

3G / NB-IOT FPC

ELECTRA

3G / NB-IoT FPC Antenna

SZK-C-2C04

FREQUENCY

824 to 960, 1710 to 2200 MHz

PEAK GAIN

Up to 3.83 dBi

CONNECTOR

MHF1, 100 mm

SIZE

28.0 × 15.0 × 0.2 mm

LOW BAND

824 to 960 MHz

Covers B5, B8, B19, B20

MID BAND

1710 to 2200 MHz

Covers B1, B2, B3, B4, B9, B25, B33 to B39, B65, B66

Key Features

- For NB-IoT and 3G / 2G applications
- High performance with dual band coverage
- Simple integration, plug and operate the device without designing onboard antenna
- Small form factor of 28.0 × 15.0 × 0.20 mm
- Alternate cable lengths and connectors available upon request, contact sales@synzen.com.tw

1 Introduction

A flexible antenna for NB-IoT / 3G / 2G 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 NB-IoT and 3G / 2G applications
- ◆ High performance with dual band coverage
- ◆ Simple integration, plug and operate the device without designing onboard antenna
- ◆ Small form factor of 28.0 × 15.0 × 0.20 mm
- ◆ Alternate cable lengths and connectors available upon request, contact sales@synzen.com.tw

— Applications

- | | |
|---------------------|--------------|
| ◆ Payment Terminals | ◆ Smart Grid |
| ◆ M2M Industrial | ◆ Healthcare |
| ◆ Smart Meters | ◆ Tracking |

2 Mechanical Specifications

Part Number	SZK-C-2C04
Name	ELECTRA
Dimensions (mm)	28.0 × 15.0 × 0.20
Weight	<0.5 g
Antenna Type	FPC Self-Adhesive
Cable Length*	100 mm
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 RF Specifications

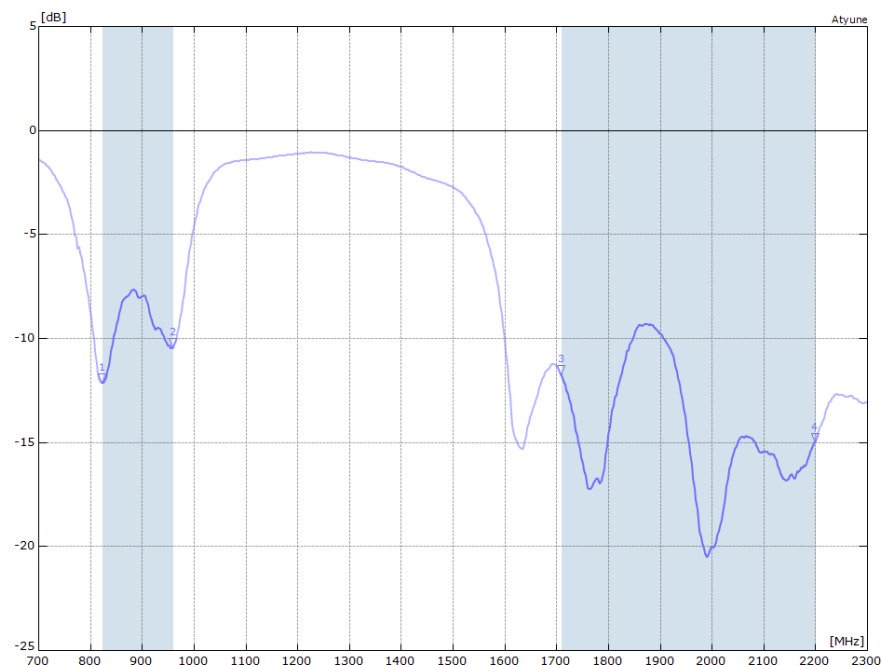
4G LTE / NB-IoT Bands	Frequency Range (MHz)	Efficiency (%)	Peak Gain (dBi)	Impedance	Polarization
B5, 8, 19, 20	824 to 960	>65	2.03	50 Ω	Linear
B1, 2, 3, 4, 9, 25, 33 to 39, 65, 66	1710 to 2200	>70	3.83		

4 Environmental

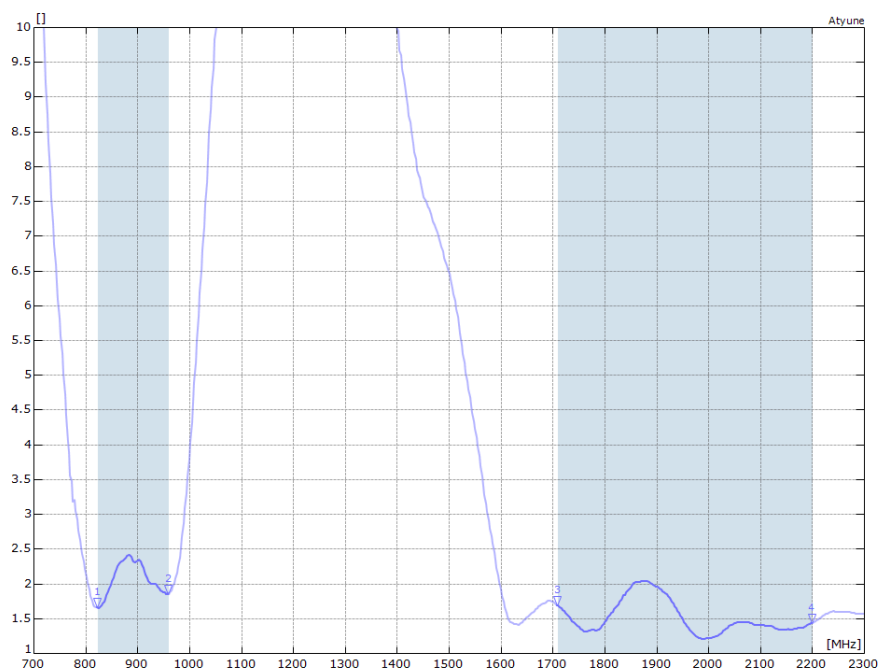
Operational Temperature	-40 to +85°C
Storage Temperature	-10 to +40°C
Relative Humidity	≤75%

5 RF Characteristics

S11 Parameter



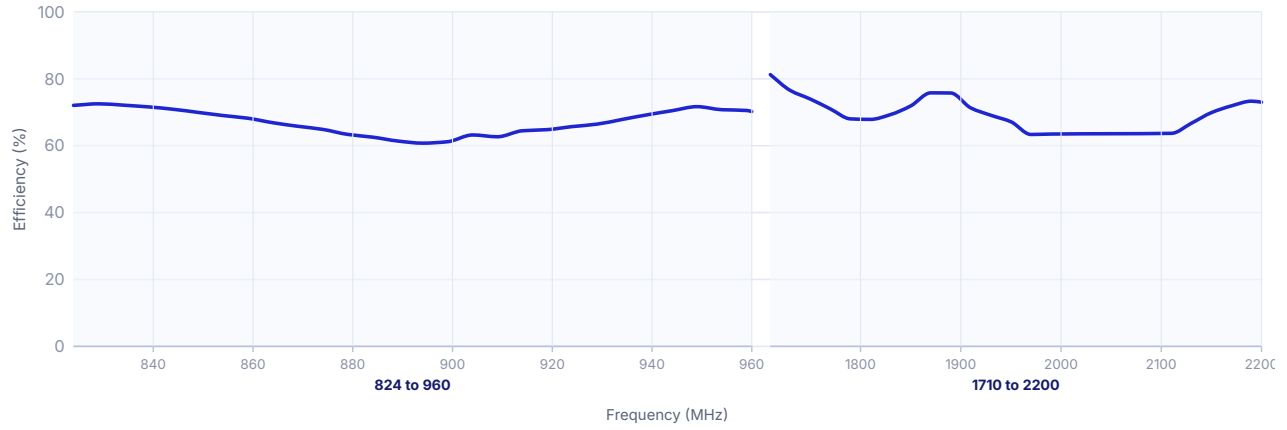
VSWR



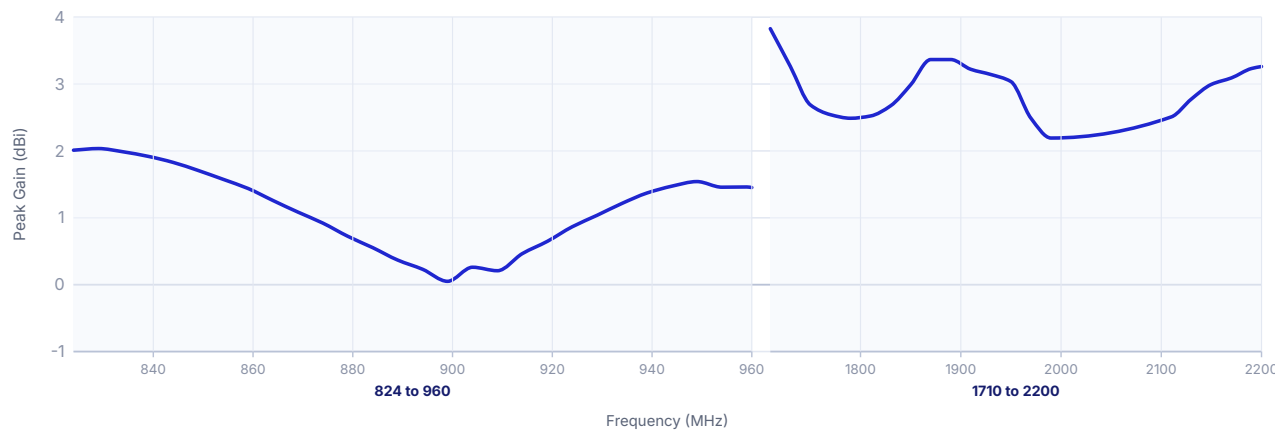
6

Antenna Performance

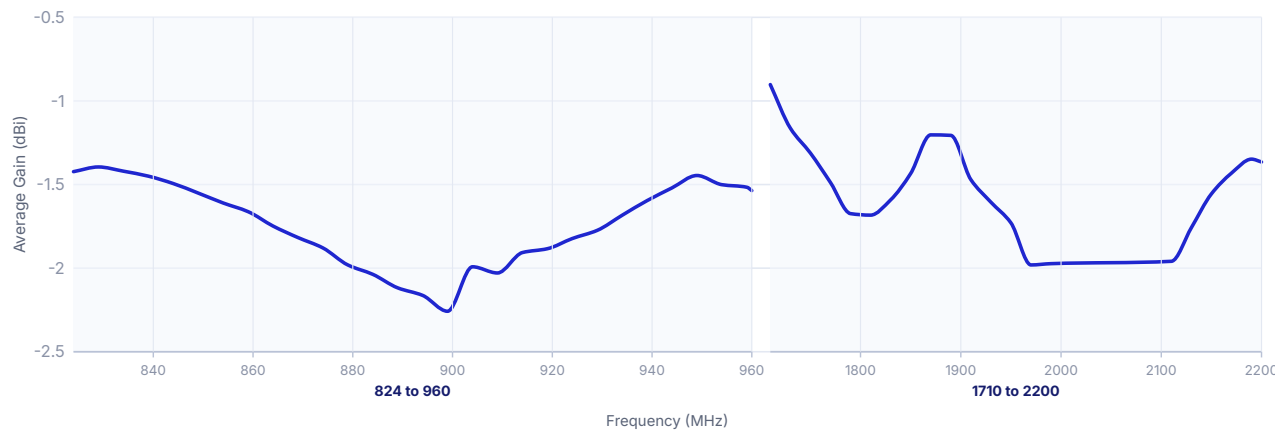
Efficiency



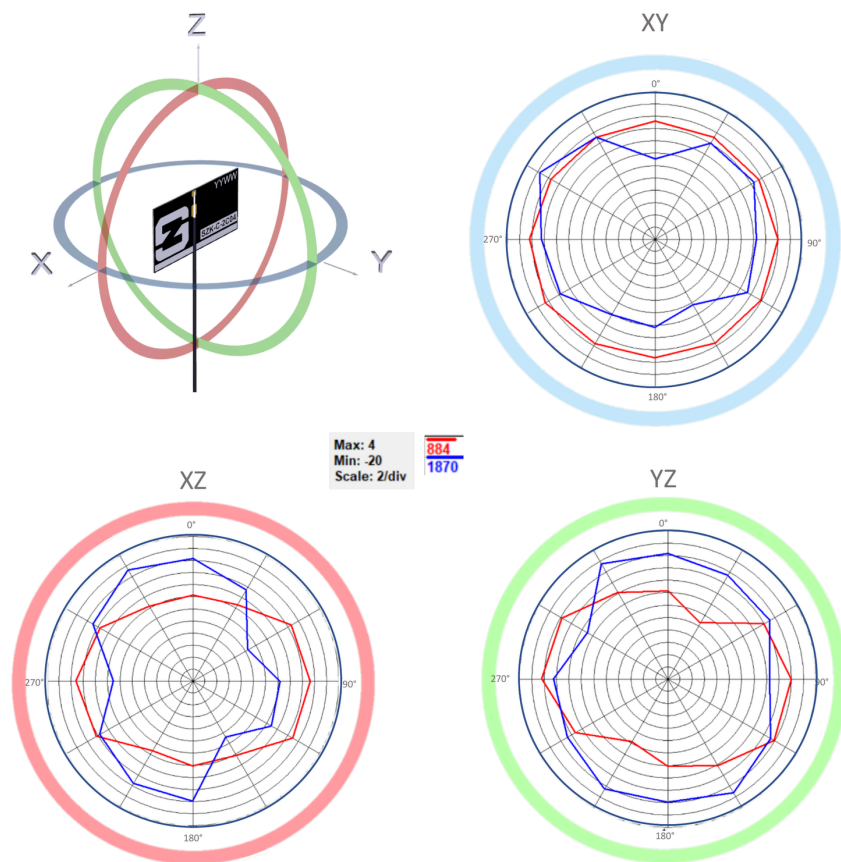
Peak Gain



Average Gain

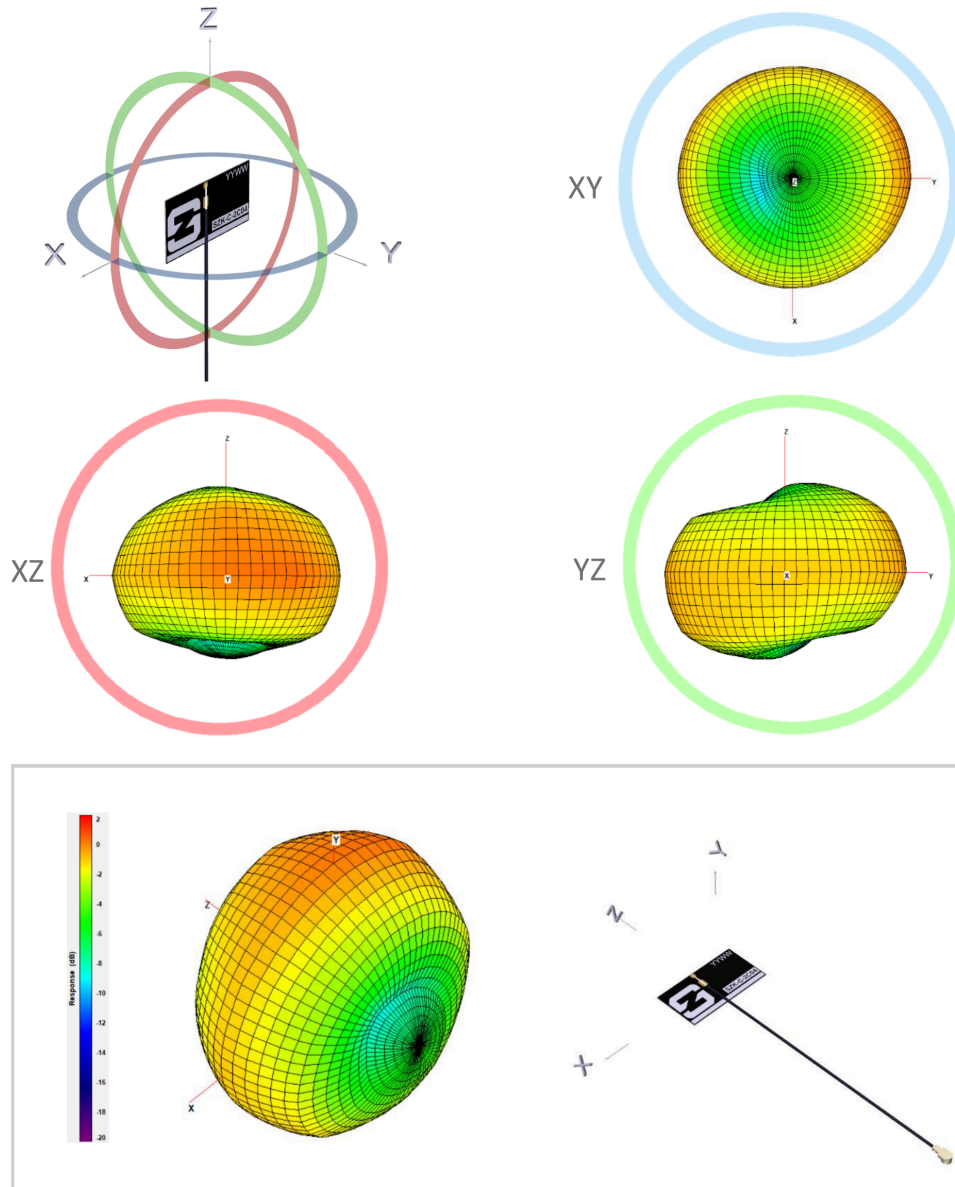


7 2D Polar Plot 791 to 2690 MHz



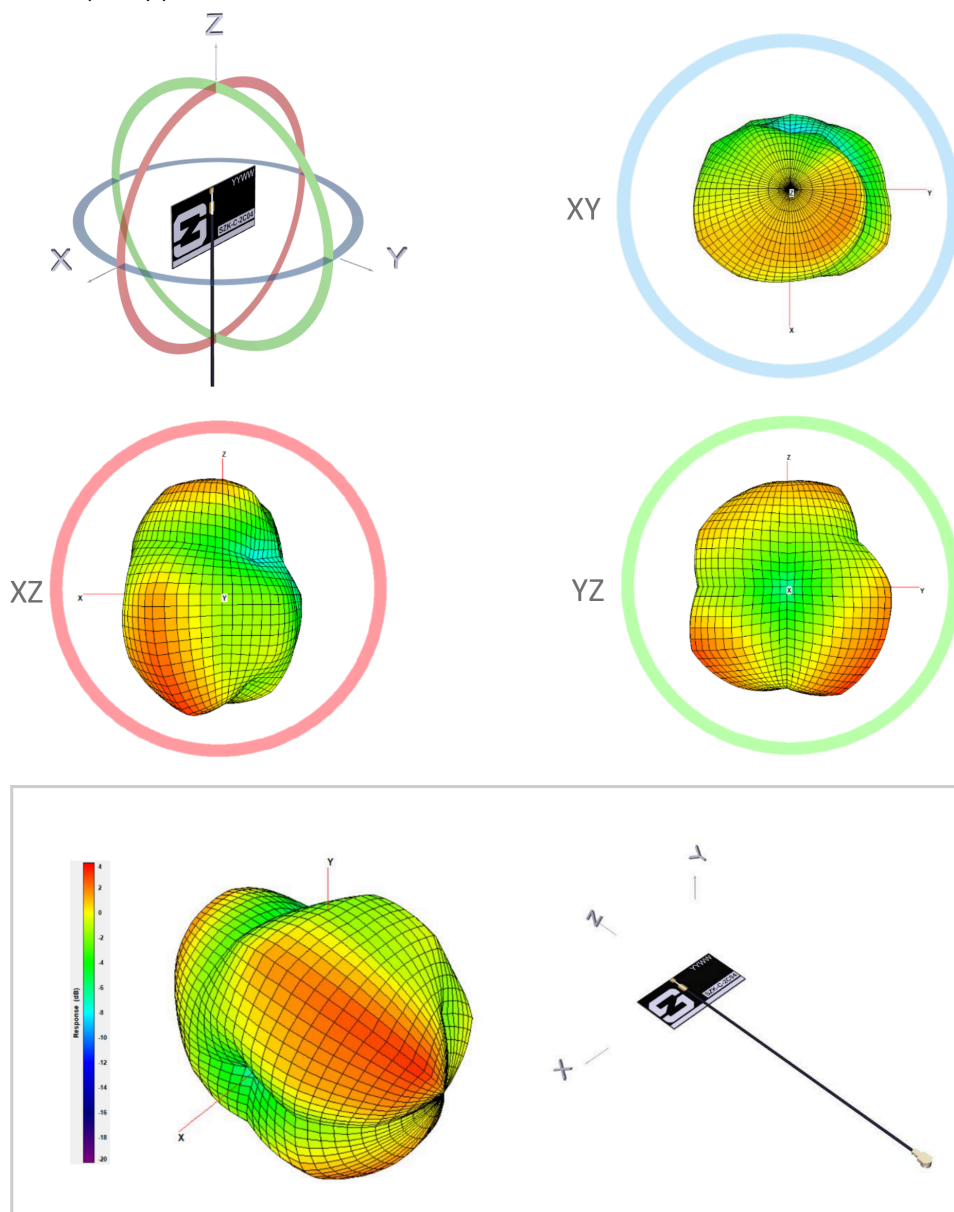
8 3D Radiation Pattern at 880 MHz

FREQUENCY POINT 880 MHZ

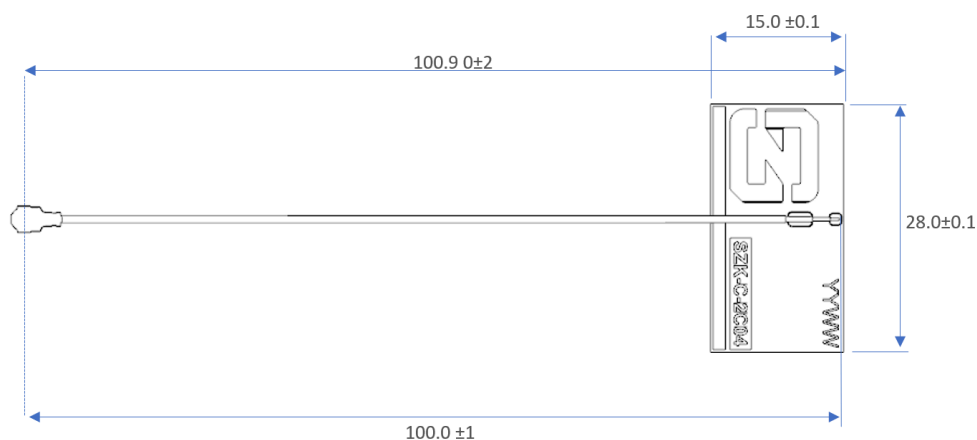


9 3D Radiation Pattern at 1880 MHz

FREQUENCY POINT 1880 MHZ

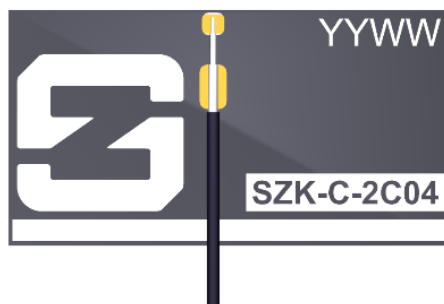


10 Antenna Mechanical Drawing

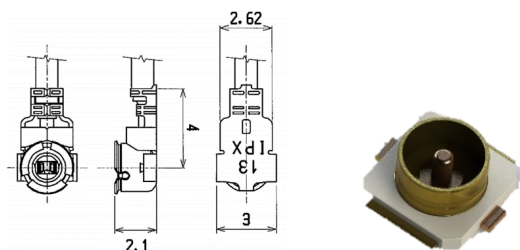


All dimensions in mm. The plug connector on the antenna is an IPEX MHF1.

11 Antenna Detail



12 Suitable PCB Mating Connector (U.FL)



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

13 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.

14 Bag and Packaging Information

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

15 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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