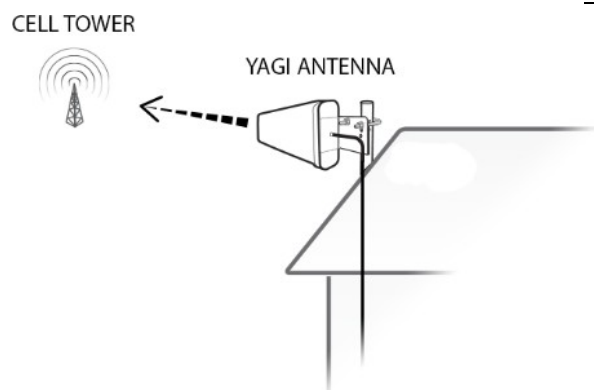


SureCall® | Fusion Professional 2.0 5G ADVANCED INSTALL GUIDE

Congratulations! You have purchased the best, and currently the only *Made-for-5G* Home & Office booster in Canada. Your new 5G Booster has double the amplified spectrum and amplifies cellular services where other boosters won't, delivering more consistent network connections with faster data speeds. Your installation can impact how much cellular improvement your booster delivers, so by observing two basic principles of signal capture and antenna separation you can enjoy significantly improved cellular in-building services for years to come.

REQUIREMENTS

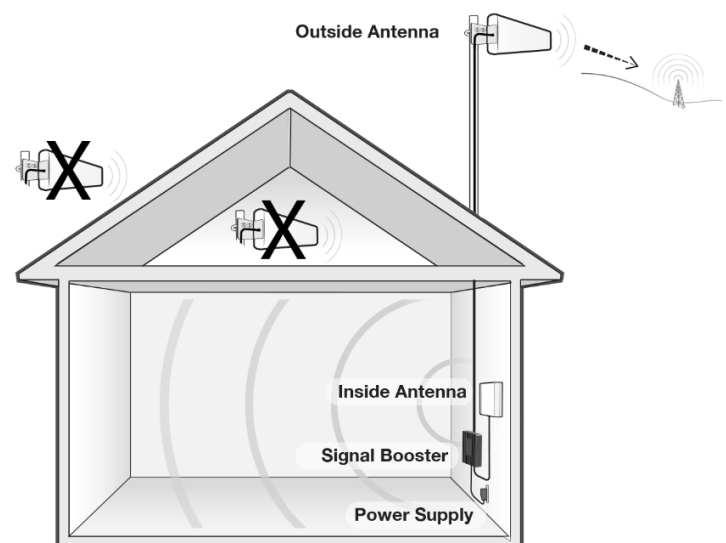
There are two installation principles that are critical for best booster performance. If either of these principals are violated Fusion Professional 2.0 5G performance will be reduced.



- 1) CAPTURE THE BEST SIGNAL** Locate and aim the outside Yagi antenna towards the BEST source of cellular signal. This is typically, but not always, the closest cell tower. The signal from the closest tower could be blocked by hills. You may find the best signal source is in a direction 'away' from the cell tower if the received signal is bouncing off buildings; trees or hills. When there is bounced signal, just moving the Yagi antenna 2 feet in any direction may make a difference. Try to get the Yagi antenna as high as practical.

2) ANTENNA SEPARATION SureCall's Fusion Professional 2.0 5G has high system gain. If your building is made of wood (vs brick, steel or concrete) RF antenna isolation can more often limit your coverage performance. Vertical separation between the outside and inside antennas is critical. Aiming the inside panel antenna in the opposite direction to the outside Yagi antenna provides additional antenna separation.

Typically, 1 foot of vertical separation between the inside and outside antenna approximates 20 ft of horizontal separation— so the more vertical separation the better. Without sufficient separation Fusion Professional 2.0 (5G) will reduce amplifier gain and in turn reduce coverage performance.



SOFT INSTALL - We recommend performing a soft install where the coax cable is connected between the outside Yagi antenna and the booster and run through a window or a door. The objective of the soft install is to optimize the inside and outside antenna locations before you drill and mount components.

SOFT INSTALL: CAPTURE THE BEST SIGNAL (HELPER REQUIRED)

SAFETY: If you are not comfortable working on the roof, or do not have a safety line for steeper sloped roofs, please call a professional installer.

With the Yagi antenna, cable, and booster all connected, stand on the roof with a cellular phone in one hand and the Yagi antenna connected to the cable in the other hand. You want Fusion Professional 2.0 5G's panel antenna to be 'deep' inside your building.

Power up Fusion Professional 2.0 5G and have your helper stand ~10ft away from the inside panel antenna and talking to you over the cellular phone. Have your helper put their phone into 'test mode' to read signal strength in dBm (see appendix for test mode). The dBm numbers shown will be negative, and the smaller negative number means a stronger cellular signal (-80 dBm is a stronger than -95 dBm).

While standing on the roof, slowly rotate the Yagi antenna in your hand, wait 30 seconds and ask your helper to report the dBm they see on their phone. Repeat in 45-degree increments until you find the best direction where your helper's phone reports the strongest signal.

If you have two antenna positions & directions with similarly strong dBm readings, have your helper turn off wi-fi on their phone conduct a data speed test ([speedtest.net](https://www.speedtest.net) or similar) and then pick the antenna location & direction with the faster data speeds.

During these tests, power cycle the booster and wait 30 seconds. If the booster display is FAST FLASHING YELLOW ~5 times per second, you have insufficient antenna separation and are likely not getting a 'true' best signal source test result. Re-position the inside panel antennas for better RF separation and try aiming the outside antenna again.

SOFT INSTALL: ANTENNA SEPARATION & CONTROL LIGHTS

The Fusion Professional 2.0 5G control lights are active for 5 minutes after a power cycle. A SLOW-FLASHING YELLOW ~2 times per second means the booster is working, but with reduced performance (0-10 dB reduced gain). Best if you can avoid this situation, but for some smaller cabins this result is considered 'normal operation'.

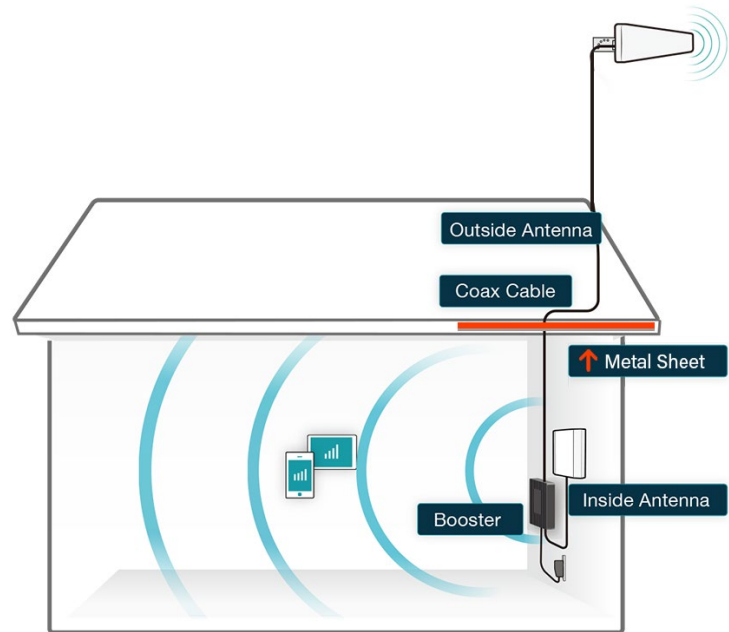
If the booster is fast-flashing YELLOW ~5 times per second it means the amplifier is working but with a high reduction in performance (10-20 dB of reduced gain). Relocate the inside or outside antennas. We are looking for an install that avoids fast- flashing YELLOW. Do not be concerned with SOLID YELLOW – just fast flashing YELLOW.



FUSION PROFESSIONAL 2.0 5G has the 17" high-gain outside Yagi antenna and a directional flat indoor panel antenna. The panel antenna is designed to be wall-mounted and radiates signal primarily in one direction from the face of the panel. Ideally you want the inside panel aimed in the opposite direction vs the outside Yagi. Best RF isolation can often be achieved when the inside panel is directly below the Yagi antenna (aimed in the opposite direction).

If you find two outside Yagi antenna directions with similar signal, your best choice might be dictated by the preferred location and direction for the inside panel antenna. On which wall does the panel antenna 'look best' and direct the signal towards the most desired indoor coverage areas.

PRO TIP: Power cycle the booster. If Fusion Professional 2.0 5G is flashing YELLOW consider placing a metal sheet with the approximate size of 4' x 4', perhaps (2) 16" x 36" joist pan lining) in the attic positioned between the outside Yagi and the inside antenna to provide additional RF isolation.



With the soft install completed you have optimized performance are now ready to hard install your Fusion Professional 2.0 5G booster and will enjoy years of enhanced cellular communications at your home, office, or beautiful rural Canadian cottage.

APPENDIX

IS THERE ENOUGH SIGNAL OUTSIDE TO CAPTURE AND AMPLIFY?

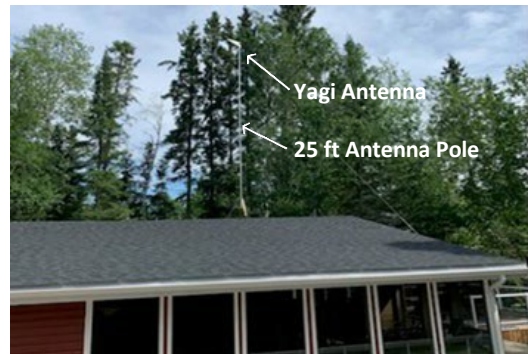
SureCall signal boosters amplify the available outside cellular signal and distribute it inside the building. To boost signal indoors, some signal must exist outside. The stronger the outside signal the larger the inside coverage area. As a best practice, if you can make and hold a phone call outside on the property a booster will work at your location. It is also best to test the booster while leaves are on the trees. Please confirm the steps below to determine if you have enough cellular signal to amplify:

- 1) Can you reliably make a mobile voice call within 20 ft of your cabin? If yes, the signal booster will work.**
- 2) Can you reliably send/receive texts within 20 ft of your cabin? If yes, booster will work with limited coverage.**
- 3) Can you reliably make and receive texts when standing on the roof of your cabin? If yes, the booster will work but coverage will be very limited.**

If you answered No to all three questions, unfortunately a consumer DIY installation is not recommended. Cellular communication at your remote home or cabin MAY still be possible, but it will involve a professional installer and additional material costs.

PROFESSIONAL INSTALLATION SERVICES

In challenging signal locations, a Certified SureCall Installer can propose solutions which may include a roof pole mount or free-standing communications tower. In the picture shown, the cabin was totally shadowed by a large hill that was blocking all cell signal. The large roof mounted pole was required to clear the hill and reach the cell tower.



PUTTING PHONE INTO FIELD TEST MODE:

Samsung: Press *#0011#

- iPhone:
1. Turn off WiFi
 2. Key in *3001#12345#*
 3. Press call
 4. Tap: Serving Cell Measurements
 5. Scroll down to: Measured rsrp0
 6. Results: RSSI (3G/4G) or RSRP (5G / LTE) measured in dBm (See below)

- Android:
1. Go to 'Settings' > 'About Phone'
 2. Your numerical signal strength will be available under either Network or Status, depending on the model of the phone you own.
 3. Being able to find the right menu screen varies across phone manufacturers, models and versions of Android OS.
 4. A typical navigation sequence is Settings → About Phone → Status or Network → Signal Strength or Network Type and Strength.
 5. Results: RSSI (3G/4G) or RSRP (5G /LTE) measured in dBm (See below)

Below is a chart that compares RSRP and RSSI numbers when in field test mode:

| | Signal Power Measures <u>dBm</u> | |
|----------------|---|---|
| | RSRP | RSSI |
| | Phone in 5G or LTE | Phone in HSPA or <u>SureCall RF Meter</u> |
| Poor | -125 | -102 |
| Average | -110 | -85 |
| Good | -95 | -70 |
| Best | -80 | -55 |

PERFORMANCE MEASUREMENT

The number of 'signal bars' on your cellular phone can be misleading. The better service metric is whether you can make a cellular call where required and is the voice quality acceptable. The other service metric is cellular data speeds up/down (when Wi-Fi is off).