



SolidRF MobileForce 4G Cell Phone Booster Manual

If you have any questions or concerns when installing or operating your cell phone booster, please email us:

Support@SolidRF.ca

Please provide the invoice of your product in your email. Or visit www.SolidRF.ca for more information.

Systems tested and certified against FCC standard, Equipment Class: Part 20 Wideband Consumer Booster (CMRS)

Systems tested and certified against IC standard, Type of Equipment: Amplifier, RSS-131

Product Diagram
Package Contents
Features

Installation – Step By Step

Technical Specification



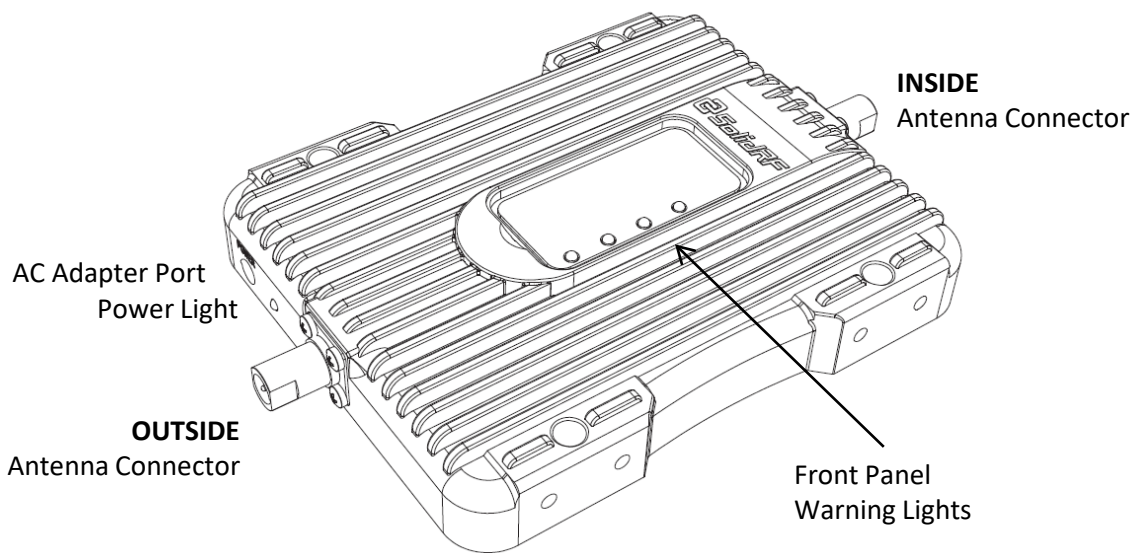
Self Oscillation



Troubleshooting
Find Strongest Signal

Manufactured and Warranted by
SolidRF Technology Inc. Canada
www.SolidRF.ca

Product Diagram



Package Contents



MobileForce 4G
Booster



Inside Antenna



Outside Antenna



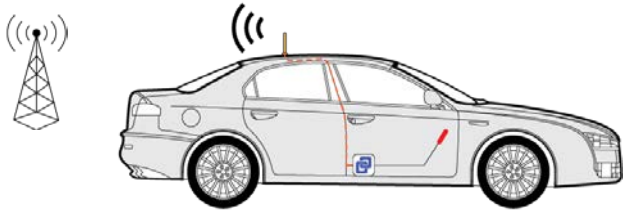
Power Adapter

Features

- Greatly reduces dropped calls, extends signal range, and increases data rates
- Allows multiple mobile devices to be used simultaneously
- Oscillation (or interference) detection and automatic shutdown
- Overload protection circuit – protects cell towers from being overloaded
- Amplifies signal both to and from the cell tower
- Maximum 1 watts(EIRP) output power
- Works on all generations of 2G,3G and 4G
- Power control logic ensures maximum gain is within cellular standards
- Reduces radiation and extends battery life – up to 2 hours additional talk time in weak signal areas.

Installation - Step By Step

How does it work



Step 1: The powerful outside antenna captures a voice and data signal and transfers it to the booster.

Step 2: The booster receives the signal, amplifies it and then rebroadcasts the signal by the inside antenna.

Step 3: Your mobile devices will get a better signal, never experiencing dropped calls or slow data speed.

Supported Carriers

- AT&T 2G/3G/4G (HSPA+ & LTE)
- Verizon 3G/4G
- T-Mobile 2G/3G/4G
- Sprint 3G/4G
- US Cellular 3G/4G
- Metro PCS 3G/4G
- Major Canadian Carriers 2G/3G/4G
- All other carriers using 700MHz, 850MHz, 1900 MHz and 2100 MHz

Conduct a Test Installation

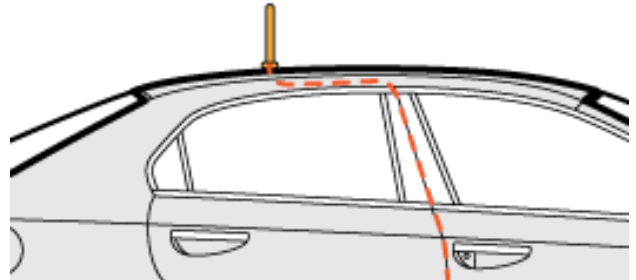
Conduct a test installation to ensure correct product functioning before permanently installing the booster.

The test installation will help to determine the best location for the inner and outer antenna and additionally the routing cable

STEP BY STEP INSTALLATION

Step 1: Mount the outside antenna

- Choose right position.
 - 30 cm away from any other metallic objects.
 - 50 cm away from any windows.
- Mount the antenna: it must be mounted vertically on top of the vehicle.



- Set the outside antenna cable into the vehicle
 - Carefully pull down the door seal, run the cable into the vehicle under the seal of the doorframe.
 - Run the cable to reach the location where you plan to place the booster.
 - Push the seal carefully back into place.

Step 2: Mount the inside antenna

- Choose right position
 - 20 cm away from any other metallic objects.
 - 50 cm away from any windows.
 - The inside antenna should be facing to driver or all passenger's seats as possible.

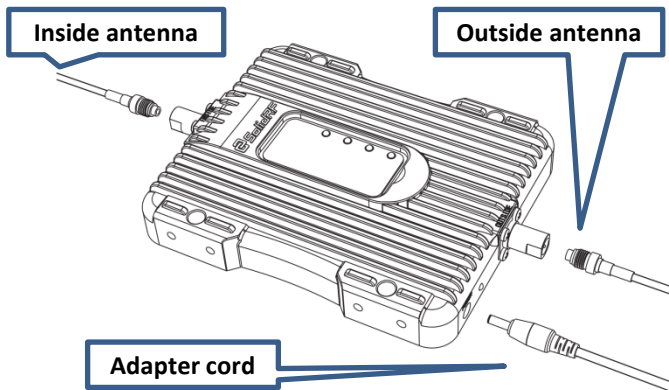
Caution: The inside and outside antenna can NOT directly face each other. This will result in possible self oscillation. (see *self oscillation section*)

- Mount the inside antenna
 - Peel off the plastic on the backside of the antenna.
 - It is the 3M sticker. Place the inside antenna onto the position selected.

Installation - Step By Step

Step 3: Arrange the booster

- a. Choose position
 - Under the passenger's seat, or in the trunk of the vehicle.
 - Free from excessive heat, direct sunlight and moisture.
- b. Connect the outside antenna's connector to the port labeled "OUTSIDE" of the booster.
- c. Connect the inside antenna's connector to the port labeled "INSIDE" of the booster.



Step 4: Power on the booster

- Plug the power adapter into the power port on the booster.
- Then plug into the car 12V DC lighter.
- Switch on the adapter by pressing the button on the power adapter. A blue light will be seen when it is working.

WARNING:

- **Do NOT cover the booster body with anything. This prevents it from cooling down. If the product becomes overheated, it will automatically shut off or cause permanent damage.**
- **Use only the power supply provided by SolidRF. Any other non-approved products by SolidRF or self-made power cables may damage the booster.**
- **Connecting the booster directly to the cell phone with use of an adapter will damage the cell phone.**
- **The booster is designed for use in vehicle ONLY.**
- **Some of the 12V DC lighter power sources will not shut down when the vehicle is turned off. Please ensure to switch off the adapter when you leave the vehicle to prevent the vehicle battery from being drained.**



Place Outside Antenna



Place Inside Antenna



Connect Cables



Place Booster



Plug Power Adapter



Switch On

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 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.

RF Exposure: The manufacturer's rated output power of this equipment is for signal 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 is reradiated 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 attenuating at the output of the device.

Technical Specification

Frequency (MHz)		LTE (band 12)	LTE (band 13)	Cellular (band 5)	PCS (band 25/2)	AWS (band 4)
	Uplink		698-716	776-787	824-849	1850-1915
Downlink		728-746	746-757	869-894	1930-1995	2110-2155
Gain	Uplink	45±2	45±2	45±2	47±2	47±2
	Downlink	48±2	48±2	48±2	50±2	50±2
Output power	26±2dBm(Uplink)/-5±2dBm(Downlink)					
Noise figure	<5dB					
In-band Flatness	<8dB					
Weight	0.7Kg					
EIRP	1W					
Gain adjustment	20dB					
Impedance	50 ohm					
Operating temperature	-5° ~60°					
Current	≤1.5A(9V DC)					
Dimension(mm)	155*125*25					

ATTENTION: Self Oscillation

We strongly recommend it should achieve the Recommended Separation Distance for the installation. The improper installation could result in possible Self Oscillation.

Recommended Separation Distance: Minimum 1 meter or 1.5 meters (3ft or 5ft) distance. The Separation Distance would be variable depends on the vehicle.

What is Self Oscillation:




When the antennas are too close, they could pick up each others signals, creating a feedback loop condition, which is called Self Oscillation.

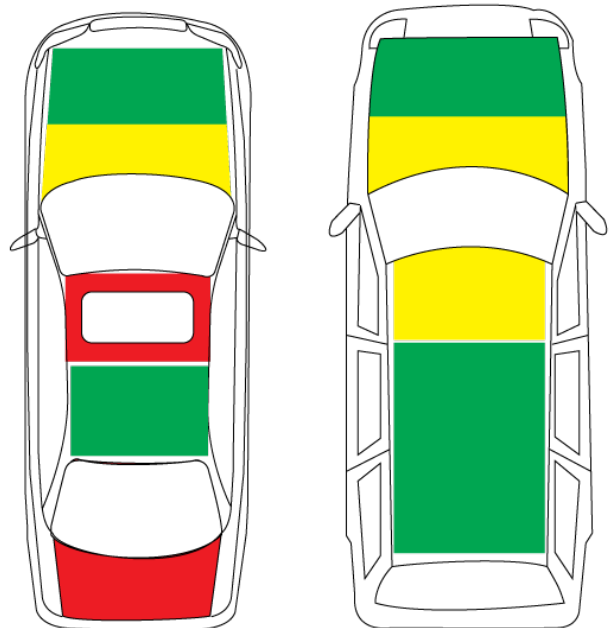
By FCC regulations, the cell phone booster would automatically detect this condition and immediately shut down to prevent Self Oscillation from damaging the cellular network.

How to correct Self Oscillation:

If the booster detects Self Oscillation, it will not operate until the condition is corrected. One way to correct Self Oscillation is to increase separation distance between the antennas until the good separation distance is achieved. Also **the antennas can NOT directly face each other.**

Antennas Installation Recommendation

-  Recommended Area
-  Possible Area
-  Not Recommended Area



Why is it so important to prevent Self Oscillation:

The Self Oscillation could cause interference to the cellular network, The FCC regulations extremely prohibit cell phone booster users from causing interference to the cellular networks. If you were contacted by the FCC or any wireless provider – yours or any other – and told your cell phone booster is causing interference, you must shut it down until you can fix the interference problem. Under most situation, it is Self Oscillation problem.

Please refer to:

<https://www.fcc.gov/wireless-telecommunications/signal-boosters/faq/signal-boosters-faq>.

Troubleshooting

Correct functioning:

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 several seconds then off. This means the booster has passed the self check and is in good condition.

Incorrect functioning:

- If any of the lights on the front panel are flashing in 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.
- If the power light is flashing, please contact the technical support.

SolidRF Technical Support: Support@SolidRF.ca