FULL SIGNAL

Cell Phone Signal Booster

S5-A

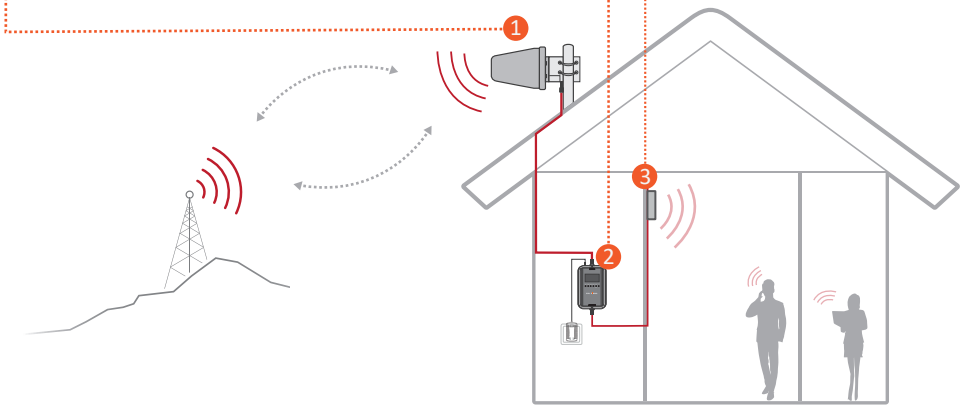
Quick Start Guide

How Full Signal Booster Works

1. Outdoor antenna receives outside signal from the nearby cell tower and sends it to Full Signal Booster

2. The booster amplifies the signal and sends to indoor antenna

3. Indoor antenna receives amplified signal and sends it throughout your rooms.

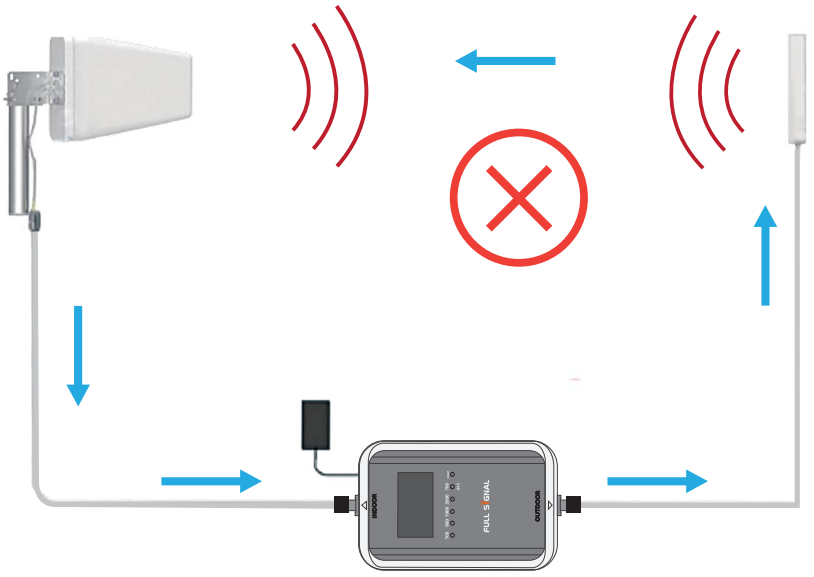


Vice versa, indoor antenna receives cellphone signal and sends to the booster. The booster then amplifies the signal and sends it to outdoor antenna. Outdoor antenna sends signal to the cell tower Then you can make phone calls and internet streaming.

Important Knowledge before Installation

In order to make a successful installation, there is a most critical information you need to know- **You should Prevent Self-oscillation during installation.**

Self-oscillation happens when outdoor antenna and indoor antenna are installed too close to each other. When self-oscillation happens, instead of picking up signal from the Operator Cellular Tower, the outdoor antenna picks up the transmitted signal from the indoor antenna, and repeatedly boosted, thus it will generate a signal loop with a lot of noise which is called Self-oscillation. When self-Oscillation happens, the booster will not boost useful signal from your cellular operator, so the system will not work.



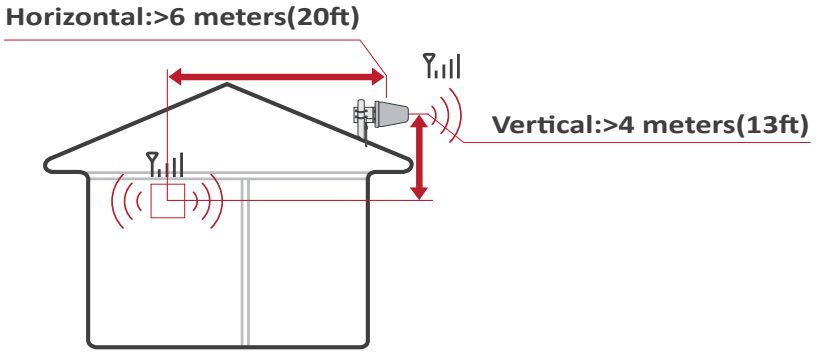
To prevent self-oscillation during the installation of a cellular signal booster, it is crucial to follow the given guidelines:

1. Outdoor antenna and indoor antenna need to be separated with an object or a distance. It is essential to have a physical barrier, such as a wall, between the outdoor and indoor antennas. This helps to prevent the transmitted signal from the indoor antenna from being picked up and amplified by the outdoor antenna.

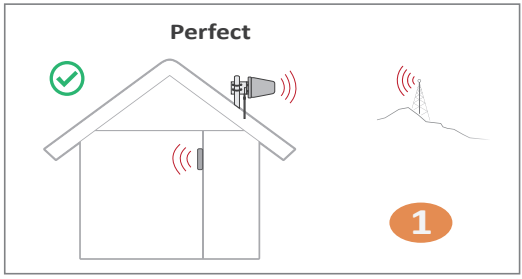
2. Outdoor antenna and indoor antenna should not point to each other: Ensure that the outdoor antenna and indoor antenna are not facing each other directly. This reduces the chances of the outdoor antenna picking up the signal transmitted by the indoor antenna.

3. Maintain a minimum required separation distance: The outdoor antenna should be placed as far away as possible from the indoor antenna to minimize the risk of self-oscillation. The minimum recommended separation distances are:

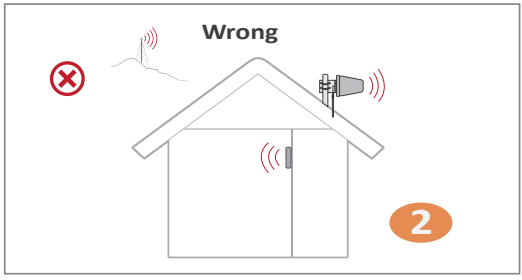
- Horizontal Distance: 20 feet (6 meters)
- Vertical Distance: 13 feet (4 meters)



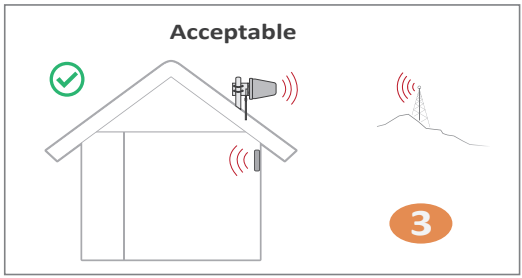
By adhering to these guidelines, you can prevent self-oscillation and ensure that the cellular signal booster functions effectively by amplifying the signal from the cellular operator rather than creating a loop with noise.



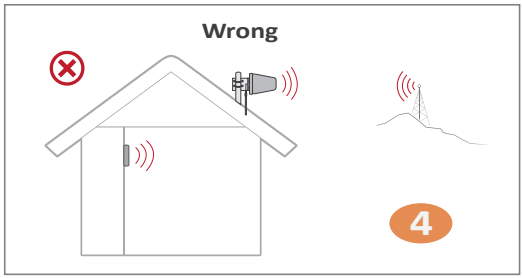
1. Point to the tower
2. Antennas back to back
3. Two wall barriers



1. Not pointing to the tower



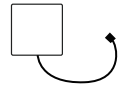
1. Point to the tower
2. Antennas back to back
3. No barriers, make sure vertical distance enough



1. Two antennas facing the same direction
2. Vertical distance might not be enough

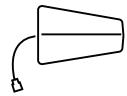
Package Contents

Cellular Signal Booster



Inside Antenna

75'& 60' Cables



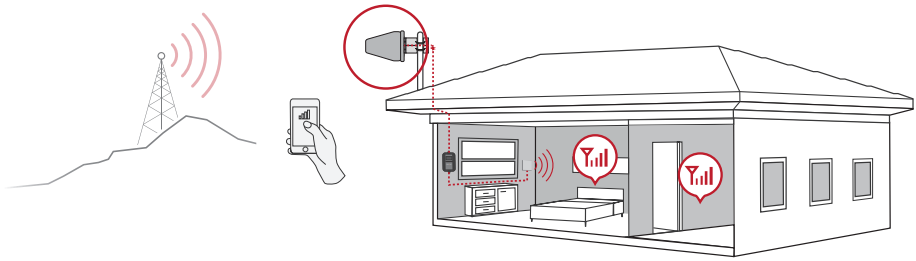
Outside Antenna

Power Supply

Outside Antenna Mounting Bracket

QUICK INSTALLATION GUIDE

Select the Location for the Outside Antenna 01

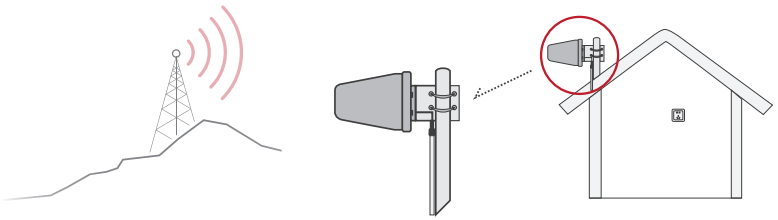


Note: This is the most critical step and will determine the performance of your booster. Generally, the strongest signal will be located on the side of your home facing to the nearest cell tower from your cellphone operator.

1) Walk around your house with your cell phone, search for the place where your phone gets the strongest signal reception, at least 3-4 signal bars.

2) Make a few phone calls there to check the call quality, if it is clear and stable, that will be an ideal position to place the outdoor antenna

02 Install the Outdoor Antenna



Install the outdoor antenna on the roof above the location you found in Step 1. Make sure the antenna points towards the direction where your cellular operator's tower is. Connect the Outdoor cable to the antenna, waterproof the connectors with tapes.

Note:

1) The Outdoor Antenna should be as far away as possible from the Indoor antenna.

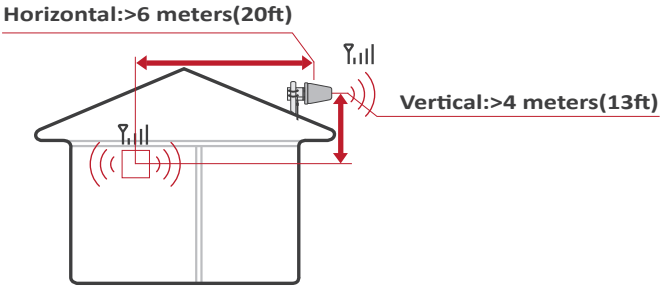
Minimum required separation distance between indoor and outdoor Antenna:

Straight line distance： Over 30 Feet (10 meters), or

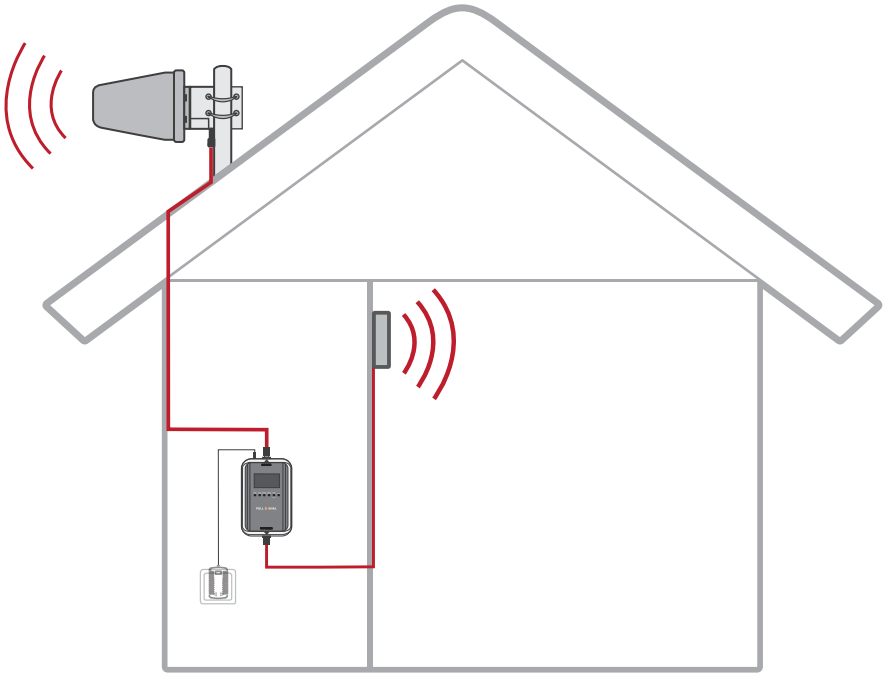
Horizontal distance: 20 Feet (6 meters)

Vertical distance: 13 Feet (4 meters)

2) To prevent lightening, the height of the outdoor antenna should be lower than the highest point of your house.



Install the Indoor Antenna 03



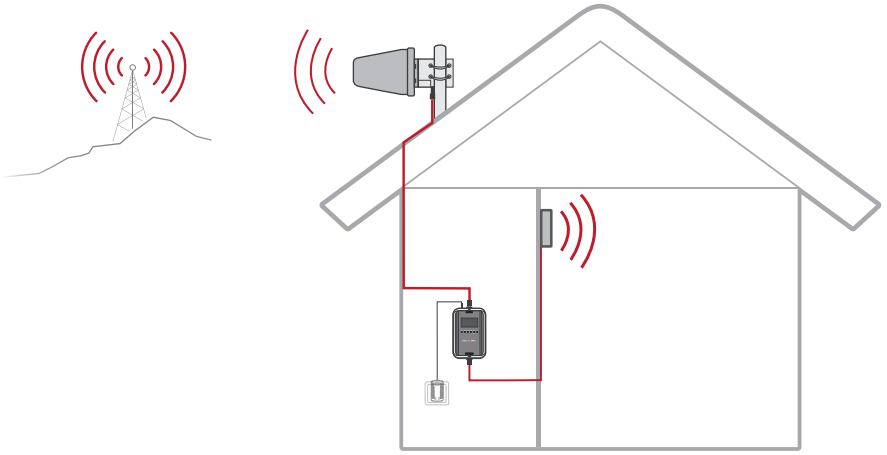
Place the indoor antenna at where strong signal is needed most. The Indoor Antenna is a directional antenna, it needs to be installed on the wall. Choosing a location facing all over your home will help to maximize your coverage area.

Note:

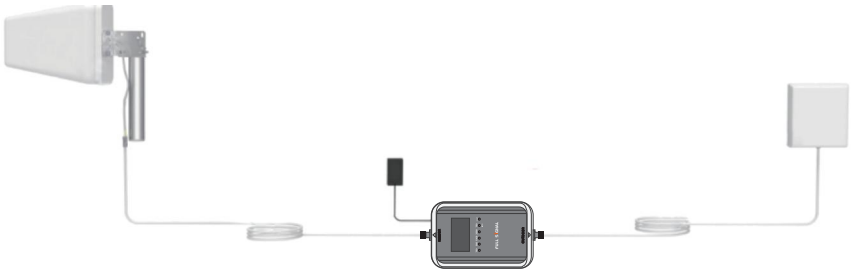
1) Make sure the Outdoor Antenna and Indoor Antenna are not facing to each other.

2) Make sure there is sufficient separation between the Outdoor Antenna and Indoor Antenna.

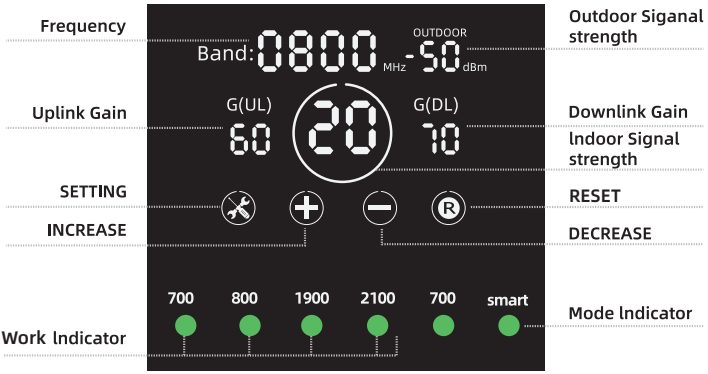
04 Antennas,Power on



Connect the Outdoor Antenna cable with "OUTDOOR " port on the cellular booster, and connect the Indoor Antenna cable with "INDOOR " port on the repeater. Then power on the booster and check the coverage.



Optimize Coverage 05



To optimize coverage for this repeater, follow these steps:

1.Band: It shows the performance status of the booster in each frequency band (700MHz, 700MHz,850MHz, 1900MHz, 2100MHz). Use the "+" or "-" buttons to switch between bands.

2.Outdoor Signal Strength: Range from-50~-70. It represents the signal strength your outdoor antenna picked up from outside. Aim for a signal strength of around-60dB or higher. If the signal strength is lower than that, try repositioning or adjusting the outdoor antenna for better signal reception.

3.Indoor Signal Strength: Range from 0-20dBm. It indicates the output signal strength produced by the booster. Try to get 10dBm or higher. If it is lower than that, try adjusting the outdoor antenna to improve the signal reception and increase the coverage area.

4.Uplink/Downlink Gain: The ideal uplink gain is 60dB, and the ideal downlink gain its 70dB.

5.Work Indicator: The normal status of the work indicator is green or orange. If it turns red, it indicates that the separation between the antennas is not enough on that band, which may result in poor coverage. Increase the distance between the antennas and ensure they are not facing each other to improve coverage.

Working Normally

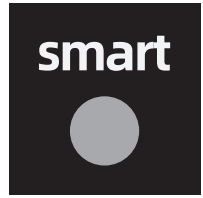
Working Normally /ALC Active

Isolation Alarm

●**Sleep Mode:** If there is no operation for more than 5 minutes, the booster will enter sleep mode to conserve power. Simply touch the screen to resume its operation.

Additional Information for Professional Installers (More Settings):

AUTO MODE



NANUAL MODE

1.Auto Mode & Manual Mode: Press and hold the "SETTING" button to switch between auto and manual modes. In auto mode, the booster automatically adjusts the uplink and downlink gain based on the outdoor signal strength. In manual mode, you can adjust the gain settings manually.

2.Switch Frequency: Use the "+" or "-" buttons to switch between frequencies and observe the working information.

3.Adjust Gain: In manual mode, press the "SETTING" button to enter the editing mode. Use the "+" or "-" buttons to adjust the uplink and downlink gain settings. After making the desired adjustments, press "RESET" to save the settings and exit the editing mode.

4.Reset: Press and hold the "RESET" button to restore the booster to its factory settings.

By following these steps and optimizing the various settings based on the provided information, you can improve the coverage and performance of the booster.

SAFTY GUIDLINES

Important guidelines and regulations for the safe and proper use of the cellular repeater.

1.Power Supply: Only use the power supply provided with the repeater package. Using any other power supply may result in improper functioning or damage to the device.

2.Antenna Safety: Ensure that any antenna used with the repeater is located at least 8 inches (20 centimeters) away from all persons. This is to minimize potential exposure to radio frequency (RF) energy.

3.Compliance with FCC Rules: The repeater has been tested and found to comply with the limits set for a class B digital device under Part 15 of the FCC Rules. These limits are designed to protect against harmful interference in residential installations.

4.Harmful Interference: If the repeater causes interference to network operators or other communication systems, it is recommended to take the following measures:

- Relocate the Outdoor Antenna.
- Increase the separation between the Outdoor Antenna and Indoor Antenna.
- Seek assistance from the supplier or local installers for further guidance.

5.Compliance with Regulatory Requests: If requested by the FCC (or ISED in Canada) or a licensed wireless service provider, it is mandatory to cease operating the device.

It is crucial to adhere to these guidelines to ensure proper functionality, minimize interference, and comply with regulatory requirements. If you have any specific concerns or questions, it is advisable to consult the supplier or seek assistance from local professionals experienced in installing and operating cellular repeaters.

Trouble Shooting

FAQ	Solution
After installation, the signal improvement is not significant, and the indoor coverage area is limited	1. Adjust the position or direction of the outdoor antenna, try to get a better signal reception. 2.Check if the cables are properly connected. 3. Raise the outdoor antenna so that it can receive better signal. 4. Replace a higher gain outdoor antenna
The phone signal is full, but the call quality is poor	Check the booster “Work Indicator”, if any of the lights is in red, it indicates that the separation between the antennas is insufficient. It is essential to increase the distance between the antennas, or increase physical barriers, such as a wall, between the outdoor and indoor antennas. Make sure the antennas are not facing to each other, then restart the booster.
After installation, the signal did not improve, but it was worse	Check the booster “Work Indicator”, if any of the lights is in red, it indicates that the separation between the antennas is insufficient. It is essential to increase the distance between the antennas, or increase physical barriers, such as a wall, between the outdoor and indoor antennas. Make sure the antennas are not facing to each other, then restart the booster.
I have been using it normally before, but suddenly the signal is not good after using it for a period of time	1. Check the cable connections. 2. Check if the outdoor cable is installed securely without damage. 3. Check if LCD indicator is normal, if it is off, booster device need to be sent to supplier for repair.

Product Specifications

Model: S5-A
Network: AWS-1/Cellular/Low A-E Blocks/700 MHz Upper C Block/Broadband PCS

Model No.	**Smart Booster S5-A**				
Working Band	Low A-E Blocks	700 MHz Upper C Block	Cellular	Broadband PCS	AWS-1
UL Frequency Range (MHz)	699-716	777-787	824-849	1850-1915	1710-1755
DL Frquency Range (MHz)	729-746	746-756	869-894	1930-1995	2110-2155
Maximum Gain	UL: 70±3 dB, DL: 70±3 dB				
Maximum Output Power	UL: 19±3, DL: 9±3 dBm				
AGC Range	≥30dB				
Ripple in Band	≤7dB				
Impedance	50 ohm				
I/O Port	N-Female				
Weight	Booster Device ≤2.0Kg				
	Whole Kit ≤5 kg				
Dimension	180 × 120 × 25 m				
Power Supply	AC: 110-240 V, 50/60Hz, Output DC 5V/3A				
Environmental Condition	Booster: IP40				
	Antenna: IP65				

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

Name		Model	Gain/Loss	Photo
Indoor Antenna	Panel Antenna (defauit)	TX.BG.2	9dbi@698-2700MHz	
Outdoor Antenna	Log-periodic Antenna (default)	TX.DS.2	10dbi@698-2700MHz	
cable	Coaxial cable with N male cennector (default)	X.13B1	3dbi@698-2700MHz	

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

(4) The antenna is equipped with a U-shaped mounting bracket. 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) 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.

CPC-2-1-05 — Zone Enhancers - Spectrum management and telecommunications http:// www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf08942.html
Warning:Unauthorized antennas/cables and/or coupling devices are prohibited by FCC rules. Please contact FCC for details: 1-888-CALL-FCC

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 interference received, including interference that may cause undesired operation

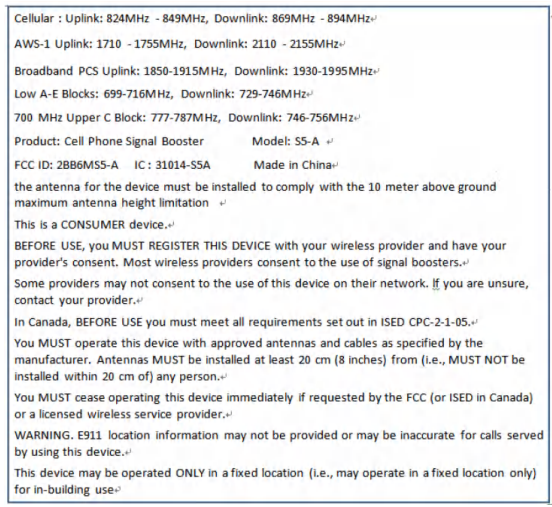
This equipment should be installed and operated with a minumum distance of 20cm between the radiator and your body.

The antenna for the device must be installed to comply with the 10 meter above ground maximum antenna height limitation

This equipment complies with IC radiation exposure limits set forth for an uncontrolledenvironment. This equipment should be installed and operated with minimum distance of 20 cmbetween the radiator and your body. This transmitter must not be co-located or operating inconjunction with any other antenna or transmitter.
This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subjectto the following two conditions:
(1) This device may not cause interference, and
(2) This device must accept any interference, including interference that may cause undesiredoperation of the device.
Le present appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radioexempts de licence. L'exploitation est autorisee aux deux conditions suivantes:
(1) l'appareil ne doit pas produire de brouillage, et
(2) 'utilisateur de 'appareil doit accepter tout brouillage radioelectrique subi, meme si lebrouillage est susceptible d'en compromettre le fonctionnement

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 2-1-0. Cet appareil NE DOIT ÊTRE UTILISÉ qu ' avec des antennes et des câbles approuvés, conformément au x indic ations du fabricant. Les antennes doivent être installées de manière àce que la distance minim ale de sépara tion entre les antennes et un utilisateur (ou un passant) spécifiée par le fabricant soit T OUJOURS respectée.Afin de réduire les oscillations, il est recommandéde maintenir une distance de s éparation suffisante entre l es antennes du donateur et du serveur du système d ' enrichisseur de zon e.Vous DEVEZ cesser d ' utiliser cet appareil immédiatement à la demande d ' ISDE ou d ' un fournisseu rde services sans fil autorisé.
AVERTISSEMENT:Les informations relatives àla localisation pour le service E911 peuvent être non fournies ou inexactes pour les appels transitant par cet appareil.This device may operate in a fixed location only, for in-building use.
Cet appareil peut fonctionner seulement àun emplacement fixe à l ' intérieur d ' un bâtiment.

label:


Cellular : Uplink: 824MHz - 849MHz, Downlink: 869MHz - 894MHz
AWS-1 Uplink: 1710 - 1755MHz, Downlink: 2110 - 2155MHz
Broadband PCS Uplink: 1850-1915MHz, Downlink: 1930-1995MHz
Low A-E Blocks: 699-716MHz, Downlink: 729-746MHz
700 MHz Upper C Block: 777-787MHz, Downlink: 746-756MHz
Product: Cell Phone Signal Booster Model: S5-A
FCC ID: 2BB6MS5-A IC : 31014-S5A Made in China
the antenna for the device must be installed to comply with the 10 meter above ground maximum antenna height limitation
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 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 (i.e., may operate in a fixed location only) for in-building use

CPC-2- 1-05 – Zone Enhancers - Spectrum management and telecommunications https://ised-isde.canada.ca/site/spectrum-management-telecommunications/en/learn-more/key-documents/procedures/client -procedures-circulars-cpc/cpc-2-1-05-zone-enhancers

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