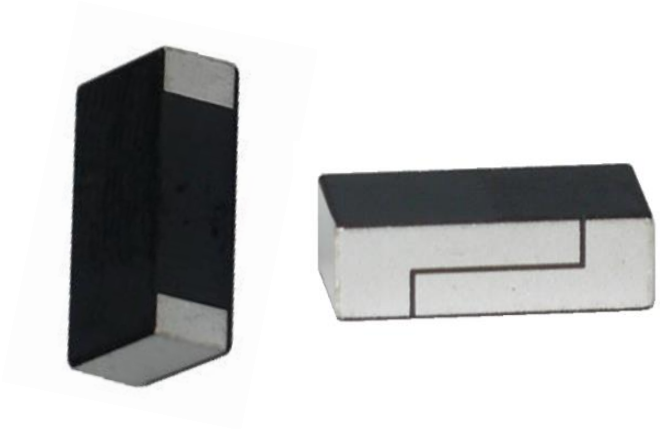
Pulse
a YAGEO company

Series: Chip Antenna

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

All dimensions are in mm / inches

Issue: 2049

RoHS COMPLIANT

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Suzhou New District
Jiangsu Province, Suzhou 215009 PR China
Tel: 86 512 6807 9998

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TECHNICAL DATA SHEET

Series: Chip Antenna

Description: 868MHz On Ground Ceramic SMD Loop Antenna

PART NUMBER: W3214

ELECTRICAL SPECIFICATIONS

Frequency	863-873MHz
Nominal Impedance	50 Ω
Return Loss Peak	-20dB
Return Loss Band edge	-5dB
Radiation Pattern	Omni
Peak Gain	1dBi
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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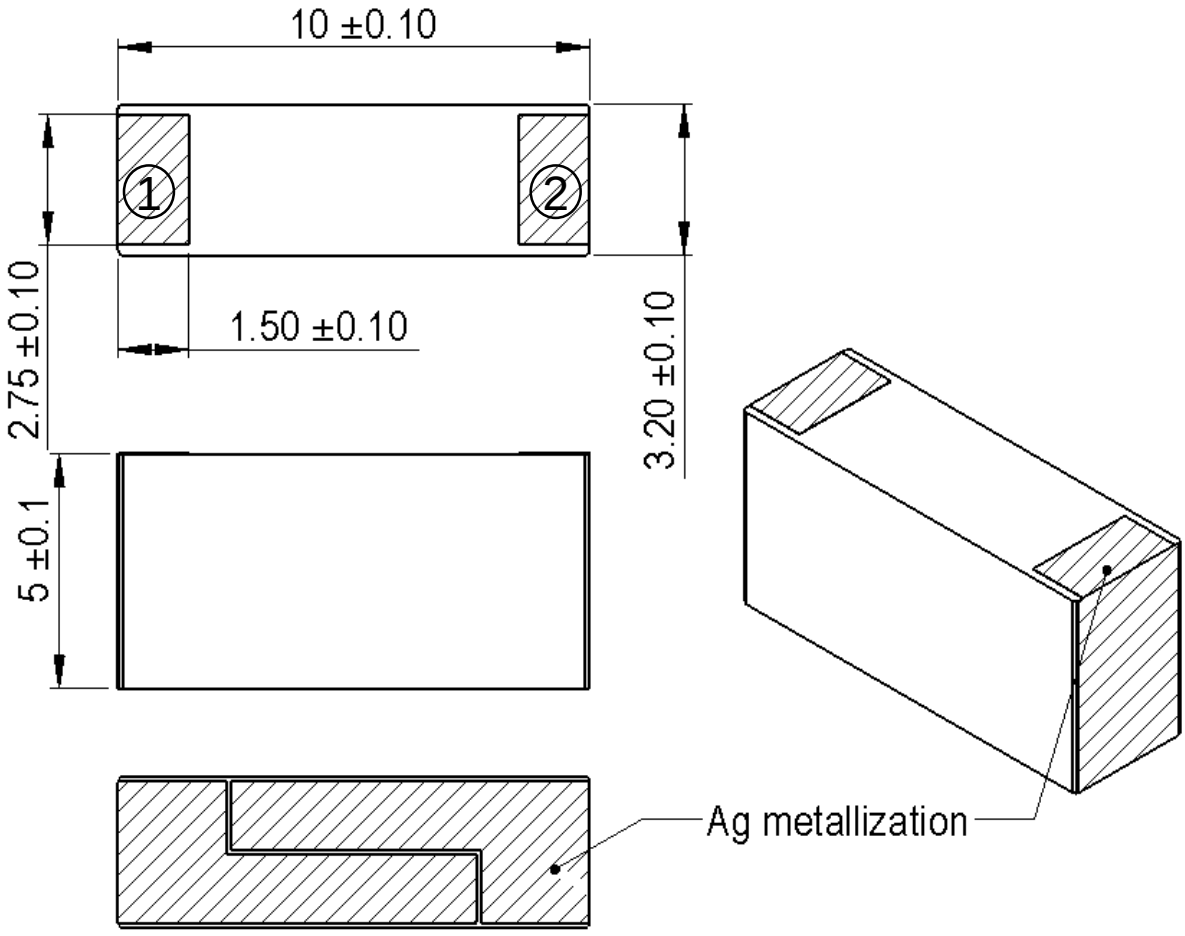
TECHNICAL DATA SHEET

Series: Chip Antenna

Description: 868MHz On Ground Ceramic SMD Loop Antenna

PART NUMBER: W3214

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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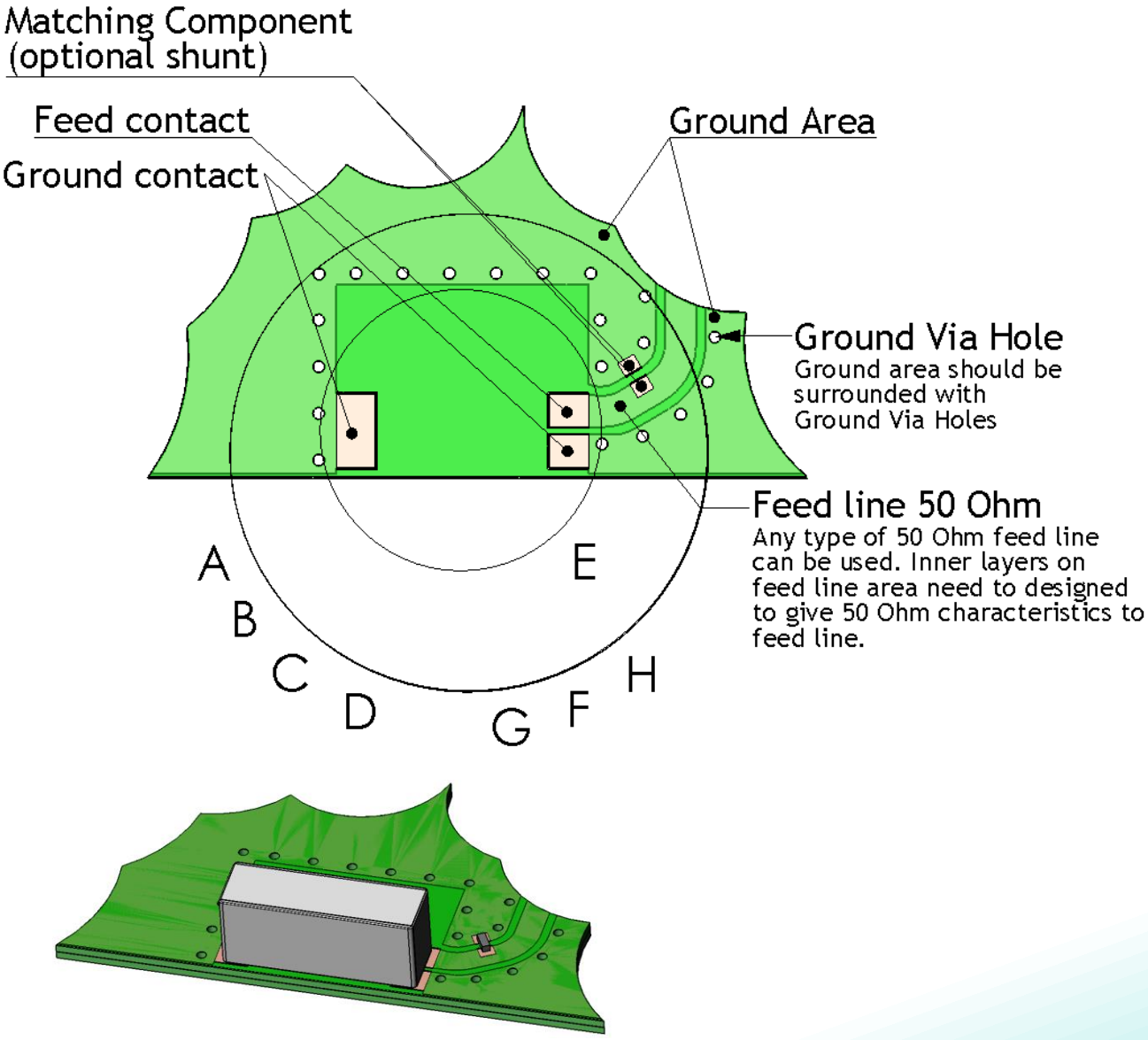
Description: 868MHz On Ground Ceramic SMD Loop Antenna

Series: Chip Antenna

PART NUMBER: W3214

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)



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RoHS COMPLIANT

Description: 868MHz On Ground Ceramic SMD Loop Antenna

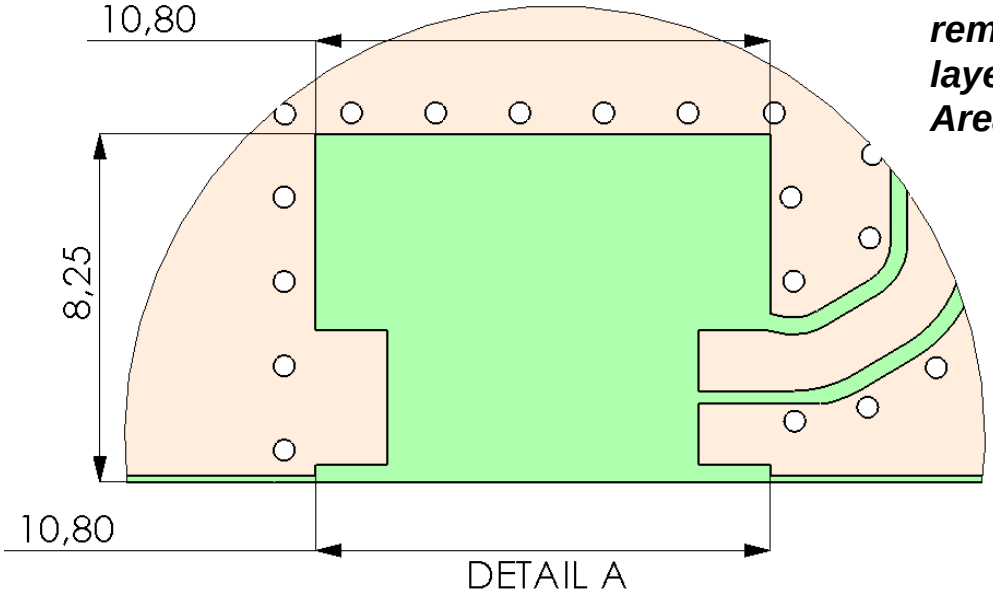
Series: Chip Antenna

PART NUMBER: W3214

MECHANICAL DRAWING AND TERMINAL CONFIGURATION

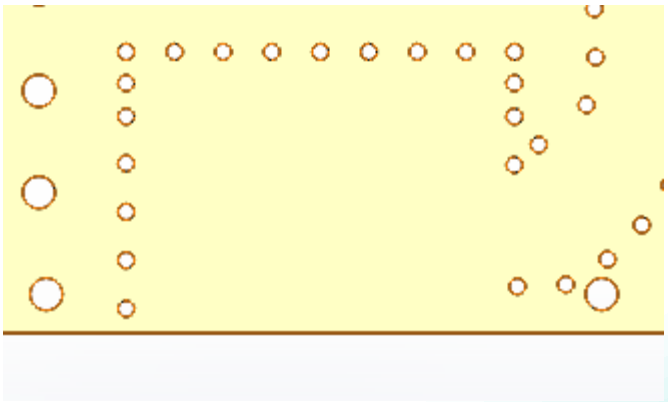
Recommended Antenna Pad Dimensions on PCB Layout (top surface)
Ground cleared under antenna on top and inner layers, clearance area 10.8 mm x 8.25 mm

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)

Bottom solid ground layer



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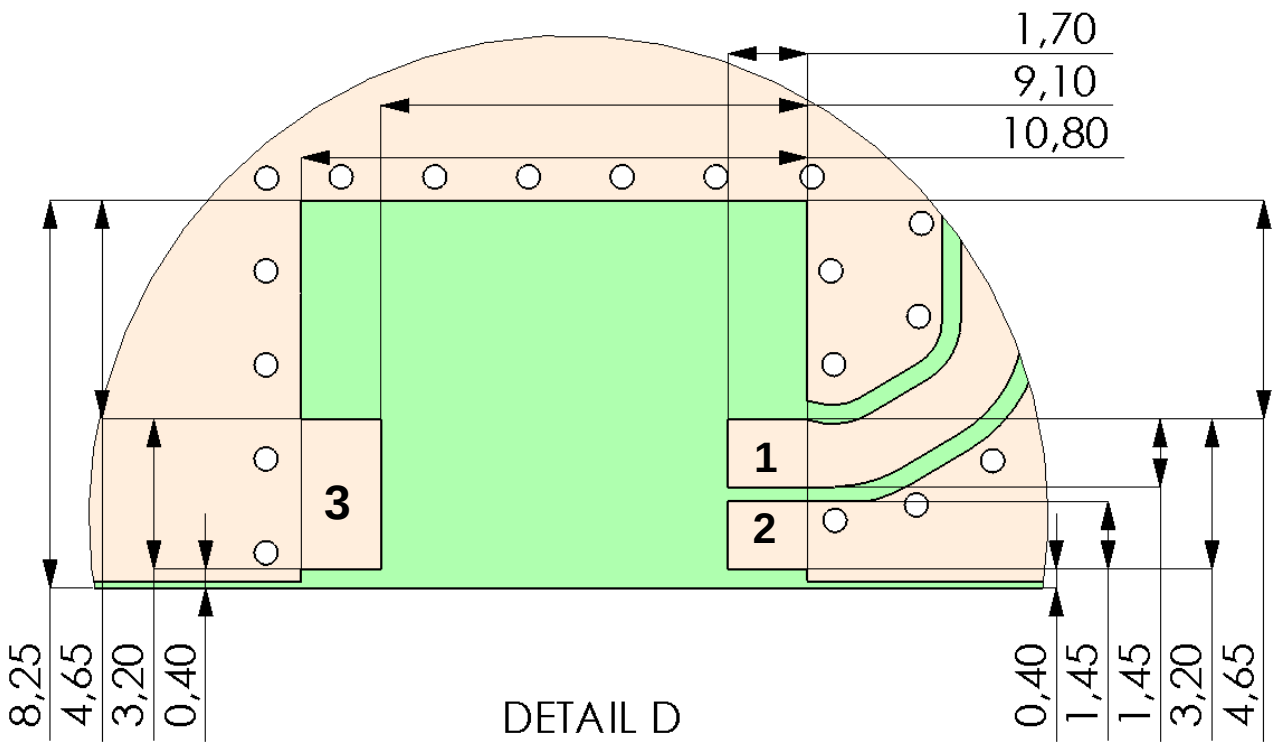
Series: Chip Antenna

Description: 868MHz On Ground Ceramic SMD Loop Antenna

PART NUMBER: W3214

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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TECHNICAL DATA SHEET

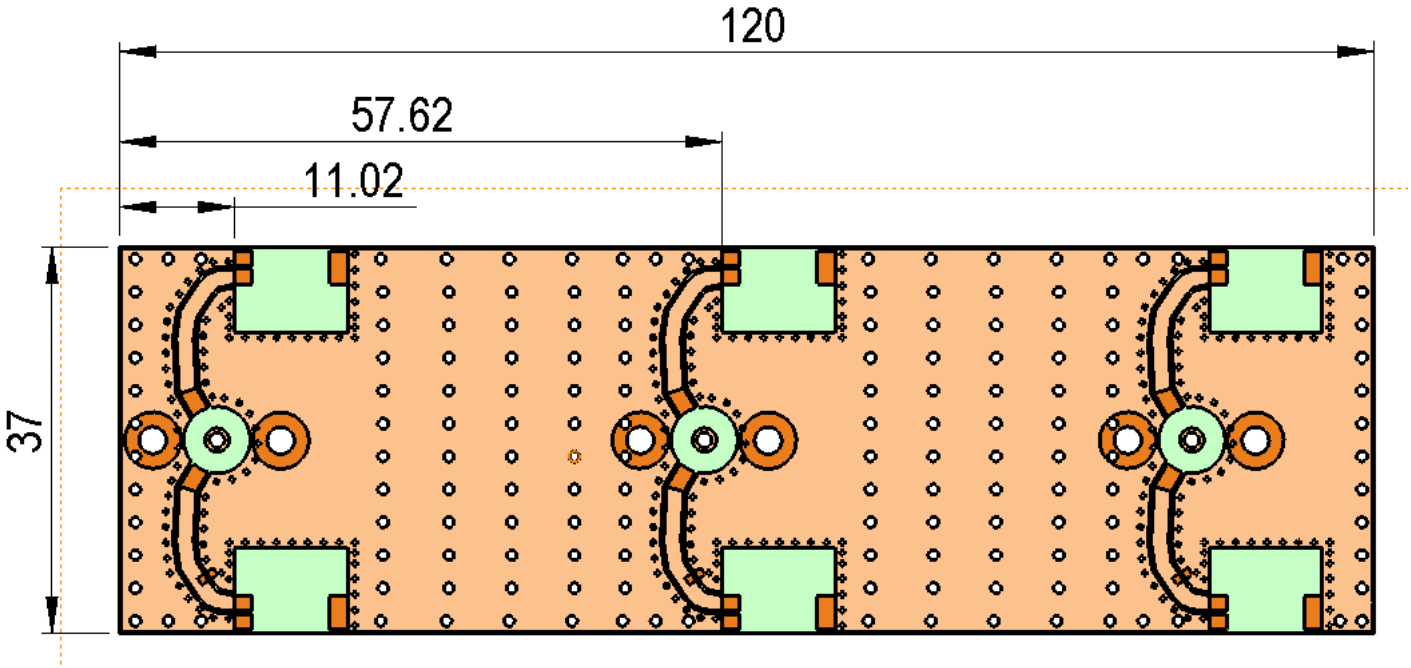
Series: Chip Antenna

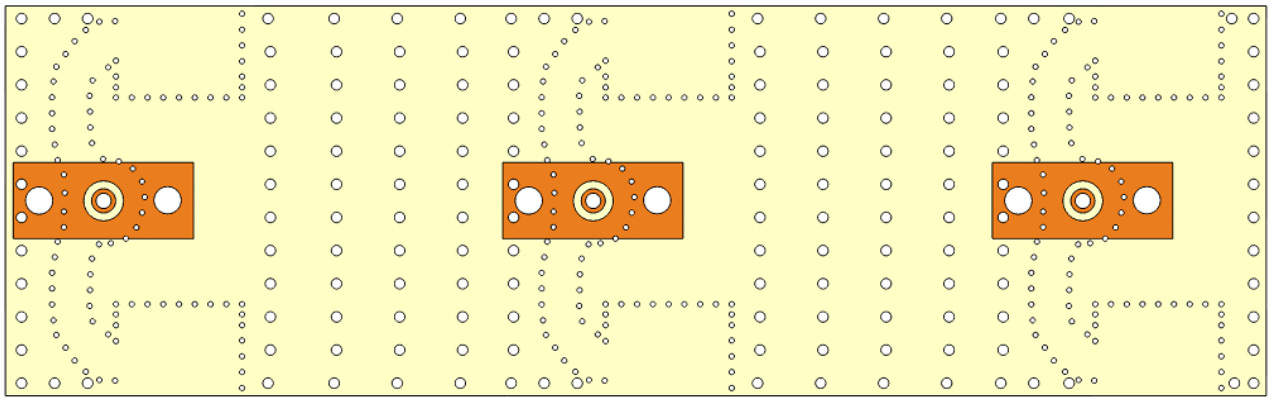
Description: 868MHz On Ground Ceramic SMD Loop Antenna

PART NUMBER: W3214

MECHANICAL DRAWING AND TERMINAL CONFIGURATION

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





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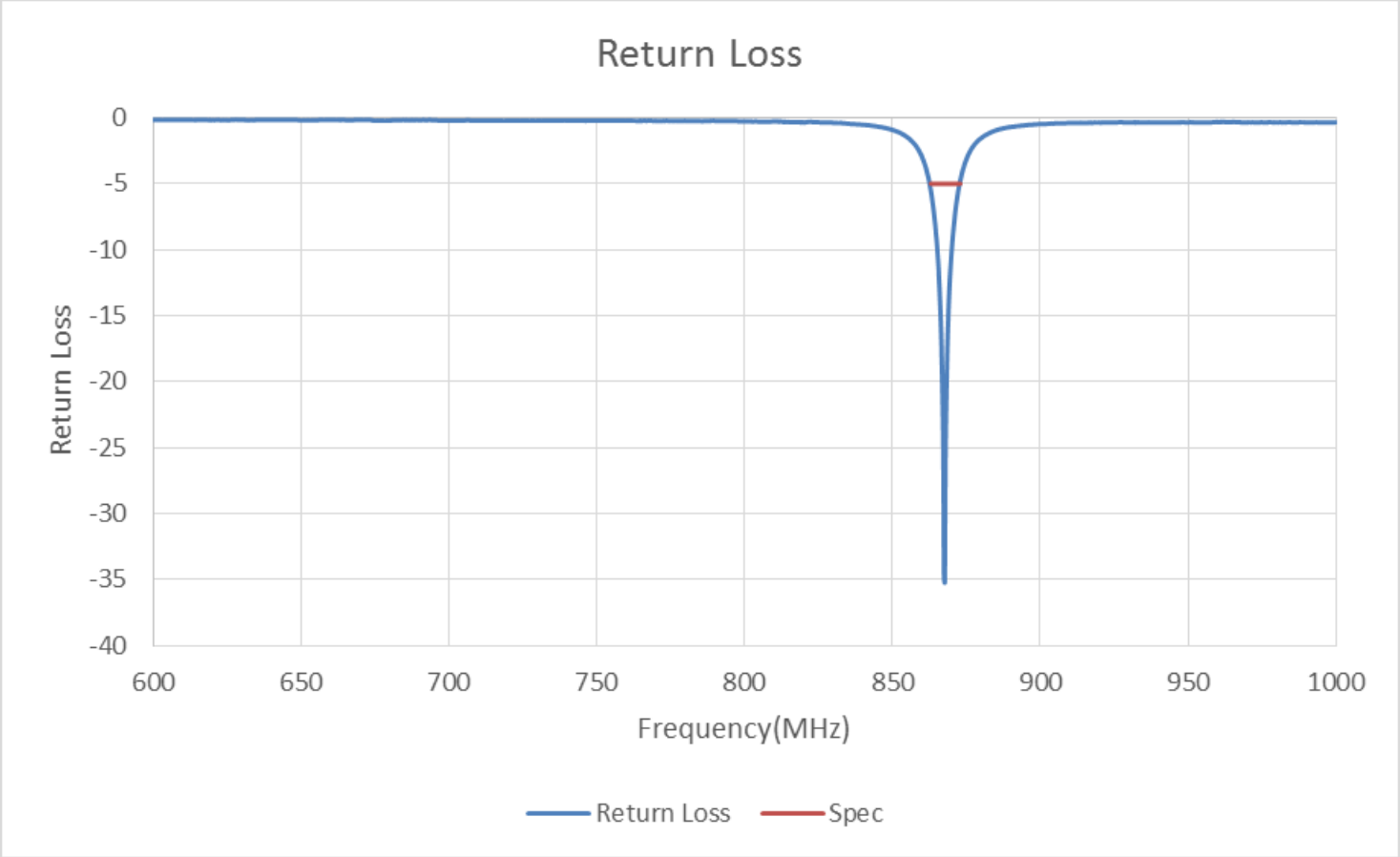
Description: 868MHz On Ground Ceramic SMD Loop Antenna

PART NUMBER: W3214

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.



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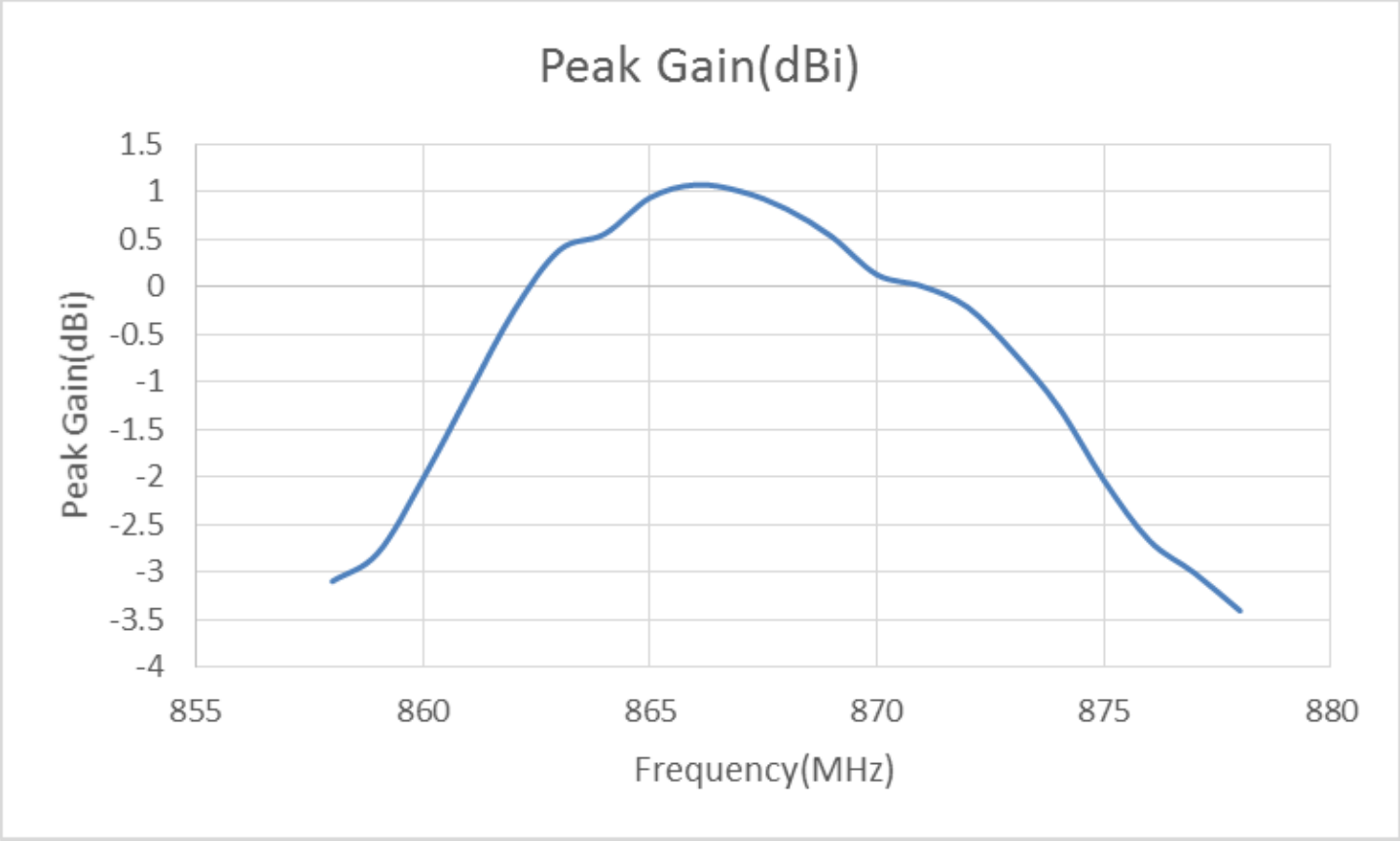
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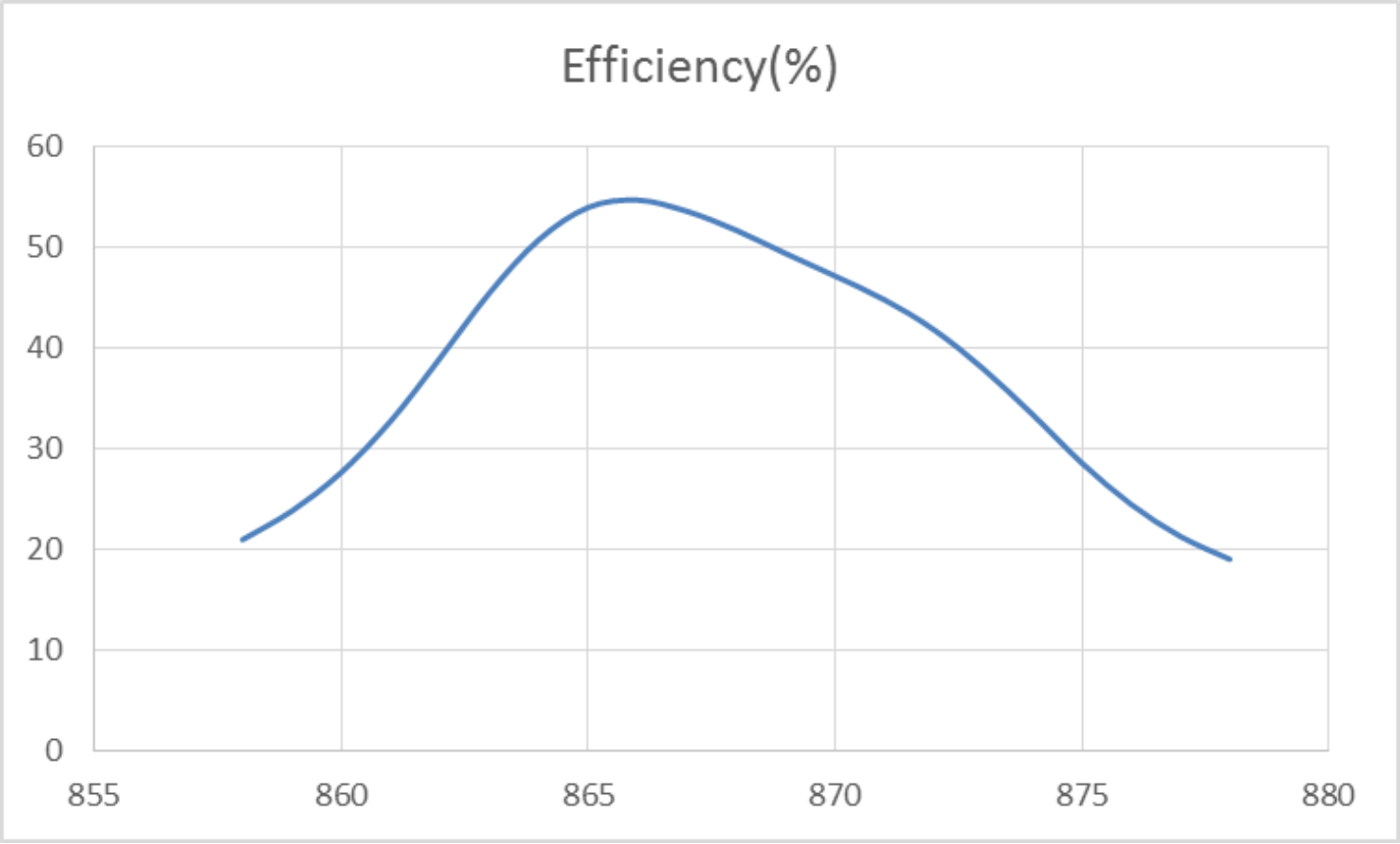
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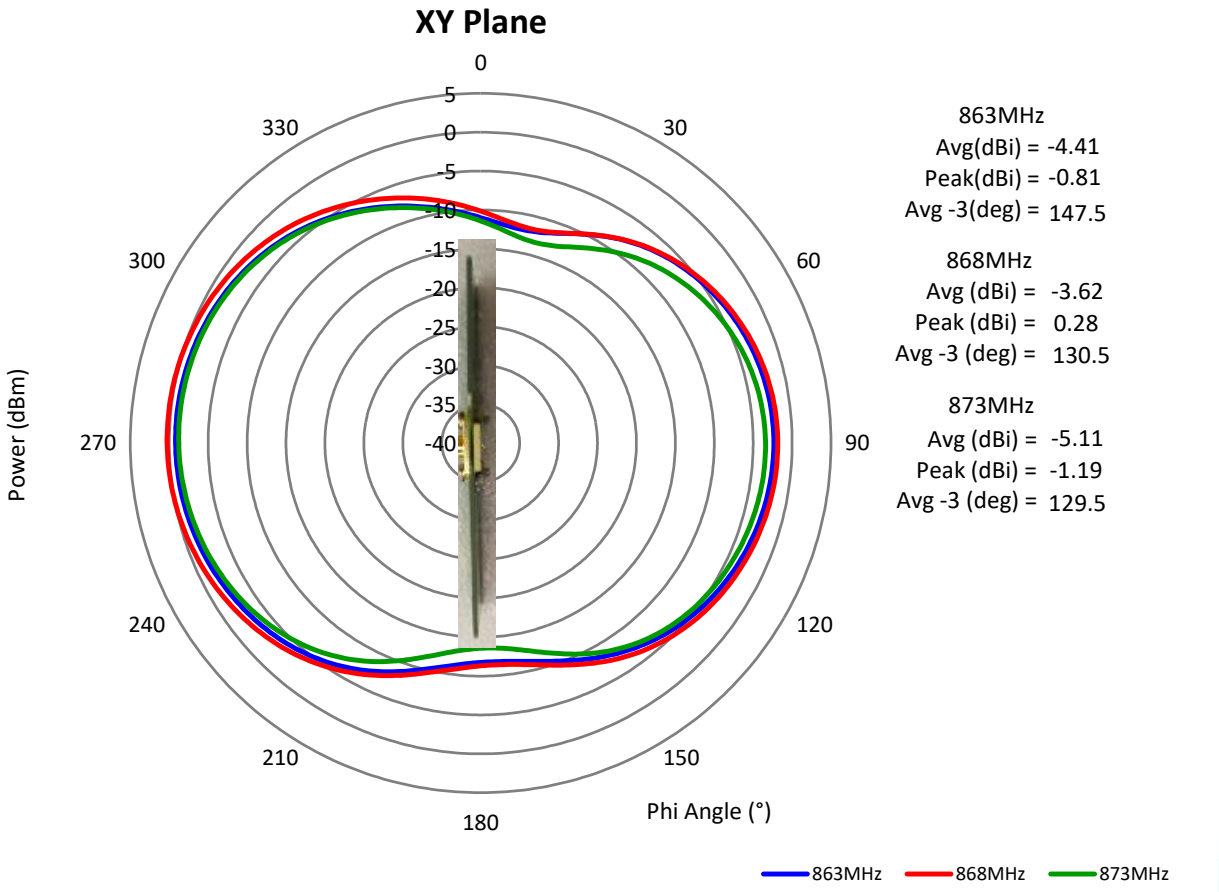
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CHARTS

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 mm x 8.25 mm top and middle layers.

Radiation Pattern



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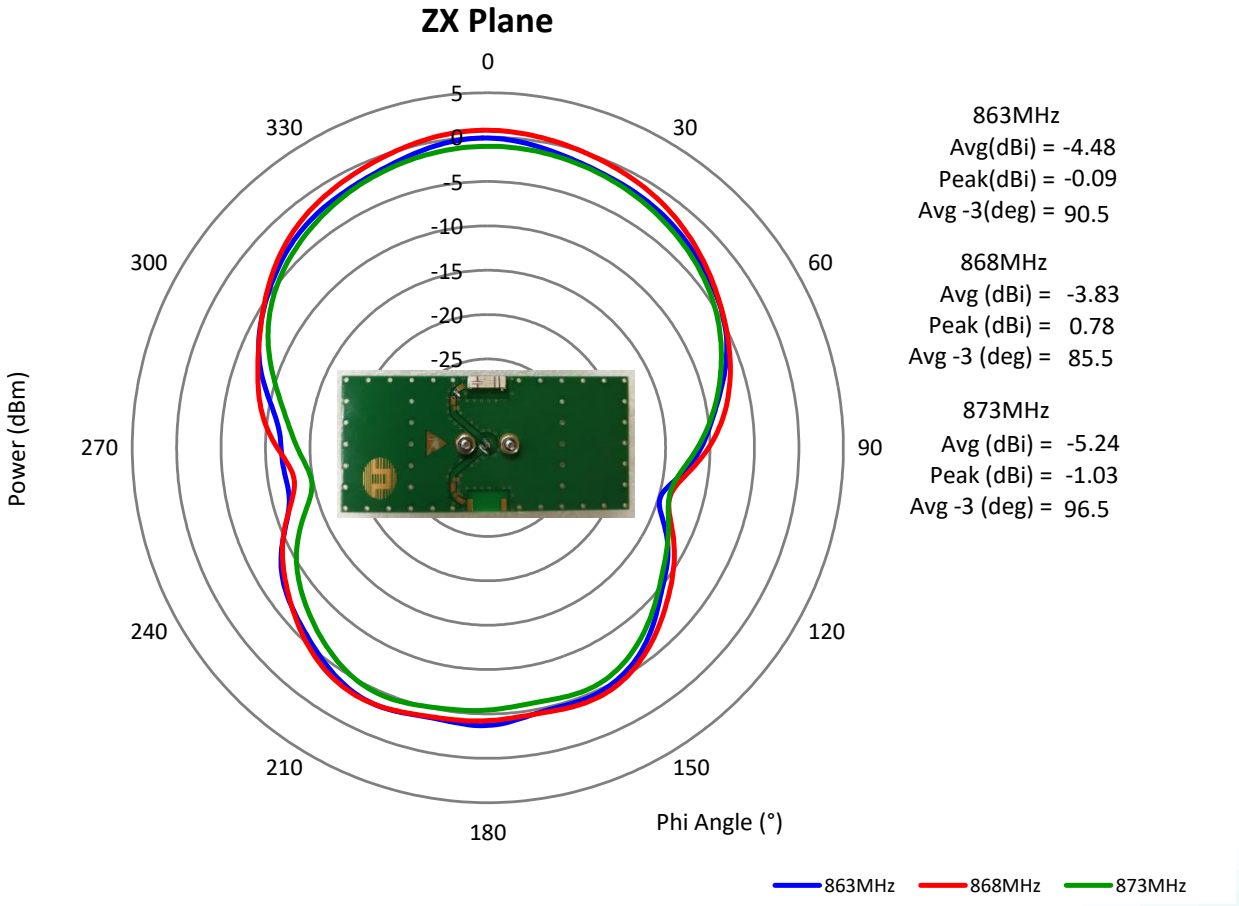
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Radiation Pattern



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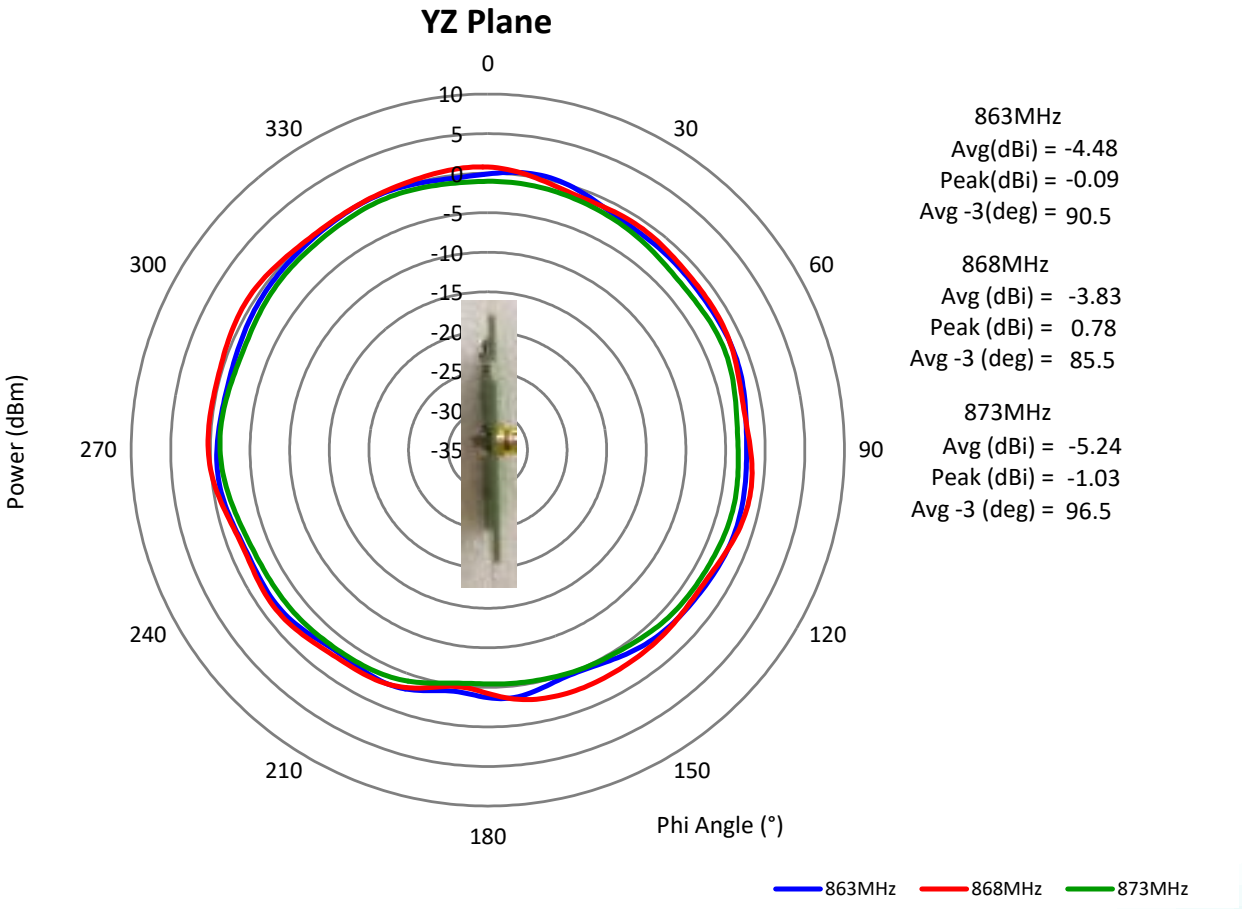
PART NUMBER: W3214

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Radiation Pattern



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Series: Chip Antenna

Description: 868MHz On Ground Ceramic SMD Loop Antenna

PART NUMBER: W3214

PACKAGING

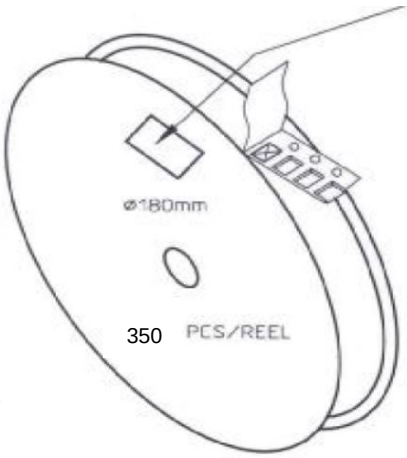
350pcs antennas per 7” reel

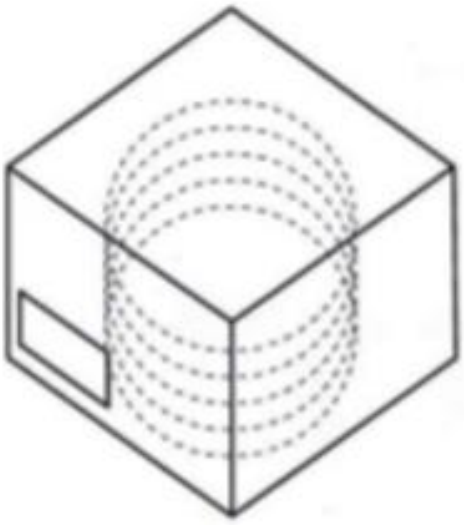
3pcs 7” reel per inner package box

2pcs inner box per out box

Total 2100pcs antenna per out box

Out box size: 390mmx215mmx165mm





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