

Cisco indoor/outdoor, active GNSS antenna (IW-ANT-GNSS-SMA)

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Overview

The Cisco indoor/outdoor, active GNSS antenna (IW-ANT-GNSS-SMA) can be physically connected to the Cisco Industrial Routers (IRs) and Cisco Industrial Wireless (IW) Access Points and Clients to receive GNSS broadcasts from satellites.

Figure 1: IW-ANT-GNSS-SMA Antenna



Features of the antenna include the following:

- LNA Gain: 26dB
- Current consumption: 9mA
- Cable: 3.05m RG-174, SMA-male
- Ingress protection: IP65
- Mounting with adhesive tape
- GPS, BeiDou, GLONASS, and Galileo satellite navigation systems

The packaging includes:

- 1 pcs antenna packed in a paper envelope

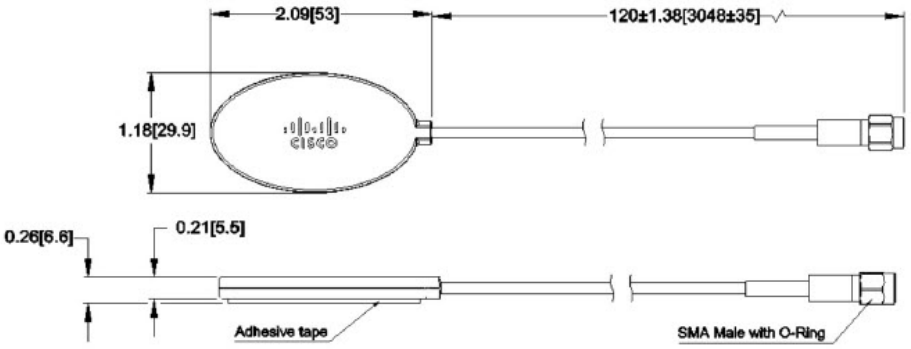
Specifications

The following table lists the antenna specifications.

Specification	Description
Frequency	1559 – 1610 MHz
Maximum RF input power	1 W (30 dBm)
Power Supply	3 – 5 VDC
Current (typical)	<12 mA +/- 2mA
Amplifier Gain (LNA Gain)	26 dB, +/- 2 dB
Characteristic Impedance (nominal)	50-ohms
Antenna Dimensions	2.1 x 1.2 x 0.26 in (53 x 30 x 6.6 mm)
Storage Temperature	-40 to +85 C
Operating Temperature	-40 to +85 C
Ingress Protection	IP65
Radome Material	PC + ABS
Coax Connector Type	SMA(m)
Coax Cable Length	10 ft (3.05 m)

Mechanical Drawing

The following figure shows the mechanical details of the antenna:



Standalone Antenna Performance

Figure 2: Antenna VSWR (Without LNA)

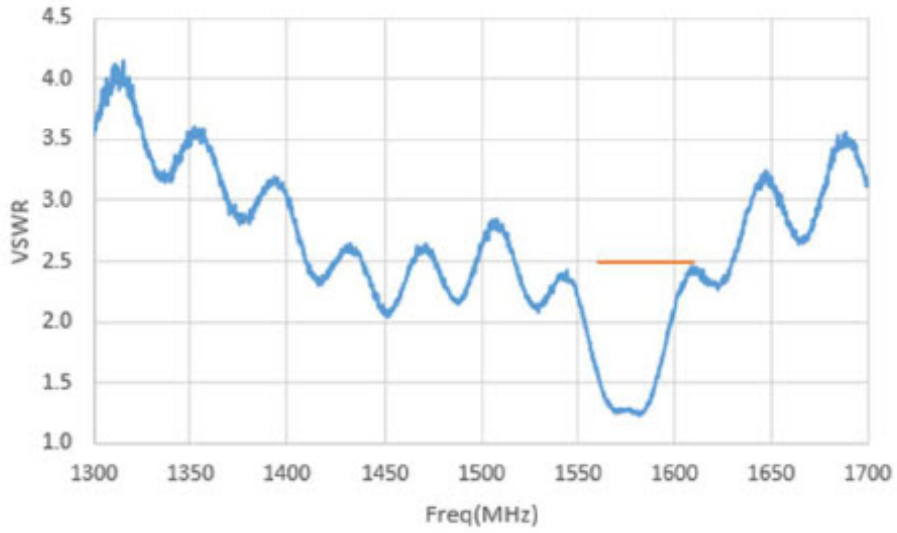


Figure 3: LNA Gain and out-of-band rejection

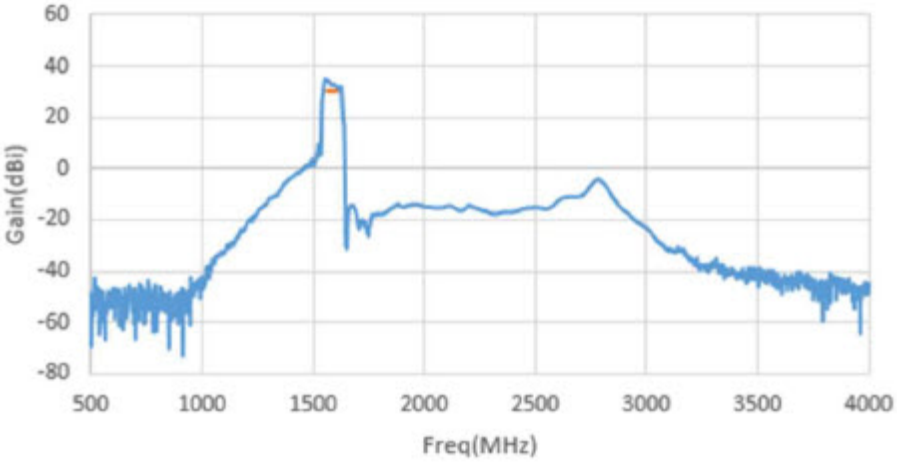


Figure 4: Antenna element Peak Gain (Without LNA)

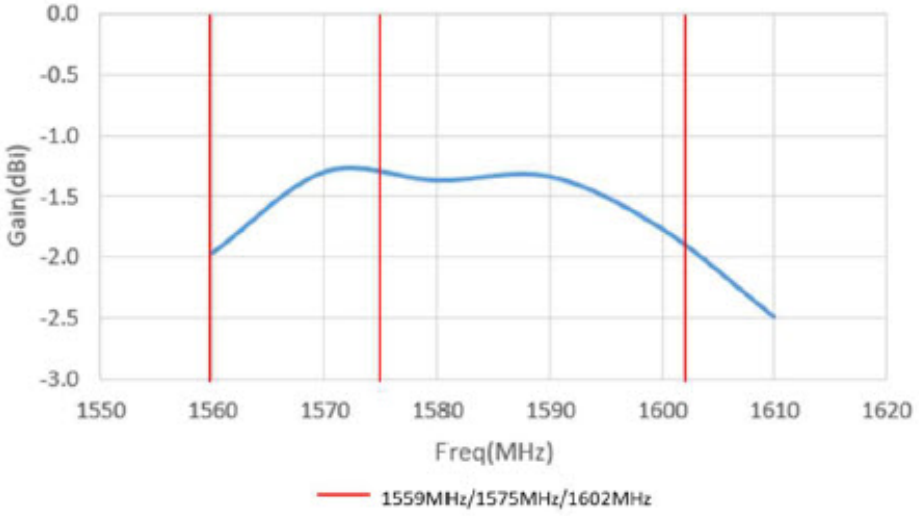
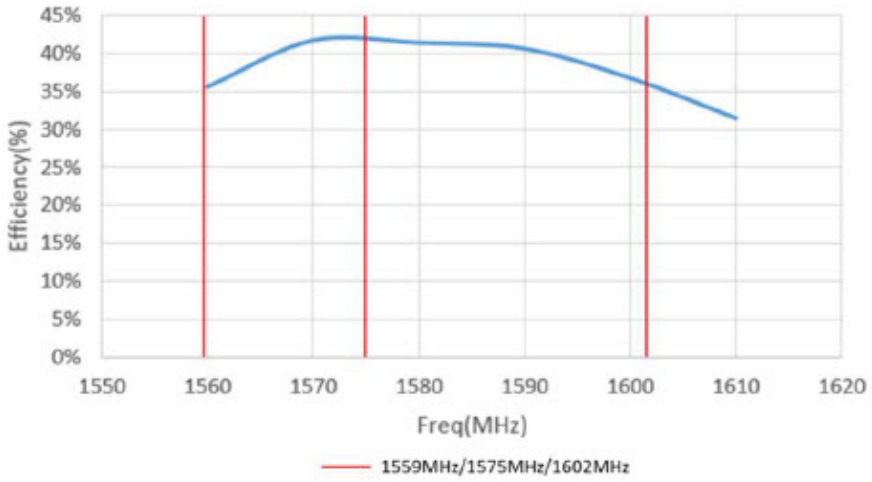


Figure 5: Antenna element Radiation Efficiency (Without LNA)



Radiation Patterns

This section contains the 2D radiation patterns of the antenna without LNA.

Figure 6: XY Plane

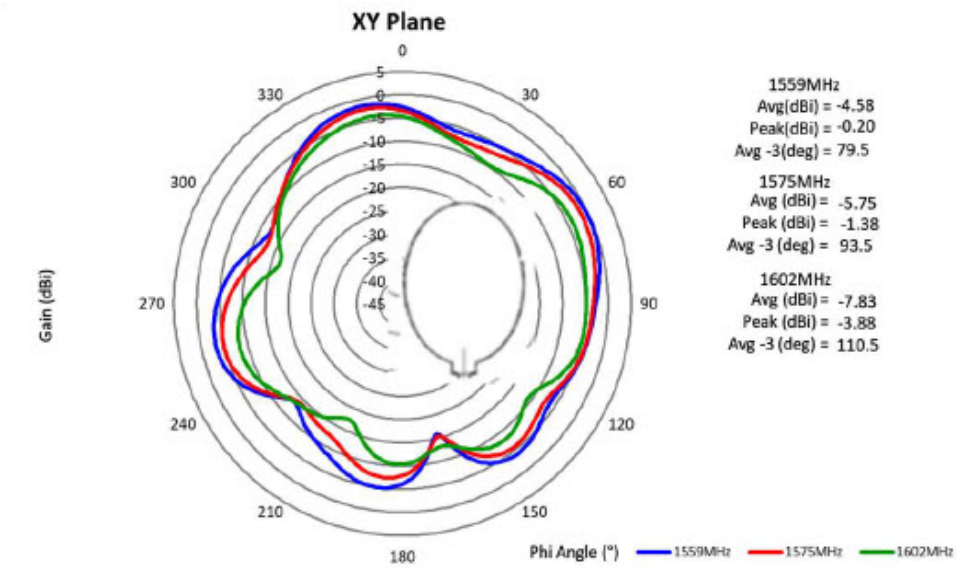


Figure 7: ZX Plane

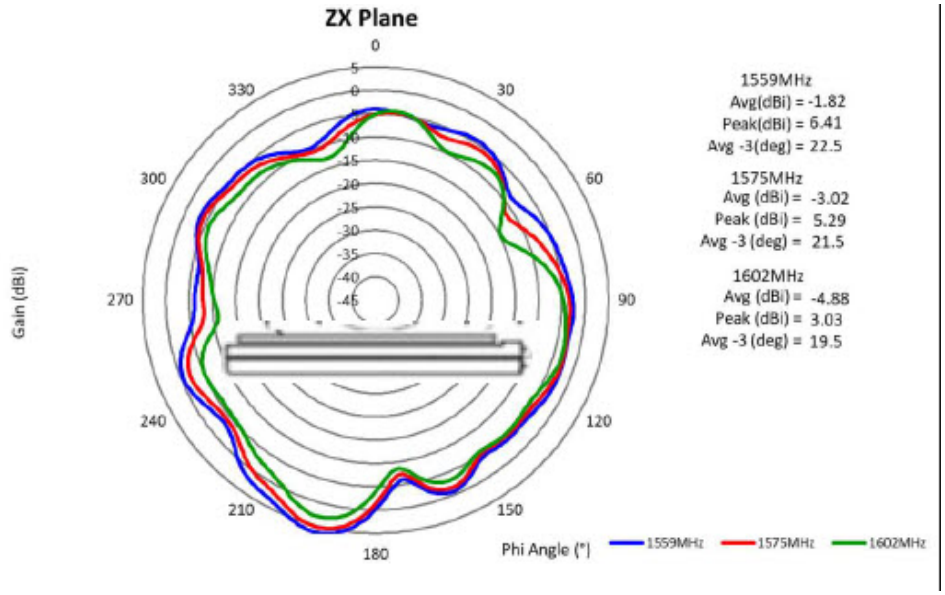
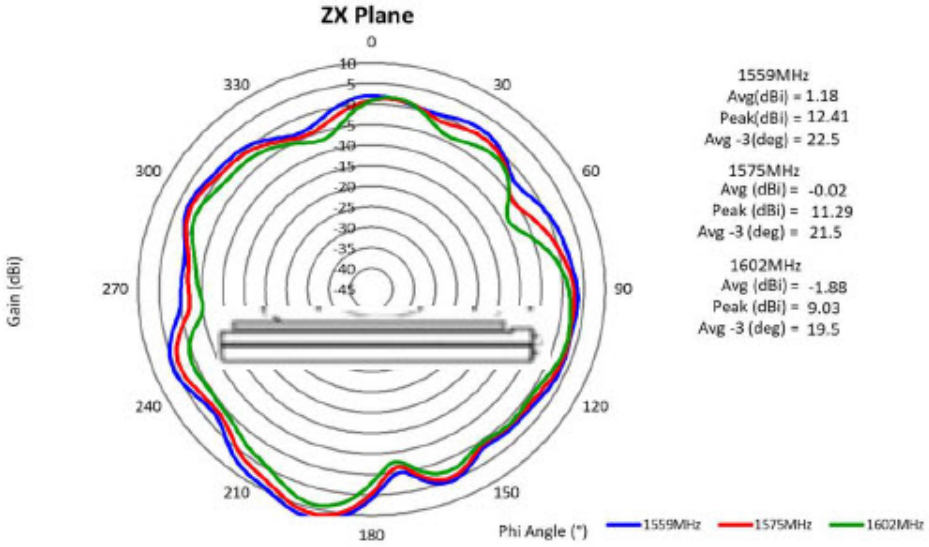


Figure 8: ZX Plane



Installation Instructions

Use the following guidelines when installing the antenna:

- Identify a proper surface to place the antenna. The Cisco logo must face upward, towards the sky.
- Clean the surface of the mounting location before mounting the antenna.
- Remove the adhesive tape from the back of the antenna and press it firmly to the mounting surface.
- Using a properly calibrated torque wrench, attach the antenna SMA connector to the port of your device. The standard mating torque for SMA connectors is 3 – 5 in-lb (0.3 – 0.5 N-m).