



DATASHEET

DEIMOS1 | SZW-N-5M12 | IP65 Terminal | ISM 868

Features:

ISM: 863-870MHz
>3.0dBi Peak Gain, >50% Efficiency

Dimensions: 160.8 x Ø12.9mm
Connector: SMA Male
IP 65
RoHs Compliant

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Introduction

DEIMOS 1, part number SZW-N-5M12, is a compact external sub-GHz antenna designed specifically for operation in the 868 MHz ISM band. The antenna is optimized to provide stable impedance matching, consistent radiation characteristics, and reliable efficiency when integrated into low power wireless devices.

Validated through VNA and anechoic chamber testing, DEIMOS 1 demonstrates low VSWR and balanced omnidirectional radiation patterns across the 868 MHz ISM band. The antenna delivers reliable gain and efficiency performance suitable for long range, low data rate wireless applications. The external antenna form factor supports robust RF performance while simplifying mechanical integration.

DEIMOS1 is intended for applications that require dependable long-range connectivity, low power operation, and repeatable RF behavior in real world environments.

Features

- Optimized for 868 MHz ISM band operation
- Low VSWR across the 868 MHz ISM band
- Balanced omnidirectional radiation pattern
- High radiation efficiency for its size class
- External antenna form factor for improved RF performance
- Validated through VNA and anechoic chamber testing

Applications

- LPWAN and IoT devices operating in the 868 MHz ISM band
- Smart metering systems
- Asset and wildlife tracking
- Industrial monitoring and sensing
- Smart city infrastructure
- Sub GHz wireless gateways

Mechanical Specifications

Parameter	
Part Number	SZW-N-5M12
Name	DEIMOS 1
Dimensions (mm)	160.80 x Ø12.90
Antenna Type	Terminal Flexible

Electrical / RF Specifications

Band	Frequency Range (MHz)	Average Efficiency (%)	Peak Gain (dBi)	VSWR (worst case)	Impedance
ISM 868	863-870	65.5	3.47	1.64:1	50 Ω

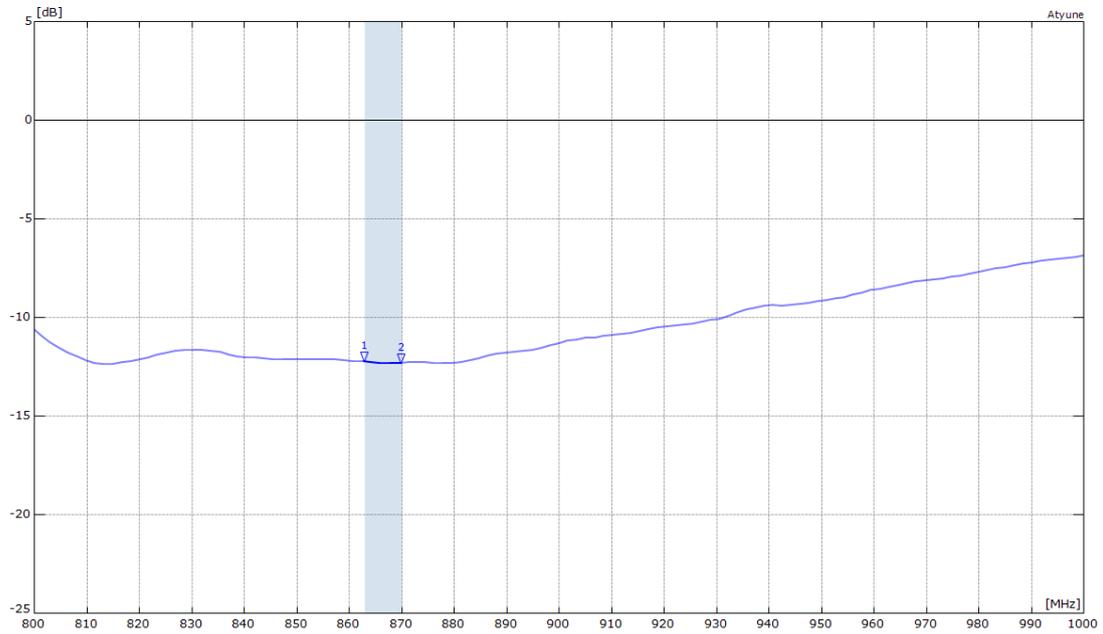
Environmental

Parameter	
Operational Temperature	-35 to +75°C
Storage Temperature	-35 to +75°C
IP Rating	IP65
RoHs and REACH compliant	Yes

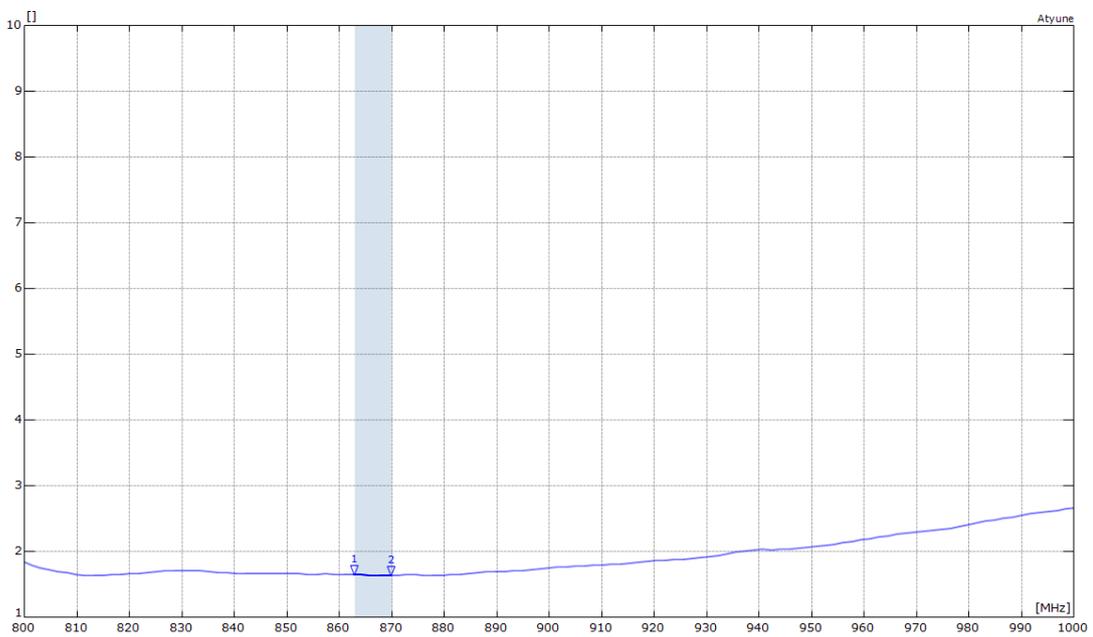


RF Characteristics

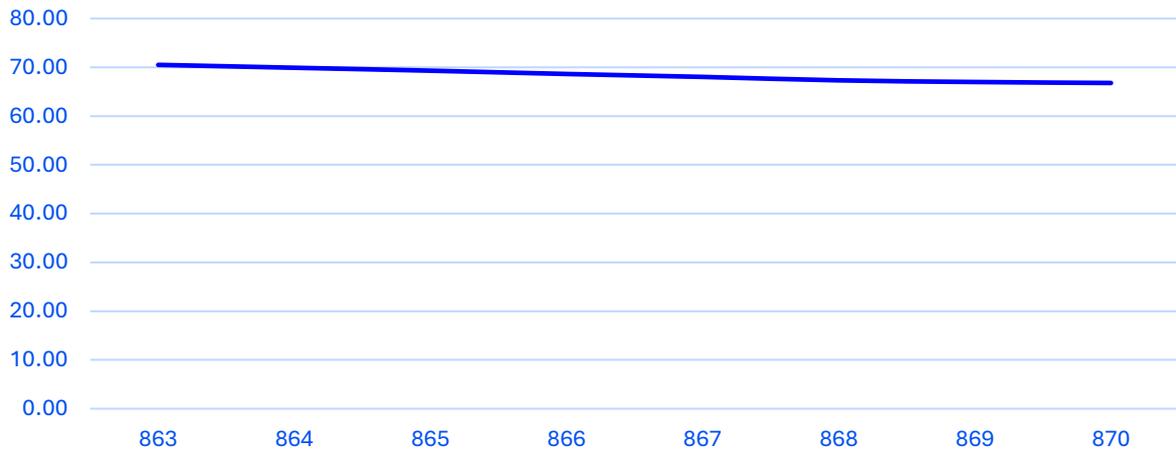
Return loss



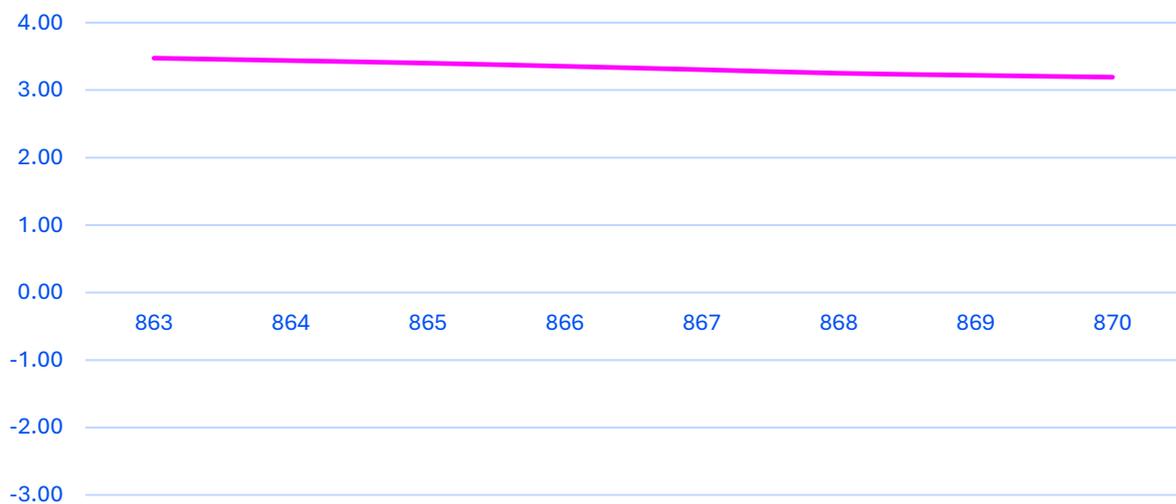
VSWR



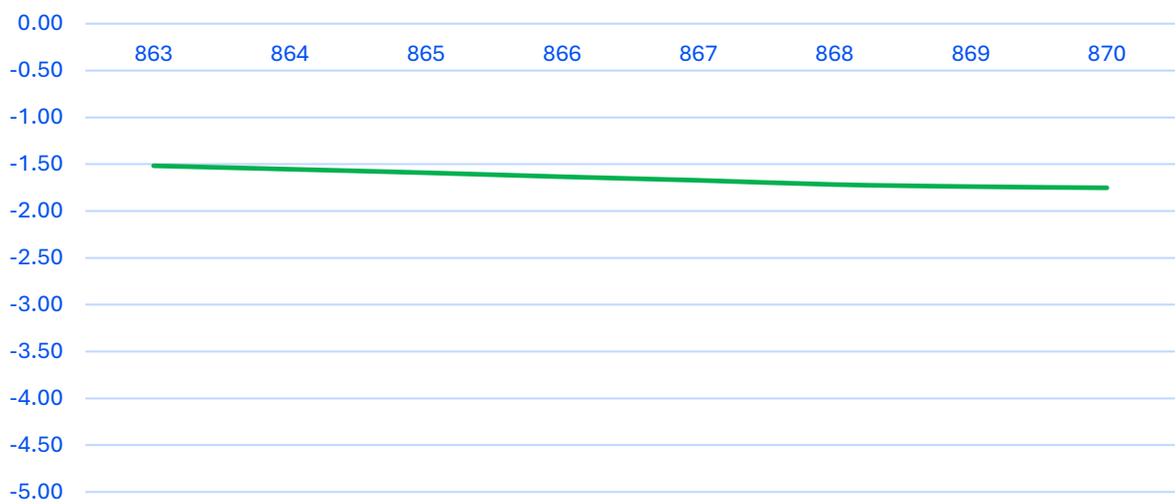
Efficiency



Peak Gain

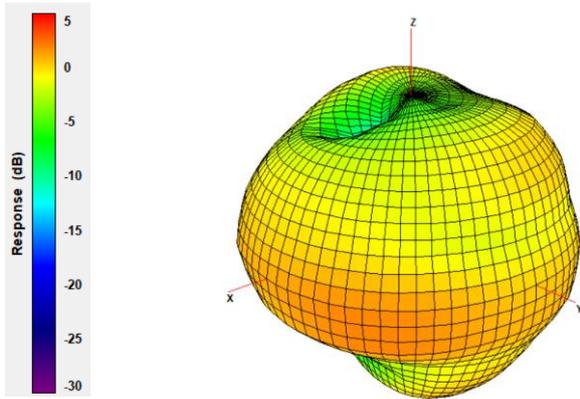


Average Gain

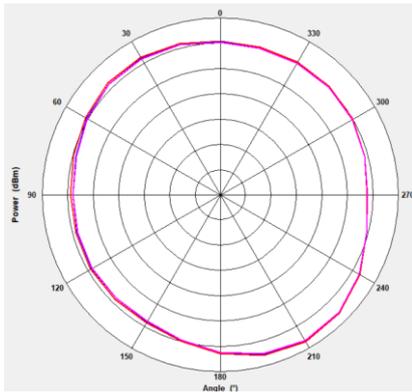


RF Radiation Patterns

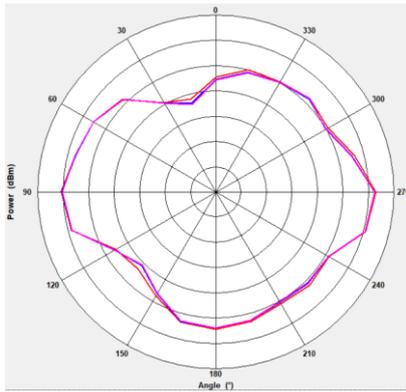
RF Radiation Patterns at 868MHz



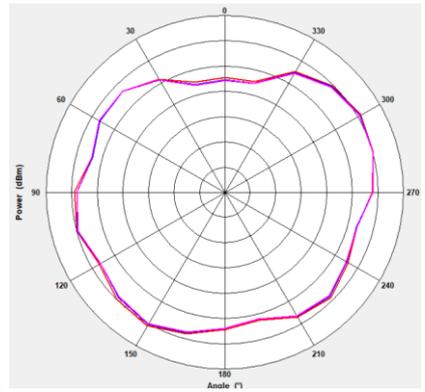
XY



XZ

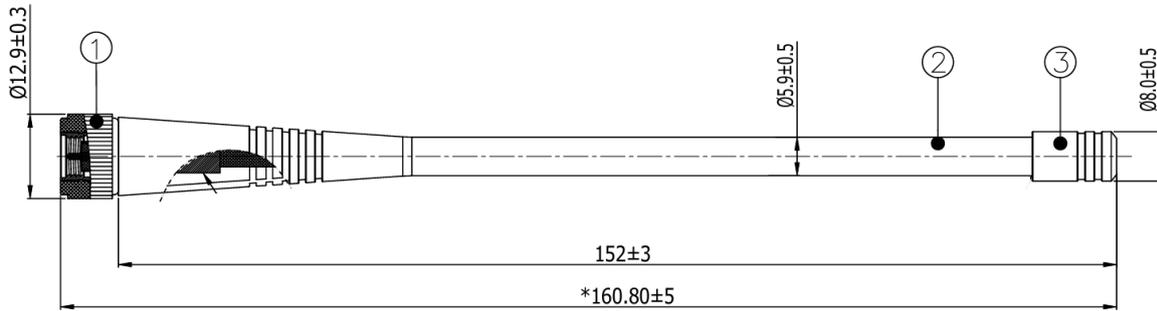


YZ



Max: 5	863
Min: -30	868
Scale: 5/div	870

Mechanical Drawing



1.ELECTRICAL PROPERTIES :

- 1.1 Frequency Range.....868MHz
- 1.2 Impedance.....50 Ohm Nominal
- 1.3 Gain.....2dBi
- 1.4 VSWR.....≤4.5 (antenna tested individually);
≤2.5 (antenna tested with fixture);

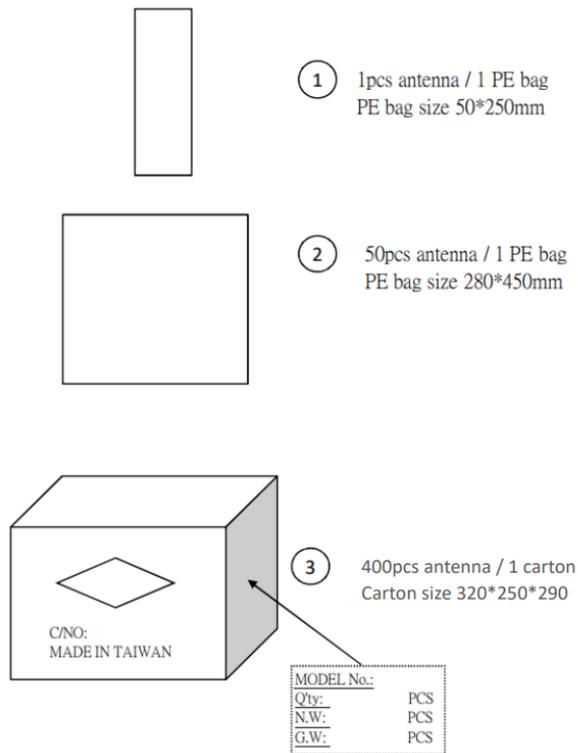
2.Antenna need to be individually packaged in PE bag for shipment

3.These Products are in conformity with ROHS 2.0

4.With***Is Important Dimension

3	Antenna cap	Plastic;Color:Black	1
2	Antenna cover	TPEE;Color:Black	1
1	Connector	SMA, Male	1
NO	DESCRIPTION		Q'TY

Packaging



Material Regulation

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

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