



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

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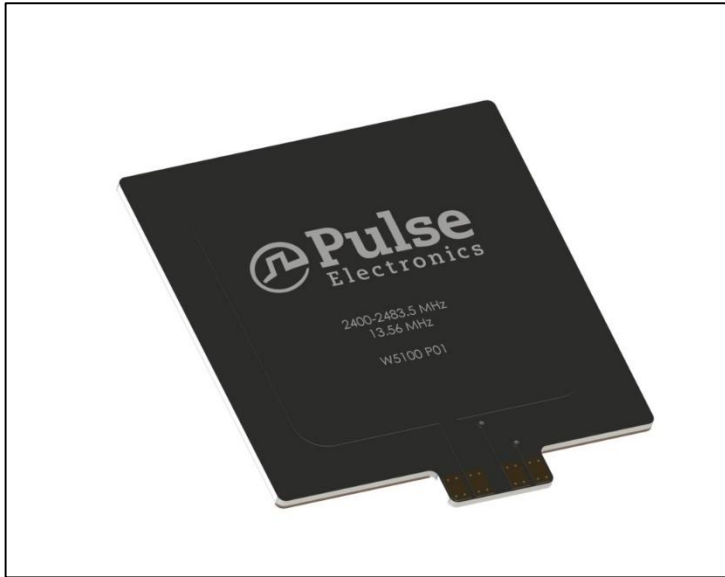
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



Description: On-ground BLE/NFC combo

Series: Embedded Antenna

PART NUMBER: W5100

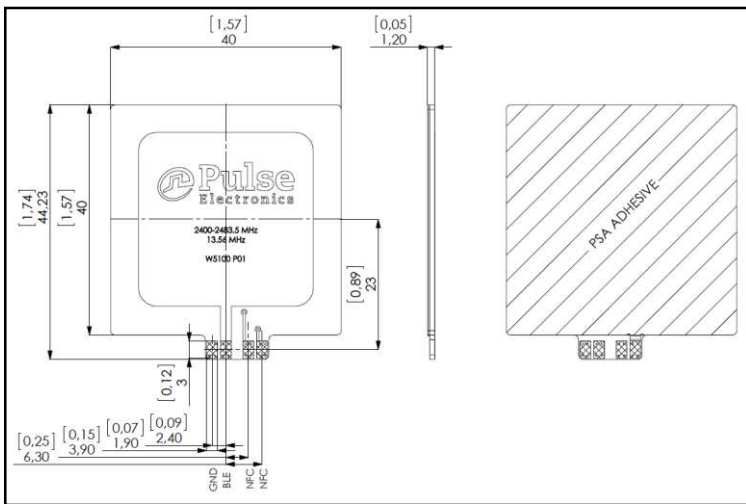


Features:

- 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

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

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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

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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"

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Description: On-ground BLE/NFC combo

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MECHANICAL DRAWING

NOTES: UNLESS OTHERWISE SPECIFIED
 1. INTERPRET THIS SPECIFICATION PER PULSE PQ: 7.004.000 AND STANDARDS REFERENCED THEREIN.
 2. VISUAL QUALITY PER PULSE PQ: 6.030.000 CLASS III
 3. PRODUCT IS FREE FROM FINGERPRINTS, DUST, GREASE OR SIMILAR EXTERNAL AGENTS
 4. DIMENSIONS WITH * ARE FOR INSPECTION, ONLY DIMENSIONS WITH DIMENSION NUMBER NEED TO BE MEASURED

Exploded View Labels:
 1: Antenna PCB
 2: Antenna PCB
 3: Antenna PCB
 4: Antenna PCB
 5: Antenna PCB

Item	Drawing number	Name of Part	Part Number	Standard Catalogue	Material	Dimensions	Qty
1	075-0461-001	Copper tape					1
4	075-0461-001	ISBITE					1
3	075-0461-001	ISBITE					1
2	025-4146-001	Fiber					1
1	025-4146-001	SLBNPC PCB					1

Functional Characteristics:
 Please specify if fiber required, total: 0 pcs.
 Please specify if solder required and ongoing statistical process control required, total: 0 pcs.

Material Application:

Notes:
 Please follow Pulse limits of hazardous substances (RoHS, Halogen) in the document Pulse operations infrastructure (PIS) card.

REVISIONS:
 W5100
 2:1 (A2)
 W5100

Document number: W5100
Part name: D01
Document revision: 01

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Description: On-ground BLE/NFC combo

Series: Embedded Antenna

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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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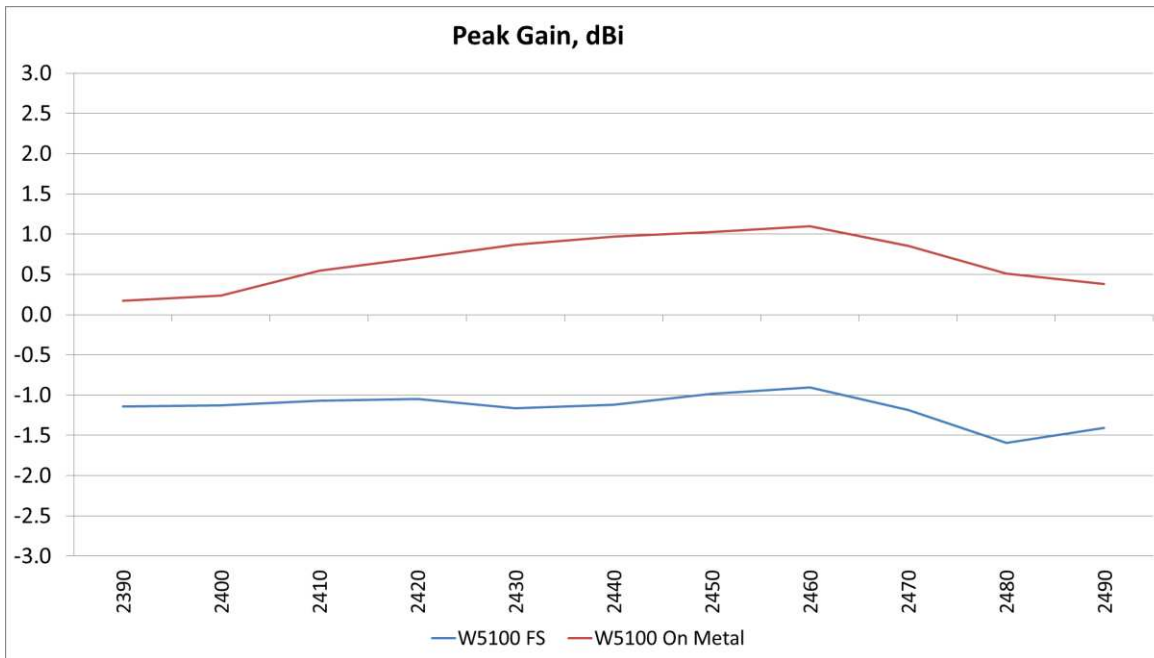
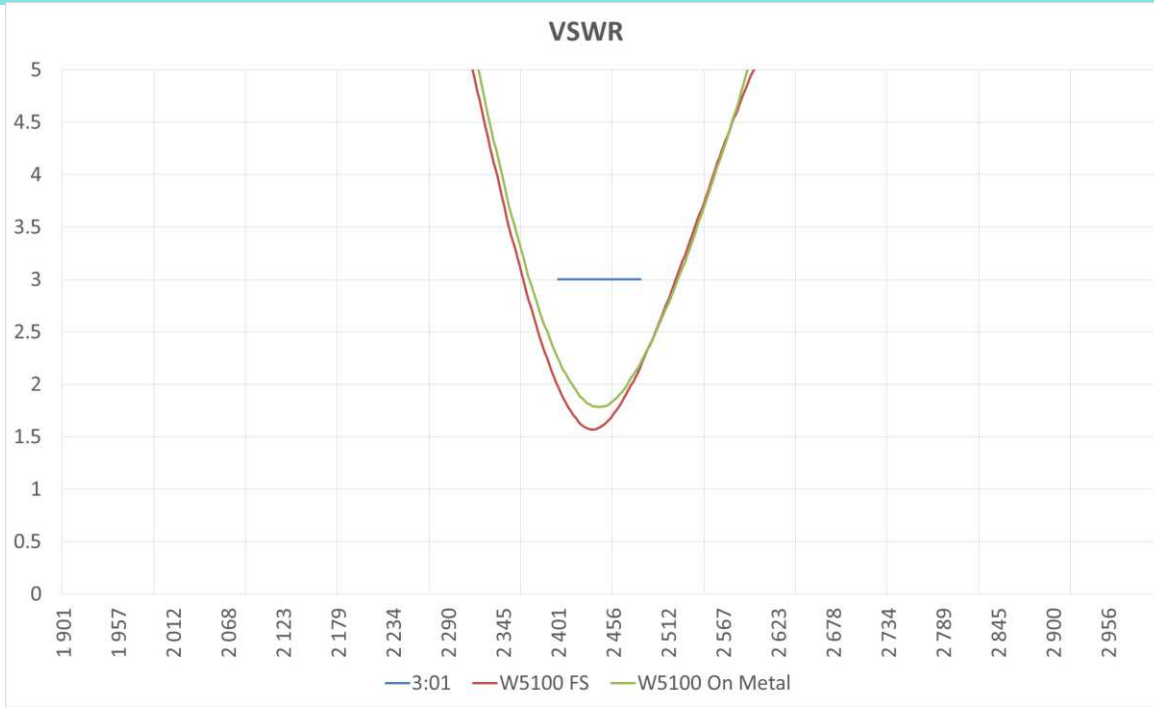
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Series: Embedded Antenna

PART NUMBER: W5100

CHARTS

P1



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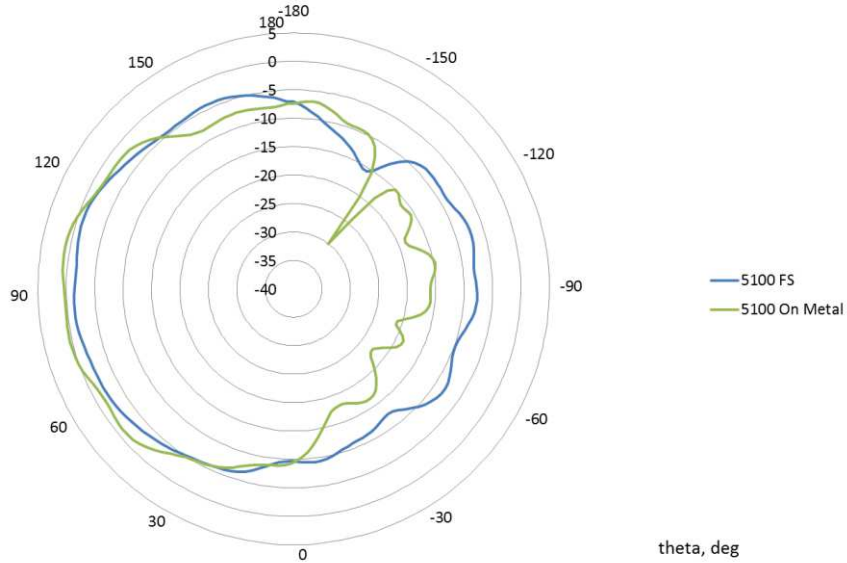
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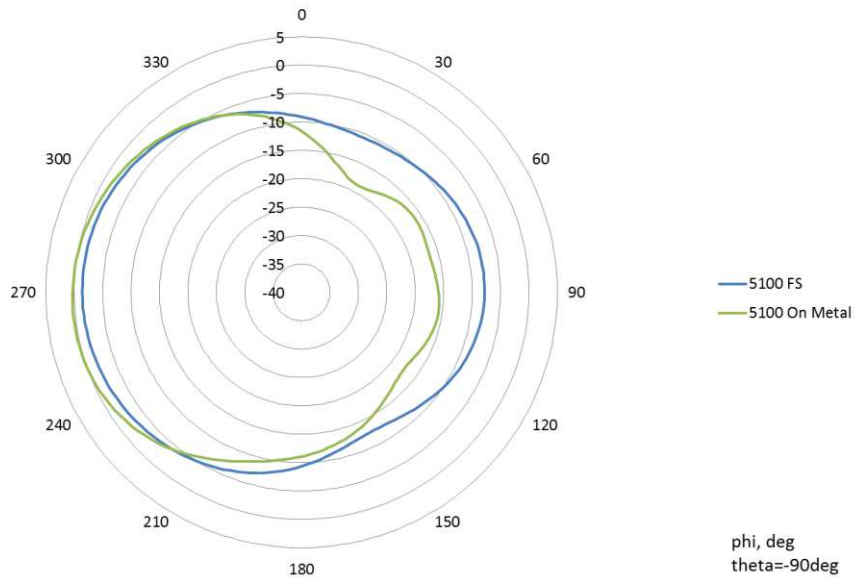
CHARTS

P1

Vertical plane



Horizontal plane



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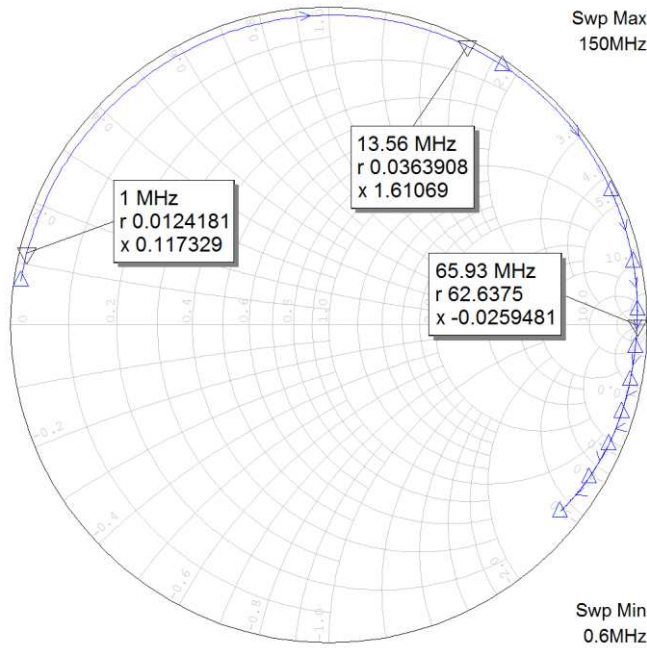
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CHARTS

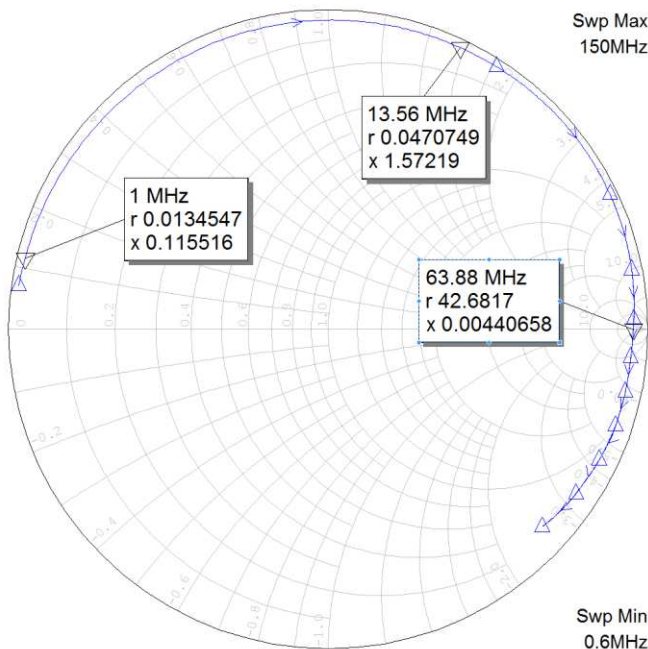
P2

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

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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.

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