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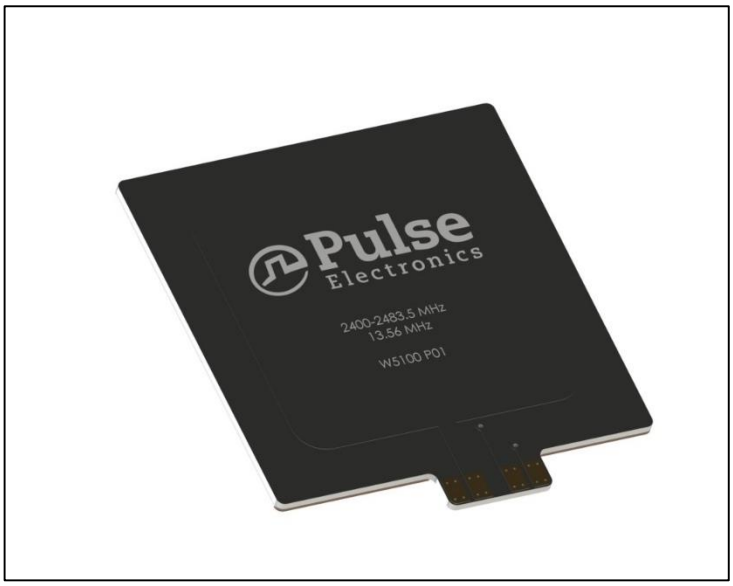
PulseLARSEN Antennas

TECHNICAL DATA SHEET

Description: On-ground BLE/NFC combo

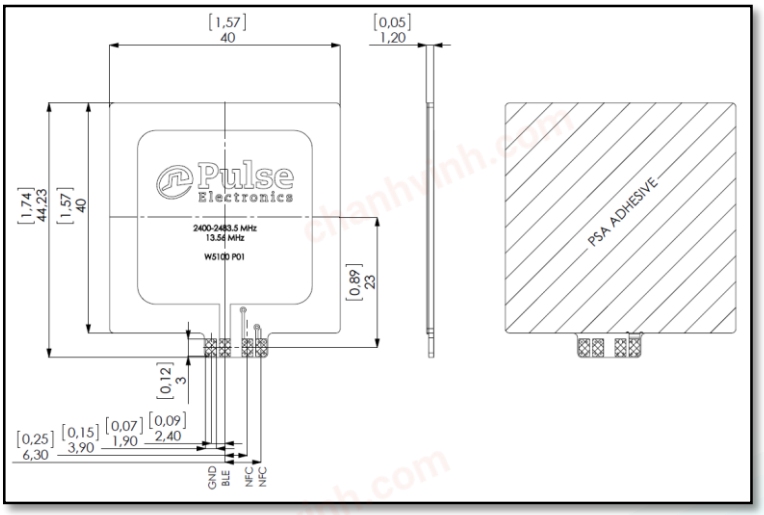
Series: Embedded Antenna

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

RoHS COMPLIANT

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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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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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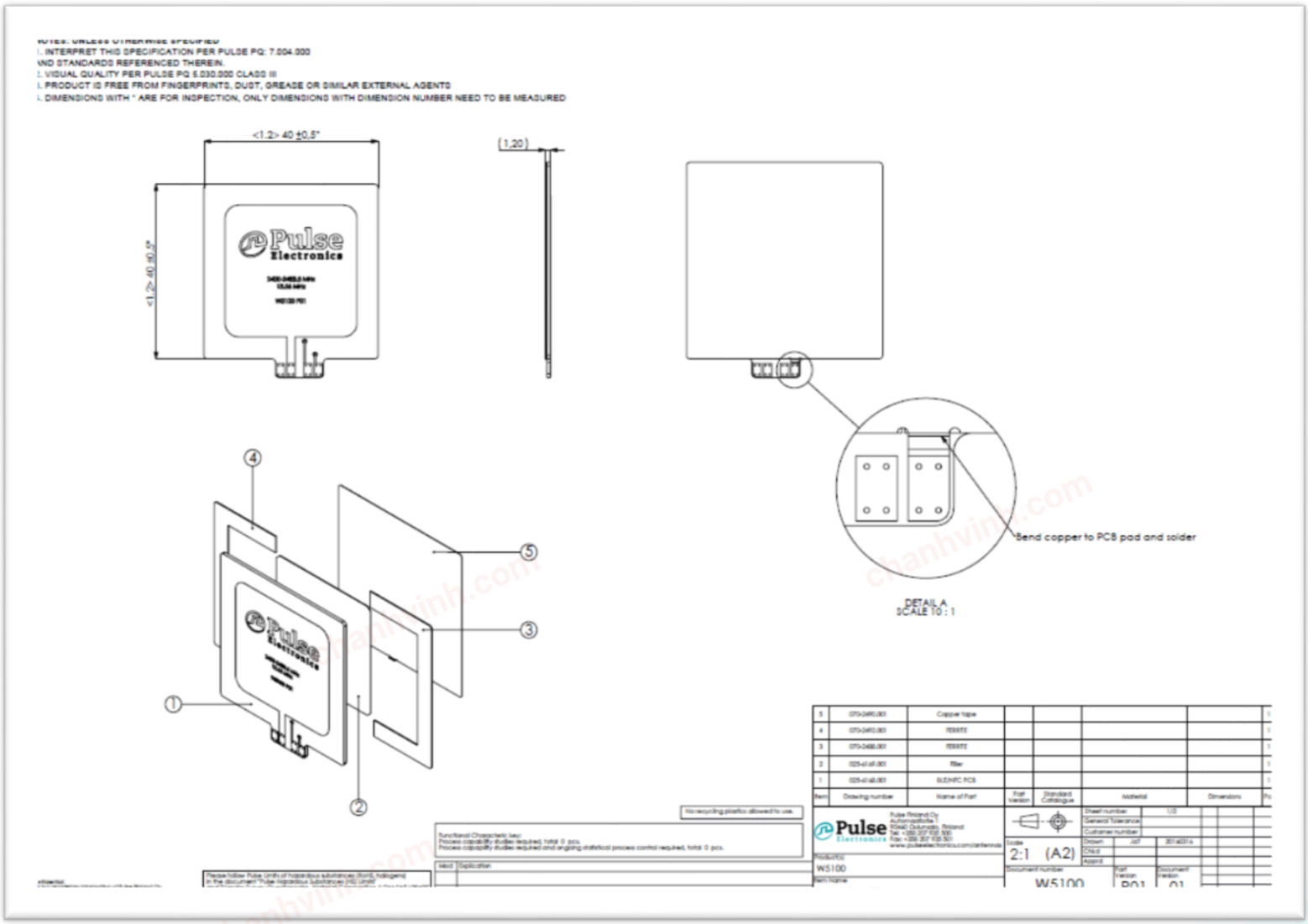
MECHANICAL DRAWING



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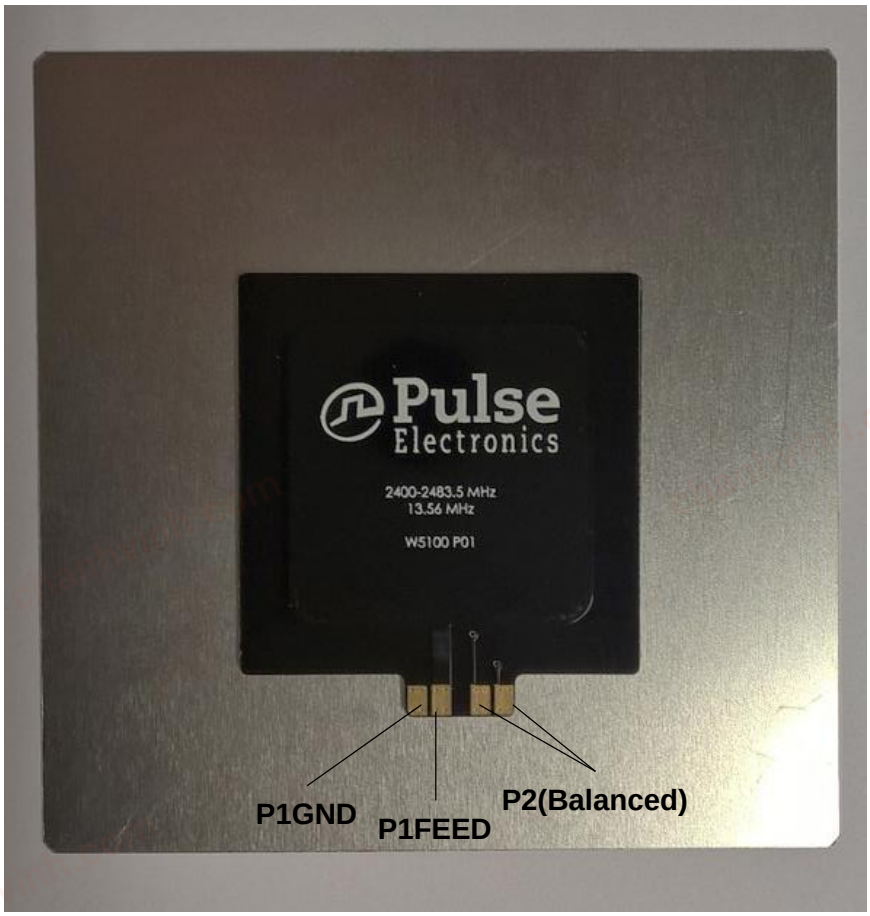
OTHER SPECIFICATIONS

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



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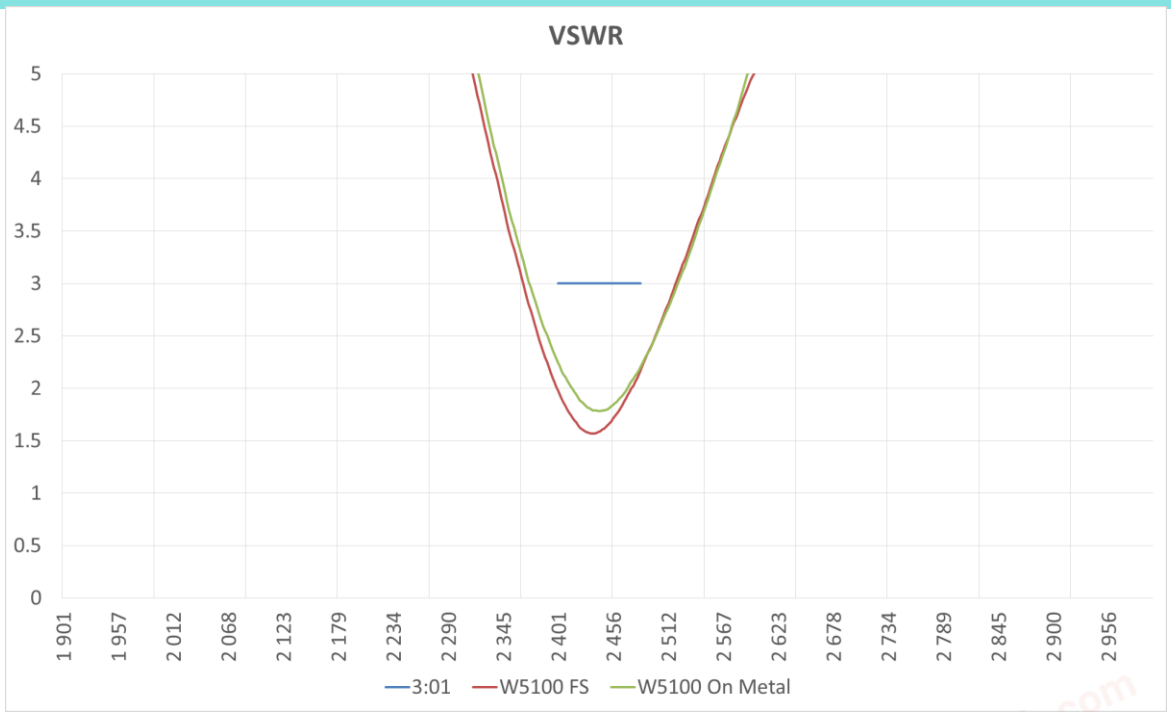
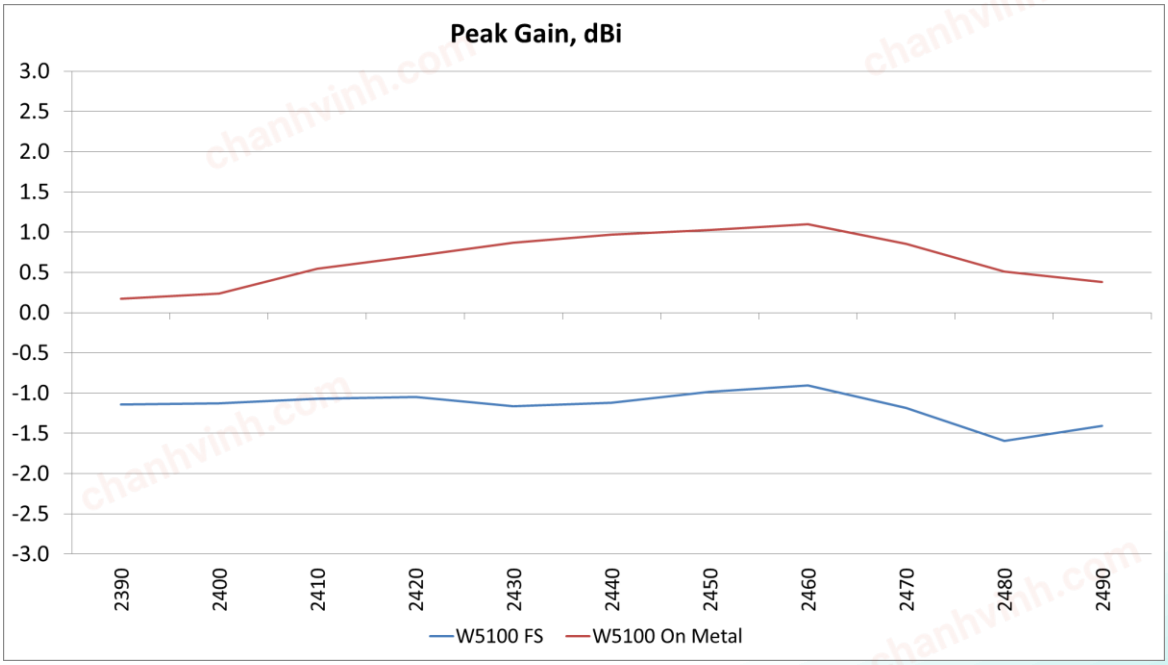
CHARTS

P1





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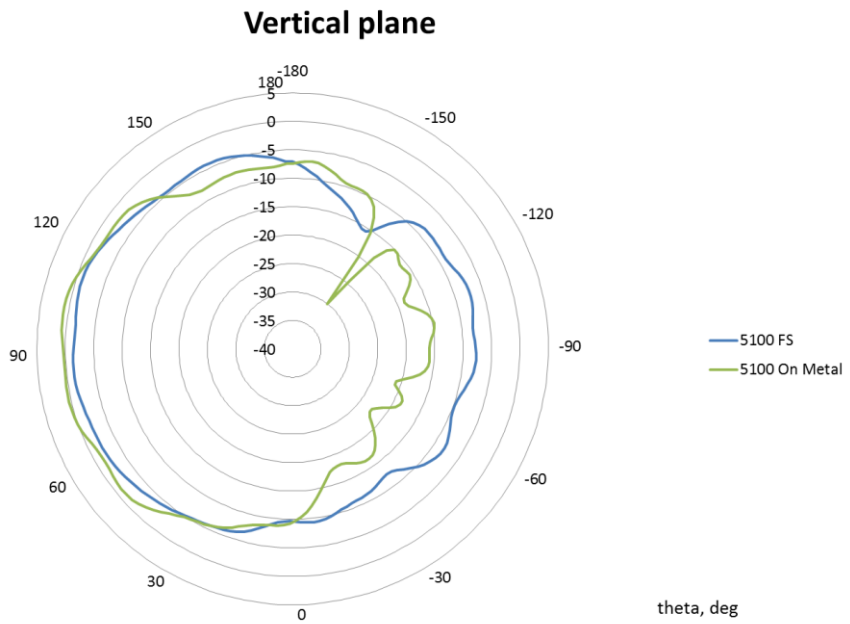
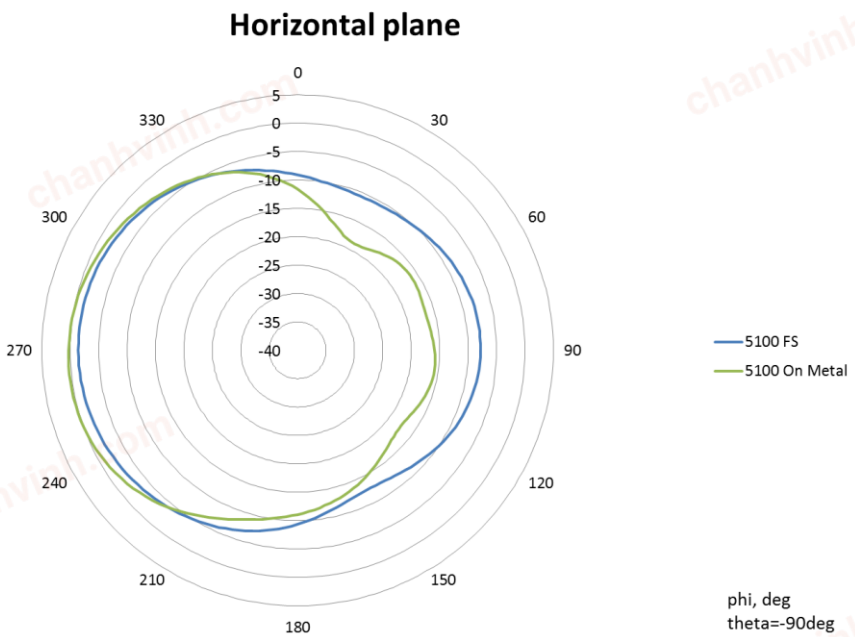
CHARTS

P1





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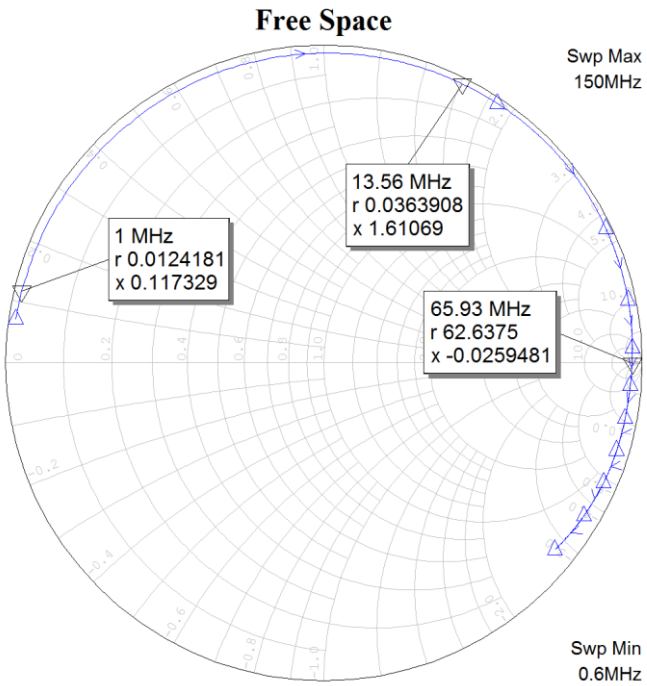
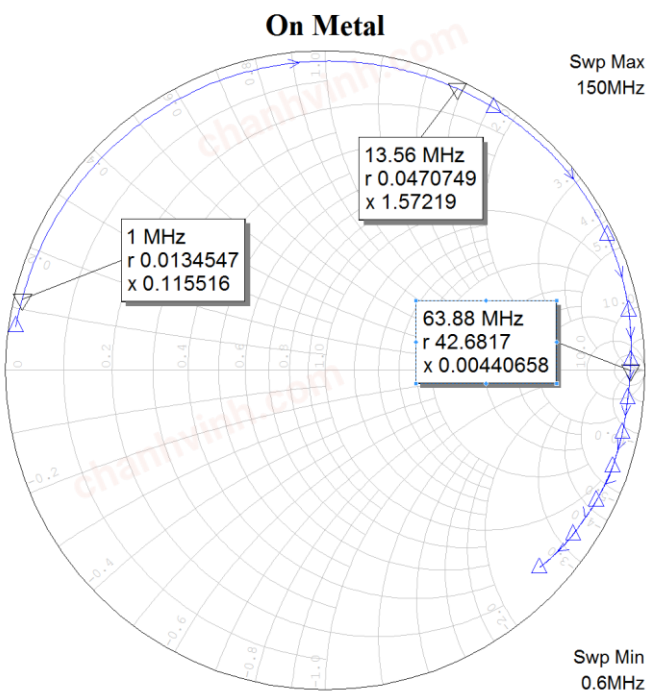
CHARTS

P2



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



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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