

# AW12-EI, AC-EI User Manual and Installation Guide with AW12 USB Modem

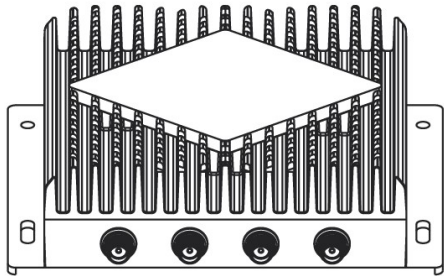


**AW12 USB Modem**  
FCC ID: 2AUZ8AW12HP



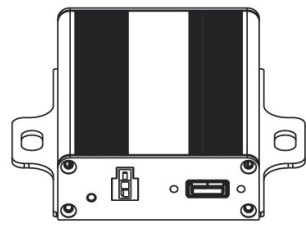
**AW12-EI, AC-EI**

# Package Contents

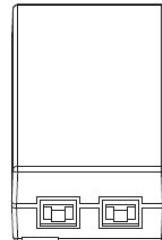


**AW12  
Modem**

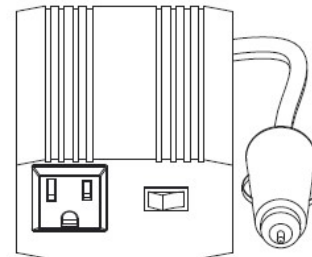
FCC ID: 2AUZ8AW12HP



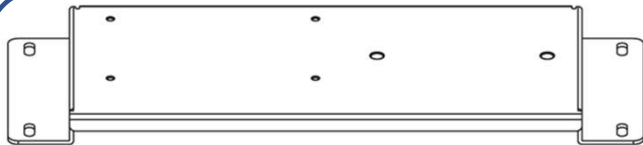
**AW12-EI/AC-EI  
USB-to-Ethernet  
Converter**



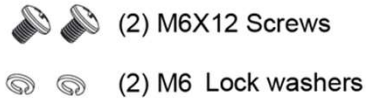
**POE  
Converter**



**Car Adapter  
for  
AC Power**



**Vehicle Mounting Bracket**



(2) M6X12 Screws

(2) M6 Lock washers



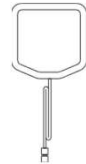
(4) M3X10 Screws

(4) M3 Lock washers

**Paddle  
antenna (3)**



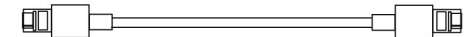
**GPS antenna**



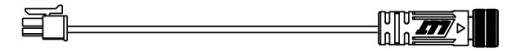
**Vehicular  
Antenna**



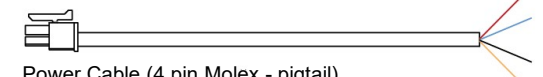
Antennas may be in a separate box



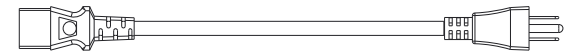
**Cat 6a Ethernet Cable**



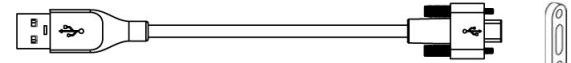
**Power Cable (2 pin Molex - M8 Barrel)**



**Power Cable (4 pin Molex - pigtail)**



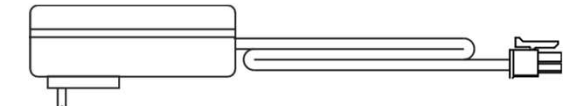
**AC Power Cord**



**USB-A to USB-C Cable with Thumbscrews**



**USB-C Spacer**



**AC/DC Adapter with 4 pin Molex**

**NOTE:** You will also need a Philips screwdriver, and 5/16" open wrench. These items **are not** included in the kit. **SIM is already installed on the AW12 Modem.**



## Chose Your Installation Profile

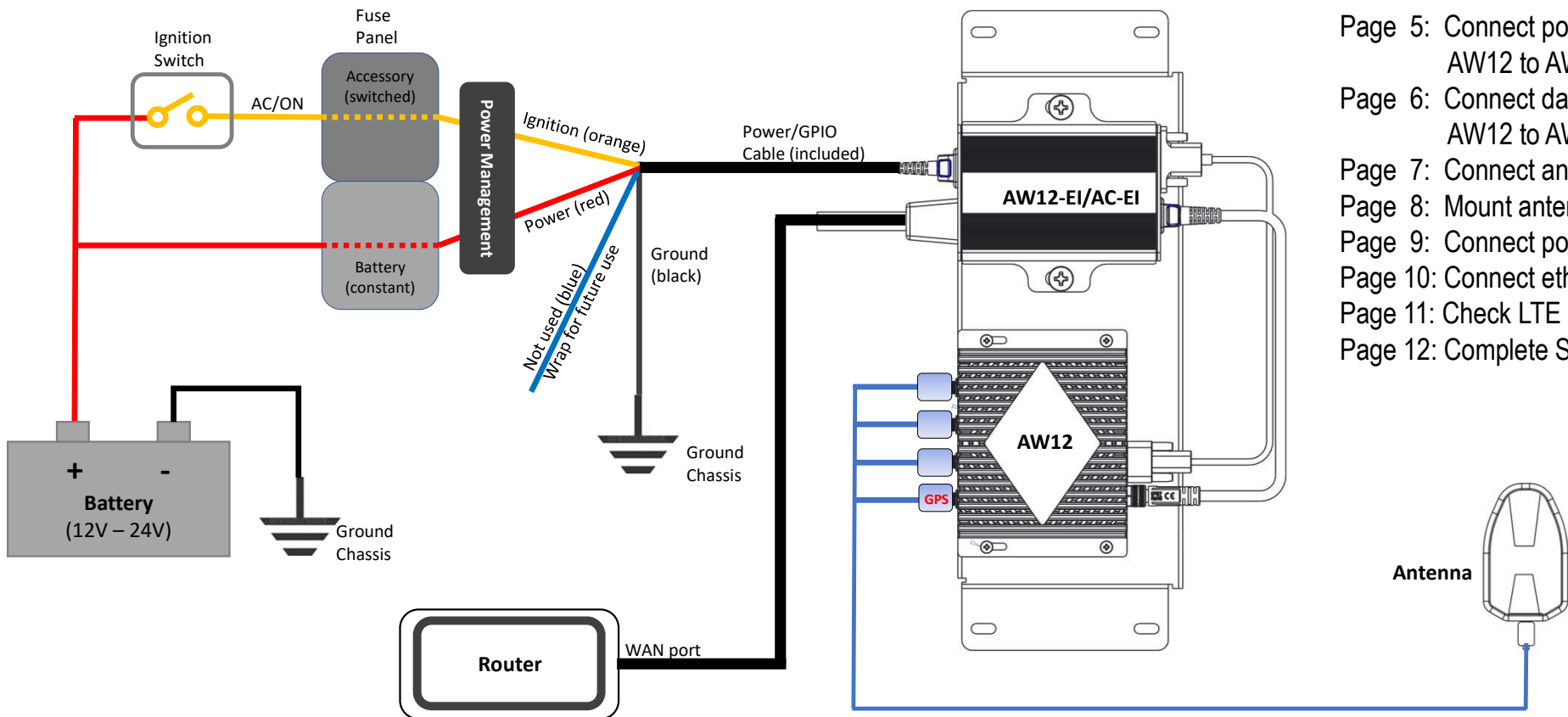
Vehicle Installation

See Pages 4 through 12

Fixed Installation

See Pages 13 through 21

# Vehicle Connection Overview



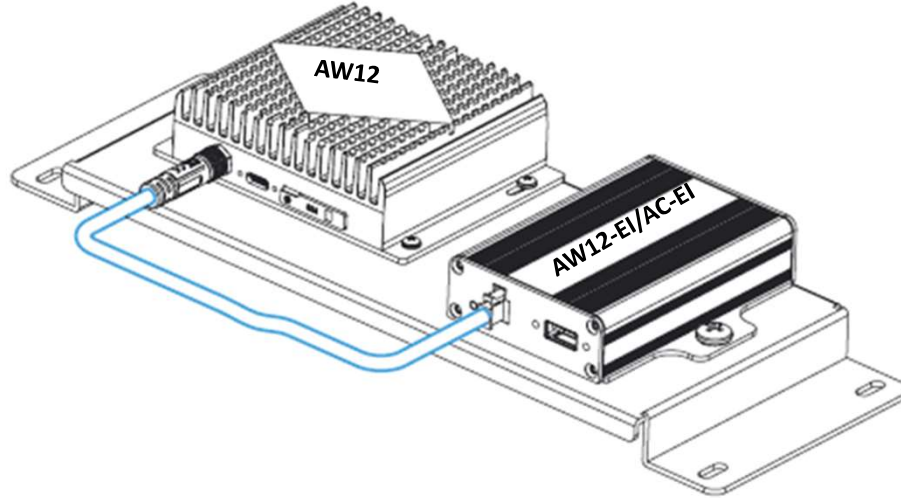
## Install Overview

- Page 5: Connect power cable from AW12 to AW12-EI/AC-EI
- Page 6: Connect data cable from AW12 to AW12EI/AC-EI
- Page 7: Connect antenna
- Page 8: Mount antenna on roof
- Page 9: Connect power
- Page 10: Connect ethernet to router
- Page 11: Check LTE connection
- Page 12: Complete Setup

Not to scale

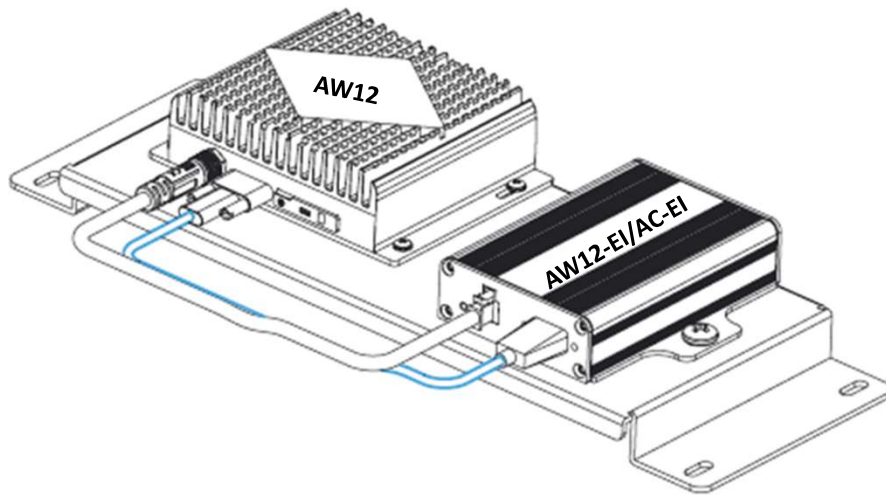
# Connect Power Cable AW12 to AW12-PC-EI

**AW12 USB Modem**  
FCC ID: 2AUZ8AW12HP



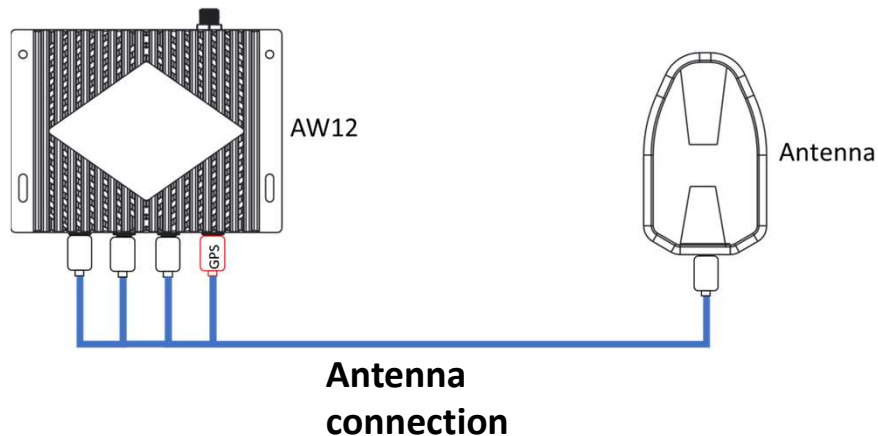
Install the 2 Pin Molex power cable ensuring the 2 Pin Molex connector locks firmly into place and the barrel connector is hand tight.

## Connect Data Cable AW12 to AW12-PC-EI



Install the USB cable as shown, ensuring the spacer is between the cable and the AW12 Modem and the thumbscrews on the Type C connector are tightly secured using a small flat head screwdriver.

# Connecting Antennas to AW12

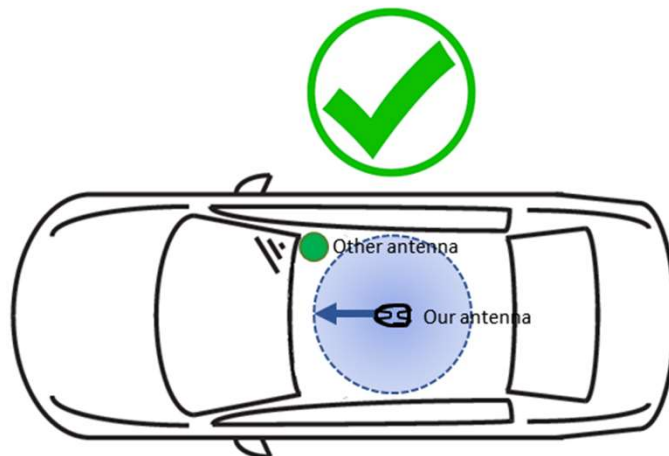


Connect the GPS antenna to the GNSS port and connect the three LTE cables to the 3 LTE ports (PRI, B14, DIV).

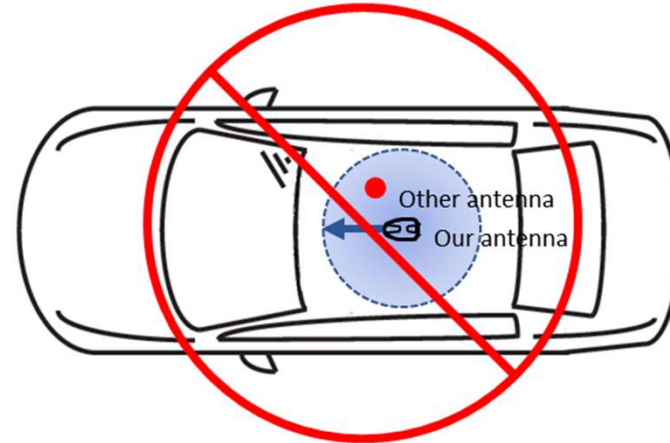
Tighten with 5/16" open end SMA torque wrench.

Any of the 3 LTE cables can go to any LTE port on the AW12 Modem.

# Mount Antenna on Vehicle



Maintain **1-meter** clearance from any other antennas

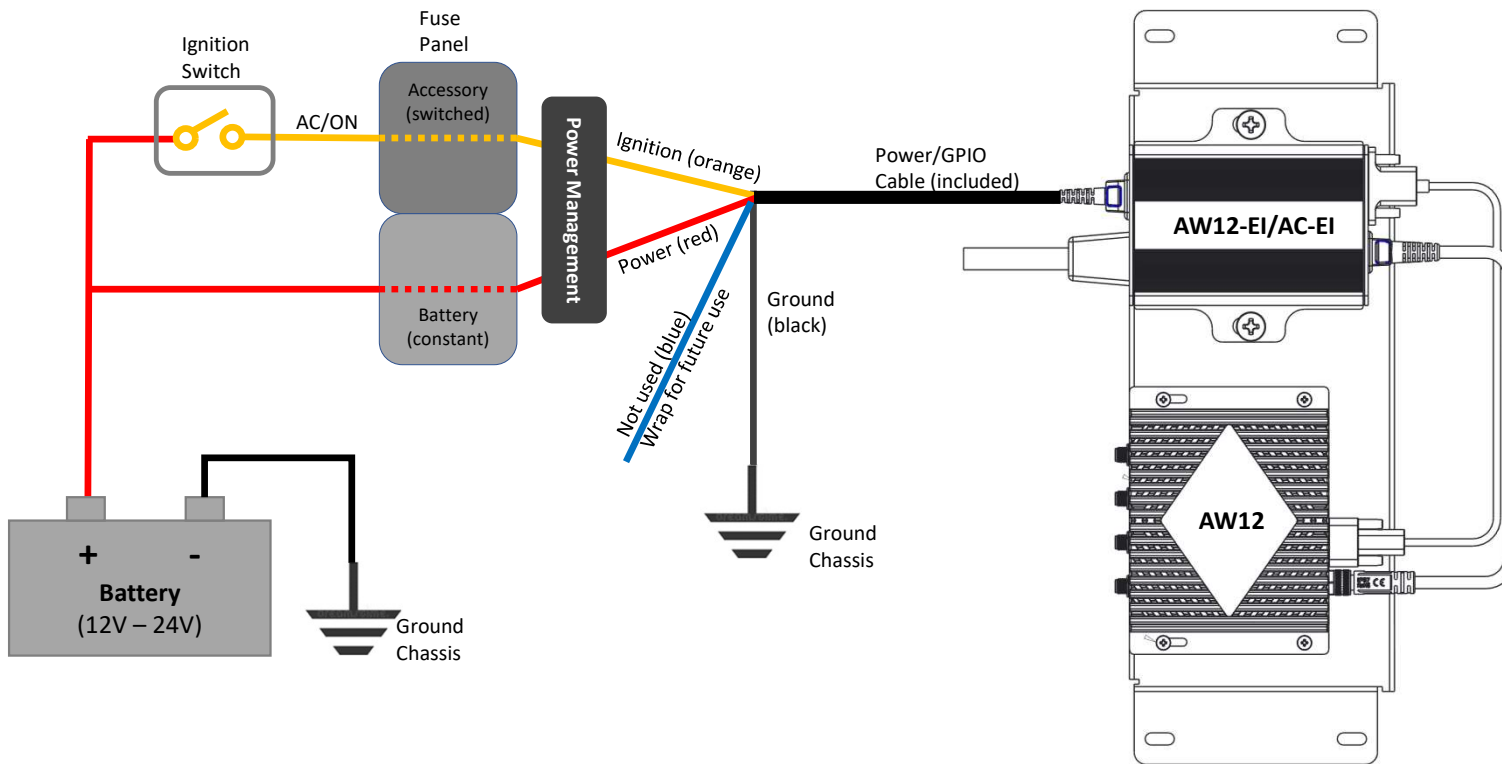


 **WARNING**  
This configuration not recommended

**Warning – provide 1 meter of separation from other antennas for best performance and maintain 20 cm (approximately 8 inches) distance from antenna to humans when antenna is transmitting**

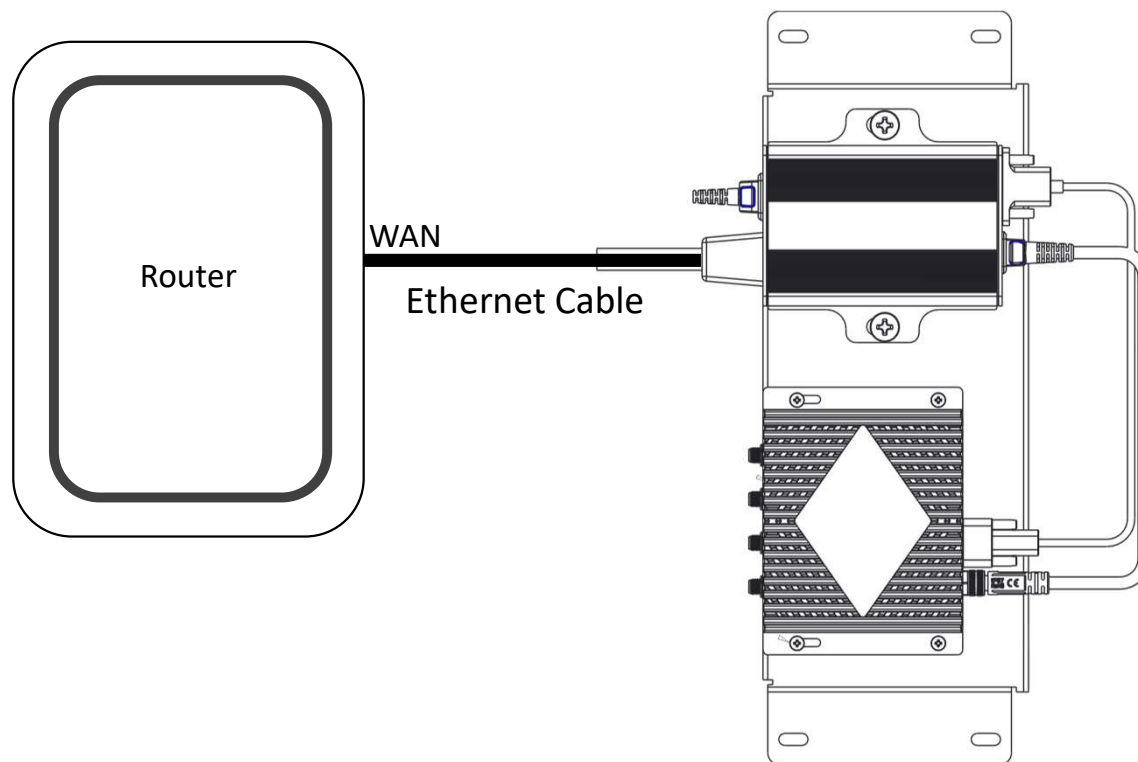


# Connect Power to AW12-EI/AC-EI



The red and orange wires will be wired to the 12V positive connection of the power management block in the vehicle. If the vehicle does not have a power management system, please contact your support representative.

# Connecting to a Router



Use the Cat6a ethernet cable to connect the AW12-EI/AC-EI to the WAN port of the vehicle router.

# Turn on and Check Connection

## Light Indicator Guide

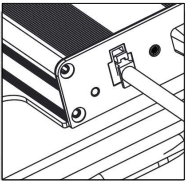
Blue = Initialization

Flashing Red = No data connection

Solid Red = No SIM

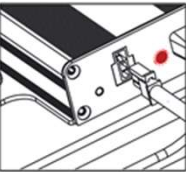
Flashing Green = Connecting

Solid Green = Attached to network



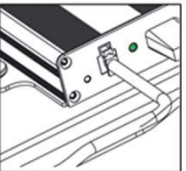
Turn the ignition (or AC Accessory option) ON for the vehicle. Plug in the 2 pin Molex.

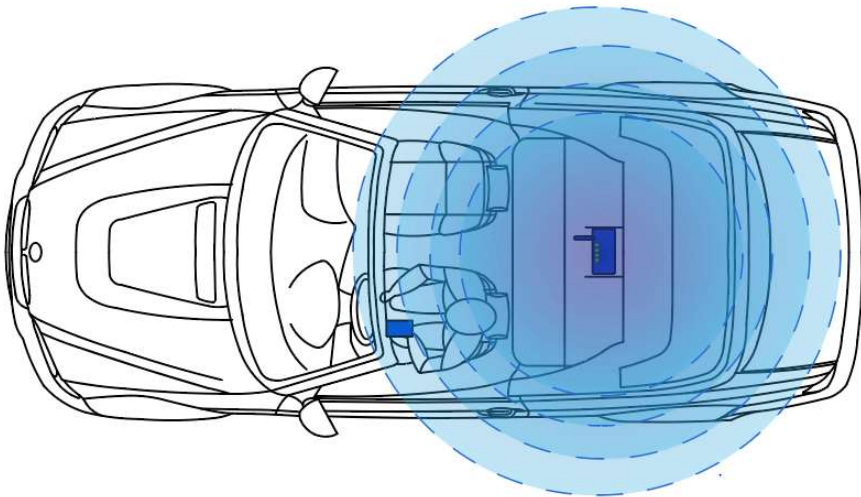
If the blue LED is not seen within 20 seconds after the ignition is switched on, shut off the ignition immediately. Please review the set-up sequence and restart the PC-EI again.



When power is first connected, the LED should show a solid blue indication and then go to flashing red for up to three minutes.

After seeing flashing red, it will begin to flash green. The flashing green light indicates that the signal is being acquired. After the flashing green, the LED should become a solid green which indicates the LTE connection is established. It may take up to 90 seconds to have a solid green indication and LTE network connection.





## You are now connected!

To verify, open a web browser on a device that is connected to your router.

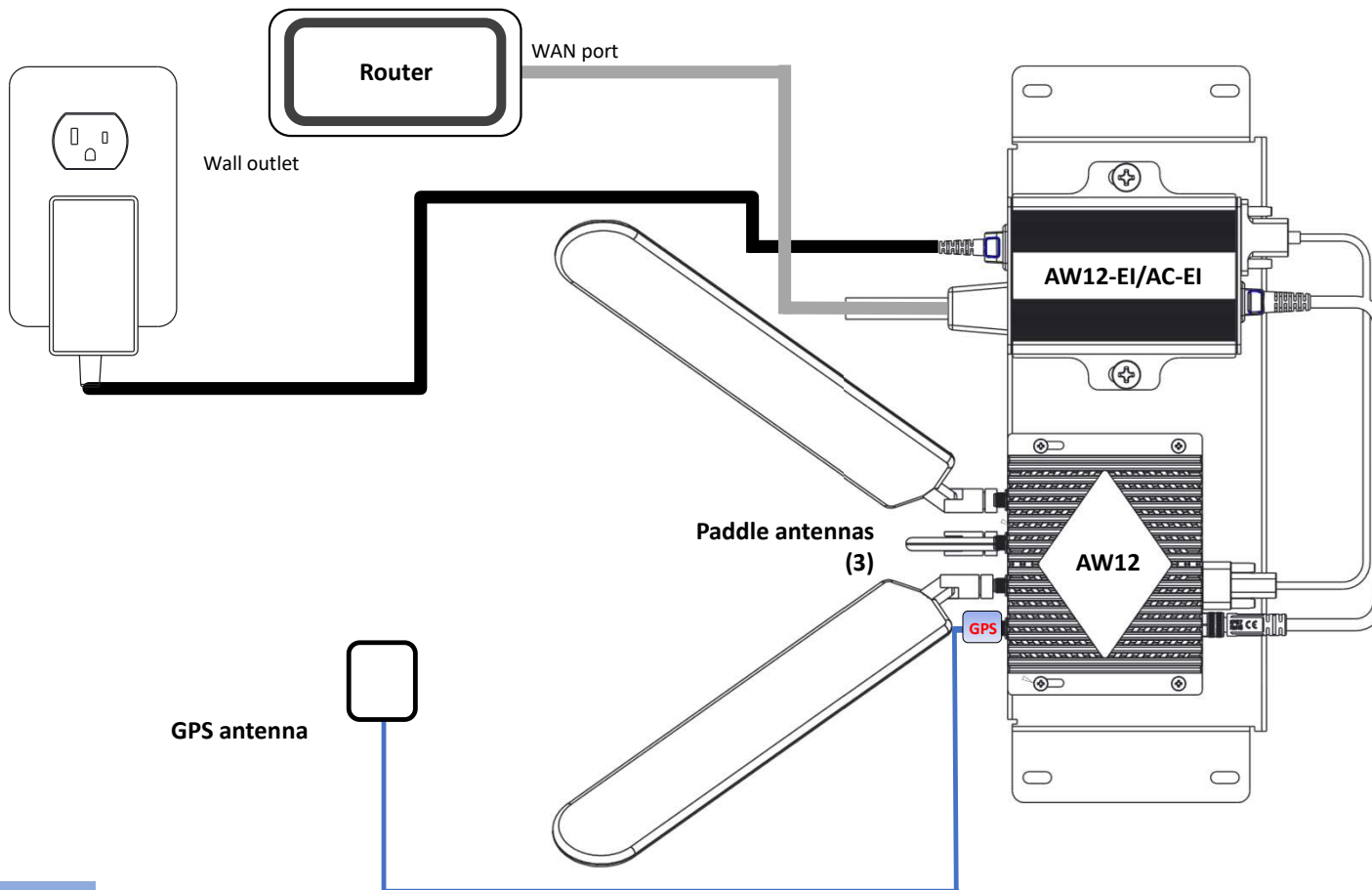
Go to

[www.assured-wireless.com/beta](http://www.assured-wireless.com/beta)

for additional information.

If you have any questions or need further information, please contact your FirstNet Sales Consultant.

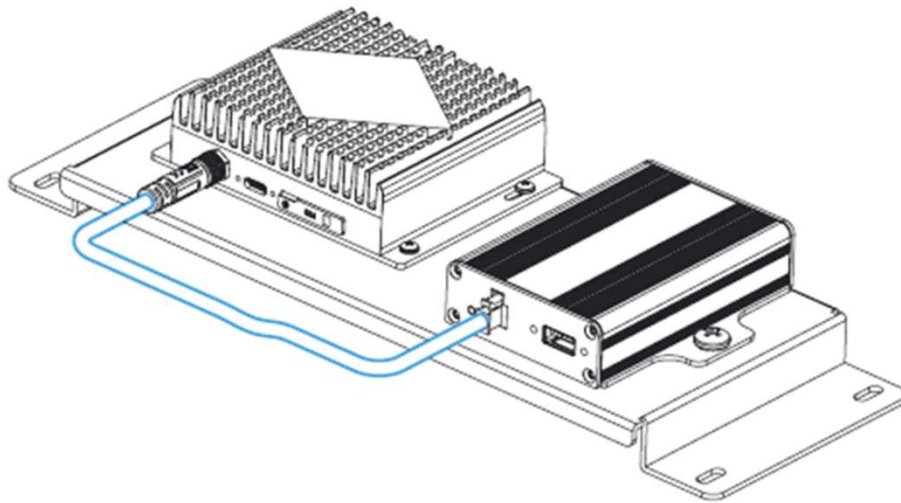
# Connection Overview



## Install Overview

- Page 14: Connect power cable from AW12 to AW12-EI/AC-EI
- Page 15: Connect data cable from AW12 to AW12-EI/AC-EI
- Page 16: Connect antennas
- Page 17: Antenna notes
- Page 18: Connect power
- Page 19: Connect ethernet to router
- Page 20: Check LTE connection
- Page 21: Complete Setup

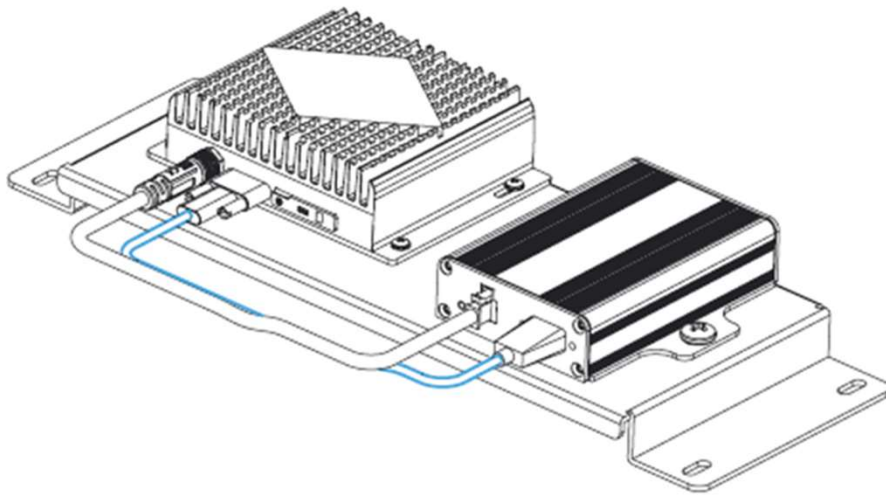
## Connect Power Cable AW12 to AW12-PC-EI



Install the 2 Pin Molex power cable ensuring the 2 Pin Molex connector locks firmly into place and the barrel connector is hand tight.

## Connect Data Cable AW12 to AW12-PC-EI

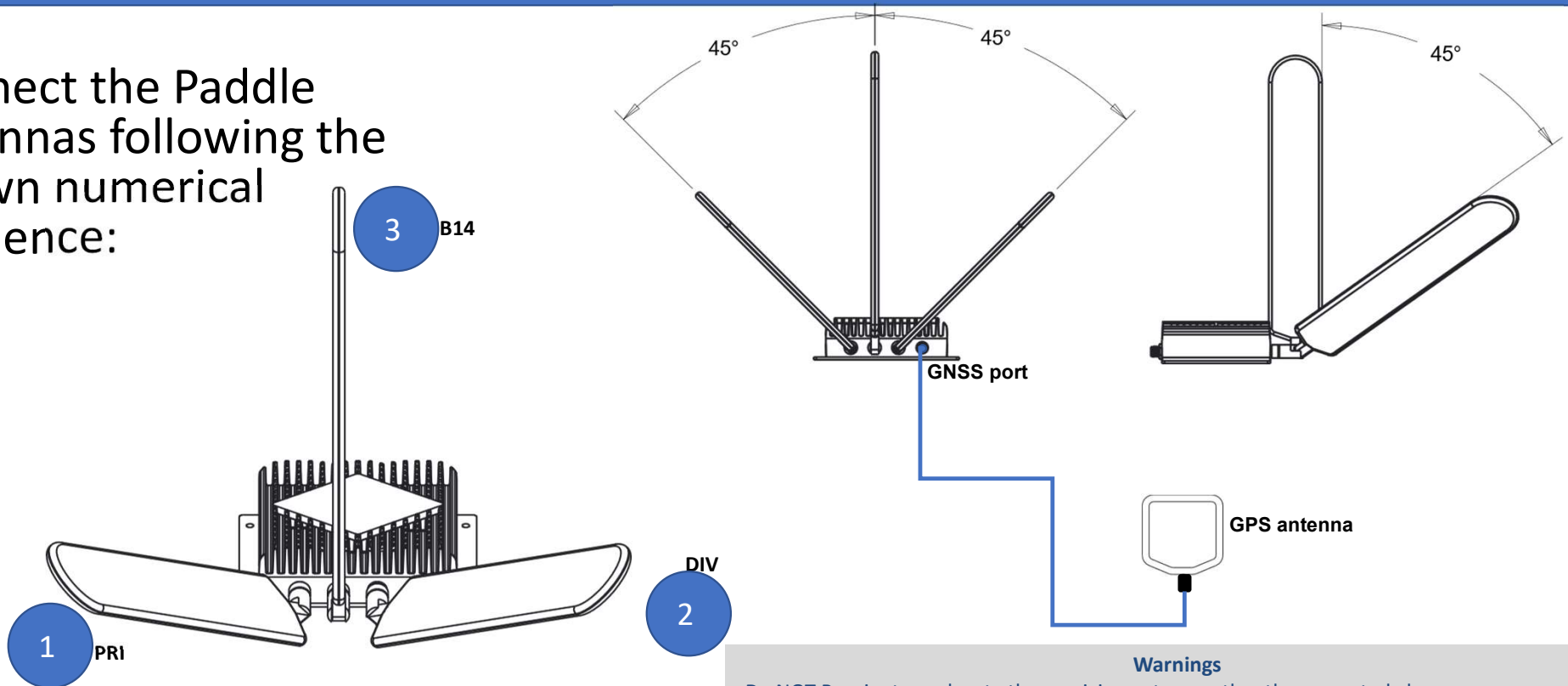
Page 15



Install the USB cable as shown, ensuring the spacer is between the cable and the AW12 Modem and the thumbscrews on the Type C connector are tightly secured using a small flat head screwdriver.

# Connecting Antennas to AW12

Connect the Paddle antennas following the shown numerical sequence:



NOTE: Once the PRI and the DIV antennas are assembled, rotate them away from each other to ensure you have enough clearance to install the B14 antenna. Then adjust the angles as shown.

## Warnings

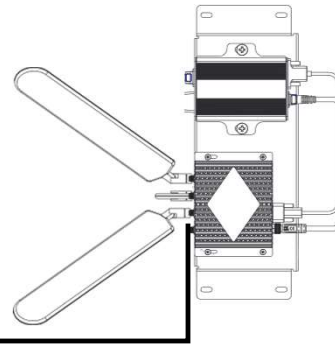
- Do NOT Reorient or relocate the receiving antenna other than as noted above
- Do NOT increase the separation between the equipment and receiver.
- Do NOT Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.





GPS antenna

The GPS antenna will ideally be positioned on a flat surface with a clear view of the southern sky. The unit will still function without a GPS signal however, some enhanced features may not be enabled.

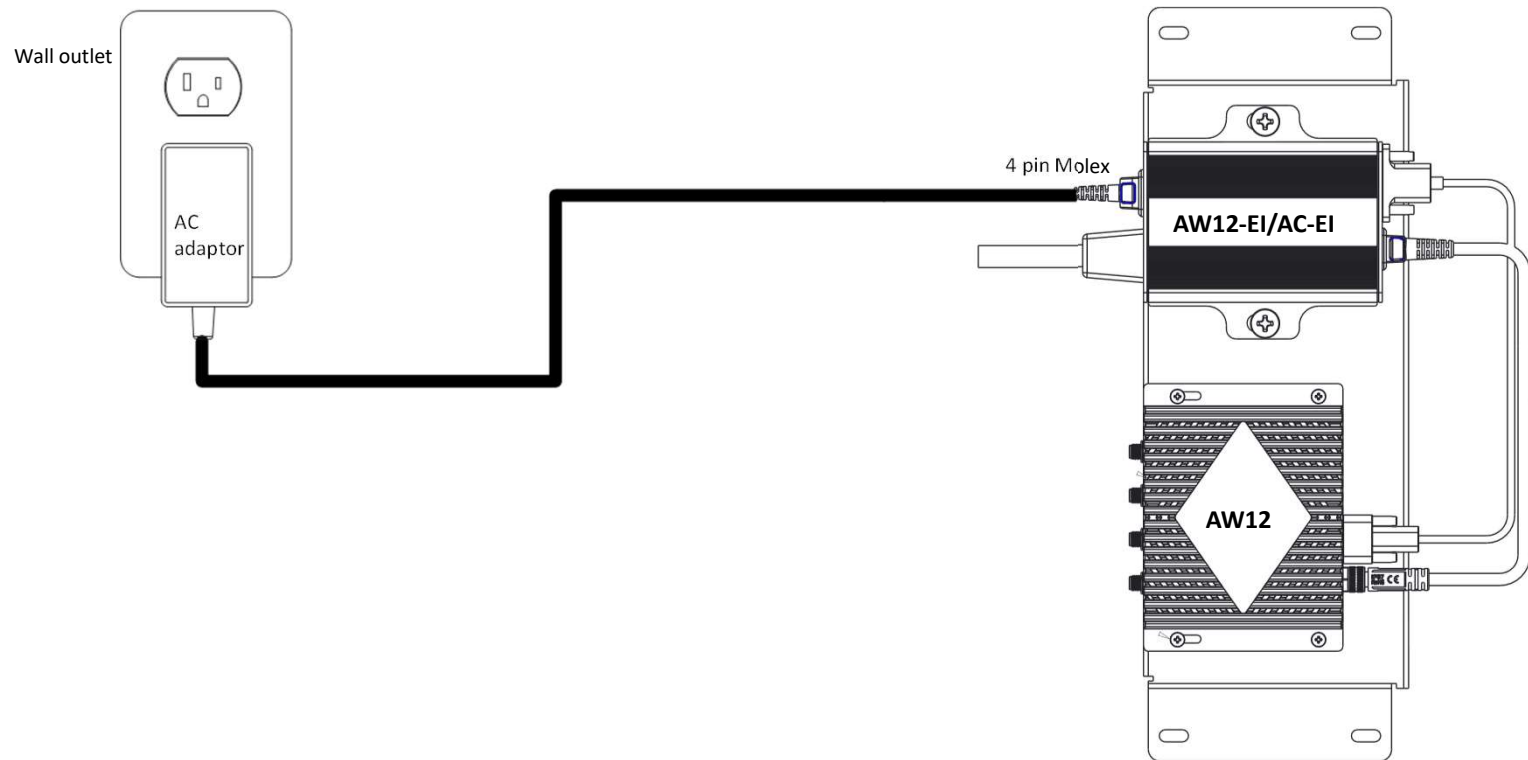


Maintain **1-meter** clearance from any other antennas

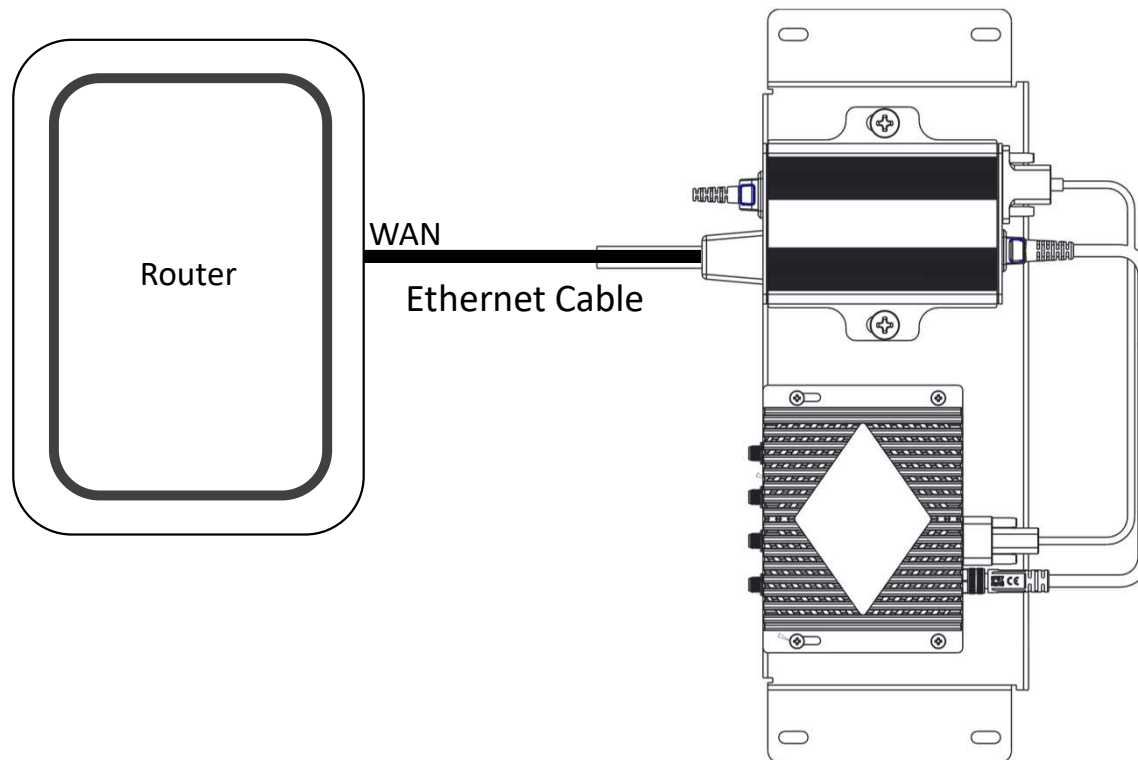
Provide 1 meter of separation between the AW12 and other wireless antennas for best performance. Moving the unit to an alternate location within your environment may enhance connectivity and throughput.

**CAUTION:** Maintain 20 cm (approximately 8 inches) distance from antenna to humans when the AW12 is transmitting.

# Connect Power to the AW12-PC-EI



# Connecting to a Router



Use the Cat6a ethernet cable to connect the PC-EI to the WAN port of the vehicle router.

# Turn on and Check Connection

## Light Indicator Guide

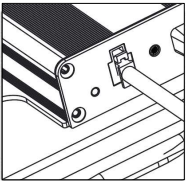
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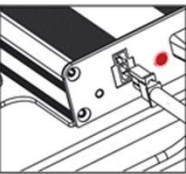
Solid Red = No SIM

Flashing Green = Connecting

Solid Green = Attached to network

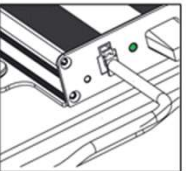


Plug in the AC adapter into the wall outlet.



If the blue LED is not seen within 20 seconds after plugging in the AC adapter, unplug the AC adapter immediately. Please review the set-up sequence and restart the PC-EI again.

When power is first connected, the LED should show a solid blue indication and then go to flashing red for up to three minutes.



After seeing flashing red, it will begin to flash green. The flashing green light indicates that the signal is being acquired. After the flashing green, the LED should become a solid green which indicates the LTE connection is established. It may take up to 90 seconds to have a solid green indication and LTE network connection.

## You are now connected!

To verify, open a web browser on a device that is connected to your router.

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for additional information.

If you have any questions or need further information, please contact your FirstNet Sales Consultant.

# Antenna Warnings

- Do NOT Reorient or relocate the receiving antenna other than as noted above
- Do NOT increase the separation between the equipment and receiver.
- Do NOT Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**CAUTION:** Maintain 20 cm (approximately 8 inches) distance from antenna to humans when the AW12 is transmitting.

## **REGULATORY WARRANTY SAFETY AND PRIVACY**

This Guide contains safety, handling, disposal, regulatory, trademark, copyright, and software licensing information. Read all safety information below and operating instructions before using the AW12-PC-EI Bundle to avoid injury.

**FEDERAL COMMUNICATION COMMISSION INTERFERENCE STATEMENT :** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur for a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**FCC CAUTION:** Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

## **IMPORTANT NOTE**

**FCC Radiation Exposure Statement:** This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the antenna and your body. Under no circumstances should the AW12 modem or AW12EI/AC-EI be used in any areas (a) where blasting is in progress, (b) where explosive atmospheres may be present, or (c) that are near (i) medical or life support equipment, or (ii) any equipment which may be susceptible to any form of radio interference. In such areas, the AW12 and AW12-EI/AC-EI modem **MUST BE POWERED OFF AT ALL TIMES** (since the modem could otherwise transmit signals that might interfere with such equipment). In addition, under no circumstances should the AW12 modem be used in any aircraft, regardless of whether the aircraft is on the ground or in flight. In any aircraft, the AW12 modem **MUST BE POWERED OFF AT ALL TIMES** (since the modem could otherwise transmit signals that might interfere with various onboard systems on such aircraft).

Due to the nature of wireless communications, transmission and reception of data by the AW12 modem can never be guaranteed, and it is possible that data communicated or transmitted wirelessly may be delayed, intercepted, corrupted, contain errors, or totally lost.

**Warning:** This product is only to be installed by qualified personnel.

# Disclaimers and Privacy Notice

Page 24

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