



# SYNZEN

## PRODUCT DATASHEET

### FULU | SURFACE MOUNT CERAMIC PATCH | 2450MHz

#### Part Number / Name

- SZC-N-3W21
- FULU

#### Description

- 2450 MHz ceramic SMD patch

#### Features

- For Wi-Fi/WLAN/ISM
- Surface Mount
- High Gain 2dBi
- Dimensions: 12.0 x 12.0 x 4.0 (mm)





## Contents

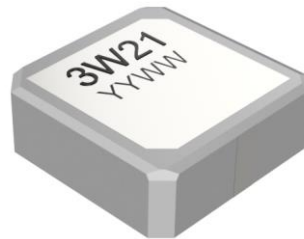
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## Introduction

Unveiling FULU (SZC-N-3W21), the compact ceramic patch antenna that measures a mere 12x12x4mm, specially designed to meet the demanding needs of high-performance industrial applications within the 2.4GHz 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.

### Typical Applications

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



## General

### Mechanical Specifications

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

### Electrical / RF Specifications\*

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

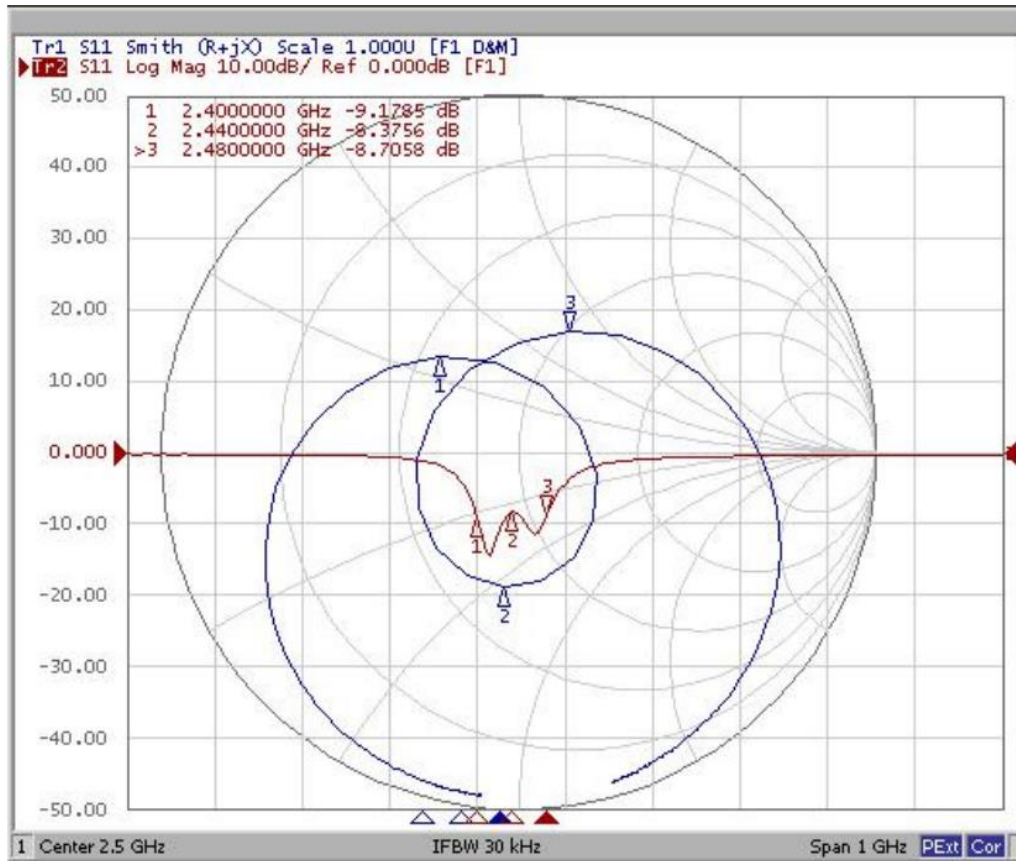
\*All performance stated is measured of SZDV-C-3W21 evaluation kit.

### Environmental Specifications

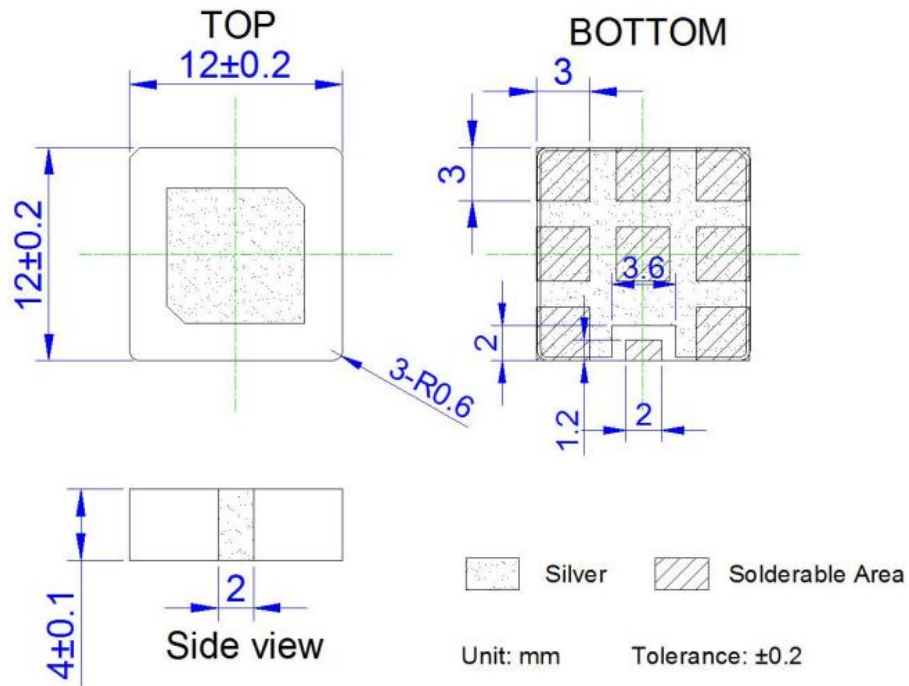
|   |                 |
|---|-----------------|
| <b>Operational Temperature</b>          | -40 to +85 (°C) |
| <b>Storage Temperature</b>              | -10 to +40 (°C) |
| <b>Relative Humidity</b>                | ≤75%            |
| <b>Moisture Sensitivity Level (MSL)</b> | NA              |
| <b>RoHs &amp; REACH compliant</b>       | Yes             |

## RF Characteristics

### S11 / Smith



### Antenna Mechanical Drawing



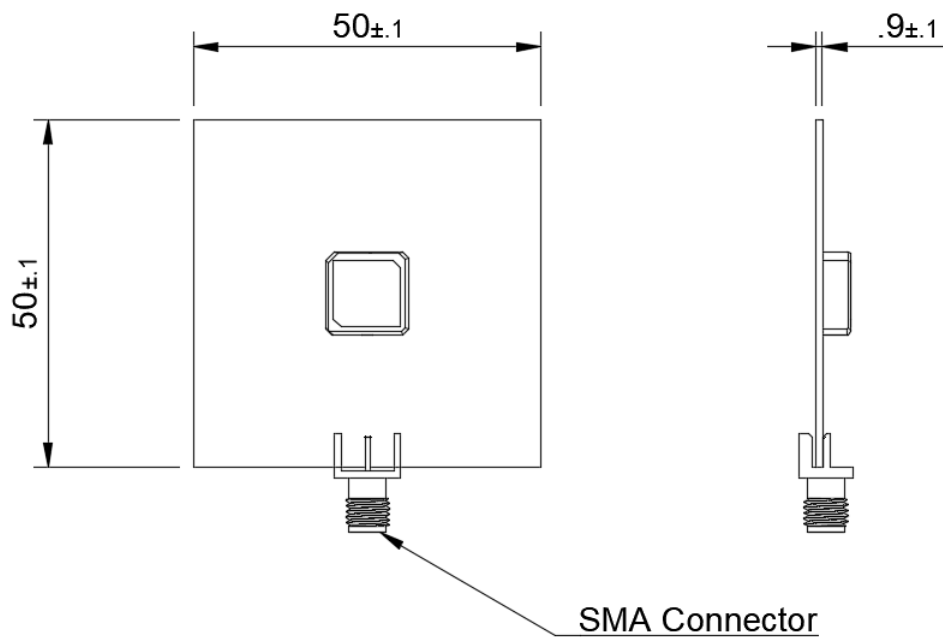
UNLESS OTHER SPECIFIED TOLERANCES ON :

|                        |                 |                     |
|------------------------|-----------------|---------------------|
| X = $\pm 0.5$          | X.X = $\pm 0.3$ | X.XX = $\pm 0.1$    |
| ANGLES = $\pm 1^\circ$ |                 | HOLEDIA = $\pm 0.1$ |

## Evaluation Kit

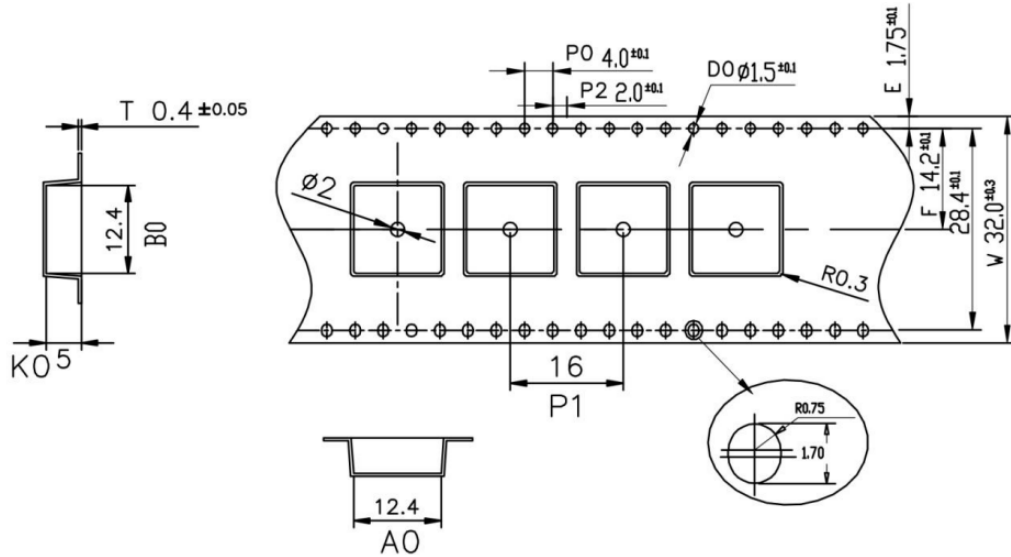
### SZDV-C-3W21 Evaluation Kit

The SZDV-C-3W21 evaluation kit is a PCBA with the antenna (SZC-C-3W21) fitted. Connection to the antenna is made using the fitted female SMA connector.

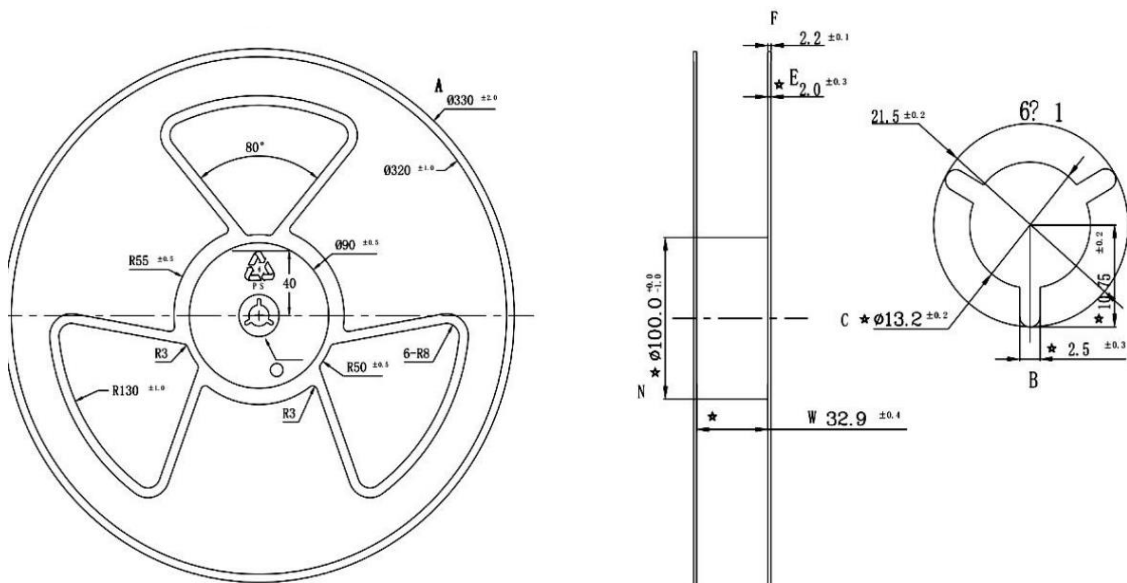


## Packaging

### Tape



### Reel





## Environmental

### Material Regulation

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

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





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