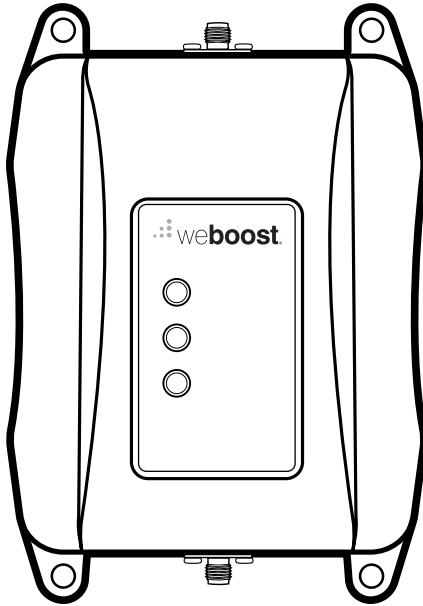


AH100-PRO

Cell Signal Booster



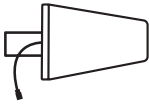
Installation Guide

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Package Contents

Outside Antenna Options

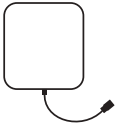


Outside
Yagi Antenna



Outside
Omni Antenna

Inside Antenna Options



Wall Mount
Panel



Dome Antenna

In All Kits



AM100
Booster



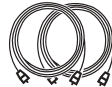
Power
Supply



Roof/Pole
Mount
Bracket



Wall Mount
Bracket



2 Coax Cables
(1 x 10m; 1 x 5m)

Preparation

You Will Need (tools not included)

Make sure the following materials are prepared and ready for your installation.



1 to 2 hours



2 people (a person to help with antenna calibration)

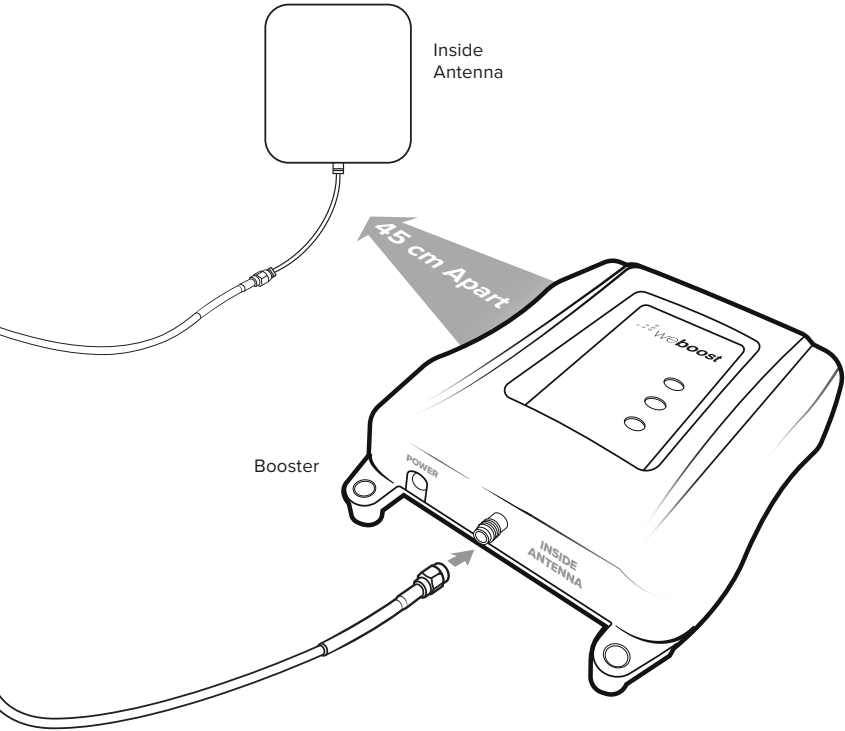


- Ladder
- Phillips-head screwdriver
- 10mm open-end wrench or adjustable wrench
- Drill (*if routing cable through wall*)
- 3-5cm diameter pole existing pole (or order BT512631)
- Recommended: Power Strip with surge protection

Step 1-A & B: Connect Inside Antenna To Booster

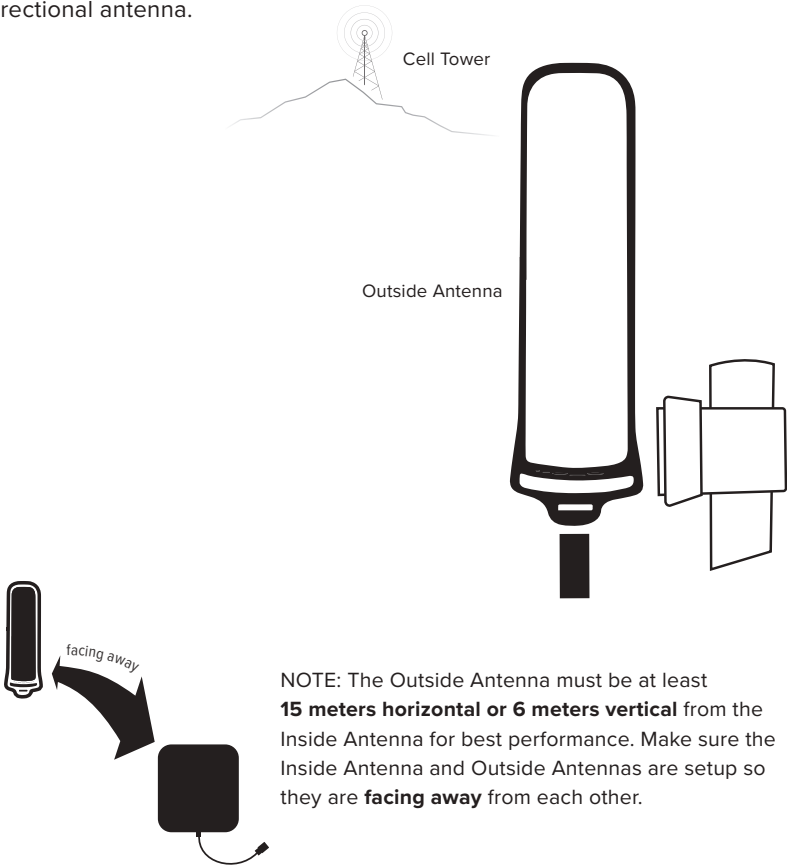
Connect Inside Antenna cable to the bottom port on **AH100-PRO** booster labeled 'INSIDE' and place Inside Antenna in weak signal area at least 45 Centimeters away from booster.

NOTE: Do not connect booster to power until the system is fully installed.



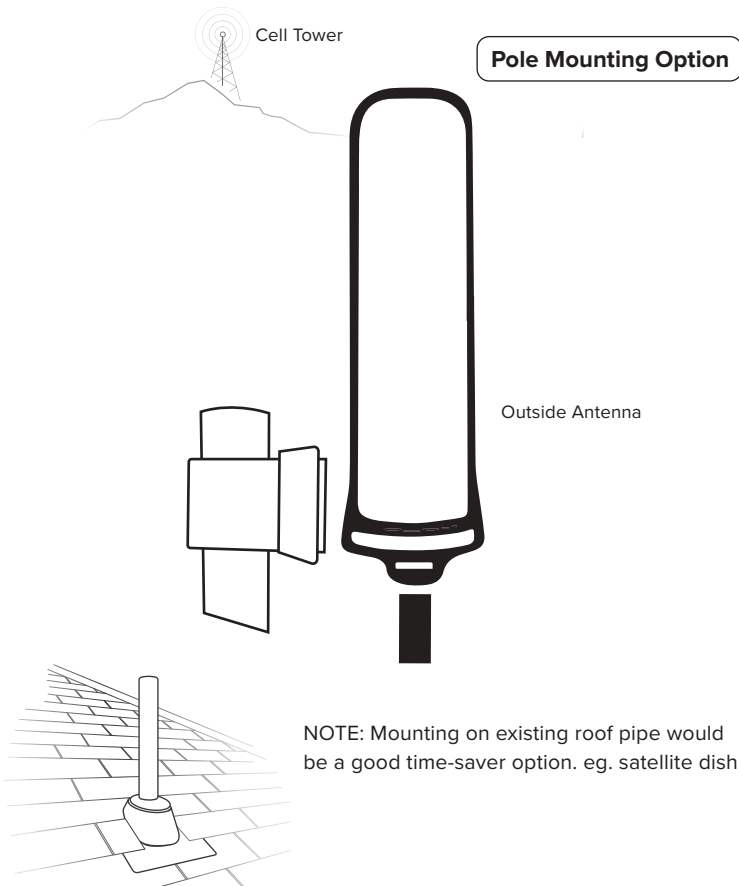
Step 2: Mount & Point Outside Antenna Toward Nearest Cell Tower

Locate your cell towers by using apps such as 'Network Cell Info Lite' or 'Open Signal'. **This is a critical step of the installation process because it will determine the overall performance of the booster system.** Point the **Outside Antenna** toward the nearest cell phone tower if using a Yagi directional antenna.



(STEP 2 cont.)

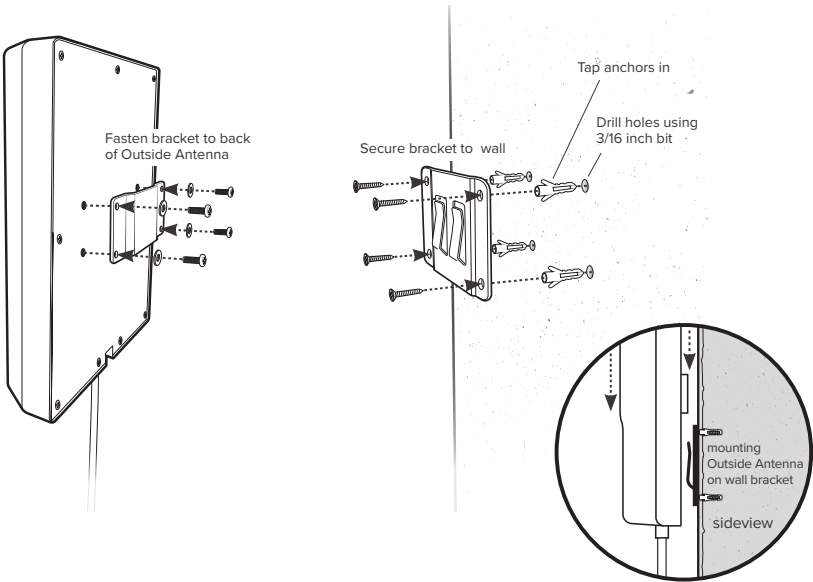
If using an omni-directional antenna, ensure that antenna is placed on highest point on roof for optimal broadcasting and reception.



Step 2-B Cont. Installing the indoor wall panel

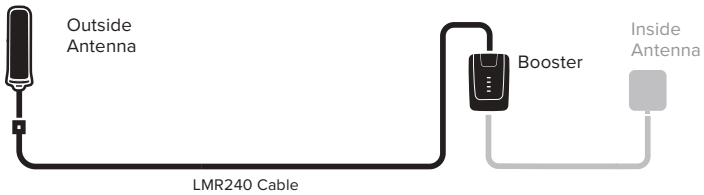
(STEP 2 cont.)

Wall Mounting Option

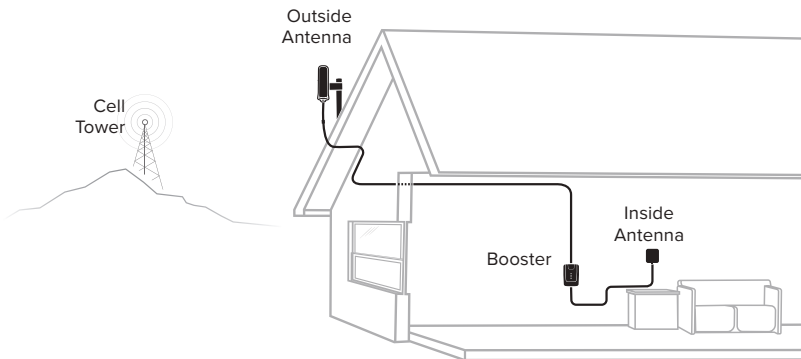


Step 3: Route & Connect Cable To System

Connect the **LMR240 Cable** to **Outside Antenna** and route cable into the home. All connections should be **hand tightened** only.



A Window Entry Cable is available as an optional extra purchase.

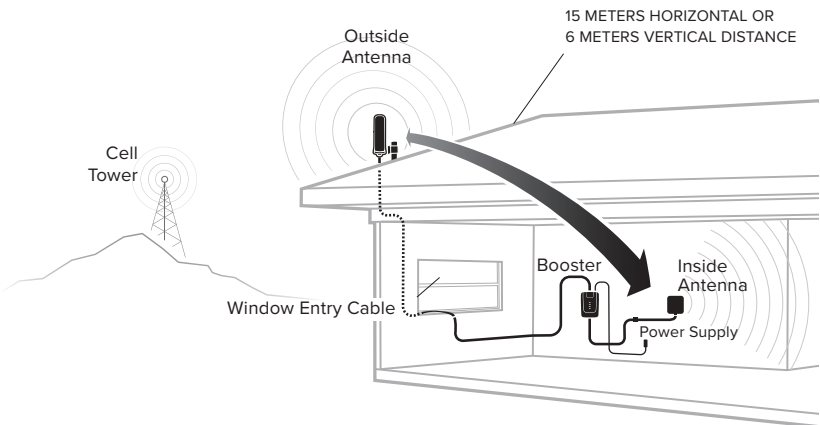
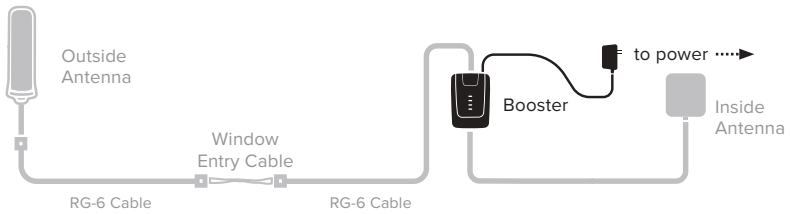


Step 4: Power Up The Booster & Optimize the System



Warning: Do Not connect power supply to booster before connecting both outside and indoor antennas

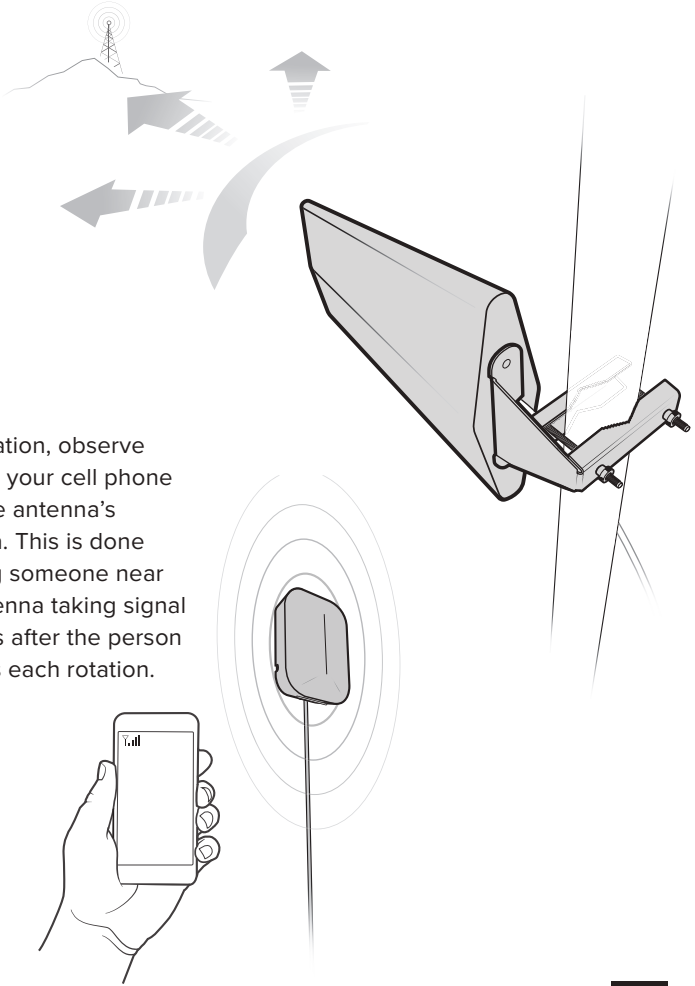
Plug the **Power Supply** into wall outlet then connect to AH100-PRO booster.



(STEP 4 cont.)

If using an omni-directional antenna, please skip this step.

After powering up your system, you are now ready to optimize your system. If using a Yagi Directional antenna, turn it slowly, wait 30 seconds see if signal on cellular phone has improved by standing close to the indoor broadcasting panel antenna.



After each rotation, observe signal level on your cell phone from the inside antenna's projected area. This is done best by having someone inside the antenna taking signal measurements after the person outside makes each rotation.

Measuring Booster Performance

How To Get Signal Strength As A Number

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 Off.

After your 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 no longer displays the decibel (dBm) reading in 'Field Test Mode'. Tip: Using the signal bars and performing data speed tests on your cell phone can assist you in finding the strongest signal direction as well as placing calls in different locations. **For changes/updates on this issue, periodically go to: <https://www.boltontechnical.co.za/blogs/news>**

iPhone is a registered trademark of Apple Inc. Android is a trademark of Google Inc.

Android™

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

All Other Phones & Alternate Methods

Go to: <https://www.boltontechnical.co.za/blogs/news/signalstrength>

(MEASURING BOOSTER PERFORMANCE cont.)

Signal Strength without Booster

Note here: _____

Signal Strength with Booster

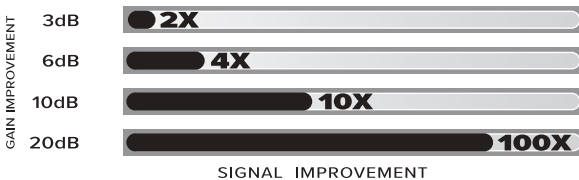
Note here: _____

Compare Results

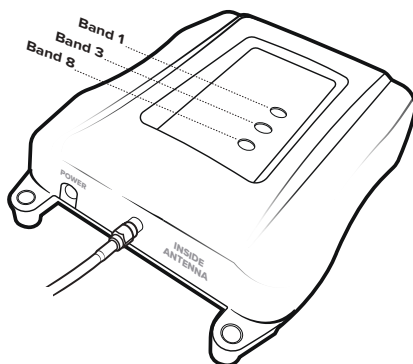
Having an accurate measurement of signal strength in decibels (dBm) is crucial when installing your system. Decibels accurately measure the signal strength you are receiving.

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

DID YOU KNOW a signal increase of just 3dB is 2 times the power and signal amplification!



Light Patterns



Solid Green

This indicates that your booster is functioning properly and there are no issues with installation.

Blinking Green, Then Red

Band has reduced gain. This indicates that one or more of the booster bands has reduced power due to a feedback loop condition called oscillation. This is a built in safety feature to prevent harmful interference with a nearby cell tower. If you are already experiencing the desired signal boost, then no further adjustments are necessary. If you are not experiencing the desired boost in coverage then refer to the Troubleshooting section.

Solid Red

Band has shutoff. This is due to a feedback loop condition called oscillation. This is a built in safety feature that causes a band to shut off to prevent harmful interference with a nearby cell tower. Refer to Troubleshooting section.

Blinking Green, Orange

Band has reduced gain. This indicates that one or more of the booster bands has reduced power due to overload from nearby cell tower. This is a built in safety feature to prevent harmful interference with a nearby cell tower. If you are already experiencing the desired signal boost, then no further adjustments are necessary. If you are not experiencing the desired boost in coverage then refer to the Troubleshooting section.

Solid Orange

Band has shutoff due to overload from nearby cell tower. Outside Antenna must be adjusted. Refer to Troubleshooting section.

Light Off

If the Signal Booster's light is off, verify your power supply has power.

Troubleshooting

IF YOU ARE HAPPY WITH THE COVERAGE, THESE LIGHT ISSUES DON'T HAVE TO BE RESOLVED. YOUR CARRIER'S BAND HAS NOT BEEN AFFECTED.

FIXING ANY RED LIGHT ISSUES

This involves Solid Red & Blinking Green/Red lights.

- 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 45 centimeters from the Booster and pointed away from the Booster. Unplug and re-plug in power supply.
- 3 Tighten all cable connections (be sure to handtighten only, do NOT use tools). You may want to undo and redo the connection completely. Unplug and re-plug in power supply.
- 4 Increase the distance (horizontally or vertically) between the Outside and Inside antenna. Add included cable if needed. Un-plug and re-plug in power supply.

FIXING ANY ORANGE LIGHT ISSUES

This involves Solid Orange & Blinking Green/Orange lights.

Outside Antenna must be adjusted. Wait 10 seconds between adjustments for the lights to reset.

Pole Mount Option: Rotate the Outside Antenna away from the strongest cellular signal in small increments (45°) until the light turns green. Unplug and re-plug in power supply.

Wall Mount Option: Change mount location. Move the Outside Antenna to a wall outside the building to see if the lights turn green. Un-plug and re-plug in power supply.

Safety Guidelines

To uphold compliance with network protection standards, all active cellular devices must maintain at least 2 meters of separation distance from Inside Panel and Dome antennas and at least 1.2 meters 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 38 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.

AWS Warning: The Outside Antenna must be installed no higher than 10 meters above ground.

This is a CONSUMER device.

The AM100-Pro is an ICASA Approved and Registered Device.

Other Kit Options

The following alternative kit options are available with the **weBoost AH100-PRO Booster KIT**.

DESKTOP KIT RANGE

YAGI-DESKTOP AD100_YD KIT:

- 1 X Outside Yagi Antenna
- 1 X 10m Bolton240 Cable
- 1 X Indoor Desktop Antenna
- 1X AH100-PRO AMPLIFIER

OMNI-DESKTOP AD100_OD KIT:

- 1 X Outside Omni Antenna
- 1 X 10m Bolton240 Cable
- 1 X Indoor Desktop Antenna
- 1X AH100-PRO AMPLIFIER

PLUG AND PLAY KIT AH100-PP KIT:

- 2X DESKTOP ANTENNAS
- 1X AH100-PRO AMPLIFIER

Specifications

AM100-Pro Signal Booster Specifications

Product		weBoost Signal Booster		
Model Number		AH100-PRO		
Connectors		SMA		
Antenna Impedance OHm		50		
Frequency MHz		1920-1980 / 2110-2170	1710-1785 / 1805-1880	880-915 / 925-960
Bands		B1	B3	B8
Passband Gain UL/DL		53.9 / 53.7	49.9 / 51.8	49.3 / 50.1
20 dB Bandwidth (MHz)				
Typical		74.8	85.6	39.4
Maximum		77.4	86.7	41.5
Power output for single cell phone (dBm)				
UPLINK		20.2	21.2	20.3
DOWNLINK		2.8	3.2	2.6
Power output for multiple received channels (Uplink) dBm				
No. Tones				
2		20.2	21.2	20.3
3		18.4	19.4	18.5
4		17.2	18.2	17.3
5		16.2	17.2	16.3
6		15.4	16.4	15.5
Power output for multiple received channels (Downlink) dBm				
No. Tones				
2		2.8	3.2	2.6
3		1	1.4	0.8
4		-0.2	0.2	-0.4
5		-1.2	-0.8	-1.4
6		-2	-1.6	-2.2
Noise Figure UL/DL		7.4 / 7.0	5.0 / 6.0	4.4 / 4.4
Isolation dB		-65		
Power Requirements		6 V, 1.5A		

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.



1 YEAR WARRANTY

weBoost Signal Boosters are warranted for one (1) year against defects in workmanship and/or materials. Warranty cases may be resolved by returning the product directly to the Bolton Technical with a dated proof of purchase.

This warranty does not apply to any Signal Boosters determined by Bolton Technical 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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