



# Vodafone MachineLink 4G

Firmware Upgrade Guide

**Vodafone**  
Power to you



# Important Notice

This device, like any wireless device, operates using radio signals which cannot guarantee the transmission and reception of data in all conditions. While the delay or loss of signal is rare, you should not rely solely on any wireless device for emergency communications or otherwise use the device in situations where the interruption of data connectivity could lead to death, personal injury, property damage, data loss, or other loss. NetComm Wireless and Vodafone accept no responsibility for any loss or damage resulting from errors or delays in transmission or reception, or the failure of the Vodafone MachineLink 4G Router to transmit or receive such data.

## Safety and Hazards



**Warning** – Do not connect or disconnect cables or devices to or from the USB port, SIM card tray, Ethernet port or the terminals of the Molex power connector in hazardous locations such as those in which flammable gases or vapours may be present, but normally are confined within closed systems; are prevented from accumulating by adequate ventilation; or the location is adjacent to a location from which ignitable concentrations might occasionally be communicated.

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**Note** – This document is subject to change without notice.

# Document History

This guide covers the following products:

## Vodafone MachineLink 4G Router (NWL-22-02)

Ver.	Document Description	Date
1.1	Updated guide for firmware version 2.0.39.4 and phone module firmware version 05.05.61.00	14/12/2015
1.2	Updated guide for firmware version 2.0.39.5	25/01/2016
1.3	Updated guide for firmware version 2.0.39.6	02/05/2016
1.4	Updated guide for firmware version 2.0.39.8	16/06/2016
1.5	Updated guide for firmware version 2.0.39.9	16/09/2016
1.6	Updated guide for the latest phone module firmware version	27/03/2017

*Table i. - Document Revision History*



**Note** – Before performing the instructions in this guide, please ensure that you have the latest firmware version installed on your router.

Visit <http://vodafone.netcommwireless.com> to download the latest firmware.



**Note** – Some functions described in this document require that the router is assigned with a publicly routable IP address.

Please ensure that your mobile carrier has provided you with a publicly routable IP address before performing the instructions in this document.

# Upgrading the Router firmware

The Vodafone MachineLink 4G router has dual redundant operating systems; a Main system and a Recovery system. One system may be used to restore the other in the event of a corruption to avoid a total failure of the device. It is therefore necessary to update both the main and recovery systems when a firmware update is available.

For all Vodafone MachineLink 4G routers, the firmware update process involves upgrading the uboot image, recovery image firmware and main firmware image and phone module firmware. To obtain the latest firmware image files, visit the product website at

<http://vodafone.netcommwireless.com/>



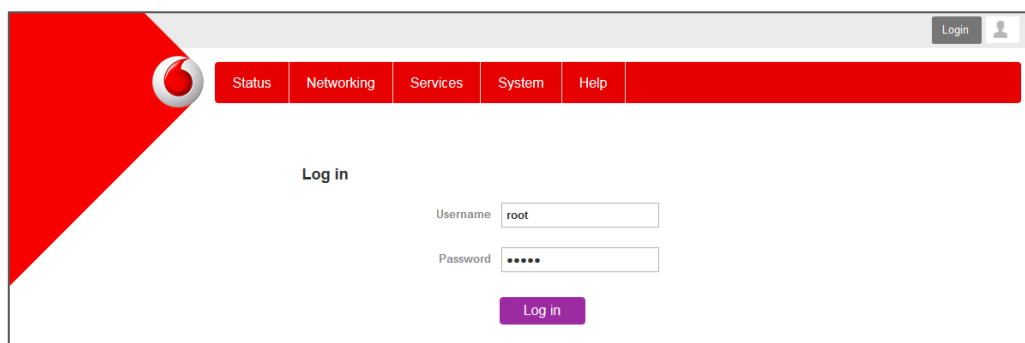
**Note** – In order to perform a firmware update, you must be logged into the router with the root manager account. Refer to the “Advanced configuration” section of the User Guide for details.



**Important** – These instructions must be followed in the exact order they are given. Failure to perform the steps in the correct order can result in the firmware becoming corrupted.

To update the MachineLink 4G router's firmware:

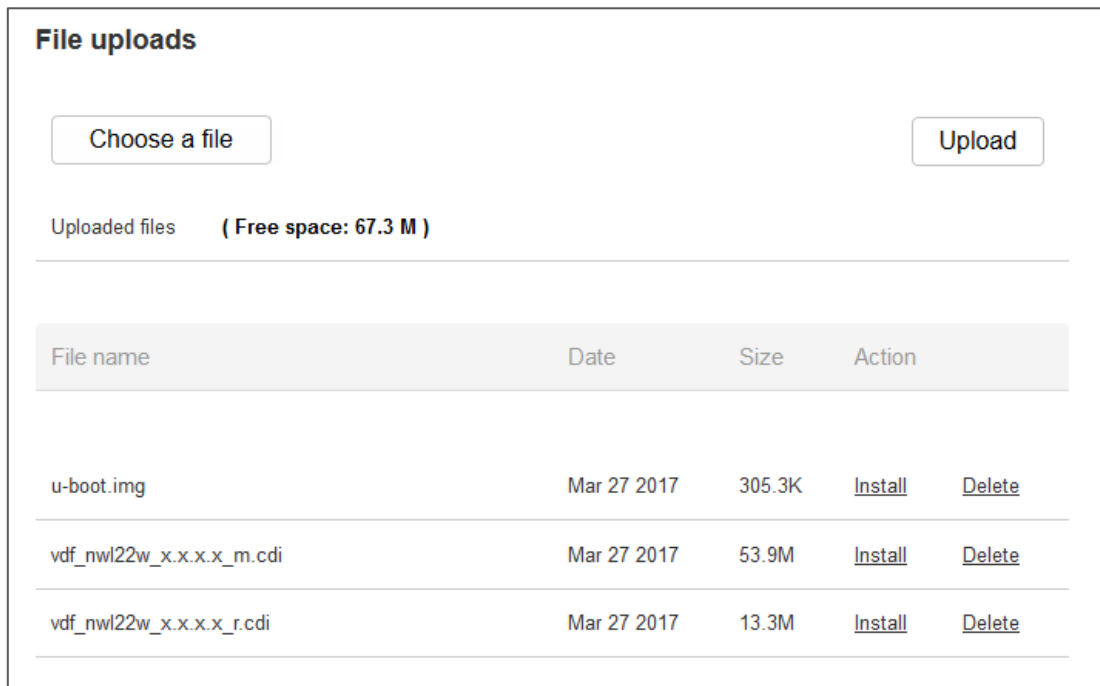
- 1 Connect one end of the RJ-45 (Ethernet cable) to the Ethernet port of the MachineLink 4G Router (labelled “LAN”) and the other end to the Ethernet port of your computer.
- 2 Connect the power adapter to the DC power jack of the MachineLink 4G Router and plug it into an available wall socket. Wait approximately 1 minute for the router to start up.
- 3 Extract the firmware image files from the archive that you downloaded from the product website to the hard drive of your computer.
- 4 Open a web browser and navigate to <https://192.168.1.1>
- 5 In the Username field, enter **root** and in the Password field, enter **admin** then click the **Log in** button.



*Vodafone MachineLink 4G log in page*

- 6 Select the **System** item from the top menu bar, select the **System configuration** item from the menu on the left and then select the **Upload** menu item.
- 7 Under the **File Uploads** section, click the **Choose a File** button. Locate the uboot image file on your computer named **u-boot.img** and click **Open**.
- 8 Click the **Upload** button. The uboot image is uploaded to the router.

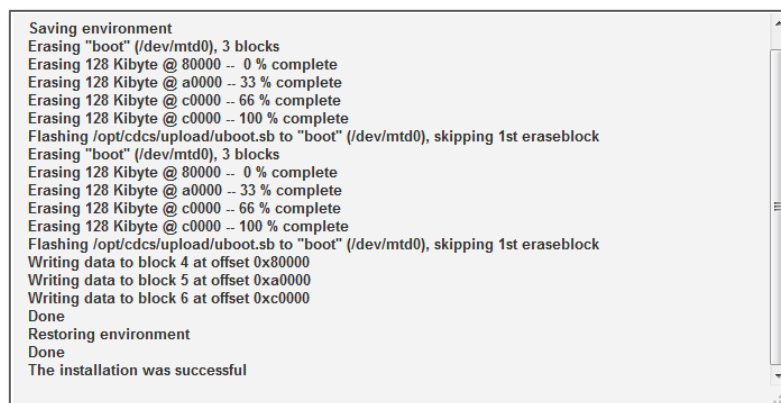
- 9 Under the **File uploads** section, click the **Choose a File** button. Locate the Recovery image file on your computer named **vdf\_nwl22w\_x.x.x.x\_r.cdi** where the letter 'x' represents the version number of the firmware file and click **Open**.
- 10 Click the **Upload** button. The Recovery firmware image is uploaded to the router.
- 11 Under the **File uploads** section, click the **Choose a File** button. Locate the Main image file on your computer named **vdf\_nwl22w\_x.x.x.x\_m.cdi** where the letter 'x' represents the version number of the firmware file and click **Open**.
- 12 Click the **Upload** button. The Main firmware image is uploaded to the router.
- 13 When you have completed uploading all files, the router displays a list of the uploaded files.



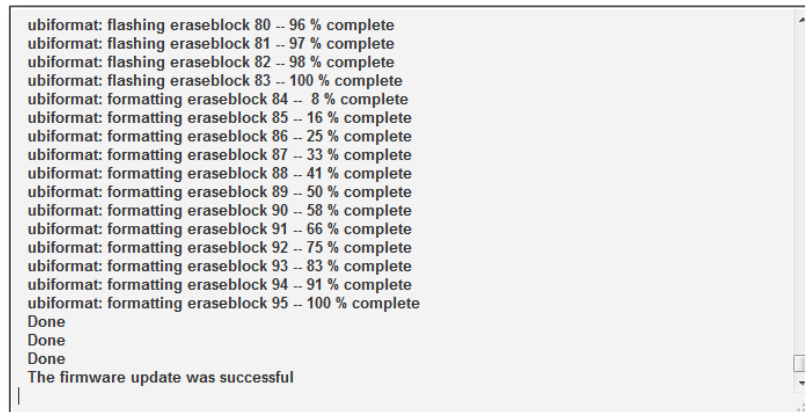
- 14 Next to **u-boot.img** image, click the **Install** link and then click **OK** on the confirmation pop-up window. The uboot image is updated and when it is complete the router displays **"The installation was successful"** and then returns to the list of uploaded files.



**Note** – During the firmware update process, all LEDs flash until the process is done. Please do not interrupt the process until the LEDs stop flashing. When the process has totally finished, the router automatically reboots to complete the update.

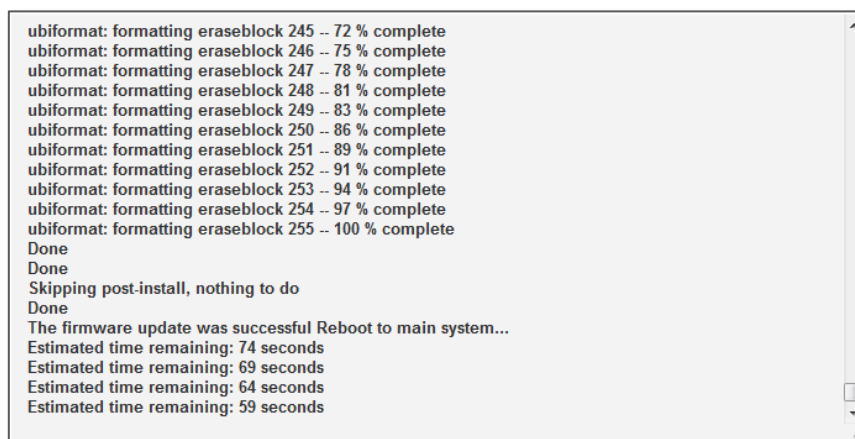


- 15 Next to the Recovery image **vdf\_nwl22w\_x.x.x.x\_r.cdi**, click the **Install** link and then click **OK** on the confirmation pop-up window. The recovery image is updated and when it is complete the router displays “**The firmware update was successful**” and then returns to the list of uploaded files.



```
ubiformat: flashing eraseblock 80 -- 96 % complete
ubiformat: flashing eraseblock 81 -- 97 % complete
ubiformat: flashing eraseblock 82 -- 98 % complete
ubiformat: flashing eraseblock 83 -- 100 % complete
ubiformat: formatting eraseblock 84 -- 8 % complete
ubiformat: formatting eraseblock 85 -- 16 % complete
ubiformat: formatting eraseblock 86 -- 25 % complete
ubiformat: formatting eraseblock 87 -- 33 % complete
ubiformat: formatting eraseblock 88 -- 41 % complete
ubiformat: formatting eraseblock 89 -- 50 % complete
ubiformat: formatting eraseblock 90 -- 58 % complete
ubiformat: formatting eraseblock 91 -- 66 % complete
ubiformat: formatting eraseblock 92 -- 75 % complete
ubiformat: formatting eraseblock 93 -- 83 % complete
ubiformat: formatting eraseblock 94 -- 91 % complete
ubiformat: formatting eraseblock 95 -- 100 % complete
Done
Done
Done
The firmware update was successful
```

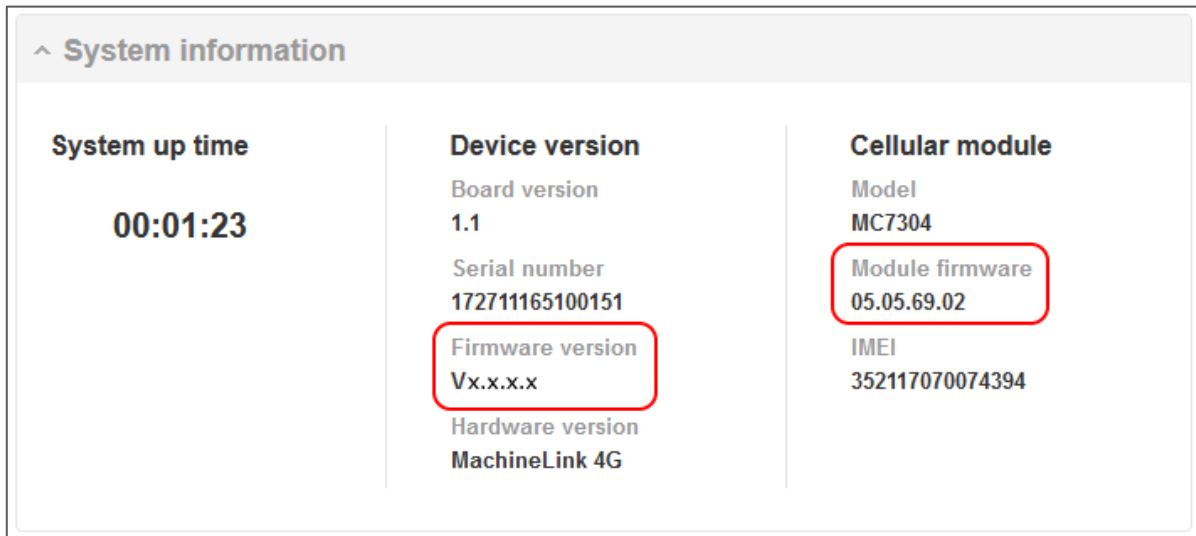
- 16 Next to the Main image (**vdf\_nwl22w\_x.x.x.x\_m.cdi**), click the **Install** link and then click **OK** on the confirmation pop-up window. The main image is updated. The installation is complete when the countdown reaches zero. The router automatically reboots into the Main system image.



```
ubiformat: formatting eraseblock 245 -- 72 % complete
ubiformat: formatting eraseblock 246 -- 75 % complete
ubiformat: formatting eraseblock 247 -- 78 % complete
ubiformat: formatting eraseblock 248 -- 81 % complete
ubiformat: formatting eraseblock 249 -- 83 % complete
ubiformat: formatting eraseblock 250 -- 86 % complete
ubiformat: formatting eraseblock 251 -- 89 % complete
ubiformat: formatting eraseblock 252 -- 91 % complete
ubiformat: formatting eraseblock 253 -- 94 % complete
ubiformat: formatting eraseblock 254 -- 97 % complete
ubiformat: formatting eraseblock 255 -- 100 % complete
Done
Done
Skipping post-install, nothing to do
Done
The firmware update was successful Reboot to main system...
Estimated time remaining: 74 seconds
Estimated time remaining: 69 seconds
Estimated time remaining: 64 seconds
Estimated time remaining: 59 seconds
```

- 17 After the upgrade has completed, we recommend that you restore the factory default settings of the router. To do this, use a paperclip or another similarly shaped object to hold down the reset button on the router for 15-20 seconds. The router reboots with the factory default settings.

- 18 When the Status page is displayed, confirm that the **Firmware version** matches the firmware version that you installed (see the Firmware Release Notes document for more details).



- 19 If the **Module firmware** version displayed differs from that in the above screenshot, please continue to the next section for instructions on upgrading the phone module firmware.

## Phone module firmware upgrade

- 1 Navigate to the **Upload** page of the router's web user interface. Steps 1 to 6 of the [Upgrading the Router firmware](#) section describe how to do this.
- 2 Under the **File Uploads** section, click the **Choose a File** button. Locate the module configuration settings image file on your computer named **SWI9X15C\_05.05.69.02\_VODA-EU\_005.026\_000.nvu** and click **Open**.
- 3 Click the **Upload** button. The module configuration settings image is uploaded to the router.
- 4 Under the **File Uploads** section, click the **Choose a File** button. Locate the module image file on your computer named **SWI9X15C\_05.05.69.02.cwe** and click **Open**.
- 5 Click the **Upload** button. The module image is uploaded to the router.
- 6 Next to the **.cwe** file, click the **Install** button. On the confirmation pop-up window, click the **OK** button.



**Note** – The .nvu file is required by the module firmware installation process but you are not required to click its Install link on the user interface.

File name	Date	Size	Action	
SWI9X15C_05.05.69.02.cwe	Dec 12 2016	33.2M	<b>Install</b>	<a href="#">Delete</a>
SWI9X15C_05.05.69.02_VODA-EU_005.026_000.nvu	Dec 12 2016	102.1K	<a href="#">Install</a>	<a href="#">Delete</a>

The phone module firmware is installed.



**Important** – Do not disconnect the power to the device when the module firmware upgrade is in progress. This could result in a damaged module. When the process has finished, the router automatically reboots to complete the update.

- 7 Confirm that the **Module firmware** version displayed on the **Status** page is **"05.05.69.02"**

System information		
<b>System up time</b>  00:01:23	<b>Device version</b> Board version 1.1 Serial number 172711165100151 <b>Firmware version</b> Vx.x.x.x Hardware version MachineLink 4G	<b>Cellular module</b> Model MC7304 <b>Module firmware</b> 05.05.69.02 IMEI 352117070074394

The phone module firmware upgrade is complete.