Pulse
a YAGEO company

Series: Chip Antenna

Description: 902-928MHz Ceramic On Ground Antenna
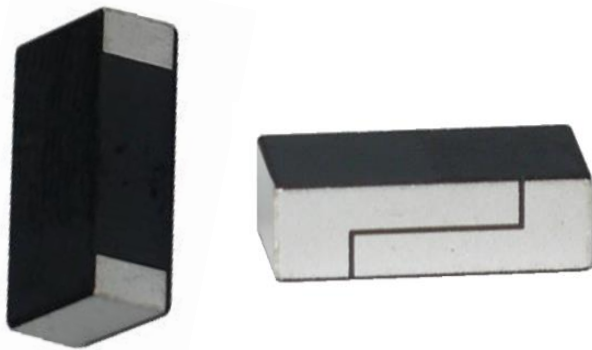
PART NUMBER: W3211

Features:

- Frequency: 902-928MHz
- Size: 10 x 3.2 x 5 mm
- Gain: 1.35 dBi
- Type: On Ground
- SMD Compatible
- RoHS Compliant
- MSL level 1

Applications:

- ISM 915MHz radios
- Sensors
- IoT
- Transportation
- Industry automation

All dimensions are in mm / inches

Issue: 2049

RoHS COMPLIANT

Pulse Worldwide Headquarters	Pulse/Larsen Antennas	Europe Headquarters	Pulse (Suzhou) Wireless Products Co, Inc.
15255 Innovation Drive #100	18110 SE 34th St Bldg 2 Suite 250	Pulse GmbH & Do, KG	99 Huo Ju Road(#29 Bldg,4th Phase
San Diego, CA 92128	Vancouver, WA 98683	Zeppelinstrasse 15	Suzhou New District
USA	USA	Herrenberg, Germany	Jiangsu Province, Suzhou 215009 PR China
Tel:1-858-674-8100	Tel: 1-360-944-7551	Tel: 49 7032 7806 0	Tel: 86 512 6807 9998

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ELECTRICAL SPECIFICATIONS

Frequency	902-928MHz
Nominal Impedance	50 Ω
Return Loss Peak	-10dB
Return Loss Band edges	-3dB
Radiation Pattern	Omni
Peak Gain	1.35dBi
Efficiency	43%
Polarization	Linear
Power Withstanding	5W

MECHANICAL SPECIFICATIONS

Overall Length	10x3.2x5mm
Weight	0.73g
Antenna Color / Material	Ceramic

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40~+85° C
Storage Temperature	-40~+85° C
RoHS Compliant	Yes

RoHS COMPLIANT

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TECHNICAL DATA SHEET

Description: 902-928MHz Ceramic On Ground Antenna

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MECHANICAL DRAWING

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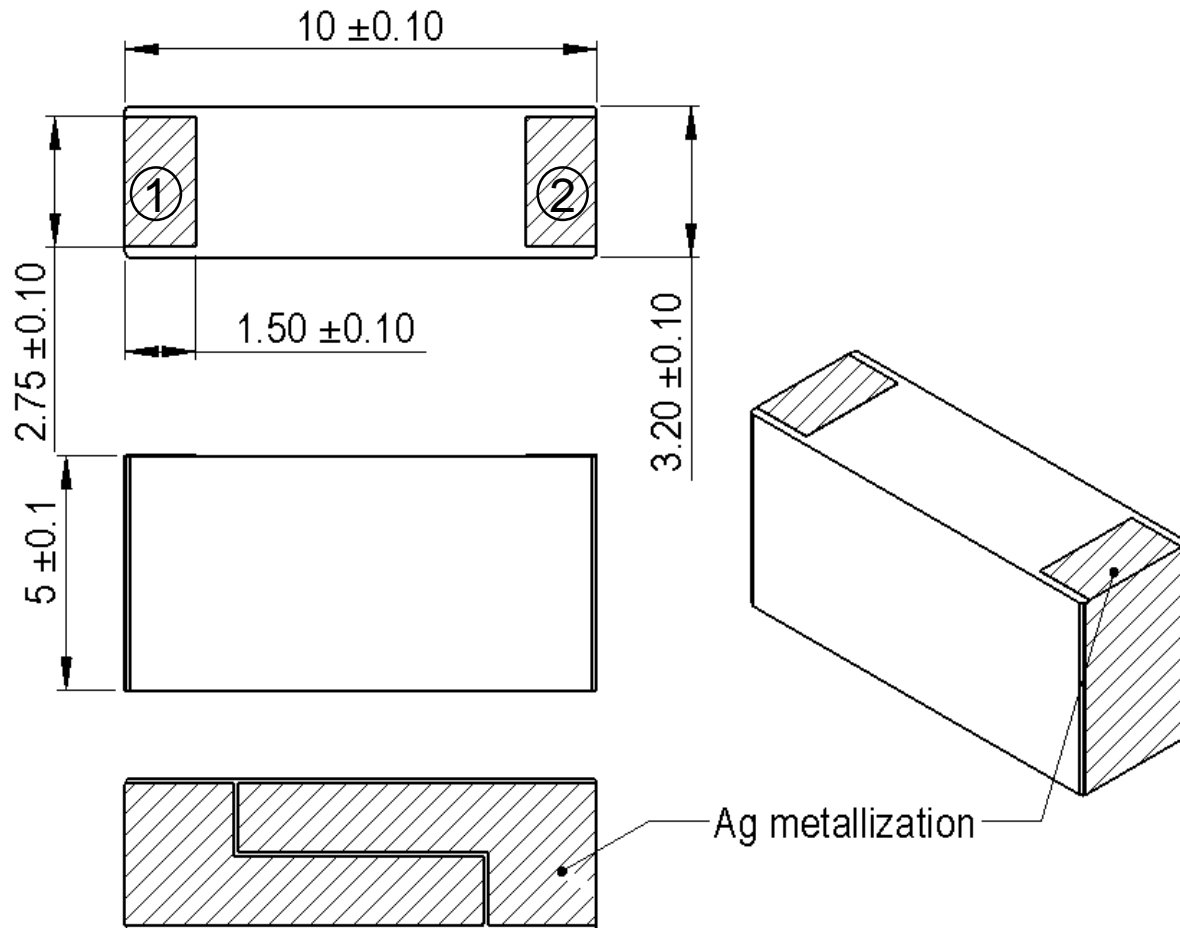
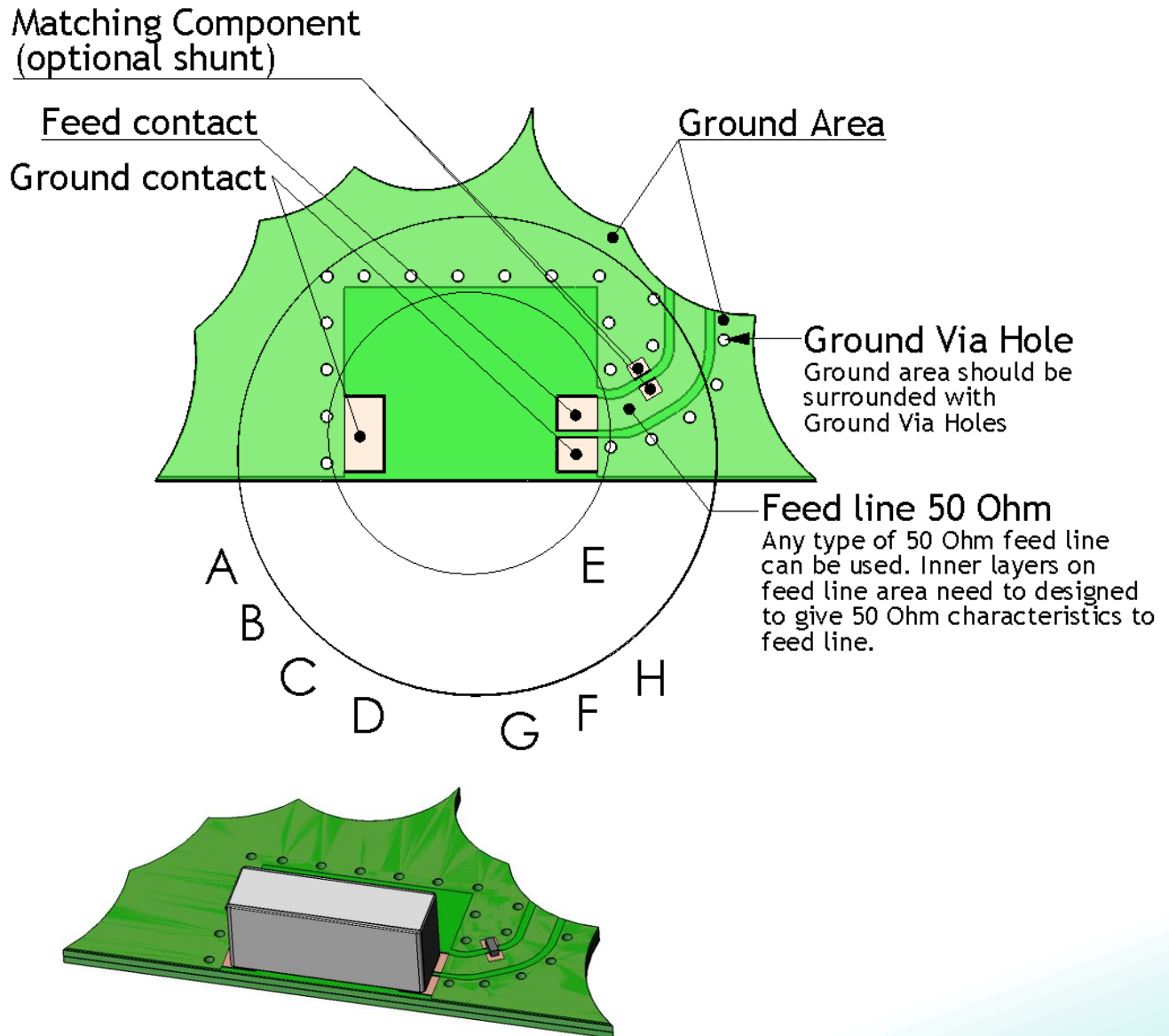| No.	Terminal Name	Terminal Dimensions
1	Feed / GND	1.5 x 2.75 mm
2	Feed / GND	1.5 x 2.75 mm
Antenna is symmetrical. Either of terminals 1 or 2 can be Feed / GND		

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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)

Feed contact

Ground contact

Ground Area

Ground Via Hole
Ground area should be surrounded with Ground Via Holes

A B C D E F G H

Feed line 50 Ohm
Any type of 50 Ohm feed line can be used. Inner layers on feed line area need to designed to give 50 Ohm characteristics to feed line.

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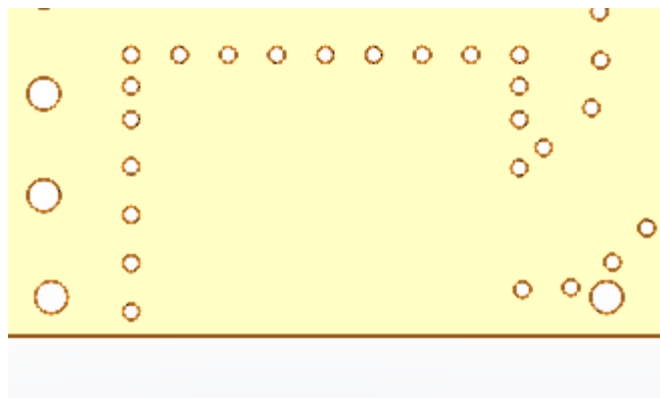## MECHANICAL DRAWING AND TERMINAL CONFIGURATION

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
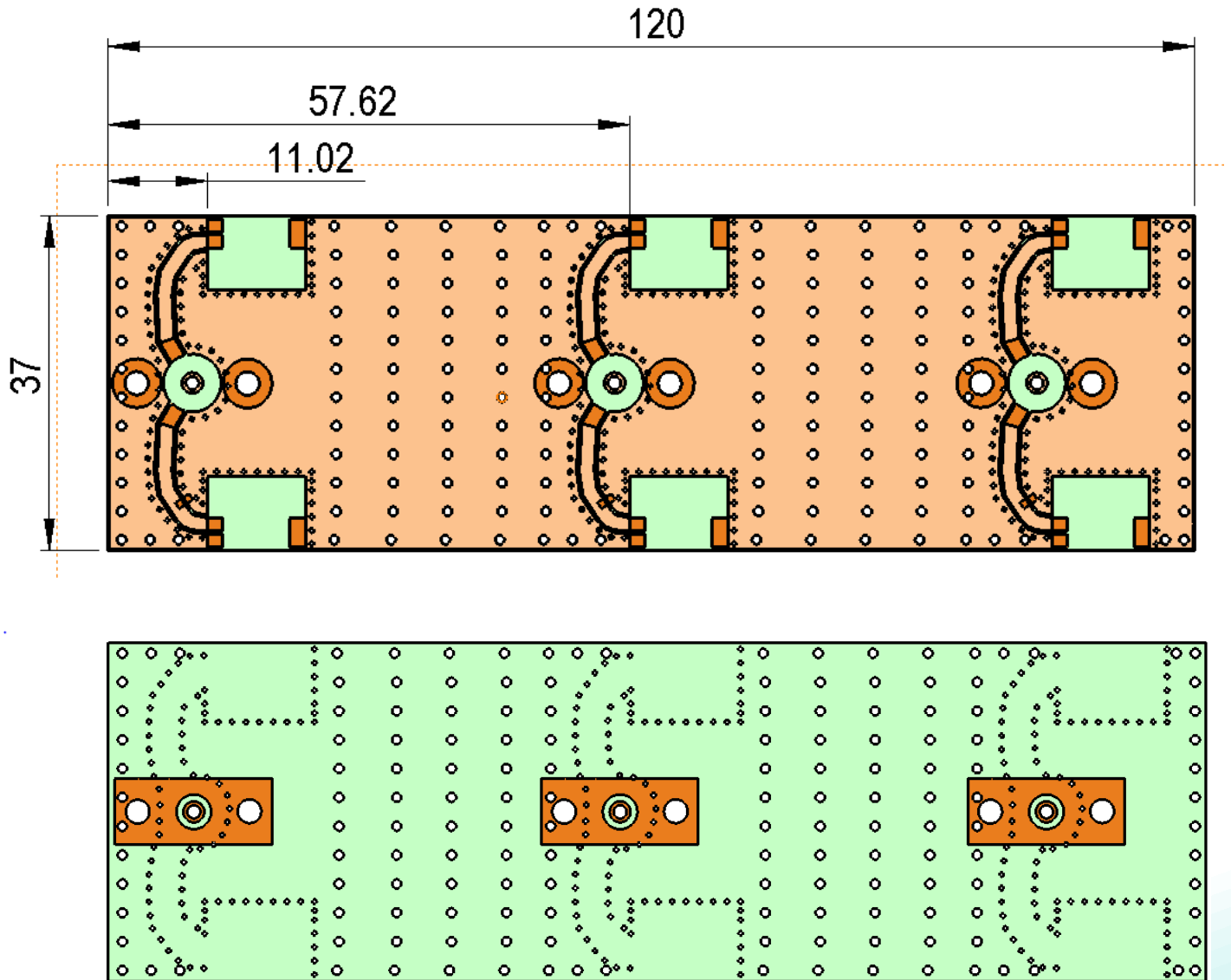
Ground clearance area (10.80 x 8.25 mm)
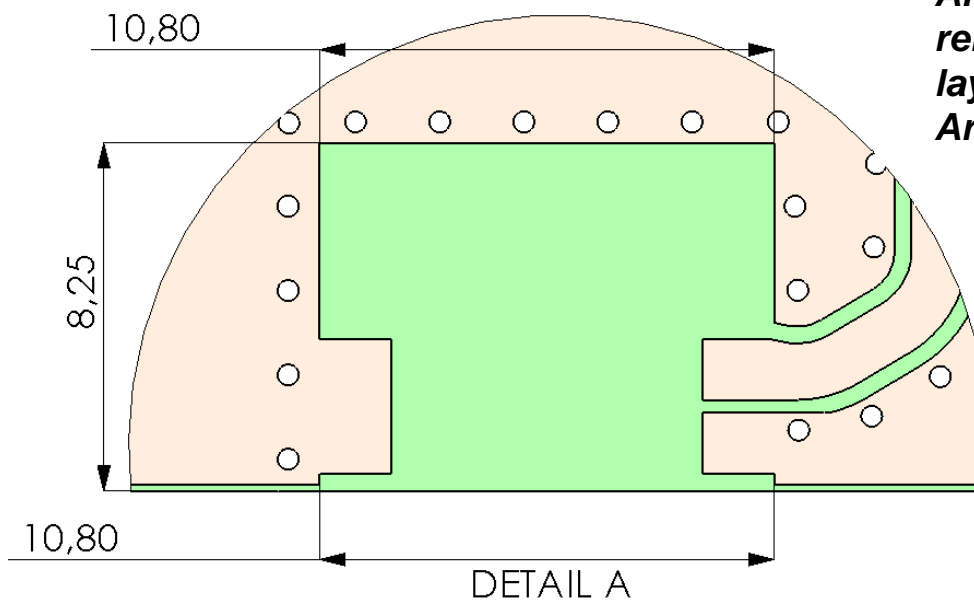
All metallization must be removed from top and inner layers, clearance Area (10.8 x 8.25 mm)

10,80

8,25

10,80

DETAIL A

Bottom solid ground layer

RoHS
COMPLIANT

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MECHANICAL DRAWING AND TERMINAL CONFIGURATION

Recommended Antenna Pad Dimensions on PWB Layout (top surface)

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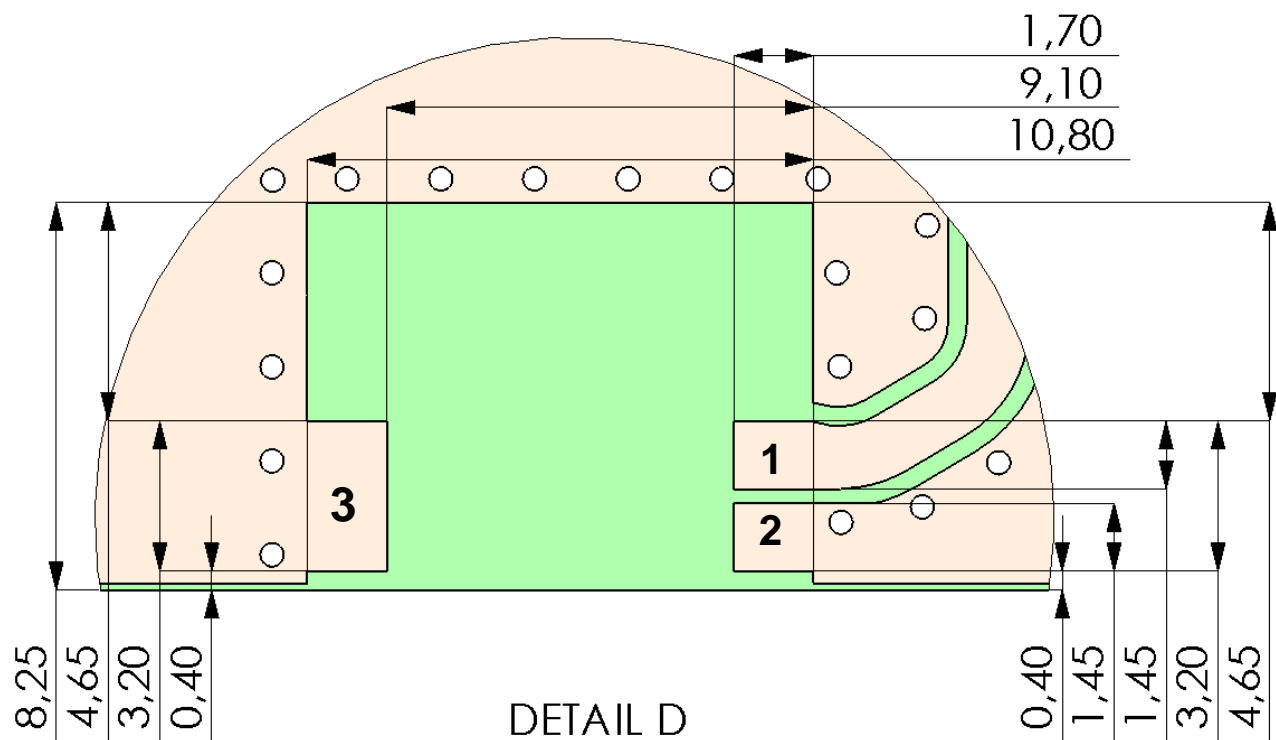
PCB contact pads		
No.	Terminal Name	Terminal Dimensions
1	Feed	1.70 x 1.45 mm
2	GND	1.70 x 1.45 mm
3	GND	1.70 x 3.20 mm

RoHS COMPLIANT

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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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Description: 902-928MHz Ceramic On Ground Antenna

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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 mm x 8.25 mm top and middle layers.

RoHS COMPLIANT

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Peak Gain(dBi)

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Efficiency(%)

RoHS
COMPLIANT

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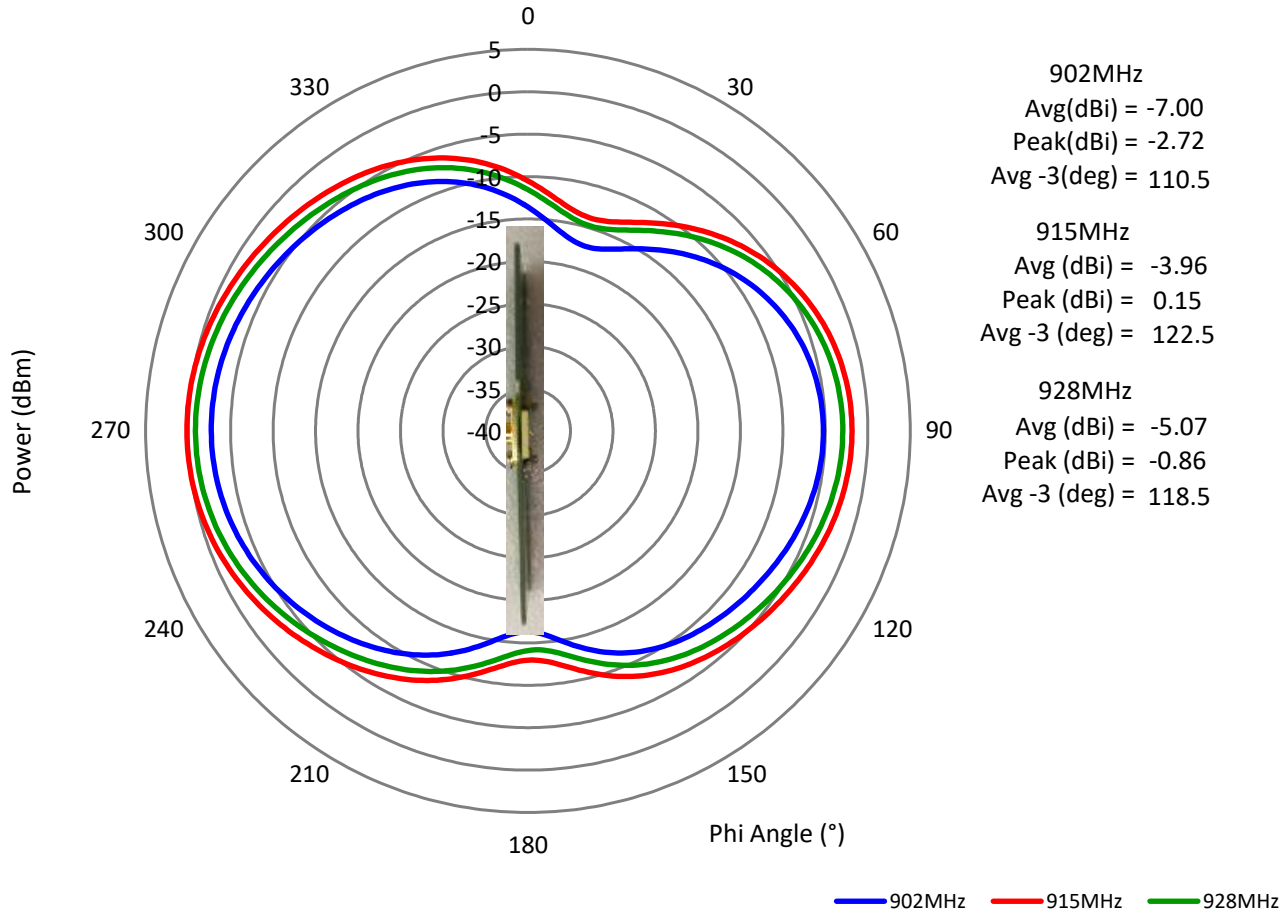**PART NUMBER: W3211**

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Radiation Pattern

XY Plane

902MHz
Avg(dBi) = -7.00
Peak(dBi) = -2.72
Avg -3(deg) = 110.5

915MHz
Avg (dBi) = -3.96
Peak (dBi) = 0.15
Avg -3 (deg) = 122.5

928MHz
Avg (dBi) = -5.07
Peak (dBi) = -0.86
Avg -3 (deg) = 118.5

— 902MHz — 915MHz — 928MHz

RoHS COMPLIANT

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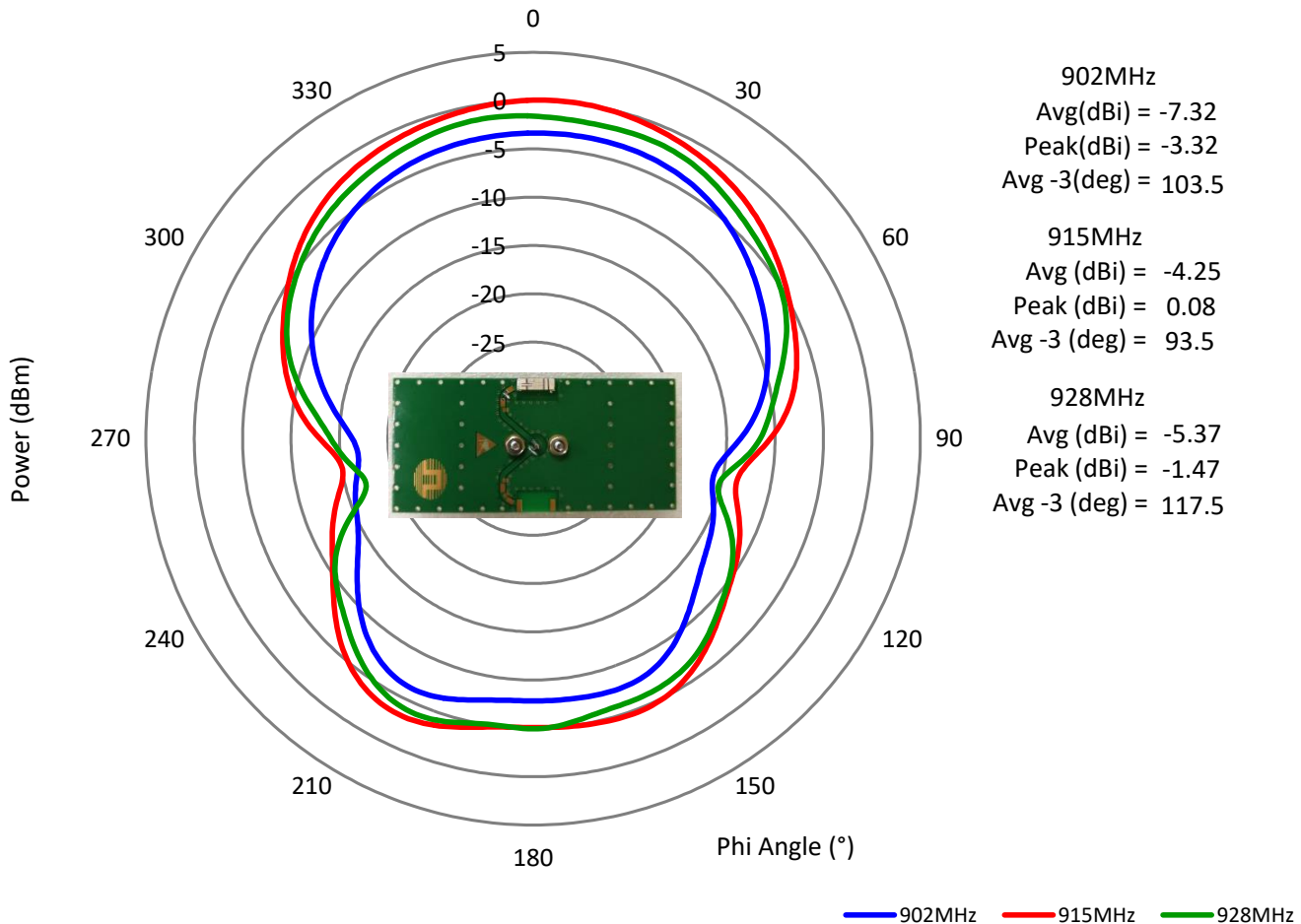
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Radiation Pattern
ZX Plane

902MHz	
Avg(dBi) =	-7.32
Peak(dBi) =	-3.32
Avg -3(deg) =	103.5

915MHz	
Avg (dBi) =	-4.25
Peak (dBi) =	0.08
Avg -3 (deg) =	93.5

928MHz	
Avg (dBi) =	-5.37
Peak (dBi) =	-1.47
Avg -3 (deg) =	117.5

— 902MHz — 915MHz — 928MHz

RoHS COMPLIANT

![Pulse a YAGEO company]

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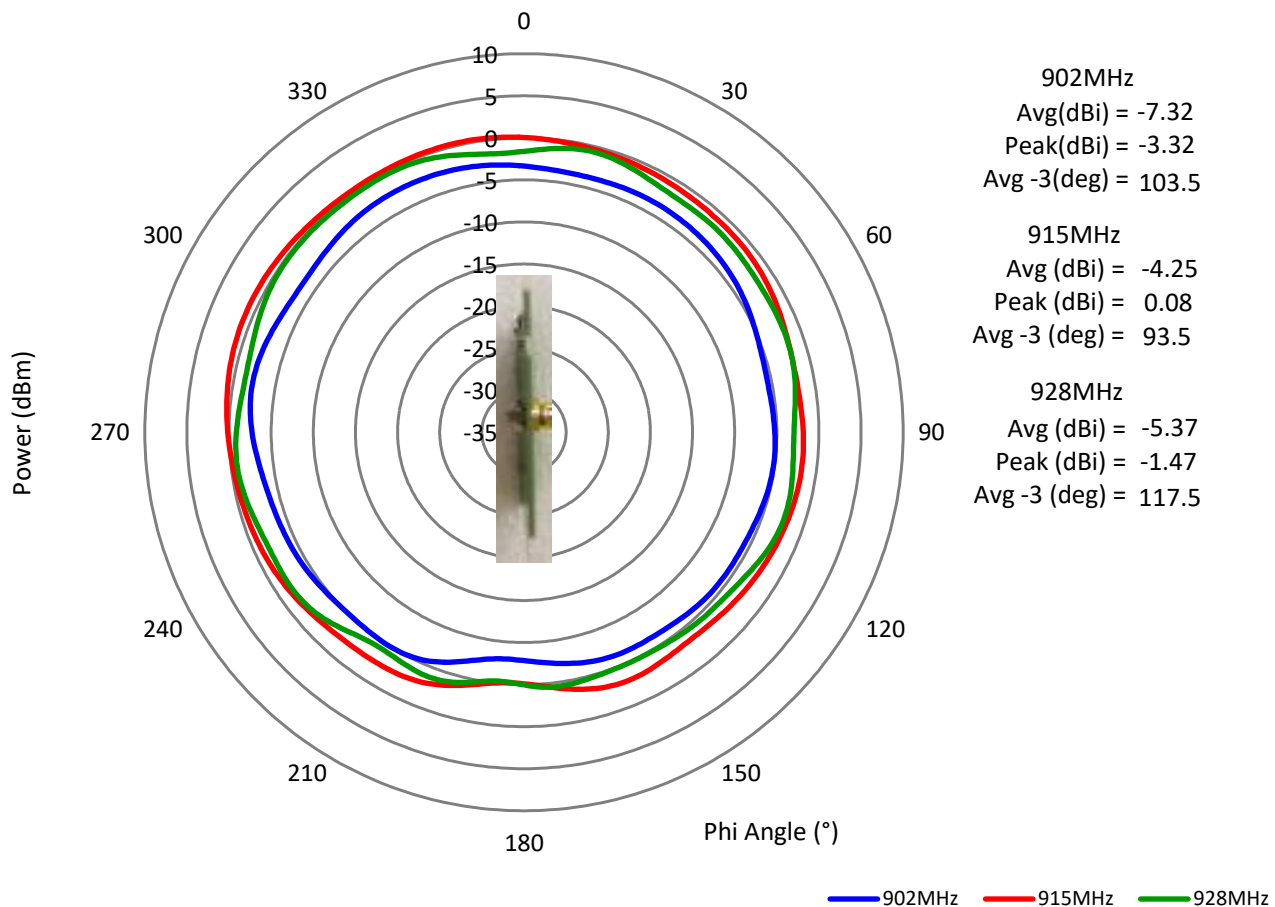**Series: Chip Antenna**

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Radiation Pattern
YZ Plane

902MHz	
Avg(dBi) =	-7.32
Peak(dBi) =	-3.32
Avg -3(deg) =	103.5

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928MHz	
Avg (dBi) =	-5.37
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Avg -3 (deg) =	117.5

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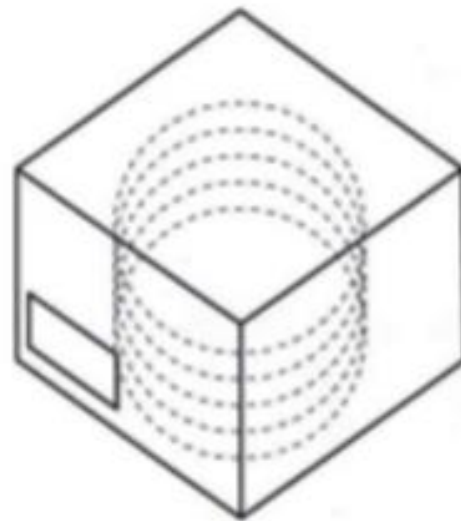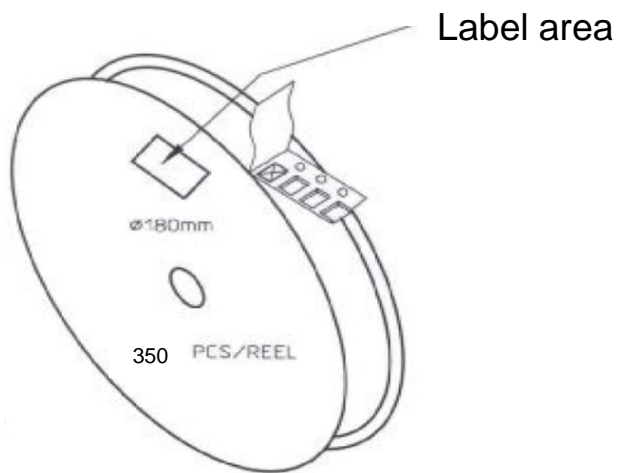**PART NUMBER: W3211**

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

ø180mm

350 PCS/REEL

RoHS
COMPLIANT

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Pulse](#):
 [W3211](#)