

TECHNICAL DATA SHEET

Description: 868MHz On Ground Ceramic

SMD Loop Antenna

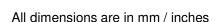
PART NUMBER: W3214

Features:

- Frequency 863-873 MHz
- Size 10 x 3.2 x 5mm
- Full metal under antenna
- Peak Gain 1dBi
- Peak Efficiency 55%
- RoHs Compliant
- MSL level 1

Applications:

- 868MHz ISM band radios
- IoT devices
- Sensors, monitoring
- · Industry automation



Issue: 2049

In the effort to improve our products, we reserve the right to make changes judged to be necessary. CONFIDENTIAL AND PROPRIETARY INFORMATION

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Pulse/Larsen Antennas 18110 SE 34th St Bldg 2 Suite 250 Vancouver, WA 98683 USA Tel: 1-360-944-7551 Europe Headquarters Pulse GmbH & Do, KG Zeppelinstrasse 15 Herrenberg, Germany Tel: 49 7032 7806 0 Pulse (Suzhou) Wireless Products Co, Inc. 99 Huo Ju Road(#29 Bldg,4th Phase Suzhou New District Jiangsu Province, Suzhou 215009 PR China Tel: 86 512 6807 9998



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ELECTRICAL SPECIFICATIONS

Frequency 863-873MHz

Nominal Impedance 50Ω Return Loss Peak -20 dBReturn Loss Band edge -5 dBRadiation Pattern Omni
Peak Gain 1 dBi

Efficiency 38% (55% peak)

Polarization Linear Power Withstanding 5W

MECHANICAL SPECIFICATIONS

Overall Length 10x3.2x5mm

Weight 0.73g

Antenna Material Ceramic with silver plating

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature -40~+85° C
Storage Temperature -40~+85° C

RoHS Compliant Yes





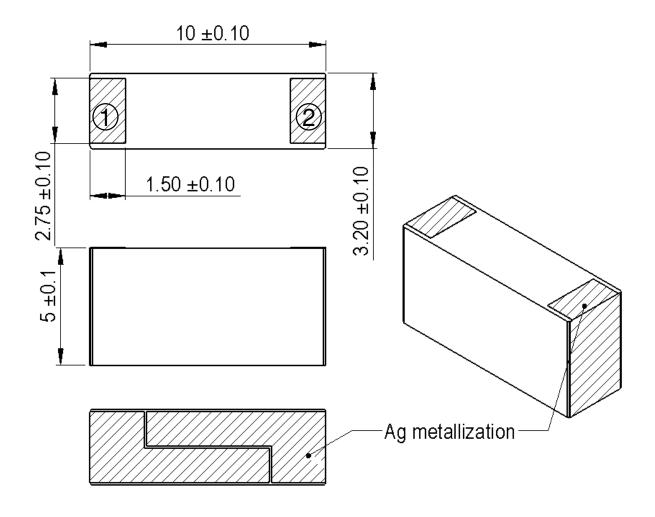
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MECHANICAL DRAWING



No.	Terminal Name	Terminal Dimensions
1	Feed / GND	1.5 x 2.75 mm
2	Feed / GND	1.5 x 2.75 mm
Antenna is symmetrical. Either of terminals 1 or 2 can be Feed / GND		

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MECHANICAL DRAWING AND TERMINAL CONFIGURATION

Ground cleared under antenna TOP and MIDDLE layers, clearance area 10.8 mm x 8.25mm (BOTTOM layer solid ground)

Matching Component (optional shunt) Ground Area Feed contact Ground contact Ground Via Hole Ground area should be surrounded with Ground Via Holes Feed line 50 Ohm Any type of 50 Ohm feed line can be used. Inner layers on E feed line area need to designed to give 50 Ohm characteristics to feed line. Н







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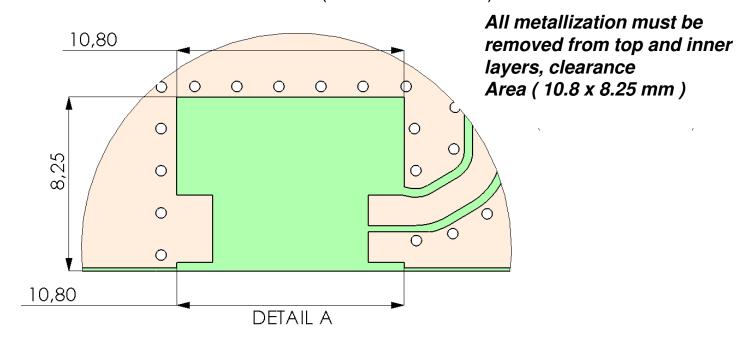
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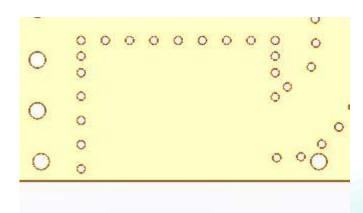
MECHANICAL DRAWING AND TERMINAL CONFIGURATION

Recommended Antenna Pad Dimensions on PCB Layout (top surface) Ground cleared under antenna on top and inner layers, clearance area 10.8 mm x 8.25 mm

Ground clearance area (10.80 x 8.25 mm)



Bottom solid ground layer



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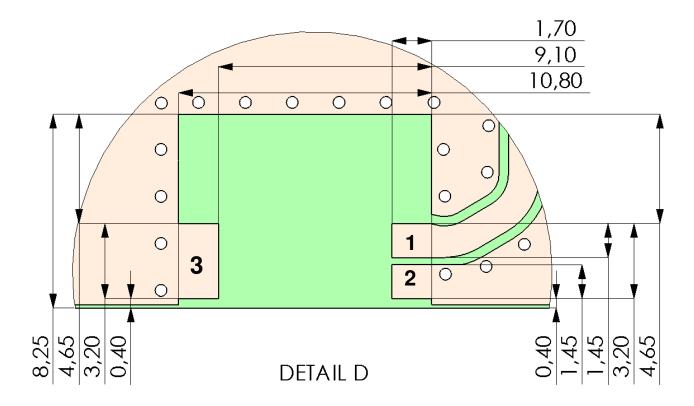
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MECHANICAL DRAWING AND TERMINAL CONFIGURATION

Recommended Antenna Pad Dimensions on PWB Layout (top surface)



PCB contact pads		
No.	Terminal Name	Terminal Dimensions
1	Feed	1.70 x 1.45 mm
2	GND	1.70 x 1.45 mm
3	GND	1.70 x 3.20 mm

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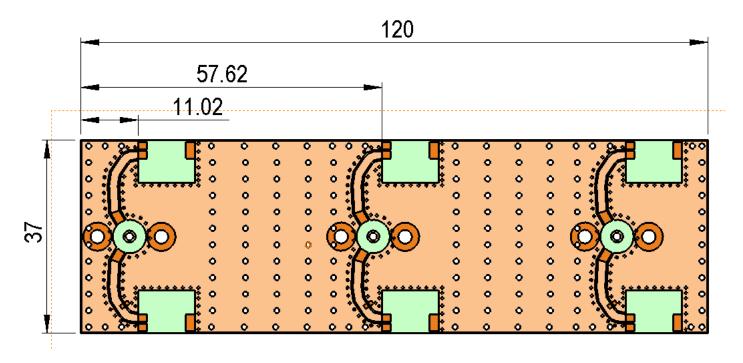
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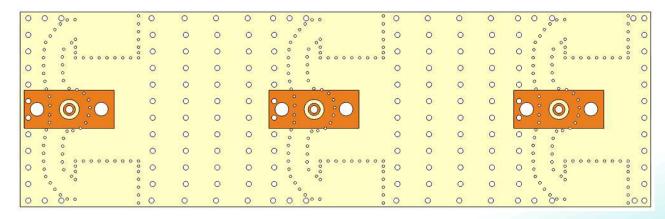
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MECHANICAL DRAWING AND TERMINAL CONFIGURATION

Recommended test board layout for electrical characteristic measurement, test board outline size 120 x 37mm









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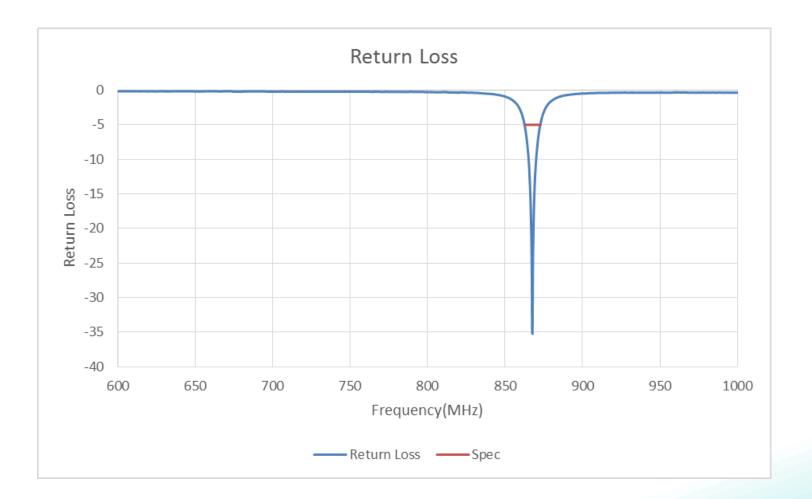
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CHARTS

Measured on the 120x37mm test board with matching circuit, 10pF shunt capacitor, position center location of test board edge.

Ground cleared under antenna, clearance area $10.80 \text{ mm} \times 8.25 \text{ mm}$ top and middle layers.







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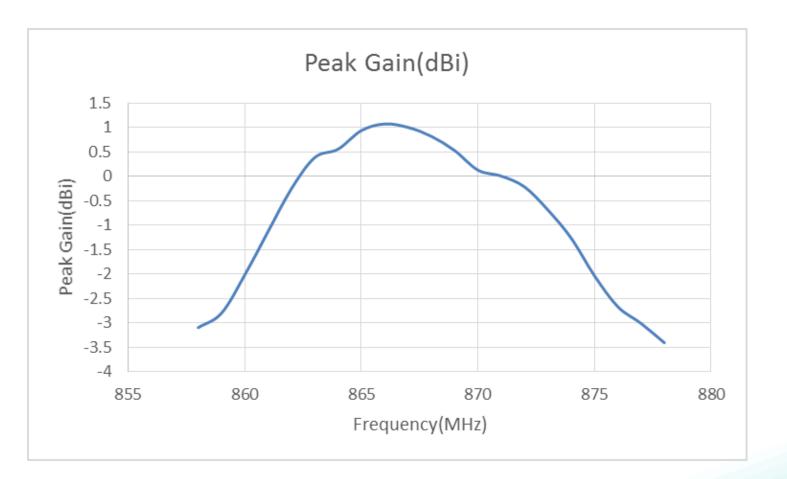
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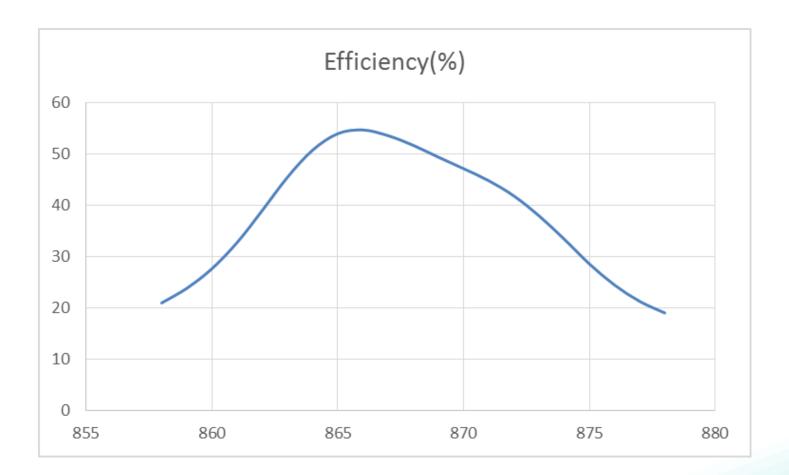
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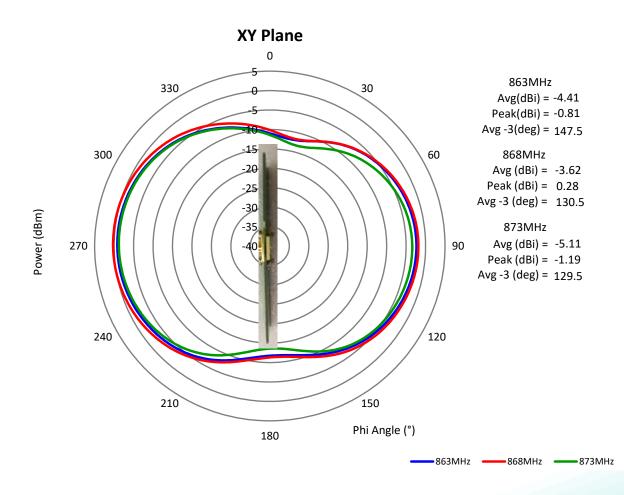
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Radiation Pattern





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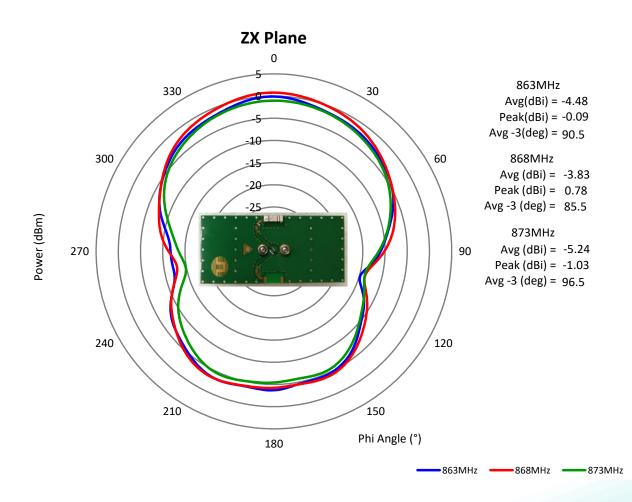
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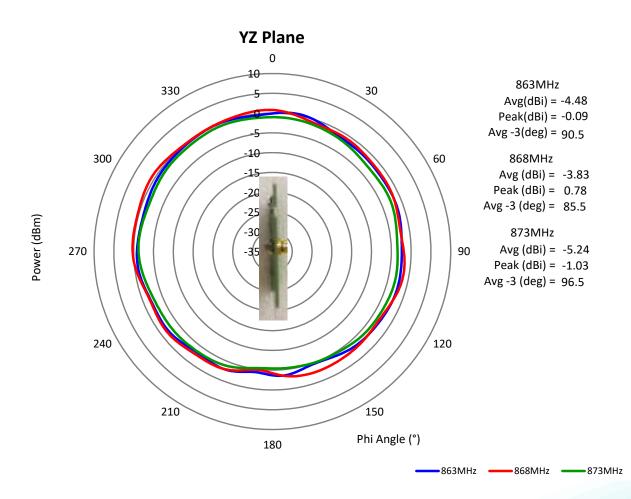
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PACKAGING

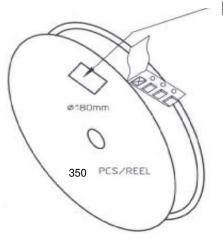
350pcs antennas per 7" reel

3pcs 7" reel per inner package box

2pcs inner box per out box

Total 2100pcs antenna per out box

Out box size: 390mmx215mmx165mm



Label area

