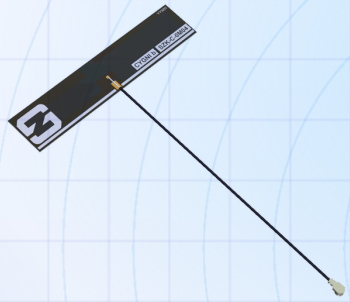
SP TECHNOLOGY

PRODUCT DATASHEET



ISM / LORA FPC

CYGNI b

ISM / LoRa 868 MHz FPC Antenna

SZK-C-0M04

FREQUENCY	PEAK GAIN	CONNECTOR	SIZE
863 to 870 MHz	1.21 dBi	MHF1, 100 mm	70 × 15 × 0.2 mm

ISM 868	863 to 870 MHz	Covers ISM, LoRa, Sigfox, Weightless P

Key Features

- Flexible PCB antenna using 3M 468 adhesive
- Dimensions: 70 × 15 × 0.2 mm
- Cable: 100 mm length, 1.13 mm diameter
- RoHS and REACH compliant

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2026
Rev A

1 Introduction

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

Features

- For ISM / LoRa / Sigfox / Weightless P applications 863 to 870 MHz
- Clean resonance with no unwanted out of band response
- 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
- Alternate cable lengths available upon request, contact sales@synzen.com.tw

Applications

- Industrial / Scientific / Medical
- M2M Industrial
- Smart Meters
- Smart Grid
- Healthcare

2 Mechanical Specifications

Part Number	SZK-C-0M04
Name	CYGNI b
Dimensions (mm)	70 × 15 × 0.2
Weight	<1 g
Antenna Type	FPC + Cable
Cable Length*	100 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	863 to 870 MHz
Average Efficiency	>70%
Peak Gain	1.21 dBi
S11 (max)	<-20.0 dB
VSWR (max)	1.20:1
Impedance	50 Ω
Polarization	Linear
Max Input Power	5 W

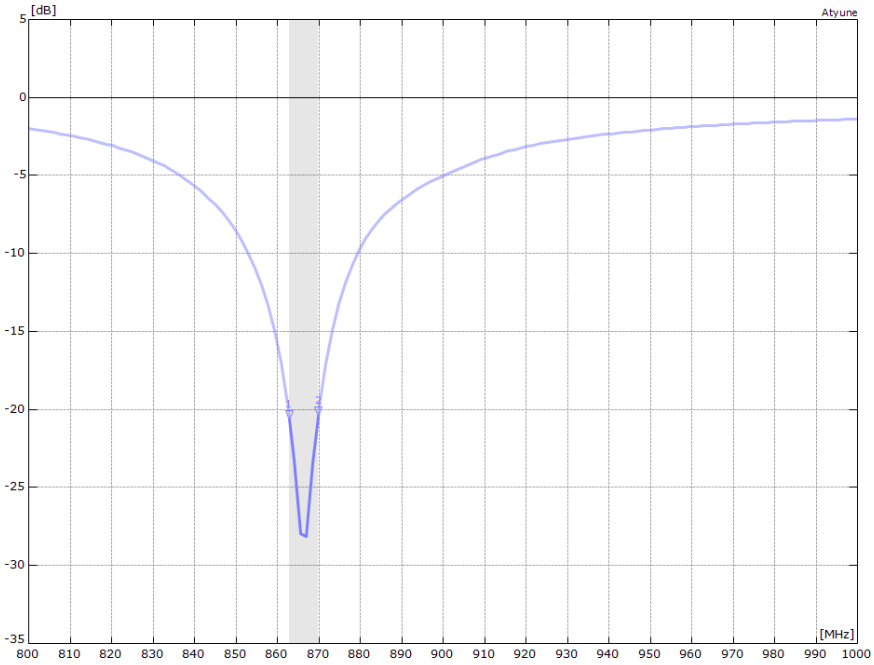
Note: All performance stated is measured on 2.0 mm ABS plastic, RF chokes used to prevent cable radiation.

4 Environmental

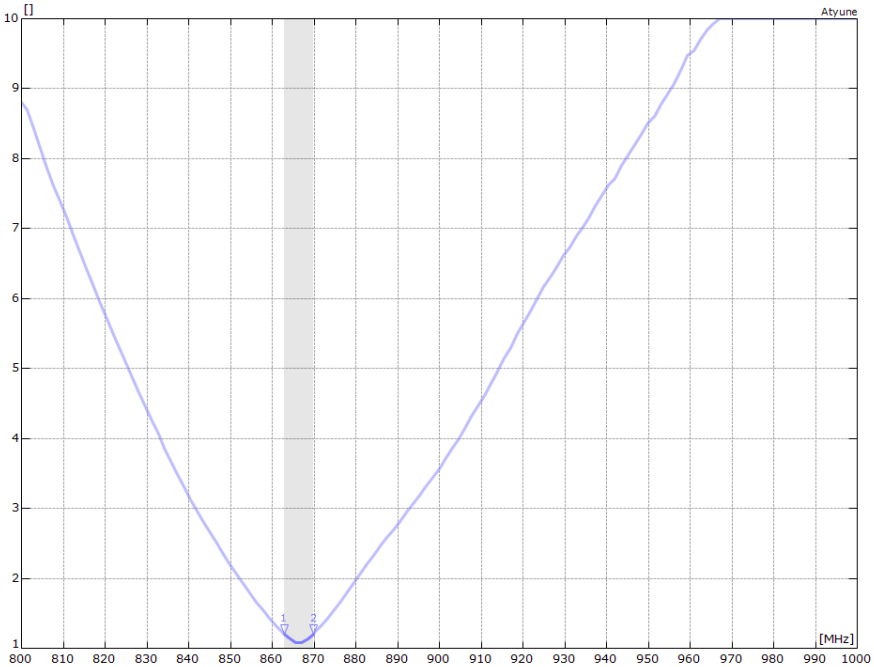
Operational Temperature	-40 to +85°C
Storage Temperature	-10 to +40°C
Relative Humidity	≤75%

5 RF Characteristics

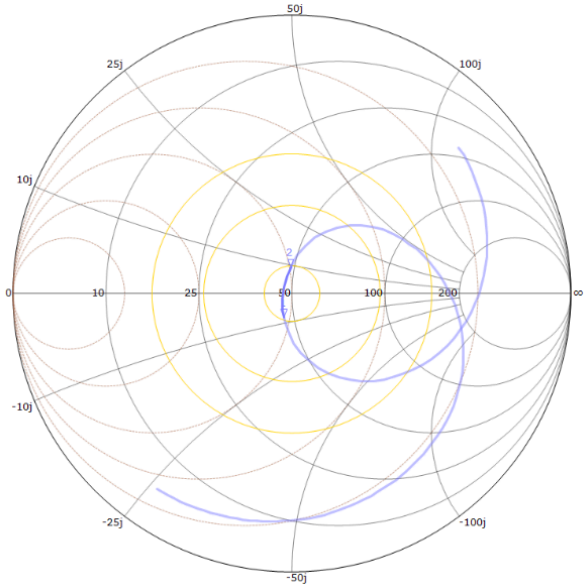
S11 Parameter



VSWR

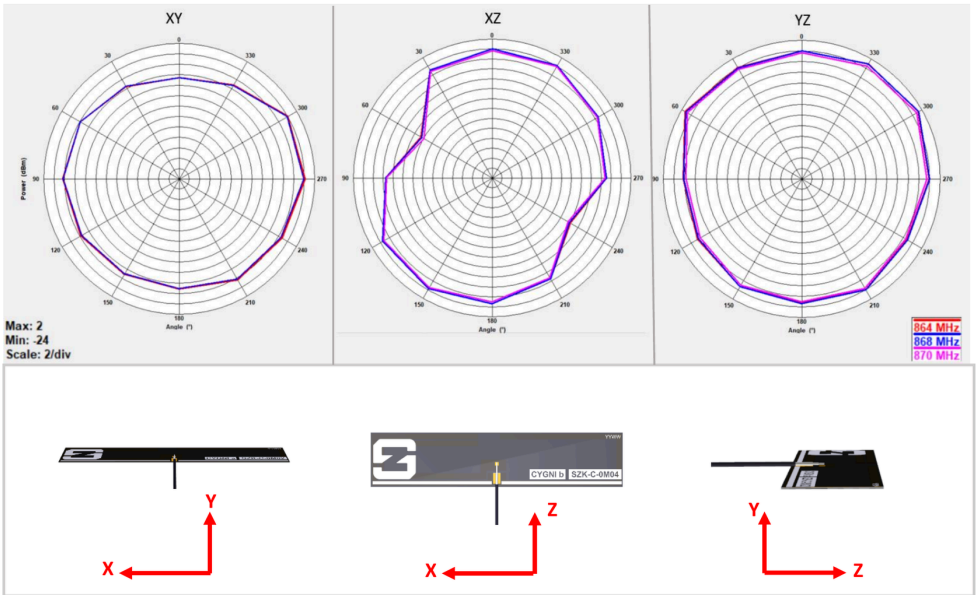


6 Smith Chart



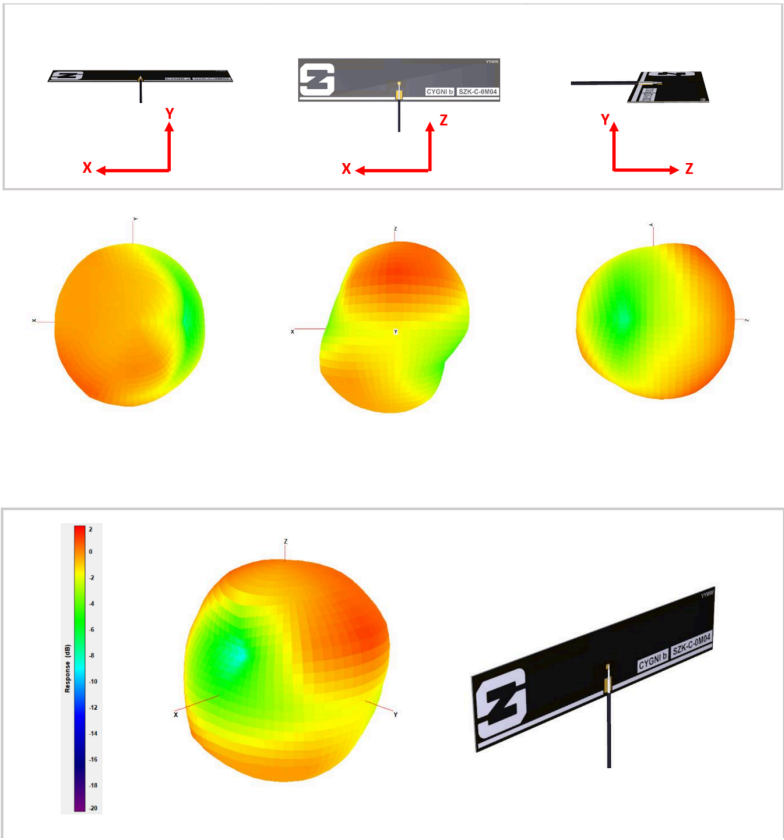
7 2D Polar Plot

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

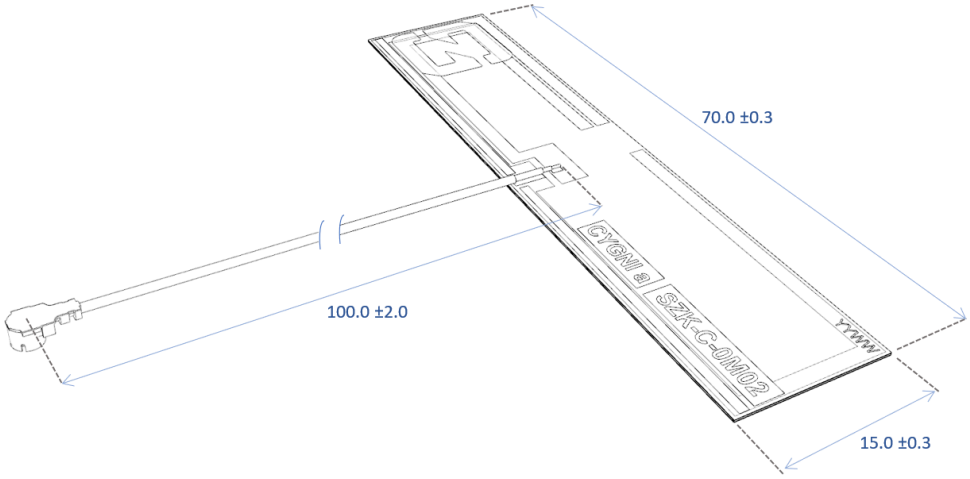


8 3D Radiation Pattern at 868 MHz

MEASURED ON 2.0 MM ABS PLASTIC, RF CHOKES USED TO PREVENT CABLE RADIATION, FREQUENCY POINT 868 MHZ

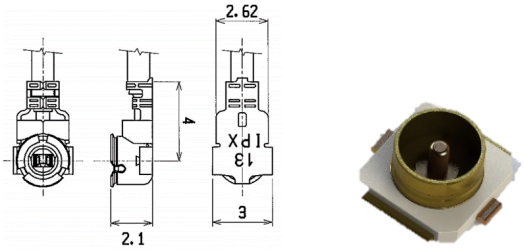


9 Antenna Mechanical Drawing



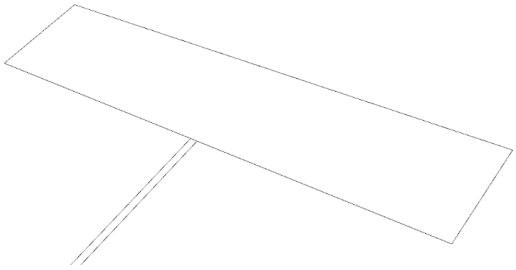
All dimensions in mm. The plug connector on the antenna is an IPEX MHF1.

10 Suitable PCB Mating Connector (U.FL)



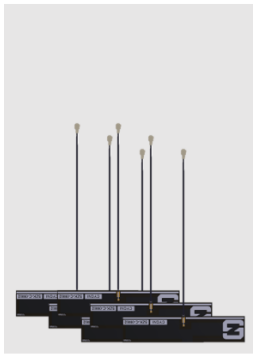
Example: Joymax CT-MPB01X (www.joymax.com.tw)

11 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.

12 Bag and Packaging Information



Antennas packed in PE bag (20 antennas per bag). Small bag dimensions: 9.5 × 28.5 cm. 100 pcs per larger bag with product label. Bag dimensions: 19 × 30 cm. 1000 pcs per carton. Carton dimensions: 33.7 × 32.2 × 10 cm.

13 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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