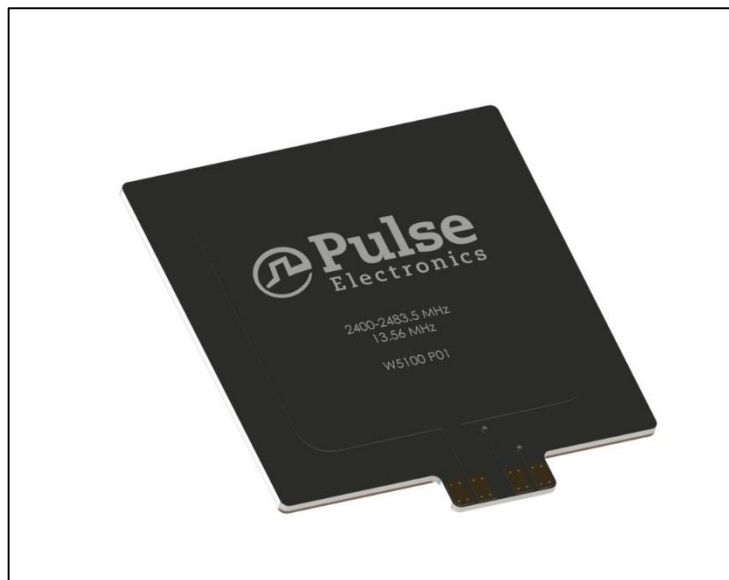


Description: On-ground BLE/NFC combo

Series: Embedded Antenna

PART NUMBER: W5100

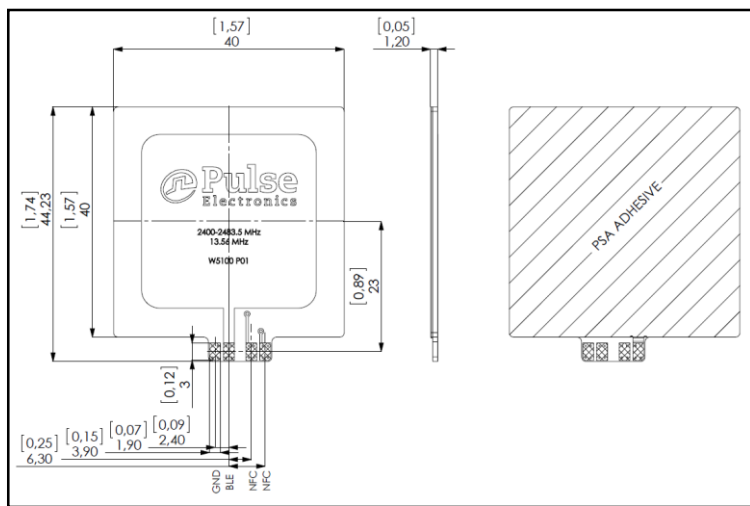


Features:

- Own feed ports for 2.4GHz and NFC 13.56MHz
- Ultra thin 1.2mm
- Surface area 40x40mm
- Operates on top of metal ground plane
- Mounting with adhesive tape

Applications:

- Devices using 2.4GHz radios and 13.56MHz NFC connectivity
- BLE, Bluetooth, Zigbee, ISM 2.4GHz
- Pairing, sharing



All dimensions are in mm / inches

Issue: 1613

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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



Description: On-ground BLE/NFC combo**Series:** Embedded Antenna**PART NUMBER:** W5100**ELECTRICAL SPECIFICATIONS**

| | |
|---|-----------------|
| Frequency P1 | 2400-2483.5 MHz |
| Frequency P2 | 13.56 MHz |
| P1 nominal Impedance | 50Ω |
| P1 VSWR | <3:1 |
| P1 Gain in free space | -1dBi |
| P1 Gain over metal plate | 1dBi |
| P2 Inductance in free space | 0.95μH |
| P2 Q-value in free space | 44 |
| P2 Self Resonant Frequency in free space | 65.9MHz |
| P2 Inductance over metal plate | 0.92μH |
| P2 Q-value over metal plate | 33 |
| P2 Self Resonant Frequency over metal plate | 63.9MHz |
| Connector type | Contact pads |

Description: On-ground BLE/NFC combo

Series: Embedded Antenna

PART NUMBER: W5100

MECHANICAL SPECIFICATIONS

| | |
|---------------|-----------------------------|
| Color | Black |
| Weight | 4.6 g |
| Fixing system | Pressure sensitive adhesive |

ENVIRONMENTAL SPECIFICATIONS

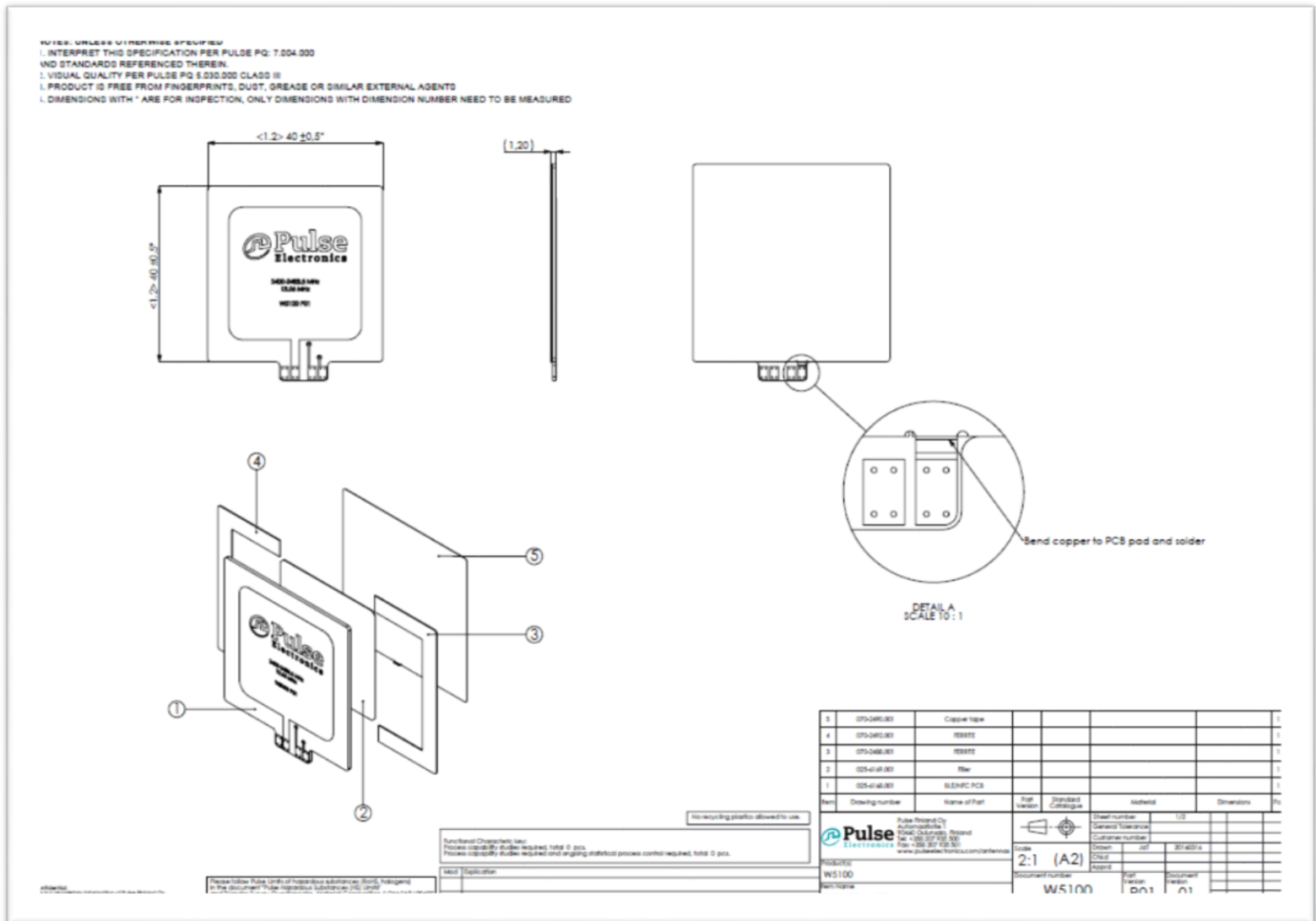
| | |
|-----------------------|--|
| Operating temperature | -40 to 85°C |
| Storage temperature | MIL STD 810G: 24h at 85°C and 24h at -40°C |
| Temperature shock | MIL STD 810G: Method 503.5, -40 for 1 hr to +85 C for 1 hr @ 15 deg.C/min rate of change; 3 cycles |
| Humidity | MIL STD 810G: 24h at 60°C and 95%RH |
| Drop test | Top, bottom, side. 3 times/orientation, 40" |

Description: On-ground BLE/NFC combo

Series: Embedded Antenna

PART NUMBER: W5100

MECHANICAL DRAWING



Issue: 1613

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Description: On-ground BLE/NFC combo

Series: Embedded Antenna

PART NUMBER: W5100

OTHER SPECIFICATIONS

Test setup over metal (80x80mm²). Material Ni plated steel
Antenna contact points shown for BLE(P1) and NFC (P2)



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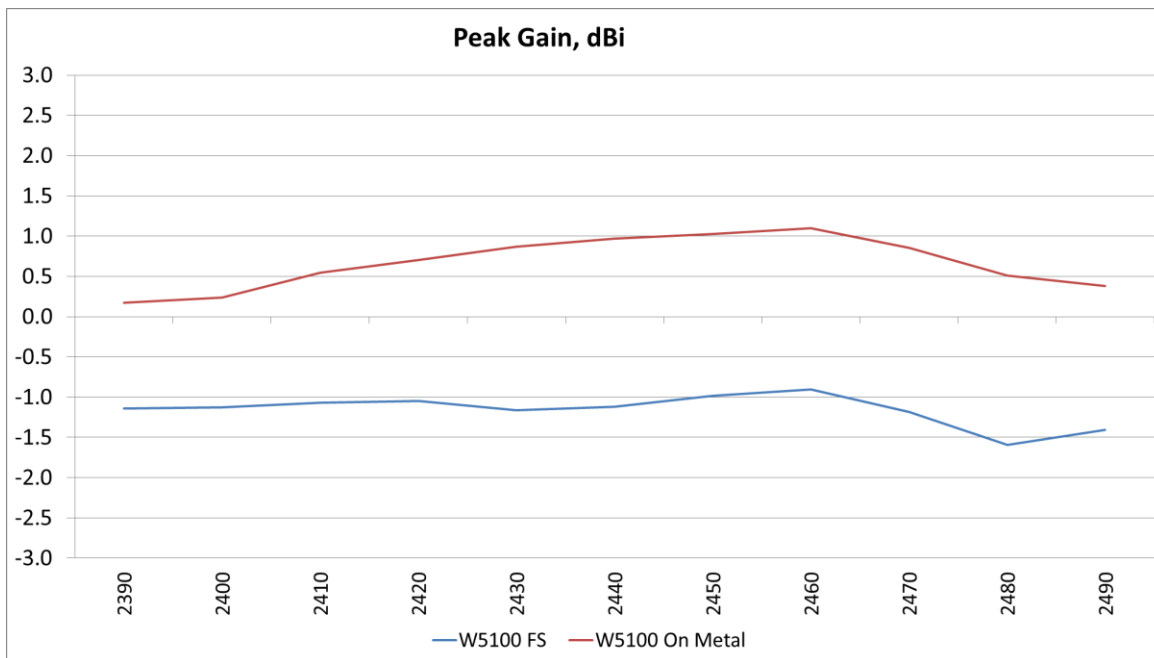
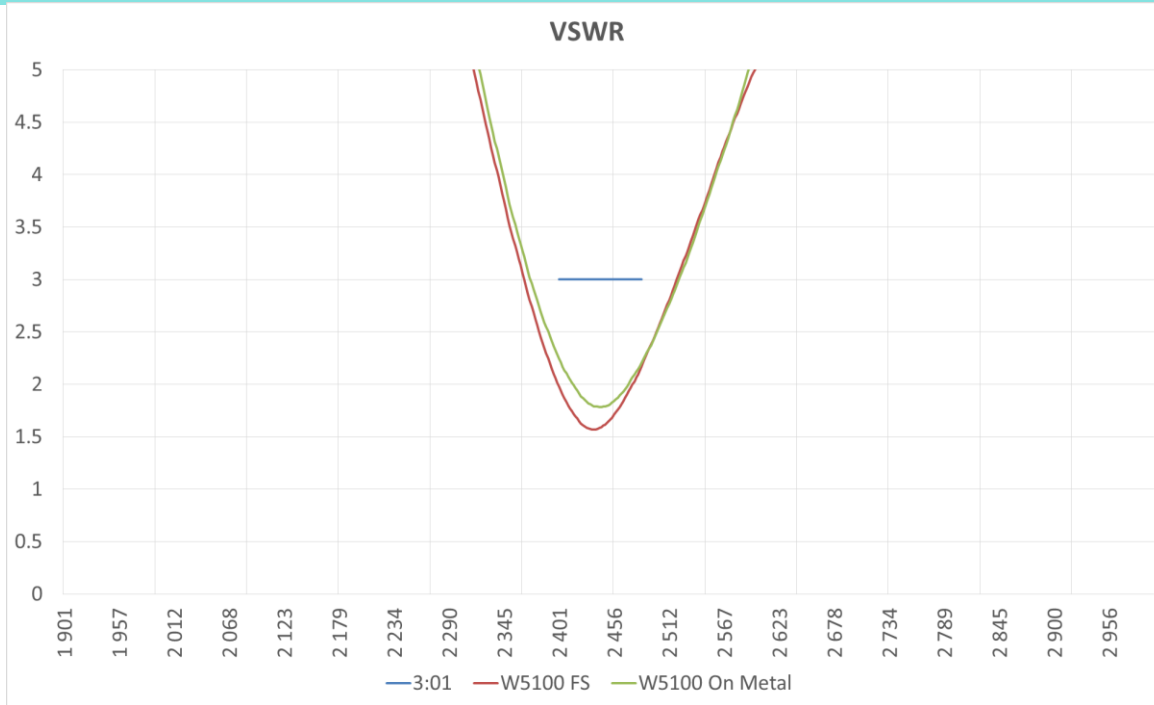
Description: On-ground BLE/NFC combo

Series: Embedded Antenna

PART NUMBER: W5100

CHARTS

P1



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Description: On-ground BLE/NFC combo

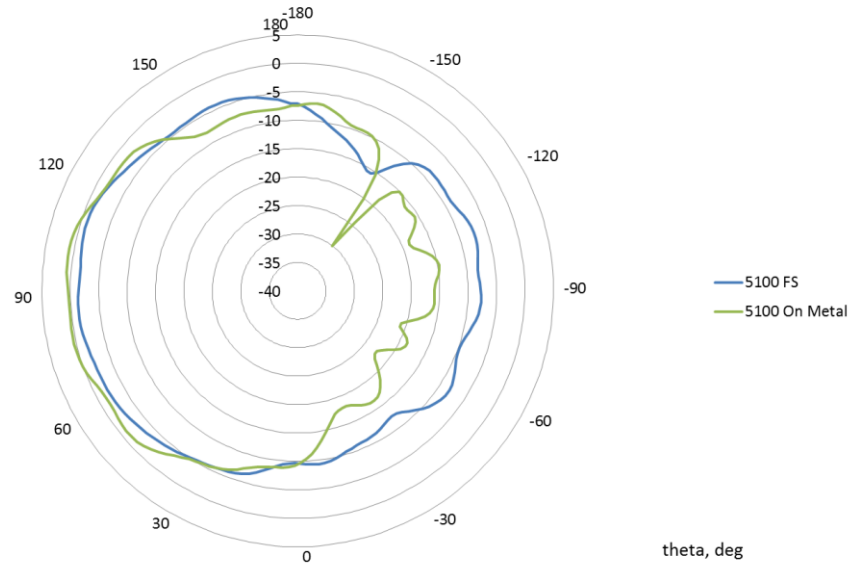
Series: Embedded Antenna

PART NUMBER: W5100

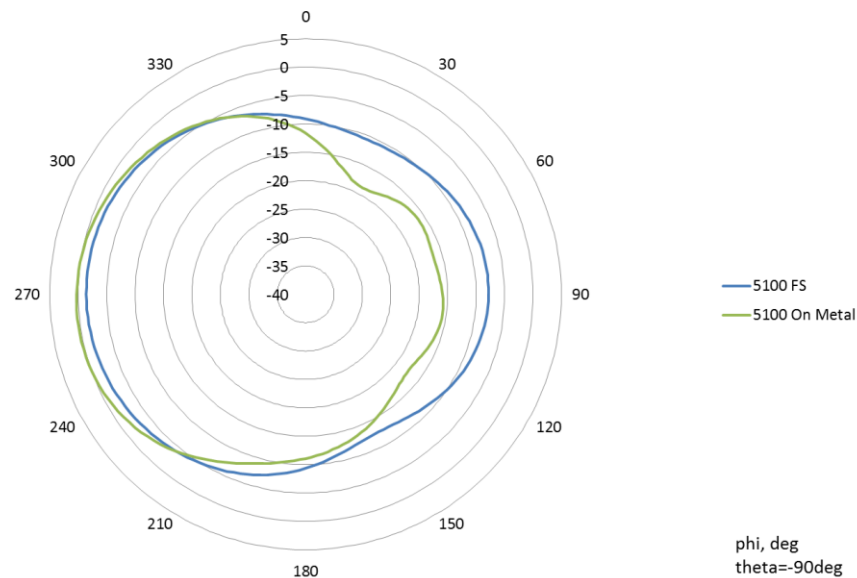
CHARTS

P1

Vertical plane



Horizontal plane



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Description: On-ground BLE/NFC combo

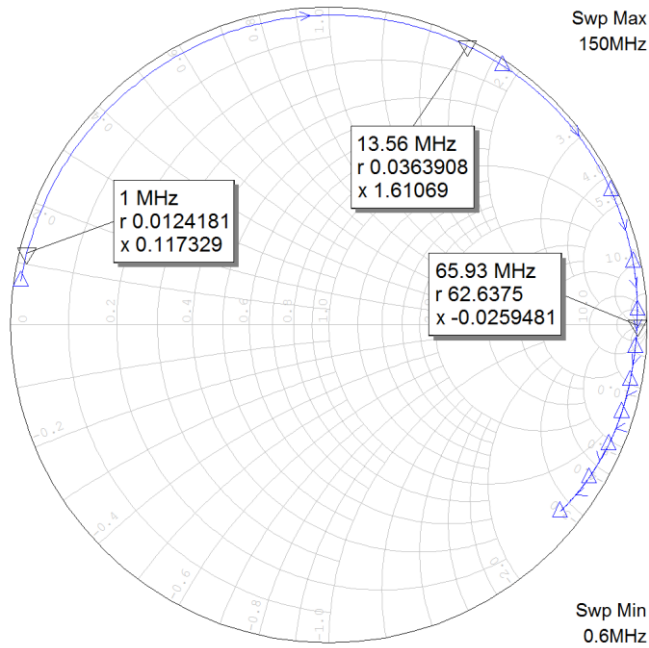
Series: Embedded Antenna

PART NUMBER: W5100

CHARTS

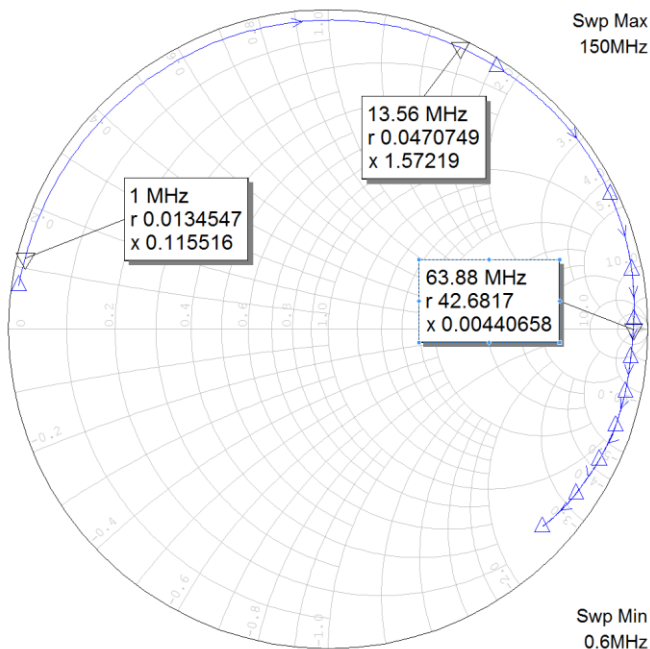
P2

Free Space



| | |
|----------------------------|------|
| L @13.56MHz, μH | 0.95 |
| Q @13.56MHz | 44 |
| SRF, MHz | 65.9 |

On Metal



| | |
|----------------------------|------|
| L @13.56MHz, μH | 0.92 |
| Q @13.56MHz | 33 |
| SRF, MHz | 63.9 |

Issue: 1613

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Description: On-ground BLE/NFC combo**Series:** Embedded Antenna**PART NUMBER:** W5100

PACKAGING

Sealed plastic bag 60x90mm

ASSEMBLY

Pull off adhesive cover from backside and attach. Apply pressure 10N/cm² for 4 seconds to activate pressure sensitive adhesive.