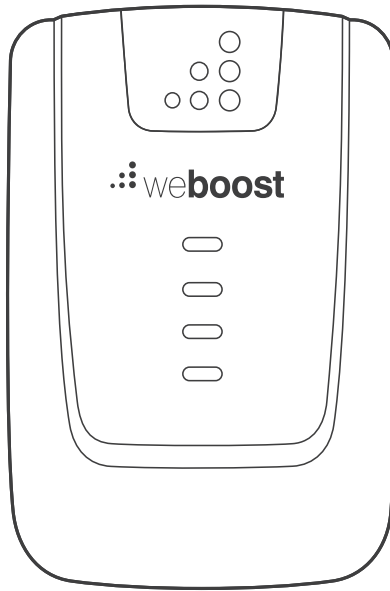


Home 4G

Cellular Signal Booster



User Manual

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Package Contents



Home
4G



Inside
Antenna



Outside
Antenna



(2) Cables



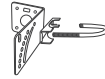
Power
Supply



Window
Entry Cable



Cable
Connector



Roof/Pole
Mount
Bracket



Window
Mount
Bracket



Wall Mount
Bracket

Determine Signal Strength

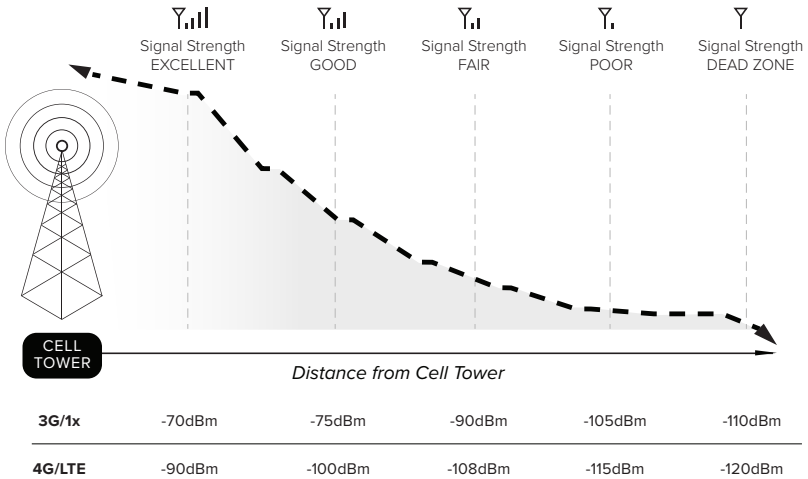


Having an accurate measurement of signal strength in decibels (dBm) is crucial when installing your system.

Decibels accurately measure the signal strength you are receiving.

SIGNAL STRENGTH	EXCELLENT	GOOD	FAIR	POOR	DEAD ZONE
3G/1x (typically voice)	-70dBm	-71 to -85dBm	-86 to -100dBm	-101 to -109dBm	-110dBm
4G/LTE (typically data)	-90dBm	-91 to -105dBm	-106 to -110dBm	-111 to -119dBm	-120dBm

Decibels are not linear: A seemingly small increase in dBm can make a huge difference in signal strength!



DECIBEL GAIN

POWER INCREASE

3dB	2 times the power and signal amplification
6dB	4 times the power and signal amplification
10dB	10 times the power and signal amplification
12dB	16 times the power and signal amplification
20dB	100 times the power and signal amplification

Step 1: Find the dBm Reading on Your Phone

iPhone®

Dial *3001#12345#* then press Call.

Hold down power button until you see “Slide to Power Off” then release the power button.

Hold the Home button until your main screen appears.

If you want to check 3G/1x but your iPhone is picking up 4G/LTE signal, go to Settings>Cellular>Cellular Data Options>Enable LTE>Select Off

Android™

Settings > About Phone > Status or Network > Signal Strength or Network Type and Strength (exact options wording depends on phone model).

Apple and iPhone are registered trademarks of Apple Inc.
Android is a trademark of Google Inc.

All Other Phones & Alternate Methods

- <https://www.weboost.com/test-mode-instructions/>

All Phones:

- Keep track of the network (3G or 4G) phone is connected to.
- Any signal readings you take are valid for that phone’s carrier. To get readings from other carriers, you’ll need phones from each carrier.
- When system is set-up, you can easily revert back to the “bar display” by restarting your phone.

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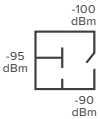
Step 2: Measure Signal Strength: Inside Antenna



Turn off your cell phone's WiFi to ensure you are checking the cellular connection. The dBm reading will be refreshed every 30-60 seconds.



Want faster results? Once you have a reading, turn on airplane mode. Wait 15 seconds. Turn off airplane mode. The signal strength reading is refreshed.

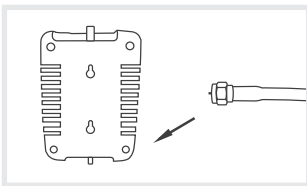


Walk around your home/office taking signal strength readings until you find the area that has the worst reception.

Remember: Place your Inside Antenna in this poor signal area.

SIGNAL STRENGTH	EXCELLENT	GOOD	FAIR	POOR	DEAD ZONE
3G/1x (typically voice)	-70dBm	-71 to -85dBm	-86 to -100dBm	-101 to -109dBm	-110dBm
4G/LTE (typically data)	-90dBm	-91 to -105dBm	-106 to -110dBm	-111 to -119dBm	-120dBm

Please note:



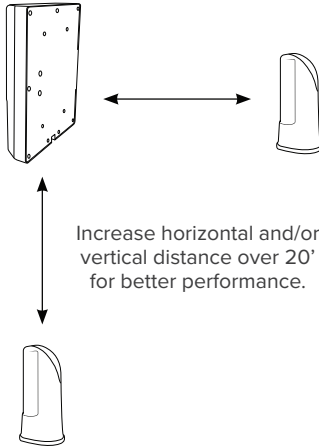
- **Connect the booster directly to the Inside Antenna.** Keep at least 18" of separation between the Inside Antenna and the Booster and face the Inside Antenna away from the Booster.
- Keep the Booster away from direct sunlight, heat (<150°F), moisture and 6" away from other objects (for ventilation). Ensure the Booster is near an outlet.

Step 3: Measure Signal Strength: Outside Antenna



IMPORTANT: This is the most critical step of the installation process because it will determine the overall performance of the booster system. Repeat the previous step OUTSIDE your home/office to find best available signal strength in dBm. This is where you should place your Outside Antenna.

IMPORTANT: The further apart the Inside Antenna is located from the Outside Antenna, the better. To determine the best location for your Outside Antenna, note the dBm reading in a variety of locations:

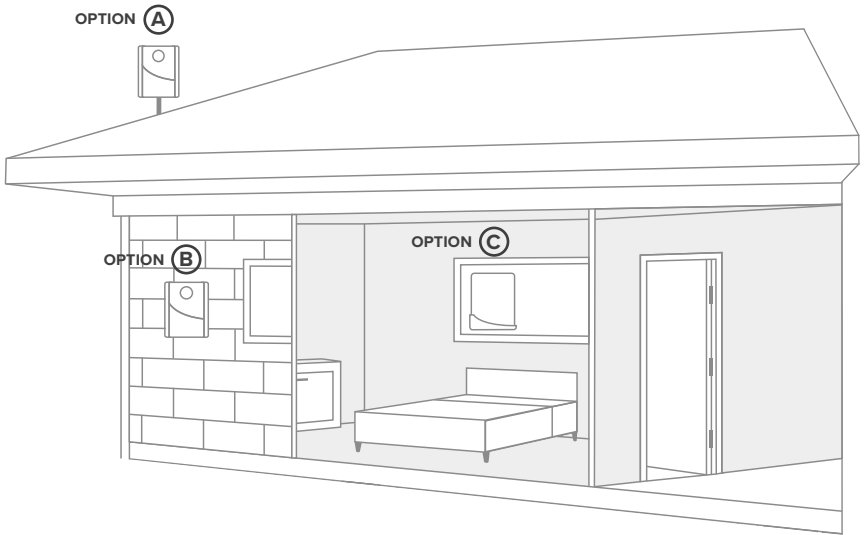


Please note:

- The Outside Antenna must be at least **20' away** (horizontal or vertical) from the Inside Antenna.
- Using the minimum required 20' separation may result in reduced performance.
- To maximize coverage area, if possible place the Outside Antenna directly above the Inside Antenna.
- If the Outside Antenna is outside the building, use the flat Window Entry Cable to connect both rolls of cable. You can use this option during set-up and/or permanently.

Measure Signal Strength: Outside Antenna (cont.)

Three Outside Antenna mounting options:



Outside Antenna Mount Location	Signal Strength (Typical)	Mounting Option is Step Number	Set-Up Time (minutes)
Outside Roof/Pole Mount	Best	5A	40-90
Outside Wall Mount	Better	5B	20-40
Inside Window Mount	Ok	5C	5-10

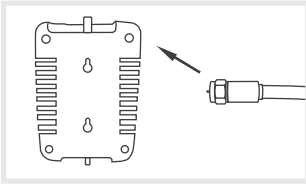


The Outside Antenna must be at least **20 feet away** (horizontal or vertical) from the Inside Antenna.

Step 4: Connect the System



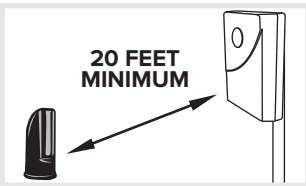
IMPORTANT: Once you have determined the optimal signal strength location for the Outside Antenna, temporarily mount or set the Outside Antenna in that location.



7.1

1 Connect supplied cable from the booster to the Outside Antenna. See 7.1.

2 Separate the Inside Antenna from the Outside Antenna by at least 20'. See 7.2. The more separation, the better!



7.2

3 **Do not** face the Outside Antenna and the Inside Antenna towards each other. See 7.3.

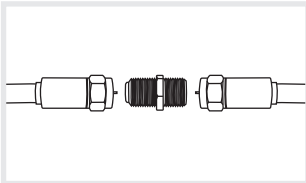
4 If both rolls of cable are needed, use cable connector. See 7.4.



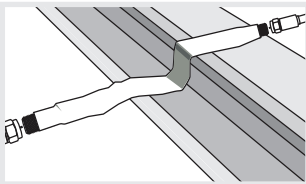
7.3

5 If the Outside Antenna is outside the building, use the flat Window Entry Cable to connect both rolls of cable. See 7.5. You can use this option during set-up and/or permanently if you don't want to drill holes through your wall.

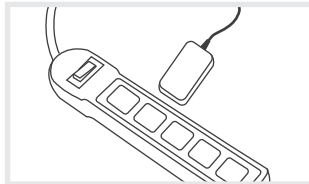
6 Power up the Booster. To protect Booster from power surges, connect to a power strip. See 7.6.



7.4

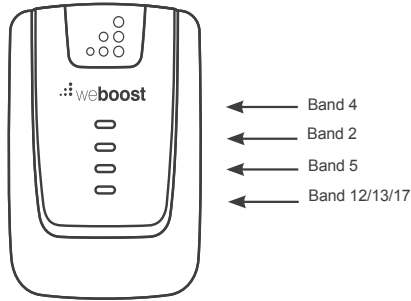


7.5



7.6

Test System: Lights



Each light corresponds to a frequency band.



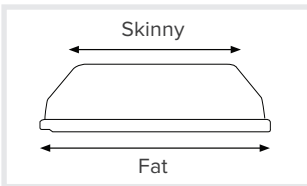
IMPORTANT: To get an accurate reading of the lights, unplug and re-plug the power supply from the Booster.

No Lights

Booster does not have power. Un-plug and securely re-plug in power supply.
Note: Lights may be dim.

Fix Any Red Light Problems (red indicates oscillation)

- If you are happy with coverage, red lights don't have to be resolved.
- **Solid Red** = Band has shut off
- **Blinking Green/Red** = Band has reduced gain



8.2

OUTSIDE ANTENNA: The skinny side should always face outside, towards the cell tower.

1. Verify Outside Antenna faces away from the Inside Antenna. See 8.2. Un-plug and re-plug in power supply.
2. Verify the Inside Antenna is at least 18" from the Booster and pointed away from the Booster. Un-plug and re-plug in power supply.
3. Tighten all cable connections. You may want to undo and redo the connection completely. Un-plug and re-plug in power supply.
4. BEST: Increase the distance (horizontally or vertically) between the Outside and Inside antenna. Add cable if needed. Un-plug and re-plug in power supply.

Fix Any Orange Light Problems (orange indicates a cell tower is close by)

- If you are happy with coverage, orange lights don't have to be resolved
 - **Solid Orange** = Band has shut off
 - **Blinking Green/Orange** = Band has reduced gain.
1. If the light is **solid orange**, the Outside Antenna must be adjusted (see below). Wait 10 seconds between adjustments for the lights to reset.
 - For Roof/Pole Mount Option = Rotate the Outside Antenna away from the strongest cellular signal in small increments (45°) until the light turns **green**. Un-plug and re-plug power supply.
 - For All Other Mount Options = Change mount location. For example, if the Outside Antenna is a window mount, move the Outside Antenna to a wall outside the building to see if the lights turn **green**. Un-plug and re-plug power supply.
 2. If the light is **blinking green/orange**, re-locate the Outside Antenna. Un-plug and re-plug power supply.

All Green Lights? = Band is set up correctly. Verify you have good coverage.

If you have green lights, but poor coverage:

- Increase separation between Inside and Outside Antennas. Un-plug and re-plug power supply.
- Rotate the Outside Antenna in small increments (roof/pole mount only). Un-plug and re-plug power supply.
- Move the Outside Antenna to a different location. Un-plug and re-plug power supply.
- Change the method of mounting the Outside Antenna. Un-plug and re-plug power supply.



After each step, un-plug and re-plug the power supply so the booster can update the signal reading.

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Step 5: Mount Outside Antenna

Option A: Outside Roof/Pole Mount - **Best Signal Option**

You will need (tools not included)



40-90 minutes



1-2 people



Ladder

1-2" diameter pole (#901117) or an existing pole

Phillips-head screwdriver

10mm open-end wrench or adjustable wrench

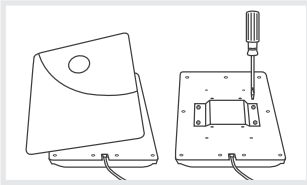
Drill (*if routing cable through wall*)



10.1

1

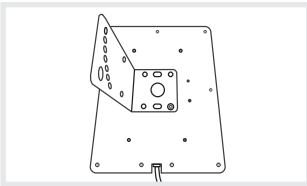
Mount, or use an existing pole in an optimal signal location. Watch out for power lines. See 10.1.



10.2

2

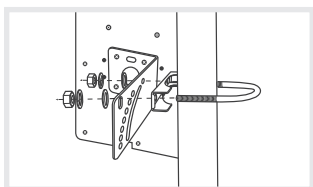
From Outside Antenna, remove lid, bracket and blue protective film (optional). See 10.2.



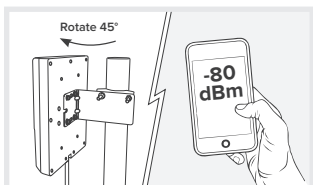
10.3

3

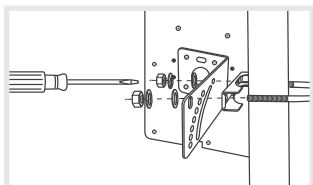
Attach the "L" shaped mounting bracket to the Outside Antenna. See 10.3.



11.1



11.2



11.3

4

Attach mounting hardware to pole. See 11.1. Do not tighten nuts yet.

5

Rotate Outside Antenna by 45 degrees while a second person notes the decibel reading inside the building. Wait 15-60 seconds for reading to register. See 11.2.

6

Tighten nuts once you confirm booster has green lights and indoor signal strength has improved. See 11.3.

Step 5: Mount Outside Antenna

Option B: Outside Wall Mount - Better Signal Option

You will need (tools not included)



20-40 minutes



1-2 people

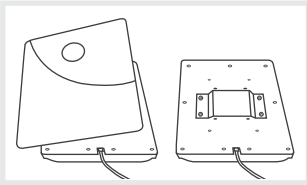


Ladder

Drill

3/16 inch bit

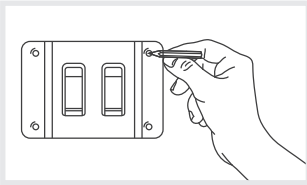
Phillips-head screwdriver



12.1

1

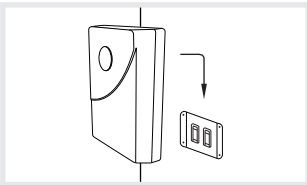
From Outside Antenna, remove lid and blue protective film (optional). See 12.1.



12.2

2

Position bracket on wall and use a pencil to mark the holes. See 12.2. Drill holes using 3/16 inch bit. Use anchors, washers and screws to attach Wall Bracket.



12.3

3

Slip Outside Antenna onto the Wall Mount Bracket to secure. See 12.3.

Step 5: Mount Outside Antenna

Option C: Inside Window Mount - OK Signal Option

You will need (tools not included)



5-10 minutes



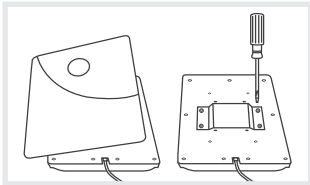
1 person



Phillips-head screwdriver



IMPORTANT: Energy efficient window coatings may not make this option viable. Typically, the Outside Antenna must be in a different room than the inside antenna due to the separation requirements.

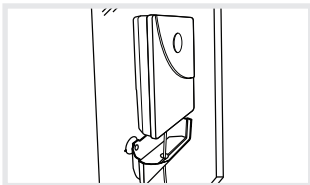


13.1

1

If needed, remove the lid. Remove the back bracket. See 13.1

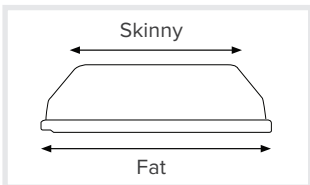
Use the provided double sided sticky tape to re-attach the lid.



13.2

2

Slip the Outside Antenna into the Window Mount Bracket. Clean the window with the alcohol wipe. Suction cup to the inside of the window. See 13.2.



13.3

3

The skinny side of the Outside Antenna must face outside, toward the cell tower. If the skinny side of the Outside Antenna faces inside, towards the Booster, the system will not work. See 13.3.

Step 6: Last Steps

- Route and secure the cable. Watch this video for tips <http://www.youtube.com/watch?v=KyQaAvNQ3oI>
- To protect your system , you will want to purchase/install a lightening surge protector (#859992). This is especially important if the Outside Antenna is mounted outside. To purchase, call 866-294-1660 or visit weboost.com
- After installing your system, check the lights after 24 hours to ensure no changes.
- If the Outside Antenna is mounted outdoors, weatherproof connections 1" (25mm) beyond where the connections begin and end. Cover with electric tape to protect from UV rays.
- **Optional:** To improve the aesthetic of your antennas use non-metallic paint.
- If you haven't already, be sure to register your product!

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Specifications

Home 4G™						
Product Number	470001					
Model Number	460020					
FCC ID:	PWO460020					
IC	IC: 4726A-460020					
Connectors	SMA-Female on the Inside Antenna / F-Female on the Outside Antenna					
Antenna Impedance	75 Ohms / 50 Ohms					
Frequency	698-716 MHz, 746-787 MHz, 824-894 MHz, 1850-1995 MHz, 1710-1755/2110-2155 MHz					
Passband Gain (nominal)	700 MHz Band17 58.7	700 MHz Band13 58.6	800 MHz Band 5 59.5	1700/2100 MHz Band 4 63.7	1900 MHz Band 2 63.7	
20 dB Bandwidth (MHz)	700 MHz Band17	700 MHz Band13	800 MHz Band 5	1700/2100 MHz Band 4	1900 MHz Band 2	
	Typical 31.8	32.1	37.9	79.9	81.9	
	Maximum 35.4	35.6	39.0	83.0	85.1	
Power output for single cell phone (Uplink) dBm	700 MHz Band17 23.94	700 MHz Band13 24.19	800 MHz Band 5 23.49	1700 MHz Band 4 24.55	1900 MHz Band 2 23.61	
Power output for single cell phone (Downlink) dBm	700 MHz Band17 11.64	700 MHz Band13 11.92	800 MHz Band 5 12.1	2100 MHz Band 4 11.9	1900 MHz Band 2 9.5	
Power output for multiple received channels (Uplink) dBm	Maximum Power					
	No. Tones	700 MHz Band17	700 MHz Band13	800 MHz Band 5	1700 MHz Band 4	1900 MHz Band 2
	2	20.7	19.9	23.4	21.2	19.1
	3	17.1	16.3	19.9	17.7	15.5
	4	14.6	13.8	17.4	15.2	13.0
	5	12.7	11.9	15.4	13.3	11.1
	6	11.1	10.3	13.9	11.7	9.5
Power output for multiple received channels (Downlink) dBm	Maximum Power					
	No. Tones	700 MHz Band17	700 MHz Band13	800 MHz Band 5	2100 MHz Band 4	1900 MHz Band 2
	2	12.7	13.3	11.8	11.9	12.6
	3	9.2	9.8	8.2	8.4	9.1
	4	6.7	7.3	5.7	5.9	6.6
	5	4.8	5.4	3.8	4.0	4.7
	6	3.2	3.8	2.2	2.4	3.1
Noise Figure	5 dB nominal					
Isolation	> 110 dB					
Power Requirements	AC / DC 5V, 2.5A, w/2.5x5.5mm Jack					

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

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.

Safety Guidelines

Warnings

To uphold compliance with network protection standards, all active cellular devices must maintain at least 6 feet of separation distance from Panel and Dome antennas and 4 feet of separation distance from Desktop antennas.

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.

This device may be operated **ONLY** in a fixed location for in-building use.

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 weBoost could void the authority to operate this equipment.

FOR MORE INFORMATION ON REGISTERING YOUR SIGNAL BOOSTER WITH YOUR WIRELESS PROVIDER, PLEASE SEE BELOW:

Sprint: http://www.sprint.com/legal/fcc_boosters.html

T-Mobile/MetroPCS: <https://support.t-mobile.com/docs/DOC-9827>

Verizon Wireless: <http://www.verizonwireless.com/wcms/consumer/register-signal-booster.html>

AT&T: <https://securec45.securewebsession.com/attsignalbooster.com/>

U.S. Cellular: <http://www.uscellular.com/uscellular/support/fcc-booster-registration.jsp>

Warranty

2 YEAR WARRANTY

weBoost 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 weBoost. weBoost shall, at its option, either repair or replace the product.

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

Replacement products may include refurbished weBoost products that have been recertified to conform with product specifications.

RMA numbers may be obtained by contacting Customer Support as below.

DISCLAIMER: The information provided by weBoost is believed to be complete and accurate. However, no responsibility is assumed by weBoost 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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Antenna Kit Options

The following accessories are certified by the FCC to be used with the **Home 4G Booster**.

INSIDE ANTENNA EXPANSION KIT

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 EXPANSION KIT

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 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

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

- 800 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

75 OHM OUTSIDE ANTENNA KITS

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

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 311129-1110

- 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



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