



# Boosting Your

# Cell Signal Anywhere

Home Office

High Power

## STEALTH Z1 Use in Locations with Good Outdoor But Poor Indoor Cellular Signal Home & Office

Stealth Z1 home and building boosters increase the cell phone or mobile device incoming and outgoing cellular signals. They can help eliminate dropped calls and increase battery life and data speeds with simultaneous boost of both voice and data services. The LED console display signal level indicators help make installation quick and easy. The Smoothtalker Stealth Z1 Building Boosters are the most technologically advanced wireless cellular signal boosters made. They feature proprietary "Stealthtech technology" that prevent shutdowns from poor antenna placement and changing environment. This advanced technology protects the cellular towers from overloading and provides maximum signal coverage to the mobile device. Stealth Z1 boosters are best suited for areas within 15km of the cell tower.

Models	Z1 60	Z1 65	Z1 70
Gain	60dB	65dB	70dB
Up to sqft	2500	5000	10000
Size			

### How it works:

The system includes inside antenna, outside antenna, all connection cables and the booster unit. The outside antenna receives cellular signal from the tower and sends it to the booster unit which then amplifies this signal and sends it into the building via the inside antenna. The inside antenna receives cellular signal from the phone or cellular device and sends it to the booster unit which then amplifies the signal and sends it back to the cellular tower via the outside antenna.

### Which Booster model do I need to cover my area?

First you should determine the signal strength outside the building. Then see the chart below to see how much area you can expect to cover.

In locations where the outside signal is weak, a higher gain or higher power model booster unit will be required in order to increase the coverage area.

### Example:

If the outside signal is fair to good, the Stealth Z1 60 model can cover up to 2500 sqft. However if the outside signal is poor the coverage area will be reduced and in cases where the outside signal is extremely low the coverage area could be only a few feet from the inside antenna. (See coverage area and signal strength charts below to help determine which model you need)

**NOTE:** Stealth Z1 boosters are recommended for distances not exceeding 15km from the cellular tower. **If your location is greater than 15km, please review the Stealth X2 Extreme Power series boosters.**

## STEALTH Z1 series MODELS AND COVERAGE AREA

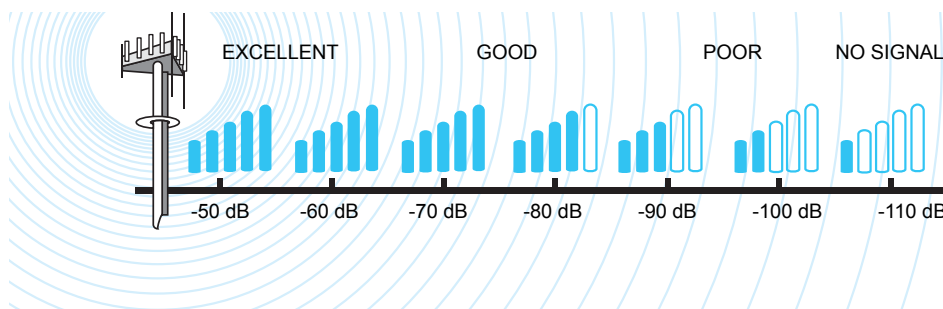
OUTSIDE CELLULAR SIGNAL LEVEL	Z1 60 COVERAGE AREA SQFT.	Z1 65 COVERAGE AREA SQFT.	Z1 70 COVERAGE AREA SQFT.
5 bars	2,500	5,000	10,000
4 bars	2,000	3,500	6,500
3 bars	1,000	2,000	3,300
2 bars	500	1,000	1,500
1 bar	Might not connect	Might not connect	300
0-1 bar	Might not connect	Might not connect	Might not connect

\*Above info varies with terrain and cell tower settings.

### Find your outside signal strength

Use the signal bar indicator on your cellular device to determine the approximate outside signal strength as per the chart below. Note: Even if your device shows no bars or "no service" it is possible that there is enough cellular signal for the booster to achieve communication with the network.

### Assessing your outside cellular signal level



### Installation and Setup

- Mount the outside antenna on the side of building or roof where the strongest signal is indicated on your cellular device.
- If mounting the antenna outside is not possible place it on a window where the strongest signal is indicated on your cellular device.
- Inside and outside antennas require as much distance (separation) between them as possible to avoid feedback loop (oscillation). When feedback occurs the booster automatically lowers its gain which reduces coverage area. If this occurs you should turn off the unit and try to relocate the antennas to be further apart.
- Flashing green LED lights indicate gain reduction. If the green lights on the booster are flashing, please refer to the user manual for detailed instructions on how to interpret the flashes.
- Perform a test installation with the booster kit before drilling any holes in walls to ensure that you have the correct booster kit model which achieves the desired coverage area.

### POWER and GAIN

#### STEALTHTECH FEEDBACK OSCILLATION & STRONG SIGNAL OVERLOAD PROTECTION

Smoothtalker proprietary STEALTHTECH® technology amplifiers and boosters automatically control power and gain to eliminate feedback loop (oscillation) and strong signal overload from nearby towers. These automatic functions can reduce gain which will be indicated by flashing green gain LED lights on the booster indicator panel. See below steps to ensure proper installation and achieve maximum coverage area.

#### REASONS for REDUCED GAIN:

##### Gain reduction due to Feedback Loop Oscillation :

a) This type of gain reduction is caused by the antennas being placed too close to each other (Figure 1 below) which creates a signal feedback loop. If you increase the distance between the inside and outside antennas either vertically and or horizontally it will increase gain and provide a larger coverage area.

##### Gain reduction due to Strong Signal Overload (caused when you are located close to a cell tower)

b) If strong signal is coming from your own cellular service provider, gain reduction is OK and the coverage area should not be affected. There is no need to make any adjustments to your installation.

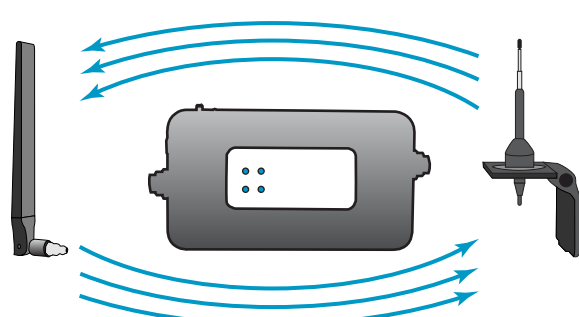
c) If the strong signal is coming from a cellular tower which is not your own service provider, you may experience unwanted gain reduction. In this case you can try to increase your gain by moving the outside antenna to a different location which points more to your own cellular provider tower or use a Smoothtalker Beam directional antenna which points directly at your own cell tower. (Note in some cases this may not help if all the cell towers are located in the same direction or line of sight or very close to each other).

##### Determining if gain reduction is caused by Strong Signal Overload or Feedback Oscillation :

d) Strong Signal overload check: Turn off the booster, remove the inside antenna and turn on the booster. If the green gain lights are flashing it means there is strong signal present and you should follow the steps in paragraph b and c above .

e) Feedback Loop (Oscillation) check: once you have determined that there is no Strong Signal Overload gain reduction (per paragraph d above), then connect both antennas to the booster and turn it on. If the gain Overload are flashing it means there is feedback loop oscillation present (Figure 1 below) and you should follow the steps in paragraph a above to eliminate any oscillation.

Figure 1 Feedback Loop Oscillation



### SPECIFICATIONS

SMOOTHALKER STEALTH Z1		DUAL-BAND 800/1900 MHz	
MODEL	Z1-60	Z1-65	Z1-70
GAIN	60dB	65dB	70dB
FREQUENCIES	824-894/1850-1990 MHz		
TX POWER	1 watt EIRP		
NOISE FIGURE	<4 dB		
FLATNESS	+/- 2 dB		
POWER SUPPLY	120V AC/DC		
RF CONNECTIONS	MCT Male / F Female		
DIMENSIONS	L 6.25" x W 3.25" x H 1.0" (inch) L 16 cm x W 8.2 cm x H 25.4 cm		
WEIGHT	0.90 lbs / 0.39 kg		
CABLE	INCLUDED IN ALL KITS		



Cellular Signal Boosters - Boosting Your Signal Anywhere  
Who is Smoothtalker?  
In 2001 we designed the first mobile digital Cellular Signal Booster in North America.  
We continue to lead with the most powerful and intelligent cellular boosters in the world.



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