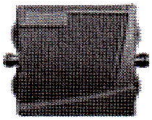


Dual Band Signal Booster

User Manual

Before using this product,Please read this manual carefully and you should keep

Table of Content

Overview

Thank you for choosing Booster product. You will now be able to use your cell phone INSIDE your home or office. Gone are the days when you had to go to the window upstairs or walk outside to use your cell phone. Like a skylight that brings sunlight into your home, amplifies the outdoor cellular signals into your home or office.

By following the easy instructions in this user guide, you will be Extending Cell Booster into your home or office.

Why Indoor Signals Can Be Weak

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

1) **Location of the Cell Phone Tower in Relation to Your Home/Office**

   While cell phone providers have tried to place cell phone towers to provide the best overall coverage, local ordinances and terrain features can impose restrictions on where these towers can be placed, limiting the signal strength available at your location.

2) **Obstructions Caused by Buildings, Terrain and Trees**

   Cell phone signals can be completely blocked or reflected by buildings, walls, trees, hills and other terrain features resulting in low signal strength.

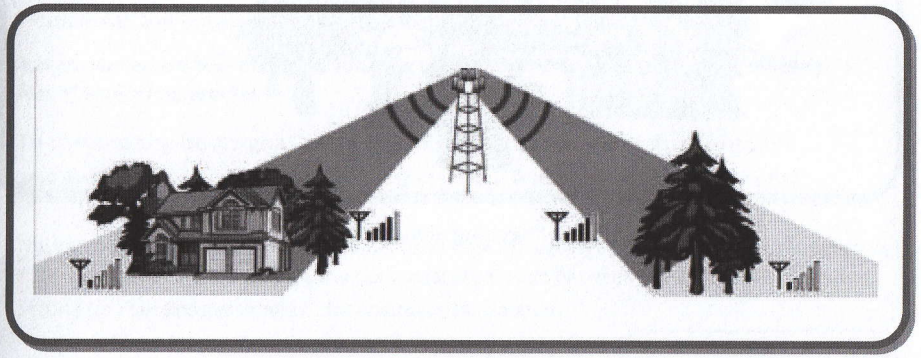


FIGURE 1: Cell Phone Signal Obstructions

Preparing to Set Up Your Booster Product

Check for Signal Strength

Before placing a Booster in your home, make sure that you can place calls on the outside of your home, in the attic, at roof level or wherever you plan to place the signal antenna. Booster can only bring signal into your home when signal reaches the Signal Antenna.

Using your cell phone, place a call from an outdoor location to confirm that enough signal is present to complete the call. If a weak signal is available at ground level, check the signal strength in your attic or at roof level location where the signal will likely be stronger and where the Signal Antenna can be placed for best performance.

If you can reliably make and receive calls outside your home, then Booster can bring the signal into your home.

If only one signal bar is displayed on your cell phone outside, indoor coverage will be limited to one small room

FIGURE 2: Checking Signal Strength

Note

Cell phone signal bars are approximate and vary from phone to phone. The number of bars can fluctuate widely, depending on the location of the phone, the position or angle of the phone, weather, etc. Most cell phone signal meters update every 6 to 10 seconds. An increase of only one bar typically indicates a 4x to 10x signal increase.

THE BEST INDICATOR OF SIGNAL STRENGTH IS THE ABILITY TO RELIABLY PLACE AND RECEIVE CALLS.

Determine the Needed Coverage Area

Identify the location in your home/office where you need signal coverage the most. The Booster Series can cover approximately 1000 square feet (coverage varies based on outdoor signal level, building construction, and placement of antennas). Walls, ceilings or floors will reduce the coverage area.

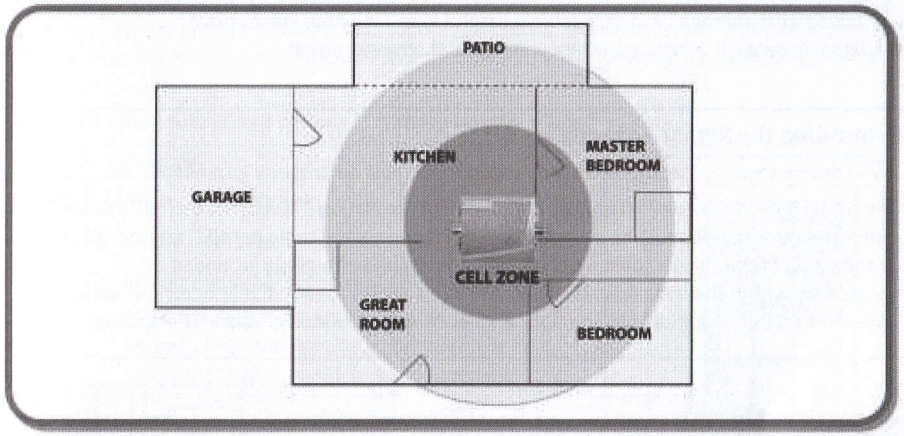


FIGURE3: Booster Base Unit Coverage

Determine the Location of Signal Antenna and Base Unit Antenna

It is recommended that the Signal Antenna and Base Unit Antenna have approximately 15 feet of vertical separation.

To capture the best signal, place the Signal Antenna as high as possible and position it vertically, keeping it at it at least 2 feet away from any metal.

The location of the Signal Antenna should be at least 15 feet higher than the Base Unit Antenna. If this is not possible, maximizing the horizontal separation between the 2 antennas is advised. *Setting Up Your Booster Product* , for additional information.

Warning

Avoid placing the Signal Antenna near metal such as wiring, A/C ducts, metal siding, truss plates, etc.
When connecting the cable to the antenna, run the cable straight down from the antenna. Avoid draping the coax near the antenna.

Additional Cable Requirements

If the distance between the Signal Antenna and the Base Unit exceeds 35 feet or 50 feet, you will need to purchase additional coaxial cable for a total coax cable length of 70 feet.

For the best performance, purchase RG-6 low-loss extension cables from our website or your retailer. The total cable length should not exceed 70 feet unless you also purchase an upgraded signal antenna . A longer cable is helpful only if it allows you to place the Signal Antenna in a location where you measure stronger signal.

Grounding the Signal Antenna

If you decide to place the Signal Antenna outdoors, it must be properly grounded.

The set up must be in accordance with Article 810 of the National Electric Code (NEC). A listed antenna discharge unit must be provided for the lead-in coaxial cable per NEC article 8.10.20 or the shield of the coaxial cable must be permanently and effectively grounded in accordance with NEC article 8.10.21. Please consult a professional installer or electrician for more information. Additional instructions and hardware are also available in the Booster

Securing Cable with a Drip Loop

If you place the Signal Antenna outdoors, create a drip loop with the coaxial cable at the point where the cable enters the building through an outside wall. This can be done by twisting and securing the cable into a loop (no less than 4" across) near the entry point. This will help prevent moisture from gathering at entry point and leaking into the building. Consult a professional installer if you need more information. Additional instructions are also available in the Booster .

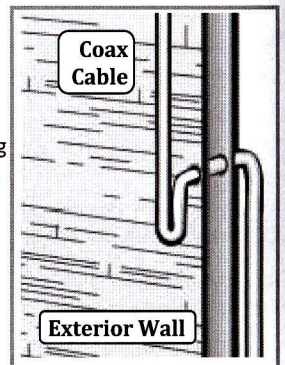


FIGURE 4: Securing Cable with a Drip Loop

Power Requirements

The Base Unit can be plugged into a standard 2 or 3 prong 110 VAC receptacle using the Included power supply. The power supply consumes less than 10W (less than 0.2A).

Warning

The Booster Series ba se unit MUST only be used with the provided power adaptor. Use of other power adaptors will void the warranty and may damage the unit. Use of other equipment is not FCC approved.

Setting Up Your Signal Booster

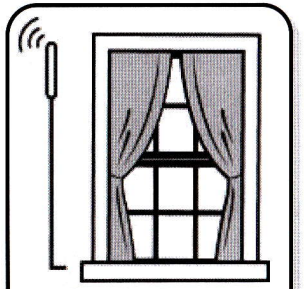
Placement of the Signal Antenna

Choosing the best location for the Signal Antenna provides the best performance and the largest area of improved signal. Determine the location that provides the strongest signal using the signal strength indicator on your cell phone. Find the location that provides the most bars of signal strength and place the Signal Antenna at or near that location. Avoid placing the Signal Antenna near metal such as wiring, A/C ducts, metal siding, truss plates, etc. When connecting the cable to the antenna, run the cable straight down from the antenna. Avoid draping the coax near the antenna.

Choose 1 of the following 3 options for setting up your zBoost® system:

1 **EASIEST:**
Inside, by a window

1. Locate a window where you get signal.
2. Mount the Signal Antenna above the window.
3. Place the Base Unit in desired location – 15 feet of vertical separation between the Base Unit and Signal Antenna is recommended).
4. Attach the coaxial cable to the Signal Antenna.
5. Connect the other end of the coaxial cable to the Base Unit.
6. Attach the Base Unit Antenna to the Base Unit and position it vertically.
7. Connect the Power Supply to the Base Unit and plug into a power outlet.



Easiest Set-Up:
Place the Signal Antenna inside, by a window

NOTE: If a red light appears, try further separating the Signal Antenna and Base Unit or see the Troubleshooting section .

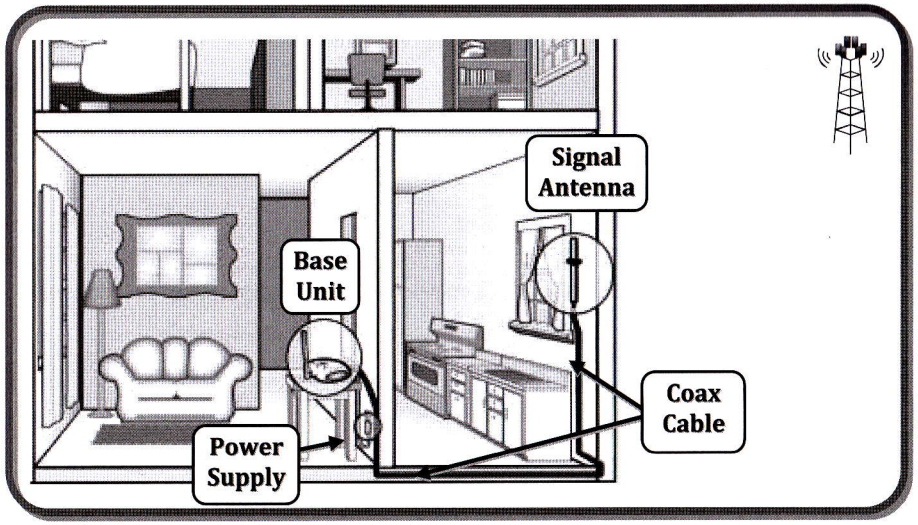
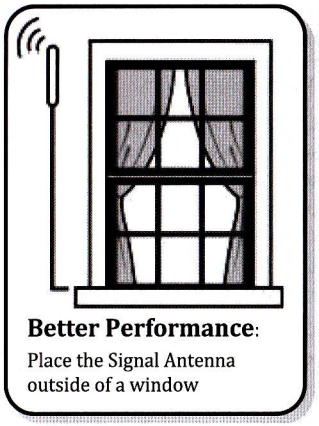


FIGURE 5: Placing the Signal Antenna Inside, Near a Window

❷ BETTER PERFORMANCE:
Outside of a window



1. Locate a window where you get signal.
2. Mount the Signal Antenna outside of the window.
3. Place the Base Unit in desired location – (15feet of vertical separation between the Base Unit and Signal Antenna is recommended).
4. Attach the coaxial cable to the Signal Antenna.
5. Run the coaxial cable from the Signal Antenna through the window (an optional window entry kit is available and to the Base Unit.
6. Attach the Base Unit Antenna to the Base Unit and position it vertically.
7. Connect the Power Supply to the Base Unit and plug into a power outlet.

NOTE: If a red light appears, try further separating the Signal Antenna and Base Unit or see the Troubleshooting section for further information.

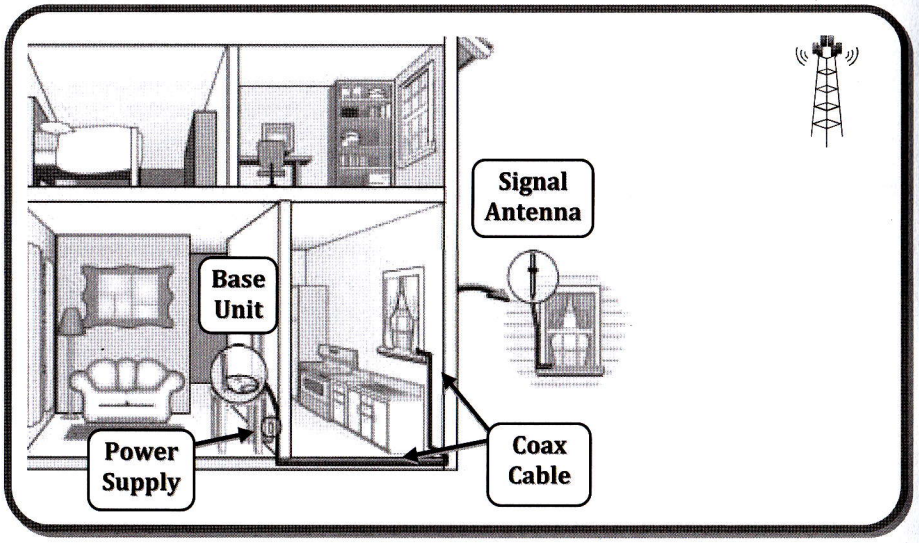
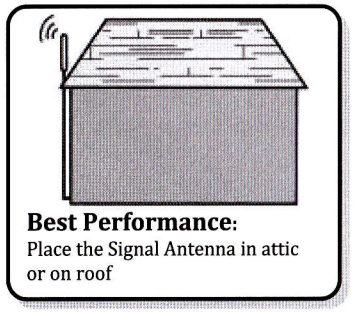


FIGURE 6: Placing the Signal Antenna Outside of a Window

❸ BEST PERFORMANCE: Attic/Outdoor placement

The following instructions are recommended for the best reception:



1. Using your cell phone as a signal meter, confirm that either your attic or your roof will deliver optimal signal strength to the Signal Antenna. Identify the best location for attachment of the mounting bracket – such as an attic cross or main beam.
2. Secure the mounting bracket at the highest possible point and at least 3 feet (1 meter) away from metal objects such as pipes, metal siding, A/C unit etc).
3. Position the mounting bracket such that the Signal Antenna will be vertical and attach the Signal Antenna .
4. Connect the supplied RG6 coaxial cable to the base of the Signal Antenna.
5. Run the coaxial cable along a descending pipe or through a wall that that leads closest to the location of the Base Unit.
   NOTE: Refrain from securing cable or drilling holes until the system has been tested.
6. From the other end, connect the coax cable it to the Base Unit.
7. Connect the Base Unit Antenna to the Base Unit and position it vertically.
8. Connect the Power Supply to the Base Unit and plug it into a power outlet.

NOTE: If a red light appears, try further separating the Signal Antenna and Base Unit or see the Troubleshooting section for further information.

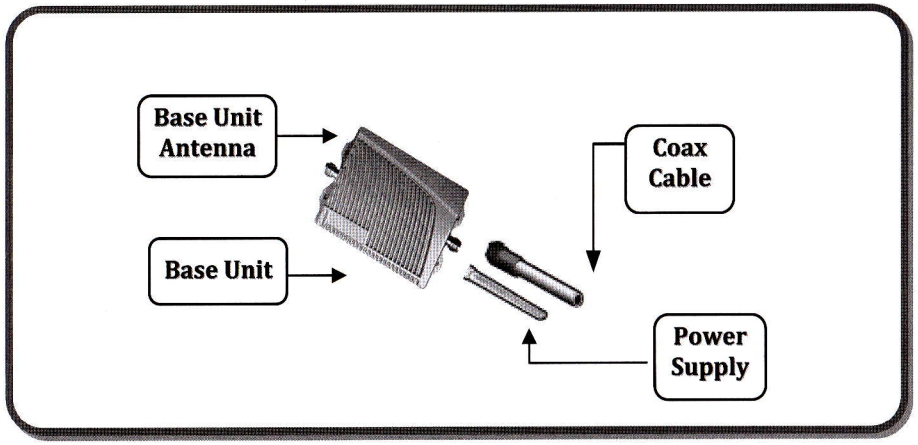


FIGURE 7: Connecting the Base Unit Components

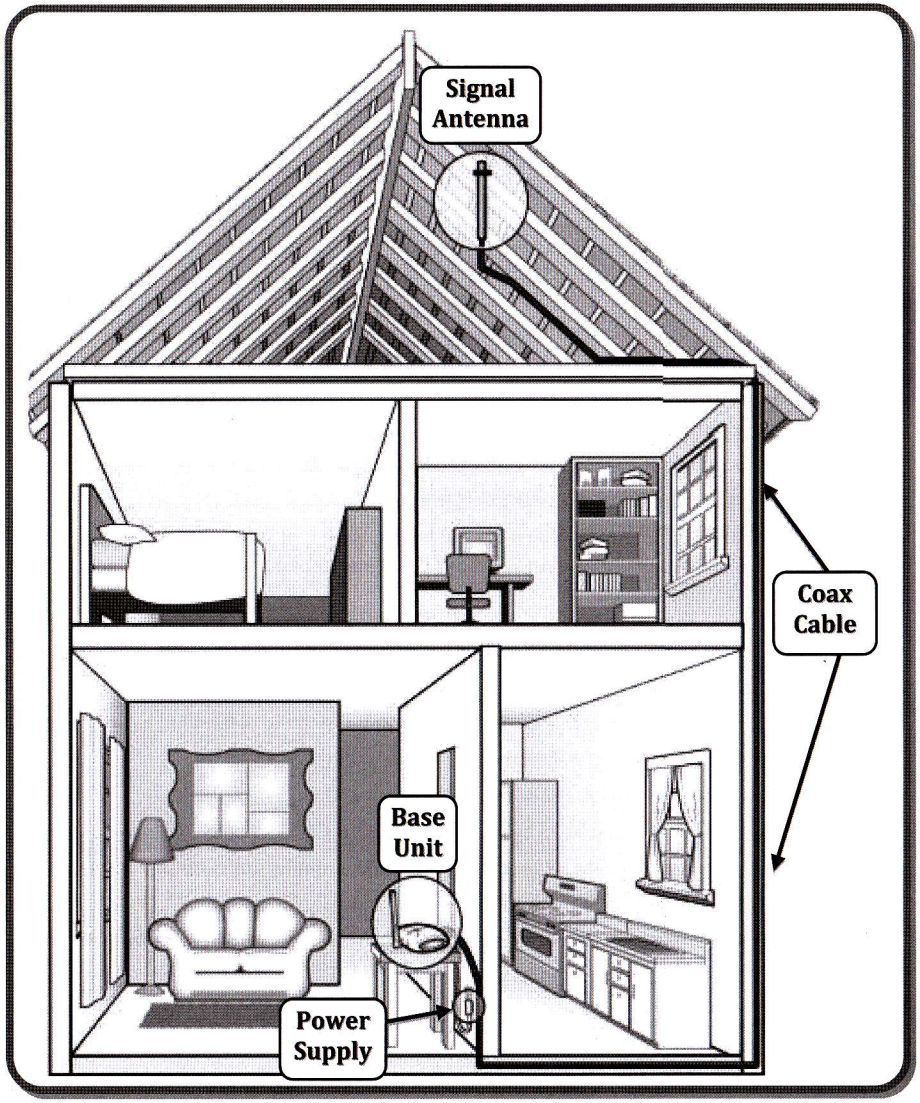


FIGURE 8: Placing the Signal Antenna in the Attic

More on Routing the Coaxial Cable Alongside an Attic Pipe

Locate a pipe that descends from the attic down to the desired location of the Base Unit. Tie a weight to a pull string and lower the weight down alongside the pipe. In the lower room, tie the pull-string onto one end of the cable. From the attic, gently pull up the string until the coaxial cable can be grasped. Connect the coaxial cable to the Signal Antenna.

Positioning the Base Unit

For the widest possible signal area, it is recommended that you position the Booster Series Base Unit near the middle of a room or mount it on an interior wall. This Base Unit uses an omni-directional antenna that delivers signal in a circular pattern around the antenna.

If you decide to position the Base Unit on or near an outside wall, we recommend purchasing a Directional Base Unit Antenna to focus the signal in the direction of your choice.

The Base Unit can be mounted either directly on a wall or placed on a flat surface (e.g., a bookshelf, desk, end table, etc.). The Base Unit performs best when located at least 4 feet above the floor or approximately the height of a cell phone when it is typically in use (avoid placing the Base Unit on the floor).

For best results, avoid placing the Base Unit antenna within 2 feet of other cords, metal objects or other wireless devices such as wireless routers or wireless access points.

Confirm That Your Booster is Working Properly

Perform the following steps to confirm that the unit is now working properly:

1. Unplug the Base Unit power cord.
2. Turn on your cell phone and check the signal meter.
3. Plug the power cord into the Base Unit.
4. Hold your cell phone about 5 feet from the Base Unit and then turn it on. Wait up to 1 minute for the cell phone to register the signal coming from the Base Unit.
5. If the signal meter shows improvement, your Booster unit is working properly.

Note

Cell phone signal bars are approximate and vary from phone to phone. The number of bars can fluctuate widely, depending on the location of the phone, the position or angle of the phone, weather, etc. Most cell phone signal meters update every 6 to 10 seconds. An increase of only one bar typically indicates a 4x to 10x signal increase.

THE BEST INDICATOR OF SIGNAL STRENGTH IS THE ABILITY TO RELIABLY PLACE AND RECEIVE CALLS.

Wall Mounting the Base Unit

The Base Unit can also be easily mounted to a wall using the included mounting bracket hardware. The Base Unit should be a minimum distance of 4-5 feet above the floor. Perform the following steps to mount the Base Unit to a wall:

1. Remove the mounting bracket from the Base Unit by slightly spreading the tabs outward from the base unit as illustrated in figure 10.
2. Fasten the mounting bracket to the wall using the included wall/ceiling anchors.
3. Snap the Base Unit into the mounting bracket.

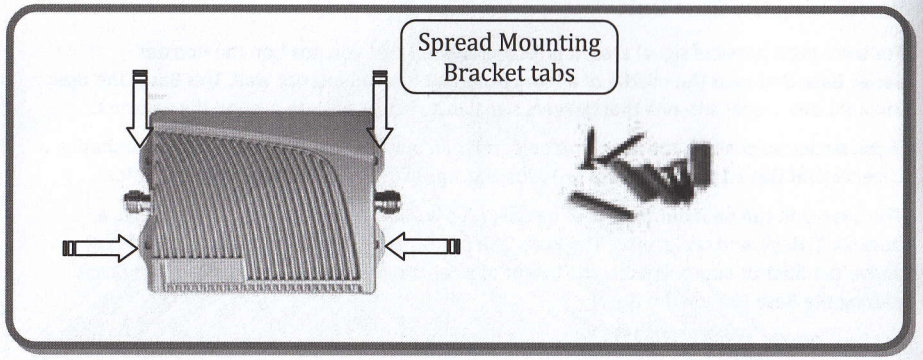


Figure 9: Wall Mounting the Base Unit

Improving Your Coverage Area

When your Booster system is in place and fully connected, you should walk throughout the room and see that you are able to reliably place calls.

Remember, coverage varies based on outdoor signal level, building construction, and antenna placement. Coverage in adjoining rooms (next to, above, or below) will be reduced due to walls or ceiling/floors.

Should you desire to improve coverage, you may:

- Move the Base Unit and/or adjust the angle of the Base Unit Antenna.
- Move the Signal Antenna to a higher location in your attic or outside.
- Purchase a Signal Antenna Upgrade .
- Purchase a Base Unit Antenna Upgrade.

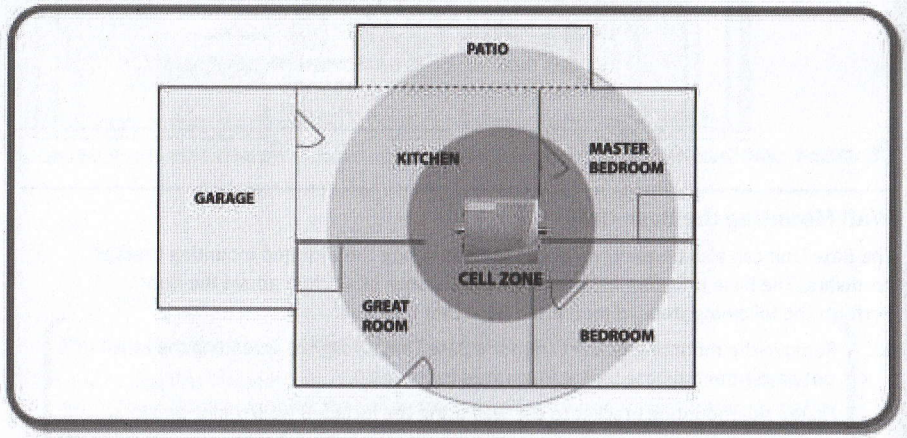


Figure 10: Coverage Area

Product contents

① Coaxial Cable-2m

② Coaxial Cable-10m

③ Base unit with attached mounting bracket

④ Power Supply

⑤ Indoor antenna

⑥ Outdoor antenna

⑦ Indoor Antenna Accessories

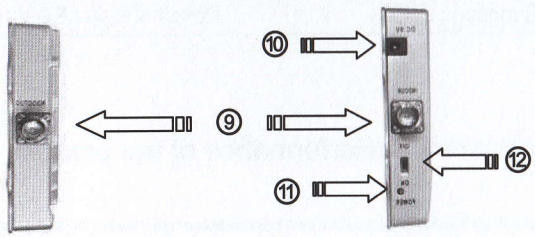
⑧ Self-anchoring screws

⑨ Cable Interface

⑩ Power Interface

⑪ Power LED

⑫ Power switch



Model 1

Frequency range	Up link	GSM 890-915/DCS1710-1785(MHz)
	Downlink	GSM 935-960/DCS1805-1880(MHz)
Gain(dB)	GSM/DCS	50//45
	GSM/DCS	50/45
Coverage		500-800m2
Output power(dBm)		≥17DB
Pass band ripple	GSM	10dB
	DCS	10dB
Guardband rejection	GSM	(BW-60dB)≤42 MHz (BW-70dB)≤45
	DCS	(BW-60dB)≤104MHz
I/O impedance		50ç/ Connector 50ç/N Connector
I/O return loss		≤-10dB
Noise igure		≤-8dB
Intermodulation attenuation		≥40dBc
Transmission Delay		≤0.5us
Ambient temperature		-10℃～50℃
Power supply		AC110～220V±10% 45～55Hz
Reliability		Meet GB6993-86 standard To zhe
Electromasnetic compatibility		Meet ETS300 694-4 standard To zhe
Function		Power supply LED denote

Performance of the product ☐

Model 2

Frequency range	Up link	CDMA824-849/PCS1850-1910(MHz)
	Downlink	CDMA 869-894/PCS1930-1990(MHz)
Gain(dB)	CDMA/PCSUp link	50/45
	CDMA/PCS	50/45
Coverage		500-800m2
Output power(dBm)		≥17DB
Pass band ripple	CDMA	10dB
	PCS	15dB
Guardband rejection	CDMA	(BW-60dB)≤42 MHz
	PCS	(BW-60dB)≤104MHz
I/O impedance		50ç/N Connector 50ç/N
I/O return loss		≤-10dB
Noise igure		≤-8dB
Intermodulation attenuation		≥40dBc
Transmission Delay		≤0.5us
Ambient temperature		-10℃～50℃
Power supply		AC110～220V±10% 45～55Hz
Reliability		Meet GB6993-86 standard To zhe
Electromasnetic compatibility		Meet ETS300 694-4 standard To zhe
Function		Power supply LED denote

Performance of the product ☑