



Signal Booster
Model: A7V-
SR65703001
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

Test Installation

Installation – Step By Step

Technical Specification

Self Oscillation

Quick Troubleshooting
Find Strongest Signal

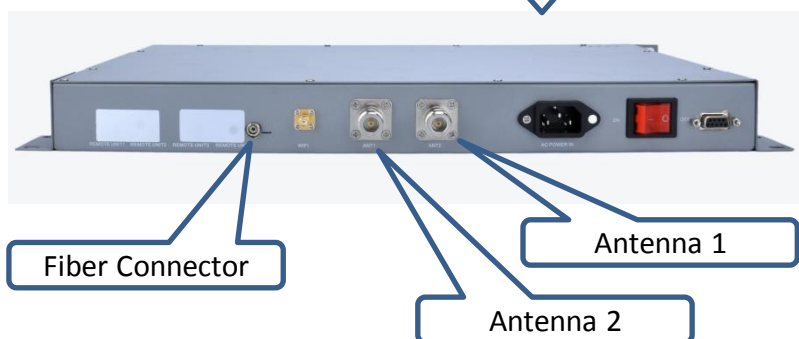


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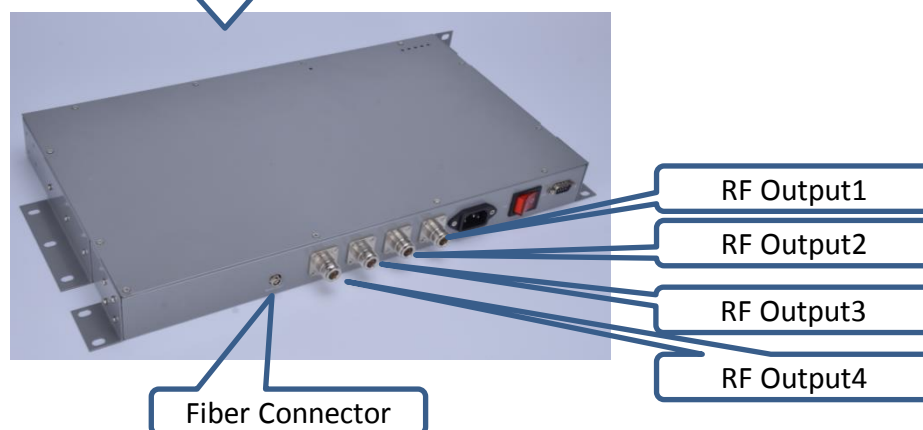
Package Contents

- Main Unit
- Remote Unit

MAIN UNIT



Remote UNIT



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.

Supported Carriers

- AT&T 2G/3G (HSPA+)/4G LTE
- Verizon 3G/4G LTE
- T-Mobile 2G/3G/4G
- Sprint 3G/4G
- US Cellular 3G
- Metro PCS 3G/4G
- Major Canadian Carriers 2G/3G
- All other carriers using 700MHz(band12/13)/850MHz /1900 MHz/2100MHz

Test Installation

We **STRONGLY** recommends doing a soft install before the formal installation. Doing a test installation of a cell phone booster allows to get best optimal system setup.

Step1: Find the strongest signal, setup outdoor antenna with cable screwed

Affected by terrain and signal propagation characteristics. More higher of the outdoor antenna will get better signal. Find the best signal around the house by checking the bars of the cell phone. Setup the outdoor antenna on the top of building and connect the cable.



Find a cell tower nearby!

There are a bunch of resource online, here are some third party websites and app recommended.

SolidRF does NOT guarantee the accuracy or completeness on Third Party content

For Canada

website:

www.cellmapper.net

app: TowerLocator(iPhone or Android)

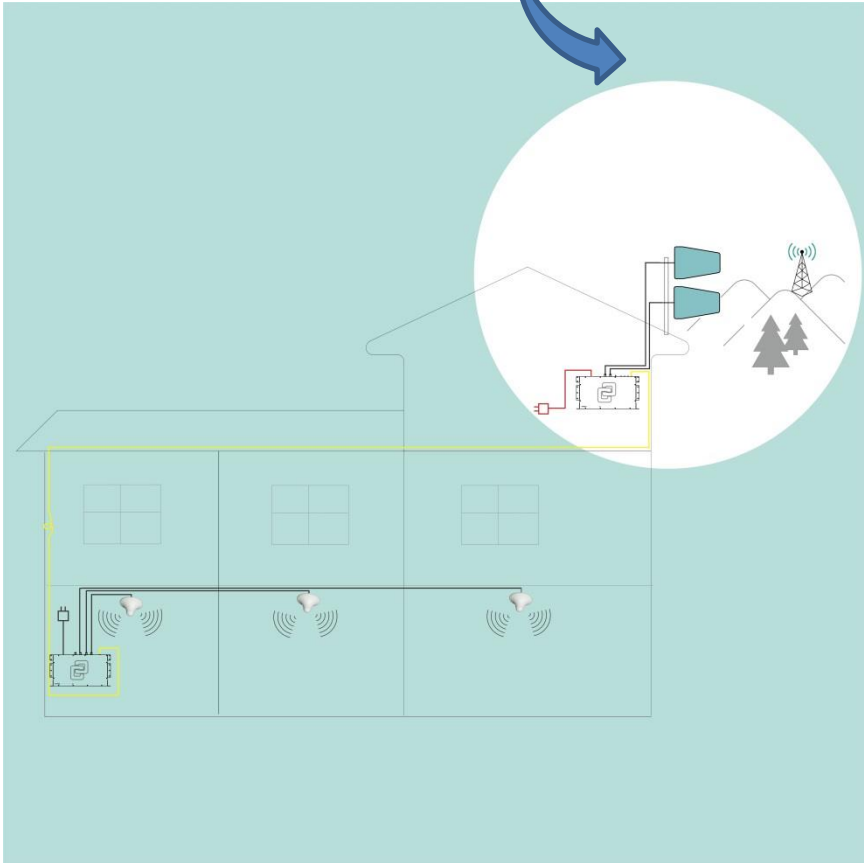
For U.S.

websites:

www.cellmapper.net

www.cellreception.com/towers

www.antennasearch.com

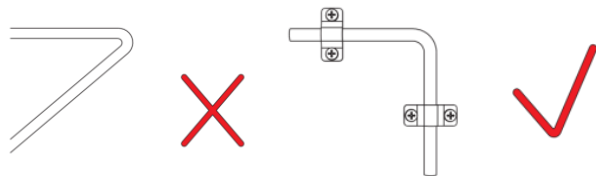


Step2: Find a suitable place inside home for booster nearby the power socket

Minimum Required Separation Distance Between Indoor And Outdoor Antenna :
20 meters (75 ft) horizontal distance
4 meters (13 ft) vertical distance(As far as possible)

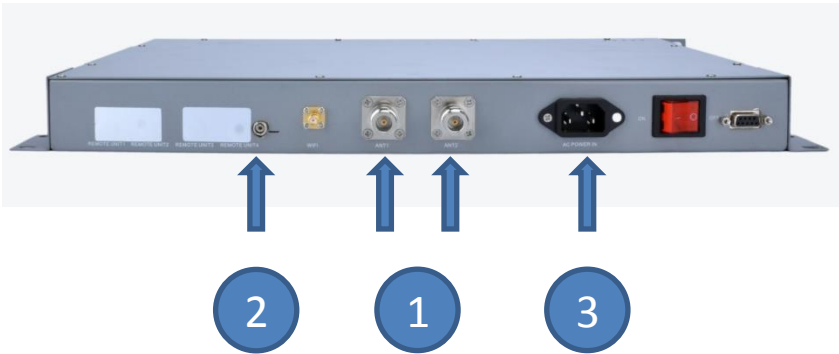
Step3: Introduce cables into room

Attention: Don't excessive bending of the cable, otherwise it will be damaged and loss functions.



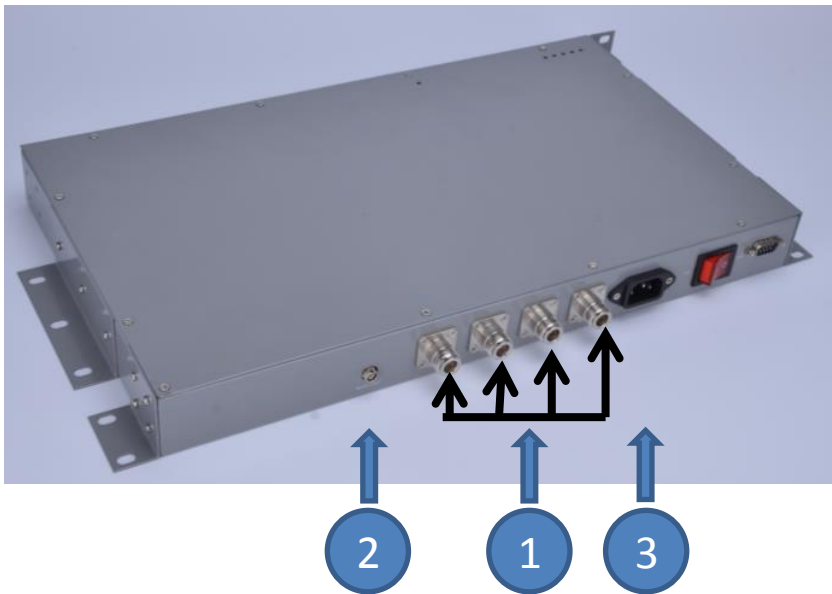
Step4: Setup Main Unit

- 1. Connect antenna cable to "Antenna 1" and "Antenna 2" connector, make sure pin of the cable head smooth import connector's socket, and then screw well till the end;
- 2. Connect fiber to the "Fiber connector";
- 3. Plug in power cord;



Step5: Setup Remote Unit

- 1. Connect antenna cable to "Antenna 1" and "Antenna 2" connector, make sure pin of the cable head smooth import connector's socket, and then screw well till the end;
- 2. Connect fiber to the "Fiber connector";
- 3. Plug in power cord;



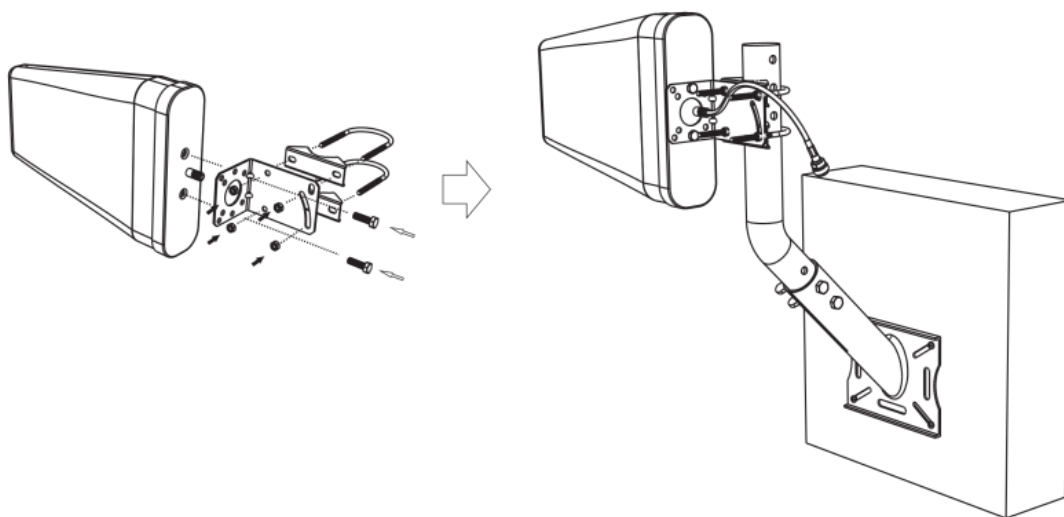
Step5: Power on and evaluate effects

1. Power on booster;
2. Observe the flashing status of “ALARM” lights;
3. If the lights lit 1 second and then goes out, that means all the test installation is correct;
4. Now check your cell phone to see how about the signal strength improved;
5. If light is blinking, please read the trouble shooting part of this manual;

The Formal Installation

OUTDOOR Unit INSTALLATION

- a. Choose right position: 30 cm away from any other metallic objects, and 100 cm away from any windows
- b. Mount the antenna as the picture shows



- c. Connect the cable to the outdoor antenna
 - Make sure connectors are well screwed in
 - Seal the connectors with glued tape
- d. The antenna must be installed at a height of not more than 10 metres above the ground.



Cautions & Spec.



Note1: Don't cover the booster body with anything, in case the power dissipation make the booster too high temperature. Booster will shut down when the temperature is too high itself.



Note2: Use only the power supply provided by SolidRF, any other products non-approved by SolidRF or self-made power cable may damage the booster.



Note3: Troubleshooting

- **Properly:** 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 light on in green color for around 2 seconds and then lights off, this means the booster pass the self check and in good condition;
- **Wrong condition:** If any of the lights flashing in green light, than means the isolation between the outside antenna and inside antenna is lower than it should be, and self oscillate occurred. You must switch off the booster and check the outside antenna and inside antenna immediately. Make sure you have followed this installation recommended, and check every thing carefully. If you can't fix the problem please contact the technician or our distributor.

Technical specification

Frequency (MHz)		Outside antenna 1			Outside antenna 2	
		LTE (band 12)	PCS (band 2)	Cellular (band 5)	AWS (band 4)	LTE (band 13)
	Uplink	698-716	1850-1915	824-849	1710-1755	776-787
	Downlink	728-746	1930-1995	869-894	2110-2155	746-757
Gain	Uplink	55±3	55±3	55±3	53±3	55±3
	Downlink	55±3	60±3	60±3	55±3	60±3
Output power	20±3dBm(Uplink)/0±3dBm(Downlink)					
Noise figure	<5dB					
In-band Flatness	<8dB					
Weight	3.5Kg					
EIRP	3W					
Gain adjustment	30dB					
Impedance	50 ohm					
Operating temperature	-5° ~60°					
Current	≤2.5A(6V DC)					
Dimension(mm)	338*230*35					

ATTENTION: Self Oscillation

We strongly recommend it must achieve the Minimum Required Separation Distance for the installation. The improper installation could result in possible Self Oscillation.

Minimum Required Separation Distance (MRSD): 6 meters (20 ft) distance and 4 meters (13 ft) vertical height distance.

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.

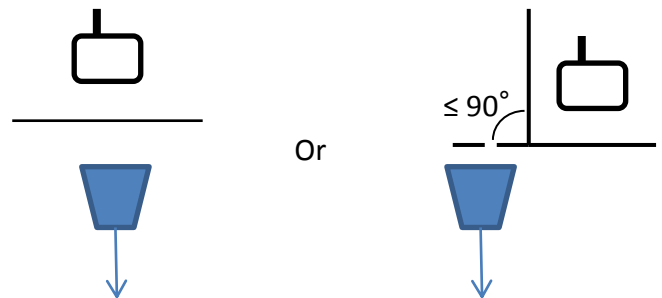
(see TroubleShooting Booklet)

How to correct Self Oscillation:

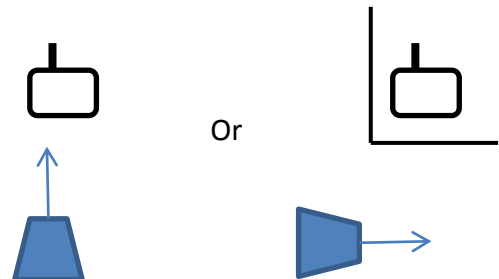
If the booster detects Self Oscillation, it will not operate until the condition is corrected. One way to correct Self Oscillation is to increase separation distance between the antennas until the sufficient separation distance is achieved. Also **the antennas can NOT directly face each other.**



Antennas Installation Recommended



Antennas Installation Prohibited



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>.

Quick Troubleshooting

Correct functioning:

- Power Light should be solid green
- Every time the booster is powered on, the Status Light will be lit in red for several times. It will turn off eventually.
- Status Light is off (no mobile devices are in use) or flashing (one or more mobile devices are in use).

Incorrect functioning: *(Please see The Troubleshooting booklet for the details)*

- Flashing Power Light: please contact the technical support
- Status Light: indicate the booster condition
 - SOLID RED** – self oscillation is occurring. You must switch off the booster and check the booster system is properly installed by re-checking each step in this manual.
 - SOLID GREEN** – the cable from the inside unit to the outside unit is not correctly connected.
 - LIGHT IS OFF WITHOUT SIGNAL IMPROVEMENT** - *(Please see The Troubleshooting booklet for the details)*

Weather condition:

The booster outside unit, include the amplifier and the outside antenna have an integrated design. Each are waterproof and no matter rain, snow or fog, they will work properly. However extreme hot or cold temperatures may cause problems to the booster. Optimal functioning will occur from -20 °C to +50 °C. Too high or low temperatures beyond this range will cause the booster to lower output power to avoid damage.

If you can not fix the problem, please contact the technical support or the reseller.

SolidRF Technical Support: Support@SolidRF.ca

Find Strongest Signal

Use Cell Phone Only:

- Check the signal indicator on the cell phone display, it takes up to 30 seconds to reset a new reading. Or place calls from several locations outside the building.
- Read signal strength with numerical value (Smart Phone Only):
 - iPhone: Dial *3001#12345#* then tap the CALL button, a negative number in the upper left corner.
 - Android Phone: Go to Setting – About Phone – Status (SIM Status) – Signal StrengthIt would a negative number instead of the five dots, the range is from -120 (weak) to -65 (strong)

Use Cell Phone During Test Installation:

- One person adjusts the outside directional antenna small angle at a time. Allow 30 seconds for the phone to react with each turn.
- Second person read the signal strength on the cell phone inside the building.

See Test Installation Section for Find A Cell Tower Nearby

Consumer booster warning label:

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.

- (1) Usage of unauthorized antennas, cables, and/or coupling devices may result in poor effect and, in severe cases, equipment damage.
- (2) a complete list of authorized antennas, cables, and/or coupling devices:

Component	Prod No. Description	Gain/Loss					Notes
		LTE-707	LTE-781	800MHz	1900MHz	1700MHz\2100MHz	
Outside Cable	LMR240 45Feet	2.9dB	3.15dB	3.38dB	4.87dB	4.87dB\5.2dB	
Outside Cable	SRLMR400-30NN 30Feet	1.9dB	1.9dB	1.95dB	2.9dB	2.55dB\2.9dB	
Inside Cable	RG6FF 90Feet	4.3dB	4.6dB	5dB	7.6dB	6.6dB\8.4dB	
Inside Cable	RG6FF 75Feet	3.6dB	3.8dB	4.2dB	6.3dB	5.5dB\7dB	
Inside Cable	RG6FF 60Feet	2.9dB	3.0dB	3.3dB	5dB	4.4dB\5.6dB	
Inside Cable	RG6FF 45Feet	2.2dB	2.3dB	2.5 dB	3.8 dB	3.3 dB\4.2dB	
Inside Cable	LMR240 90Feet	5.85dB	6.3 dB	6.75 dB	9.9 dB	9.9dB\10.35dB	
Inside Cable	LMR240 75Feet	4.88dB	5.25dB	5.63dB	8.25dB	8.25\8.63 dB	
Inside Cable	LMR240 60Feet	3.9dB	4.2dB	4.5dB	6.6dB	6.6 dB\6.9 dB	
Inside Cable	LMR240 45Feet	2.9dB	3.15dB	3.38dB	4.87dB	4.87dB\5.2dB	
Inside Cable	SRLMR400-30NN 30Feet	1.9dB	1.9dB	1.95dB	2.9dB	2.55dB\2.9dB	
Inside Cable	SRLMR400-75NN 75Feet	4.2dB	4.2dB	4.4dB	6.1dB	5.8dB\6.5dB	
Inside Cable	SRG58-30FN 30Feet	4.5dB	4.5dB	4.9dB	7.6dB	7.2dB\8dB	
Inside Cable	SRLMR400-20NN 20Feet	1.3dB	1.3dB	1.35dB	1.8dB	1.8dB\1.9dB	
Inside Cable	SRG58-15FN 15Feet	2.35dB	2.4dB	2.56dB	3.9dB	3.7dB\4.1dB	
Inside Cable	SRLMR400-30NN 30Feet	1.9dB	1.9dB	1.95dB	2.8dB	2.55dB\2.9dB	
Fiber Optic Cable	FOC-10Feet	≤0.6dB					

Fiber Optic Cable	FOC-200Feet	≤0.6dB					
Fiber Optic Cable	FOC-500Feet	≤0.6dB					
Fiber Optic Cable	FOC-1000Feet	≤0.6dB					
Fiber Optic Cable	FOC-3000Feet	≤0.7dB					
Outside Antenna	ANT050701	7dBi	7dBi	7dBi	10dBi	10dBi\10dBi	Directional antenna
Outside Antenna	ANT010901	9dBi	9dBi	9dBi	9dBi	9dBi	Directional antenna
Outside Antenna	ANT010701	9dBi	9dBi	9dBi	9dBi	9dBi	Directional antenna
Outside Antenna	ANT060302	3dBi	3dBi	3dBi	3.5dBi	3.5dBi\3.5dBi	Omni antenna
Outside Antenna	ANT030301	3dBi	3dBi	3dBi	3dBi	3dBi	Omni antenna
Inside Antenna	ANT050701	7dBi	7dBi	7dBi	10dBi	10dBi\10dBi	Directional antenna
Inside Antenna	ANT010901	9dBi	9dBi	9dBi	9dBi	9dBi	Directional antenna
Inside Antenna	ANT010701	9dBi	9dBi	9dBi	9dBi	9dBi	Directional antenna
Inside Antenna	ANT060302	3dBi	3dBi	3dBi	3.5dBi	3.5dBi\3.5dBi	Omni antenna
Inside Antenna	ANT040301	3dBi	3dBi	3dBi	3dBi	3dBi	Omni antenna
Inside Antenna	ANT080301	3dBi	3dBi	3dBi	3dBi	3dBi	Omni antenna
Inside Antenna	ANT080302	3dBi	3dBi	3dBi	3dBi	3dBi	Omni antenna
Inside Antenna	ANT060301	3dBi	3dBi	3dBi	3dBi	3dBi	Omni antenna
Inside Antenna	ANT060303	3dBi	3dBi	3dBi	3dBi	3dBi	Omni antenna
Inside Antenna	ANT070101	1dBi	1dBi	1dBi	1dBi	1dBi	Omni antenna
Inside Antenna	SR-21300100	3dBi	3dBi	3dBi	3.5dBi	3.5dBi\3.5dBi	Omni antenna
Lightning Protector	ACC010101	0.1 dB	0.1 dB	0.1 dB	0.18dB	0.16dB\0.2dB	For any external antenna
All equivalent antennas and cables are suitable for use with the SolidRF booster.							

(3)the default antenna, cable, and/or coupling device that are shipped with the booster Log-periodic Antenna Panel Antenna and CoaxialCable.

(4) The log-periodic antenna should be installed in a place with good outdoor signal. The panel antenna should be installed indoors and near the main device. If the amplification effect is not good after the installation is completed, the direction of the log-periodic antenna can be gradually adjusted to achieve better effect.

(5) Contact information for providers:

Shenzhen SolidRF Communications Co., Ltd

Add: No. 8, Shop D, Block C, Shan Shui Ju, Long Wei Rd, Shenzhen, 518049 China

Phone: 0755-83142660 Fax:0755-86107352

(6) The device has automatic sleep function, strong anti-interference ability, over-power protection function, good heat dissipation design, and no radiation. The working noise is as low as 6DB.