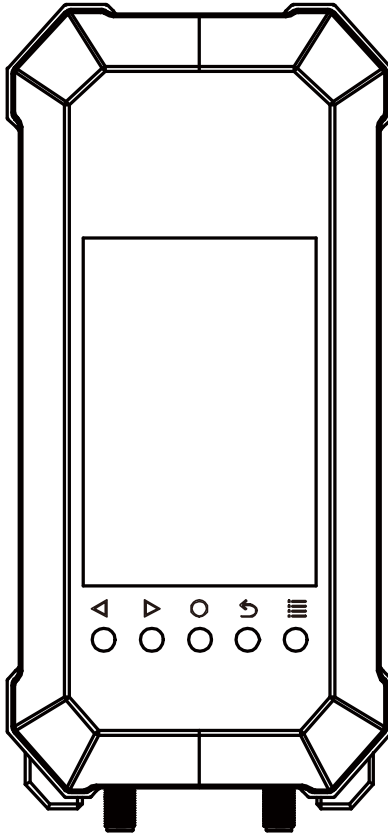


Atcall

A cell booster specially created for the young

SF-T

Vehicle Cell Booster Kit



Installation Guide

NEED HELP ?



sunford_after-sales@outlook.com

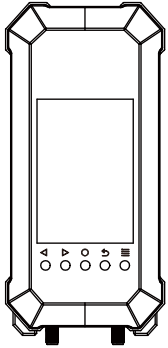


3-year manufacturer's warranty

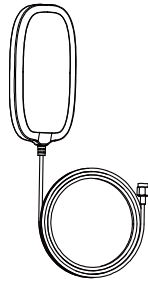
CATALOG

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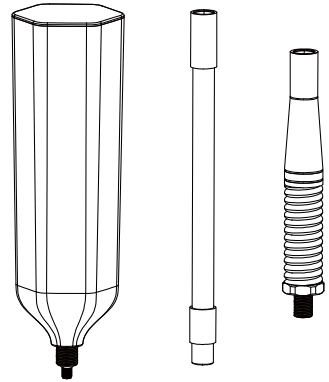
Package Contents



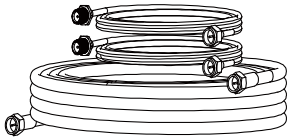
Booster
SF-T



Inside
Antenna



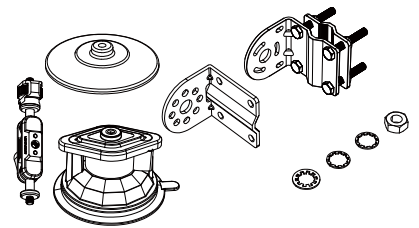
Outside
Antenna



2*5ft LMR100
+1*15ft 3D-FB
Cable



Power adapter



Mounting kit

How To Get a dBm Reading and Band Number 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.

NOTE: Turn off your phone's WiFi to make sure you're checking your phone's connection. Once you have a reading, turn on airplane mode. Wait 15 seconds to turn off airplane mode and refresh the signal strength reading.

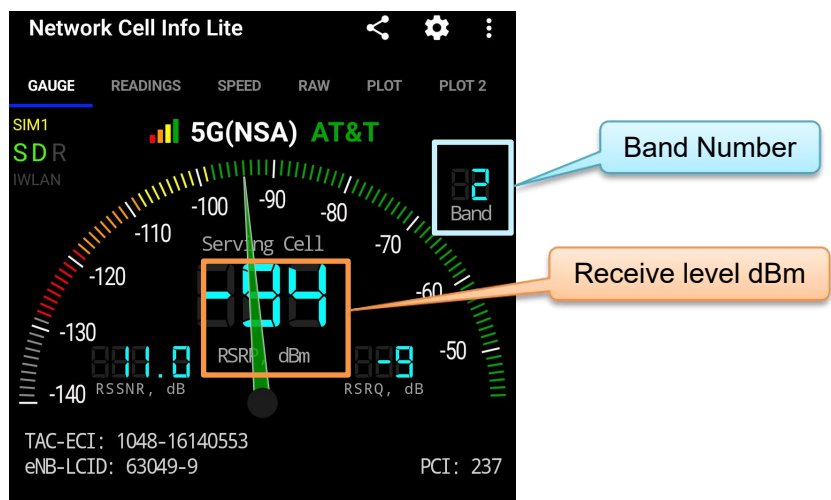
iPhone: Dial *3001#12345#* then press Call.

The image shows a sequence of three iPhone screens. The first screen is the dial pad with the code `*3001#12345#*` entered. The second screen shows the 'Serving Cell Info' menu with 'Band Info' highlighted. The third screen shows the 'LTE RsrpRsrqSinr' menu with 'rsrp' highlighted, showing a value of -109 dBm. Arrows indicate the navigation path from the dial pad to the settings menu, then to the band info, and finally to the receive level dBm.

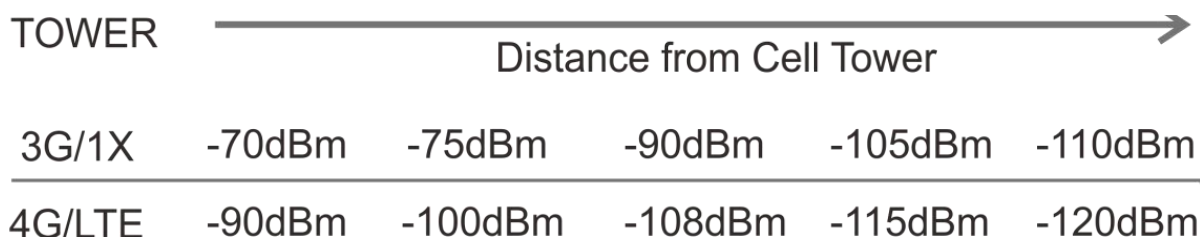
Band Number

Receive level dBm

Android: Download third-part APP “Network Cell Info Lite” or “Open Signal”



Measure the dBm reading and signal level on your phone



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.

The **coverage** and **strength** of an enhanced signal is directly related to two key factors:

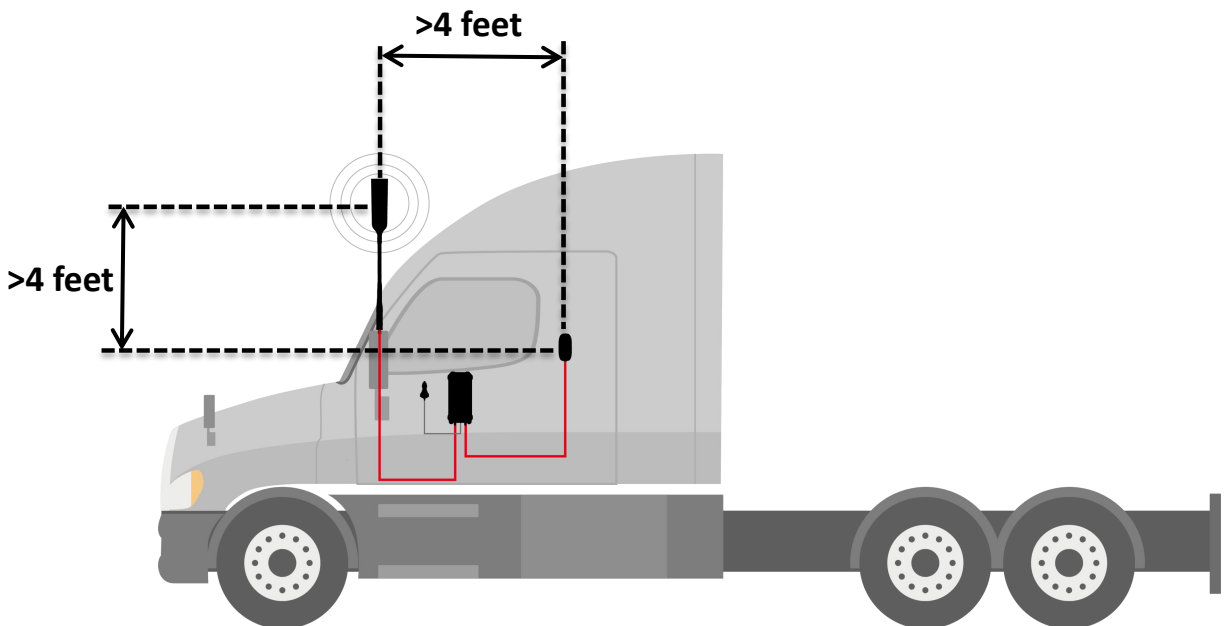
1. The signal strength received by the outside antenna. Therefore, setting up the outside unit where the signal is strongest will provide the best results.
2. Separation distance between outside unit and inside unit.

Step 1: Study Your Truck and Make an Installation Plan

Where do you most frequently use your devices? Choose a convenient location near the center of where you primarily want boosted signal.

Note: The location of the antennas will greatly affect the performance of the booster. The horizontal separation between the outside antenna and the inside antenna needs to be at least 4 ft and the vertical separation of at least 4 ft.

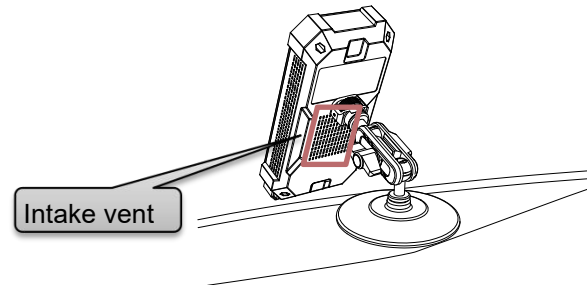
Why? All signal boosters are required by the FCC to have built-in protections against self-oscillation. Imagine putting a microphone right in front of a speaker. The feedback makes a horrible screeching sound. The same problem happens when the outside and inside antennas are too close together. The amplifier will automatically reduce the gain of the system until this feedback is gone (the screeching stops) or alternatively shut down the booster completely if oscillation can not be avoided by reducing gain of the booster.



Step 2: Install the Booster

Select the optimal mounting location for the booster:

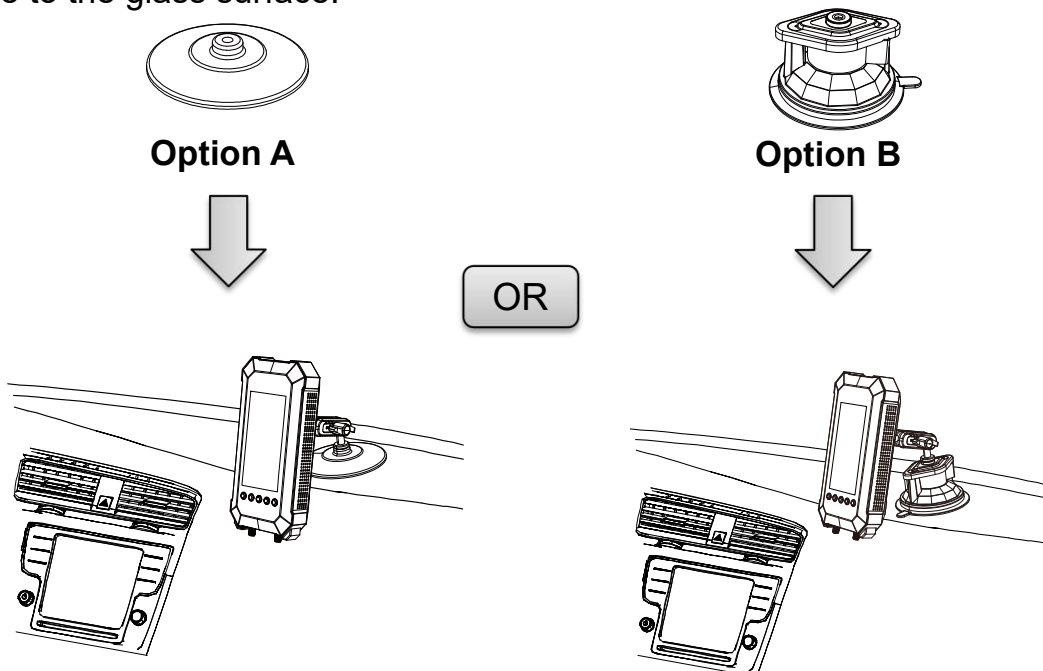
- Mounts on top of your dashboard. It should be where you use your cell phone signal most of the time.
- Choose a ventilated and dry place
- Keep away from heat
- Don't cover the intake vents



See below for different base mount booster options:

Option A: Use the matching 3M rubber pad to stick the rubber fixed base to the appropriate position on the center console.

Option B: Temporary installation. Use the vacuum suction cup base to secure the base to the glass surface.

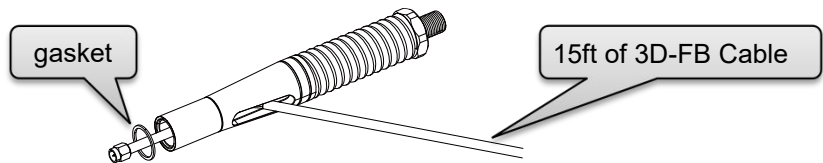


NOTE: Do not connect booster to power until the system is fully installed.

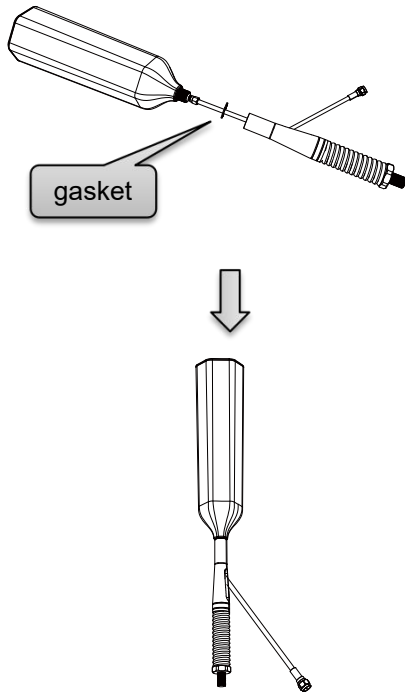
⚠️ Booster will about 15 degrees Celsius higher than the ambient temperature, which is a normal phenomenon.

Step 3: Mount Outside Antenna

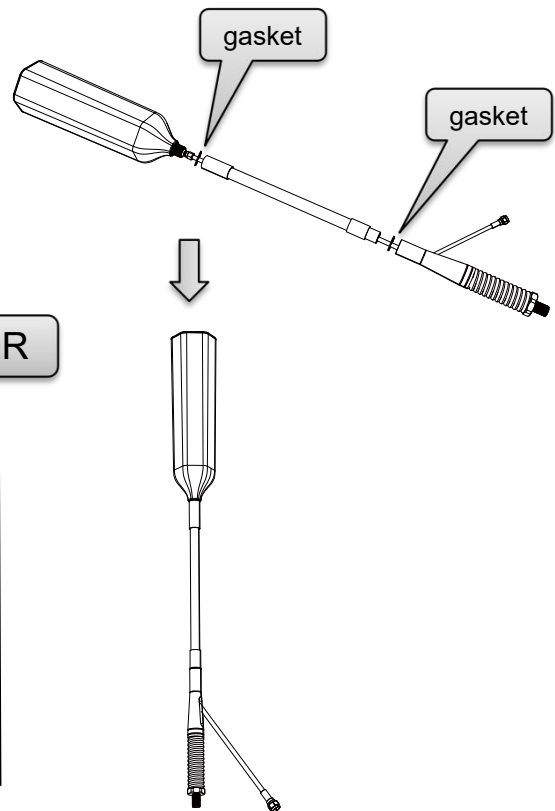
Assembling the Outside Antenna



without extension pole



with extension pole



OR

Select the optimal mounting location for the antenna:

The location of the antennas will greatly affect the performance of the booster.

Minimum Required Separation Distance Between Inside and Outside Antenna:

4 feet horizontal distance

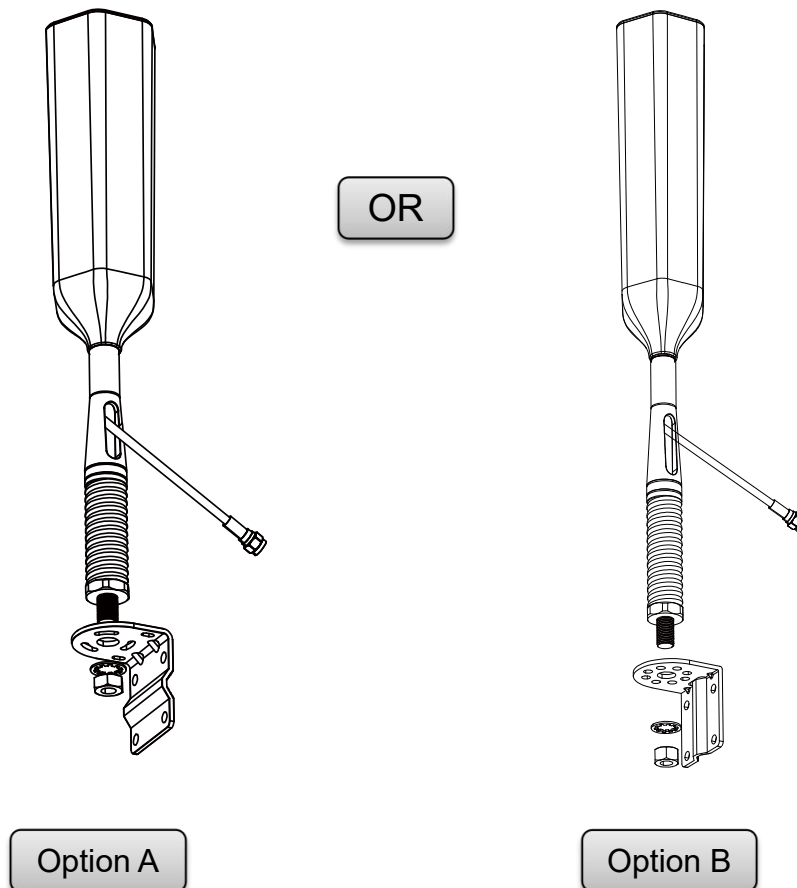
4 feet vertical distance (as far as possible)

See options below on how to setup the outside antenna in different locations

Option A: Install it on the crossbar

Option B: Install it on the vertical rod

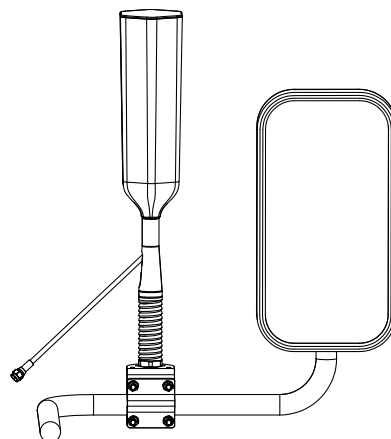
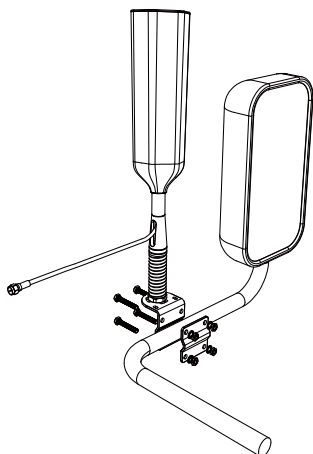
Note: Please choose whether to use a extension pole according to the height requirement of the external antenna installation you need.



(STEP 3 cont.)

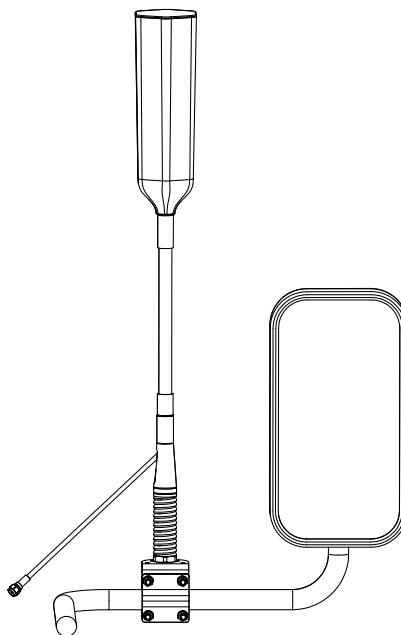
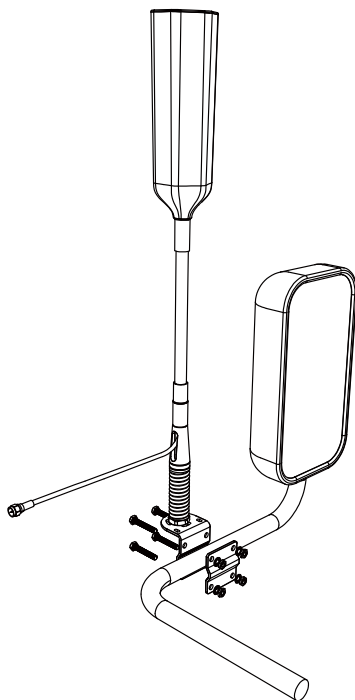
Option A. Outdoor Antenna Installation -- On The Rear View Mirror

without
extension
pole



OR

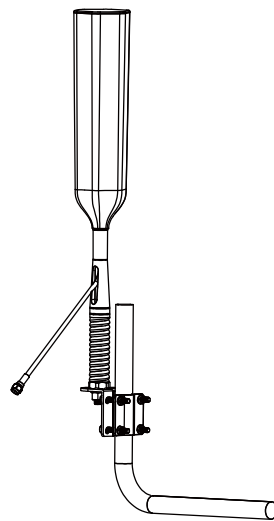
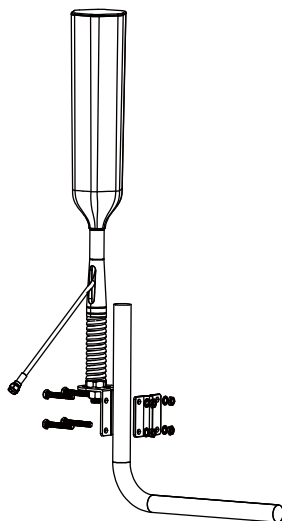
with
extension
pole



(STEP 3 cont.)

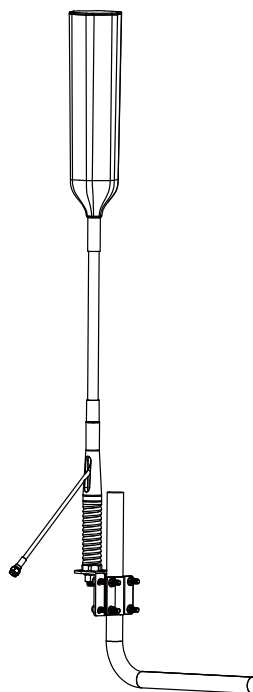
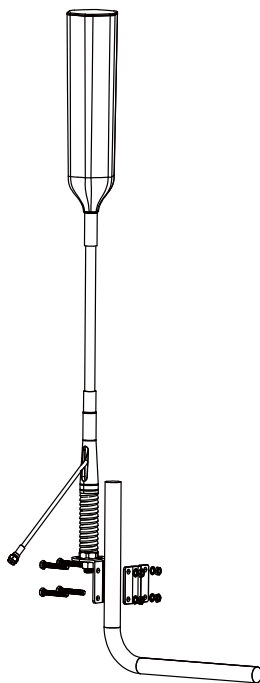
Option B. Outdoor Antenna Installation -- On The Vertical Rod

without
extension
pole



OR

with
extension
pole



Step 4: Connect Outside Antenna to Booster

See options below on how cable can be routed with different vehicles.

Determine where you want the cable to enter the vehicle, see the suggested options below. Before making any permanent changes, continue with a “soft install” by running the cable through an opened door or window. Use the extension cables as needed. Finalize the routing after testing the performance of the system.

Option A: Use an existing cable entry point, such as access points of: TV antenna, backup camera, refrigerator or AC vent, etc. (may require you to open and reseal)

Option B: Route the cable through a door, going under the weather stripping.

Option C: Go through the slide on your Truck, using the slider gasket as a seal. Make sure the cable will not be crushed when retracting the slides.

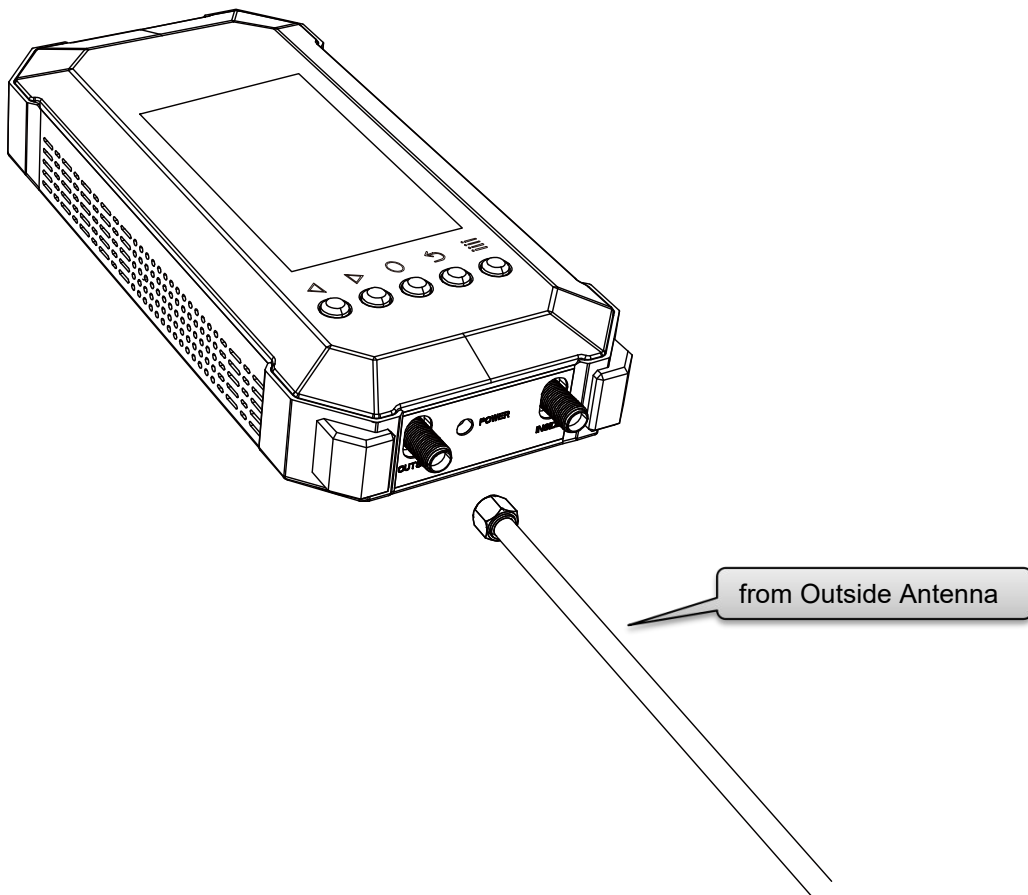
Option D: DIY. Find an access point unique to your vehicle. YouTube is a great source for inspiration.

Option E: Create an access point by drilling a hole. Make sure the location of the hole does not void any warranties that came with your vehicle, and seal up the hole after installation to prevent water leakages.

Next, run the cable to the Booster

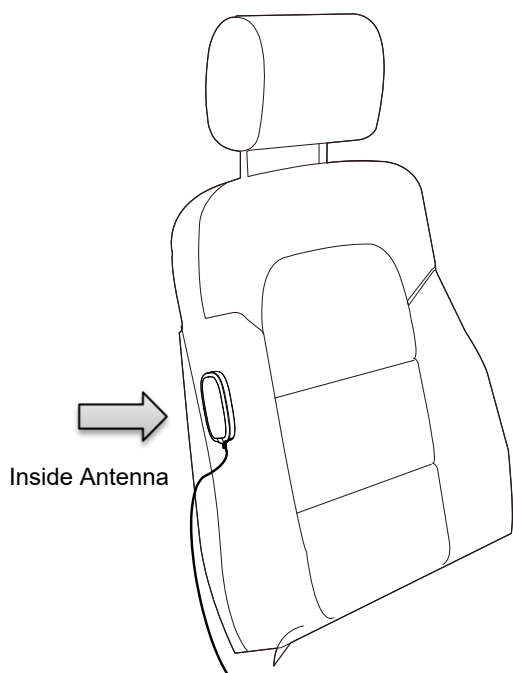
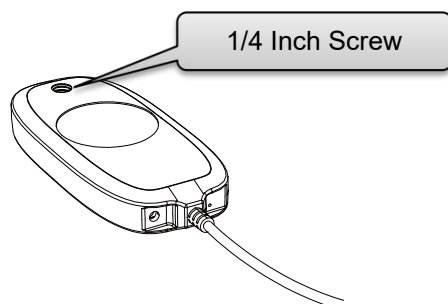
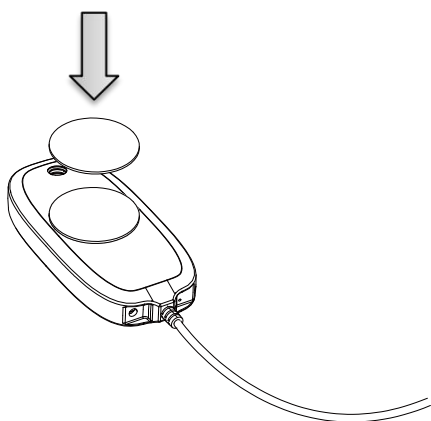
(STEP 4 cont.)

Connect the cable from **the outside antenna** to the "**OUTSIDE**" port on the booster. (If the outdoor cable is not long enough, the 5 ft LMR100 cable is used for extension.)

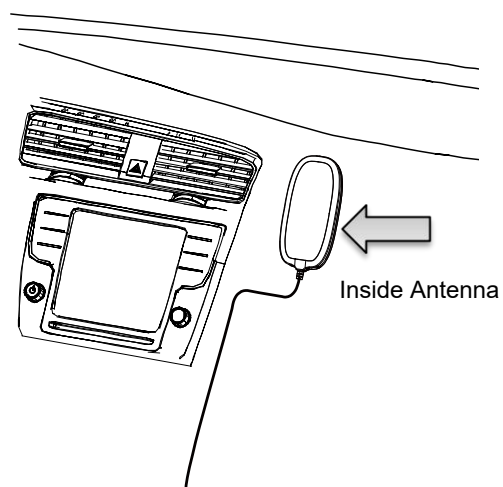


Step 5: Inside Antenna Installation

Use the velcro at the bottom of the inside antenna, which can attract the antenna to the side of seat or center console. It should be close to the place where you use your phone signal most of the time.

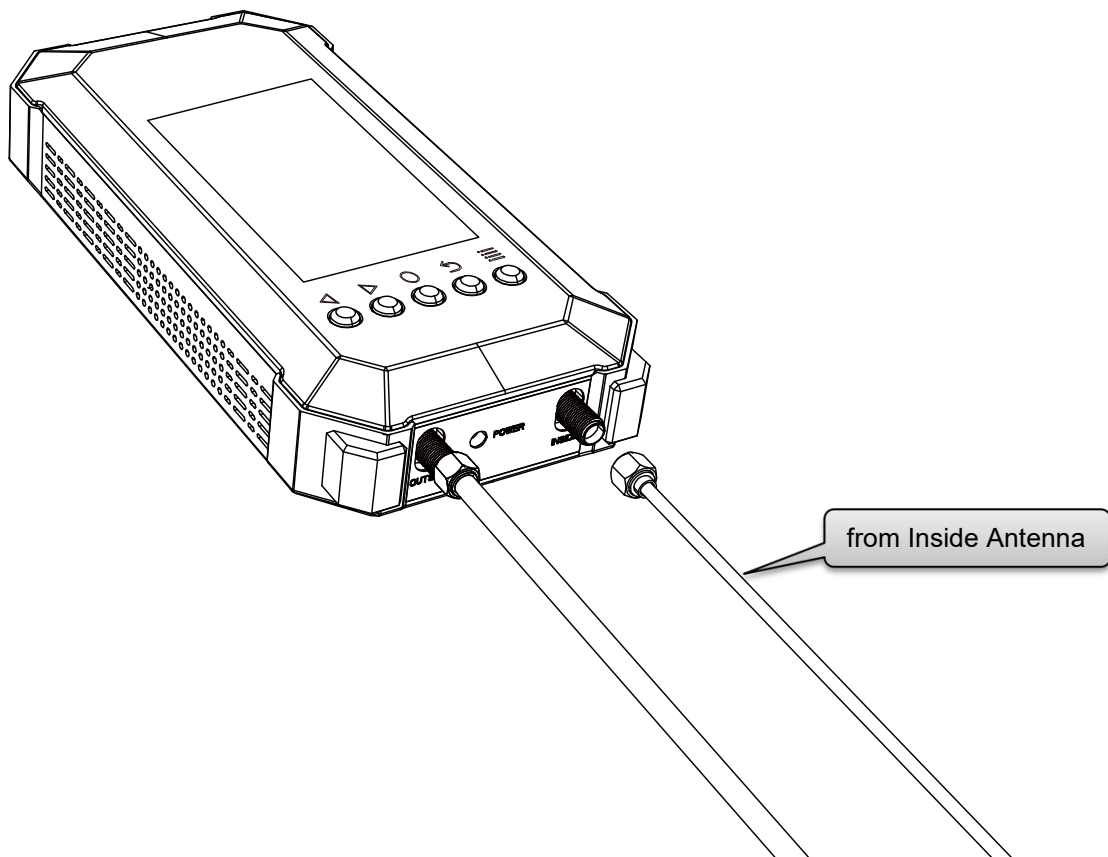


OR



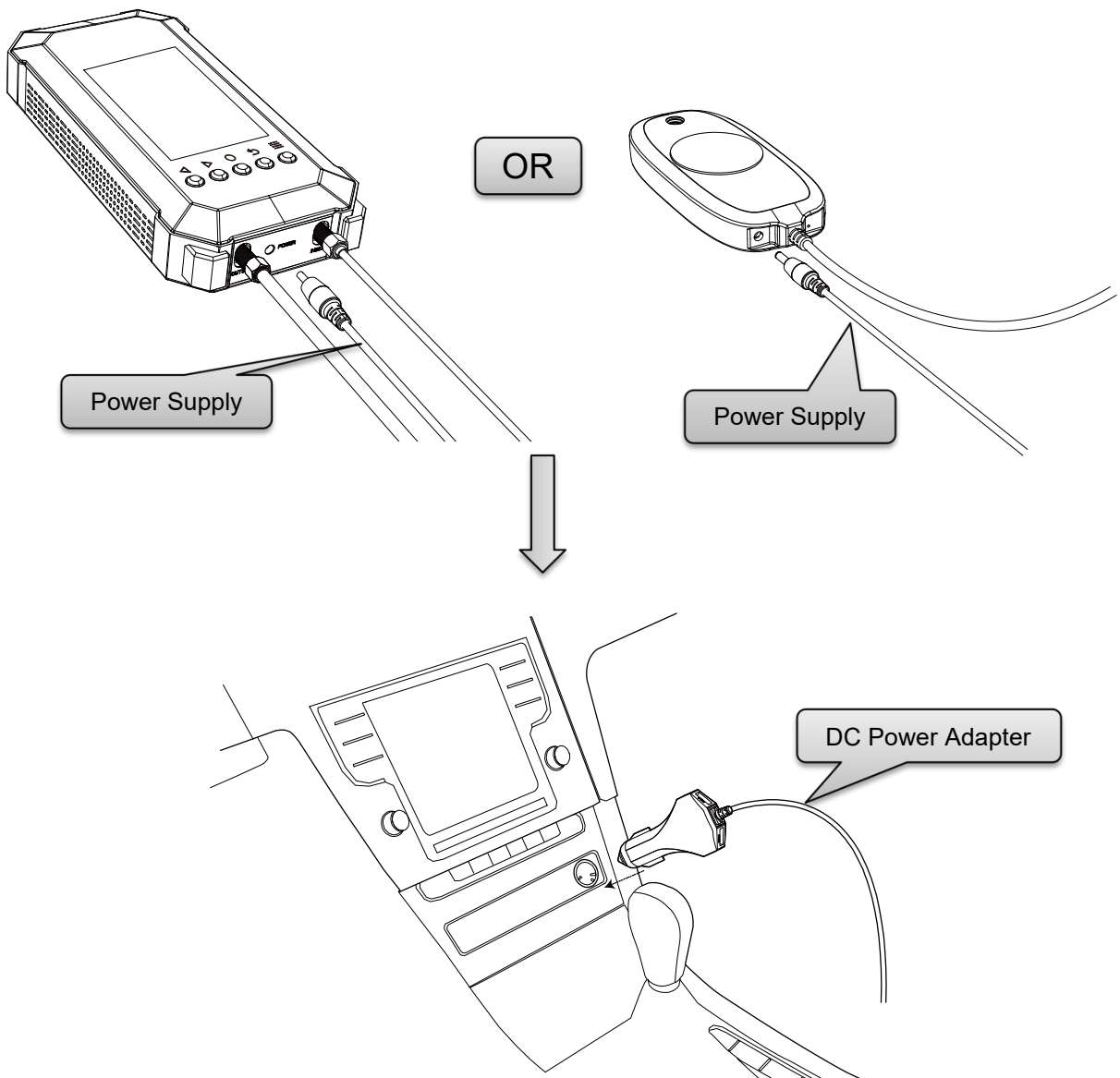
Step 6: Connect Inside Antenna To Booster

Connect the **inside patch antenna** cable to the "**INSIDE**" port on the booster. (If the indoor cable is not long enough, the 5 ft LMR100 cable is used for extension.)



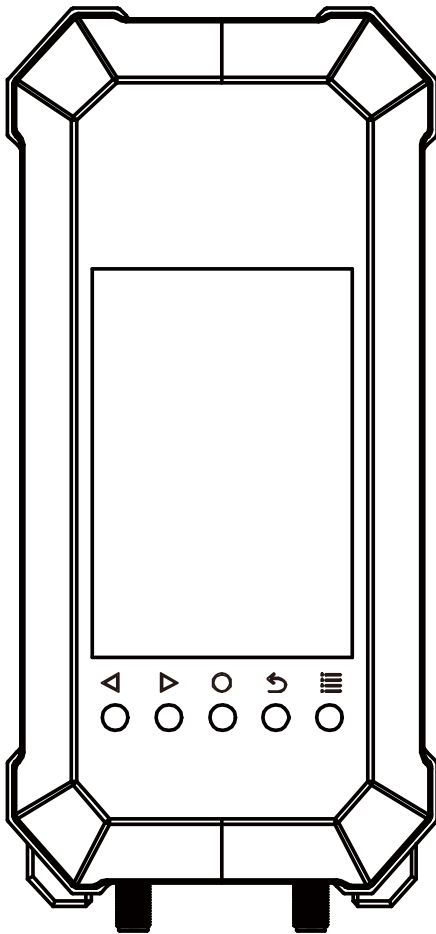
Step 7: Connect Power Supply

Both the inside antenna and the booster have power interfaces, and either interface can provide power for use. Users can choose a more convenient wiring option based on their actual situation. Plug the power adapter into vehicle's 12V DC power supply. If the SF-T is connected properly, the display screen will light up when the mains is plugged in.



UI Guide

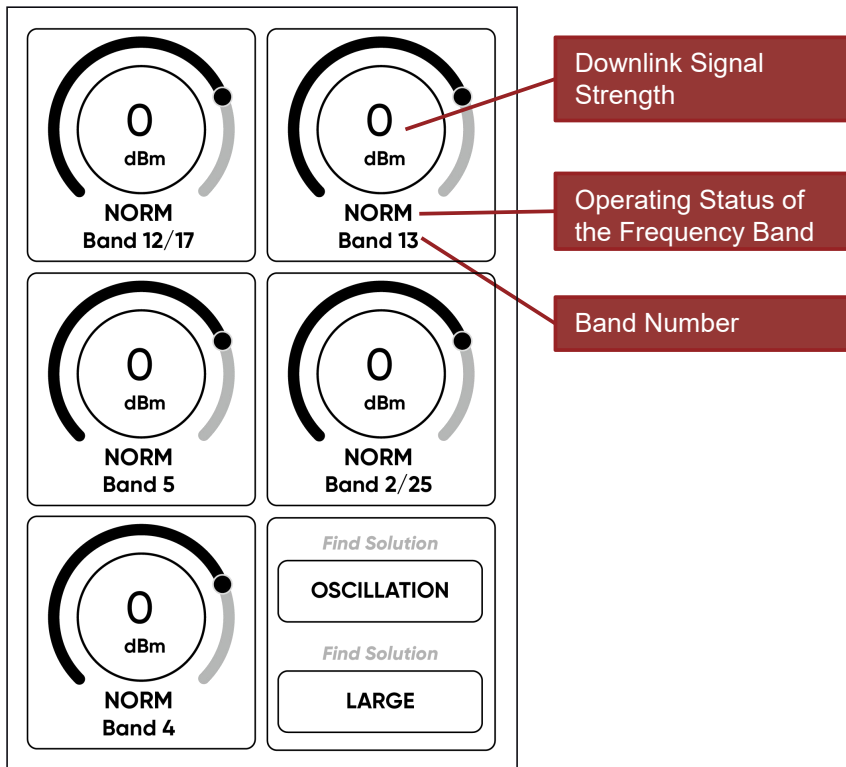
Please take a moment to become familiar with the LCD display and control buttons on the booster.



The following are the functions of the five buttons:

-  : Focus the cursor on the previous selectable area
-  : Focus the cursor to the next selectable area
-  : Confirm / Setting / Switch key
-  : Back to the previous interface key
-  : Menu key

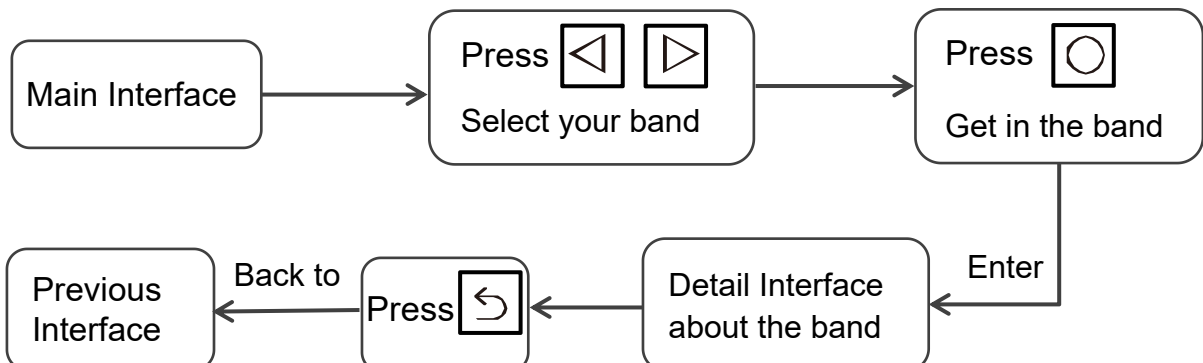
Main Interface Introduction



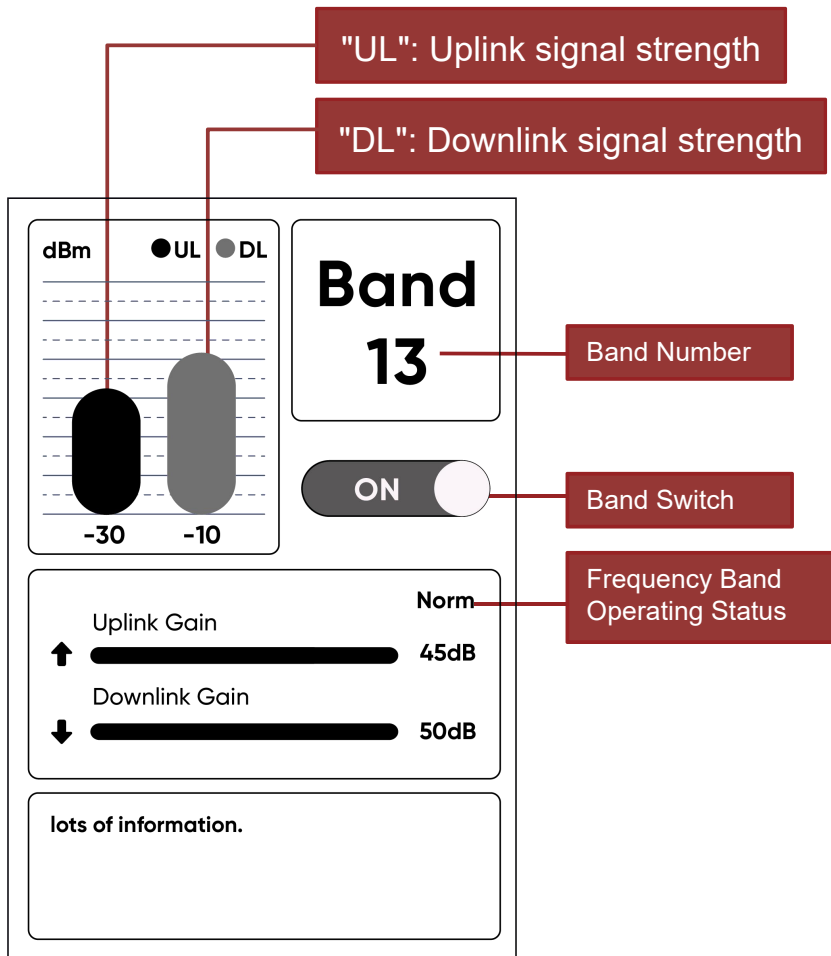
Frequency Band Status Instructions

1. **"NORM"**: The frequency band is operating normally.
2. **"OSC"**: The frequency band is oscillating and the gain is reduced.
3. **"LARGE"**: The input signal in the frequency band is too large, and the booster reduces the gain of that frequency band.
4. **"OFF"**: The frequency band is off.

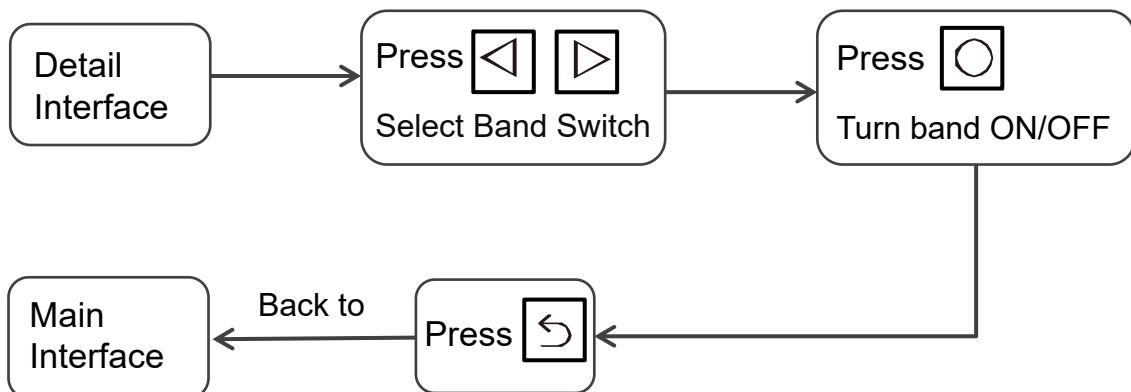
How to Check Detailed Operating Information of Each Band



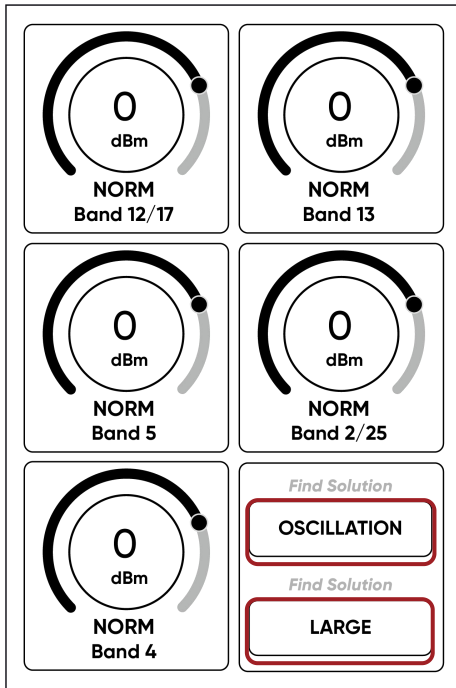
Details Interface Introduction



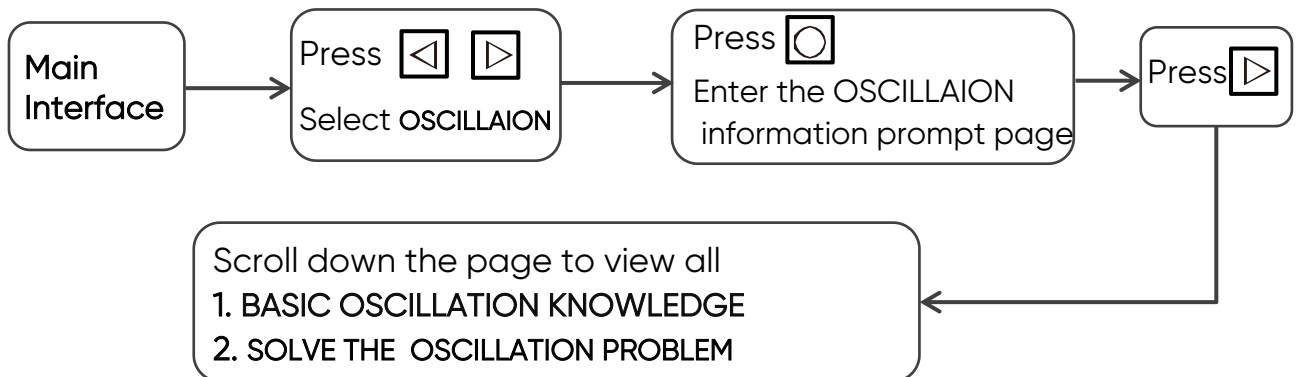
Switch ON/OFF Band Amplification Function



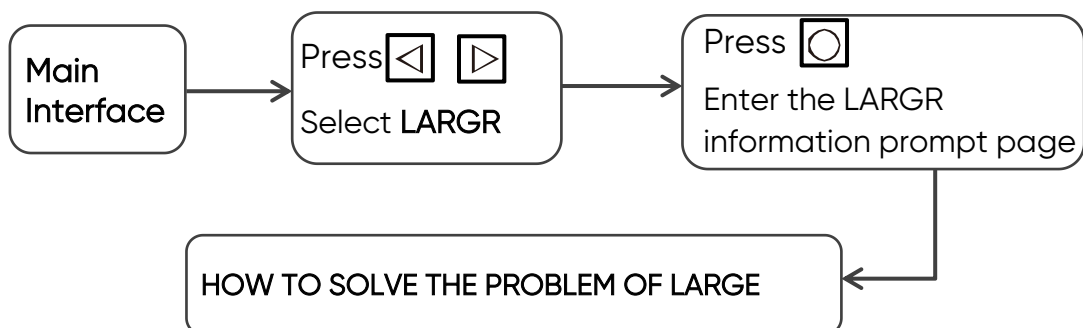
How to Check the Oscillation and Large Page



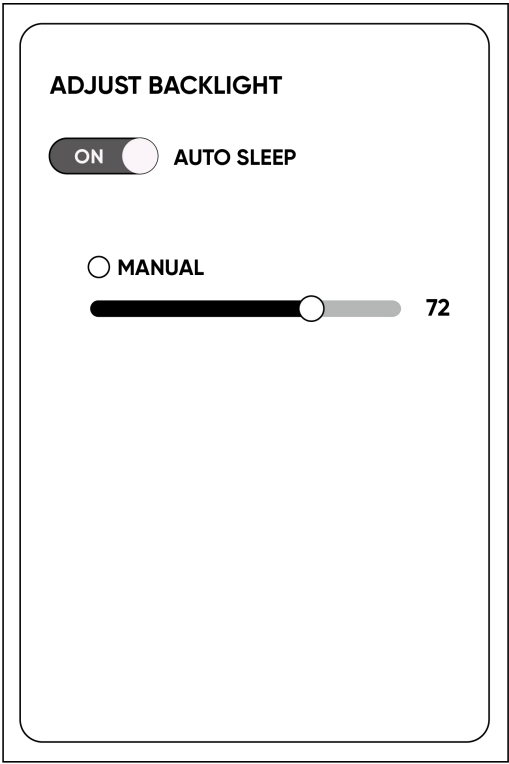
1. OSCILLAION



2. LARGE



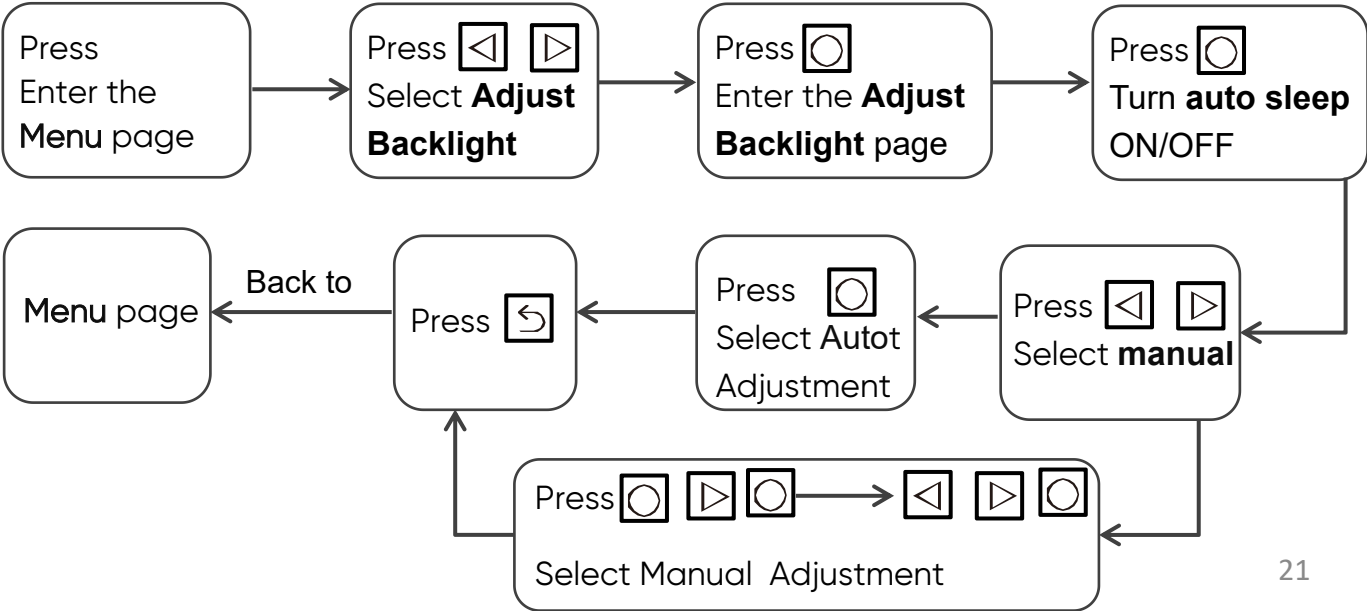
Adjust Backlight



Adjust Backlight Instructions

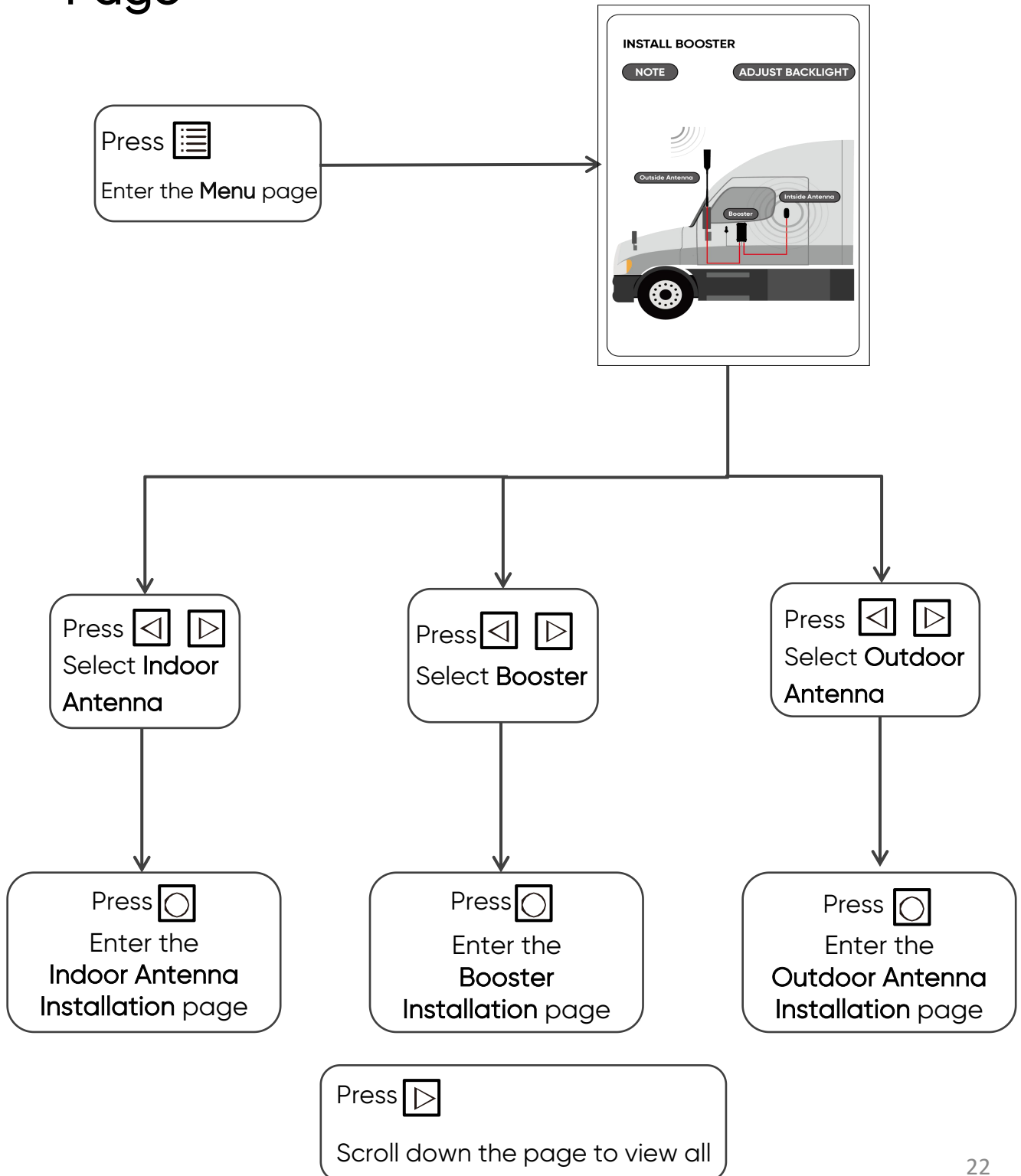
- 1. **"ON"**: Auto sleep. When the device is inactive for a period, the backlight turns off to save power.
- 2. **"OFF"**: Disables auto sleep, keeping the screen always on.
- 3. **"○MANUAL"**: Automatic Brightness. Automatically adjusts screen brightness based on ambient light.
- 4. **"☑MANUAL"**: Manual Brightness. Users can adjust brightness according to ambient light and personal preference.

Adjust Backlight Settings



How to Check the Installation Information Page

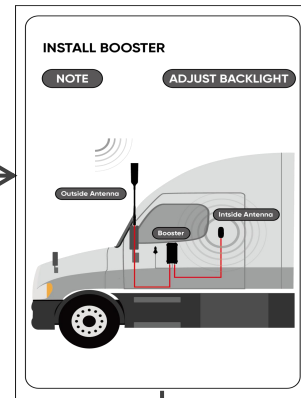
Working Diagram



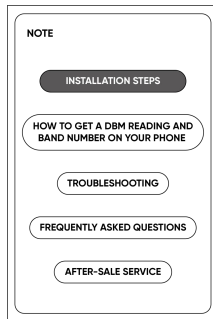
How to Check the Prompt Information Page

Working Diagram

Press 
Enter the **Menu** page



Prompt **Information** Catalog



Press  
Enter other prompt information page

Press 
Select **Note**

Press  
Select the information you need to view

Press 

Press 
Scroll down the page to view all

INSTALLATION STEPS

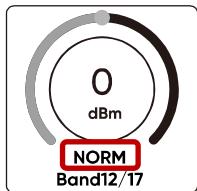
HOW TO GET A DBM READING AND BAND NUMBER ON YOUR PHONE

TROUBLESHOOTING

FREQUENTLY ASKED QUESTIONS

AFTER-SALE SERVICE

FIXING THE ABNORMAL BAND STATUS ISSUES



1. "**NORM**": The frequency band is operating normally.
2. "**OSC**": The frequency band is oscillating and the gain is reduced.
3. "**LARGE**": The input signal in the frequency band is too large.
4. "**OFF**": The frequency band is off.

1. "**NORM**": The frequency band is in normal working status. The installation is correct and effective.

2. "**OSC**": The frequency band is oscillating and the gain is reduced. 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. Please follow pages 26-27 to solve the oscillation problem.

3. "**LARGE**": The signal strength coming from the base station is too strong. In order to ensure the safety of the wireless communication environment, the booster has reduced the gain.

This situation occurs because the external signal is very strong, and when the device leaves the area covered by this strong signal, it will automatically return to its normal state.

4. "**OFF**": Enter the details interface and check the prompt message in the lower left box to confirm the detailed OFF status.

- a. SHUT DOWN BY LOW ISOLATION: This band has shut down due to low isolation between inside and outside antennas. That means the booster can not eliminate the oscillation after reducing the gain by 25dB, it will shut down the corresponding band to stop the oscillation. Please follow pages 26-27 to solve the oscillation problem.
- b. SHUT DOWN BY USER: Open the band manually.

FIXING DC POWER INDICATOR OFF ISSUES

Please verify your power supply has power;

Please verify the power cord is tightened;

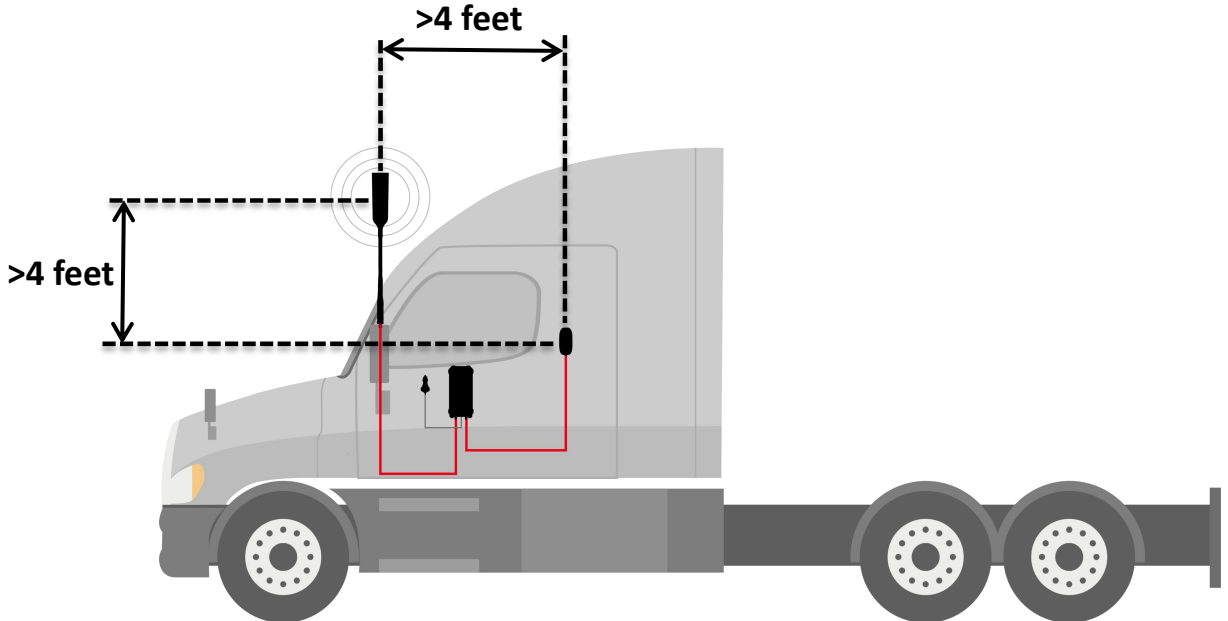
Contact us by email for replacement.

Troubleshooting

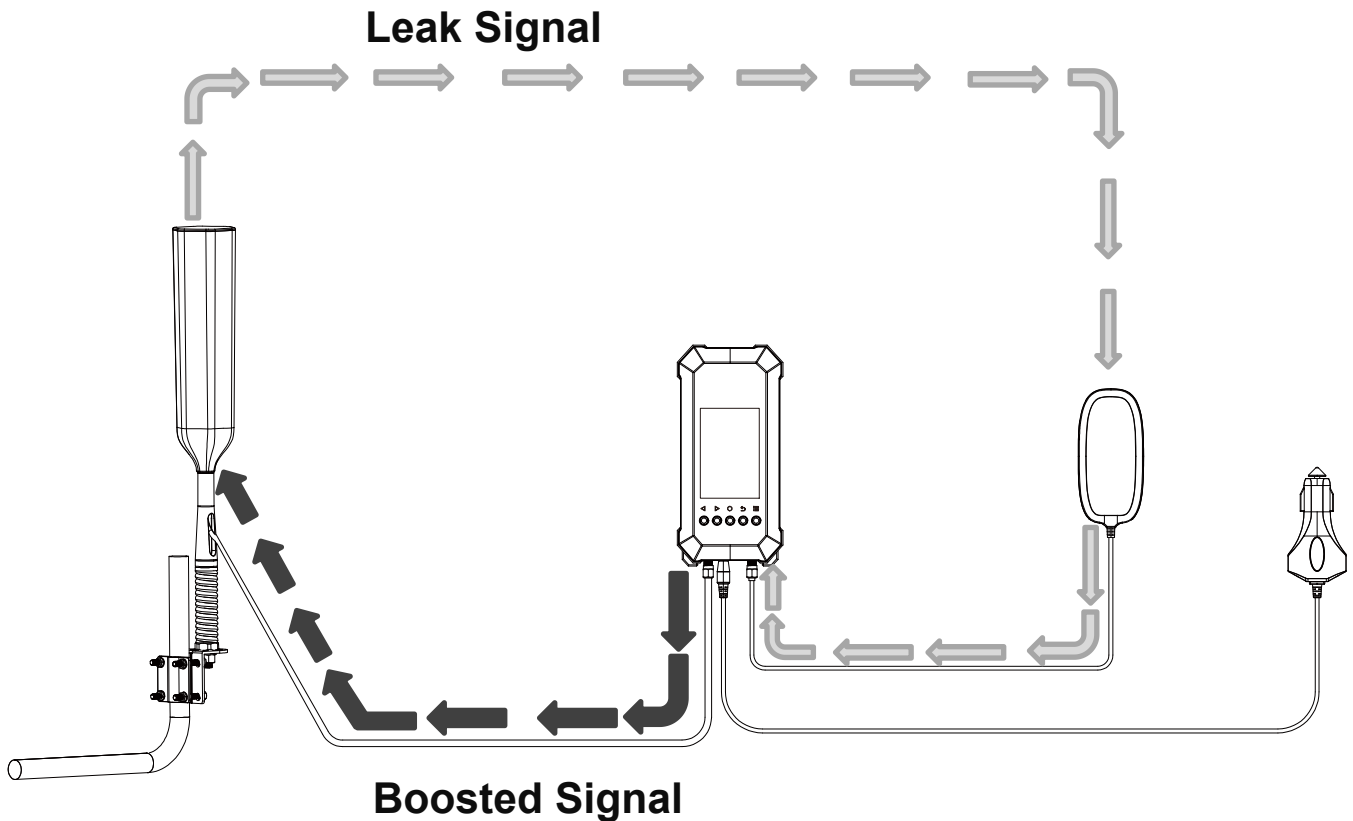
Solve the oscillation problem:

Increase the distance between inside and outside antennas. The installation distance of 4 feet horizontally and 4 feet vertically is the minimum requirement. Due to external environment or reflection of metal objects inside the vehicle, signal feedback between antennas can be caused. Therefore, it is necessary to increase the distance between antennas as much as possible or use objects to block between the two antennas.

Every time the antenna position is adjusted, the booster needs to be powered on again.



Basic Oscillation Knowledge



How does oscillation happened:

1. Inside antenna receive leak signal from the outside antenna;
2. Booster amplify the signal and then transmit it to the outside antenna;
3. Outdoor antenna broadcast the signal in the air, some of the signal back to inside antenna become leak signal;
4. If the gain of the booster higher than the loss of the leak signal, the leak signal will become bigger and bigger, finally oscillation happened.

Frequently Asked Questions

Q1. Can I install the booster system myself?

A: Yes. Our cell signal booster kit comes with everything you need to install the booster in your home. This booster kit is designed for step-by-step, guided DIY installation.

Q2. Can I add coax cable to the booster system?

A: Yes. You can add additional coax cable when installing the booster system yourself. However, we do not recommend adding more cable than what is included in the kit as it will result in signal loss.

Q3. How many devices can the booster support?

A: Each band can support 5~10 users same time.

Q4. Does a signal booster boost wifi signals?

A: Unfortunately, signal boosters do not improve wifi signals, only cellular signals such as 3G & 4G LTE for most major US & Canadian carriers.

Q5. How do I know where my carrier's nearest cell tower is?

A: You can check it out through the websites like www.cellmapper.net or www.antennasearch.com. (Note: Do not register or login.)

Q6. How do I register my booster with my cell service provider?

A: FCC regulations require that anyone who operates a cell phone signal booster register the booster with their cellular carrier. Below are links to the online booster registration forms for major U.S. carriers.

If you do not see your service provider below, contact your provider's customer service group to ask how to register your signal booster.

T-Mobile/MetroPCS: <https://www.t-mobile.com/signal-booster/registration>

AT&T: <https://securec45.securewebsession.com/attsignalbooster.com/>

Verizon(only loads on a laptop not on the phone):

<http://www.verizonwireless.com/wcms/consumer/register-signal-booster.html>

or

<https://www.verizon.com/solutions-and-services/accessories/register-signal-booster/>

Safety Guidelines

To uphold compliance with network protection standards, all active cellular devices must maintain at least six feet of separation distance from inside unit antenna and outside unit antenna and at least four feet of separation distance from inside unit.

Use only the power supply provided in this package. Use of a non-Atcall product may damage your equipment.

The Signal Booster 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 subject to temperatures in excess of that range.

The installation height of the antenna for AWS band (1700/2100 Hz) operations is limited to 10 meters above ground for compliance with Section 27.50.

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 provider 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 requirement set out ISED CPC-2-1-05.

You **MUST** operate this device with approved antenna and cables as specified by the manufacturer. Antennas **MUST** be installed at least 20cm (8inches) 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 a licensed wireless service provider.

WARNING. E911 location information may not be provided or may be inaccurate for calls served by using this device.

FOR MORE INFORMATION ON REGISTERING YOUR SIGNAL BOOSTER WITH YOUR WIRELESS PROVIDER, PLEASE SEE BELOW:

T-Mobile/MetroPCS: <https://www.t-mobile.com/signal-booster/registration>

AT&T: <https://securec45.securewebsession.com/attsignalbooster.com/>

Verizon(only loads on a laptop not on the phone):

<http://www.verizonwireless.com/wcms/consumer/register-signal-booster.html>

or <https://www.verizon.com/solutions-and-services/accessories/register-signal-booster/>

Note: If your operator is not listed above, please contact your operator to request a registration address

Specifications

Model Number	SF-T				
Connectors	SMA-Female on the inside Antenna / SMA-Female on the Outside Antenna				
Noise figure	5 dB nominal				
Antenna Impedance	50 Ohms / 50 Ohms				
Weight	0.359Kg				
Frequency(Uplink)	698-716MHz	776-787MHz(US) 777-787MHz(CA)	824-849MHz	1850-1915MHz	1710-1755MHz
Frequency Band	Band12/17	Band13	Band5	Band25/2	Band4
Gain(Max)	45	45	45	48	48
OutputPower (dBm)	17dBm~23dBm				
Frequency(Downlink)	728-746MHz	746-757MHz(US) 746-756MHz(CA)	869-894MHz	1930-1995MHz	2110-2155MHz
Frequency Band	Band12/17	Band13	Band5	Band25/2	Band4
Gain(Max)	50	50	50	50	50
OutputPower (dBm)	-5dBm~-2dBm				
EIRP	1W Max				
Operating temperature	5°F to 140°F (-15°C~60 °C)				
Isolation	>110 dB				
Power Requirements	DC 12V,1.5A, w/1.35X3.5mm Jack				

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 Atcall could void the authority to operate this equipment.

RF Exposure Information

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.

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3 YEAR 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 Atcall.

This warranty does not apply to any signal booster components determined by Atcall 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 Atcall is believed to be complete and accurate, to the best of our knowledge. However, no responsibility is assumed by Atcall 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.

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Ic Statement

This is a CONSUMER device.

BEFORE USE, you must meet all requirements set out in CPC-2-1-05.

This device **MUST ONLY** be operated with approved antennas and cables as specified by the manufacturer. Antennas must be installed in a way where the minimum separation distance between the antennas and a user (or bystander) specified by the manufacturer is **ALWAYS** maintained.

In order to reduce oscillations it is recommended that sufficient separation distance is maintained between the donor and server antennas of the zone enhancer system.

You **MUST** cease operation of this device immediately if requested by ISED 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.

Ce produit est un appareil GRAND PUBLIC.

AVANT DE L'UTILISER, vous devez vous conformer à toutes les exigences établies dans la CPC 2-1-05.

Cet appareil **NE DOIT ÊTRE UTILISÉ** qu'avec des antennes et des câbles approuvés, conformément aux indications du fabricant. Les antennes doivent être installées de manière à ce que la distance minimale de séparation entre les antennes et un utilisateur (ou un passant) spécifiée par le fabricant soit **TOUJOURS** respectée.

Afin de réduire les oscillations, il est recommandé de maintenir une distance de séparation suffisante entre les antennes du donateur et du serveur du système d'enrichisseur de zone.

Vous **DEVEZ** cesser d'utiliser cet appareil immédiatement à la demande d'ISDE ou d'un fournisseur de services sans fil autorisé.

AVERTISSEMENT : Les informations relatives à la localisation pour le service E911 peuvent être non fournies ou inexactes pour les appels transitant par cet appareil.

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s).

Operation is subject to the following two conditions:

This device may not cause interference.

This device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil contient des émetteurs/récepteurs exempts de licence qui sont conformes aux RSS exemptés de licence d'Innovation, Sciences et Développement économique Canada. L'exploitation est soumise aux deux conditions suivantes :

(1) Cet appareil ne doit pas provoquer d'interférences.

(2) Cet appareil doit accepter toute interférence, y compris les interférences susceptibles de provoquer un fonctionnement indésirable de l'appareil.

This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Cet équipement doit être installé et utilisé à une distance minimale de 20 cm entre le radiateur et votre corps.

Notes

Atcall

A cell booster specially created for the young



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