showing the thickness of the component, which is $.9 \pm .1$ mm.

A label "SMA Connector" with an arrow points to the connector in the front view.

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10 Reel



11 Compliance

ROHS

Compliant

Conforms to EU RoHS Directive 2011/65/EU as amended by Delegated Directive (EU) 2015/863.

REACH

Compliant

Conforms to EU REACH Regulation (EC) No 1907/2006.

CERTIFICATE

On request

A certificate of conformance is available upon request from sales@synzen.com.tw.

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