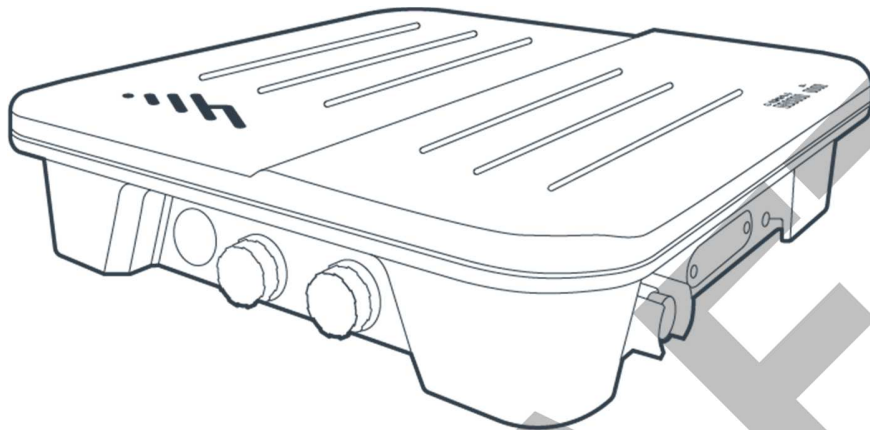


# W2005 Outdoor 5G Wideband Adapter Professional Installation Guide



## Introduction

This document provides a brief overview of the W2005 outdoor 5G Wideband adapter, discusses what's inside the box, and provides basic set up and install instructions.

## Disclaimer

Cradlepoint, Inc. (“Cradlepoint”) does not warrant that the hardware will work properly in all environments or applications, and makes no warranty or representation, either implied or expressed, with respect to the quality, performance, merchantability, or fitness for a particular purpose of the W2005 outdoor 5G Wideband adapter even when installed in accordance with this Professional Installation Guide.

This Professional Installation Guide is provided “AS IS,” without any warranty of any kind. Without limiting the foregoing, to the maximum extent permitted by applicable law Cradlepoint expressly disclaims all representations, warranties and conditions, whether express, implied, statutory, or otherwise, with respect to this Professional Installation Guide, including without limitation any warranty of title, non-infringement, merchantability or fitness for a particular purpose. While Cradlepoint has made every effort to ensure this Professional Installation Guide is accurate, Cradlepoint disclaims liability for any inaccuracies or omissions that may have occurred and shall not be liable for any adverse results caused, in whole or in part, by the installer’s reliance upon the instructions in this Professional Installation Guide. Information in this Professional Installation Guide is subject to change without notice and does not represent a commitment on the part of Cradlepoint. Cradlepoint assumes no responsibility for any

inaccuracies that may be contained in this Professional Installation Guide. Cradlepoint makes no commitment to update or keep current the information in this Professional Installation Guide and reserves the right to make improvements to this Professional Installation Guide and/or to the products described in this Professional Installation Guide, at any time without notice.

If you find information in this Professional Installation Guide that is incorrect, misleading, or incomplete, we would appreciate your comments and suggestions.

## Intended Audience

This article is intended for professional networking hardware installers. It provides basic knowledge and should be used only as a reference guide for installing the W2005 outdoor 5G Wideband adapter. Due to the unique nature of each installation, potential for RF exposure, and enhanced separation requirements, customers must have a professional install their 5G hardware. This document is a reference guide and is intended only to provide best practices.

## Installer Responsibility

Cradlepoint hereby disclaims any liability for failure of the installer to install the hardware properly and for any other acts and omissions of the installer. By using this Professional Installation Guide, you agree to indemnify and hold Cradlepoint harmless from and against any and all, liabilities, losses, damages, costs and expenses (including without limitation attorneys' fees and costs) incurred by Cradlepoint arising out of or in connection with any installation work that is done other than in accordance with the instructions in this Professional Installation Guide.

## Limitation of Liability

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT WILL CRADLEPOINT BE LIABLE TO YOU OR TO ANYONE CLAIMING THROUGH OR UNDER YOU FOR ANY LOST PROFITS, EQUIPMENT DOWNTIME, OR LOSS OF DATA OR BUSINESS OPPORTUNITY, OR FOR ANY INDIRECT, SPECIAL, EXEMPLARY, INCIDENTAL, CONSEQUENTIAL OR PUNITIVE DAMAGES, HOWEVER CAUSED AND UNDER ANY THEORY OF LIABILITY, ARISING IN ANY WAY IN CONNECTION WITH YOUR INSTALLATION ACTIVITIES, EVEN IF CRADLEPOINT HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE. SOME JURISDICTIONS (SUCH AS THE STATE OF NEW JERSEY) DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE EXCLUSION OR LIMITATION MAY NOT APPLY TO YOU. THE FOREGOING LIMITATIONS WILL APPLY EVEN IF THE ABOVE STATED REMEDY FAILS OF ITS ESSENTIAL PURPOSE.

## Professional Installer Network

Email our Professional Installer Network for assistance in locating a professional installer in your service area at <TBD>@cradlepoint.com.

# Navigation

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# W2005 Outdoor 5G Wideband Adapter Models

This guide applies to the following products:

CRADLEPOINT W2005-5GA MODEL: S5A009A

CRADLEPOINT W2005-5GB MODEL: S5A108A

## Before You Begin

Read the following before setting up your W2005 outdoor 5G Wideband adapter.

### Location Considerations

The W2005 outdoor 5G Wideband adapter is purpose-built for exterior mounting and should be installed by a professional. The following includes considerations when identifying a location for mounting.

- This endpoint must be installed at a location where the radiating antennas can be kept 38cm (for USA installations) or 45cm (for Canada installations) in the normal operating condition to meet Radio Frequency (RF) Exposure requirements. Refer to the Regulatory Requirements section of this document for more information.
- Ensure that the mounting surface clear of any obstructions or objects that may interfere with the antennas, signal reception, or cables.
- Position the endpoint for optimal signal reception.
- Ensure plenty of airflow for ventilation.
- For the W2005 to maintain its rating against hurricane force winds (up to 137mph sustained); the following must be met when pole mounted
  - The pole on which the W2005 is to be mounted must be metal, hollow, and between 3-10 inches in diameter
  - From the base of the pole to where the W2005 is mounted can be no higher than 10 feet.
- Refer to the Regulatory Requirements section of this document or the Safety, Regulatory, and Warranty Guide insert that came with your endpoint for more information.

**IMPORTANT:** The W2005 outdoor 5G Wideband adapter requires increased separation distances in relation to other networking hardware. Therefore, Cradlepoint recommends that all 5G adapters be installed by a professional. For assistance with installation or in locating a professional installer, contact Cradlepoint [Sales and Support](#).

## Ethernet Cable Considerations

Cradlepoint recommends shielded twisted-pair (S/FTP) Ethernet cabling and connectors (Cat6a/Cat7a) for optimal wired network performance.

## SIM Card Setup for Wireless Connectivity

A wireless broadband data plan must be added to your Cradlepoint W2005 for wireless broadband connectivity. Network providers, such as AT&T, Verizon, and Telstra, must provision a SIM to provide wireless broadband data plans compatible for use with the Cradlepoint W2005 outdoor 5G Wideband adapter endpoints. Contact your network provider for further details.

## Setup

The following instructions are intended for network hardware installers. Read through the following to set up your W2005 outdoor 5G Wideband adapter or use the Verify mobile installation app.

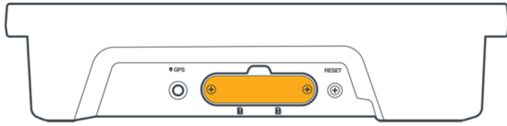
### STEP 1: Check box contents.

The W2005 Outdoor 5G Branch adapter and required accessories are shipped in two boxes.

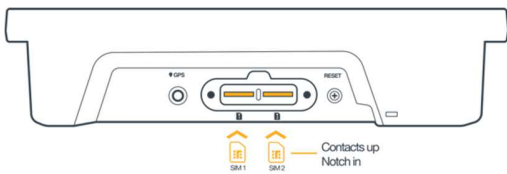
- Box 1 - Hardware Only:
  - [1] W2005 Branch Outdoor 5G adapter hardware
- Box 2 - Accessories Kit:
  - [1] 90 W PoE Injector
  - [4] Outdoor Sub 6 GHz 5G/LTE antennas
  - [1] Outdoor mounting assembly
  - [1] Outdoor mounting plate
  - [3] Pole mount clamps
  - [4] Plate to assembly mounting screws
  - [4] Plate to assembly mounting washers
  - [4] Plate to W2005 mounting screws
  - [1] Safety, Regulatory, and Warranty guide
  - [1] Quick Start reference sheet

## STEP 2: Insert an Activated 2FF-Sized SIM.

1. Unscrew and detach the modem door of the W2005.



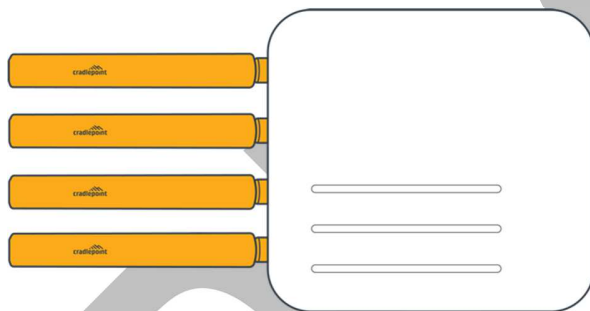
2. Insert the SIM into the slot marked SIM1 with metal contacts up and notch in. It will click into place.
  - To remove, depress again.



3. Use the SIM2 slot for secondary/backup.
4. Replace the modem cover and secure with the modem door screws.

## STEP 3: Attach antennas.

Attach the 4 outdoor, Sub 6 GHz 5G/LTE antennas (included) to the SMA connectors marked MAIN0 and DIV0/1/2. If desired, attach an active GPS antenna (not included) on the SMA connector marked GPS.

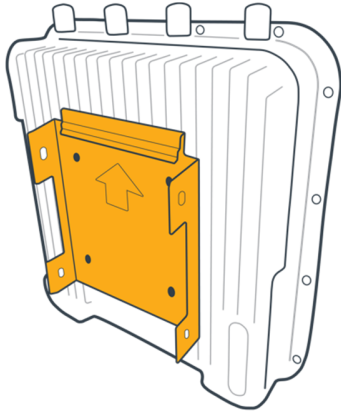


## STEP 4: Mount the adapter.

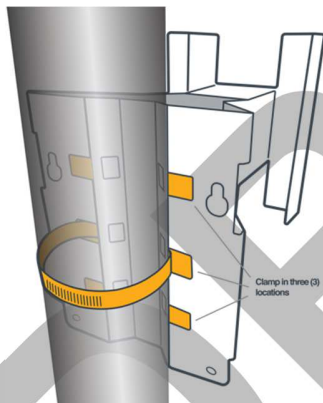
**REMINDER:** This endpoint must be installed at a location where the radiating antennas can be kept 38cm (for USA installations) or 45cm (for Canada installations) in the normal operating condition to meet Radio Frequency (RF) Exposure requirements. Refer to the Regulatory Requirements section of this document for more information.

Exterior mounting conditions and locations may vary. For basic mounting best practices, refer to the following:

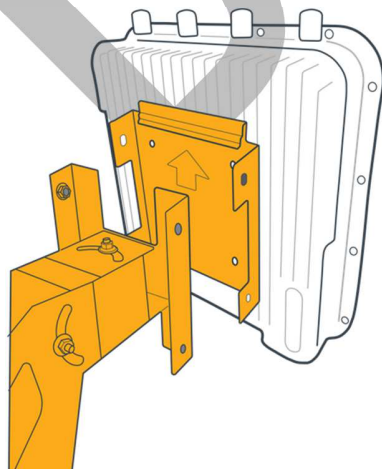
1. Attach the mounting plate to the W2005 using four 50mm long, 6.33mm diameter screws.
  - NOTE: Do not use power tools on the adapter or mounting plate. Use hand-held screw drivers to attach screws only.



2. Attach the mounting hardware to a mounting pole or other desired surface.



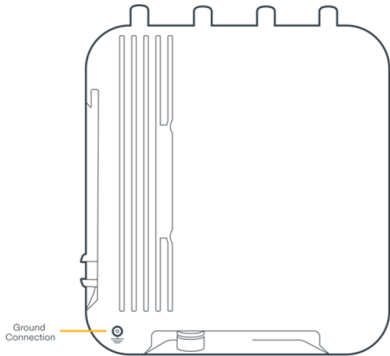
3. Attach the W2005 adapter with the attached mounting plate to the mounting hardware.



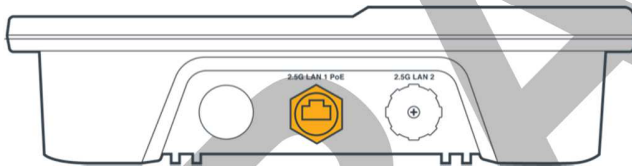
4. Adjust the tension of the permanently installed mounting hardware bolts to point the endpoint in the desired direction.
  - Ensure there is sufficient room for the LTE antennas to be added
5. Tighten the mounting hardware bolts to lock the W2005 into place.

### STEP 5: Connect to a power source.

1. Connect the grounding wire to the ground using the installed 8mm long, 8.5mm diameter screw.



2. Connect an Ethernet cable to the PoE 2.5G LAN1 port and plug the other end into the included 802.11bt (60W) PoE-injector, or an 802.11bt enabled port on an attached router or switch (not included).



3. Ensure the PoE injector, router, or switch port is powered. The power LEDs will begin to light up.
  - NOTE: Be sure to include proper lightning protection for outdoor installations (not included).

### STEP 6: Activate the adapter through NetCloud Manager.

Activate your W2005 outdoor 5G Wideband adapter through NetCloud Manager (NCM). Your endpoint is packaged with NetCloud services and activation requires that you log into your NetCloud account. Refer to [Getting Started with NetCloud Manager](#) for more information.

### STEP 7 (Optional): Connect additional interfaces.

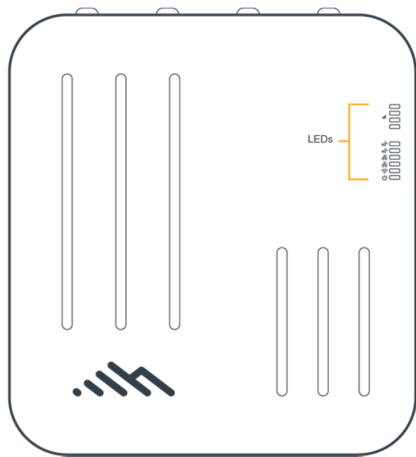
- Connect a endpoint to the adapter Wi-Fi for troubleshooting or setup
  - NOTE: It is not required nor recommended to install Wi-Fi antennas on the 4 external Wi-Fi antenna ports.
- Connect an Ethernet cable to the PoE 2.5G LAN2 port.
- Connect a Console cable to the Console port.
- Connect a lock to the lock slot.
- Ensure all unused ports have the ingress protection covers installed.











## STEP 8: Connect to NetCloud.







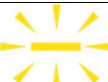
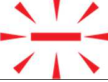









Activate your adapter through NetCloud Manager (NCM). Your endpoint is packaged with NetCloud services, and activation requires that you log into your NetCloud account. Refer to [Getting Started with NetCloud Manager](#) for more information.

## Understanding LEDs



Refer to the following for information about the LED indicators on the Cradlepoint W2005 outdoor 5G Wideband adapter.

INDICATOR	BEHAVIOR	
	<b>Power:</b> The Cradlepoint W2005 must be powered using an approved 802.11bt PoE power source.	
		<ul style="list-style-type: none"> <li>Green = Powered ON</li> </ul>
		<ul style="list-style-type: none"> <li>Yellow = Attention.</li> </ul>
		<ul style="list-style-type: none"> <li>No Light = Not receiving power. Check the power switch and the power source connection.</li> </ul>
	<b>Wi-Fi Status:</b> Blue LED bars indicate the Wi-Fi status.	
		<ul style="list-style-type: none"> <li>Solid Blue = Wi-Fi on and operating normally</li> </ul>
		<ul style="list-style-type: none"> <li>Blinking Blue = Wi-Fi is on, but not connected to a WAN source</li> </ul>
	<b>Ethernet LAN Status:</b> Indicates wired LAN connection information.	

		<ul style="list-style-type: none"> <li>Off = Not connected</li> </ul>
		<ul style="list-style-type: none"> <li>Blinking = Data passing</li> </ul>
	<b>4G LTE Modem Status:</b> LED indicates the LTE modem status.	
		<ul style="list-style-type: none"> <li>Green = Modem has established an active WAN connection</li> </ul>
		<ul style="list-style-type: none"> <li>Blinking Green = connecting</li> </ul>
		<ul style="list-style-type: none"> <li>Yellow = modem not active</li> </ul>
		<ul style="list-style-type: none"> <li>Blinking Yellow = Data connection error. Log into NetCloud Manager to see alerts and troubleshoot issue.</li> </ul>
		<ul style="list-style-type: none"> <li>Blinking Red = modem is resetting</li> </ul>
	<b>5G Modem Status:</b> LED indicates the modem 5G status.	
		<ul style="list-style-type: none"> <li>No light = No 5G connection</li> </ul>
		<ul style="list-style-type: none"> <li>Green = 5G Sub-6 GHz connected</li> </ul>
		<ul style="list-style-type: none"> <li>Blinking Green = 5G Sub-6 GHz connection error. Log into NetCloud Manager to see alerts and troubleshoot issue.</li> </ul>
		<ul style="list-style-type: none"> <li>Blue = 5G mmWave connected</li> </ul>
		<ul style="list-style-type: none"> <li>Blinking Blue = 5G mmWave connection error. Log into NetCloud Manager to see alerts and troubleshoot issue.</li> </ul>
	<b>Signal Strength:</b> Blue LED bars indicate the active modem's signal strength.	
		<ul style="list-style-type: none"> <li>4 Solid Bars = Strongest signal.</li> </ul>
		<ul style="list-style-type: none"> <li>1 Blinking Bar = Weakest signal. (A blinking bar indicates half of a bar.)</li> </ul>
<b>OTHER</b>	<b>Other LED Indicators</b>	
		<ul style="list-style-type: none"> <li>The Cradlepoint Logo will light up white when connected to a NetCloud Account.</li> </ul>

## Troubleshooting

If the adapter takes longer than 5 minutes to connect to the Internet, you may need to log into the local UI of the endpoint to make configuration changes or start the troubleshooting process. You must be physically co-located with the endpoint in order to do this. Refer to [How to Troubleshoot Connection Issues](#) for more information.

Once the endpoint connects to the Internet, it should then connect to your NetCloud Manager account and start its configuration download.

## Resources

[W2005 Webpage](#)  
[W2005 Data Sheet](#)

## Help and Support

[Contact Us](#)  
[Cradlepoint Customer Connect Community](#)  
[Cradlepoint Support Services](#)

## Terms of Service

[Cradlepoint Terms of Service & License Agreement](#)  
[Privacy Policy](#)  
[GDPR Privacy Policy](#)

## Regulatory Requirements

To comply with FCC regulations limiting both maximum RF output power and human exposure to RF radiation, the maximum cellular antenna gain must not exceed as below:

Antenna Net Gain (dBi)	Frequency Range
2.5	700-960 MHz
2.2	1428-1600 MHz
4.3	1700-2700 MHz
4.6	3300-3700 MHz
6.1	5150-5925 MHz

Except when transmit operation in Band 30 is not disabled (see “FCC LTE Band 30 Notice for installers in the USA section in the online user manual at [www.cradlepoint.com](http://www.cradlepoint.com)).

### Professional installation instructions

1. Installation personnel: This product is designed for specific application and needs to be installed by a qualified personal who has RF and related rule knowledge. The general user shall not attempt to install or change the setting.
2. Installation location: The product shall be installed at a location where the radiating antenna can be kept 38cm(FOR FCC)/45cm(FOR IC) from nearby person in normal operation condition to meet regulatory RF exposure requirement.
3. External antenna: Use only the antennas which have been approved by the applicant. The non-approved antenna(s) may produce unwanted spurious or excessive RF transmitting power which may lead to the violation of FCC/ISED limit and is prohibited.
4. Installation procedure: Please refer to user’s manual for the detail.
5. Warning: Please carefully select the installation position and make sure that the final output power does not exceed the limit set force in relevant rules. The violation of the rule could lead to serious federal penalty.

### Instructions d'installation professionnelle

1. Installation: Ce produit est destine a un usage specifique et doit etre installe par un personnel qualifie maitrisant les radiofrequences et les regles s'y rapportant. L'installation et les reglages ne doivent pas etre modifies par l'utilisateur final.
2. Emplacement d'installation: En usage normal, afin de respecter les exigences reglementaires concernant l'exposition aux radiofrequences, ce produit doit etre installe de facon a respecter une distance de 38cm(FOR FCC)/45cm(FOR IC)entre l'antenne emettrice et les personnes.
3. Antenn externe: Utiliser uniiquement les antennes approuvees par le fabricant. L'utilisation d'autres antennes peut conduire a un niveau de rayonnement essentiel ou non essentiel depassant les niveaux limites definis par FCC/ISED, ce qui est interdit.
4. Procedure d'installation: Consulter le manuel d'utilisation.

5. Avertissement: Choisir avec soin la position d'installation et s'assurer que la puissance de sortie ne dépasse pas les limites en vigueur. La violation de cette règle peut conduire à de sérieuses pénalités fédérales.

#### INDUSTRY CANADA STATEMENT

(ii) for endpoints with detachable antenna(s), the maximum antenna gain permitted for endpoints in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limits as appropriate;

(iii) where applicable, antenna type(s), antenna model(s), and worst-case tilt angle(s) necessary to remain compliant with the e.i.r.p. elevation mask requirement set forth in section 6.2.2.3 shall be clearly indicated.

#### INDUSTRY CANADA RADIATION EXPOSURE STATEMENT

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 45cm between the radiator & your body.

#### Déclaration d'Industrie Canada

(ii) pour les dispositifs munis d'antennes amovibles, le gain maximal d'antenne permis (pour les dispositifs utilisant la bande de 5 725 à 5 850 MHz) doit être conforme à la limite de la p.i.r.e. spécifiée, selon le cas;

(iii) lorsqu'il y a lieu, les types d'antennes (s'il y en a plusieurs), les numéros de modèle de l'antenne et les pires angles d'inclinaison nécessaires pour rester conforme à l'exigence de la p.i.r.e. applicable au masque d'élévation, énoncée à la section 6.2.2.3, doivent être clairement indiqués.

Le présent émetteur radio [IC: 6921A-S5A103A] a été approuvé par Innovation, Sciences et Développement économique Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal. Les types d'antenne non inclus dans cette liste, et dont le gain est supérieur au gain maximal indiqué pour tout type figurant sur la liste, sont strictement interdits pour l'exploitation de l'émetteur.

For CRADLEPOINT W2005 MODEL S5A010A

Manufacturer	Model	Antenna Type	Max Gain (dBi)	Impedance ( $\Omega$ )
Cradlepoint, Inc.	NA	Dipole (External)	WLAN: 2.4 GHz: 2.47 5150-5250 MHz: 2.18 5725-5850 MHz: 2.47  WWAN: 700-960 MHz: 2.5 1428-1600 MHz: 2.2 1700-2700 MHz: 4.3 3300-3700 MHz: 4.6 5150-5925 MHz: 6.1	NA

For more information about the Safety, Regulatory, and Warranty guide for the W2005 outdoor 5G Wideband adapter, refer to the inbox insert packaged with your product.

DRAFT