

TECHNICAL DATA SHEET

Description: ISM 169/433/868/915/2450MHz

Helical Antenna

PART NUMBER: W3100X



Features:

- Helix coil with shrink tube
- Antenna type Monopole
- Diameter 9.8 mm
- Coil cut to operating freq:
 - 169MHz 80mm, P/N W3100
 - 433MHz 30mm, P/N W3100A
 - 868MHz 11mm, P/N W3100B
 - 915MHz 10mm, P/N W3100C
 - 2450MHz 2.5mm, P/N W3100D

Applications:

- ISM band radios
- IoT
- Smart Meters
- Easy to cut for optimal length in variety of applications
- Fine tuning and impedance matching with PCB SMT components

All dimensions are in mm / inches

W3100C

Issue: 1851

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W3100D

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ELECTRICAL SPECIFICATIONS

Antenna Type Helix monopole coil

Frequency 169, 433, 868, 915, 2450MHz

Nominal Impedance 50 Ω

VSWR 2:1

Radiation Pattern Omni

Gain -4dBi @ 169MHz

-2.9dBi @ 433MHz

0dBi @ 868MHz

-0.5dBi @ 915MHz

3.5dBi @ 2450MHz

Efficiency 20% @ 169MHz

25% @ 433MHz

35% @ 868MHz

35% @ 915MHz

80% @ 2450MHz

Polarization Vertical

Power Withstanding 2W

MECHANICAL SPECIFICATIONS

Coil Length See table

Antenna Color Black radome

Mounting method Mechanical lock on PCB, soldering

Weight 10.2g/2.0g/0.5g/0.45g/0.2g

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature -40 - +85 ° C
Storage Temperature -40 - +85 ° C

RoHS Compliant Yes

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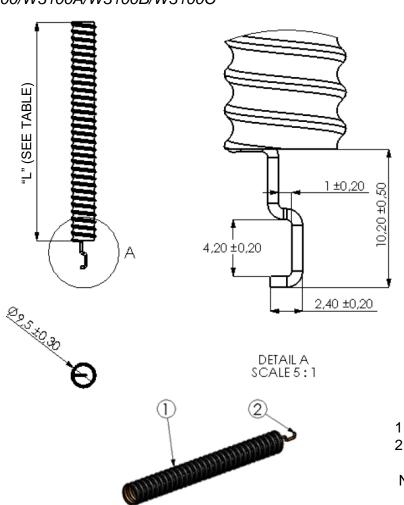
Helical Antenna

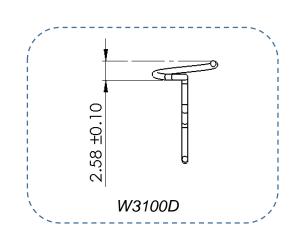
PART NUMBER: W3100X

Series: Helix Coil

MECHANICAL DRAWING

W3100/W3100A/W3100B/W3100C





- 1. Heat shrink protective tube
- 2. Helix wire coil

Note: W3100D W/O shrink tube

PN	"L"	Frequency
W3100	80±2	169MHz
W3100A	30±0.5	433MHZ
W3100B	11±0.5	868MHz
W3100C	10±0.5	915MHz
W3100D	2.5±0.2	2450MHz

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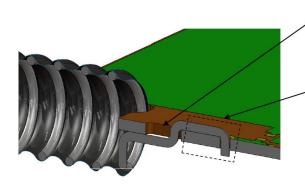
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PART NUMBER: W3100X

MECHANICAL DRAWING AND TERMINAL CONFIGURATION

W3100

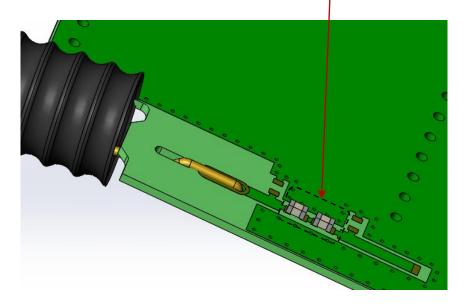


Cut made to reduce mechanic stress of soldering

Wire soldering area

0603 components: 180nH inductor, 0 ohm resistance

(component location can be modified as long as they stay close to antenna feed point)





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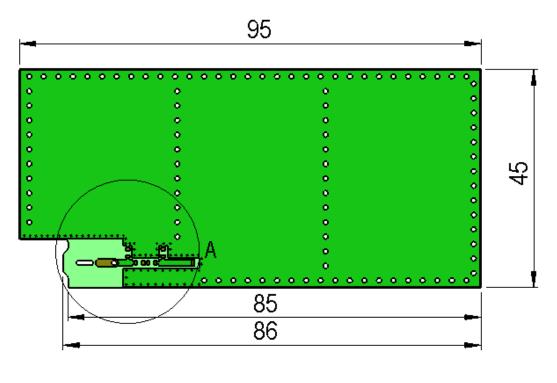
Helical Antenna

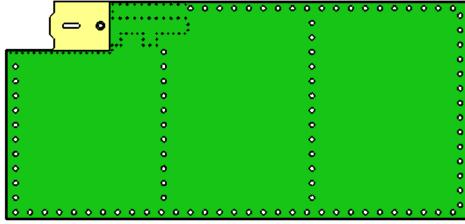
PART NUMBER: W3100X

Series: Helix Coil

MECHANICAL DRAWING AND TERMINAL CONFIGURATION

W3100 TEST BOARD







TECHNICAL DATA SHEET

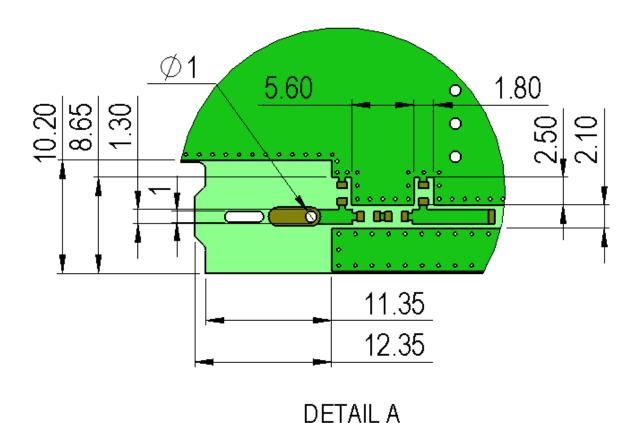
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Helical Antenna

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MECHANICAL DRAWING AND TERMINAL CONFIGURATION

W3100 TEST BOARD





TECHNICAL DATA SHEET

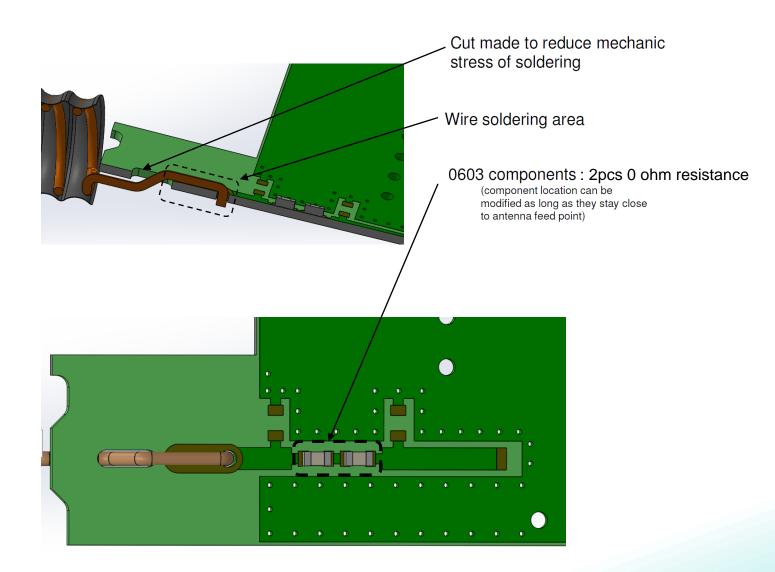
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MECHANICAL DRAWING AND TERMINAL CONFIGURATION

W3100A/W3100B/W3100C/W3100D





TECHNICAL DATA SHEET

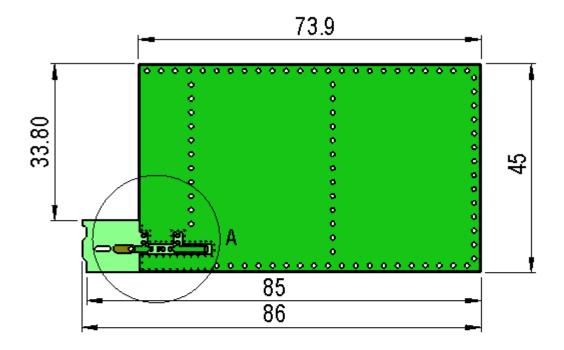
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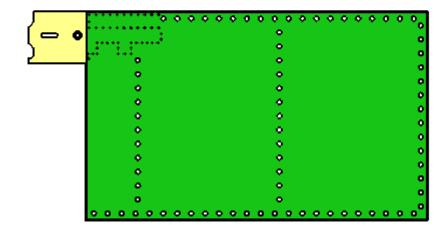
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MECHANICAL DRAWING AND TERMINAL CONFIGURATION

W3100A/W3100B/W3100C/W3100D TEST BOARD









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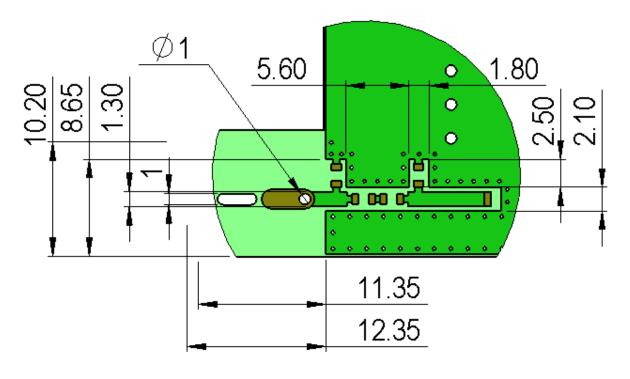
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MECHANICAL DRAWING AND TERMINAL CONFIGURATION

W3100A/W3100B/W3100C/W3100D TEST BOARD



DETAIL A





TECHNICAL DATA SHEET

Description: ISM 169/433/868/915/2450MHz

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TEST SETUP







433MHz



868MHz



915MHz

2400MHz



Antennas

Series: Helix Coil

TECHNICAL DATA SHEET

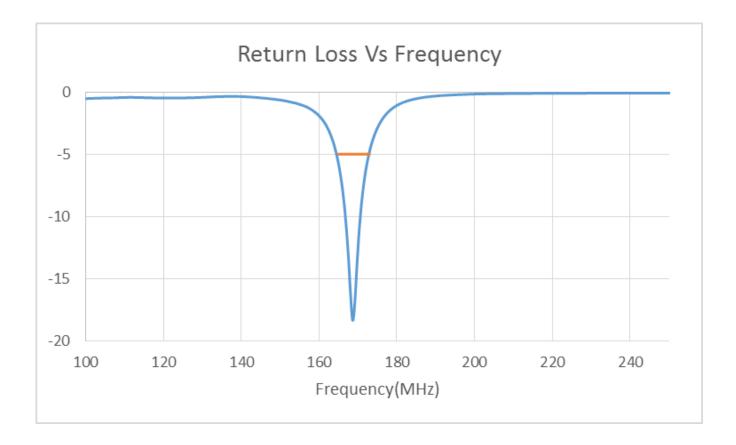
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Helical Antenna

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CHARTS

W3100





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Description: ISM 169/433/868/915/2450MHz

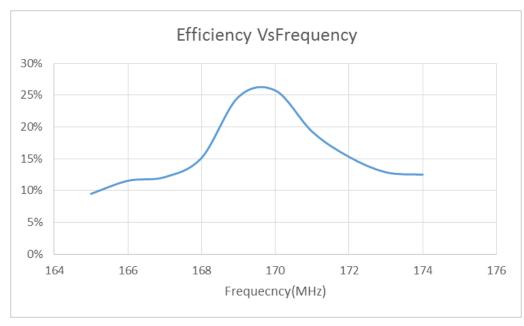
Helical Antenna

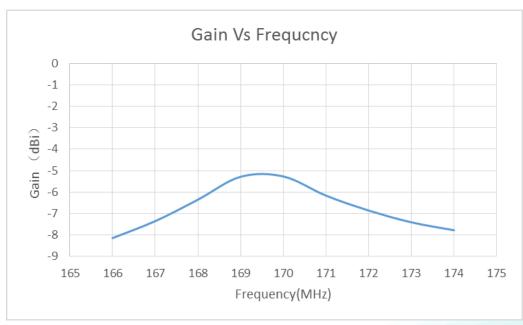
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Series: Helix Coil

CHARTS

W3100







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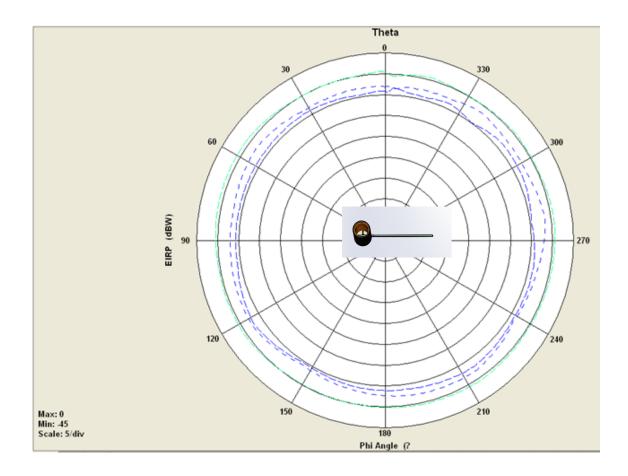
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CHARTS

W3100





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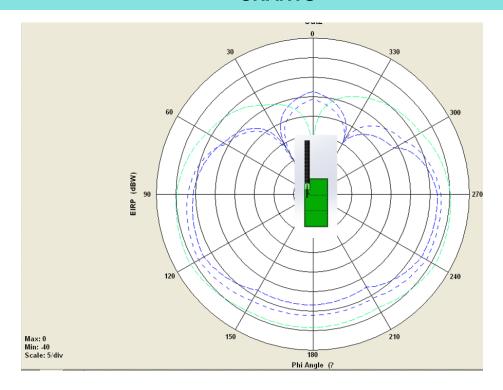
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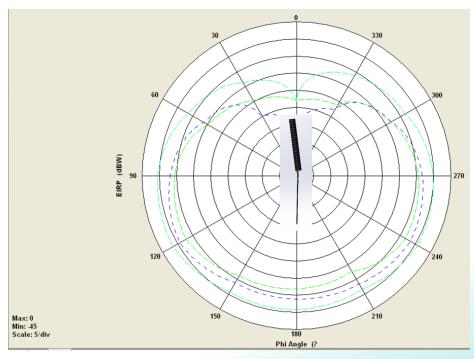
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CHARTS

W3100





Issue: 1851





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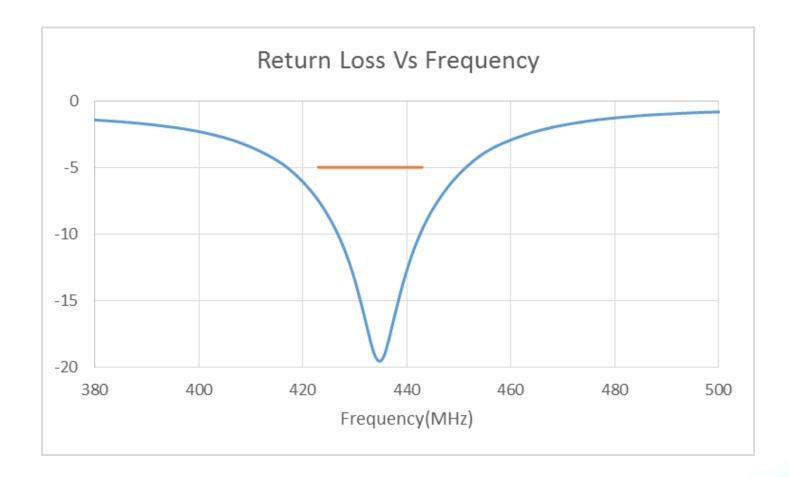
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CHARTS

W3100A





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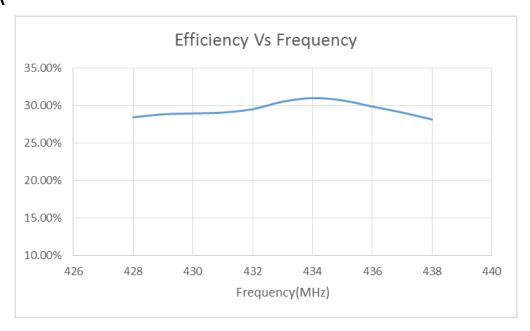
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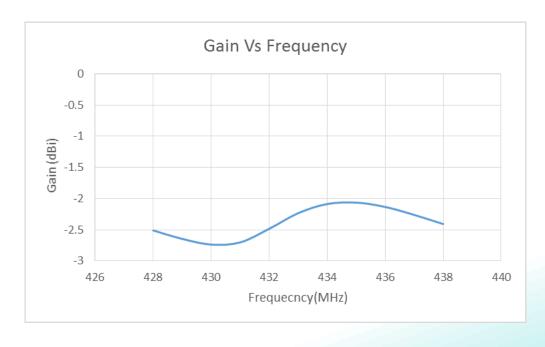
Helical Antenna

PART NUMBER: W3100X

CHARTS

W3100A







TECHNICAL DATA SHEET

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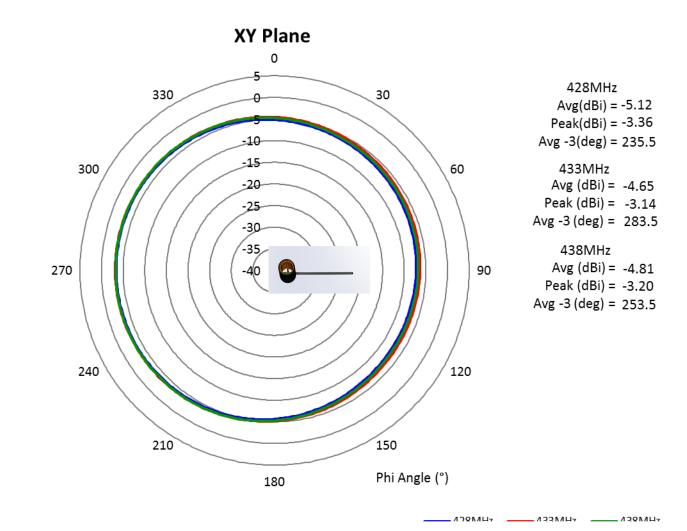
Helical Antenna

PART NUMBER: W3100X

CHARTS

W3100A

Power (dBm)



Issue: 1851



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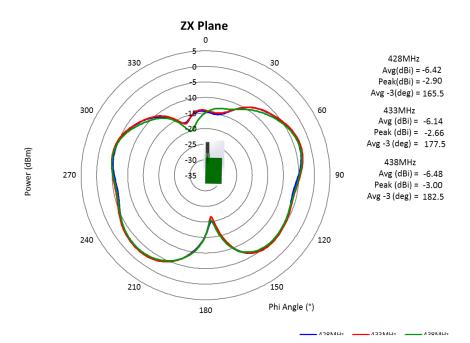
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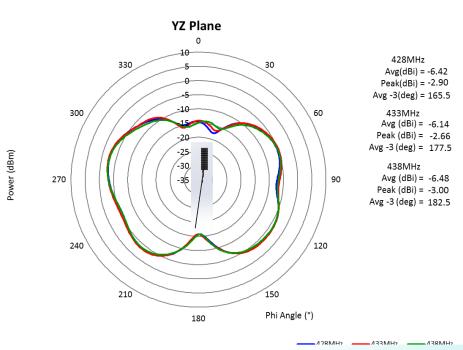
Helical Antenna

PART NUMBER: W3100X

CHARTS

W3100A







TECHNICAL DATA SHEET

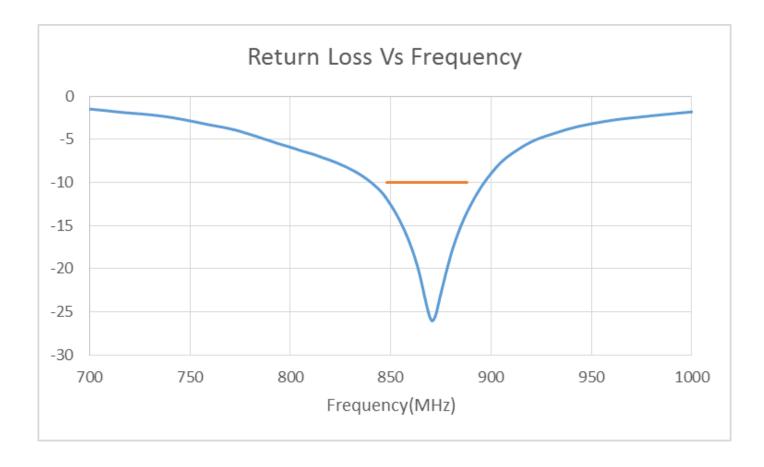
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Helical Antenna

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CHARTS

W3100B





TECHNICAL DATA SHEET

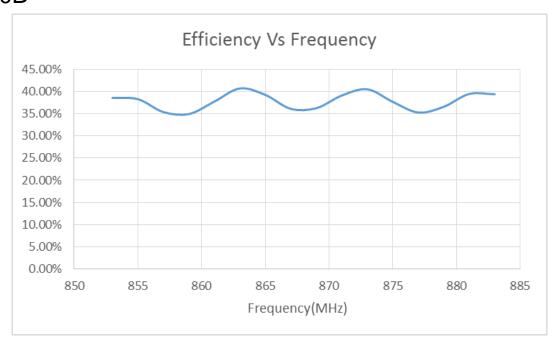
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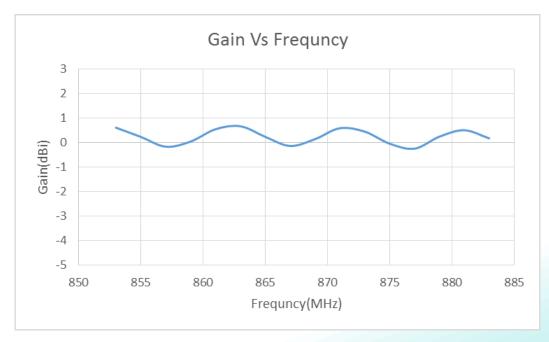
Helical Antenna

PART NUMBER: W3100X

CHARTS

W3100B









TECHNICAL DATA SHEET

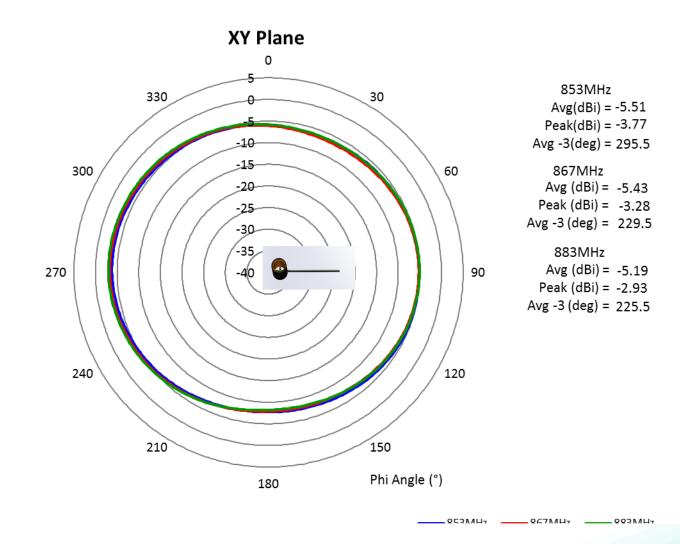
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Helical Antenna

PART NUMBER: W3100X

CHARTS

W3100B



Issue: 1851

Power (dBm)



TECHNICAL DATA SHEET

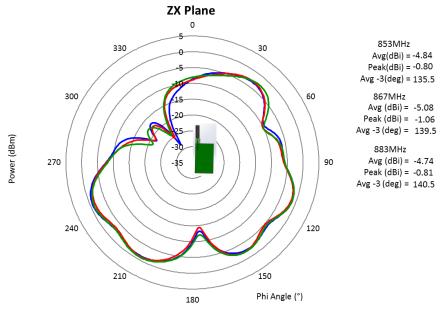
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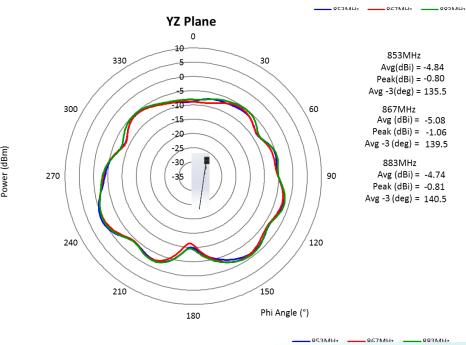
Helical Antenna

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CHARTS

W3100B







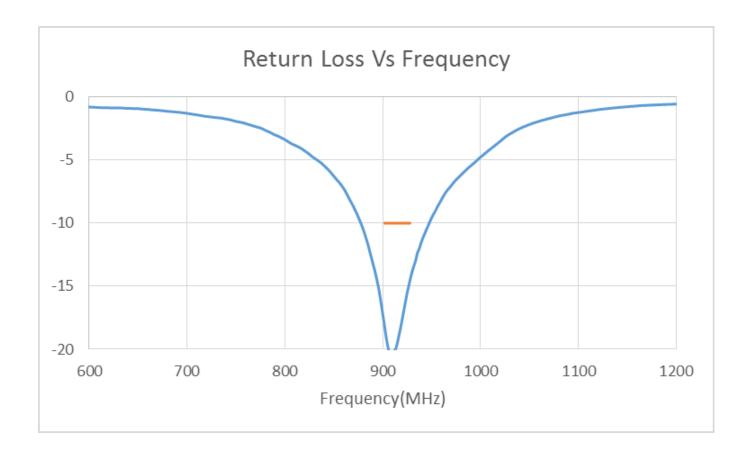
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Helical Antenna

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CHARTS





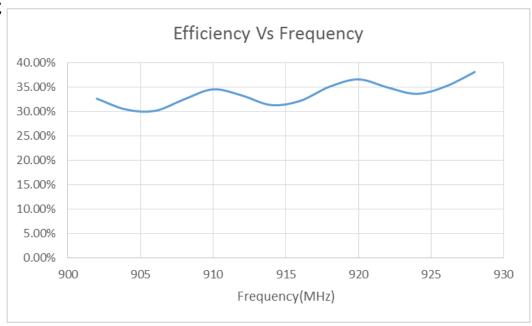
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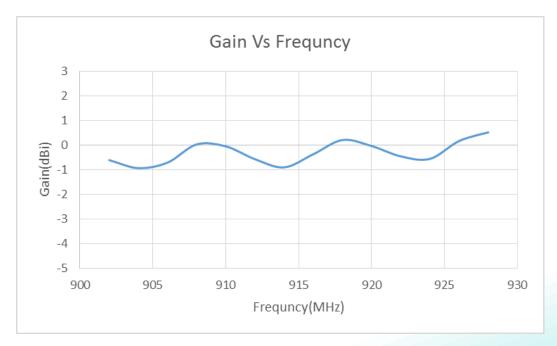
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CHARTS







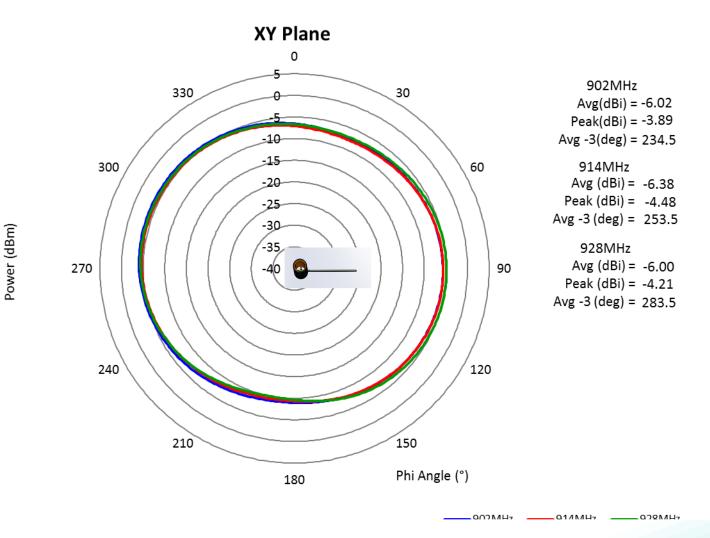
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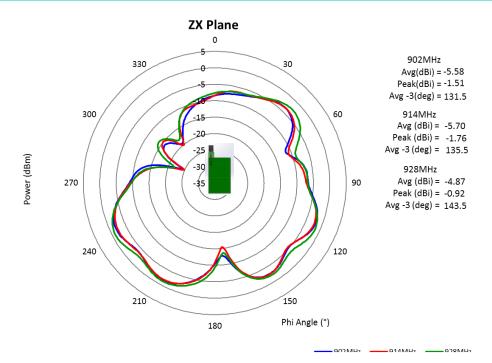
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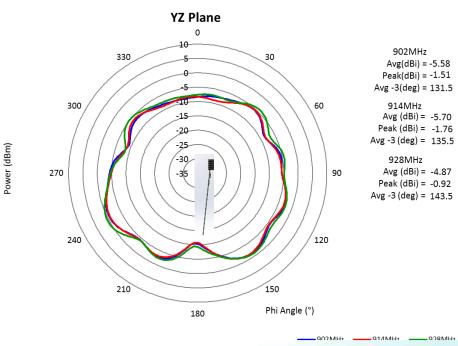
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CHARTS







TECHNICAL DATA SHEET

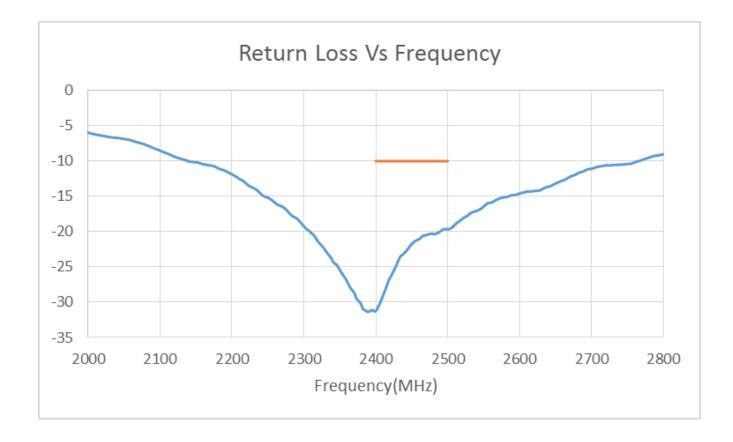
Description: ISM 169/433/868/915/2450MHz

Helical Antenna

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CHARTS

W3100D





TECHNICAL DATA SHEET

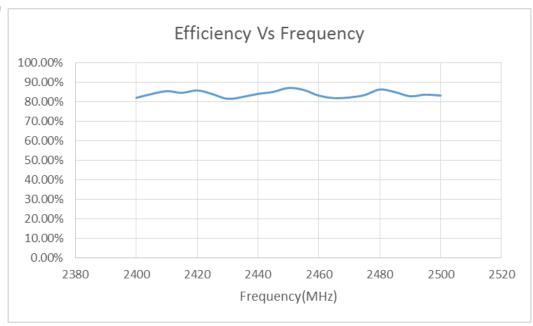
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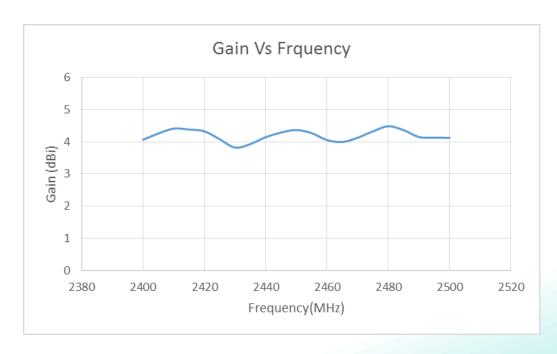
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CHARTS

W3100D







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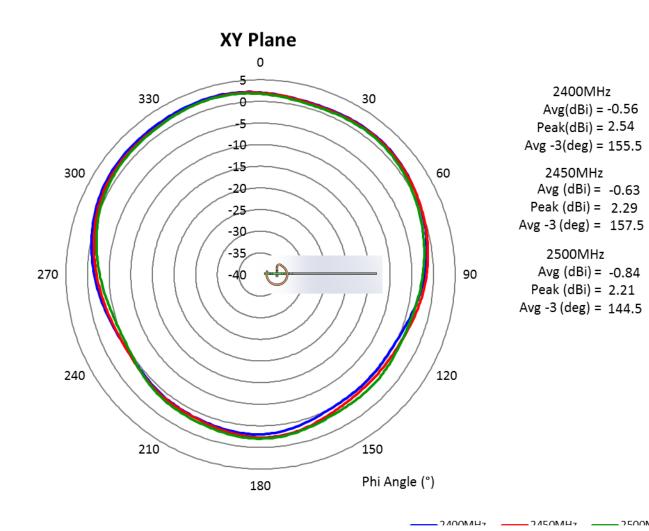
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CHARTS

W3100D



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Power (dBm)



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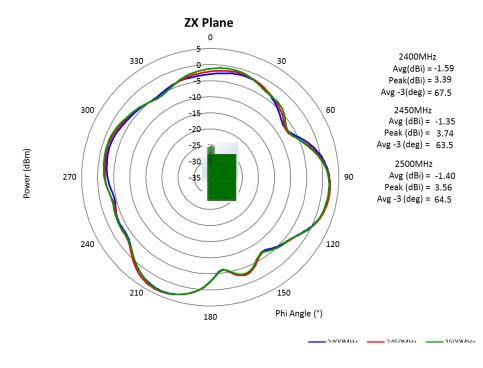
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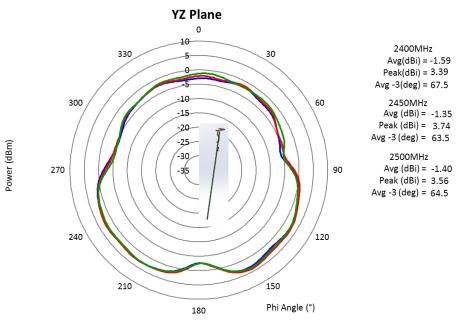
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PACKAGING

W3100 W3100B/W3100C

39pcs antennas per tray 99pcs antennas per tray

20pcs tray package box 20pcs tray package box

1pcs empty tray 1pcs empty tray

Total 780 pcs antenna per out box Total 1980 pcs antenna per out box

Out box size: 375mmx285mmx200mm Out box size: 375mmx285mmx200mm

W3100A W3100D

72pcs antennas per tray 117pcs antennas per tray

20pcs reel tray package box 20pcs reel tray package box

1pcs empty tray 1pcs empty tray

Total 1440 pcs antenna per out box Total 2340 pcs antenna per out box

Out box size: 375mmx285mmx200mm Out box size: 375mmx285mmx200mm

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Authorized Distributor

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W3100B W3100C