

## **3G LTE2100 4G 2600mhz Dual band signal Repeaters Max coverage 3500m2**

A cell phone signal booster (also known as cellular repeater or amplifier) is a device that boosts cell phone signals to and from your mobile phone whether at home or office or in any vehicle. It does this by taking the existing cellular signal, amplifying it, and then broadcasting to an area in need of better reception.

If you're experiencing dropped calls, slow or lost internet connection, stuck text messages, poor voice quality, weak coverage, low bars, and other cell phone reception problems, a cell phone signal booster is the best solution that produces definite results.



We provides signal boosters kits for any Homes, Offices, Cars, RV's, Boats and more. All amplifier kits come with Indoor and Outdoor Antennas, Cables, Power adapters and more.

### **HPC-WL-27 Dual band repeater Features:**

1. With unique appearance design, have good cooling function
2. With MGC function,(Manual Gain Control), Customer can adjust the Gain as needed ;
3. With DL signal LED display, help to install the outdoor antenna at the best state;
- 4.With AGC and ALC, make repeater work stable .
- 5.PCB with isolation function ,make UL and DL signal not influence each other,
- 6.Low intermodulation, high Gain ,stable Output power

## HPC-WL-27 Dual band repeater Inside/Outside Design

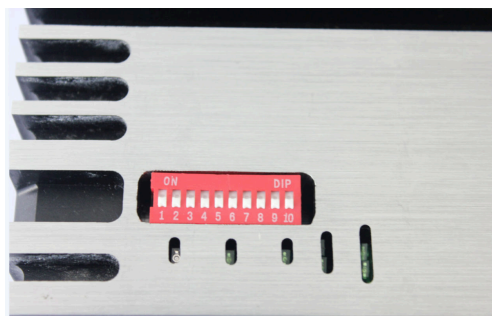


Inside design



Outside Shape

## HPC-WL-27 repeater Package Original Picture



**HPC-WL-27** Dual band repeater is to support any two mobile band existing in the world to help end users to improve mobile signals for much better phone call quality and smoother data transmission. It is designed to support coverage area max can up to 3500 square meters with proper engineering. Below are the main features.

1. The consumer repeater is an ideal solution for providing a cost effective improvement in cellular in-building coverage of a home, office, restaurant or building, in the quickest time possible.
2. Manual gain control (MGC) available for both uplink and downlink to adjust the gain value for proper coverage during installation or maintenance.
3. To maintain safe and specific output signal levels and give alarms on self-oscillation, the repeater has built-in AGC and ALC circuits, which can automatically control the gain of the repeater depending upon the strength of input signals.
4. Auto shut off function available for both uplink and downlink to avoid deep self-oscillation from jamming the towers, saving your trouble from operators.
5. Wide band feature enables all devices operating within the wide frequency range of the repeater to see an improvement in performance.
6. Multiple phones and other handheld devices throughout a building can benefit from a wireless repeater.
7. Supports up to (500) users / calls simultaneously.
8. Extended phone battery life. (Your phone does not need to put out as much power due to improved reception.)

### Specification of HPC-WL-27 Dual band repeater:

Electrical specification		Uplink	Downlink
Frequency Range	3G LTE	1920 ~ 1980 MHz	2110 ~ 2170 MHz
	DCS	2500 ~ 2570 MHz	2620 ~ 2690 MHz
Max .Gain		≥ 70dB	≥ 75dB
Max .Output Power		≥ 24dBm	≥ 27dBm
MGC ( Step Attenuation )		≥31dB / 1dB step	
Automatic Level Control		≥ 20dB	
Gain Flatness	GSM & CDMA	Typ≤ 6dB (P-P) ; DCS, PCS ≤ 8dB (P-P)	
	WCDMA	≤ 2dB/ 3.84MHz, Full Band ≤ 5dB (P-P)	
Noise Figure		≤ 5dB	

VSWR		$\leq 2.0$
Group Delay		$\leq 1.5 \mu s$
Frequency stability		$\leq 0.01ppm$
Spurious Emission & Output inter-modulation		GSM Meet ETSI TS 151 026 V 6.1.0
		WCDMA Meet 3GPP TS 25.143 ( V 6.2.0 )
		CDMA Meet IS95 & CDMA2000
WCDMA System	Spurious Emission Mask	Meet 3GPP TS 25.143 ( V 6.2.0 )
	Modulation Accuracy	$\leq 12.5\%$
	Peak Code Domain Error	$\leq -35dB@$ Spreading Factor 256
CDMA System	Rho	$\rho > 0.980$
	ACPR	Meet IS95 & CDMA2000
Mechanical Specifications		Standard
I /O Port		N-Female
Impedance		50 ohm
Operating Temperature		-25° C~+55° C
Environment Conditions		IP40
Dimensions		220x320x40mm
Weight		$\leq 3.00Kg$
Power Supply		Input AC90-264V,output DC 5V / 6A
LED Alarm		Standard
Power LED		Power Indicator
UL LED		Be lighted when there is phone calling
DL 1		Be lighted when Outdoor signal is -65dB
DL 2		Be lighted when Outdoor signal only -55dB
DL 3		Be lighted when Outdoor signal only -50dB



## The installtion of the Repeater

Outdoor antenna ( for receiving the signal from the BTS ) + Cable ( transferring the received signal) + Repeater ( for amplifying the received signal) + cable( for transferring the amplified signal) + indoor antenna( for shooting the amplified signal),

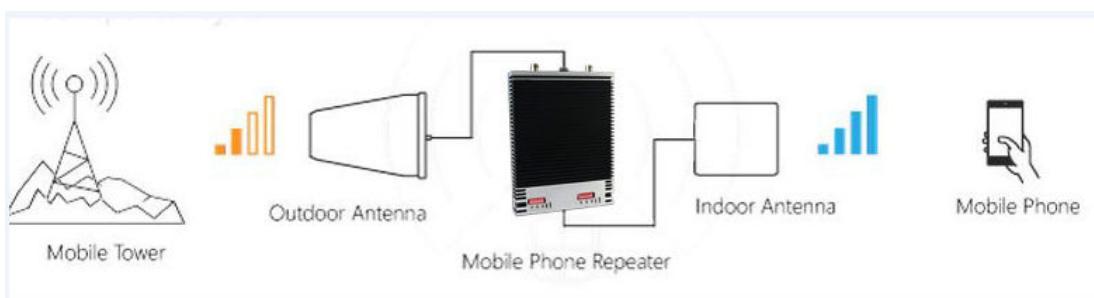


Install the outdoor antenna in  
a place where is with sound  
and stable signal



2 Install the indoor antenna  
in a place where you  
want to be covered

(Note : Omni indoor antenna is 3dBi,it can work with about 200m<sup>2</sup> . If need repeater coverage larger area , need add more antenna,the HPC-CW-27 Max can work with 10pcs indoor antenna.  
( when add antenna ,please remember to take splitters )



## Installation steps

Step 1 Start by taking your phone up to the roof or other location outside to find where the signal is strongest.

Step 2 Temporarily mount the Outdoor (outside) antenna in that location. You may need to adjust and move the antenna later.

Step 3 Run coaxial cable into the building to a convenient location (attic, etc.) where you can also get standard power for the Signal Repeater.

Step 4 Place the Signal Repeater in that location and connect the coaxial cable to the Outdoor Side of the Signal Repeater and the Outdoor antenna.

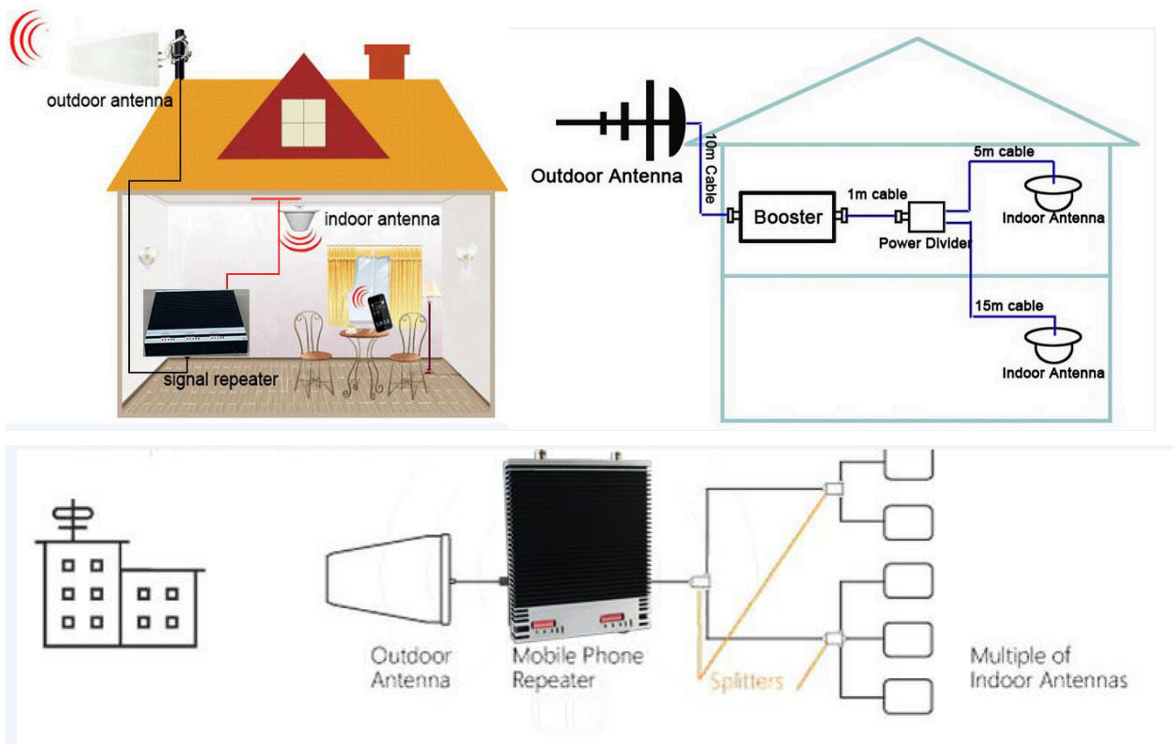
Step 5 Mount your Indoor (inside) antenna in a productive location. You may need to adjust or move the antenna later. More notes on Indoor antennas and patterns [here](#).

Step 6 Connect coaxial cable between the Indoor antenna and the Signal Repeater output port.

Step 7 Power up the system and check for signal inside the building. If needed, tune system by moving and or pointing the Outdoor and Indoor antennas until they get the most signal possible.

Step 8 Secure all antennas and cables, securely mount the Signal repeater and clean up the installation.

## Installation



# Booster MGC and AGC Function Introduction

1. AGC means Booster Auto Gain Control Function;
2. MGC means Booster Manual Gain Control Function, This function is just used for decreasing Gain .

Booster settings

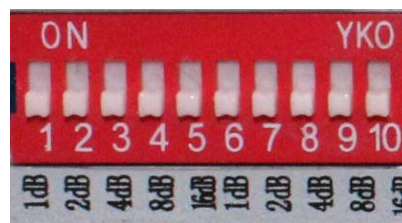
*Please check very carefully all connections are correct and firm before running operation test and then carry out following tests*

## Manual Gain Control (MGC)

Code switch→Attenuation:

DL: 1→1dB 2→2dB 3→4dB 4→8dB 5→16dB

UL: 6→1dB 7→2dB 8→4dB 9→8dB 10→16dB



Switches 1-5 represents Downlink and 6-10 represent Uplink.

When it is necessary to adjust the gain by the switch, firstly please adjust Downlink gain according to input signals, secondly please adjust Uplink gain according to Downlink gain. For Example you want to make the 3G Gain down 1dB, so you make the switches “1” and “6” is OK.

The switches have default “OFF” status; please push relevant switches to “ON” position if certain attenuation value needs to be achieved.

## The Downlink attenuation setting

ATT	1	2	3	4	5	ATT	1	2	3	4	5	ATT	1	2	3	4	5
0dB	OFF	OFF	OFF	OFF	OFF	11dB	ON	ON	OFF	ON	OFF	22dB	OFF	ON	ON	OFF	ON
1dB	ON	OFF	OFF	OFF	OFF	12dB	OFF	OFF	ON	ON	OFF	23dB	ON	ON	ON	OFF	ON
2dB	OFF	ON	OFF	OFF	OFF	13dB	ON	OFF	ON	ON	OFF	24dB	OFF	OFF	OFF	ON	ON
3dB	ON	ON	OFF	OFF	OFF	14dB	OFF	ON	ON	ON	OFF	25dB	ON	OFF	OFF	ON	ON
4dB	OFF	OFF	ON	OFF	OFF	15dB	ON	ON	ON	ON	OFF	26dB	OFF	ON	OFF	ON	ON
5dB	ON	OFF	ON	OFF	OFF	16dB	OFF	OFF	OFF	OFF	ON	27dB	ON	ON	OFF	ON	ON
6dB	OFF	ON	ON	OFF	OFF	17dB	ON	OFF	OFF	OFF	ON	28dB	OFF	OFF	ON	ON	ON
7dB	ON	ON	ON	OFF	OFF	18dB	OFF	ON	OFF	OFF	ON	29dB	ON	OFF	ON	ON	ON
8dB	OFF	OFF	OFF	ON	OFF	19dB	ON	ON	OFF	OFF	ON	30dB	OFF	ON	ON	ON	ON
9dB	ON	OFF	OFF	ON	OFF	20dB	OFF	OFF	ON	OFF	ON	31dB	ON	ON	ON	ON	ON
10dB	OFF	ON	OFF	ON	OFF	21dB	ON	OFF	ON	OFF	ON						

## The Uplink attenuation setting

ATT	6	7	8	9	10	ATT	6	7	8	9	10	ATT	6	7	8	9	10
0dB	OFF	OFF	OFF	OFF	OFF	11dB	ON	ON	OFF	ON	OFF	22dB	OFF	ON	ON	OFF	ON
1dB	ON	OFF	OFF	OFF	OFF	12dB	OFF	OFF	ON	ON	OFF	23dB	ON	ON	ON	OFF	ON
2dB	OFF	ON	OFF	OFF	OFF	13dB	ON	OFF	ON	ON	OFF	24dB	OFF	OFF	OFF	ON	ON
3dB	ON	ON	OFF	OFF	OFF	14dB	OFF	ON	ON	ON	OFF	25dB	ON	OFF	OFF	ON	ON
4dB	OFF	OFF	ON	OFF	OFF	15dB	ON	ON	ON	ON	OFF	26dB	OFF	ON	OFF	ON	ON
5dB	ON	OFF	ON	OFF	OFF	16dB	OFF	OFF	OFF	OFF	ON	27dB	ON	ON	ON	OFF	ON
6dB	OFF	ON	ON	OFF	OFF	17dB	ON	OFF	OFF	OFF	ON	28dB	OFF	OFF	OFF	ON	ON
7dB	ON	ON	ON	OFF	OFF	18dB	OFF	ON	OFF	OFF	ON	29dB	ON	OFF	ON	ON	ON
8dB	OFF	OFF	OFF	ON	OFF	19dB	ON	ON	OFF	OFF	ON	30dB	OFF	ON	ON	ON	ON
9dB	ON	OFF	OFF	ON	OFF	20dB	OFF	OFF	ON	OFF	ON	31dB	ON	ON	ON	ON	ON
10dB	OFF	ON	OFF	ON	OFF	21dB	ON	OFF	ON	OFF	ON						

## 6 FAQ

### 1) After installing the booster, but no effect

#### Solution:

- Check whether you got the booster with correct frequency. For example, the GSM900MHz frequency can not works for the DCS1800MHz.
- Check the signal outside received is enough, the total input power level shall be around -50dBm, lowest shall be more than -80dBm. And check the LED of DL whether it is RED.
- Check all the installation is correct, and all the accessories are well connected, check the LED of ALA is RED.

### 2) After installation, there is full bars signal, but can not make or received a call.

- The Downlink is very well, but the Uplink is can not send the signal back to BTS. Need to check the cables and connectors are well connected indoor.

### 3) After installation, there is full bars signal, but will turn 0 bar when make a call.

- There is a self-oscillation. The isolation between the outdoor antenna and indoor antenna is not good enough, try to adjust the antennas' directions or enlarge the distance between them.

### 4) After installation, the signal is very sound, but there is noise when make calls.

- The indoor antenna and the mobile are too close, and cause interference, try to keep the mobile a little far away from indoor antenna.

### 5) What is AGC function? And what is the advantage?

AGC means Auto Gain Control; it means the booster can control the gain by itself according to the surroundings.

- When there is a sudden strong signal input, the booster can adjust the gain accordingly to protect the booster module together BTS station, make the strong signal will not affect the BTS after adjustment.
- When the signal outside is too weak, the booster can adjust the gain to full stage to boost the signal received at most for end use.
- The AGC repeater is with LED on it, it can directly show the running state of the booster.



**6) What is MGC function? And what is the advantage?**

- MGC function means Manual Gain Control
- when your outdoor signal too stronger, so the repeater can not work well and have noise, so you can adjust the Gain by yourself ;

