Advanced Configuration Guide

Vodafone Mobile Wi-Fi Vodafone R210



Advanced Configuration Guide Vodafone Mobile Wi-Fi - R210

Table of Contents

Welcome	3
1. Getting Started – Initial Connection and Security Settings	4
1.1 Vodafone Mobile Wi-Fi Overview	5
1.1.1 System Requirements	5
1.1.2 Device overview	5
1.1.3 Vodafone Mobile Wi-Fi status display	6
1.1.4 Power saving and battery charging states	8
1.1.5 Vodafone Mobile Wi-Fi software updating and reporting capabilities, End User Licence Agreement	t . 8
1.2 Device Set-up & Initial Connection	
1.2.1 Device Set-up	9
1.2.2 Initial Connection	. 10
1.3 The Vodafone Mobile Wi-Fi browser login screen	. 12
1.4 Initial Security Configuration	. 13
1.4.1 Login and change the admin password	
1.4.2 Establish a Secure Profile that meets your personal requirements	
1.5 Advanced Configuration for iPhone, iPad, iPod Touch, smartphone or tablet	
2. Vodafone Mobile Wi-Fi Configuration Interface – Advanced Settings	. 16
2.1 Overview	
2.1.1 Access the Vodafone Mobile Wi-Fi Configuration pages from your web browser	. 17
2.1.2 Login to the Vodafone Mobile Wi-Fi to make changes	
2.2 Mobile Wi-Fi	
2.2.1 Mobile Broadband settings	
2.2.2 Wi-Fi settings	
2.2.3 Router	
2.3 SMS	
2.3.1 SMS settings	
2.4 Account	
2.4.1 Account details	
2.4.2 Account type	
2.4.3 Balance	
2.4.4 TopUp	
	. 50
3. Help and Troubleshooting	. 37
3.1 Overview	
3.2 The Help and Diagnostics screens	
3.2.1 Help	
3.2.2 Diagnostics	
3.2.3 Device controls	
3.2.4 About	
3.2.5 Support	
3.3 Common Problems and Solutions	
3.4 Using the Factory Reset Button	
3.4 Using the Lactury reset dutton	. 52
4. Glossary	. 53

Welcome

This Advanced Configuration Guide outlines the steps necessary to install and configure your Vodafone Mobile Wi-Fi and how to use the browser interface.

This guide is separated into 4 chapters:

- Getting Started Initial Setup and Security Settings
- The Vodafone Mobile Wi-Fi Browser Interface Advanced Settings
- Troubleshooting
- Glossary

Please save this Advanced Configuration Guide to your computer's hard drive for future reference.

Also refer to the User Guide which was shipped in the box with your Vodafone Mobile Wi-Fi device.

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1. Getting Started – Initial Connection and Security Settings

- Vodafone Mobile Wi-Fi Overview
- Initial Connection
- The Browser Login Screen
- Initial Security Configuration
- Using the Vodafone Mobile Wi-Fi monitor app on iPhone, iPad, iPod Touch, smartphone or tablet

1.1 Vodafone Mobile Wi-Fi Overview

The Vodafone Mobile Wi-Fi R210 creates a personal portable Wi-Fi zone which allows several Wi-Fi enabled devices (for example PCs, Apple® iPhone, iPad or iPod touch, or mobile gaming devices such as Nintendo® DSi, Android devices such as the Samsung® Galaxy Tab) to share a secure mobile internet connection.

The device is battery, mains or USB powered, and this flexibility allows the device to be positioned for best mobile coverage and then share this coverage between several devices via Wi-Fi.

The Mobile Wi-Fi device should not be used in a confined space where air flow is limited, for instance inside a jacket pocket or inside a hand bag etc. You will get better Wi-Fi performance when the device is being charged compared to when it is running from the battery.

1.1.1 System Requirements

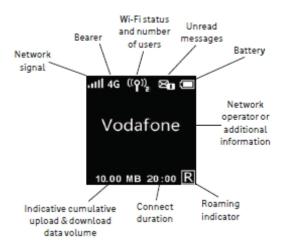
To use the Vodafone Mobile Wi-Fi you need a device with Wi-Fi capability (supporting Wi-Fi 802.11 b/g/n) and an internet browser.

1.1.2 Device overview



1.1.3 Vodafone Mobile Wi-Fi status display

The status display screen on the front of the device displays information about the state of the Mobile Broadband connection, the network you are connected to, if an action is required from the user, the status of the devices Wi-Fi connectivity, and the battery charge.



Display power saving: the built-in power saving function means the information is displayed for 10 seconds and then is dimmed for 5 seconds, then the display powers off. In order to illuminate the display, briefly press the Power button, and the status information will display for another 10 seconds.

Display information

Network signal: 1-5 bars. 5 bars indicates strong network signal.

Bearer: Type of network bearer (4G or LTE): 4G, (H or 3G+): HSPA or HSPA+, 3G: 3G, E: EDGE, G: GPRS.

Wi-Fi status and number of users: Example above show Wi-Fi broadcasting and 2 users connected.

Unread messages: Number of unread SMS messages received. Example above shows 1 unread SMS.

Battery: Varies from black (discharged) to white (fully charged). Example shows a fully charged battery.

Network Operator or additional information: The mobile broadband network that the device is connected to is displayed. Additional information messages may also be displayed here. Examples of messages are "No SIM", "SIM invalid", "Input PIN", and "Input PUK".

Roaming indicator: The example above shows the device is roaming off your normal network.

Connect duration: Time of current connection to network.

Upload and download volume: Approximate cumulative data usage (multiple connections).

Wi-Fi performance: You will always get better Wi-Fi performance when the device is being charged compared to when it is running from the battery.

Advanced Configuration Guide Vodafone Mobile Wi-Fi - R210

Mobile Broadband signal strength:

Connected with excellent signal strength (5 bars) through to Low signal strength (1 bar)

The Mobile Broadband network connection has failed, or the service is not available.

Not connected, but a network connection is available (excellent signal, icon will greyed out). The device may be set to manual connection (not automatic connection) and is awaiting connection from the PC User Interface.

Battery charge:

While the device is being charged the battery icon will cycle through the charging icons below. When not being charged the icon will show the charge left in the <u>battery</u>.

Charging (10%)
Charging (30%)
Charging (60%)
Charged (100%)

1.1.4 Power saving and battery charging states

Power saving: There are 2 types of power saving built into the device – display and connectivity.

Display: The built-in display power-saving function means the information is displayed on the Vodafone Mobile Wi-Fi for 10 seconds, then for 5 seconds with the display dimmed before the display powers off to conserve the battery charge. In order to illuminate the display, press the Power button, and the status information will displayed for another 10 seconds.

Connectivity: After 10 minutes without any users connected to the Vodafone Mobile Wi-Fi the device will go into sleep mode.

If the device is being powered by **battery and is in sleep mode**, then it must be woken up by pushing the Power button before the device can be connected to. The display will briefly illuminate and connectivity will be allowed via Wi-Fi access.

If the device is being powered by **the mains charger or PC USB cable**, then as soon as a Wi-Fi connection request is received the Vodafone Mobile Wi-Fi will wake up from sleep mode (without any physical intervention), connect to the Wireless Broadband network and accept the Wi-Fi connection request.

Battery charging: Charging rates depend on whether the device is connected to the Mobile Broadband network, whether the Wi-Fi is transmitting, and whether the device is connected to the mains charger or to a PC. The scenarios are described below, but in summary it is best to use the mains charger when possible to ensure the battery remains charged, and charging is always faster when connected to the mains compared to PC USB charging:

Mains charging

- When not connected to the Mobile Broadband network will take a maximum of 3 hours.
- When connected will depend on the number of users and the amount of traffic flowing, but charging will take slightly longer than 3 hours.

PC USB trickle charging

- While not connected to the Mobile Broadband network (powered off) will take a maximum of 4 hours.
- When connected will depend on the number of users and the amount of traffic flowing. With regular browsing charging will take place at a reduced rate, but if high volume traffic flows through the device then it will not charge and may start discharging.

1.1.5 Vodafone Mobile Wi-Fi software updating and reporting capabilities, End User Licence Agreement

Vodafone Mobile Broadband software is included on this device, and contains built-in software updating and reporting capabilities as listed in the End User Licence Agreement.

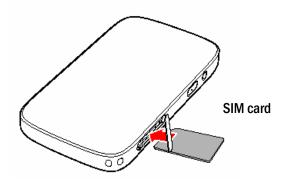
End User Licence Agreement: Please ensure that you read and accept the End User Licence Agreement (EULA) for your country before you use the device and software. The EULAs are available for viewing here:

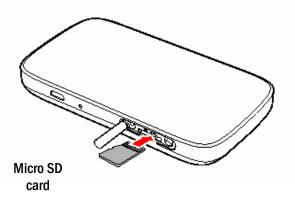
www.support.vodafone.com/VodafoneMobileWiFi/R210

1.2 Device Set-up & Initial Connection

1.2.1 Device Set-up

- 1. To prepare the Vodafone Mobile Wi-Fi device, you need to insert your SIM (and MicroSDHC card if you are using one for file sharing and streaming), and charge the battery before use.
- 2. Insert the SIM as shown. If using a MicroSD card then insert as shown. Your will find your Wi-Fi security details engraved at the bottom edge of the back cover. These are a secure Wi-Fi network key and a Wi-Fi network name (SSID, and are unique to your device. These details will be needed to connect your Wi-Fi enabled devices to the Mobile Wi-Fi device. The details are also on the Reminder Card that came in the packaging box with the device. They can also be retrieved once the device is powered on by double-tapping the Power button. The SSID and the network key are then briefly shown on the device display.





- 3. On first use, plug the Vodafone Mobile Wi-Fi into the mains supply, turn the mains power and allow the battery to fully charge (approximately 3 hours) before using it in battery mode. A battery charging icon will be displayed in the Status Screen on the front of the device.
- 4. Switch on the device by pressing the Power button for 3 seconds. The display on the front of the Mobile Wi-Fi device will be illuminated, the device displays the Vodafone logo and will then go through its start-up sequence, connecting to the mobile network and starting Wi-Fi.
- 5. Use the normal Wi-Fi application on your computer or device to connect. Select the Mobile Wi-Fi network from the list of available Wi-Fi networks, click Connect and enter the WPA2 password (secure Wi-Fi network key) noted earlier in step 2. You should now have internet access via Vodafone Mobile Wi-Fi.

1.2.2 Initial Connection

Advanced configuration using Wi-Fi

To perform advanced configuration of the device you will need a computer running Microsoft® Windows® 7 (SP1 recommended), Windows Vista™ (SP2 recommended), or Windows® XP (SP3 recommended), a computer running Linux or an Apple Mac running Mac OS® X 10.5 (Intel®), 10.6 or 10.7 (all with latest updates).

Advanced configuration app for iPhone / iPad / iPod Touch / smartphone / tablet users

Apple device users should use the Safari browser to browse to the web UI http://VodafoneMobile.wifi or http://192.168.0.1, or download the Vodafone Mobile Wi-Fi monitor app. **Smartphone** and **tablet** users can check the device status by downloading the Vodafone Mobile Wi-Fi monitor app from the App Store in iTunes or the Android Market / Google Play. See Section 1.5 for sample monitor app screenshots.

The Vodafone Mobile Wi-Fi comes pre-configured with the Access Point Number (APN) and other Vodafone network settings to allow you to use this device on the Vodafone network without complex configuration or set-up.

Before you start: Make a note of your Wi-Fi security details - the WPA2 Key and Wi-Fi Network Name (SSID). The WPA2 Key and the SSID are unique to your device and can be found engraved at the bottom edge of the back cover of the Vodafone Mobile Wi-Fi device. The details are also on the Reminder Card that came in the packaging box with the device. Also they can be retrieved once the device is powered on by double-tapping the Power button. The SSID and the network key are briefly shown on the device display.

Set up a connection to the Vodafone Mobile Wi-Fi - Wi-Fi Mode

In Wi-Fi mode you use the Vodafone Mobile Wi-Fi as a shared access point or Vodafone Mobile Wi-Fi. You use your PC's Wi-Fi capability to access the device.

1 Use your normal Wi-Fi manager on your computer to locate the Vodafone Mobile Wi-Fi wireless network.

Note: The steps to connect to a Wi-Fi network vary depending on your operating system and whether you use the native application or third-party software. Generally you click an icon (often in the System Tray for Windows or choose System Preferences > Network on a Mac) where you can select "View Available Wireless Networks." If you are unfamiliar with wireless networking on your computer, consult the computer help system.

For differences between Windows 7 and Vista set-up please see the FAQ "What is the difference between Vista and Windows & network set-up?".

If multiple wireless networks are found, highlight the one named **VodafoneMobileWiFi-xxxxyy**. The xxxxyy represent a randomly generated set of numbers and letters which will differ per device.

2 Click Connect.

WARNING! It is highly recommended that you set up security for your Vodafone Mobile Wi-Fi at this time. The device has WPA2 security enabled, but you may want to change the WPA2 network key and your device administrator logon password with personalised settings.

Note: If you are connected to the device over Wi-Fi and find the Vodafone Mobile Wi-Fi redirects to the web UI (i.e. configuration page) instead of the page you expected when using the browser, this will be due to the fact that the device cannot connect the user to a Mobile Broadband network. And needs some sort of intervention from you.

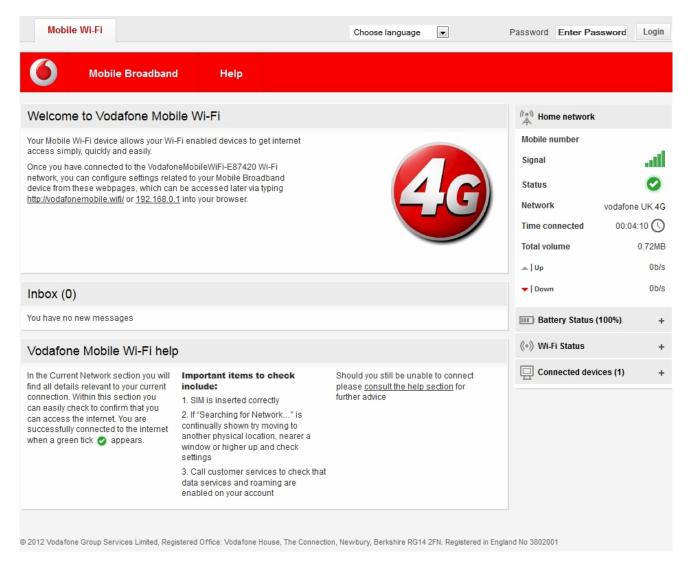
Advanced Configuration Guide Vodafone Mobile Wi-Fi - R210

If you have trouble connecting to the device ensure your WPA2 security key has been entered correctly. Note: The WPA2 key is case sensitive - please ensure you input it with the correct upper and lower case characters. An additional common cause of PC connection problems could be that your computer's Wi-Fi adapter has become confused by working with multiple Wi-Fi devices. The normal way to fix this on a PC is to right click on the Wireless Network Connection icon in the Windows toolbar, then select **Repair**.

Please check the device status display to see if it is waiting an input (for instance pressing the Power button), and also check the connected state in the web User Interface (UI) to confirm the device is showing "Connected", and if not refer to the Troubleshooting section later in this guide.

1.3 The Vodafone Mobile Wi-Fi browser login screen

When connected to the device via Wi-Fi, enter http://VodafoneMobile.WiFi or http://192.168.0.1 into the address window of your web browser, and press the Enter or Return key. The Vodafone Mobile Wi-Fi configuration User Interface (UI) will be displayed.



The web browser will always display certain information (network, Wi-Fi and battery status and list of connected devices) regardless of whether you are logged in or not.

1.4 Initial Security Configuration

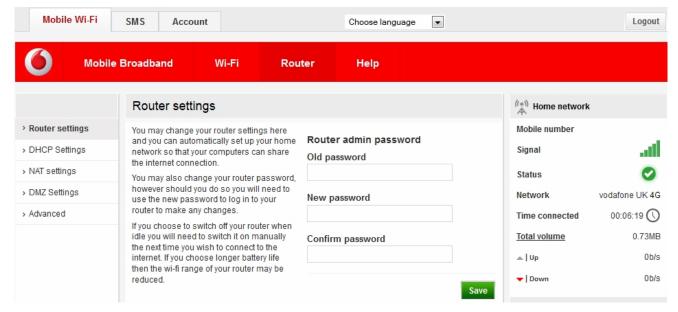
The Vodafone Mobile Wi-Fi comes pre-configured with the information required to connect to the Vodafone mobile network. It will not normally require any additional configuration to the basic settings unless you are using the device behind a corporate firewall, and this may require the appropriate proxy server settings to be modified (see later section of this guide for how to do this).

The security of your wireless network is very important. We recommend that you configure the default security settings immediately by following these procedures:

- Login and change the Administration Password
- Establish a Secure Profile that meets your specific requirements

1.4.1 Login and change the admin password

• Enter the default password "admin" into the Login window in the upper right corner of the screen and click Login. Select Mobile Wi-Fi > Router > Router Settings.



- 2 Type "admin" into the Old password field.
- 3 Select a new password and enter it into both password fields (New password and Confirm password).
- 4 Click Save.

This will be the new administration password that you use when you login to the browser interface.

Note: Please record the new password. You will have to reset the device using the Master Reset button if you forget your new administration password. This will also reset all other changes you have made to the Mobile Wi-Fi device configuration.

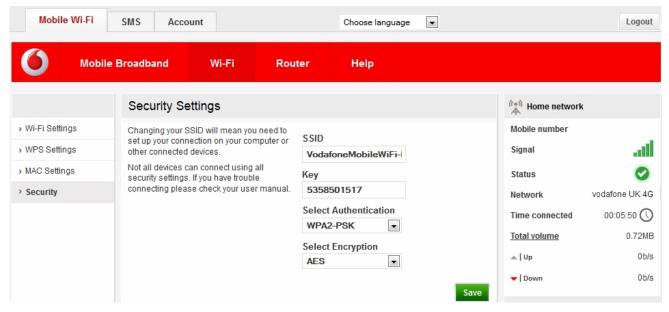
1.4.2 Establish a Secure Profile that meets your personal requirements

You can use advanced router security options: WEP, WPA-PSK, WPA/WPA2 mixed, WPA2-PSK, MAC address filtering / NAT security. WPA2-PSK is the default, but you may need to lower the security level if any of the devices that want to use the Vodafone Mobile Wi-Fi are do not support this level of security.

Select Mobile Wi-Fi > Wi-Fi > Security

IMPORTANT: Your Vodafone Mobile Wi-Fi comes with a pre-set WPA2 key that is unique to the device and is listed on the label that can be found inside the back cover of the Vodafone Mobile Wi-Fi. If you want to change this key to something more memorable, you can change it by following the steps below. Vodafone recommend changing the WPA2 key to a secure key which can be easily remembered. Note: The WPA2 key is case sensitive - please ensure you input it with the correct upper and lower case characters.

1 From the left hand menu, select Security.



- 2 Enter a memorable Network Key you want to use for Wi-Fi access to the device .
- Choose the Authentication level you want from the drop-down box (WPA2 is the default).
- 4 Select the type of key encryption algorithm you want to use from the drop-down box.
- G Click Save.

IMPORTANT: Your wireless connection will be **disabled** at this point. You must reconnect with the new network key you just established if you are currently using wireless access to do the initial security configuration.

1.5 Advanced Configuration for iPhone, iPad, iPod Touch, smartphone or tablet

You can monitor the status of your Vodafone Mobile Wi-Fi device from any of the devices listed above, subject to device operating system versions of iOS v3.1.3 or above, or Android V2.1.0 or above.

Apple device users should use the Safari browser to browse to the web UI http://VodafoneMobile.wifi or http://192.168.0.1, or download the Vodafone Mobile Wi-Fi monitor app.

Smartphone and tablet users can check the device status by downloading the Vodafone Mobile Wi-Fi monitor app from the App Store in iTunes or the Android Market / Google Play.

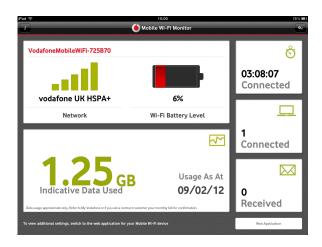
Download the Vodafone Mobile Wi-Fi monitor app.

Click on the app icon

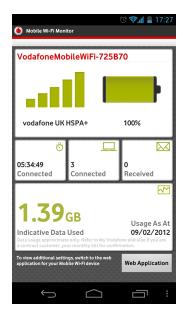


Sample monitor screens show below

Tablet / iPad



iPhone / smartphone



2. Vodafone Mobile Wi-Fi Configuration Interface – Advanced Settings

- Overview
- Mobile Broadband settings
- Wi-Fi settings
- Router Settings
- SMS

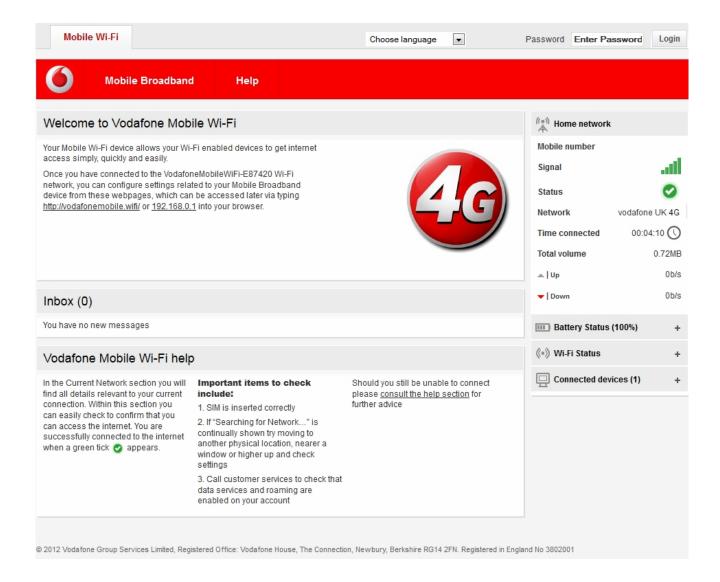
2

2.1 Overview

2.1.1 Access the Vodafone Mobile Wi-Fi Configuration pages from your web browser

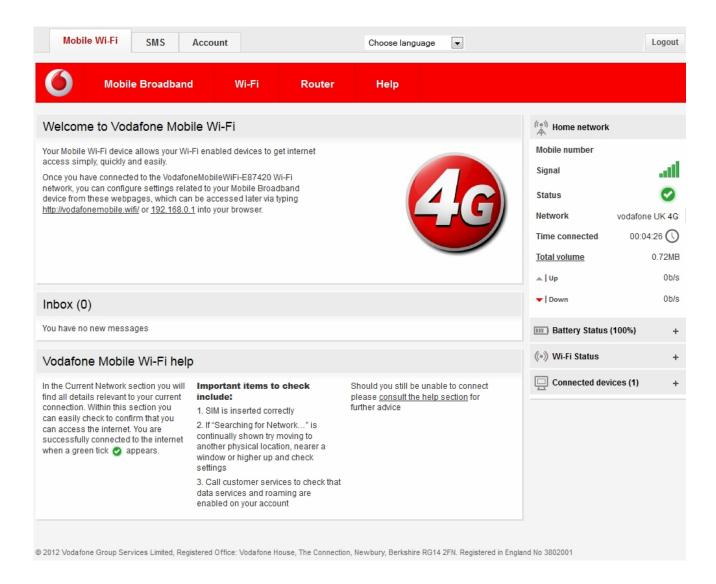
Enter http://VodafoneMobile.WiFi or http://192.168.0.1 into the address window of your web browser, and press the Enter key.

When you first connect to the Vodafone Mobile Wi-Fi with your web browser, you see the "Vodafone Mobile Wi-Fi Configuration Page" below which gives basic status information. You will not be logged into the Vodafone Mobile Wi-Fi at this stage, and will be unable to save any changes you make to the device configuration until you login.



2.1.2 Login to the Vodafone Mobile Wi-Fi to make changes

To login to the Vodafone Mobile Wi-Fi, enter your password (the default password "admin") into the Login window in the upper right corner of the screen, and click **Login**. The Home Page will be displayed, and you will be able to update values on all screens.



2.2 Mobile Wi-Fi

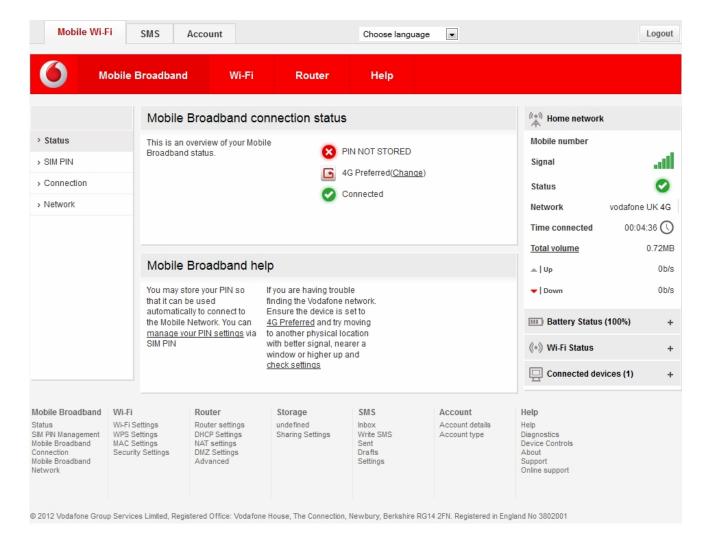
The Mobile Wi-Fi view has four options on the Navigation bar covering device configuration: Mobile Broadband, Wi-Fi, Router and Help.

2.2.1 Mobile Broadband settings

The Mobile Broadband area of the Mobile Wi-Fi view has 4 selections on the left hand Menu bar: **Status, SIM PIN, Connection and Network.**

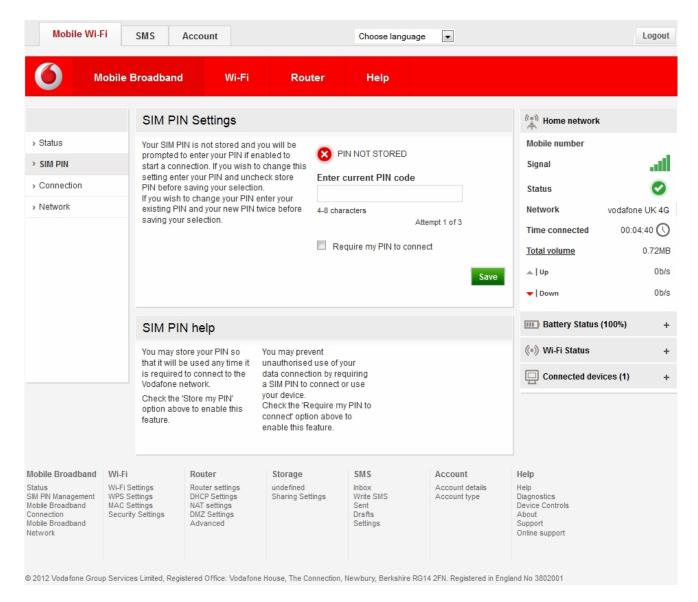
2.2.1.1 Status

Choose **Status** from the left hand menu bar to get an overview of the state of the Mobile Broadband connection. This screens show you the SIM PIN setting, the type of Mobile Network connection preferred, and whether the device is currently connected to the network.



2.2.1.2 SIM PIN

Choose **SIM PIN** from the left hand menu bar to manage the SIM settings. Some networks require a PIN to be entered to access the Network. On this screen you can store the PIN to automatically respond when requested by the network instead of prompting you for it each time, and you can also modify and store the PIN. You must be logged in to the UI screen, and must know your current PIN before trying to change it, as you only get 3 attempts top enter it correctly. If you get it wrong 3 times, you will be asked to enter your PUK code. If you do not know the codes, they can be obtained from your local Customer Care team.



2.2.1.3 Connection

Choose **Connection** from the left hand menu bar to manage the behaviour of your device when connecting to the Mobile Network. If you are connected to the network (a green tick is displayed beside Connected), you can disconnect by clicking on Disconnect.

Allow guest users to establish a connection means that users who do not have the admin password to the device can also change the Mobile Wi-Fi devices connection. When this is unchecked (the default) only admin users can control the connect or disconnect from the mobile broadband network

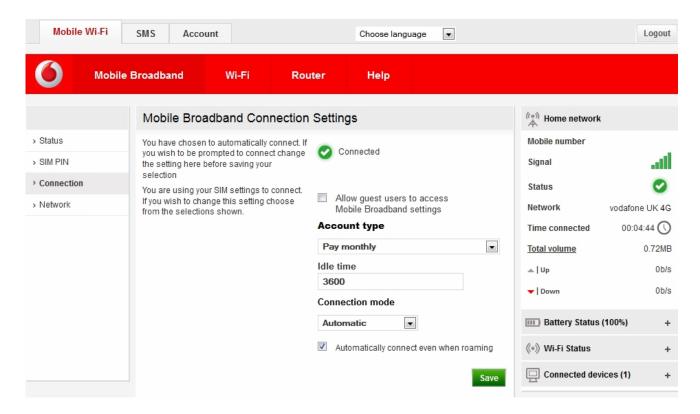
Allow guest users to access Mobile Broadband settings means that users who do not have the admin password to the device can also change the Mobile Wi-Fi devices mobile broadband connection settings, e.g. connect/disconnect, automatically connect when roaming etc. When this is unchecked (the default) only admin users can control the mobile broadband settings

Account type should automatically be set from the SIM, and must reflect your contract with the network. Values could be Contract, Prepay, Web Sessions or Custom. You should not normally need to change any settings here.

Connection mode allows you to set how the application should react when a mobile broadband connection is available:

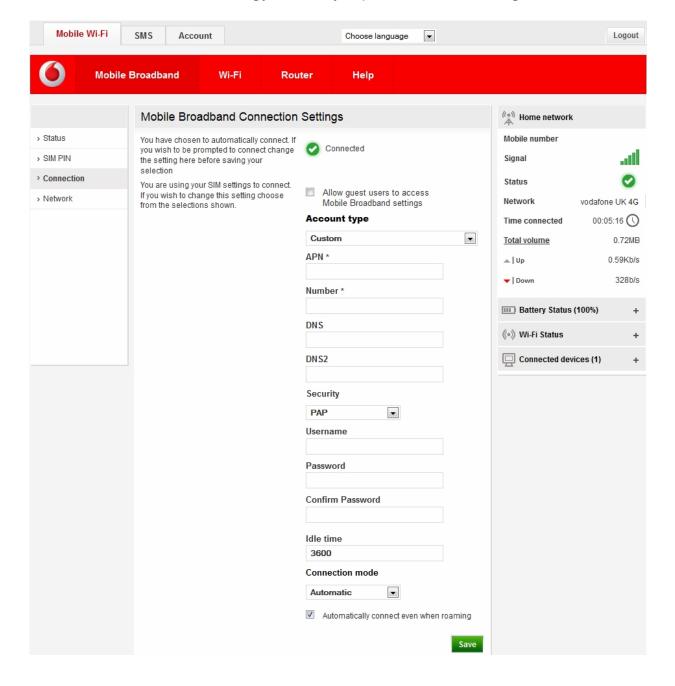
- Automatic the application will automatically open a connection as soon as one is available, rather than waiting for you to open one yourself.
- Prompt the application will prompt you to open a connection within the QuickStart web UI, rather than automatically opening it.

Automatically connect even when roaming – Select this option if automatic connection should take place even when you are not on your own mobile network operator's network, but are using a network from another operator. This is known as 'roaming'.



By selecting "Custom" setting in the Account Type field you can enter your own mobile broadband connection settings into the additional fields then shown (see next screenshot):

- APN (Access Point Name) this is an internet address, which has a format like internet.vodafone.com.
- Number this is the Number which the mobile network dials to connect to the internet
- DNS Normally your computer will be given DNS Settings Automatically when it connects. However, if you wish to enter manual addresses, you need at least one Primary DNS address. The secondary DNS address is optional and may be left blank.
- DNS2 if using manual DNS Settings, you can enter a secondary DNS address in this field.
- Security drop-down menu Select the type of security you wish to use from this menu. Supported security types include PAP (Password Authentication Protocol) and CHAP (Challenge Handshake Authentication Protocol).
- Username the user Name should be entered into this field.
- Password the Password should be entered into this field.
- Confirm password Confirm the password entered in the 'Password' field. If the password and confirmation do not match, an error will be shown asking you to enter your password and confirm it again.



June 2012

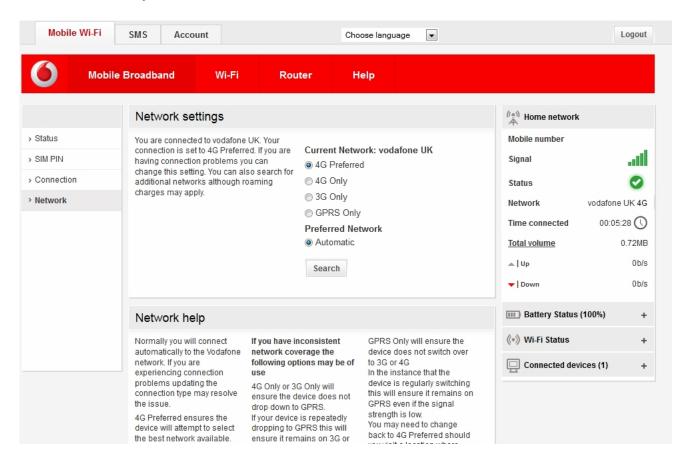
2.2.1.4 Network

Choose **Network** from the left hand menu bar to manage what sort of connection your device makes to the network.

For Connection Type, selecting an exclusive option like '3G Only' will limit your device to using only that bearer, so it will not find a network when that bearer is not available. In contrast, selecting a preference, such as '3G Preferred', will set your device to use your preferred bearer when it is available, but drop down to another bearer when it is not. When you make any changes to any of the settings in Network Settings panel, click 'Save' to save them. If the Save button is not clicked, any settings changes you have made will be discarded.

Preferred Network options allow you to manage how your device interacts with the mobile network.

- Automatic Your device will search for and select the best network, according to preferences shared between your device, your SIM and the mobile networks that are available.
- Search Click this button to display a list of all the mobile networks that are available at your current location, and select one of them manually. Your Vodafone QuickStart device will then attempt to connect to this network whenever it starts up.
- Refresh Once the list of mobile networks has appeared, you can click this button to scan for networks again, and refresh the networks list.
- Save Save the selected network as your preferred mobile network.
- Cancel Discard any changes you have made, and set your QuickStart device back to selecting a mobile network automatically.



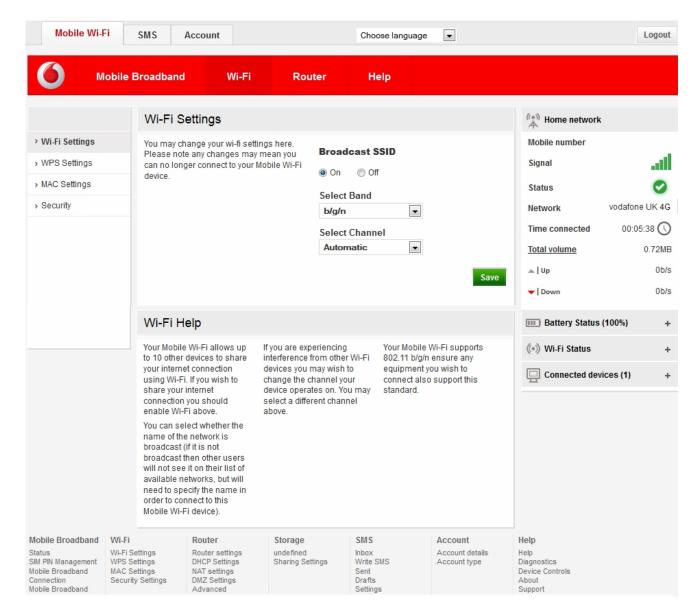
2.2.2 Wi-Fi settings

2.2.2.1 Wi-Fi settings

Choose **Wi-Fi settings** from the left hand menu bar allows you to enable / disable the Wi-Fi functionality, whether to broadcast the Wi-Fi network name (the SSID) and to select the Wi-Fi Band and Channel.

Enabling Wi-Fi allows others to access the internet via this device. If you choose not to broadcast the SSID (network name) then in order to connect to the device a user must specify the SSID in their Wi-Fi set up. The Wi-Fi network name does not appear in available network lists on Wi-Fi enabled devices.

Some older Wi-Fi enabled devices may only be able to access Wi-Fi networks using b or g bands n bands. If you are experiencing interference from other Wi-Fi devices you can manually select a channel that is different to that used by the other devices.



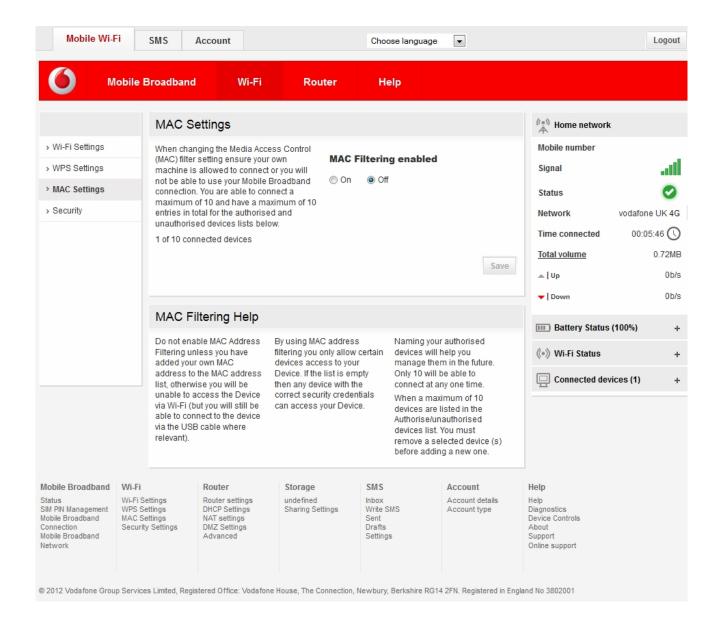
2.2.2.2 MAC settings

Choose MAC settings from the left hand menu bar to restrict access to your device by MAC address.

The MAC address is specific to a particular piece of hardware such as a network adapter. By enabling MAC Address Filtering you only allow certain devices access to your Vodafone Mobile Wi-Fi device. If the list is empty then any client with the correct security credentials can access the Vodafone Mobile Wi-Fi.

IMPORTANT: Do not enable MAC Address Filtering unless you have added your own MAC address to the MAC address list, otherwise you will be unable to access the Vodafone Mobile Wi-Fi device via Wi-Fi.

- On a Windows computer, you can find the MAC address by running ipconfig / all from the cmd window.
 The MAC address is referred to as the Physical Address.
- On a Mac, open System Preferences > Network. Select Airport in the Show: drop down list. The MAC address is the Airport ID that displays underneath.



2.2.2.3 Security

Choose **Security** from the left hand menu bar to manage the name of the Wi-Fi network (SSID), the network key (secure password required to access the Wi-Fi network), the level of security (authentication) and the type of encryption used on the network key.

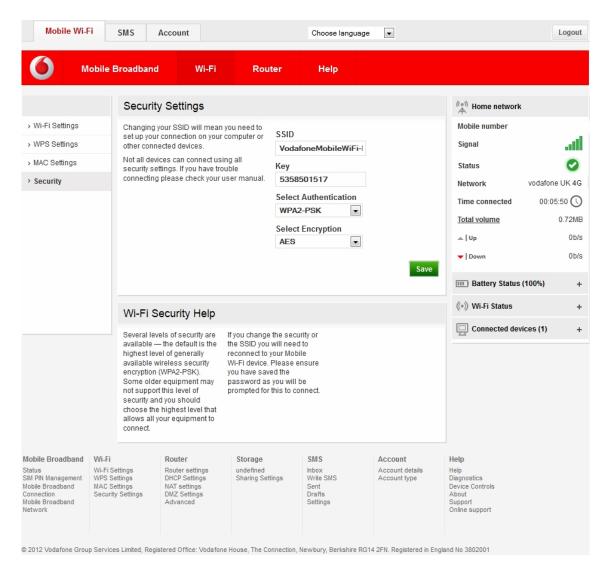
The default SSID (network name) is VodafoneMobileWiFi-xxxxyy where the xxxxyy represents a randomly generated set of numbers and letters which will differ for each Vodafone Mobile Wi-Fi device.

To change the Wi-Fi network Key (Password), enter a memorable Network Key you want to use for the Wi-Fi access to the device.

Several levels of security are available – the default is the highest level of generally available wireless security encryption (WPA2-PSK). Select the highest level of authentication that will allow all your Wi-Fi devices to access the network (for example, some older Wi-Fi enabled devices may not have WPA2 security available in them and may need WPA) security to be able to access the Wi-Fi.

The encryption option MIX means device will support both TKIP and AES encryption algorithms in WPA or WPA2, and the algorithm that will actually be used will depend on the wireless client.

Select Save to save the updated the fields.



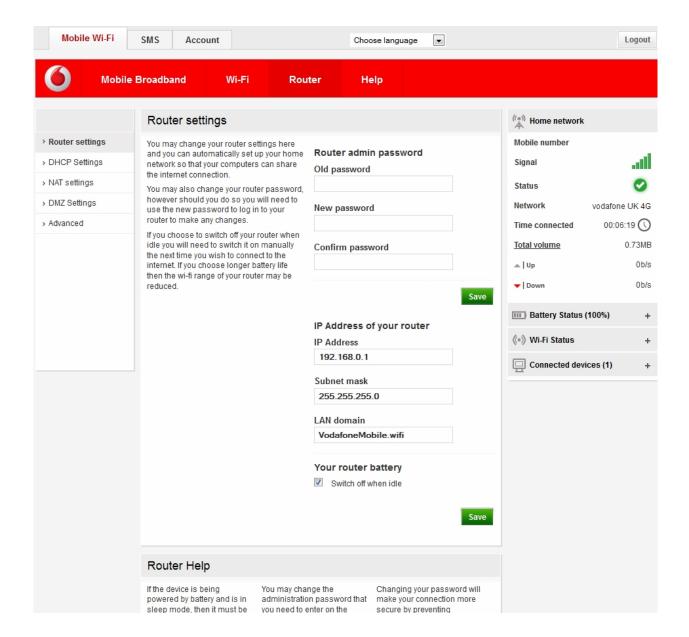
2.2.3 Router

2.2.3.1 Router settings

Choose Router settings from the left hand menu bar to manage the admin password and router settings.

The top of the screen allows you to change the administration password that you need to enter on the Vodafone Mobile Wi-Fi configuration screen (http://VodafoneMobile.WiFi or http://192.168.0.1 from your web browser) in order to login to the Vodafone Mobile Wi-Fi. Please change it to something memorable. The default password is "admin". Select Save to save the updated the fields.

You can modify both the Local IP Address and Subnet Mask for the network, and also change the LAN domain name (default value is http://vodafoneMobile.WiFi). Select **Save** to save the updated the fields.



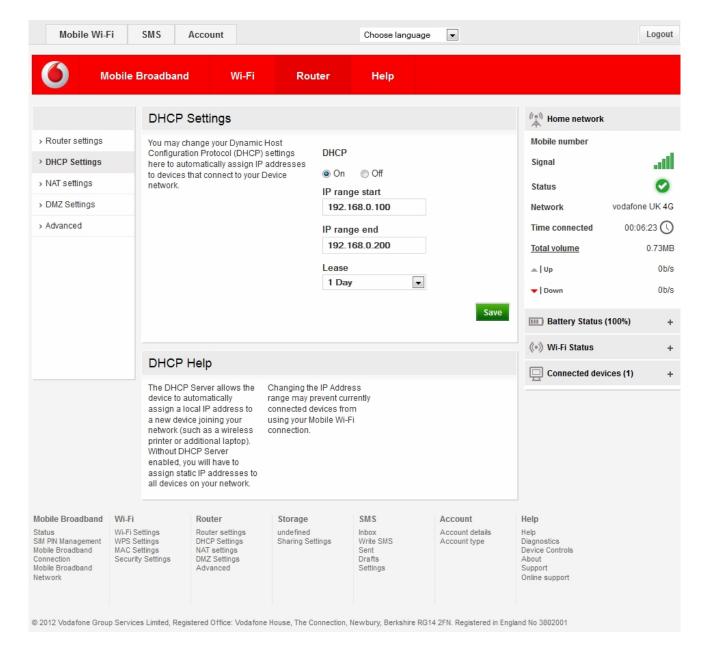
2.2.3.2 DHCP settings

Choose DHCP settings from the left hand menu bar to manage IP address management.

DHCP allows the device to automatically assign a local IP address to a new device joining your network (such as a wireless printer or additional laptop). Without DHCP enabled, you will have to assign static IP addresses to all devices on your network.

You can also change the IP Address Range used by the Vodafone Mobile Wi-Fi DHCP server, and the time of each lease (default one day). Changing the IP Address Range may prevent currently connected devices from using the Wi-Fi device connection.

Select Save to save the updated the fields.



2.2.3.3 NAT settings

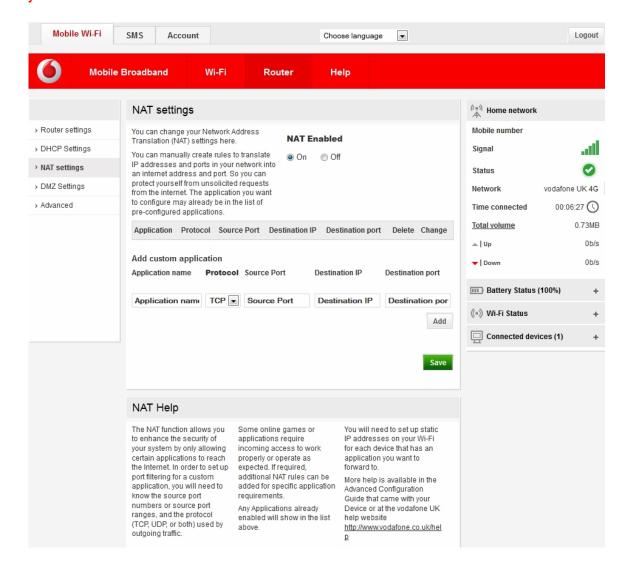
Choose **NAT settings** from the left hand menu bar to configure the Vodafone Mobile Wi-Fi to authorise network access to specific applications (usually gaming applications) to allow them to work correctly.

NAT allows you to enhance the security of your system by only allowing certain applications to reach the Internet. In order to set up port filtering for a custom application, you will need to know the source port numbers or source port ranges, and the protocol (TCP, UDP, or both) used by outgoing traffic.

Many of the most popular games and access methods are already included in the drop-down menus on this screen – consult your application user guide to see what options you should select on this screen. If your application does not appear on the drop-down menu you can add it and configure it manually.

After you have configured your applications they will appear in the authorised applications list at the bottom of the screen. You can now delete or change the application authorisation using the **Delete** and **Change** buttons on the right hand side of the screen.

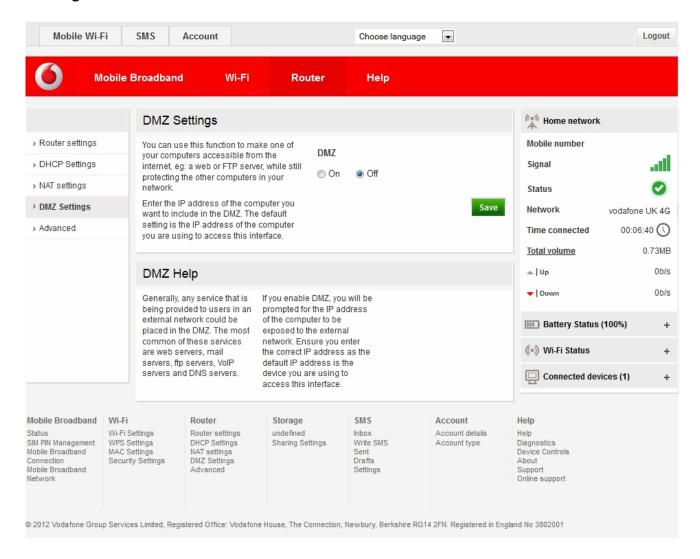
IMPORTANT: You will need to set up static IP addresses on your Wi-Fi for each device that has an application you want to forward to.



2.2.3.4 DMZ settings

Choose **DMZ settings** from the left hand menu bar to add an additional layer of security to the network. An external attacker only has access to equipment in the DMZ, rather than the whole of the network. Generally, any service that is being provided to users in an external network could be placed in the DMZ. The most common of these services are web servers, mail servers, ftp servers, VoIP servers and DNS servers.

If you enable the DMZ, you are prompted for the IP address of the computer to be exposed to the external network. Enter the correct IP address and select **Save**. The default setting is the IP address of the computer you are using to access this interface.

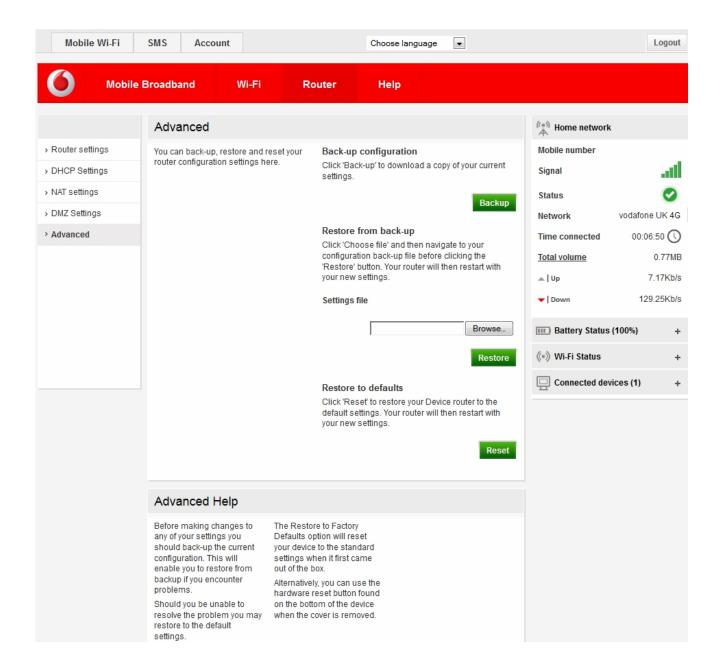


2.2.3.5 Advanced

Choose **Advanced** from the left hand menu bar to backup and restore the device configuration settings, or to reset the device back to the original factory settings.

You can save the current configuration of the Vodafone Mobile Wi-Fi device, or restore a saved configuration. Click **Backup** to save. To restore a previously saved copy of the settings, enter the location into the restore box and click **OK**.

The Restore to Factory Defaults option will reset your device to the standard settings that applied when it first came out of the box. To reset the device to its factory settings click **Reset**. Alternatively, you can use the hardware reset button found on the side of the device (see section 3.4).



2.3 SMS

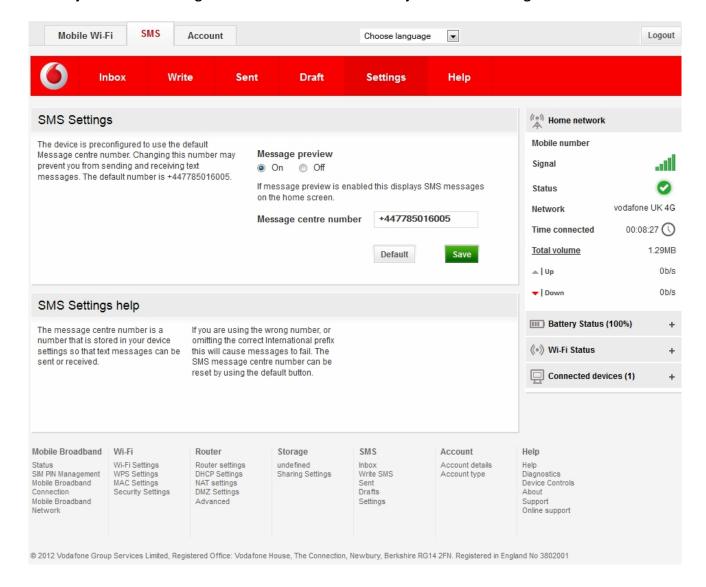
The **SMS** view has six options on the Navigation bar covering SMS reading and writing, and SMS settings **Inbox**, **Write**, **Sent**, **Draft**, **Settings** and **Help**. The first four screens are straight forward and are not covered here.

The number of SMS messages that can be stored is limited, so make sure you manage your available space by deleting old messages from the Inbox, Sent and Draft folders.

2.3.1 SMS settings

Choose **SMS** settings from the Navigation bar to change the number of your SMS Service Centre if required, but normally this functionality would not be required as it will automatically default to the correct value associated with your SIM.

The Message preview option ensures that when a new SMS arrives then any users using the web UI will receive a redirect to inform them of the new SMS. In addition it will ensure that the main Mobile Wi-Fi page provides a summary to both admin and guest users of the SMS inbox and any new unread messages.

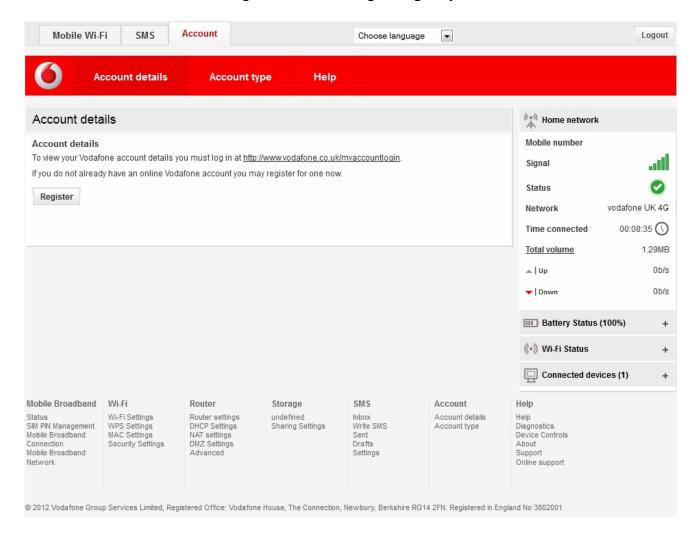


2.4 Account

The **Account** view on the Navigation bar has a minimum of 3 options: **Account details**, **Account type** and **Help**. For a prepaid SIM, users will have **Balance** and **TopUp** options to check their balance and also to top-up their account. The view in the window switches to show you details from the account that you have with your mobile network operator. The account type will be selected automatically from your SIM details, but you can change the options shown for your account type if necessary.

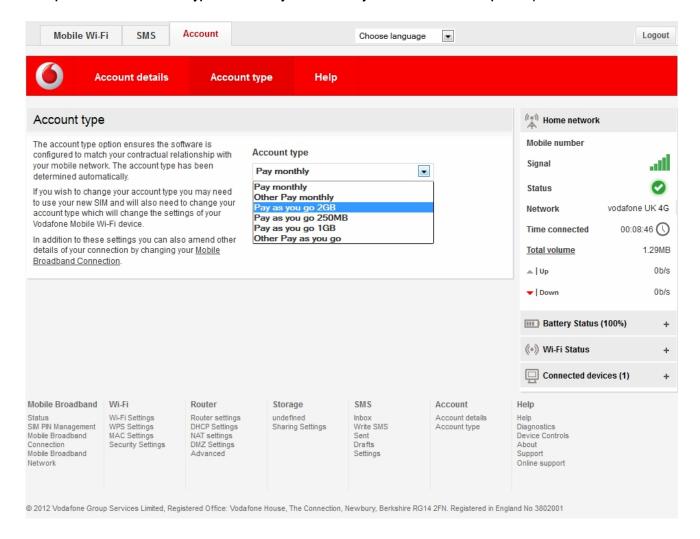
2.4.1 Account details

Choose Account details from the Navigation bar to either login or register your Vodafone online account.



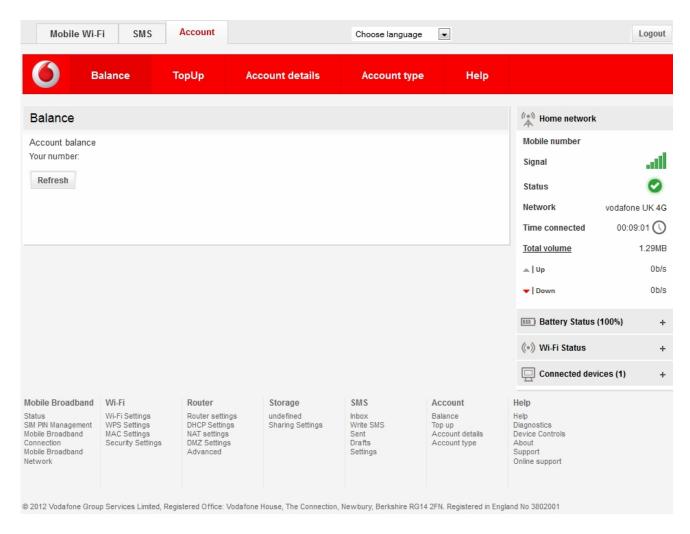
2.4.2 Account type

Choose **Account type** from the Navigation bar to manage your type of account (normally this needs to be set to the option that matches the type of account you have with your mobile network operator).



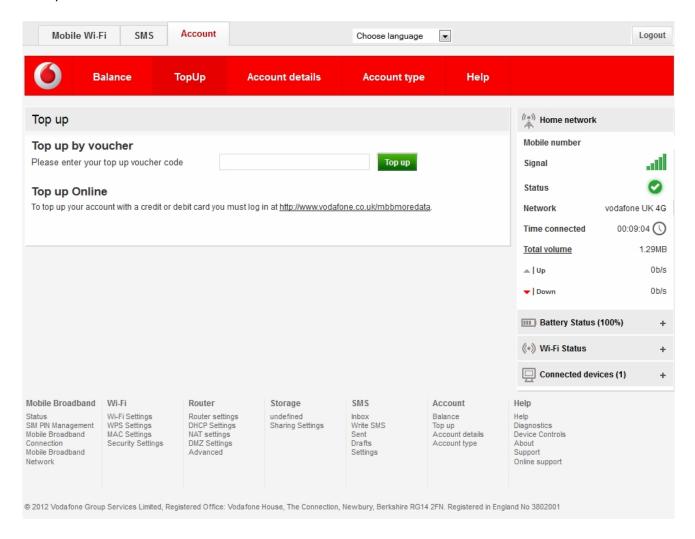
2.4.3 Balance

Choose Balance from the Navigation bar to display the current balance of your prepaid data SIM card.



2.4.4 TopUp

Choose **TopUp** from Navigation bar to top-up your prepaid SIM account balance using either a voucher or credit/debit cards.



3. Help and Troubleshooting

- Overview
- The Help and Diagnostics screens
- Common Problems and Solutions
- Using the Master Reset Button



3.1 Overview

The following tips will help solve many common problems encountered while using the Vodafone Mobile Wi-Fi.

- Ensure that the Vodafone network coverage extends to your current location. You may check on the device's screen or via the web UI to ensure the device is registered to a network, e.g. it mentions your network operator such as "Vodafone UK". If your device is showing searching for network then try positioning in an alternative location, e.g. closer to the window, higher up in a building etc. If you device is continually showing connecting then ensure the account type selected in the drop down box of the account section is correct.
- The SSID password is case-sensitive. If you entered it manually then ensure it is exactly the same as it appears on the device label (or it is the same as the one you may have changed it to).
- Make sure you are using the Vodafone Mobile Wi-Fi device in the correct geographic region for your SIM.
- Check the Diagnostics Screen in the Help menu bar (see section 3.2) for device status information.

When properly installed, the Vodafone Mobile Wi-Fi is a highly reliable product. Most problems are caused by one of these issues:

- System resources required by the Vodafone Mobile Wi-Fi are being used by other devices.
- Network coverage is unavailable due to coverage area, a network problem or an account problem.

The following two items are referenced frequently in the solutions that follow. Please make note of their differences.

Open the Vodafone Mobile Wi-Fi configuration screen.

- 1. Type http://VodafoneMobile.WiFi or http://192.168.0.1 in your browser address bar and press Enter.
- 2. The "Vodafone Mobile Wi-Fi configuration screen" opens and gives basic status information

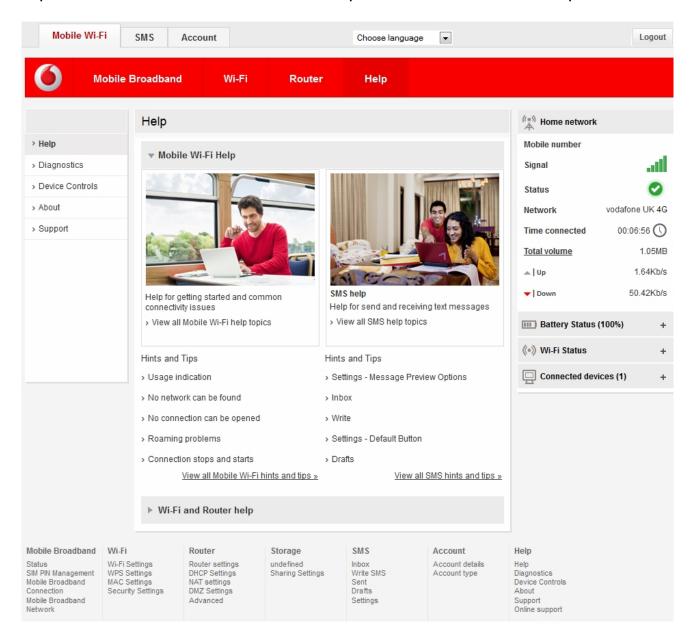
Login to the Vodafone Mobile Wi-Fi.

- 1. Type http://VodafoneMobile.WiFi or http://192.168.0.1 in your browser address bar and press Enter.
- 2. Type the administrative password (default is "admin") into the login window and click Login.
- 3. The "Home" page opens and gives you access to the menus and enables you to make changes.

3.2 The Help and Diagnostics screens

3.2.1 Help

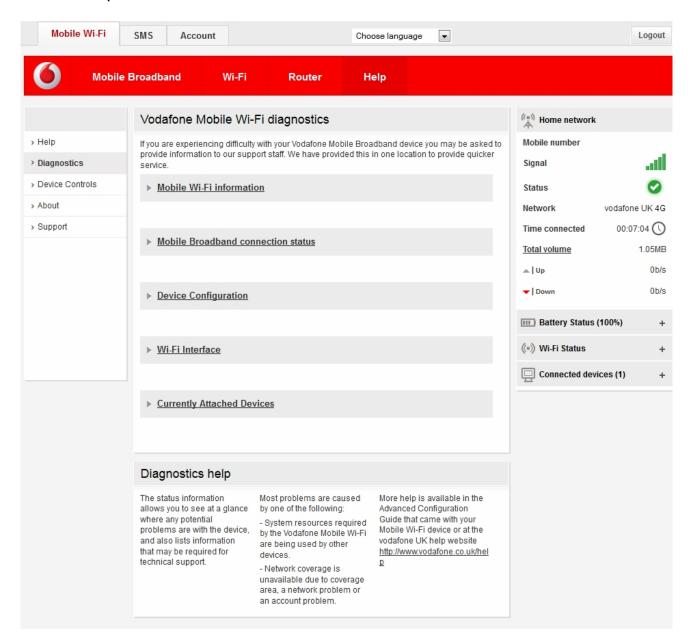
Choose **Help** from the Navigation bar on any screen to access the Help screens. This gives you access to detailed help on all areas of the Mobile Wi-Fi device. Hints and Tips are also available from the bottom part of the screen.



3.2.2 Diagnostics

Choose **Diagnostics** from the left hand menu bar to view a comprehensive view of the device status to identify potential problems. The screen has 5 areas than can be expanded by clicking on the > before the area: **Mobile Wi-Fi information, Mobile Broadband connection status, Device Configuration, Wi-Fi Interface** and **Currently Attached Devices.**

Each area is explained in the sections below.



3.2.2.1 Mobile Wi-Fi information

This area shows the status of the physical Mobile Wi-Fi device and the SIM inserted into the device. The SIM number may not be displayed depending on your local network and country requirements, but the SIM status will indicate any current SIM problems.

▼ Mobile Wi-Fi information	
Product name	R210
Software Version	4.0
Web UI Version	1.14.3559
Hardware Version	CL1E589M22
Serial Number	T6P01A9231900120
Serial no. of SIM (ICCID)	89441000300926516570
SIM Number (MSISDN)	
Serial no. of device (IMEI)	863792010001517
IMSI	234159051263236
SIM Status	Ready
Time since startup	7 mins 38 secs

3.2.2.2 Mobile Broadband connection status

This area shows the status of the connection between the device and the Mobile network.

Data rate is a snapshot of the current speeds being achieved. Upload speed will normally be lower than download speed. Speed can be affected by various factors such as distance from the Mobile Broadband network base station, the number of users connected to the device, the number of users connected to the network base station and the type of activity of all users. This means that the speeds you see here will be dynamic and depend on the activities of you and other users on the Mobile Wi-Fi device and on the local Mobile Broadband network.

Total volume is an indication of the amount of data sent and received from the Mobile Broadband network. **Total time** is a cumulative figure for the time the Mobile Wi-Fi device has spent connected to the Mobile Broadband network. These figures could be useful if you are tracking connected time and have a time-based network data tariff, or are tracking data usage on a data-based tariff. The figures can be reset by clicking **Reset Counter**.

IP address is the internet address for the device, and **DNS server** lists the Domain Name System servers used to resolve internet names and addresses.

▼ Mobile Broadband connection status	
Mobile Broadband Connection Status	Connected
Uptime of current Internet connection	7 mins 25 secs
Data rate	0b/s
Total volume	1.05MB
Total time	7 mins 25 secs
IP address	10.140.168.212
DNS	88.82.13.28
DNS2	
Reset the 'Total volume' and 'Total time'	Reset Counter
The above summary is an estimate, please refer to your bill for exact figures.	

3.2.2.3 Device Configuration, Wi-Fi Interface and Currently Attached Devices

These areas show the router setting (**DHCP** and **DMZ**), the status of the Wi-Fi, and devices currently connected to the Wi-Fi.

DHCP (Dynamic Host Configuration Protocol) is the system that allows the Mobile Wi-Fi device to assign a temporary (leased) internet IP address to devices connected to it. If this is not enabled then devices would need to have static IP addresses set up in their Wi-Fi connection software. **DMZ** (Demilitarised Zone) is the system where additional device addresses are exposed to the internet.

Wi-Fi Status should normally be **Enabled**, showing the Mobile Wi-Fi device is available and ready to be connected to.

The **SSID** would normally be in the format **VodafoneMobileWiFi_xxyyyy** where xxyyyy is a set of numbers uniquely identifying your Mobile Wi-Fi device. You may have changed the SSID to a different name (for instance some Wi-Fi devices require a shorter SSID as they are unable to recognise the longer default device SSID). Check this field to ensure you are trying to connect to the correct device.

Mode is the type of Wi-Fi transmission the Mobile Wi-Fi device is using. Older devices may be limited to the slower 802.11b mode.

Channel is set to **Auto** as the default. This means it will choose the appropriate channel for transmission to reduce interference with other devices. You may also have set the router to work on a specific channel. **Security type** shows the Wi-Fi security level. Some older devices may not be able to connect to the high default security level.

▼ <u>Device Configuration</u>		
DHCP	Enabled	
DMZ	Disabled	

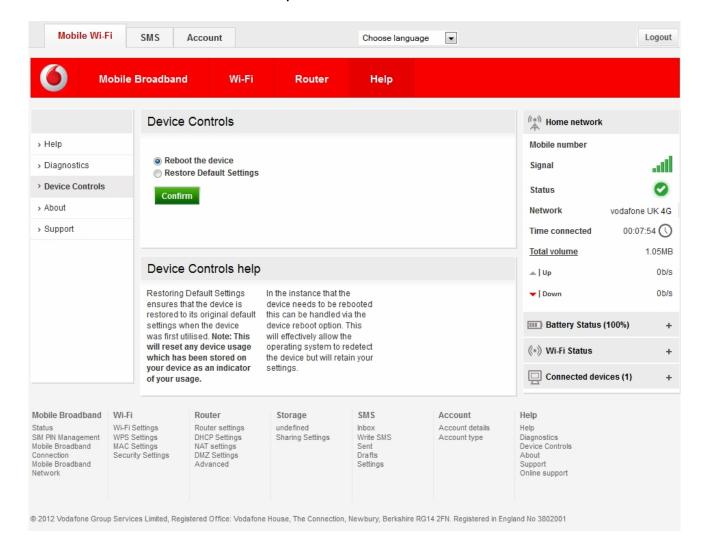
▼ Wi-Fi Interface	
Wi-Fi Status	Enabled
Network name (SSID)	VodafoneMobileWiFi-E87420
Mode	b/g/n
Channel	Automatic
Security type	WPA2-PSK

▼ Currently Attached Devices					
IP Address	Hostname	MAC Address	Time (hh:mm:ss)		
192.168.0.100	Rebarus_Samsung	90:4C:E5:96:D3:76	00:04:48		

3.2.3 Device controls

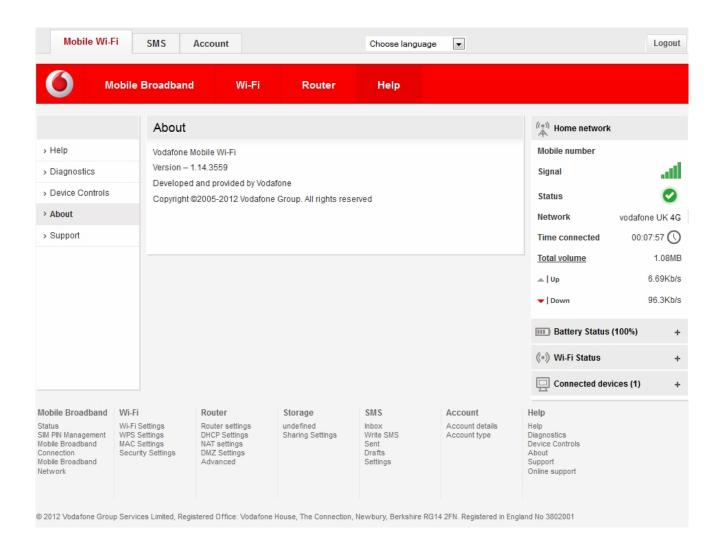
Choose Device controls from the left hand menu bar to either reset or reboot the Mobile Wi-Fi.

Rebooting the device will retain all your current settings, but doing a reset will restore the device to its initial factory settings and you will lose any changes you have made to the device configuration. Data usage information will also be reset. If you plan to reset the device, but you want to retain your current device configuration for some reason, select Advanced settings from the left hand menu under the Router tab, and backup your current configuration to a PC before doing a reset. If required the current configuration can be reloaded from the same screen as the backup.



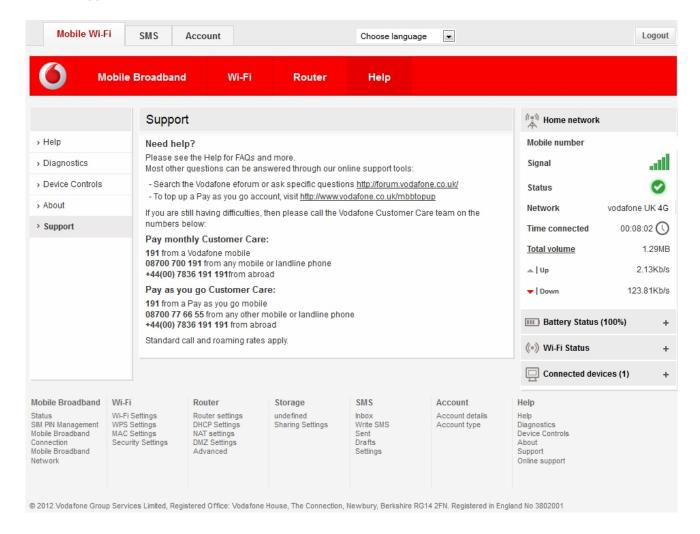
3.2.4 About

Choose About from the left hand menu bar to see the version of Diagnostics currently running.



3.2.5 Support

Choose Support from the left hand menu bar to access local network support contact details.



3.3 Common Problems and Solutions

The application won't install on Windows

- ➤ If the software does not install, or the install progress bar keeps looping
- ➤ From the Windows Start menu, select Settings>Control Panel>System>Hardware>Device Manager
- Expand 'Universal Serial Bus Controllers'
- Right-click 'USB Mass Storage Device' and select 'Uninstall'
- ➤ If your devices are not reloaded, select 'Scan for Hardware changes' from the 'Action' menu.

Cannot open Mobile Wi-Fi web UI application window

- The following things may prevent you from opening the Vodafone Mobile Wi-Fi web UI application window by entering the address http://vodafoneMobile.wifi or http://192.168.0.1 into your web browser:
- > Your computer already has a connection via an Ethernet LAN cable
- ➤ Your computer already has a connection via a different Wi-Fi network. You must be connected to the R210 via Wi-Fi to access the application window.
- You may be using a VPN (Virtual Private Network).
- ➤ Unplugging the LAN cable, exiting your VPN, and checking that you are connected to the Vodafone Mobile Wi-Fi SSID / network may solve the problem.

No service is available. - OR - I get a "Limited or No Connectivity" message.

- > You are outside of the coverage area of the Vodafone network.
- Check the WPA key (remember it is case sensitive).
- Repair your PC's wireless network connection (.in Windows XP right-click on the wireless network connection icon in the system tray and click Repair. In Windows 7 right-click on the network connection icon in the system tray, select Status, then select Diagnose).
- Re-orient the Vodafone Mobile Wi-Fi device.
- ➤ If you are inside a building or near a structure that may be blocking the signal, change the position or location of the device. For example, try moving the Vodafone Mobile Wi-Fi close to a window.
- Check the device Status Display for error messages or information.
- ➤ If you have manually assigned an IP address to your device, check it is in the range that is compatible with the Vodafone Mobile Wi-Fi device. See section 2.2.3.1

I forgot my password.

The factory set SSID (network name) and network password are on the credit card-sized reminder card that came with the device. It is also engraved at the bottom edge of the back cover of the device. If you double-tap the power button while the device is switched on the current SSID and password are displayed slowly on the device's display. If you have changed password or network name and cannot remember them, you can reset the device to factory defaults using the master reset button which can be found on the side of the device. See Section 3.4.

I cannot connect to the Vodafone Mobile Wi-Fi.

Advanced Configuration Guide Vodafone Mobile Wi-Fi - R210

- Check the device Status Display for error messages or information.
- ➤ Make sure your PC wireless radio / AirPort is turned on. (Check your computer help if you need assistance.)

 Open your wireless network connection list.

Windows: Right-click icon and select View Available Networks.

Mac: Pull down list from AirPort icon.

Select the VodafoneMobileWiFi-xxxxyy network name (in Windows, click Connect).

- ➤ Login to the Vodafone Mobile Wi-Fi web browser and check the Mobile Broadband Connectivity Status on the Diagnostics Screen **Mobile Wi-Fi > Help > Diagnostics**.
- ➤ Check the SIM status on the Diagnostics screen. If it indicates a problem then it will require a conversation with your Vodafone customer care team there may be a problem with your account.

My network does not appear in the wireless network list.

- Check you have "Broadcast SSID" set on the Wi-Fi Settings screen.
- ➤ Check the device Status Display for error messages or information.
- Check that there are not already 5 simultaneously connected devices on the device by checking the Wi-Fi icon on the device Status Display (the number of connected users in the small number next to the Wi-Fi Connectivity icon), or by checking the number of connections in the browser Diagnostics Screen.
- Refresh your network list on your computer.

Windows: Click **Refresh Network List** on the left side of the Wireless Network Connection screen. If that does not work you can try the following:

- 1. Open Network Connections.
- 2. Right-click Wireless Network Connection and select Properties.
- 3. Click the Wireless Networks tab.
- 4. Delete any unused wireless connections from the Preferred Networks list and click **OK**.
- 5. Restart your computer.

Mac: Try rebooting your computer.

"No SIM" or "SIM invalid" error message on the Status Display

- The SIM card may be missing or inserted incorrectly. Pull out and re-insert the SIM card. Be careful not to touch the contact points when handling the SIM card.
- ➤ The SIM card could be de-activated. Contact your local Vodafone Customer Care team for advice.

The "Input PIN" or "Enter PUK" is displayed on the device Status Screen.

➤ The SIM card is locked. Enter your PIN code when prompted in the SIM PIN Management area of the Mobile Wi-Fi Configuration screens (Mobile Wi-Fi > Mobile Broadband > SIM PIN menu). If you enter the wrong PIN code 3 times, you will be prompted to enter your PUK code. If you enter the wrong PUK code 10 times, your SIM card will be locked forever. Please contact your Vodafone customer care team before this happens and ask them for your PIN/PUK codes.

I see the network name but cannot connect to the Vodafone Mobile Wi-Fi, or the device is continually showing "connecting".

- Check the user name, password, and access point name (APN) in your connection profile. If any of these are wrong, you will not be able to connect to the network.
- > Remember the password is case-sensitive.

How do I disconnect from the network?

Turn off the Vodafone Mobile Wi-Fi by pressing and holding the power button on the side of the device until the display.

How can I set a new PIN for my SIM card?

Set a new PIN using the Vodafone Mobile Wi-Fi configuration interface. Select Mobile Wi-Fi > Mobile Broadband > SIM PIN.

Where can I find information about Internet connectivity and my Wi-Fi setup?

➤ Login to the Vodafone Mobile Wi-Fi browser interface and select **Mobile Wi-Fi > Help > Diagnostics** for status information.

Can I use my Vodafone Mobile Wi-Fi as a tethered modem with my computer?

No, not in the initial release of the R210 device.

How do I check the model number and firmware versions of my Vodafone Mobile Wi-Fi?

Login to the Vodafone Mobile Wi-Fi Home browser interface and select Mobile Wi-Fi > Help > Diagnostics

How can I find out the network technology and provider currently in use?

➤ Look at the information on the Vodafone Mobile Wi-Fi Status Display. Alternatively, open the Vodafone Mobile Wi-Fi Home page http://vodafoneMobile.WiFi. The network information (including signal strength, connection status, network name and bearer, connection time, data volumes and current data transfer rates) is displayed on the right hand side of the screen.

Can I backup and restore my configuration settings?

Yes. Login to the Vodafone Mobile Wi-Fi and choose Mobile Wi-Fi > Router > Advanced and click Backup to save. To restore a previously saved copy of the settings, enter the location into the restore box and click OK. To reset the device to its factory settings click Reset.

Can I find my IMEI number?

➤ Yes. Login to the Vodafone Mobile Wi-Fi browser interface and choose **Mobile Wi-Fi > Help > Diagnostics** . The IMEI number is in the first box.

How do I turn off the Vodafone Mobile Wi-Fi?

> Press and hold the power button on the side of the device, and the display will clear and the device will turn off.

What is the default administrative/login password?

→ "admin"

How do I access information on the Wi-Fi network and Wi-Fi clients?

➤ Login to the Vodafone Mobile Wi-Fi and choose Mobile Wi-Fi > Help > Diagnostics.

How do I ensure my Wi-Fi enabled devices can find the Vodafone Mobile Wi-Fi?

➤ When attempting to use the Vodafone Mobile Wi-Fi with a Wi-Fi enabled handheld device such as a phone, MP3 Player etc you may experience problems locating your Vodafone Mobile Wi-Fi on the available Wi-Fi networks (SSIDs). This may be due to the Wi-Fi enabled devices inability to handle long SSID names. This can be easily corrected by amending the SSID name of the Vodafone Mobile Wi-Fi within the Wi-Fi settings page of the web browser to a smaller length of characters.

See section 2.2.2.1 Security.

For example, you could change the SSID from "VodafoneMobileWiFi-xxxxyy" to something like "VF".

I want to upgrade the firmware of the Vodafone Mobile Wi-Fi?

➤ If you need to update the firmware to a new version then a firmware update tool will be made available on the Vodafone Global Support website. If there is not a tool available on the website, then no firmware upgrade has been made available yet for the R210 so you cannot update the firmware.

www.support.vodafone.com/VodafoneMobileWiFi/R210

What is the battery life of the Mobile Wi-Fi device?

The Mobile Wi-Fi has up to 100 hours battery life when Wi-Fi is switched off and in sleep mode, and up to 3 months of charge retention when in standby mode.

What is the difference between Vista and Windows & network set-up?

➤ PC operating systems use different terminology for network set-up. Windows 7 uses "network key" or "network security key" for the WPA2 key. Under the Vista operating system you will be asked to enter the "network key or pass phrase".

What versions of Android are supported for the Vodafone Mobile Wi-Fi Monitor App?

Android V2.1.0 and above are supported by the Monitor App. Smartphone and tablet users can check the device status by downloading the Vodafone Mobile Wi-Fi monitor app from the Android Market / Google Play.

What versions of iOS are supported for the Vodafone Mobile Wi-Fi Monitor App?

➤ iOS V3.1.3 and above are supported by the Monitor App. Apple device users should use the Safari browser to browse to the web UI http://VodafoneMobile.wifi or http://192.168.0.1, or download the Vodafone Mobile Wi-Fi monitor app from the App Store in iTunes.

3.4 Using the Factory Reset Button

The Vodafone Mobile Wi-Fi comes with a Factory Reset Button that allows you to return it to its factory default state. There is also a device configuration backup, restore and reset in the Vodafone Mobile Wi-Fi configuration User Interface (Mobile Wi-Fi > Help > Device controls).



The master reset button is recessed in a hole on the side of the device. You will need a paperclip or similar object to push the button.

- Make sure the Vodafone Mobile Wi-Fi is powered on.
- Locate the master reset button on the side of the device (see diagram above).
- Insert a paperclip into the hole and hold the button down for 5 seconds until the Device Status Screen goes off, and then initiates its standard start-up procedure (the Vodafone logo is displayed followed by connection status information).
 - The list of wireless networks on your PC will now show the original default SSID when you first received your device.
- Connect to the Vodafone Mobile Wi-Fi again via Wi-Fi using the original SSID and PWA2 key (engraved at the bottom edge of the back cover of the device, on the reminder card or double-tap the power button when the device is switched on and the SSID and network key will be displayed on the device display area).

4. Glossary



- **3G** The third-generation mobile phone service, as UMTS (Universal Mobile Telecommunications System) is also known, is a bearer providing higher data speeds.
- **4G** The fourth-generation mobile phone service, also known as LTE (Long Term Evolution) is a bearer providing data speeds higher than HSPA+.
- **802.11** (b, g, n) A set of Wi-Fi communication standards in the 2.4, 3.6 and 5 GHz frequency bands.
- **Access Point** A device that allows wireless communication devices to connect to a wireless network using a standard such as Wi-Fi.
- **Bearer** Communication method used for data transport over the mobile network, eg. 4G, HSPA+, 3G Broadband, HSPA, 3G etc. ●
- **DHCP** Dynamic Host Configuration Protocol. A network application protocol used to obtain configuration information for an Internet Protocol network.
- **DHCP Server** A server that uses DHCP to obtain configuration information for operation in an Internet Protocol network.
- **DNS** Domain Name System. A system for converting host names and domain names into IP addresses on the Internet or on local networks that use the TCP/IP protocol.
- EDGE An enhancement to the GPRS bearer offering higher speeds, although not as fast as 3G Broadband.
- **Firmware** A program that internally controls an electronic device.
- **Gateway** A network point that acts as an entrance to another network that uses a different protocol.
- **GPRS** The General Packet Radio Service is a bearer offering higher data speeds than GSM, on which it is based.
- **GSM** Global System for Mobile Communication.
- Home network The network of the mobile operator who provided your SIM.
- Host Name The unique name by which a network-attached device is known on a network.
- **HSPA** High-Speed Packet Access bearer, enhancing 3G, including both HSUPA (Uplink) and HSDPA (Downlink).
- **HTTP** Hypertext Transfer Protocol. An application-level protocol for accessing the World Wide Web over the Internet.
- **IP Type** The type of service provided over a network.
- IP address Internet Protocol address. The address of a device attached to an IP network (TCP/IP network).
- **LAN** Local Area Network. A type of network that lets a group of computers, all in close proximity (such as inside an office building), communicate with one another.
- LTE see 4G.
- **MAC Address** A unique number that identifies a given network adapter on a LAN. MAC addresses are 12-digit hexadecimal numbers.
- **Network Mask** A number that allows IP networks to be subdivided for security and performance.
- **Port** A virtual data connection used by programs to exchange data.
- **Port Number** A number assigned to a user session and server application in an IP network.
- **Roaming** You can use your mobile device on any other mobile network that has a roaming agreement with your operator, whether in your country or abroad.
- **Router** A device that connects two networks.
- **SIM** Your Subscriber Identity Module is the postage-stamp-sized chip that you will have received together with your mobile contract. Your SIM has gold contacts on one side .

Advanced Configuration Guide Vodafone Mobile Wi-Fi - R210

- **SSID** Service Set Identifier. The name assigned to a Wi-Fi network.
- **TCP** Transmission Control Protocol. A core protocol for transmitting and receiving information over the Internet.
- **TCP/IP** Transmission Control Protocol/Internet Protocol. A communications protocol that enables computers to communicate over the internet.
- **VPN** Virtual Private Network. A secure private network that runs over the public Internet.
- **WAN** Wide Area Network. A public network that extends across metropolitan, regional and political boundaries.
- **WEP** Wired Equivalent Privacy. An IEEE standard security protocol for 802.11 networks. Superseded by WPA and WPA2.
- **Wi-Fi Client** A wireless device that connects to the Internet via Wi-Fi.
- **Wi-Fi** Wireless Local Area Network. A typically low-power network that transmits a wireless signal over a span of a few hundred feet and usually only to stationary devices.
- **WPA/WPA2** Wi-Fi Protected Access. A security protocol for wireless 802.11 networks from the Wi-Fi Alliance.