

## Cisco Aironet 8-dBi Omnidirectional Antenna (AIR-ANT2480V-N)

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This document outlines the specifications, describes the Cisco Aironet AIR-ANT2480V-N 8 dBi Omnidirectional Antenna, and provides instructions for mounting it. The antenna operates in the 2400-MHz frequency range and is designed for outdoor use with Cisco Aironet 1500 Series Lightweight Outdoor Mesh Access Points.

The following information is provided in this document.

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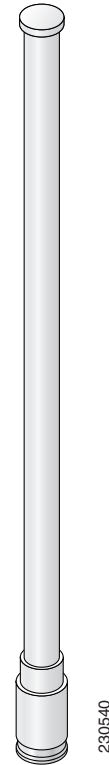
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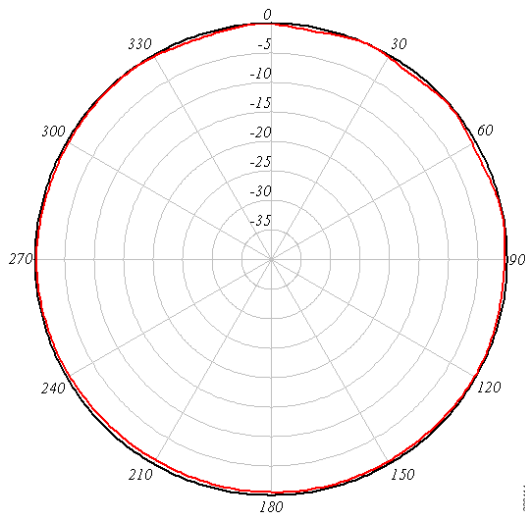
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# Technical Specifications

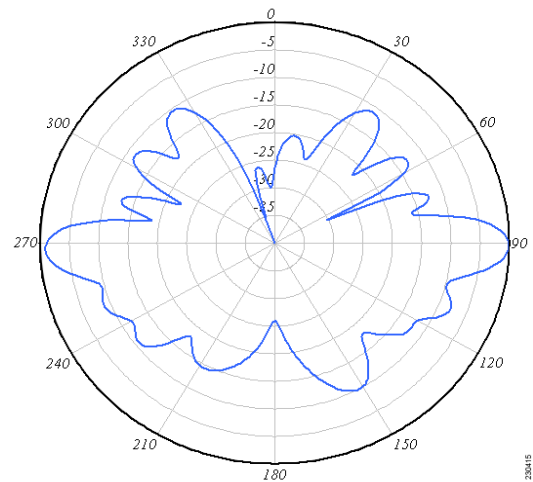
Antenna type	Omni-directional (Co-linear Array)
Operating frequency range	2400MHz - 2484 MHz
VSWR	< 1.7:1
Gain	8 dBi
Polarization	Linear, vertical
Horizontal half-power beamwidth	10 degrees
Vertical half-power beamwidth	Omni-directional
Length	19-1/2 in. (49.5 cm)
Tube diameter	3/4 in. (1.91 cm)
Cable length and type	none
Connector	N-male
Operating temperature	-22 to 158 F -30 C to +70 C
Wind rating	100 mph operational, 165 mph gusts (160-265 kmh)



**Azimuth Radiation Pattern**



**Elevation Radiation Pattern**



The following table indicates the minimum required attenuation between the access point radio and the antenna when using the lowest RF power setting. Using a higher RF power setting will require additional attenuation (for a given antenna).

The attenuation can be in the form of an attenuator, coax cable loss, or both. This attenuation is required in order for the system to meet the regulatory requirements of the indicated country. Failure to install the minimum amount of attenuation shown results in non-compliant operation. Table 1 shows the required attenuation in dB.



**Note** X indicates that the antenna is not authorized to be used in that country.

**Table 1** Required Attenuation in dB

	2.4 GHz Antennas ( 802.11 B /G )			5 GHz Antennas (802.11 A)		
	AIR-ANT2480V-N 2.4 GHz 8 dBi Omni	AIR-ANT2410Y-R 2.4 GHz 10 dBi Yagi	AIR-ANT2414S-R 2.4 GHz 14 dBi Sector	AIR-ANT58G10SSA-N 5 GHz 9.5 dBi Sector	AIR-ANT5114P-N 4.9–5.8 GHz 14 dBi Patch	AIR-ANT5117S-N 4.9–5.8 GHz 17 dBi Sector
<b>Asia</b>						
Australia	None	None	None	None	-1	-4
China	None	None	None	None	-1	-4
Hong Kong	None	None	None	None	-1	-4
India	None	None	None	X	X	X
Japan	None	X	X	X	X	X
Korea	X	X	X	X	X	X
New Zealand	None	None	None	None	-1	-4
Singapore	None	-1	-5	None	-1	-4
Taiwan	None	X	X	None	X	X
Thailand	None	-1	-5	X	X	X
<b>EU</b>						
Belgium	None	-1	-5	None	-2	-5
Denmark	None	-1	-5	None	-2	-5
Finland	None	-1	-5	None	-2	-5
France	None	-1	-5	None	-2	-5
Germany	None	-1	-5	None	-2	-5
Italy	None	-1	-5	None	-2	-5
Netherlands	None	-1	-5	None	-2	-5
Norway	None	-1	-5	None	-2	-5
Spain	None	-1	-5	None	-2	-5

Table 1 Required Attenuation in dB (continued)

	2.4 GHz Antennas ( 802.11 B /G )			5 GHz Antennas (802.11 A)		
	AIR-ANT2480V-N 2.4 GHz 8 dBi Omni	AIR-ANT2410Y-R 2.4 GHz 10 dBi Yagi	AIR-ANT2414S-R 2.4 GHz 14 dBi Sector	AIR-ANT58G10SSA-N 5 GHz 9.5 dBi Sector	AIR-ANT5114P-N 4.9–5.8 GHz 14 dBi Patch	AIR-ANT5117S-N 4.9–5.8 GHz 17 dBi Sector
Sweden	None	-1	-5	None	-2	-5
Switzerland	None	-1	-5	None	-2	-5
United Kingdom	None	-1	-5	None	-2	-5
<b>North America</b>						
United States	None	X	X	None	None	None
Canada	None	X	X	None	None	None
Mexico	None	None	None	None	-1	-4
<b>South America</b>						
Brazil	None	None	None	None	-1	-4

## System Requirements

This antenna is designed for use with Cisco Aironet access points and bridges but can be used with any Cisco Aironet radio device that uses an N-connector.

## Safety Precautions



### Warning

**Installation of this antenna near power lines is dangerous. For your safety, follow the installation directions.**

Each year hundreds of people are killed or injured when attempting to install an antenna. In many of these cases, the victim was aware of the danger of electrocution but did not take adequate steps to avoid the hazard.

For your safety, and to help you achieve a good installation, please read and follow these safety precautions. **They may save your life!**

1. If you are installing an antenna for the first time, for your own safety as well as others, seek professional assistance. Your Cisco sales representative can explain which mounting method to use for the size and type antenna you are about to install.
2. Select your installation site with safety, as well as performance in mind. Remember: electric power lines and phone lines look alike. For your safety, assume that any overhead line can kill you.
3. Call your electric power company. Tell them your plans and ask them to come look at your proposed installation. This is a small inconvenience considering your life is at stake.

4. Plan your installation carefully and completely before you begin. Successful raising of a mast or tower is largely a matter of coordination. Each person should be assigned a specific task, and should know what to do and when to do it. One person should be in charge of the operation to issue instructions and watch for signs of trouble.
5. When installing your antenna, remember:
  - a. **Do not** use a metal ladder.
  - b. **Do not** work on a wet or windy day.
  - c. **Do** dress properly—shoes with rubber soles and heels, rubber gloves, long sleeved shirt or jacket.
6. If the assembly starts to drop, get away from it and let it fall. Remember, the antenna, mast, cable, and metal guy wires are all excellent conductors of electrical current. Even the slightest touch of any of these parts to a power line completes an electrical path through the antenna and the installer: **You!**
7. If any part of the antenna system should come in contact with a power line, **don't touch it or try to remove it yourself. Call your local power company.** They will remove it safely.
8. If an accident should occur with the power lines call for qualified emergency help immediately.

## Installation Notes

The antenna is designed to mount on a dedicated mounting panel on the access point. No special tools are required.

The antenna is resistant to the full range of outdoor environments. Therefore, Cisco does not recommend using cable or antenna waterproofing materials. Using such materials may cause important drainage holes to be blocked. The antenna base has four drain holes.

There are also drain holes located under the cap at the top of the antenna. These holes allow proper drainage if the antenna is deployed with the cap pointing towards the ground.



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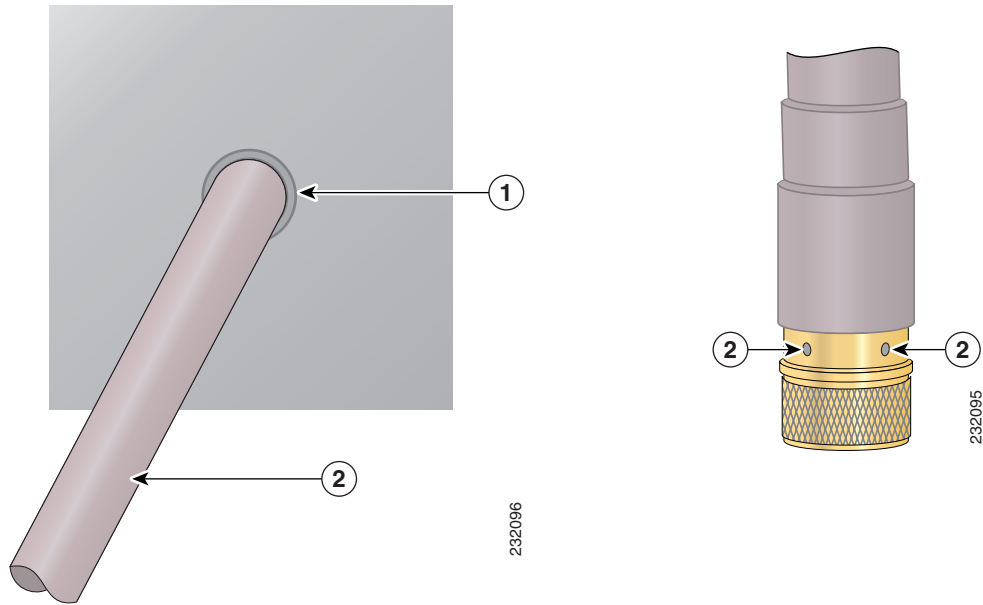
**Note**

Ensure that the cap is not damaged.

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[Figure 1](#) shows the location of the drain holes in both the antenna base and under the antenna cap.

**Figure 1**      **Antenna Drain Hole Locations**



<b>1</b>	Antenna drain hole under the cap	<b>2</b>	Antenna drain holes at the base
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## Choosing a Mounting Location

The antenna is designed to create an omni-directional broadcast pattern. To achieve this pattern, the access point should be mounted clear of any obstructions to the sides of the radiating element. If the mounting location is on the side of a building or tower, the antenna pattern is degraded on the building or tower side.

Generally, the higher an antenna is above the ground, the better it performs. Good practice is to install your antenna about 5 to 10 ft (1.5 to 3 m) above the roof line and away from all power lines and obstructions.

## Tools and Equipment Required

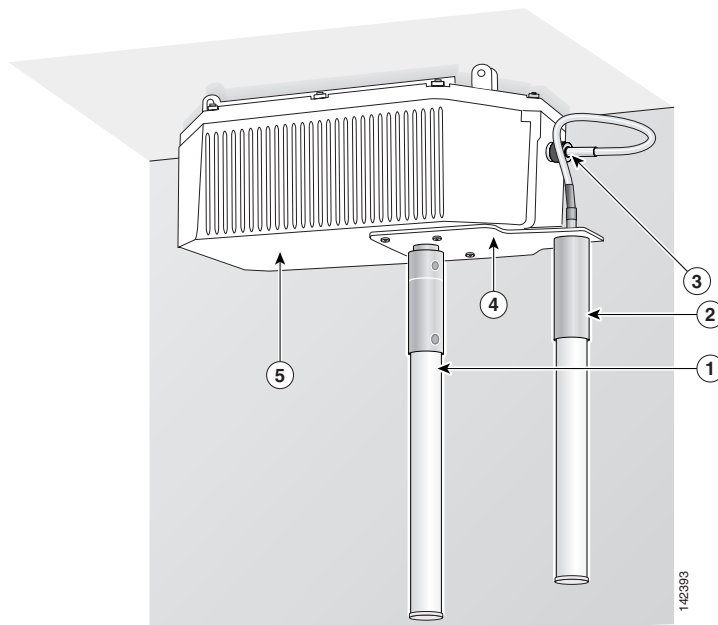
No tools are needed to secure the antenna on the access point's 2.4-GHz antenna mounting panel.

For information about tools required to mount the access point, see the appropriate access point documentation.

## Mounting the Antenna

To mount the antenna on the access point, position the antenna below the antenna connector on the access point and thread it hand tight, as shown in Figure 1.

**Figure 2**      **Antenna Mounting**



1	2.4-GHz antenna	4	Antenna mounting panel
2	5-GHz antenna	5	Access point
3	5-GHz antenna connector		

## Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

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