

**Mobile 4G™**  
**Cellular Signal Booster**  
**460021**

Need help?



[www.WilsonElectronics.com](http://www.WilsonElectronics.com)



**Tech Support 866-294-1660**  
Mon.- Fri. Hours: 7 am to 6 pm MST



THE ALUMINUM CASING OF YOUR SIGNAL BOOSTER WILL ADJUST TO THE TEMPERATURE OF ITS ENVIRONMENT, BUT IS DESIGNED TO PROTECT THE SIGNAL BOOSTER TECHNOLOGY. FOR EXAMPLE, IN THE SUMMER, THE SIGNAL BOOSTER CASE MAY BE AS HOT AS 150 DEGREES INSIDE YOUR VEHICLE. THESE HIGH TEMPERATURES WILL NOT DAMAGE THE SIGNAL BOOSTER, NOR DO THEY POSE A FIRE RISK TO THE VEHICLE. AGAIN, BE SURE TO PLACE YOUR SIGNAL BOOSTER IN A LOCATION WITH ADEQUATE VENTILATION AND AWAY FROM DIRECT SUNLIGHT OR MOISTURE.



THE MOBILE 4G SIGNAL BOOSTER MAY REMAIN ON, IN VEHICLES WHOSE 12V DC POWER SOURCES DO NOT AUTOMATICALLY SHUTDOWN WHEN THE VEHICLE IS TURNED OFF. THIS COULD RESULT IN DISCHARGING THE VEHICLES BATTERY IN ONE TO TWO DAYS.

## Installation Instructions for the Following Wilson Electronics Signal Boosters:

### Mobile 4G SmarTech III™ Signal Booster

Model # 460021 FCC ID: PWO460021 IC: 4726A-460021

The term "IC" before the radio certification number only signifies that Industry Canada technical specifications were met.

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## Package Contents



Mobile 4G™  
Signal Booster



Mini-Mag  
Outside Antenna  
301126



Slim Low Profile  
Inside Antenna  
301152



DC Power Supply  
6V / 2A  
859913

### Optional Antennas



12" Mag Mount  
Outside Antenna  
311103



NMO  
Outside Antenna  
311104-5810



Marine  
Outside Antenna  
311130-5810



Trucker  
Outside Antenna  
311101

Appearance of device and accessories may vary.

## Before Getting Started

Before you install your Mobile 4G Signal Booster and start enjoying improved cellular reception please do the following:

1. Read through all the installation steps. This will help you know what to expect from start to finish.
2. Watch the YouTube video demonstrating the Mobile 4G Signal Boost installation at: [wilsonelectronics.com/Mobile4Gvideo](http://wilsonelectronics.com/Mobile4Gvideo)
3. Familiarize yourself with all materials in your product package. This will allow you to know which pieces are referenced in the instructions.

## Installation

You can install your Mobile 4G Signal Booster in your vehicle using the following steps. NOTE: Before completing your installation, create a "soft" installation by putting the components of your Mobile 4G Signal Booster in place and testing the operation before mounting equipment.

1. Install the outside antenna. Select a location on top of the car that is:
  - Near the center of the vehicle's roof.
  - At least 12 inches from any other antennas.
  - Free of obstructions.
  - At least 6 inches from any windows (including sunroofs).
  - At least 8 inches from any people.

Need help?

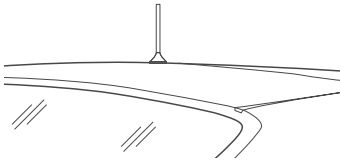


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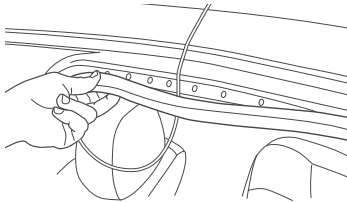


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*The outside antenna must be installed vertically on a metallic surface.*



2. Run the outside antenna cable into the car. The cable is strong enough that it may be shut in most vehicle doors without damaging the cable. For a cleaner look, carefully pull down the door seal, run the cable under the seal, and push the seal back into place. This method reduces wear on the cable as the door opens and closes.



3. Install the Low-Profile inside antenna.

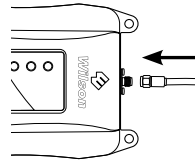
- Identify a place on the right side of the driver's seat to mount the inside antenna. The location should be at least 18 inches from where the cellular device will be used.
- Install the inside antenna at the same angle as the cell phone when held in use or near the laptop's cellular data card to maximize signal strength.

For a more professional look, you can install the inside antenna underneath a car seat cover or upholstery.

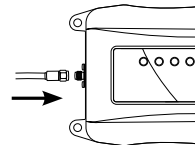
- When you have tested the functionality of your Mobile 4G Signal Booster, mount the inside antenna by peeling off the backing of the Velcro® and attach it to your selected location on the seat and secure the inside antenna.

4. Place and connect the Mobile 4G Signal Booster.

- Select a location for the Signal Booster that is free from excessive heat, direct sunlight and moisture and that has proper ventilation. Good locations include underneath a seat or under the dashboard.
- Connect the wire from the outside antenna to the port labeled "outside antenna" on the Signal Booster.



- Connect the wire from the inside antenna to the port labeled "inside antenna" on the Signal Booster.



- Plug the power adapter into vehicle's 12V DC power supply and attach the cord to the side of Power Booster labeled "Power." NOTE: Do NOT connect the power to the Signal Booster until you have connected both the inside and outside antennas.



- Power up your Signal Booster by flipping the switch on the back of the DC power adapter on. A red light should appear on the power adapter.

**Note:** The Mobile 4G Signal Booster may remain on, in vehicles whose 12V DC power sources do not automatically shutdown when the vehicle is turned off. This could result in discharging the vehicles battery in one to two days.

**Note:** Some 12V DC power sources are shut down when the vehicle ignition is turned to off. Refer to your vehicle owners manual for specifics related to your vehicle.

**NOTE:** The aluminum casing of your Signal Booster will adjust to the temperature of its environment, but is designed to protect the Signal Booster technology. For example, in the summer, the Signal Booster case may be as hot as 150 degrees inside your vehicle. These high temperatures will NOT damage the Signal Booster, nor do they pose a fire risk to the vehicle. Again, be sure to place your Signal Booster in a location with adequate ventilation and away from direct sunlight or moisture.

## Troubleshooting & Understanding Lights

The lights on the front of the Mobile 4G Signal Booster indicate whether the system is working or if there are problems. Each light indicates the operation of its labeled frequency. Take the following steps based on the indicator light color when using the Mobile 4G Signal Booster.

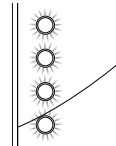
**Lights off:** If the lights are not on:

- Check connections on the power supply to see that it is firmly plugged

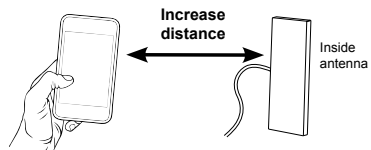
into both the Mobile 4G Signal Booster and the power source.

- If using a DC power supply in your vehicle, ensure the power supply is properly inserted. Then check the 12 volt power from the car socket and the fuse. Replace the fuse if necessary.

**Red light:** A red light indicates oscillation is occurring. Oscillation is similar to feedback between a microphone and speaker. When oscillation occurs, the Signal Booster will power down to protect the cell tower. To eliminate oscillation, the outside antenna needs to be moved farther from the inside antenna. Move the outside antenna on the roof to the rear of the car, but at least 8 to 12 inches from the rear or side windows. Disconnect the power from the Signal Booster, then reconnect the power to reset the Signal Booster.



**Blinking Red/Green:** If one or more of the lights on the Signal Booster are blinking red/green, this means that the Signal Booster has reduced gain due to oscillation. Increase the distance between the Outside and the Inside Antennas, or place the Outside Antenna near the center of the vehicle, and reset the Signal Booster by disconnecting then reconnecting the power to the signal booster. Contact Wilson Electronics Technical Support Team for assistance.



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**Green light:** A green light indicates the Mobile 4G Signal Booster is working properly.

If you have additional questions about the operation of your Mobile 4G Signal Booster, please contact the Wilson Electronics technical support team at 866-294-1660 or email [tech@wilsonelectronics.com](mailto:tech@wilsonelectronics.com).

## Additional FAQ:

### What hours can I contact tech support?

Technical Support can be reached from 7:00am to 6:00pm MST, by calling (866-294-1660), or by email, at [tech@wilsonelectronics.com](mailto:tech@wilsonelectronics.com)

### How does weather affect the performance of my outside antenna?

Water vapor (e.g. rain, fog, snow or other precipitation) creates an effective filter to cellular signal. In times of heavy precipitation, you may see less performance.

### What's the difference between the 800 MHz and the 1900 MHz bands? How do I know which MHz band my cell phone uses?

The Mobile 4G works with all major North American cellular providers on the 800 & 1900 MHz frequencies. Traditionally, 800/1900MHz are associated with voice and 3G data; while 700MHz and 1700/2100MHz are associated with 4G data.

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### Carrier Frequency Use

We recommend visiting [wirelessadvisor.com](http://wirelessadvisor.com) (US) or <http://bit.ly/1mQf2Gf> (Canada) for information regarding the frequency band used by your cell service provider in a specific geographical location.

## Inside Antenna Expansion Kit

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Kit 309900-50N

- 2 - Wall Panel antennas
- 1 - 50 ohm 3-Way Splitter

Kit 309905-50N

- 3 - Wall Panel Antennas
- 3 - 2-Way 50 Ohm Splitters

Kit 309902-75F

- 2 - Wall Panel Antennas
- 1 - 3-Way 75Ohm Splitter

Kit 309903-75F

- 3 - Wall Panel Antennas
- 3 - 2-Way 75Ohm Splitters

Kit 309904-75F

- 1 - Wall Panel Antenna
- 1 - 2-Way 75 Ohm Splitter

## Inside Antenna Kits

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Kit 301121-40010

- 50 Ohm Dome Antenna
- 10' LMR400

Kit 311135-40060

- 50 Ohm Wall Panel Antenna
- 60' LMR400

Kit 301151-0610

- 75 Ohm Dome Antenna
- 10' RG6 Cable

Kit 311135-5820

- 50 Ohm Wall mount Panel Antenna
- 20' RG58 Cable

Kit 311135-40060

- 50 Ohm Wall Mount Panel Antenna
- 60' LMR400 Cable

Kit 301151-1110

- 75 Ohm Dome Antenna
- 10' RG11 cable

Kit 311155-1150

- 75 Ohm Wall mount Panel Antenna
- 50' RG11 Cable

Kit 301211

- Desktop Antenna w/ 5' RG174

## 50 Ohm Outside Antenna Kits

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Kit 314453-5825

- 50 Ohm Pole Mount Panel Antenna
- 25' RG58 Cable



- Kit 314411-5825
- 50 Ohm Wide Band Directional
  - 25' RG58 Cable

- Kit 301111-5850
- Yagi Directional Antenna
  - 50' RG58 Cable

- Kit 311129-5840
- 8000 MHz Yagi Directional
  - 40' RG58 Cable

- Kit 311203-5820
- Omni-Directional antenna
  - 20' RG58 Cable

- Kit 311124-5830
- 1900 MHz Yagi Antenna
  - 30' RG58 Cable

- Kit 311203-40020
- Omni-Directional antenna
  - 20' LMR400 Cable

- Kit 301111-400170
- Yagi Directional w/ N-Female
  - 170' LMR400

- Kit 311124-400100
- 1900 MHz Yagi Directional
  - 100' LMR400 Cable

- Kit 311129-400100
- 800 MHz Yagi Antenna
  - 100' LMR400 Cable

- Kit 314411-40075
- 50 Ohm Wide Band Directional Antenna
  - 75' LMR400 Cable

- Kit 314453-40075
- 50 Ohm Pole Mount Panel Antenna
  - 75' LMR400 Cable

Mini-Mag 301126 w/12.5 RG174 cable-SMA

- Kit 311129-0650
- 1900 MHz Yagi Directional
  - 50' RG6 Cable
  - N-Male to F-Female adapter

- Kit 314473-0640
- 75 Ohm Pole Mount Panel Antenna
  - 40' RG6 Cable

- Kit 311141-0620
- 75 Ohm Grey Brick Antenna
  - 20' RG6 Cable

- Kit 301111-11140
- Yagi Directional Antenna
  - 140' RG11 Cable
  - N-Male to F-Female adapter

- Kit 311201-1120
- Omni Directional w/ F-Female
  - 20' RG11 Cable

- Kit 311129-11110
- 800 MHz Yagi Directional
  - 110' RG11 Cable
  - N-Male to F-Female adapter

- Kit 311124-1180
- 1900 MHz Yagi Directional
  - 80' RG11 Cable
  - N-Male to F-Female adapter

- Kit 314473-1175
- 75 Ohm Pole Mount Panel Antenna
  - 75' RG11 Cable

- Kit 314475-0630
- 75 Ohm Wide Band Directional
  - 30' RG6 Cable

- Kit 314475-1175
- 75 Ohm Wide Band Directional
  - 75' RG11 Cable

- Kit 311141-1120
- 75 Ohm Grey Brick Antenna
  - 20' RG11 Cable

- Kit CANT-0040
- Omni Antenna
  - 50' RG6 cable

- Kit CANT-0043
- Panel Antenna
  - 50' RG6 cable

- Kit CANT-0042
- Wide Band Directional Antenna
  - 60' RG6 cable

## **75 Ohm Outside Antenna Kits**

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- Kit 301111-0675
- Yagi Directional Antenna
  - 75' RG6 Cable
  - N-Male to F-Female adapter

- Kit 311201-0620
- Omni Antenna w/ F-Female
  - 20' RG6 Cable

- Kit 311129-0660
- 800 MHz Yagi Directional
  - 60' RG6 Cable
  - N-Male to F-Female adapter

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## Mobile Antennas

### Mini-Mag

- 301126 w/ 12.5 RG174 cable- SMA
- 301113 w/ 12.5 RG174 cable- FME

### 12" Mag Mount w/ 12.5' RG174

- 311103
- 311125
- 311128
- 311703

### Trucker antenna w/10.5' RG58

- 311101
- 311701

### Trucker antenna w/13.5' RG58

- 311119
- 311133

### NMO Antenna's w/ RG174

- Kit 311104-17410
- 800/1900 NMO antenna
  - 10' RG174 cable
- Kit 311112-17410

- 800/1900 NMO antenna
  - 10' RG174 cable
- Kit 314203-17410
- 800/900/1900 NMO antenna
  - 10' RG174 cable

### NMO Antenna's w/ RG174

- Kit 311130-5810
- Marine Antenna
  - 10' RG58 cable







### Glass Mount w/14' RG58 cable

- 311102
- 311114 ( Mini Glass Mount)

### NMO Antenna's w/ RG58

- Kit 311104-5810
- 800/1900 NMO antenna
  - 10' RG58 cable
- Kit 311112-5810
- 800/1900 NMO antenna
  - 10' RG58 cable
- Kit 314203-5810
- 800/900/1900 NMO antenna
  - 10' RG58 cable

## Safety Guidelines

-  **WARNING:** The inside panel and dome antennas must have 6' of separation distance from all active users, and the low profile antennas must have 18" of separation distance from all active users.
-  **WARNING:** Connecting the Signal Booster directly to the cell phone with use of an adapter will damage the cell phone.
-  **WARNING:** Use only the power supply provided in this package. Use of a non-Wilson Electronics product may damage your equipment.
-  **WARNING:** The Signal Booster unit is designed for use in an indoor, temperature-controlled environment (less than 150 degrees Fahrenheit). It is not intended for use in attics, vehicles or similar locations subject to temperatures in excess of that range.
-  **WARNING:** The Outside Antenna must be installed no higher than 10 meters (32'9") above ground.
-  **RF SAFETY WARNING:** Any antenna used with this device must be located at least 8 inches from all persons.

**This is a CONSUMER device.**

**BEFORE USE,** you **MUST REGISTER THIS DEVICE** with your wireless provider and have your provider's consent. Most wireless providers consent to the use of signal boosters. Some providers may not consent to the use of this device on their network. If you are unsure, contact your provider.

You **MUST** operate this device with approved antennas and cables as specified by the manufacturer. Antennas **MUST** be installed at least 20 cm (8 inches) from any person.

You **MUST** cease operating this device immediately if requested by the FCC or a licensed wireless service provider.

**WARNING.** E911 location information may not be provided or may be inaccurate for calls served by using this device.





# Signal Booster Specifications

Mobile 4G						
Model Number	460021					
Connectors	SMA					
Antenna Impedance	50 Ohms					
Frequency	698-716 MHz, 746-787 MHz, 824-894 MHz, 1850-1995 MHz, 1710-1755/2110-2155 MHz					
Passband Gain (typical)	700 MHz Band 12/17 45.8	700 MHz Band 13 46.8	800 MHz 46.8	1700/2100 MHz 45.2	1900 MHz 44.6	
20 dB Bandwidth (MHz)	700 MHz Band 12/17	700 MHz Band13	800 MHz	1700/2100 MHz	1900 MHz	
Typical	30.6	31.0	37.9	79.2	77.3	
Maximum	35.2	35.2	39.9	79.8	83.2	
Power output for single cell phone (Uplink) dBm	700 MHz Band 12/17	700 MHz Band13	800 MHz	1700 MHz	1900 MHz	
	24.84	24.35	23.4	21.3	24.43	
Power output for single cell phone (Downlink) dBm	700 MHz Band 12/17	700 MHz Band13	800 MHz	2100 MHz	1900 MHz	
	2.87	2.79	2.8	2.0	1.92	
Power output for multiple received channels (Uplink) dBm	Maximum Power					
No. Tones	700 MHz Band12/17	700 MHz Band13	800 MHz	1700 MHz	1900 MHz	
2	25.4	23.9	22.9	22.8	24.9	
3	21.8	20.4	19.4	19.3	21.3	
4	19.3	17.9	16.9	16.8	18.8	
5	17.4	16.0	15.0	14.8	16.9	
6	15.8	14.4	13.4	13.2	15.3	
Power output for multiple received channels (Downlink) dBm	Maximum Power					
No. Tones	700 MHz Band12/17	700 MHz Band13	800 MHz	2100 MHz	1900 MHz	
2	4.8	5.6	5.4	6.3	4.5	
3	1.3	2.1	1.9	2.8	0.9	
4	-1.2	-0.4	-0.6	0.3	-1.6	
5	-3.2	-2.4	-2.6	-1.6	-3.5	
6	-4.7	-4.0	-4.2	-3.2	-5.1	
Noise Figure	5 dB nominal					
Isolation	> 90 dB					
Power Requirements	5V 2.5A					

Each Signal Booster is individually tested and factory set to ensure FCC compliance. The Signal Booster cannot be adjusted without factory reprogramming or disabling the hardware. The Signal Booster will amplify, but not alter incoming and outgoing signals in order to increase coverage of authorized frequency bands only. If the Signal Booster is not in use for five minutes, it will reduce gain until a signal is detected. If a detected signal is too high in a frequency band, or if the Signal Booster detects an oscillation, the Signal Booster will automatically turn the power off on that band. For a detected oscillation the Signal Booster will automatically resume normal operation after a minimum of 1 minute. After 5 (five) such automatic restarts, any problematic bands are permanently shut off until the Signal Booster has been manually restarted by momentarily removing power from the Signal Booster. Noise power, gain, and linearity are maintained by the Signal Booster's microprocessor.

The Manufacturer's rated output power of this equipment is for single carrier operation. For situations when multiple carrier signals are present, the rating would have to be reduced by 3.5 dB, especially where the output signal is re-radiated and can cause interference to adjacent band users. This power reduction is to be by means of input power or gain reduction and not by an attenuator at the output of the device.

This device complies with Part 15 of FCC rules. Operation is subject to 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. Changes or modifications not expressly approved by Wilson Electronics could void the authority to operate this equipment.

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### 30-Day Money-Back Guarantee

All Wilson Electronics products are protected by Wilson Electronics 30-day money-back guarantee. If for any reason the performance of any product is not acceptable, simply return the product directly to the reseller with a dated proof of purchase.

### 2-Year Warranty

Wilson Electronics Signal Boosters are warranted for two (2) years against defects in workmanship and/or materials. Warranty cases may be resolved by returning the product directly to the reseller with a dated proof of purchase.

Signal Boosters may also be returned directly to the manufacturer at the consumer's expense, with a dated proof of purchase and a Returned Material Authorization (RMA) number supplied by Wilson Electronics. Wilson Electronics shall, at its option, either repair or replace the product. Wilson Electronics will pay for delivery of the repaired or replaced product back to the original consumer if located within the continental U.S.

This warranty does not apply to any Signal Boosters determined by Wilson Electronics to have been subjected to misuse, abuse, neglect, or mishandling that alters or damages physical or electronic properties.

Failure to use a surge protected AC Power Strip with at least a 1000 Joule rating will void your warranty.

RMA numbers may be obtained by contacting Technical Support at 866-294-1660.

**Disclaimer:** The information provided by Wilson Electronics, LLC is believed to be complete and accurate. However, no responsibility is assumed by Wilson Electronics, LLC for any business or personal losses arising from its use, or for any infringements of patents or other rights of third parties that may result from its use.

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U.S. Patent Nos. – 7,221,967; 7,729,669; 7,486,929; 7,409,186; 7,783,318; 8,583,034; 8,583,033; 8,639,180



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