User Manual

FP16204 Femtocell

3G Access Point for Offices & Indoor Spaces

Contents

1   Introduction

The FP16204 Femtocell Access Point from NEC is one of the most technically advanced 3G access points, yet installation is simple and straight forward.

Plugging the compact unit into your broadband router or cable modem will grant your existing 3G phone or data-card exclusive access to its own 3G access point. The Femtocell is like a low-power 3G equivalent of a Wi-Fi hotspot that works with all your 3G devices. It can be configured to handle four, eight or sixteen voice calls at the same time. There is no need to worry about dropped calls, poor voice quality or slow data connections, dependable multi-megabit speeds are now a reality whereas coverage concerns and network congestion are things of the past.

The Femtocell has no buttons to press and simply requires a power source and broadband data connection to operate. The Femtocell automatically communicates with a central management system over a secure Internet connection. It takes less than 10 minutes to register and download the latest software, after which point it will be ready to handle your first call.

It is important that you read each section of this manual before operating the Femtocell.

Please give particular attention to all operating instructions and retain them for future reference.

2   Getting started

2.1   Check what's in the box

Femtocell with free standing mount and (optional) wall bracket

Ethernet data cable to connect the Femtocell to your LAN, broadband router or cable modem
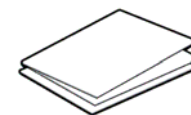
Mains power supply adaptor and plug

External GPS antenna

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2.2   Location

The range of the Femtocell depends on a number of factors including its location, the number and the construction of the walls, and the proximity to other Femtocells.

Firstly, locate your nearest LAN port, broadband data router or cable modem, as this will need to be connected to the Femtocell.

It is worth spending a little time thinking about where to place your Femtocell. Considerations should include where you are most likely to make or receive calls: If you wanted to talk to everyone in your home or office without shouting too loudly then where would you stand? That is probably a good location for the Femtocell.

Ideally, place your Femtocell somewhere central in an elevated location and close to a window.

For even better coverage throughout the home, the external GPS antenna can be connected and placed by a window to allow the Femtocell to be located in a more central location.

3 Using your Femtocell

3.1 How it works

Traditionally your mobile phone provides service using a long-distance radio connection with a mobile phone network.

The Femtocell is a mobile access point that seamlessly replaces this service when you are indoors. It uses your broadband internet connection to communicate with the mobile network, and because it provides coverage indoors it is very low power - similar or lower than the power used by a regular cordless home phone, Wi-Fi router or even your mobile phone.

The result is outstanding 3G coverage including dependable, high-speed data services like music download and video. The 3G mobile network detects when you are moving between the outdoor network and your indoor Femtocell coverage area and automatically shifts between the two without any intervention required.

3.2 Broadband connection

Increases in broadband data speeds over telephone lines and cable TV now make it a viable means to transport other forms of data as well as the Internet and music downloads.

The Femtocell plugs into your broadband interface and accesses your Mobile Operator's network in a secure manner just like the mobile equipment you see outside. This ensures that it functions in exactly the same way, offering you all the latest 3G services. As with any mobile equipment, the Femtocell automatically connects to the network without you having to press any buttons to communicate with it via a computer.

Since the Femtocell shares your broadband interface with your PC Internet connection, it has to be able to support both simultaneously. If you frequently download large amounts of data such as music from the Internet, we recommend that your broadband speed is better than 1Mbps in the downlink direction and 512 kbps in the uplink direction. Additionally if your broadband router is capable of supporting Class of Service data prioritisation then you can configure it to prioritise your Femtocell data and provide a better quality of service to your mobile device.

3.3 Indicator Lights

The indicator light tells you what the Femtocell is doing and whether or not it is experiencing any problems. It can be either green to show it is operating properly, or red to highlight a problem. The Femtocell can take up to 10 minutes to configure itself after switching on for the first time. During this period, it carries out a number

of self-checks and configures itself to give best coverage in your home or office. All communications between the Femtocell and the central management system are secure and carried over your broadband data connection.

If for any reason the indicator light is red this means that there is a problem. Section 4 contains information about the state of the indicator light, what it means, and what actions need to be taken.

3.4 Privacy

The Femtocell ensures your privacy by not logging, recording or reporting phone calls, phone numbers, data files, web pages or any other information except as required by your Service Provider or Mobile Operator as a normal part of its legal commitments.

3.5 Emergency calls

Like other phones that require a power source but do not have a battery backup, the Femtocell should not be relied upon as an only means to make a 911 emergency call.

4   Troubleshooting

The Red Indicator light is used to signal a problem with the unit.

If the Red Indicator light is flashing this means that there is a problem which you can resolve yourself. The number of flashes indicates the type of problem as shown in the table below.

If the Red Indicator light is on but not flashing then please contact your customer care who will be able to assist you with the problem.

Number of flashes	Problem	Resolution
1	No connection to local broadband router	Check the connection between the broadband router and the Femtocell.
2	No internet connection	Check that the broadband router is connected to the Internet and is providing service.
3	Interference problem	There is interface with other systems. Try placing the Femtocell in a different place. If this persists please contact customer services.
4	Overheating	Check the Femtocell is located where there is good airflow.
5	SIM card problem	Check to see that the SIM card is inserted correctly and that it is the one provided with the Femtocell.

5   Safety and Product care

All instructions, warning and caution statements that accompany this equipment must be strictly followed at all times to ensure its safe use. Observe all warning and caution symbols that are fixed to this equipment.

This electrical equipment is designed with the utmost care for the safety of those who install and use it. However, when using this device, basic safety precautions should always be followed to reduce the risk of fire and injury to persons, and the dangers of electric shock and static electricity.

Do not cover the device or block the airflow to the device with any other objects.

Dust occasionally to keep air vents clear of debris. Do not use liquid cleaners.

This product was qualified under test conditions that included the use of the supplied cables between system components. To be in compliance with regulations, the user must use the cables supplied with the unit and install them properly. This includes the power adapter that is provided.

Operate this product only with the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your property then please consult your dealer or local electricity company. Do not use this product outdoors or do not use this product near water. Keep the device away from excessive heat and humidity and keep the device free from vibration and dust. Wipe the unit with a clean, dry cloth. Never use cleaning fluid or similar chemicals. Do not spray cleaners directly on the unit or use forced air to remove dust. Avoid installing or using this product during an electrical storm, there may be a remote risk of electric shock from lightning. During an electrical storm, for added protection please unplug the unit from the wall outlet and disconnect all cables. This will prevent damage due to lightning and power surges. For safety reasons, only authorised service technicians should open the device. If the device is opened then the warranty will become void.

The device may affect medical equipment so please take account of any associated technology restrictions. This device, like other radio devices, emits radio frequency electromagnetic energy, but operates within the guidelines found in radio frequency safety standards and recommendations. It is recommended that the minimum operating distance from the installed Femtocell to persons is 20cm. Ensure the Femtocell is turned off when inserting or removing the SIM card. Do not bend or scratch the SIM card. Keep it away from static electricity, water and dirt.

6 Specifications

Model	FP16204
Radio Interface	3GPP WCDMA Band

7   Conformance information

SIM	Subscriber Identity Module. Removable smart card used in a mobile phone or datacard to hold network security data, identify the owner and store personal information.
Uplink	Wireless connection between the mobile device and the fixed base station.
WCDMA	Wideband Code Division Multiple Access. Fundamental technology for 3G networks used in Europe and the rest of the world.
Wi-Fi	Wireless technology to provide a local data connection between electronic products.

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Version 1.0

September 2011

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