WILSONPRO™

WilsonPro A500

Cellular Signal Booster

User Manual

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Package Contents

WilsonPro A500	Inside Antenna	Outside Antenna	2x Coax Cables	Power Supply
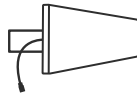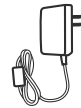
Window Entry Cable	2x Pole Mount Bracket	Wall Mount Bracket

⚠ This device may be operated ONLY in a fixed location for in-building use. The signal booster unit is designed for use in an indoor, temperature controlled environment (< 100 degrees Fahrenheit)

Step 1: Preparation

You Will Need (tools not included)
Make sure the following materials are prepared and ready for your installation.

3 to 4 hours

2 people (a person to help with antenna calibration)

- ☐ Ladder
- ☐ Phillips-head screwdriver
- ☐ 10mm open-end wrench or adjustable wrench
- ☐ Drill *(if routing cable through wall)*
- ☐ **Mounting Option**   10" diameter pole (#BT512631) or an existing pole
- ☐ **Recommended:** Power Strip

NOTE: These instructions will walk you through a "soft" install process to find the optimal locations for the inside and outside antennas, then through the process of the permanent installation.

Step 2: Find The dBm Reading On Your Phone

Visit: www.weboost.com/blog/how-to-test-signal-strength-on-your-phone

iPhone®

Dial *3001#12345#* then press Call.

1. Hold down power button until you see 'Slide to Power Off'.
2. Then release the power button.
3. 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 O .

After you system is set up, you can go back to the dots signal by once again dialing *3001#12345#* then pressing call. When the menu comes back up, tap "phone" in the top left corner of your phone.

iPhone®
iOS 11 - current

iOS 11 no longer displays the decibel (dBm) reading in 'Field Test Mode'. Tip: Using the bar indicator on your cell phone can assist you in finding the strongest signal direction as well a placing calls in different locations. **For changes/updates on this issue, periodically go to weboost.com/signalstrength.**

Android™

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

## Apps to Measure Signal Strength:

iPhones

- **OpenSignal** is a free app that allows you to run a test of your iPhone's true speed
- **Speedtest** by Ookla is another free app

Android users: do a signal strength test and network speed test.

- **Network Cell Info Lite**, available for free on the Google Play store, provides nearly real-time monitoring of cellular and WiFi signals

Step 3: Measure Signal Strength For Inside Antenna Placement
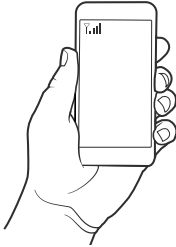
Turn o   your cell phone's WiFi to ensure you are checking the cellular connection. The dBm reading will be refreshed every 30-60 seconds. **Want faster results? Once you have a reading, turn on   airplane mode.** Wait 15 seconds. Turn o   airplane mode. The signal strength reading is refreshed.
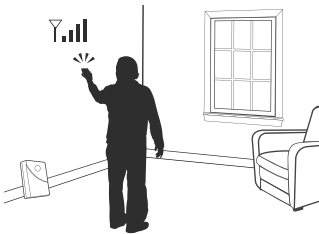
Walk around your home/o   ce taking signal strength readings until you find the area that has the weakest reception, or number farthest away from zero. For example -100 is a weaker signal than -80.

Weakest Signal Number:_____

Weakest Signal Location: _____

Place your Inside Antenna in this poor signal area on the floor and against the wall where you will mount it. For best results, keep the inside antenna more than 18 inches away from the booster.

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. Test both 3G and 4G signal for best results by turning the LTE o   in the carrier settings of your device.

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

Step 4: Measure Signal Strength For Outside Antenna Placement
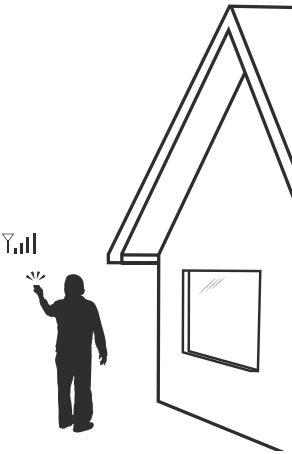
This is the most critical step of the installation process because it will determine the overall performance of the booster system. Using the same method as Step 3, **find the place with the strongest signal (number closest to zero) on the outside of your home.**

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.
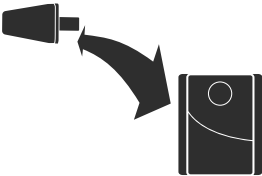
Note: The Outside Antenna must be at least **6 meters vertical or 15 meters horizontal** from the Inside Antenna for best performance. Make sure the Inside Antenna and outside Antennas are facing away from each other.

Step 5: Temporarily Mount The Outside Antenna
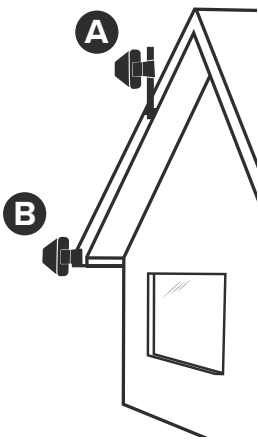
Use one of the two options to mount the outside antenna on the side of the house with the strongest signal.

A Option (Best)

B Option (Good)
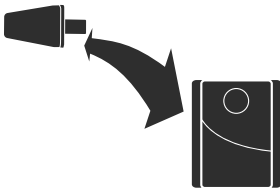
Note: The Outside Antenna must be at least **6 meters vertical or 15 meters horizontal** from the Inside Antenna for best performance. Make sure the Inside Antenna and outside Antennas are facing away from each other.

Step 6: Connect The System
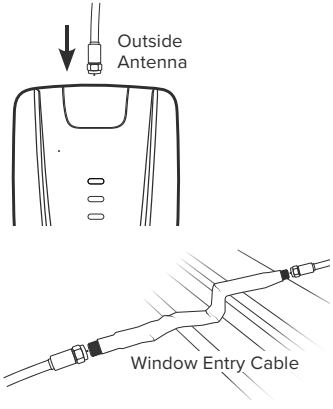
1

Connect the supplied **Coax Cable** to end of booster labeled **Outside Antenna**.

If you choose to bring the cable in through a window, you can use the flat **Window Entry Cable** to connect the two 15 feet cable sections. You can use this option during set-up and/or permanently if you don't want to drill holes through your wall.

Outside Antenna

Window Entry Cable
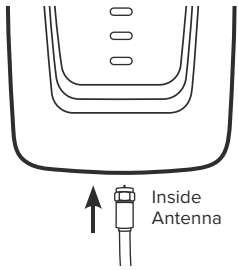
2

Connect the supplied **Coax Cable** to end of booster labeled **Inside Antenna**.

Inside Antenna
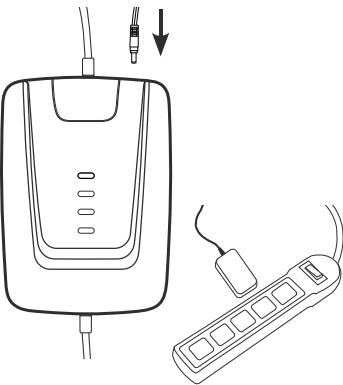
3

Power up the Booster.

To protect Booster from power surges, connect to a power strip.

Step 7: Compare Results

Using the field test mode described in step 3, measure the new signal strength and write it down here _____.

Compare this number with the original reading you took in the same part of the house. If the number is higher (closer to zero) than the original reading without booster, your booster is working. If it is not, look at the lights on the booster and the section at the end of this manual "Test System: Lights".

Did you know a signal increase in just
3dB is 2 times the power and signal amplification!

	Signal Strength EXCELLENT	Signal Strength GOOD	Signal Strength FAIR	Signal Strength POOR	Signal Strength DEAD ZONE
3G/1x	-70dBm	-75dBm	-90dBm	-105dBm	-110dBm
4G/LTE	-90dBm	-100dBm	-108dBm	-115dBm	-120dBm

Distance from Cell Tower

CELL TOWER
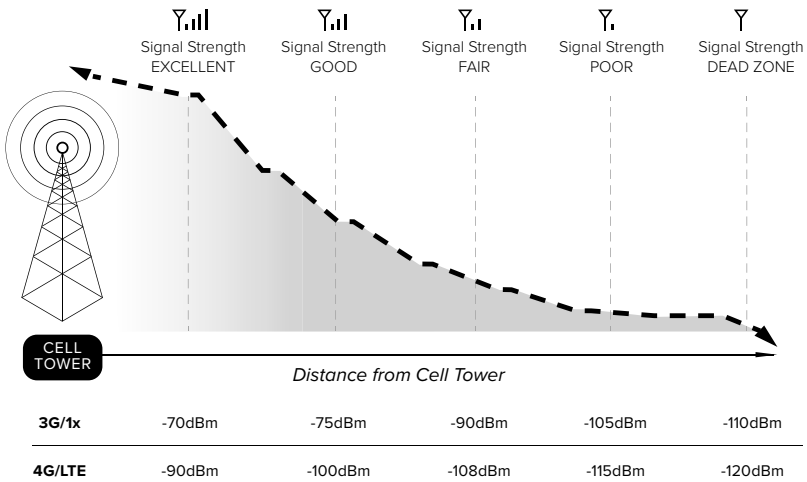
DECIBEL GAIN	POWER INCREASE
3dB	2 times the power and signal amplification
6dB	4 times the power and signal amplification
10dB	10 times the power and signal amplification
12dB	16 times the power and signal amplification
20dB	100 times the power and signal amplification

Step 8: Permanently Mount The Outside Antenna

Option Ⓐ: Outside Roof/Pole Mount (Best Option)

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

Outside Antenna (pole mount)

Drip Holes need to face down

6 meters vertical or 15 meters horizontal for best performance

Inside Antenna

WilsonPro A500
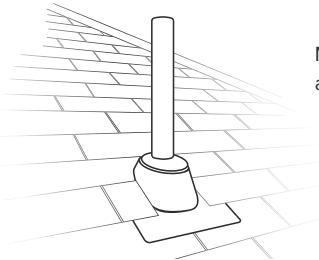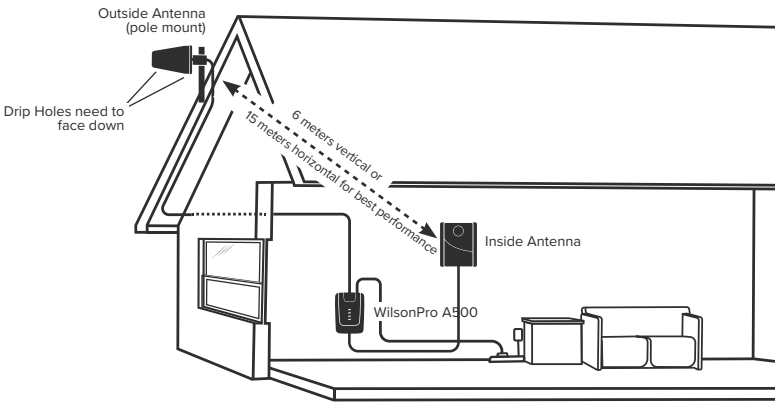
Mounting on existing roof exhaust pipe would be a good time-saver option.

Drip Holes need to face down

WilsonPro A500   CELL PHONE SIGNAL BOOSTER

9
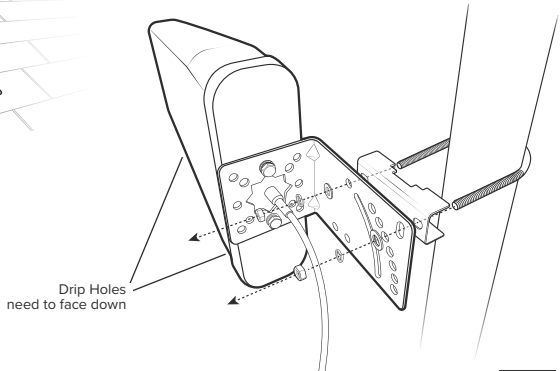
(STEP 8 cont.)

Option B: Mounting on side of roof (Good Option)

Outside Antenna
(flush mount)

6 meters vertical or
15 meters horizantal for best performance

Inside Antenna

WilsonPro A500

Window
Entry Cable

Drip Holes
need to face down

If needed, cable clips can be
purchased at most hardware stores
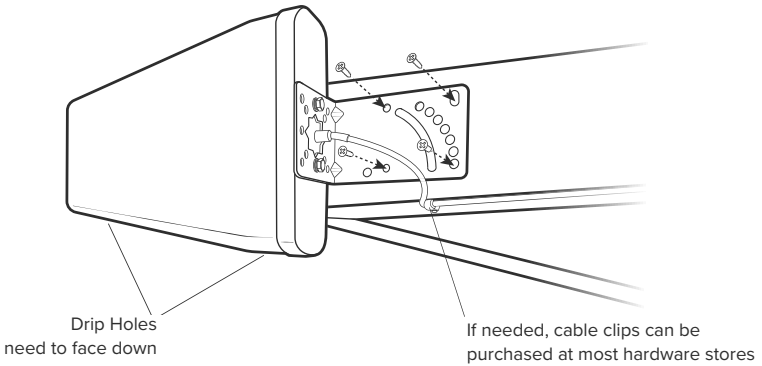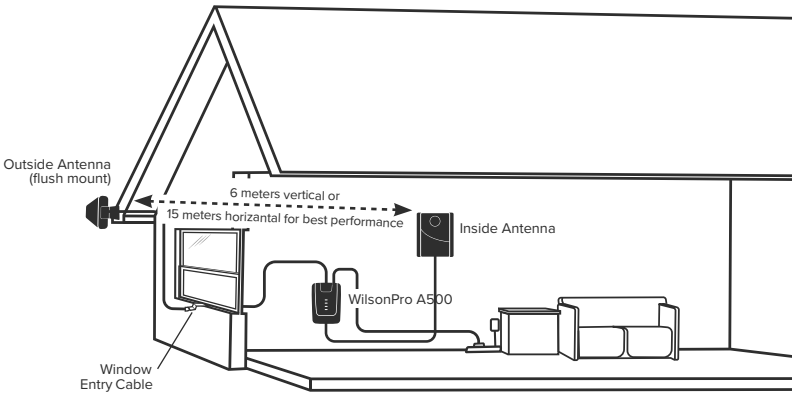
Step 9: Permanently Mount The Inside Antenna

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

Slip Inside Antenna onto the Wall Mount Bracket to secure.

slide into mount

anchor & screw

anchor & screw

Wall Mount
& hardware

drywall
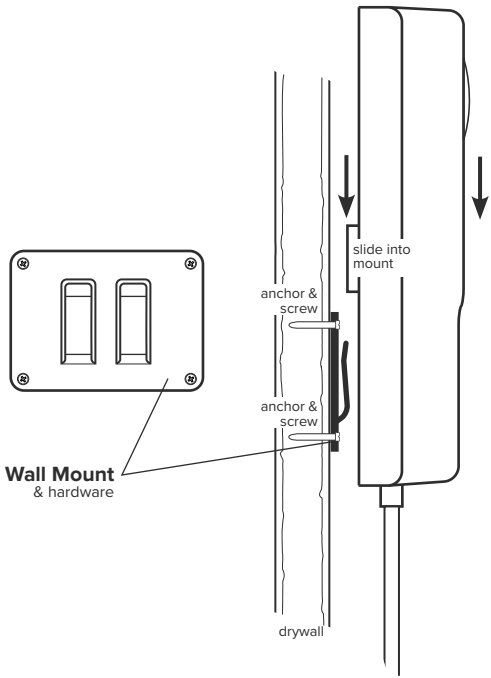
Step 10: Route & Secure The Cable

Secure cable on outside home/office. Some homes have eaves you can tuck the cable between the soft and the exterior wall. If needed, cable clips can be purchased at most hardware stores.

most eaves you can tuck the cable between the soft and the exterior wall

cable running to Outside Antenna

If needed, cable clips can be purchased at most hardware stores
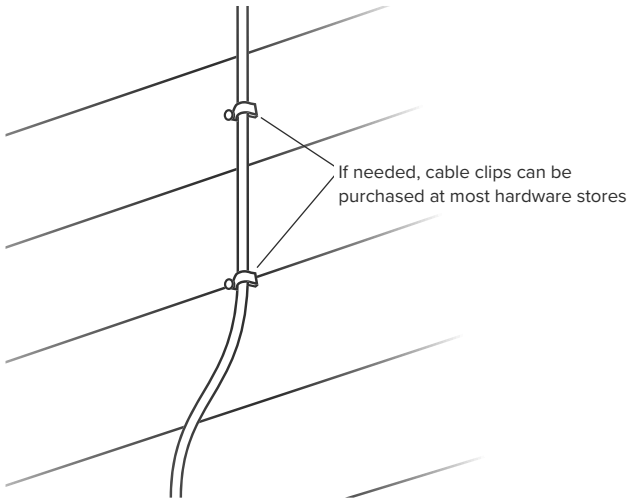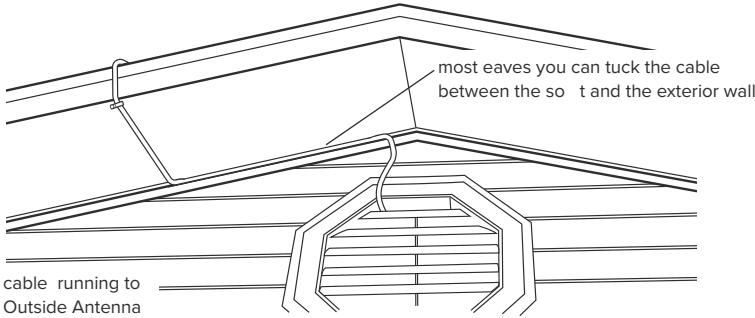
Test System: Lights
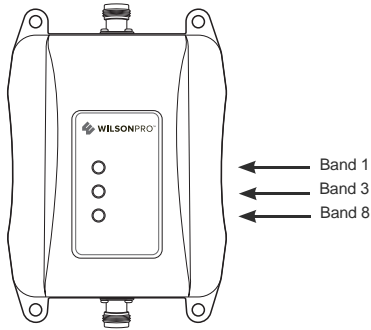
Each light corresponds to a frequency band.

⚠ **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.

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 o
  • **Blinking Green/Red** = Band has reduced gain

skinny side
facing Cell Tower
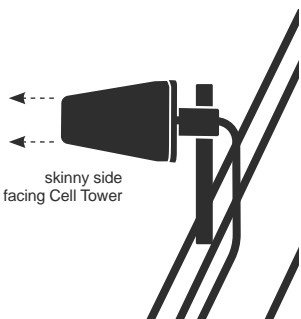
1 Verify Outside Antenna faces away from the Inside Antenna. Un-plug and re-plug in power supply.

2 Verify the Inside Antenna is at least 45cm 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 o
- **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 optimally. Verify you have good coverage.

If you have green lights, but poor coverage:

- Rotate the Outside Antenna in small increments (roof/pole mount only). Un-plug and re-plug power supply.

- Move the Outside Antenna to a di erent location. Un-plug and re-plug power supply.

- Change the method of mounting the Outside Antenna. Un-plug and re-plug power supply.

Specifications

WilsonPro A500 Specifications

Product	WilsonPro Signal Booster		
Model Number	WilsonPro A500		
Connectors	N-Female		
Antenna Impedance OHm	50		
Frequency MHz	1920-1980 / 2110-2170	1710-1785 / 1805-1880	880-915 / 925-960
Bands	B1	B3	B8
Gain Slope	16dB	20dB	16dB
Max Gain without Automatic Gain Control — Uplink	74dB	71dB	80dB
Downlink	51dB	48dB	58dB
Power output for single cell phone (dBm)			
Uplink	30	30	30
Downlink	15	17	20
Power Requirements	5.5 V, 2.5A		

RECOMMENDED: INSTALLING THE LIGHTNING SURGE PROTECTOR

INSTALL THE LIGHTNING SURGE PROTECTOR (LSP) CLOSE TO THE SIGNAL BOOSTER. ATTACH THE CABLE FROM THE OUTSIDE ANTENNA TO THE SURGE PROTECTOR. **ENSURE THE LSP IS PROPERLY GROUNDED**.

Safety Guidelines
⚠️ Warnings

To uphold compliance with network protection standards, all active cellular devices must maintain at least six feet of separation distance from Inside Panel and Dome antennas and at least four feet of separation distance from desktop Antenna.

Use only the power supply provided in this package. Use of a non-weBoost product may damage your equipment.

The Signal Booster unit is designed for use in an indoor, temperature-controlled environment (less than 37 degrees Celsius). It is not intended for use in attics or similar locations subject to temperatures in excess of that range.

RF Safety Warning: Any antenna used with this device must be located at least 20 centimeters from all persons.

This is a CONSUMER device.
The WilsonPro A500 is an ICASA Approved and Registered Device. 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 cease operating this device immediately if requested by ICASA or licensed wireless service provider.

Antenna Kit Options

The following accessories are to be used with the WilsonPro **WilsonPro A500 Booster**.

INSIDE ANTENNA EXPANSION KITS

BT512952 – 1 Extra PANEL antenna expansion kit:
1 x Wall mount panel antenna
1 x 2-way splitter
1 x 15m and 1x 0.5m cable lengths ended with connectors

BT512969– 1 Extra DOME antenna expansion kit:
1 x Ceiling mount dome antenna
1 x 2-way splitter;
1 x 15m and 1x 0.5m cable lengths ended with connectors

BT512976 – 2 Extra PANEL antenna expansion kit:
2 x Wall mount panel antenna
1 x 3-way splitter
2 x 15m and 1 x 0.5m cable lengths ended with connectors

BT512969– 2 Extra DOME antenna expansion kit:
2 x Ceiling mount dome antenna
1 x 3-way splitter
2 x 15m and 1x 0.5m cable lengths ended with connectors

BT512976 – 3 Extra PANEL antenna expansion kit:
3 x Wall mount panel antenna
1 x 4-way splitter
3 x 15m and 1 x 0.5m cable lengths ended with connectors

BT512969– 3 Extra DOME antenna expansion kit:
3 x Ceiling mount dome antenna
1 x 4-way splitter
3 x 15m and 1x 0.5m cable lengths ended with

Warranty

⊘ 1 YEAR WARRANTY

weBoost Signal Boosters are warranted for one (1) 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

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