



Cisco GPS Antenna (ANT-GPS-OUT-TNC)

The Cisco GPS Antenna is designed to cover a domestic frequency of 1575 MHz. It is supported on the Cisco CGR 1120 router.

This antenna is compatible with any Cisco 3G cellular device that uses a TNC connector and requires a wall-mounted or mast-mounted outdoor antenna.



Caution

Read the information in [Safety Precautions, page 1-25](#) before installing or replacing antennas.

This chapter covers the following topics:

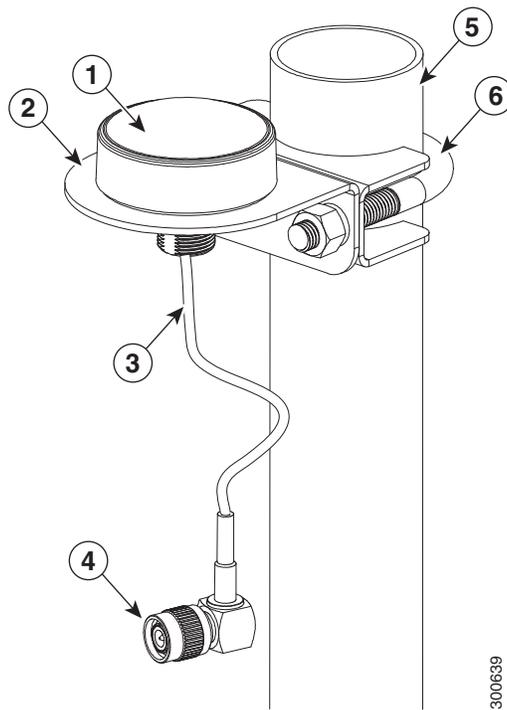
- [Technical Specifications, page 11-1](#)
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Technical Specifications

The GPS antenna features the following:

- Outdoor
- Low-profile housing
- Integrated LMR-cable with right-angle MCX male connector

Figure 11-1 GPS Antenna



300639

1	GPS antenna	2	Mounting bracket
3	LMR-100 cable(15')	4	Right-angle TNC male connector
5	Pipe (mast)	6	U-bracket

RF Specifications

The following is a summary of the monopole radio frequency (RF) antenna specifications:

Specification	Cisco Connected Grid Monopole Antennas
Type	Patch, active
Environment	Outdoor
Height	3.2 in. (8.13 cm)
Width (maximum, at base)	1.75 in. (4.45 cm)
Operating frequency range	1575.42 MHz +/- 5 MHz
Impedance	50 ohm, nominal
VSWR	2.0 max. in band
Gain	4.0 dBi min. @ Zenith
Minimum gain	1 dBi @ 10-degrees elevation
Pattern type	Hemispherical
Polarization	Circular RHCP

Specification	Cisco Connected Grid Monopole Antennas
LNA gain	25 dB +/-2 dB, DC voltage: 3 to 5 VDC
Out-of-band attenuation	60 dB min. at 1575 +/- 50 MHz
Current draw	20 mA max. @ 3.3 VDC +/- .3 VDC

Mechanical Specifications

The following is a summary of the monopole antenna specifications:

Specification	Cisco Connected Grid Monopole Antennas
Operating temperature	-40 to 185 degrees fahrenheit (-40 to 85 degrees centigrade)
Environment	Outdoor
Connector	Right-angle MCX (m)
Wind speed rating	165 MPH
Compliance	ROHS

Safety Warnings

-  **Warning** Avoid using or servicing any equipment that has outdoor connections during an electrical storm. There may be a risk of electric shock from lightning. Statement 1088
-  **Warning** Do not locate the outdoor antenna near overhead power lines or other electric light or power circuits, or where it can come into contact with such circuits. When installing the antenna, take extreme care not to come into contact with such circuits, as they may cause serious injury or death. For proper installation and grounding of the antenna, please refer to national and local codes (for example, U.S.:NFPA 70, National Electrical Code, Article 810, Canada:Canadian Electrical Code, Section 54). Statement 1052
-  **Warning** This equipment must be grounded. Never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available. Statement 1024
-  **Warning** Only trained and qualified personnel should be allowed to install, replace, or service this equipment. Statement 1030

**Warning****To report a gas leak, do not use a telephone in the vicinity of the leak.** Statement 1039**Warning****This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device.** Statement 1071. **SAVE THESE INSTRUCTIONS.****Warning****This product is not intended to be directly connected to the Cable Distribution System. Additional regulatory compliance and legal requirements may apply for direct connection to the Cable Distribution System. This product may connect to the Cable Distribution System ONLY through a device that is approved for direct connection.** Statement 1078

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!**

For your safety, read and follow these safety precautions.

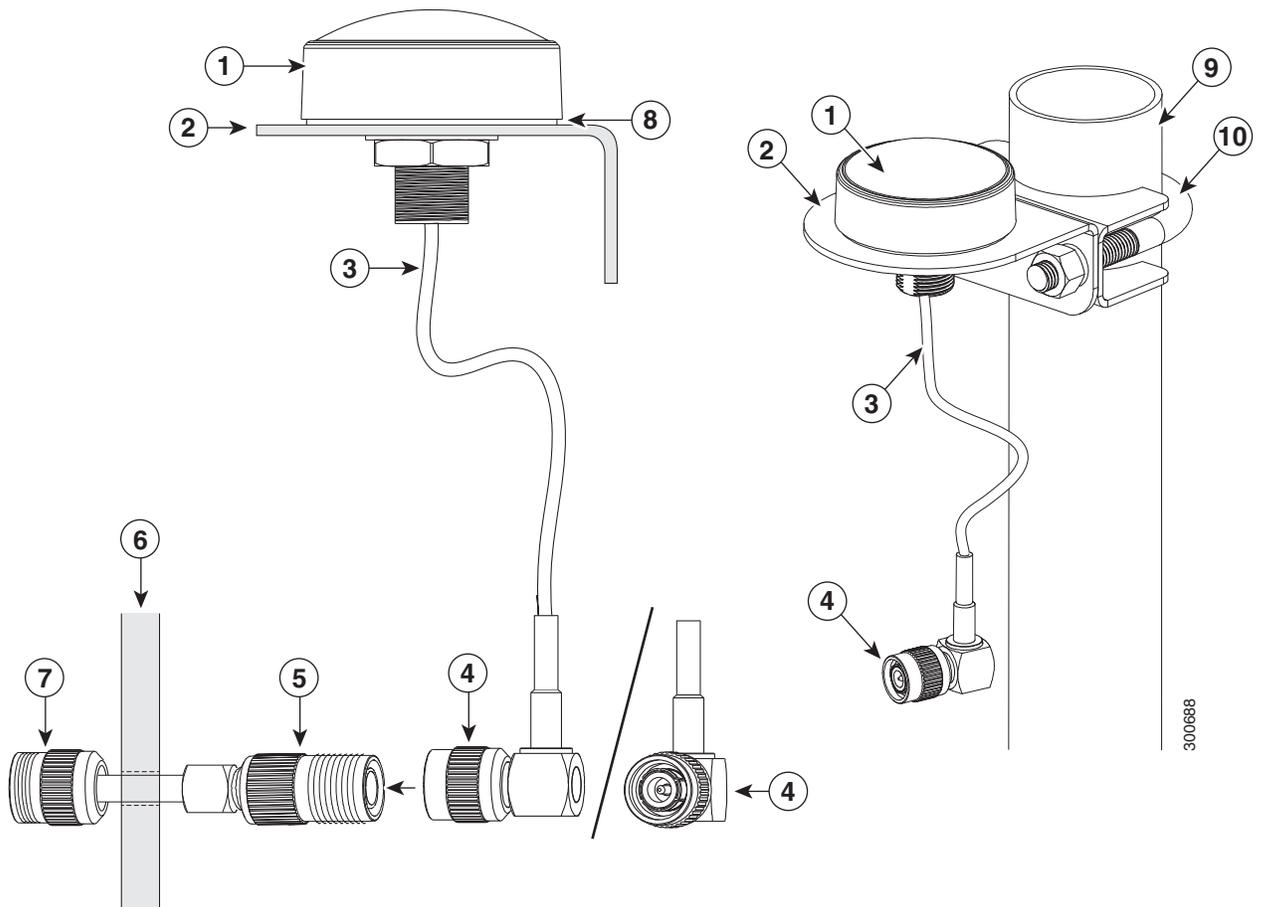
- If you are installing an antenna for the first time, for your own safety as well as others, seek professional assistance. Your Cisco sales representative can explain which mounting method to use for the size and type antenna you are about to install.
- Before you install an antenna, contact your Cisco account representative to explain which mounting method to use for the size and type of antenna that you are about to install.
- Find someone to help you—installing an antenna is often a two-person job.
- Select your installation site with safety, as well as performance, in mind. Remember that electric power lines and phone lines look alike. For your safety, assume that any overhead line can kill you.
- Contact your electric power company. Tell them your plans and ask them to come look at your proposed installation.
- Plan your installation carefully and completely before you begin. Each person involved in an installation should be assigned to 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.
- When installing your antenna, follow these guidelines:
 - Do not use a metal ladder.
 - Do not work on a wet or windy day.

- Do dress properly—wear shoes with rubber soles and heels, rubber gloves, and a long-sleeved shirt or jacket.
- If the assembly starts to drop, move away from it and let it fall. Because 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.
- If any part of the antenna system should come in contact with a power line, do not touch it or try to remove it yourself. Call your local power company to have it removed safely.
- If an accident should occur with the power lines, call for qualified emergency help immediately.

Antenna Installation

Follow these steps to install the GPS antenna onto the CGR 2010 or 1120 router:

Step 1 Mount the antenna in its proper location by using the provided antenna bracket.



1	GPS antenna	2	Mounting L-bracket
3	LMR-100 cable	4	Right-angle TNC (m) connector

5	Adapter, TNC connector (f)	6	Building entry panel
7	Adapter, N-connector (f) to CGR 1120	8	VHT adhesive tape
9	2" (outside dimension) pipe/mast	10	U-bolt

- Step 2** Route and connect the LMR-100 cable to the TNC-to-N-connector adapter installed at the building entry panel.
- Step 3** At the inside of the entry panel, install the LMR-100 cable to the N-connector on the adapter.
- Step 4** Route the cable to the router and attach to the antenna connector.
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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>

Subscribe to the *What's New in Cisco Product Documentation* as an RSS (Really Simple Syndication) feed, and set it so content is delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS Version 2.0.

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