



SignalMax Fiber DAS

*High-Performance Hybrid-Fiber DAS Cellular
Booster System for Large Buildings*

User Guide



Questions?



support@surecall.com | 1-888-365-6283

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If you have any questions during setup, please reach out to our US-based experienced support technicians:

Call: 1-888-365-6283 | Email: support@surecall.com | Visit: www.surecall.com/support



Watch installation, optimization and
troubleshooting techniques on our SureCall
YouTube channel



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Stay up to date with all things SureCall

OVERVIEW

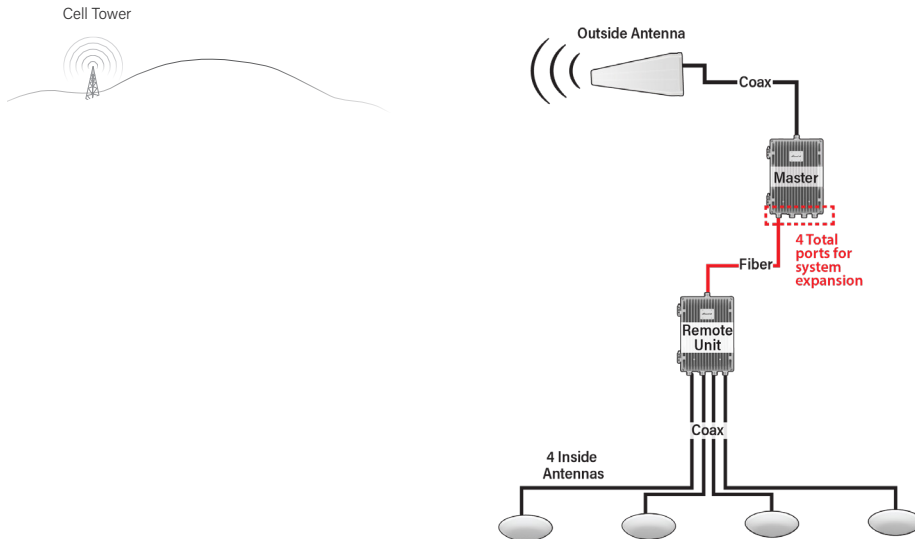
Why indoor signal can be weak

There are several obstacles that can contribute to the poor reception you receive in your building:

- Distance to the carrier's cell phone tower
- Obstructions caused by terrain and foliage
- Building materials like low-E glass, metal and concrete

How it works

1. The high-gain outside antenna captures even the weakest cell signal, from the cell tower where it is aimed.
2. The SignalMax Fiber DAS master unit uses Extended Range Technology™ (ERT) to grab signal outside, at its strongest point, where it boosts voice, text and data signals for all 5G & 4G devices.
3. Using fiber optic cable, signal is transmitted from the master unit to the inside remote unit.
4. The signal is then broadcast from the inside server antenna to all cellular devices in range.
5. The SignalMax Fiber DAS system also works in reverse, boosting the outgoing signal back to faraway and hard-to-reach towers.



The standard SignalMax Fiber DAS kit, with four inside server antennas, covers approximately 50,000 sq ft.

Package contents

Unpack all package contents. For missing or damaged items, contact your reseller.

Turn over the signal booster and record the model and serial number for reference:

Serial #: _____

Purchase Date: _____

Model number	Model name	Outside Antenna Type	Outside Cable Length	Cable between MU and RU	Inside Antenna		Inside Cable	
					(Qty)	Type	(Qty)	Length
SC-MaxFiberMURU	SignalMax Fiber DAS Standard Kit	Yagi	100 ft (SC-400)	250 ft (Fiber Optic)	(4)	Ultra-Thin	(4)	100 ft (SC-400)

*The kit includes a 500 ft reel of un-terminated SC-400 cable that is used to create the (5) 100 ft runs of SC-400 cable shown. (10) SC-CN-30 N-Male compression connectors are also included for terminating the cable runs.

1



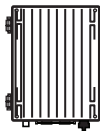
Outside Yagi Antenna:
(SC-530W)

2



Coax Cable Jumper
(10 ft, SC-400)

3



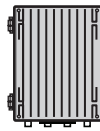
Master Unit (MU)

4



Fiber Optic Cable
(250 ft)

5



Remote Unit (RU)

6



Power Supply (x2)
Master unit: 9 ft length
Remote unit: 7 ft length

7



Coax Cable*
(100 ft; SC-400) (x5)

8



Inside Ultra-Thin Antennas:
(SC-628W) (x4)

Additional accessories included:

9



20 ft Ground Wire (14-gauge)
for the Master Unit

10



100 ft Power Supply Extension Cable
for Master Unit. (Adapter pieces are
included to create a custom cable
length, if needed)

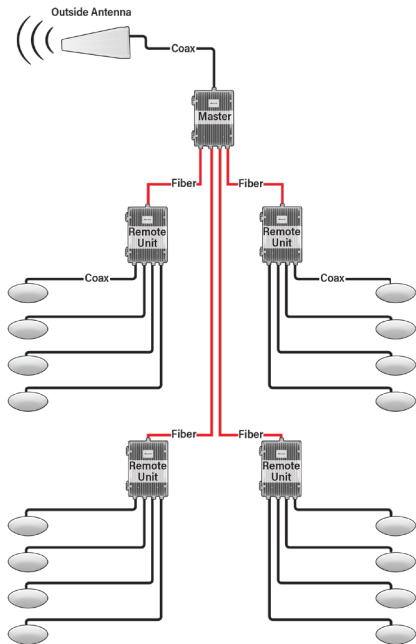
Optional accessories

Looking to upgrade your SureCall booster? Boost your signal even further with these best-selling accessories:

	SC-LP	Lightning arrestor prevents damage from electrical surges
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Expandable with Additional Remote Units

The modular design of the hybrid-fiber DAS system allows for seamless upgrades and add-ons. As wireless demands increase, SignalMax Fiber DAS can scale accordingly.



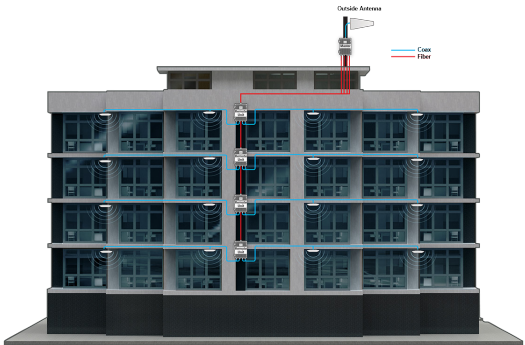
Common expansion example: Standard kit with (3) additional remote units, each with (4) additional server antennas for a total of (16) inside server antennas.

Expansion Options:

Coverage can be extended up to 500K sq ft by incorporating (3) additional remote units and up to (16) inside antennas on each remote unit with additional accessories.

Add-on Kit (Part #:SC-MaxFiberRU) includes:

- (1) Remote unit and power supply
- (1) 250 ft fiber optic cable, terminated
- (4) 2W termination load connector up to 6 GHz

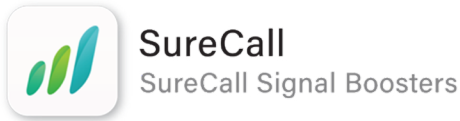


SureCall Bluetooth Installation App

Use the SureCall mobile app to help with two important aspects of your SignalMax Fiber DAS signal booster setup; proper aiming of the outside antenna and ensuring adequate separation between outside antenna and inside antenna(s).

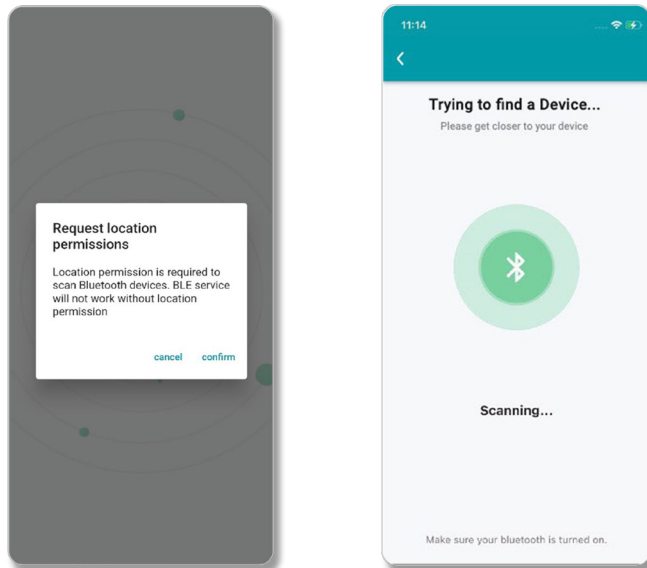
Download the SureCall app in the Google Play or Apple's App Store

Just search, "SureCall"



Pairing your device to Bluetooth

- Scan for your SignalMax Fiber DAS device by allowing Bluetooth location permissions
- The app will display your device when the unit is in range
- Locate the found device and pair



Bluetooth App Features

SignalMax Fiber DAS features SureCall's innovative Bluetooth mobile install app that indicates signal strength readings in real-time providing installation feedback and troubleshooting. Once you've downloaded the app and paired it with your booster, you will need to create a 'soft install' before utilizing the readings found in your app. Do not permanently mount components until your system has been fully tested using the app. Loosely secure the antennas in a manner that allows for rotation and adjustment during system testing.

App Screens:

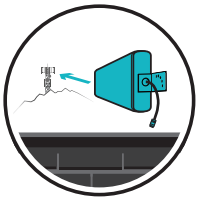
Using the Outside Signal reading, identify the best location and angle for the donor antenna. Further tune the antenna angle in the Signal Meter screen.

Check the Antenna Separation status on the app. The results reflect whether you have achieved adequate separation between the donor and server antennas.

Detail Status shows a more detailed view of the booster performance, including the booster performance in both downlink and uplink. If there are any performance problems, this screen can indicate what might be causing it.

BEFORE INSTALLATION

IMPORTANT. BEFORE YOU BEGIN.



IDENTIFY THE AREA OF STRONGEST OUTSIDE SIGNAL.

Since booster performance is largely determined by the signal strength received by your outside antenna, it is important to identify the location of best signal for placement of your antenna.

The best location is generally found on the side of the building that faces your nearest cell tower and as high as possible -- where the antenna can 'see' your cell tower. Better signal received by your outside antenna means better booster performance inside. Conversely, the weaker your outside signal, the more limited your coverage will be indoors.

If you're unsure of the direction of your carrier's closest cell tower, see page 10 on Finding your closest cell tower for suggestions.



DO NOT RELY ON CELL PHONE BARS AS AN ACCURATE MEASURING TOOL

Cell phone bars are an approximation of your signal that varies by phone and carrier. Placing your phone in test mode or downloading an app that shows your signal in decibels (dB) is more accurate. For help using this feature on your device, see "Taking signal measurements with your phone" on page 10.

During planning, installation and testing, take multiple readings several minutes apart. Also, verify that you can place and hold a call.

RSRP vs RSSI signal measurements

Cell phone bars are an approximation of your signal that varies by phone and carrier. Viewing measurements in decibel milliwatts provides a more accurate reading. In most cases, units are reported in RSRP (LTE & 5G signals) and will generally fall between -80 dBm (strong) and -130 dBm (very weak). If you are connected over 3G or HSPA the decibels units are reported in RSSI and the units will generally fall between -50 dBm (strong) and -100 dBm (very weak).

PLEASE NOTE, To achieve optimal performance for your booster, it is vital to take care choosing antenna placement and antenna alignment. The coverage area that the booster provides is directly related to the strength of incoming signal received by the outdoor antenna. Mounting the outside antenna where the signal is the strongest provides the best results. If signal is extremely weak where the outside antenna is installed, indoor coverage will be limited.

See the instructions below to measure decibels on your phone.

Measuring signal will be helpful to (1) identify the location outside with the strongest signal for placement of your outside antenna and (2) to measure indoor signal strength during installation and testing of your system.

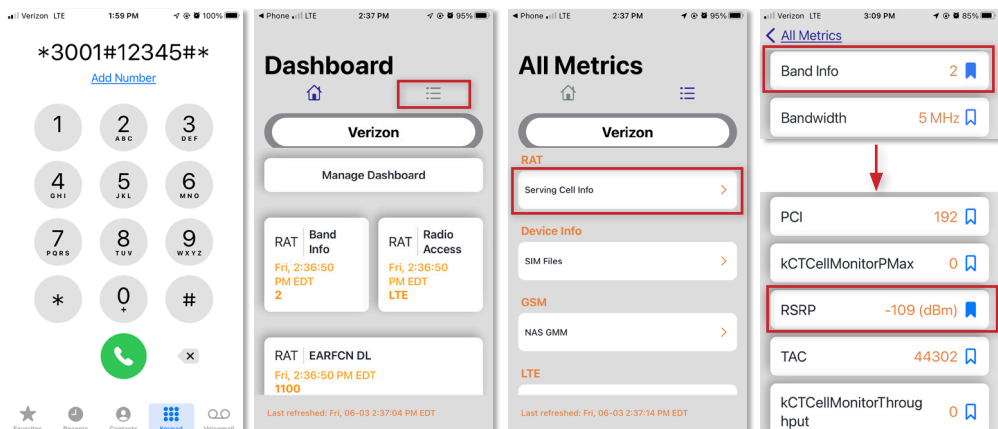
During installation and testing, always take multiple readings several minutes apart. Also, take note of the band number related to each reading for accurate comparisons.

NOTE, signal measurements are displayed alongside their measurement scale. RSRP is one scale commonly used, as is RSSI. For more information, see "Signal measurement scales" on page <DT>.

FOR IPHONE dBm signal measurements, use the methods below.

1. First turn off your Wi-Fi
2. Dial *3001#12345#* then press the call button.
3. The field test screen will appear. Once open, the menu navigation varies depending on the iOS version.
4. Navigate to "Cell Info" in the menu
5. The measurement that reads "RSRP" is your cellular signal strength in decibel-milliwatts.
6. Note Band number

If you're using an earlier version of iOS or looking for more detailed information, we have more instructions available here: www.SureCall.com/support



iPhone test mode

FOR ANDROID devices: Download the app “LTE Discovery” in the Google Play store.

- 1. Note band number
- 2. 4G LTE/5G (measurement in RSSI or RSRP)



Android app “LTE Discovery”

Signal measurement scales

The relationship between RSRP and RSSI is approximate and depends on the channel bandwidth, noise floor and channel loading. The chart below displays the approximate equivalent of all four measurements:

	Signal Power (dBm)		Signal Quality (dB)	
	RSRP Phone in LTE	RSSI Phone in HSPA	RSRQ Phone in LTE	SINR Phone in HSPA
Very Edge	-125	-102	-25	3
Average	-110	-85	-20	10
Good	-95	-70	-12	15
Best	-80	-55	-8	20

Finding your closest cell tower

Since performance is largely determined by the signal received by the outdoor antenna, it is important to know the direction in which you will aim your directional outside antenna before installation.

The best location for your outside antenna is generally found on the side facing your nearest cell tower and as high as possible -- where the antenna can 'see' your cell tower.



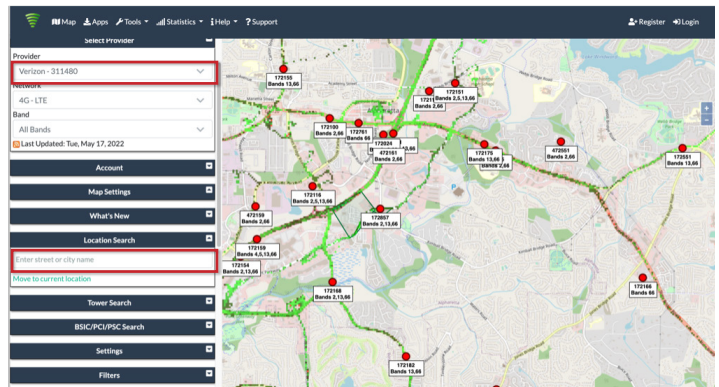
Finding your strongest outside signal

If you're not sure of the location of your nearest cell tower, there are resources available. You may utilize crowd-sourced cell tower resources such as sites like www.cellmapper.net

See below for brief instructions on utilizing cellmapper.net

Visit website www.cellmapper.net

1. Find your location on the map
2. Select your provider



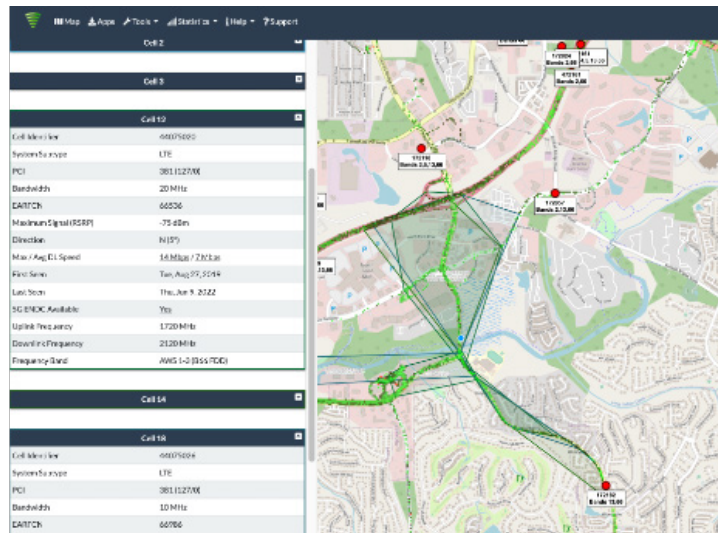
3. Find your cell tower by clicking on the red or green dots on the map closest to the building.

Once selected, detailed information of each base station is shown to the left, including the communication standards and frequency band and block.

The shaded area represents the coverage area for that base station.

4. Locate the closest base station with signal coverage facing the direction of the building and note the direction in relation to the building.

Note: While the building may or may not be located inside a shaded coverage zone indicated on the map.



Soft install

Prior to securing the location of any booster components, a "soft install" is recommended as adjustments may be needed to optimize performance.

Refrain from securing your cable, drilling any holes, etc. until you complete and test the installation of the system.

Tools needed

- Ladder
- Drill
- Poles 1.75-2.5 inches in diameter are recommended to support the outdoor equipment in case of high winds. SureCall does not accept responsibility for damages to equipment installed on poles under 1.75 inches.
- Recommended: Surge protected power strip for each unit

Grounding the outside antenna

SureCall recommends all outside antennas be properly grounded. See "Optional accessories" on page 5.

Power requirements

This booster uses 48VDC (master unit) and 24VDC (remote unit) power. DO NOT use the booster with a higher or lower voltage power supply as this can damage the booster, cause personal injury, and void your warranty.

Use of a power strip with surge protection is strongly recommended.

Routing cable

SureCall recommends that cable connected to the outside antenna run straight down and away from the outside antenna, not wrapped or draped near it. When securing the cable, be sure to remove any kinks or loops.

Route cable along and through a wall that leads closest to the location of the booster.

SureCall recommends that cable entering the building from an exterior wall use appropriately rated sealant/caulking at the point of entry.

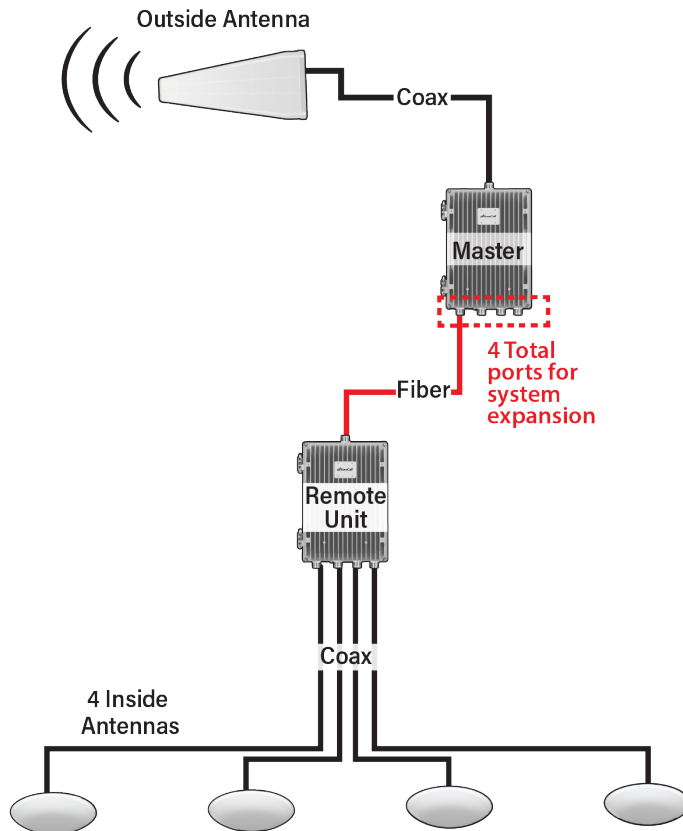
Following completion of install, SureCall recommends weatherproofing the exterior coax connections with sealing tape.

INSTALLATION

Before installation, review all the information in this manual.

Prior to securing the location of any booster parts, a "soft install" is recommended as adjustments may be needed to optimize performance.

Installation overview



Components Overview

Each SignalMax Fiber DAS kit contains a Master Unit and a Remote Unit. Each unit has two primary components – the booster unit and its mounting bracket. The Master Unit (MU) will be connected to a Outdoor Yagi Antenna (Donor) via SC-400 coax cable and then connected to the Remote Unit(s) via fiber cable (Optic). The Remote Unit is connected to Indoor Ultra-Thin Antennas (Server) via SC-400 coax cable. Both the Master Unit and Remote Unit require power.

The Outdoor Yagi Antenna receives signal from the tower, sends it to Master Unit and the signal is boosted. Then, the signal is sent to the Remote Unit and boosted for a second time. The enhanced signal is re-broadcast to the chosen area through the Ultra-Thin Antennas. Signal is then amplified back to the cell tower.

Master Unit (MU)



Remote Unit (RU)





Outdoor Yagi Antenna Specifications

Part Number:	SC-530W
Frequency:	617-697 / 698-960 / 1710-2700 MHz
Beamwidth:	H:90° E:60° / H:90° E:60° / H:70° E:55°
Maximum Gain:	7 / 8 / 9 dBi
VSWR:	≤2.0
Input Impedance:	50 Ω
Polarization Type:	Vertical
Max Power:	50W
Radiation Pattern:	Directional
Connector Type:	N-Female
Mount Type:	Pole or pipe
Dimensions:	17.3" x 8" x 1.45"
Weight:	2 lb 4 oz
Cover Material:	PC+ABS
Operating Temperature:	-22°F to +140°F (-30°C to +60°C)



Indoor Ultra-Thin Antenna Specifications

Part Number:	SC-628CBM
Frequency:	617-698 / 698-960 / 1710-2700 / 3700-4000 MHz
Beamwidth:	H:360° E:70° / H:360° E:70° / H:360° E:55° / H:360° E:45°
Maximum Gain:	3 / 4 / 5 / 6 dBi
VSWR:	<2
Input Impedance:	50 Ω
Polarization Type:	Vertical
Max Power:	50W
Radiation Pattern:	Omni-directional
Connector Type:	N-Female
Mount Type:	Ceiling-mounted installation
Height:	2.11 in
Diameter:	12.2 in
Weight:	1.8 lbs
Cover Material:	PC+ABS
Operating Temperature:	-22°F to +140°F (-30°C to +60°C)

Step 1: Install the outside antenna and master unit

Once you have identified the area of strongest signal using the mobile app, choose where you will mount your outside antenna and master unit while considering the following antenna placement guidelines.

Note there are three main components -- a Yagi directional antenna, SC-400 coax cable and master unit.



*Outside Yagi antenna
and mounting bracket*



*Outside SC-400
Cable*



Master Unit (MU)

- Mount the outside Yagi antenna at the highest possible location above the roofline – The mounting area must have at least a 3 ft radius clear of obstructions, other radiating elements and metal objects such as pipes or metal siding.
- Maximize antenna separation. Plan a minimum of at least 25 vertical feet (or at least 50 horizontal feet) of separation between the outside and inside antennas.
- Note that both components should be mounted to an exterior surface or a 1.75-2.5" diameter pole.
- Avoid placement near windows, where possible, as it increases the potential for oscillation.
- Ensure the outside antenna is oriented to face away from the inside antenna(s).
- Mount the outside antenna at the corner or side of the roof which faces your cell tower.

Install Yagi antenna

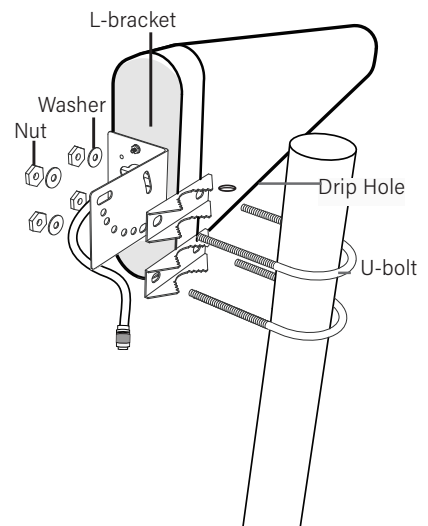
Once you have identified your install location, assemble the u-bolt, bracket, nuts and washers onto a pole (available separately) as shown in the illustration.

Orient the antenna with the drip hole at the bottom.

Connect cable to the master unit

Connect the Yagi antenna cable to the provided SC-400 coax cable. Then, mount the master unit in your desired location. Next, connect the other end of the SC-400 coax cable to the master unit and hand tighten the connection.

Do not fix mounting hardware until the optimum antenna angle is found. Loosely secure the antenna in a manner that allows for rotation during final system testing.



Outside Yagi assembly

Ground The Master Unit

The Master unit includes a 20 ft ground wire (14-gauge) that can be used to help protect against electrical surges and potential shock hazards by providing a path for excess current to flow to the earth. To ground the booster, connect the grounding wire from the designated grounding point on the booster's casing to a suitable grounding rod (driven into the ground) or metal surface, like a bolt or a dedicated grounding stud, ensuring a clean, bare metal contact for optimal conductivity. This is typically done by removing paint or rust from the contact point and using a ring terminal to secure the wire properly.



Step 2: Place the remote unit and connect the units with fiber optic cable

Place the remote unit in your chosen location that is on a flat surface or mounted to a wall. Choose a location that is near a working AC outlet and in an accessible location.

To install the booster to a wall, use the supplied mounting bracket/hardware and appropriate screws for a secure surface mount.

Run Fiber Optic Cable Between Units

Connect one end of the 250 ft. of fiber optic to the master unit connector labeled 'Optic 1'. Then, run the fiber optic cable to the desired location of the remote unit. Next, connect the other end of the fiber optic cable to the remote unit connector labeled 'Optic'.



Remote Unit

NOTE: Do not power on until the system is fully connected.

NOTE: This booster should not be used near open fire or flame. Storage and transportation: Store and place in non-extreme room-temperature and dry environment.

Step 3: Mount the inside antennas



*Inside Omni-Directional
Ultra-Thin antennas (x4)*



*Inside cable; SC-400,
100 ft. (x4)*



Remote Unit (RU)

Your kit includes a set of four inside antennas -- Omni-directional Ultra-Thin ceiling-mount antennas and set of indoor cables that are used to connect the antennas to the remote unit.

The range of antenna is dependent on three factors:

- Physical obstructions
- Power generated by MU or RU
- Signal level received by the outdoor antenna

For omni-directional antennas:

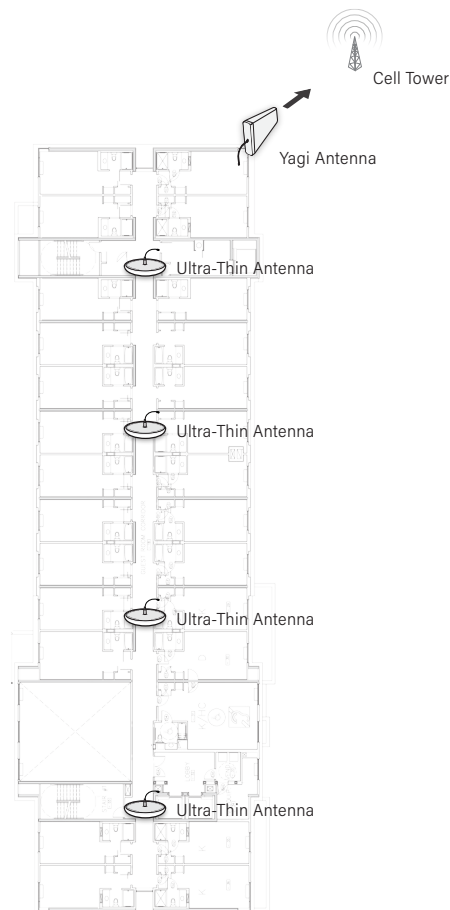
- Optimal placement should be central to where signal is needed with minimal obstacles near the antennas.
- SureCall's Ultra-Thin dome antenna is mounted to the ceiling and broadcasts in 360°.

Optional directional panel antennas:

- Antennas should be mounted to a wall facing the area signal is needed – SureCall's SC-649CBM ultra-wide band panel antenna broadcasts in one direction.

Choose a location for your inside antennas while considering the following general guidelines:

- Maximize isolation between the outside antenna and inside antennas (minimum 25 ft vertical separation or 50 ft of horizontal separation).
- The performance of your antennas is limited by building materials between the antenna and your mobile device. The antenna may be concealed behind a wall provided there are no materials that could obstruct signals.



*Installation example with four Ultra-Thin ceiling
antennas on one level of a building*

Ultra-Thin antenna installation

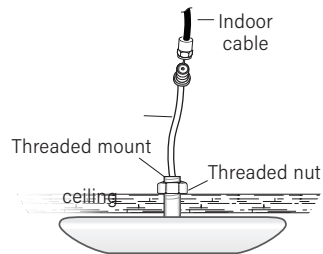
The SC-628W ultra-wideband antenna is an omni-directional interior antenna that gathers and sends signals from all sides. Besides the antenna itself, parts include mounting options for an install that is accessible by crawl space or one that is not. Optimally, It should be located central to where signal is needed with minimal obstacles.

For each antenna:

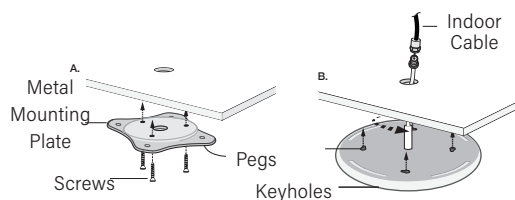
If accessible by crawl space:

1. Drill a 20 mm diameter hole in the ceiling. The size should be large enough to allow the antenna's plastic cable base to pass through.
2. Place antenna cable through hole.
3. From crawl space, screw the fixing nut onto antenna

If not accessible by crawl space, a metal bracket mount has been provided along with instructions for this mounting option.



Ultra-Thin antenna installation



Ultra-Thin antenna installation, mounting option 2

Cable

Connect each antenna to one SC-400 coax cable provided with your kit.

Connect the indoor antennas to the remote unit using the provided cables. The cables should connect to the ports on the remote unit labeled INSIDE 1, 2, 3, 4.



Connect inside server antennas to each of the (4) inside ports

Step 4: Connect to power

Connect the AC power supply to each MU and RU unit and plug into a 110V AC power outlet.

Note: If the one or both of the units do not power on, see the Troubleshooting section.

Base Unit Installation

Step 1: Mounting the Base Unit to a Wall

To mount the booster to the wall in your chosen location follow the steps outlined below.

Note: The Master Unit (MU) must be mounted vertically with the connectors facing downwards. If it is not mounted vertical the product warranty is voided.



Figure 7: Wall-mount bracket



Figure 8: View of booster unit



Figure 9: Booster unit with mounting bracket

1. Use the booster bracket to mark on the wall and pre-drill 4 holes at 8mm diameter and approximately 43mm depth to accommodate the provided wall anchors.
2. Install the 4 expansion wall anchors.

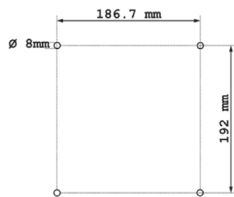


Figure 10: Predrill anchor placement

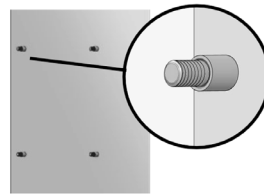


Figure 11: Installing wall anchors

3. Place bracket onto wall through 4 expansion screws. The bracket should be positioned with the U shape on the bottom.
4. Use the fastening bolts to secure the bracket in place.

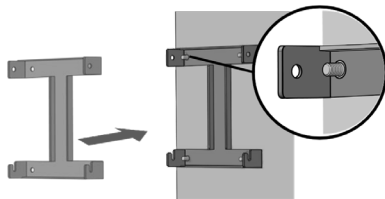


Figure 12: Placing bracket onto wall anchors

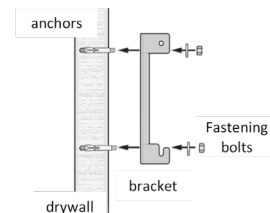


Figure 13: Securing bracket to the wall

5. Add M8x14 bolts to lower sides of the booster. Do not tighten.

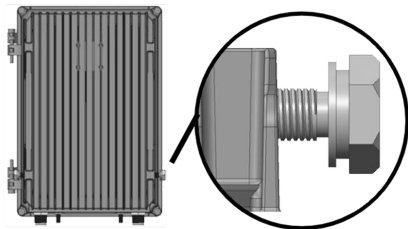


Figure 14: Adding bolts to lower sides of the booster

6. Place booster onto the U-shaped part of the bracket as shown.

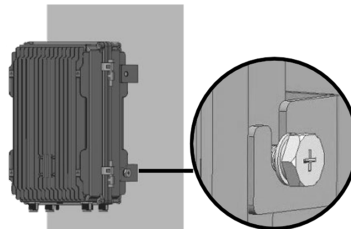


Figure 15: Placing the booster onto the wall bracket

7. Align the top portion of the bracket with the booster with the threaded connections on the booster. Thread the remaining two M8x14 bolts through the bracket and into the connection on the sides of the unit. Do not tighten screws until all 4 bolts are in place.

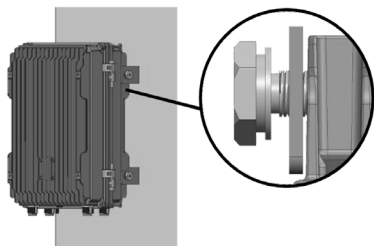


Figure 12: Placing bracket onto wall anchors

8. Tighten all 4 bolts.



Figure 13: Securing bracket to the wall

BOOSTER TESTING AND OPTIMIZATION

When your system is in place and fully connected, test system performance in locations you have previously experienced poor signal. Verify that you have a reliable connection by taking multiple readings several minutes apart. For instructions on taking measurements with your cell phone, see page 10. Also, verify that you can place and hold a call.

If the signal strength has improved, your booster is working.

Remember that coverage varies based on outdoor signal level, building construction, and antenna placement. Coverage in adjoining rooms will be reduced by walls and building materials.

Antenna optimization

The SignalMax Fiber DAS automatically reduces gain (coverage performance) because of insufficient RF separation between the inside and outside antennas. Consider the options listed in this section to resolve issues with inadequate antenna isolation.

- Verify that a minimum distance of 25 vertical feet has been achieved. 50 ft or more horizontal separation may be needed, however, especially where vertical separation is not possible.
- Check for sources of interference such as cellular modems or hotspots.
- Verify antennas are not placed near a window.
- Ensure that antennas are aimed away from one another.
- Mount the outside antenna at the corner or side of the roof which faces your cell tower.
- Avoid placing / aiming the yagi antenna towards materials (such as windows) where the signal may be reflected towards the building.
- Keep in mind, identifying the setup that yields the best possible results for your environment will come from testing -- balancing the elimination of interference and while also receiving the best possible signal.

TROUBLESHOOTING

If you have any questions during setup, please contact our US-based support technicians:

Call: 1-888-365-6283 | Email: support@surecall.com | Visit: www.surecall.com/support

Problem	Resolution
Signal booster has no power	Connect the power supply to an alternate power source. Verify that the power source is not controlled by a switch that has removed power from the outlet. If it remains OFF, contact tech support at: 1-888-365-6283 or support@surecall.com
After completing installation, indoor signal coverage has not improved	Verify that cable connections are tightly fitted to the booster and antennas. Try further separating the booster and antenna. Verify that there is usable signal where the outside antenna is placed. Note: Bars are not always a reliable measure of signal. The best way to confirm signal coverage is the ability to place and hold a call.

SPECIFICATIONS

TECHNICAL SPECIFICATIONS	
Uplink Frequency Range (MHz):	698-716 / 776-787 / 824-849 / 1850-1915 / 1710-1755
Downlink Frequency Range (MHz):	728-746 / 746-757 / 869-894 / 1930-1995 / 2110-2155
Donor/Server Port Impedance:	50 ohm
Maximum Gain:	64 dB (<1GHz) 72dB (>1GHz)
Noise Figure:	<8 dB
Supported Standards:	5G / 4G / LTE cellular standards
Maximum Uplink Power:	30 dBm EIRP
Maximum Downlink Power:	17 dBm EIRP
Fiber/Cable:	Single mode optical cable: System supports SMF optical fiber lengths up to several kilometers.
MASTER UNIT (WHITE)	
Dimensions:	5.5 x 9.3 x 13.4 in
Weight:	14.5 lbs
RF/Optic Connectors:	1 N-Female / 4 SC UPC Female
Operation Temperature (°F):	-22°F to +158°F (-30°C to +70°C)
Power Consumption:	<30 W
DC Input:	48VDC
Certifications:	Part 15, Part 20, Part 22, Part 24, Part 27, Case Rating IP66
	FCC ID: RSN-FIBERMAXMU; BLE Module FCC ID: XPNINAB1; IoT Module FCC ID: 2AJYU-8VC0002 IC: 7784A-FIBERMAXMU; BLE Module IC: 8595A-NINAB1; IoT Module IC: 8595A-2AGQN4NNN
User Interface (carrier selection):	BLE & IoT (with SMA antenna) / GPS (with SMA antenna)
REMOTE UNIT (GREY)	
Dimensions:	5.5 x 9.3 x 13.4 in
Weight:	14.7 lbs
RF/Optic Connectors:	4 N-Female / 1 SC UPC Female
Operation Temperature (°F):	+23°F to +131°F (-5°C to +55°C)
Power Consumption:	<40 W
DC Input:	24VDC
Certifications:	Part 15, Part 20, Part 22, Part 24, Part 27
	FCC ID: RSN-FIBERMAXRU; BLE Module FCC ID: XPNINAB1 IC: 7784A-FIBERMAXRU; BLE Module IC: 8595A-NINAB1
User Interface (carrier selection):	BLE (with SMA antenna)

Note: The term "IC" before the radio certification number only signifies that Industry Canada technical specifications were met.

Kitting

Component	Prod No. Description	Gain/Loss					Notes
		LTE-A	LTE-V	800MHz	1900MHz	1700 MHz / 2100 MHz	
Outdoor Antenna*	SC532W	8.5 dBi	8.5 dBi	8.5 dBi	8.5 dBi	8.5 dBi / 8.5 dBi	
Indoor Cable*	SC-400-50NN 50 feet	3.01 dB	3.01 dB	3.14 dB	4.31 dB	4.07 dB / 4.56 dB	50 to 150 feet
Indoor Antenna*	SC222W	3 dBi	3 dBi	3 dBi	6 dBi	6 dBi / 6 dBi	
	SC121W	1.2 dBi	1.2 dBi	1.2 dBi	3 dBi	3 dBi / 3 dBi	
	SC302W	2.5 dBi	2.5 dBi	3 dBi	5 dBi	4 dBi / 5 dBi	
	SC323W	2.5 dBi	2.5 dBi	3 dBi	4 dBi	4 dBi / 4 dBi	
	SC528W	3.5 dBi	3.5 dBi	3.5 dBi	7.5 dBi	7.5 dBi / 7.5 dBi	
	SC548W	5 dBi	5 dBi	6 dBi	7 dBi	7 dBi / 7 dBi	
*All equivalent antennas and cables are suitable for use with the SignalMax Fiber DAS							

Use of unauthorized antennas, cables, and/or coupling devices not conforming with ERP/EIRP and/or indoor-only restrictions is prohibited.

FCC 15.105 Statement 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 interference to 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.

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

Fixed, mobile and portable (hand-held) stations operating in the 1720-1755 MHz band are limited 1 Watt EIRP. Fixed stations operating in this band are limited to a maximum antenna height of 10 meters above ground. Mobile and portable stations operating in this band must employ a means for limiting power to the minimum necessary for successful communications. When used with any mobile device utilizing the 1710-1755 MHz band, the FCC limits booster equipment placement to a maximum of 10 meters above ground level. Installation of this equipment which does not comply with federal requirements may subject the owner to FCC enforcement action.

Optimizing Your Connection Using the SureCall Cloud Platform

SignalMax Fiber DAS includes access to SureCall's cloud management platform– allowing off-site management.

SureCall Cloud Access

IoT cloud service for each booster is included for one year and is configured prior to shipment. Activation must be set up through the following link: <https://www.surecall.com/activateIoT> Your initial login information will be provided during setup.

If you have any questions about activation, contact our US-based customer support team Monday - Friday at (888) 365-6283 or support@surecall.com.

Account Management

Use the SureCall Cloud web portal to log in: <https://SureCall-cloud.azurewebsites.net/>

Log in

Click the 'Log in' link in the upper right.

Enter your login information provided by SureCall customer support and click the 'Log in' button.

This will bring you to your dashboard screen.

The image displays two screenshots of the SureCall Cloud Database Manager web application. The top screenshot shows the application's header with the 'Log in' button circled in red. The bottom screenshot shows the 'Log In' form with the 'Log in' button circled in red.

SureCall Cloud Database Manager

You are signed out!!!

Log In

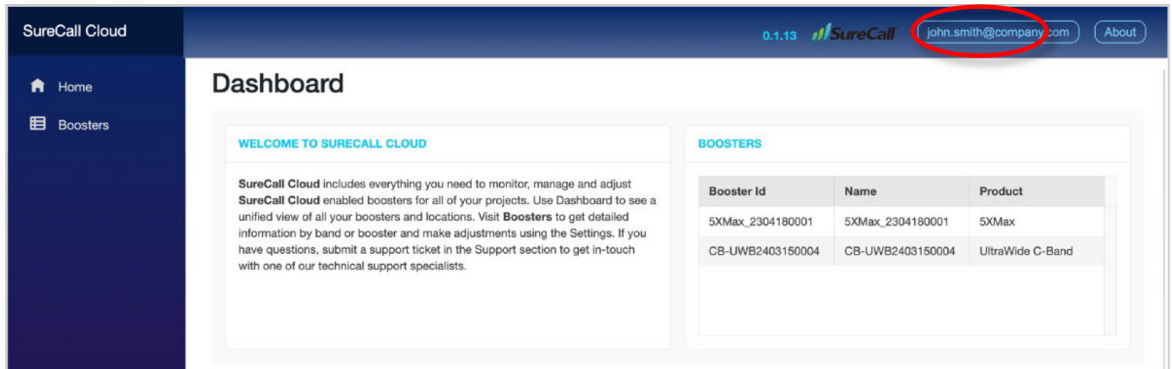
Email:

Password:

☐ Remember me?

[Forgot your password?](#)

Click on your username to manage your account from any screen.
From the dashboard screen, you can manage your access and devices.



Reset Password

Here, you can reset your password and view your profile.

[Go to Dashboard](#)

Hello John.Smith@companyname.com! [Logout](#)

Manage your account

Change your account settings

[Profile](#)

[Password](#)

Change password

Current password

New password

Confirm new password

[Update password](#)

DEVICE MANAGEMENT

Add New Device

The screenshot shows the SureCall Cloud Dashboard. On the left is a dark blue sidebar with 'Home' and 'Boosters' links. The main area has a 'Dashboard' title. Below it is a 'WELCOME TO SURECALL CLOUD' message. To the right is a 'BOOSTERS' table with two rows of data. At the bottom, there is a section titled 'ADD/DELETE DEVICES' containing a button labeled 'Add/Delete Devices' which is circled in red.

Booster Id	Name	Product
5XMax_2304180001	5XMax_2304180001	5XMax
CB-UWB2403150004	CB-UWB2403150004	UltraWide C-Band

To manage devices, click the 'Add/Delete Devices' button from your dashboard to open up the booster management screen.

To add a booster to your account, you will need the serial number (booster ID) and the authentication code provided by customer support. Click 'Add Device.'

The window will look like below when this is successfully done.

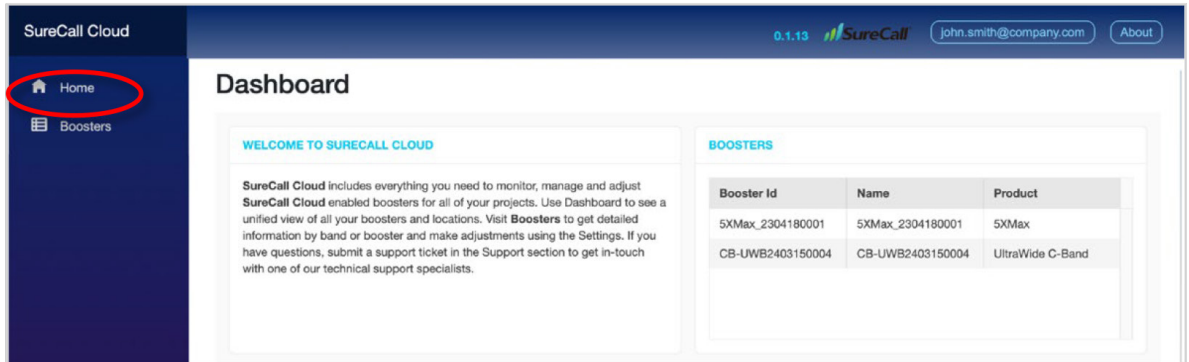
The screenshot shows the 'Add/Delete Device' screen. It has a sidebar with 'Home' and 'Boosters' links. The main area is titled 'Add/Delete Device'. It contains an 'Add New Device' form with fields for 'Booster Id' (5XMax_0004) and 'Authentication Code' (0954). Below the form is a red '+ Add Device' button. A green message states: 'Device "5XMax_0004" has been added to your account.' Below this is a 'Devices' section with a table. The table has columns for 'Booster Id', 'Name', and 'Product'. The first row shows '5XMax_0004', '5XMax_0004', and '5XMax'. To the right of the row are 'Edit' and 'Remove' buttons. A red arrow points from the 'Remove' button in this table to the 'Remove' button in the table below.

Booster Id	Name	Product	
5XMax_0004	5XMax_0004	5XMax	Edit Remove

Booster Id	Name	Product	
5XMax_0004	Building 5, 2nd Floor	5XMax	Update Cancel

Edit Device Name

From this same window, the booster can be named so that it can be identified easier. Simply click the 'Edit' button next to the booster then enter the new name in the edit box as shown below. Then click the 'Update' button to set this change. Clicking 'Home,' in the left menu returns you to the dashboard where the new booster is now shown



SureCall Cloud 0.1.13 john.smith@company.com About

Dashboard

WELCOME TO SURECALL CLOUD

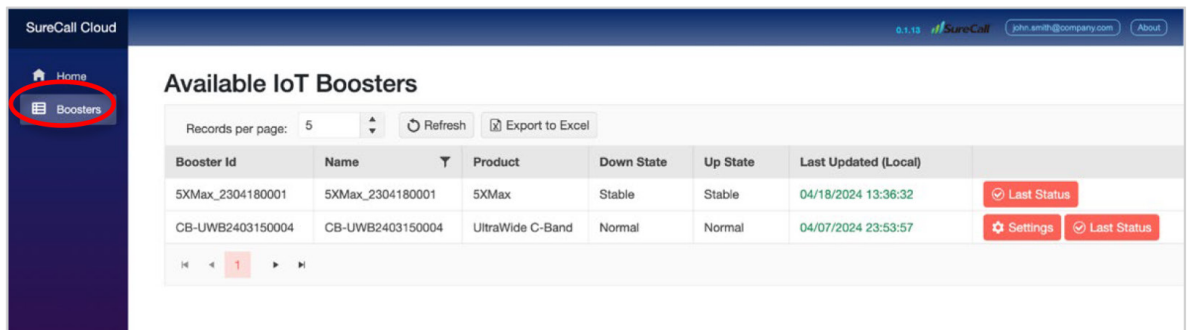
SureCall Cloud includes everything you need to monitor, manage and adjust SureCall Cloud enabled boosters for all of your projects. Use Dashboard to see a unified view of all your boosters and locations. Visit **Boosters** to get detailed information by band or booster and make adjustments using the Settings. If you have questions, submit a support ticket in the Support section to get in-touch with one of our technical support specialists.

BOOSTERS

Booster Id	Name	Product
5XMax_2304180001	5XMax_2304180001	5XMax
CB-UWB2403150004	CB-UWB2403150004	UltraWide C-Band

Booster Status

To view the status of your boosters, click on 'Boosters' in the left menu. This shows the status for your booster and any booster added to your account. To view more specific detail for any booster, click the booster's status info, which will open up the status info for that booster.



SureCall Cloud 0.1.13 john.smith@company.com About

Available IoT Boosters

Records per page: 5 Refresh Export to Excel

Booster Id	Name	Product	Down State	Up State	Last Updated (Local)	
5XMax_2304180001	5XMax_2304180001	5XMax	Stable	Stable	04/18/2024 13:36:32	Last Status
CB-UWB2403150004	CB-UWB2403150004	UltraWide C-Band	Normal	Normal	04/07/2024 23:53:57	Settings Last Status

1

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-2-1-05¹](#).

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 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 operate in a fixed location only, for in-building use.

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.

Register your cellular booster with your wireless carrier at the following urls:

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

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

T-Mobile: <https://support.t-mobile.com/docs/DOC-9827>

Sprint: https://www.sprint.com/legal/fcc_boosters.html

U.S. Cellular: <http://www.uscellular.com/uscellular/support/fcc-booster-registration.jsp>

CAN ICES-3 (B)/NMB-3(B) (Canada) :

This Class B digital apparatus meets all requirements of the Canadian Interference Causing Equipment Regulations. 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.

The Manufacturer's rated output power of this equipment is for single carrier operation. For situations when multiple carrier signals are present, the rating would have to be reduced by 3.5 dB, especially where the output signal is re-radiated and can cause interference to adjacent band users. This power reduction is to be by means of input power or gain reduction and not by an attenuator at the output of the device.

For details on the requirements specified in ISED CPC-2-1-05, visit: <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf08942.html>

[1]

For details on the requirements specified in ISED CPC-2-1-05, visit: <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf08942.html>

Three-year product warranty

To activate your three-year manufacturer's warranty, register at www.SureCall.com/activate

SureCall warrants its products for three years from the date of purchase against defects in workmanship and/or materials. Specifications are subject to change. The three-year warranty only applies to products meeting the latest FCC Certification Guidelines stated on 2/20/2013 and going into effect April 30, 2014. A two-year warranty applies to any products manufactured before May 1, 2014.

Products returned by customers must be in their original, un-modified condition, shipped in the original or protective packaging with proof-of-purchase documentation enclosed, and a Return Merchandise Authorization (RMA) number printed clearly on the outside of the shipping container.

Buyers may obtain an RMA number for warranty returns by calling the SureCall Return Department toll-free at 1-888-365-6283. Any returns received by SureCall without an RMA number clearly printed on the outside of the shipping container will be returned to sender. In order to receive full credit for signal boosters, all accessories originally included in the signal booster box must be returned with the signal booster. (The Buyer does not need to include accessories sold in addition to the signal booster, such as antennas or cables.)

This warranty does not apply to any product determined by SureCall to have been subjected to misuse, abuse, neglect, or mishandling that alters or damages the product's physical or electronic properties.

SureCall warrants to the Buyer that each of its products, when shipped, will be free from defects in material and workmanship, and will perform in full accordance with applicable specifications. The limit of liability under this warranty is, at SureCall's option, to repair or replace any product or part thereof which was purchased up to THREE YEARS after May 1, 2014 or TWO YEARS for products purchased before May 1, 2014, as determined by examination by SureCall, prove defective in material and/or workmanship. Warranty returns must first be authorized in writing by SureCall. Disassembly of any SureCall product by anyone other than an authorized representative of SureCall voids this warranty in its entirety. SureCall reserves the right to make changes in any of its products without incurring any obligation to make the same changes on previously delivered products.

As a condition to the warranties provided for herein, the Buyer will prepay the shipping charges for all products returned to SureCall for repair, and SureCall will pay the return shipping with the exception of products returned from outside the United States, in which case the Buyer will pay the shipping charges.

The Buyer will pay the cost of inspecting and testing any goods returned under the warranty or otherwise, which are found to meet the applicable specifications or which are not defective or not covered by this warranty.

Products sold by SureCall shall not be considered defective or non-conforming to the Buyer's order if they satisfactorily fulfill the performance requirements that were published in the product specification literature, or in accordance with samples provided by SureCall. This warranty shall not apply to any products or parts thereof which have been subject to accident, negligence, alteration, abuse, or misuse. SureCall makes no warranty whatsoever in respect to accessories or parts not supplied by it.

Limitations of Warranty, Damages and Liability:

EXCEPT AS EXPRESSLY SET FORTH HEREIN, THERE ARE NO WARRANTIES, CONDITIONS, GUARANTEES, OR REPRESENTATIONS AS TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHER WARRANTIES, CONDITIONS, GUARANTEES, OR REPRESENTATIONS, WHETHER EXPRESSED OR IMPLIED, IN LAW OR IN FACT, ORAL OR IN WRITING.

SURECALL AGGREGATE LIABILITY IN DAMAGES OR OTHERWISE SHALL NOT EXCEED THE PAYMENT, IF ANY, RECEIVED BY CELLPHONE-MATE, INC. FOR THE UNIT OF PRODUCT OR SERVICE FURNISHED OR TO BE FURNISHED, AS THE CASE MAY BE, WHICH IS THE SUBJECT OF CLAIM OR DISPUTE. IN NO EVENT SHALL SURECALL BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL, OR SPECIAL DAMAGES, HOWSOEVER CAUSED.

All matters regarding this warranty shall be interpreted in accordance with the laws of the State of California, and any controversy that cannot be settled directly shall be settled by arbitration in California in accordance with the rules then prevailing of the American Arbitration Association, and judgment upon the award rendered may be entered in any court having jurisdiction thereof. If one or more provisions provided herein are held to be invalid or unenforceable under applicable law, then such provision shall be ineffective and excluded to the extent of such invalidity or unenforceability without affecting in any way the remaining provisions hereof.

SureCall has made a good faith effort to ensure the accuracy of the information in this document and disclaims the implied warranties of merchantability and fitness for a particular purpose and makes no express warranties, except as may be stated in its written agreement with and for its customers. SureCall shall not be held liable to anyone for any indirect, special or consequential damages due to omissions or errors. The information and specifications in this document are subject to change without notice.

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