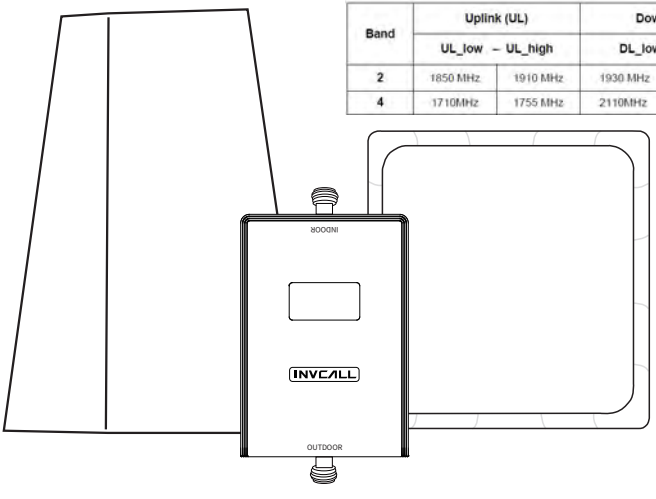
INVCALL

User's Manual

Cell Phone Signal Booster

Band	Uplink (UL)		Downlink (DL)	
	UL_low – UL_high		DL_low – DL_high	
2	1850 MHz	1910 MHz	1930 MHz	1990 MHz
4	1710MHz	1755 MHz	2110MHz	2155 MHz

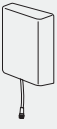


Internal No. F10IN-PL

Package Contents

Please confirm that your purchase includes the following items:

Booster



Indoor Panel Antenna

Outdoor Log-period Antenna

16ft (5m) Cable *2

33ft (10m) Cable

Window Entry Cable

Power Adaptor

Mount Bracket for Indoor Antenna

Mount Bracket for Outdoor Antenna

Before Getting Started

The whole installation process may take 1 to 2 hours, and 2 people will be easier to calibrate the position and direction of the antenna. Make sure the following materials are prepared and ready for your installation.

1. 2 inches diameter mount pole
2. Phillips-head screwdriver
3. Adjustable wrench or open-end wrench
4. Drill (if routing cable through wall)

Note: We strongly recommend that you find optimal locations for indoor and outdoor antennas via a pre-installation process, then start your formal installation.

Installation

Installation Overview

Step 1
Find the Location with the Strongest Signal

Step 2
Mount the Outdoor Antenna

Step 3
Mount the Indoor Antenna

Step 4
Route & Connect Cable to the Signal Booster

Step 5
Power Up & Check Performance

Step 6
Troubleshooting

Note: Do not power on the booster until system is fully installed.

Step 1 Find Location with the Strongest Signal

Find a location outside the house that has the best reception of cell phone signals. It is recommended to install it in a high, open, and unobstructed location such as the roof.

(Use 'Signal Advisor' APP to check signal strength and find direction of your carrier's cell tower, see the APP instruction on Page 10 for detailed guide.)

Step 2 Mount the Outdoor Directional Log-Periodic Antenna

Before you begin, please note that you may require a mast on which to mount the outdoor antenna, you need to purchase it additionally from the manufacturer.

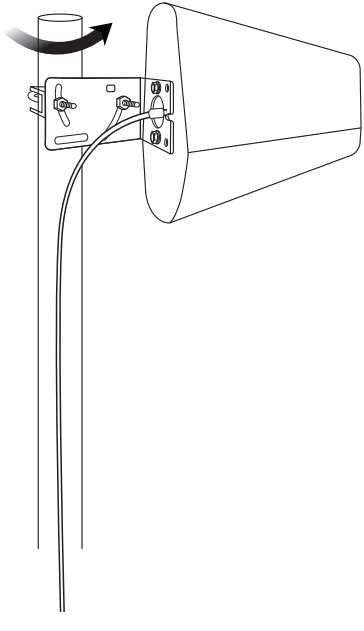
After identifying the location with the strongest signal, decide the installation location for your outdoor antenna. It should allow for sufficient isolation between outdoor and indoor antennas. Vertical isolation is preferred as it is more effective than horizontal.

The Directional Log-Periodic Antenna should be mounted at the highest possible location above the roof line and point towards the direction of your carrier's nearest cell tower. **This is the most critical step of installation process because it will determine the overall performance of the booster.**

Note:

1. The greater the isolation between indoor and outdoor antennas, the better performance you will get from the booster.

2. Make sure Indoor Antenna and Outdoor Antenna are installed in opposite directions.



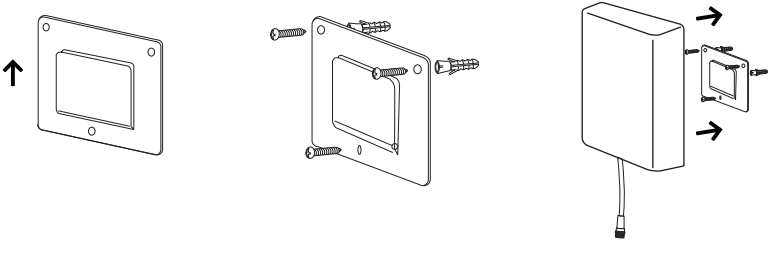
Find Cell Tower
SIM Card SIM 2
DL 2120MHz
UL 1930MHz
Band Number Band 1
Signal Type 4G
Carrier Verizon
-95dBm
The signal compass shows you the direction of the nearest cell tower.
Point the outdoor antenna to the same direction as the arrow on the signal compass.

Step 3 Mount the Indoor Panel Antenna

The Indoor Panel Antenna is directional with a 120-degree reach, it should be mounted on a vertical surface or wall where there are no objects that may obstruct signals. Connect the antenna to the booster connector labelled 'INDOOR'.

Note: 1. The Indoor Panel Antenna should be intalled in indoor activity area to get best coverage and at least 9 meters away linearly from the outdoor antenna.

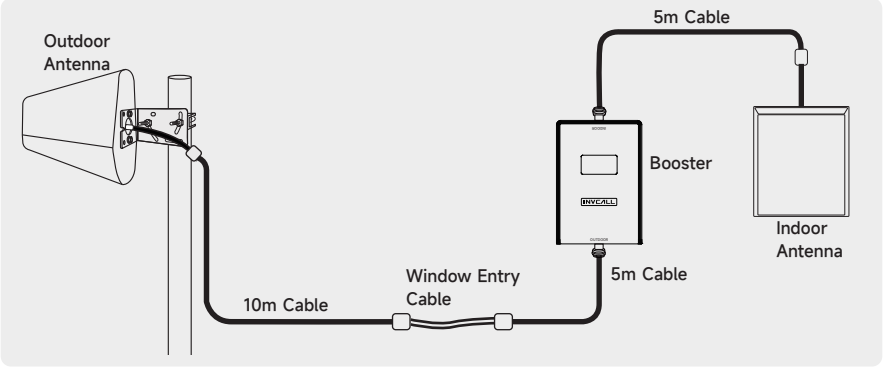
2. The installation height is the approximate 1.5-2 meters.



Panel Antenna Install Illustration

Step 4 Route & Connect Cable to the Signal Booster

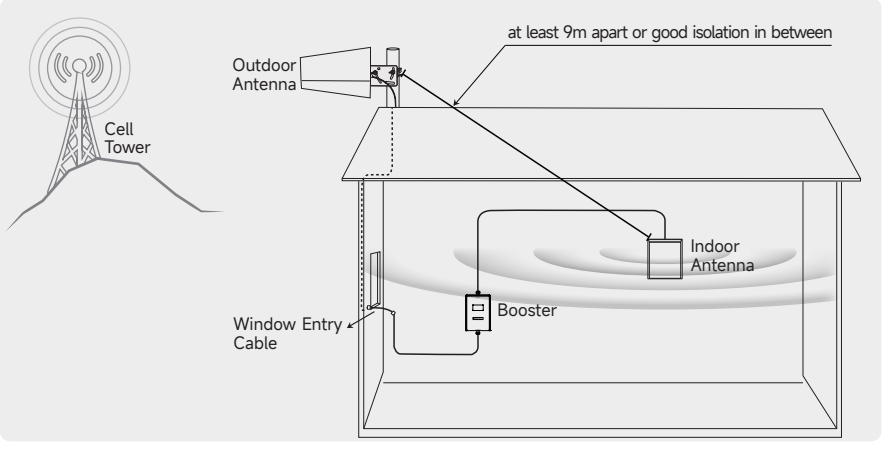
Connect the cable to outdoor antenna and route cable into house. All connections should be tightened.



A **Window Entry Cable** is provided to help route cable into house easier. Route cable to booster, please connect it to the connector labelled 'OUTDOOR'.

Step 5 Power On the Booster & Check Performance

After completing installation step by step, turn on the power and the booster will start to work. The indoor signal strength should be enhanced for normal use. If the signal is still not improved, please refer to troubleshooting steps.

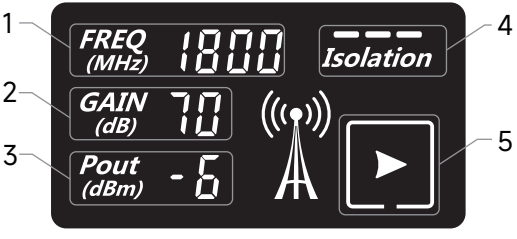


Step 6 Troubleshooting

Problem	Resolution
Pout (Output Power) shows OFF	Stronger signal input or self-oscillation has been detected, AGC (Auto-Gain Control) function is working and one or more of the band channel have been shut down. 1. Increase the distance (ideally greater than 9m) between indoor and outdoor antennas if possible, make sure that they are installed in opposite directions. 2. Try to adjust the direction of the outdoor antenna to slightly deviate from the signal tower base station to reduce input signal strength.
Indoor signal strength has not improved	1. Check if the installation is correct. If not sure, please contact us. 2. Verify that the frequency band of your cell phone matches with the frequency band supported by booster. For Android: Use our 'Signal Advisor' APP, see the APP instruction for detailed guide For iPhone: Dial No. *3001#12345#* → tap 'Serving Cell Info' → Check 'Band Info'
Indoor signal coverage is too narrow	1. Find a location outdoors that receives a stronger signal as the installation location of outdoor antenna. Please install the outdoor antenna as high as possible. 2. Use 'Signal Advisor' APP to find the direction of the nearest cell tower as the installation direction of the outdoor antenna. 3. Contact us to replace with our newly developed high sensitive booster.

Introduction LCD Display

The LCD screen displays the **Frequency**, **Gain, Output Power** and **Isolation Status** for each frequency band.



1."**FREQ**": Frequency for each frequency band.

2."**GAIN**": Gain for each frequency band. When the gain for a particular frequency band is less than 45dB, the channel for this frequency band will shut down automatically and gain will set to 0dB.

3."**Pout**": Output Power of the booster for each frequency band. When self–oscillation happens, input signals are too strong or reduction value of the gain reaches the limit 20dB, "Pout" shows "OFF" and the band channel is shut down automatically.

4."**Isolation**": Isolation status of antennas. Three bars indicate "good", two bars indicate "medium" and one bar indicates "bad". Please increase the isolation beween indoor and ourdoor antennas if you observe one bar.Please increase the isolation beween indoor and ourdoor antennas if you observe one bar.

5."[►]": Press the "Right" key to switch between different frequency bands.

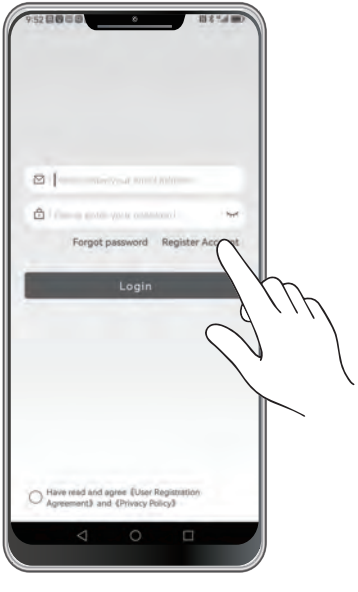
Instructions of Signal Advisor APP:

• For Android:

GET IT ON
Google Play

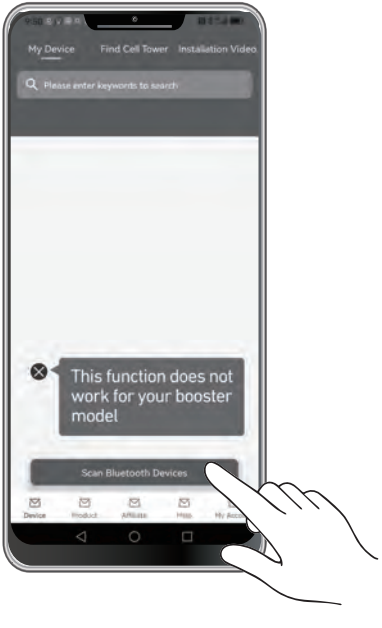
❶ Log in:

After launching the APP, for the first time use, you need to register your account, you will be prompted to enter your email address, your buying platform and create your password.



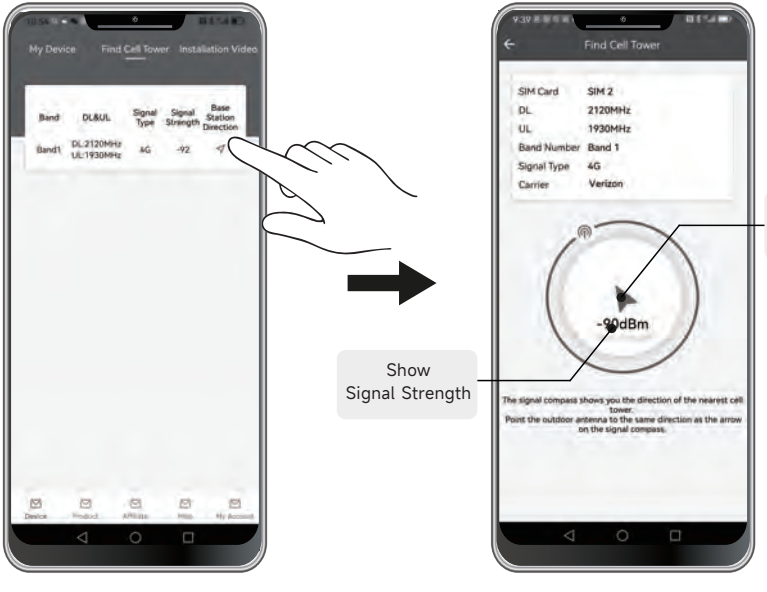
Please note:

This booster model cannot be connected to the APP. This APP function is only available for certain booster models. Please skip this page.



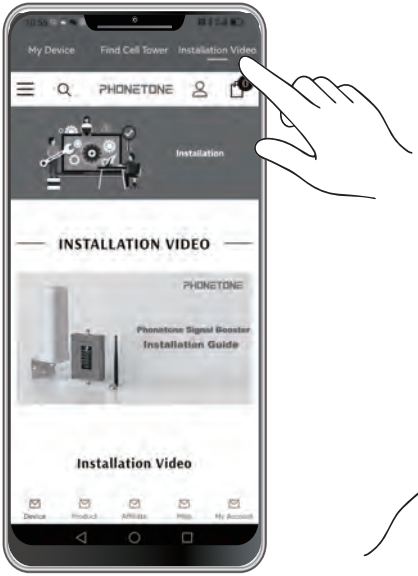
❷ Test Frequency Band and Find Cell Tower:

First, tap '**Find Cell Tower**'. You can see the frequency band of you phone here. Then, tap the blue arrow icon shown below '**Base Station Direction**' and you can enter the page as shown on the right. You can now follow the signal strength prompts shown in the blue circle to find a direction with strong and stable signals as the installation direction of your outdoor antenna.



❸ Watch Installation Video:

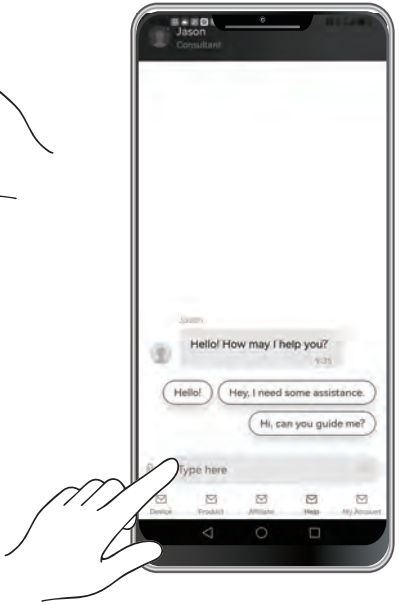
At the top of the screen, tap '**Installation Video**'.



❹ Contact Us:

If you are experiencing any product installation problems, please do not hesitate to contact us.

You can send messages to us by tapping '**Help**' at the bottom of the screen. You can also leave your email address here if we don't reply in time.

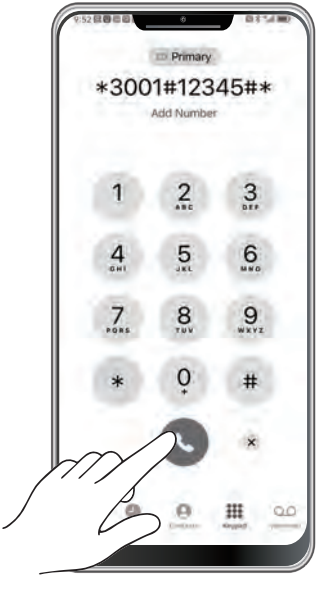


- **For iPhone:**

Available on the App Store

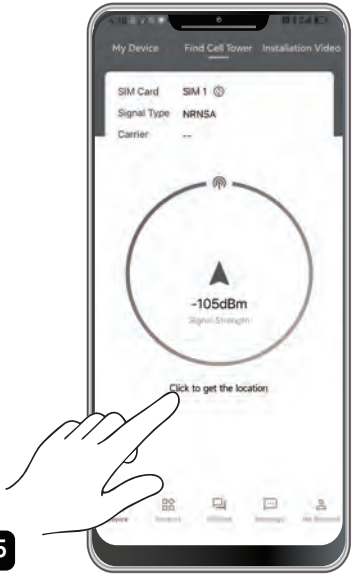
❶ Test Frequency Band:

Dial No. ***3001#12345#*** → Tap '**Serving Cell Info**' → Check '**Band Info**'



❷ Find Cell Tower:

First, tap '**Find Cell Tower**'. Then, tap the text '**Click to get the location'** and you can enter the page as shown on the right. You can now follow instruction steps to fill in your '**Cell ID**' and '**LAC**' and then tap '**Find the cell tower**'.



Follow the signal strength prompts shown in the blue circle to find a direction with strong and stable signals as the installation direction of your outdoor antenna. You can tap the text '**Try again to find the cell tower**' to go to the previous page.

Other functions of the APP for iPhone please refer to the instruction for Android, they are basically the same.

Warning label requirements

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.

Complete list of authorized antennas, cables, and cable loss:

Outdoor Antenna					
Outdoor Antenna	Outdoor Antenna Gain				
	Lower 700MHz	Upper 700MHz	Celluler	PCS	AWS
Magnet Antenna	/	/	/	3.5	3.5
Log Periodic Antenna	/	/	/	8.0	8.0
Outdoor Omni Antenna	/	/	/	6.0	6.0
Indoor Antenna					
Indoor Antenna	Indoor Antenna Gain				
	Lower 700MHz	Upper 700MHz	Celluler	PCS	AWS
Indoor Panel Antenna	/	/	/	8.0	8.0
Ceiling Antenna	/	/	/	4.5	4.5
Outdoor Cable					
Outdoor Cable	Outdoor Cable Loss				
	Lower 700MHz	Upper 700MHz	Celluler	PCS	AWS
5-meter RG58 Coaxial cable with N male/SMA male connector	/	/	/	3.25	3.25
Outdoor Cable					
Outdoor Cable	Outdoor Cable Loss				
	Lower 700MHz	Upper 700MHz	Celluler	PCS	AWS
0.3-meter RG316 Coaxial cable with SMA male/SMA Female connector	/	/	/	0.7	0.7
Outdoor Cable					
Outdoor Cable	Outdoor Cable Loss				
	Lower 700MHz	Upper 700MHz	Celluler	PCS	AWS
10-meter RG58 Coaxial cable with SMA male/SMA female connector	/	/	/	6.5	6.5
Indoor Cable					
Indoor Cable	Indoor Cable Loss				
	Lower 700MHz	Upper 700MHz	Celluler	PCS	AWS
5-meter RG58 Coaxial cable with N male/SMA male connector	/	/	/	3.25	3.25

1)**Warning:** The Inside Antennas for fixed installations must have 6 feet of separation distance from all active users.
2)**Warning:** The Outdoor Antennas/Indoor Antennas for fixed installations must be installed no higher than 10 meters above ground

3)**Warning:**Unauthorized antennas, cables, and/or coupling devices are prohibited by FCC rules.Please contact FCC for Details:1-888-CALL-FF.
4)**Warning:T**he antenna,cable,and other accessories of the booster kits shall not be modified without the approval of the party responsible,others it shall be deemed invalid.

FCC Warning

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any inte rference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interferenceto radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

Any questions, please contact us.

wecare@invcall.com

www.invcall.com