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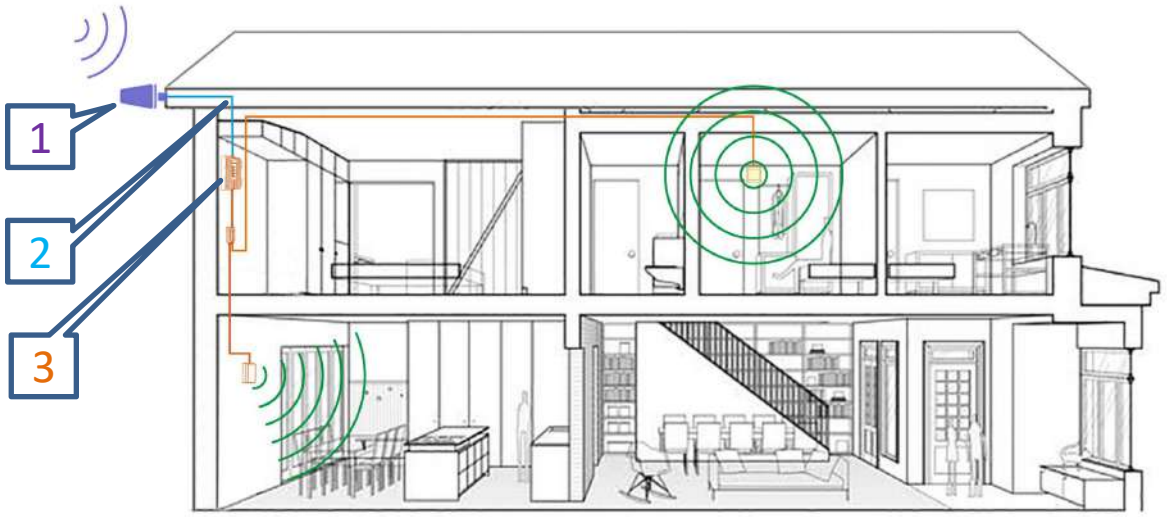
RF Boost 8K
Cell Phone Booster Manual

If you have any questions or concerns when installing or operating your cell phone booster, please email us: order@signalbooster.com

Or call our customer service number **855-846-2654**

Working Diagram (How It Works)



1. The outdoor antenna catches the signal from the tower.
2. Sends outside signal to the booster through a coax cable.
3. The booster amplifies the signal then rebroadcasts the signal indoors to all mobile devices within range.
4. The system also works in reverse; amplifying outgoing signal back to the tower.

⚠ The **size** and the coverage area and the **strength** of the boosted signal are directly related to two key factors:

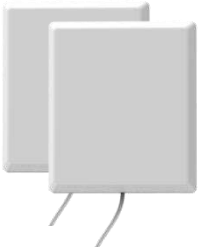
1. Signal strength received by the outdoor unit. So, setting up the outside unit where the signal is the strongest will provide the best results.
2. Distance of **separation** between the outdoor unit and the indoor unit.

Package Contents

The kit includes the following items:

1. Outdoor Antenna, Indoor Antenna；
2. Booster；
3. Power supply；
4. Splitter
5. 3*30 ft&1*15 ft of RG6 cable；


Outdoor Antenna


2*Indoor Antenna

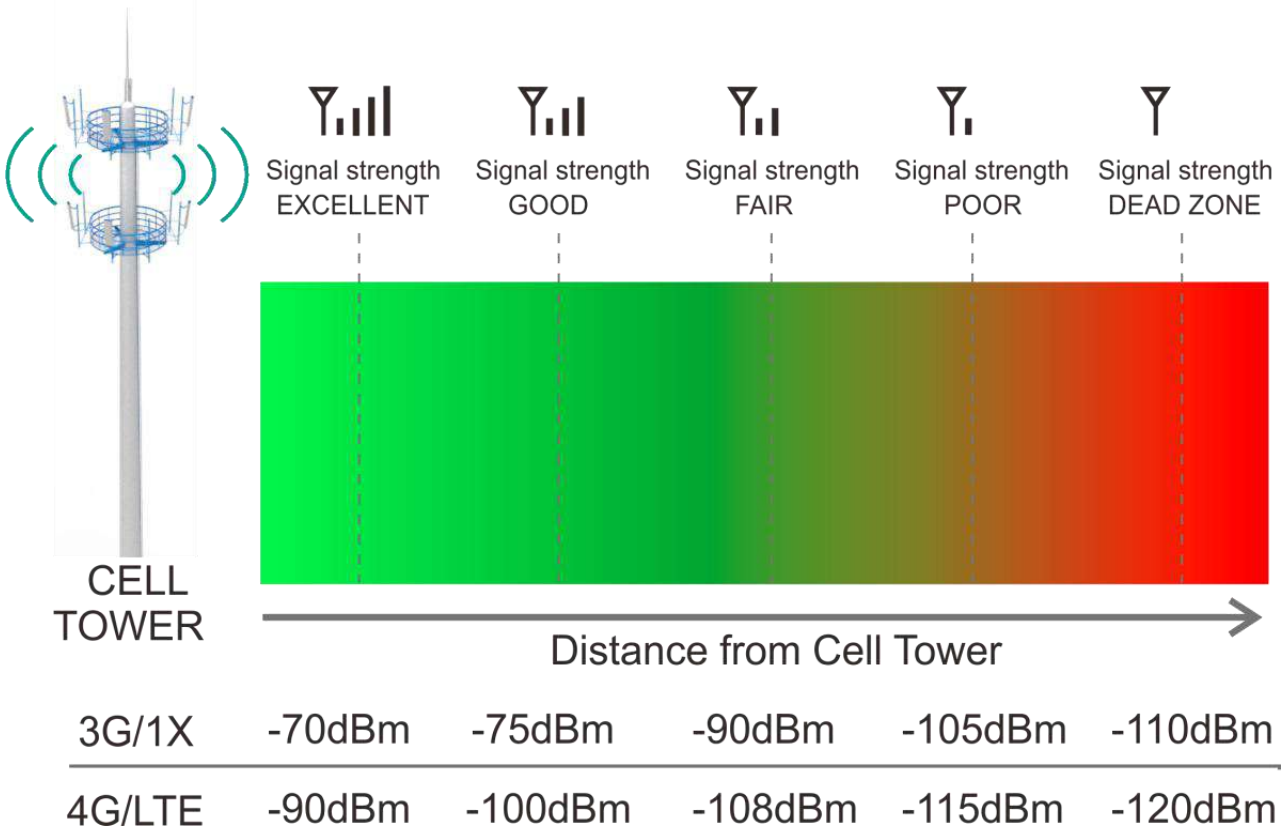

Booster


Power supply

Splitter


RG6 cable

Signal transmission loss and power level



3G/1X	-70dBm	-75dBm	-90dBm	-105dBm	-110dBm
4G/LTE	-90dBm	-100dBm	-108dBm	-115dBm	-120dBm

Coverage area ability

Note: FCC regulations limit the amplification of all cell phone boosters in order to prevent damage to the telecommunications infrastructure. Therefore, the maximum coverage area of a booster depends on the original power level of the signal captured by the outdoor unit.

⚠**Notice**: Not recommended when outdoor signal strength is less than -110dbm(3G/1x) or -120dBm(4G/LTE). The resulting coverage area of the boosted signal will be prohibitively small.

Power level at the outdoor antenna location	Coverage Area @ One Antenna (sq. ft.)	Coverage Area @ Two Antenna (sq. ft.)
Strong (5 bars on the cellphone)	5,000	8,000
Medium (3~4 bars on the cellphone)	2,500	4,000
Weak (1~2 bars on the cellphone)	600	1,000

Preparation

Find a cell tower nearby!
There are a variety of resources available online, here are some third party websites and app recommended. Use these to locate your nearest cell tower, either by street address of GPS coordinates.
For U.S. websites:
antennasearch.com/
cellmapper.net/
cellreception.com/towers
For Canada website:
cellmapper.net/

APP: Tower Locator (iPhone or Android)

Find The dBm Reading On Your Phone

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 off in the carrier settings of your device.

iPhone: need to download third part APP;

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

Note: 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.

You Will Need (make sure the following things and tools are prepared and ready for your installation.)

- 2~3 hours
- 2 people (a person to help with antenna calibration)
- Drill (if routing cable through wall)
- Recommended: Power Strip with surge protection

Test Installation

We **STRONGLY** recommend doing a test installation before finalizing the installation. Doing a test installation of your cell phone booster ensures that you will get the optimal performance from your system.

Step1: Measure the Signal Strength Inside your Home

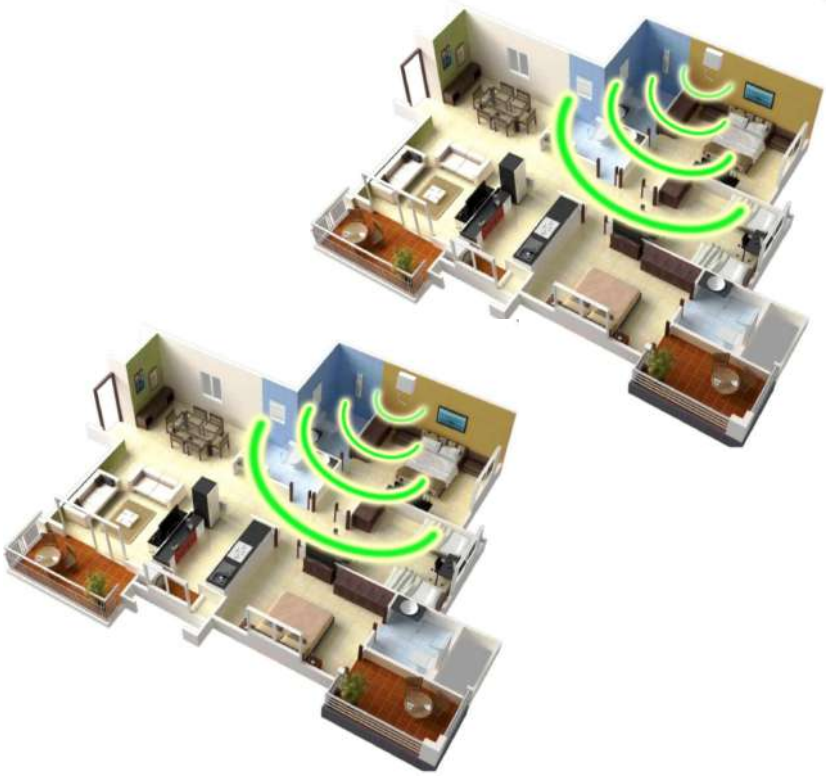
- Test your current signal strength in multiple locations throughout the home
- Record the current signal strength in the table provided for reference

Test → **Record**

No	Location	Record(dBm)
1		
2		
3		
4		
5		

Step2: Select the Location for the Inside Antenna

- The indoor antenna is an directional antenna. Choosing a location facing all over your home will help to maximize your coverage area.

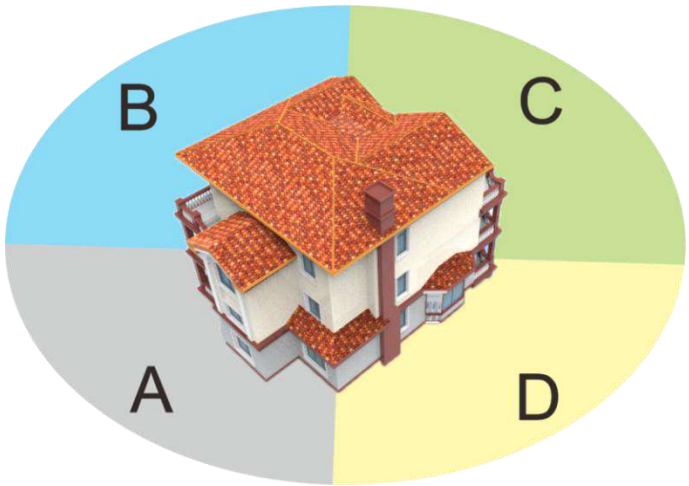


Step3: Select the Location for the Outside Unit

1. This is the most critical step and will determine the overall performance of the booster system.
2. Using the same method described in Step 1, walk around the outside of your home and test the signal strength. Determine where you have the strongest signal (the dBm reading is closest to zero).
3. Generally, the strongest signal will be located on the side of your home facing the nearest cell tower. Keep in mind, the signal strength at ground level may be different from the signal strength at or above the roofline due to obstructions (trees, other buildings, etc.) that block the incoming signal. In most situations, the strongest signal is found about 15 feet above the ground on the side of your home facing the nearest cell tower.

Caution

- The height of the outside antenna should never exceed the highest point of your home. This is a precaution against damage and safety concerns caused by lightning strikes to the outside unit.
- In order to achieve the best performance, try to maximize the distance between the inside and outside antenna.
- Ensure that the outside antenna is pointed away from where you plan to install the inside antenna. Self-oscillation may occur if the outside antenna is pointed over the location of the inside antenna.



Test → Record

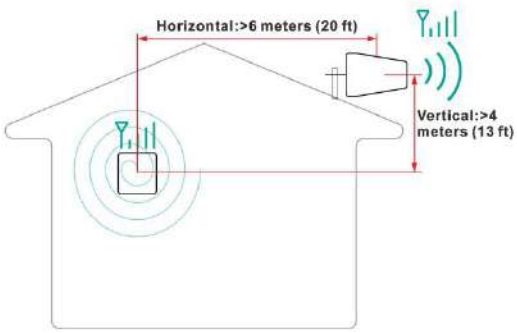
No	Location	Record(dBm)
1		
2		
3		
4		
5		

Step 4: Temporarily Mount the Outside Antenna

Use one of the three options to mount the outside antenna on your roof on the side of the house with the strongest signal

In order to achieve the best signal coverage effect, there is a certain distance requirement between the indoor and outdoor units. Make sure the inside and outside units are facing away from each other.

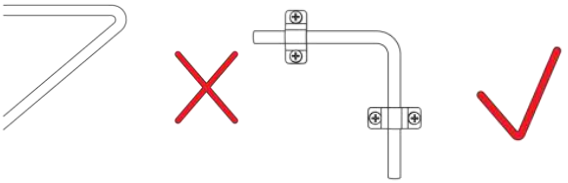
Minimum Required Separation Distance Between Indoor and Outdoor Antenna：
20 ft (6 meters) horizontal distance
13 ft (4 meters) vertical distance(As far as possible)



Make sure to meet the Minimum Separation Requirements while at the same time mounting the outside unit in the location with the strongest signal.

Step5: Introduce (Route) Cables Into Room Through Window

Attention: Don't kink the cable! Avoid excessive and extreme bending of the cable in order to prevent damage and loss of function.



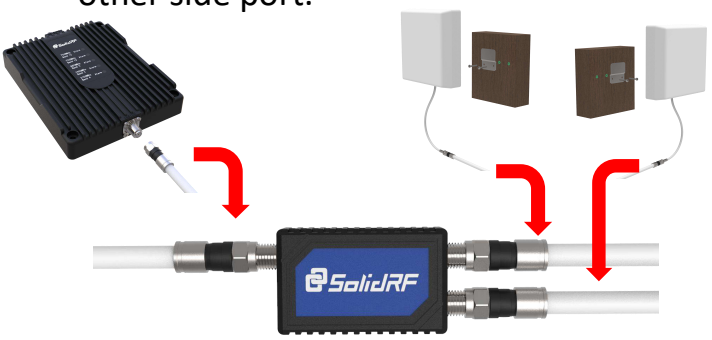
Step6: Connect the System

1. Connect the outside antenna to the RG6 cable.

2. Connect the outside antenna to the "OUTSIDE" port of booster with same cable.

3. Connect the another RG6 cable to the booster at the "INSIDE" port.

4. Connect the other end of the coax cable to splitter at the "INPUT" port, and two inside antennas' cables connect to the other side port.



5. Connect the other end of the coax cable to the panel antenna.

6. Plug in the power adaptor and connect it to the nearest power outlet.

Step7: Evaluate the Effects

- Now that the booster is up-and-running, re-test the signal strength inside your home at the same locations from Step 1. If the number is higher (dBm reading is closer to zero) than the original reading, your booster is working.
- If your signal is not stronger, check the LED lights on the booster and refer to the "Quick Troubleshooting" section at the end of the manual.

No	Location	Record(dBm)
1		
2		
3		
4		
5		

Decibel Gain vs. Power Amplification/Distance/Coverage area

Decibel Gain	Power Amplification (times)	Distance Enhance (times)	Coverage Enhance (times)
6	4	2	4
10	8	3	9
20	100	8	64
30	1000	32	900

Note: Decibel Gain and Power Amplification may vary depending on the specifics of your situation. Different building materials and other obstructions in your home will result in different outcomes.

Step8: Finalizing Outdoor Antenna Installation

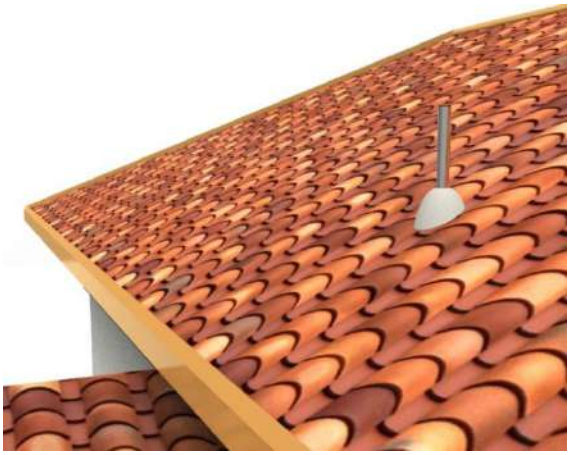
Once you have tested the performance of the signal booster and made all necessary adjustments, it's time to finalize the installation.

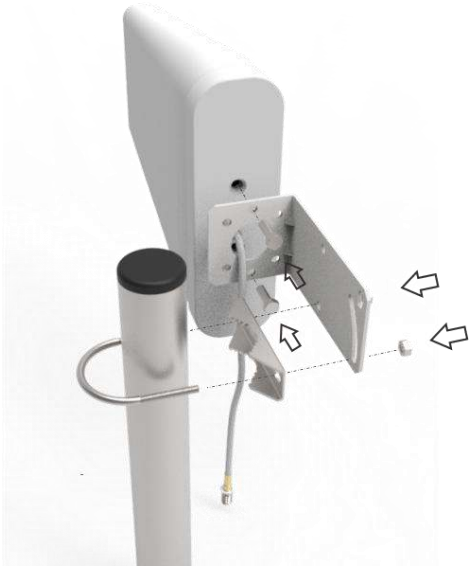
Outdoor Unit Installation

Make sure that the outside unit is mounted at least 3 feet away from any other metallic objects or windows.

Option A : Outside Roof Pole Mount (Best Choice)

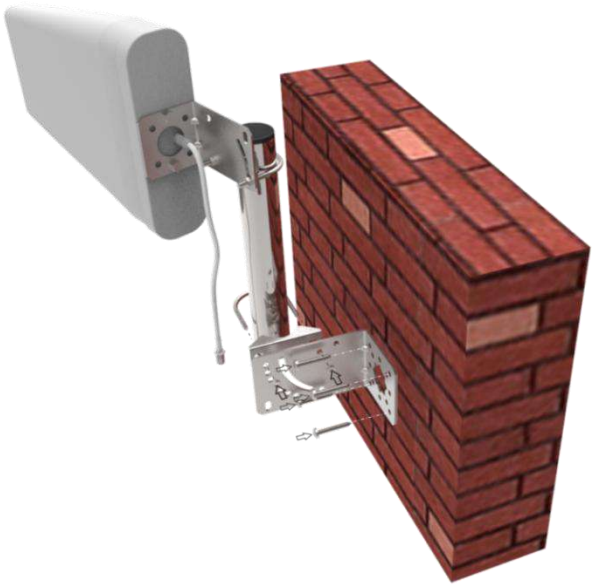
Use an existing pole or the pole provided to mount the outdoor unit in the optimal signal location. Use the picture for reference.





OR

Option B : Mounting on Side of Wall (Second Choice)

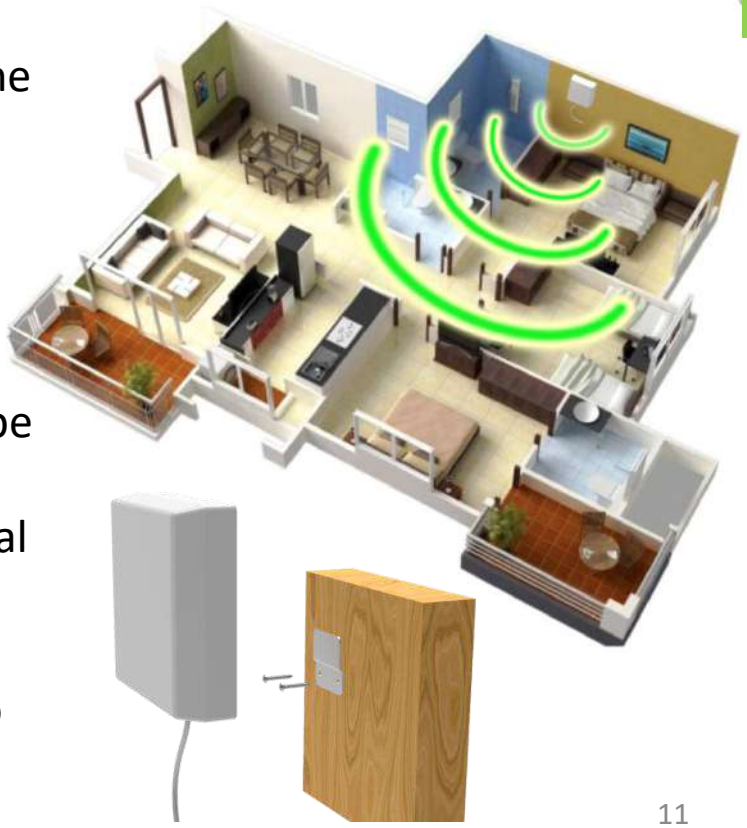


Step9: Finalizing Indoor Installation

a. Choose right position for the indoor antenna
- 20 cm away from any other metallic objects
- 50 cm away from any windows
- The inside antenna should be facing the location of the signal dead zone/weak signal area inside the building

b. Mount the inside antenna

c. Connect the inside cable to the inside antenna



d. Mount the booster

- Choose a ventilated and dry place
- Keep away from heat
- Don't cover booster

⚠ Booster will about 30 degrees Fahrenheit higher than the ambient temperature, which is a normal phenomenon.

Step10: Finalizing and Securing Cable Route

- Find the best route for the cable. Follow the lines of your home to hide the cable in eaves or between the soffit and the exterior wall.
- If needed, cable clips can be purchased at most hardware stores.

Quick Trouble shooting

Correct functioning:

- Power Light should be solid white(the logo on the panel)
- The lights on the front panel indicate the condition of the booster. Every time the booster is powered on, all of the lights will be green in color for a while then off. This means the booster has passed the self check and is in good condition..

Power Light

Panel State Light

Incorrect Functioning: *(Please see the Troubleshooting Guide for further details)*

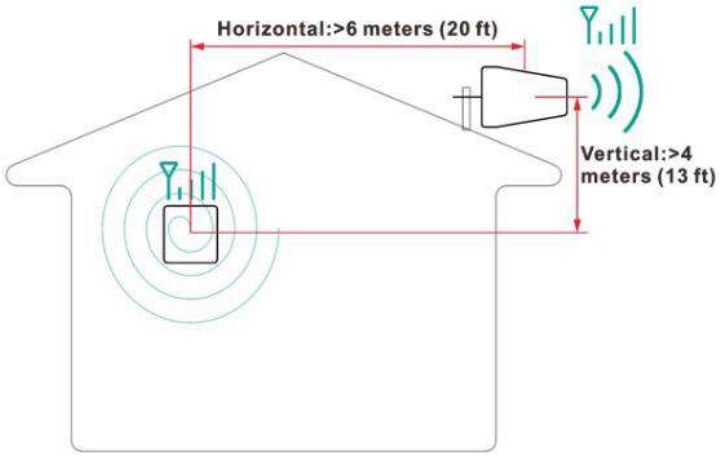
- If any of the lights on the front panel are flashing in green then off/continue flashing/solid green, it means that self oscillation is occurring. You must switch off the booster and check the outside and inside antennas immediately. Make sure you have followed the recommended installation process and check each step carefully. Refer to Self Oscillation section for more details of minimum required separation distance, antennas installation. If you can not fix the problem please contact the technical support or the reseller.

Trouble Shooting: No Signal Improvement

Step 1. Check power. Ensure the indoor unit is plugged in and the LED Power Light is green.

Step 2. Check cable connections. Ensure the indoor and outdoor units are securely connected to the coax cable.

Step 3. If any of the lights on the front panel are flashing in green then off/continue flashing/solid green, it means that self oscillation is occurring. You must switch off the booster and check the outside and inside antennas immediately.



Step 4. Double check the location of outdoor and indoor units. Make sure that the Minimum Separation Requirements have been met. Make sure that the outside antenna is not pointed towards the inside antenna.

Minimum Required Separation Distance Between Indoor and Outdoor Unit:
Horizontal Distance = 20 feet (6 meters)
Vertical Distance = 13 feet (4 meters) (As far as possible)

Step 5. Check incoming signal level at outdoor unit position. Usage of a booster is not recommend when the outdoor signal is less than -110dbm(3G/1x) or -120dBm(4G/LTE).

Technical Specification

Frequency (MHz)		LTE (band 12)	LTE (band 13)	Cellular (band5)	PCS (band 25/2)	AWS (band 4)
	Uplink	698-716	776-787	824-849	1850-1915	1710-1755
	Downlink	728-746	746-757	869-894	1930-1995	2110-2155
Gain	Uplink	62	62	62	65	65
	Downlink	65	65	65	68	68
Output power	23dBm(Uplink)/6dBm(Downlink)					
Noise figure	<5dB					
In-band Flatness	<9dB					
Weight	0.65Kg					
EIRP	1W					
Impedance	50 ohm					
Operating temperature	-5° ~60°					
Current	≦1.5A(6V DC)					
Dimension(mm/in)	158*125*25/6.2*4.87*0.98					

WARRANTY

The Booster is covered under a three-year product warranty for failures or defects that result from craftsmanship and/or materials. Dated proof of purchase should be retained for use in warranty cases. Contact the retailer/reseller directly with any warranty issues, or alternatively contact the manufacturer in cases where the reseller is no longer available to handle warranty claims. In cases where the reseller is unavailable, the product may be returned to the manufacturer at the consumer's expense, with a dated proof of purchase and a return authorization letter which can be attained by contacting SolidRF.

This warranty does not apply to any signal booster components determined by SolidRF to have been subjected to misuse, abuse, neglect, tampering, or mishandling that result in damages to the physical or electronic properties of the product. Refurbished products that have been recertified to conform to product specifications may be used for product replacements.

DISCLAIMER: The information provided by SolidRF is believed to be complete and accurate, to the best of our knowledge. However, no responsibility is assumed by SolidRF for any business or personal losses arising from the use of the information herein contained, or for any infringements of patents or other rights of third parties that may result from its use.

To uphold network protection standards and ensure compliance, all active cellular devices must maintain a separation distance of at least six feet between the inside unit antenna and outside unit antenna and at least four feet of separation distance from the inside unit. Use only the power supply provided in this package. Use of a non-SolidRF product or accessory may result in damage to the equipment or components of the equipment. The inside unit is designed for use in an indoor, temperature-controlled environment (less than 100 degrees Fahrenheit). It is not intended for use in attics or similar locations where temperatures may be in excess of that range.

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.

In Canada, **BEFORE USE** you must meet all requirements set out in ISED CPC-2-1-05. 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 (i.e., **MUST NOT** be installed within 20 cm of) any person.

You **MUST** cease operating this device immediately if requested by the FCC (or ISED in Canada) or 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 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 SolidRF could void the authority to operate this equipment.