

— WI-FI 6 / 6E FPC + CABLE

# MIRA

Tri-band WLAN FPC Antenna

SZK-C-0W08

FREQUENCY

2.4 / 5 / 6 GHz

PEAK GAIN

Up to 4.85 dBi

CONNECTOR

MHF1, 150 mm

SIZE

30 × 6.0 × 0.2 mm

|         |                  |                      |
|---------|------------------|----------------------|
| 2.4 GHz | 2400 to 2500 MHz | Covers Wi-Fi 2.4 GHz |
| 5 GHz   | 4900 to 5850 MHz | Covers Wi-Fi 5 GHz   |
| 6 GHz   | 5925 to 7125 MHz | Covers Wi-Fi 6E      |

## Key Features

- For WLAN applications 2.4 to 2.5 GHz; 4.9 to 5.85 GHz; 5.9 to 7.1 GHz
- Alternate cable lengths available upon request, contact sales@synzen.com.tw
- Ideal for MIMO systems 2×2, 4×4, 8×8
- Simple integration, plug and operate the device without designing onboard antenna
- Can be tuned for various environments and plastic thickness with additional Pi network, free tuning service available

## 1 Introduction

A flexible antenna for WLAN applications. For use internal to a device which requires an integrated antenna solution. High performance with a small form factor for simple integration.

For Wi-Fi 6E applications in the 6 GHz band (5.925 GHz to 7.125 GHz) plus 2.4 GHz and 5 GHz Wi-Fi / WLAN solutions.

### — Features

- ◆ For WLAN applications 2.4 to 2.5 GHz; 4.9 to 5.85 GHz; 5.9 to 7.1 GHz
- ◆ Alternate cable lengths available upon request, contact [sales@synzen.com.tw](mailto:sales@synzen.com.tw)
- ◆ Ideal for MIMO systems 2×2, 4×4, 8×8
- ◆ Simple integration, plug and operate the device without designing onboard antenna
- ◆ Can be tuned for various environments and plastic thickness with additional Pi network, free tuning service available

### — Applications

- |                  |               |
|------------------|---------------|
| ◆ Access Points  | ◆ Smart Grid  |
| ◆ M2M Industrial | ◆ Healthcare  |
| ◆ Smart Meters   | ◆ Set Top Box |

## 2 Mechanical Specifications

|                  |                        |
|------------------|------------------------|
| Part Number      | SZK-C-0W08             |
| Name             | MIRA                   |
| Dimensions (mm)  | 30 × 6.0 × 0.2         |
| Weight           | <1 g                   |
| Antenna Type     | FPC + Cable            |
| Cable Length*    | 150 mm, Black          |
| Cable Type       | Mini Coax Ø 1.13 mm    |
| Connector*       | MHF1 (U.FL Compatible) |
| Adhesive Backing | 3M 468                 |

\*Alternate cable length and connectors available on request

## 3 Electrical / RF Specifications

| Frequency Range (MHz) | Average Efficiency | Peak Gain (dBi) | S11 (max) dB | VSWR (max) | Impedance |
|-----------------------|--------------------|-----------------|--------------|------------|-----------|
| 2400 to 2500          | >70%               | 3.40            | <-14.0       | 1.85:1     | 50 Ω      |
| 4900 to 5850          | >60%               | 4.20            | <-10.0       | 1.90:1     |           |
| 5925 to 7125          | >70%               | 4.85            | <-8.0        | 3.20:1     |           |

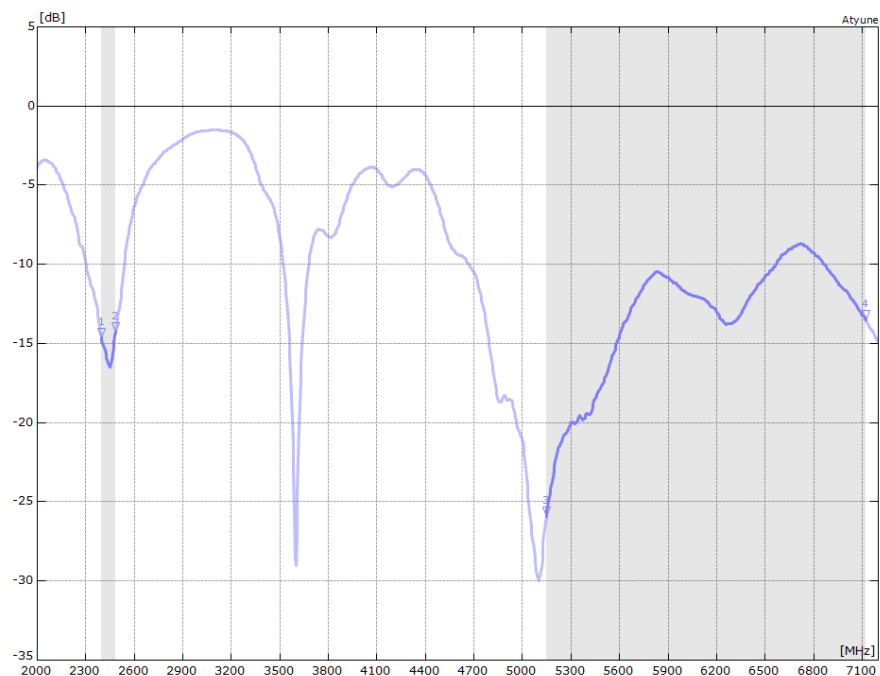
Polarization: Linear. Max input power: 3 W. Note: All performance stated is measured on 2.0 mm ABS plastic, RF chokes used to prevent cable radiation.

## 4 Environmental

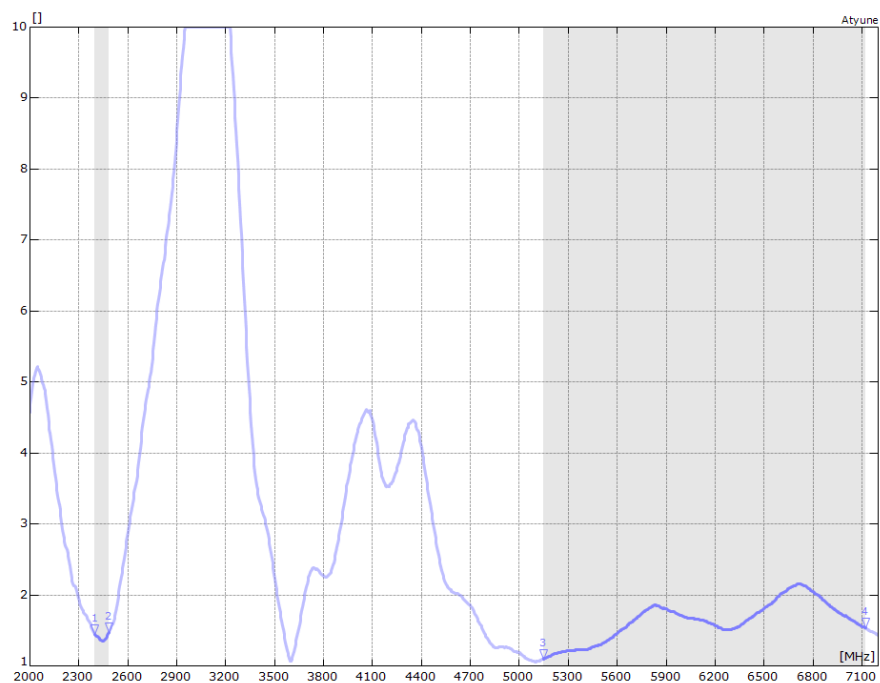
|                         |              |
|-------------------------|--------------|
| Operational Temperature | -40 to +85°C |
| Storage Temperature     | -10 to +40°C |
| Relative Humidity       | ≤75%         |

## 5 RF Characteristics

S11 Parameter



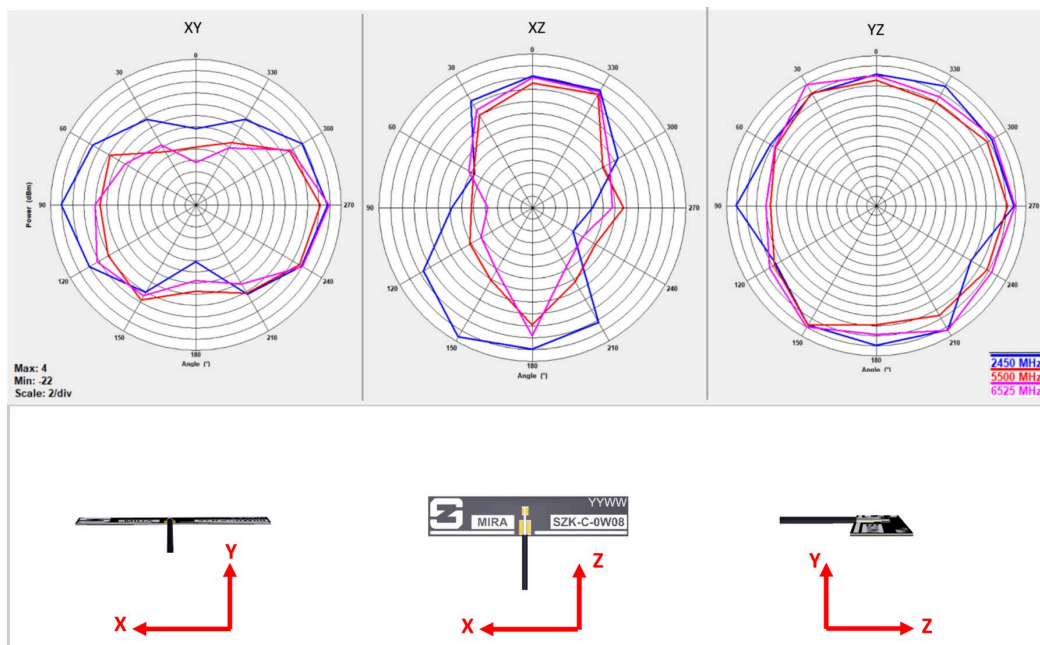
VSWR



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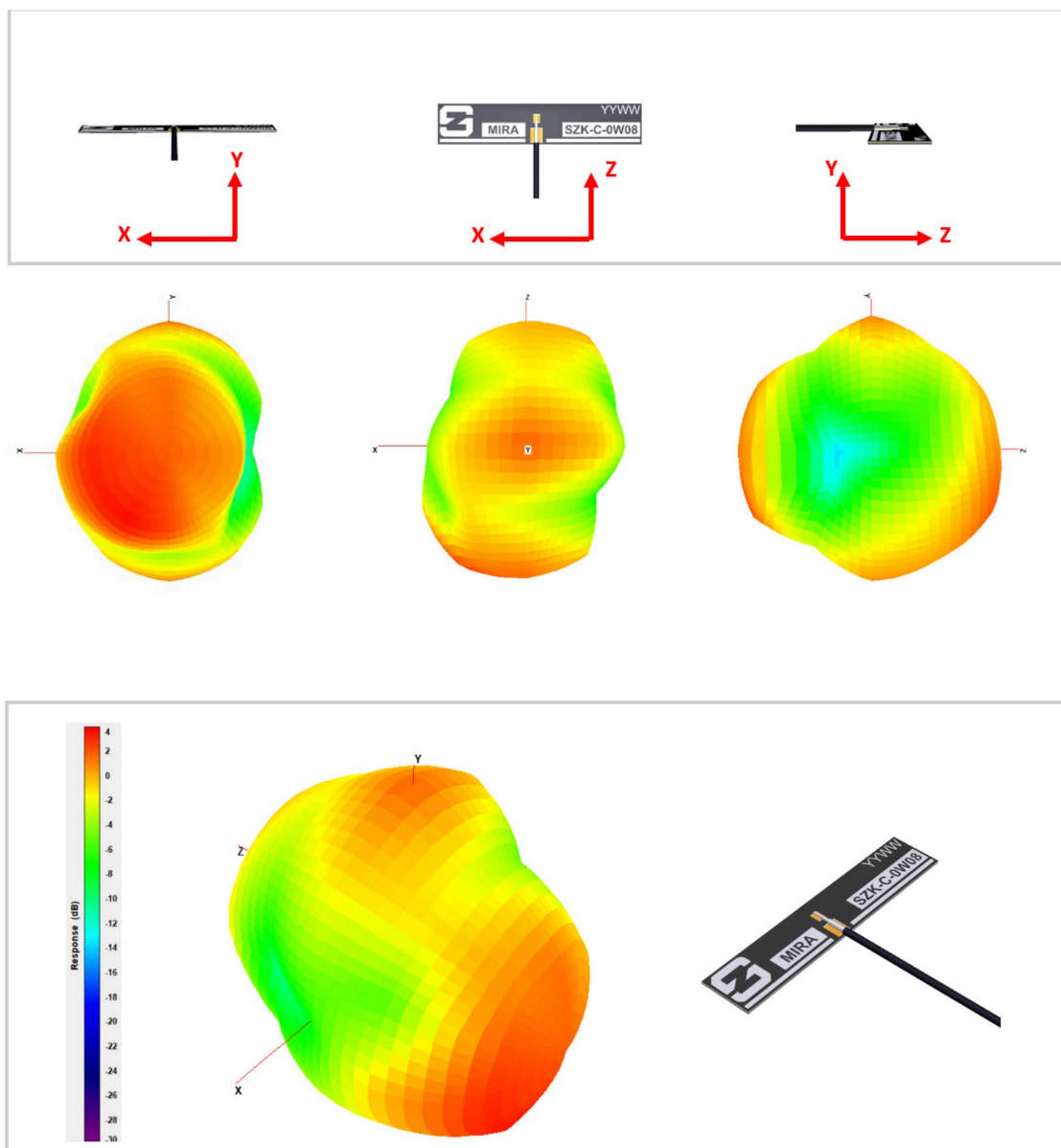
## 2D Polar Plot

MEASURED ON 2.0 MM ABS PLASTIC, RF CHOKES USED TO PREVENT CABLE RADIATION



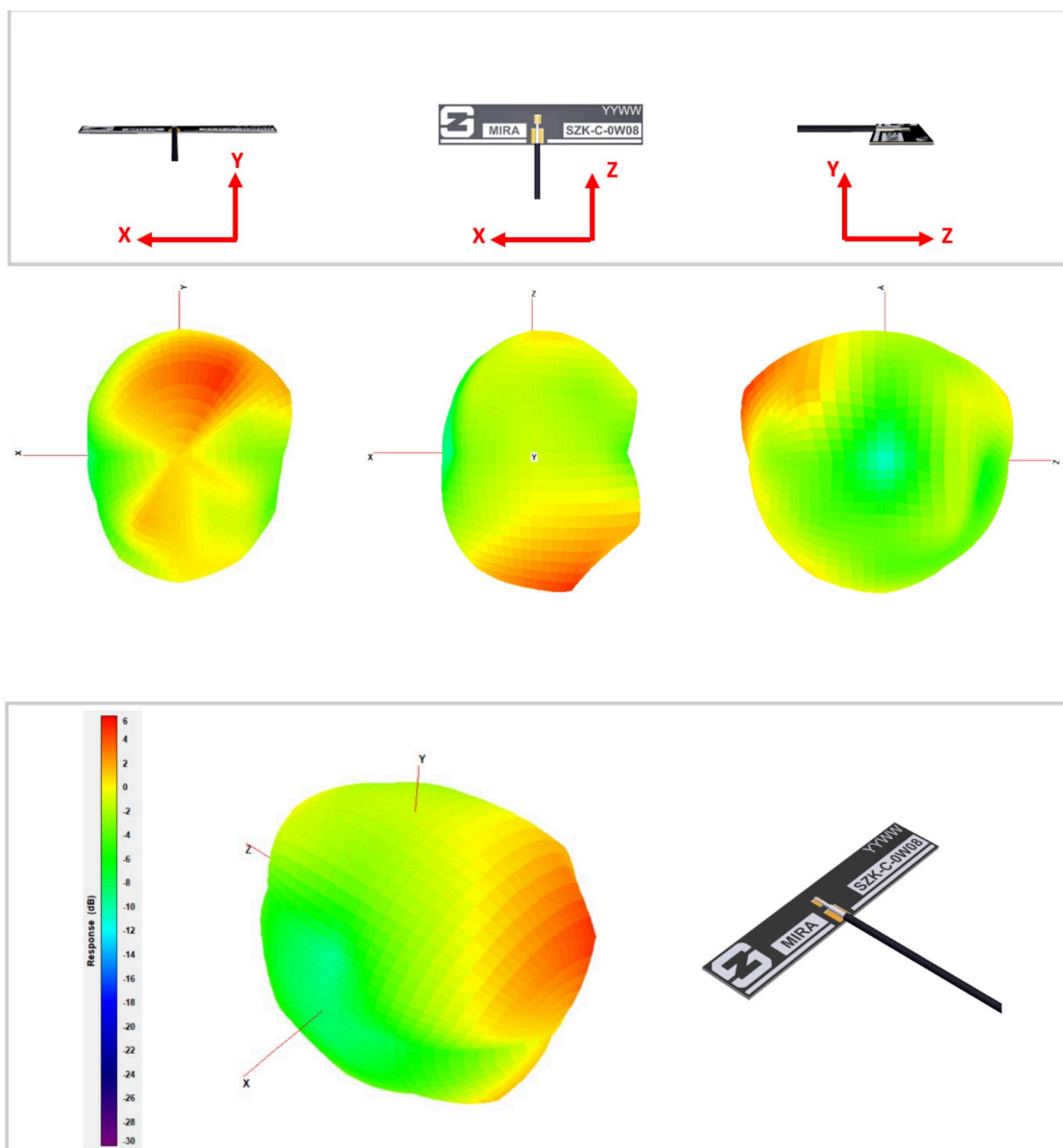
## 7 3D Radiation Pattern at 2450 MHz

MEASURED ON 2.0 MM ABS PLASTIC, RF CHOKES USED TO PREVENT CABLE RADIATION, FREQUENCY POINT 2450 MHz



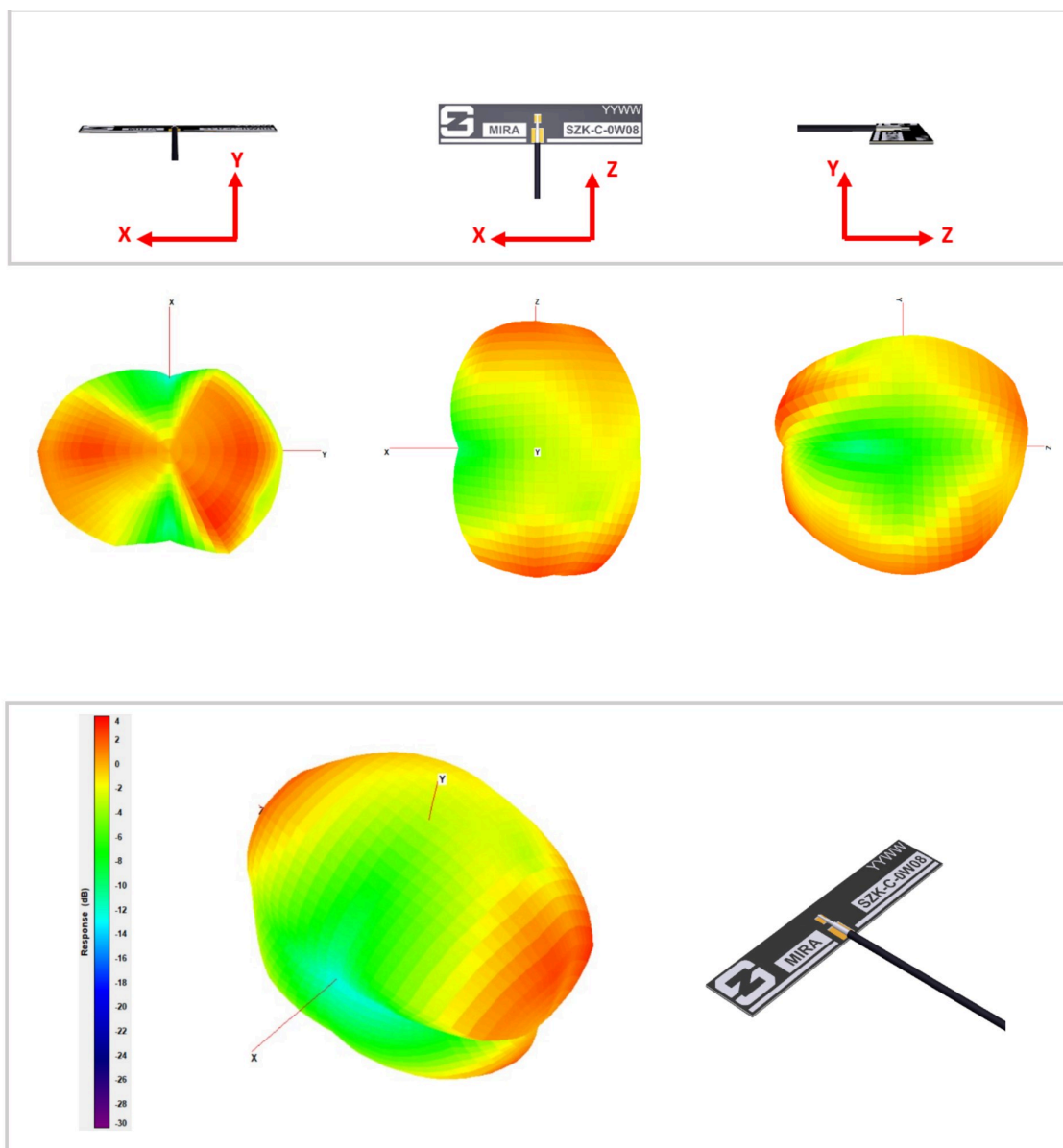
## 8 3D Radiation Pattern at 5500 MHz

MEASURED ON 2.0 MM ABS PLASTIC, RF CHOKES USED TO PREVENT CABLE RADIATION,  
FREQUENCY POINT 5500 MHZ

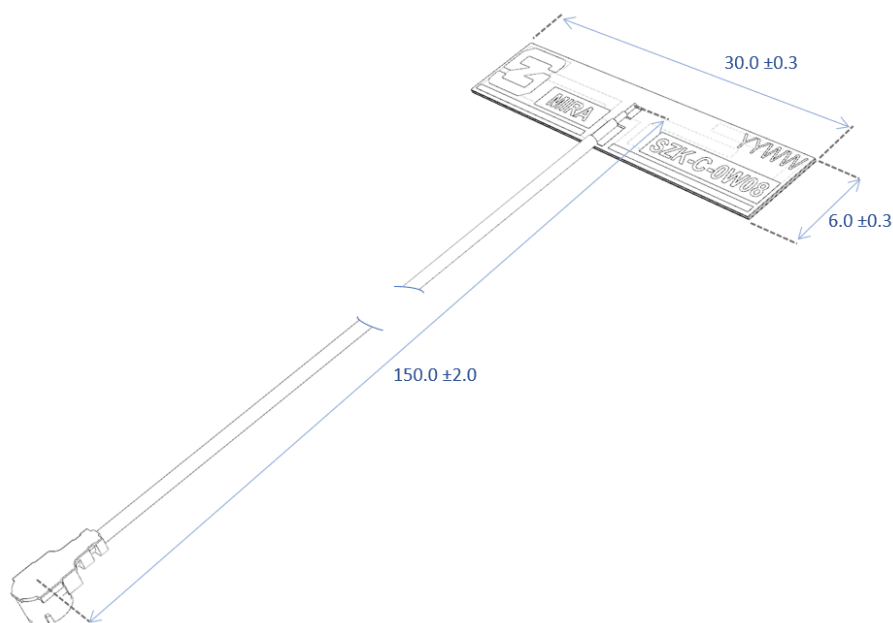


## 9 3D Radiation Pattern at 6500 MHz

MEASURED ON 2.0 MM ABS PLASTIC, RF CHOKES USED TO PREVENT CABLE RADIATION, FREQUENCY POINT 6500 MHZ

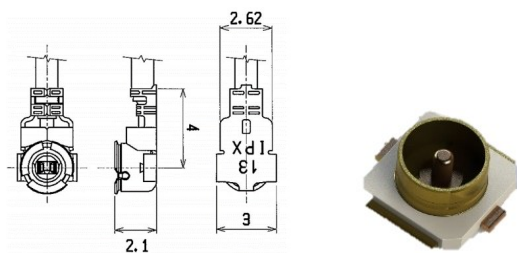


## 10 Antenna Mechanical Drawing



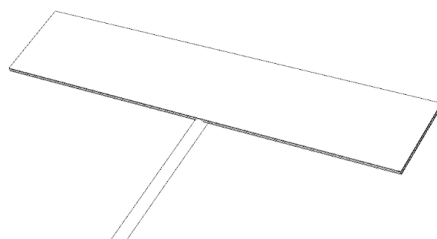
All dimensions in mm. The plug connector on the antenna cable is an IPEX MHF1.

## 11 Suitable PCB Mating Connector (U.FL)



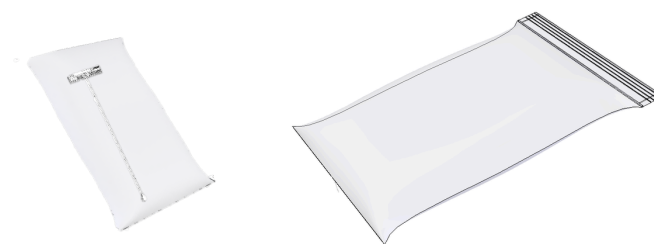
Example: Joymax CT-MPB01X ([www.joymax.com.tw](http://www.joymax.com.tw))

## 12 Adhesive Backing



The antenna comes with 3M 468 adhesive backing upon a PI Kapton substrate. An easy peel cut is on the back side for easy cover removal.

## 13 Bag and Packaging Information



| Packaging                        | Quantity | Dimensions          |
|----------------------------------|----------|---------------------|
| PE bag                           | 1 pc     |                     |
| Larger PE bag with product label | 100 pcs  | 180 × 100 mm        |
| Carton                           | 1000 pcs | 33.7 × 32.2 × 10 cm |

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## 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](mailto:sales@synzen.com.tw).

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