

Firmware Upgrade Guide

NTC-221/NTC-222/NTC-223/NTC-224



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Note – This document is subject to change without notice.

Document history

This document relates to the following products:

NetComm NTC-221/NTC-222/NTC-223/NTC-224

VER.	DOCUMENT DESCRIPTION	DATE
v1.0	Initial release.	13 May 2019
v1.1	Updated to include installation of 'check-uboot-variable' IPK	28 September 2021

Table i. - Document revision history

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Overview

Introduction

This document provides you all the information you need to download and install a new version of firmware for the NetComm Wireless NTC-220 Series router.

Target audience

This document is intended for system integrators or experienced hardware installers who understand telecommunications terminology and concepts.

Prerequisites

Before continuing with the installation of your router, please confirm that you have the following:

- An electronic computing device with a working Ethernet network adapter and a web browser such as Google Chrome™.

Notation

The following symbols may be used in this document:



Note – This note contains useful information.



Important – This is important information that may require your attention.



Warning – This is a warning that may require immediate action in order to avoid damage or injury.

Upgrading the firmware

Over the lifetime of your router, NetComm will periodically produce updates of its firmware.

Files containing the latest firmware releases will be published on NetComm's support website and will be available to you for download and installation.

To see the most recent firmware version for your router, go to:

<https://support.netcommwireless.com/products/NTC-220%20Series>

The procedures outlined in this guide will install the latest firmware while preserving and reapplying your current settings.

Process overview

Take the following steps to upgrade the firmware:

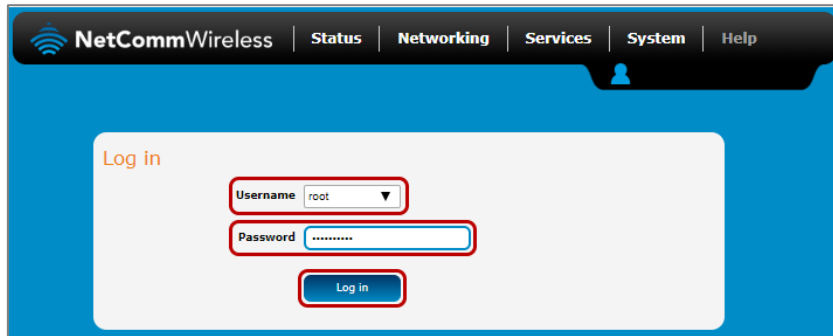
- 1 Log in to the web interface
- 2 Check and download most recent firmware
- 3 Back up current settings (optional)
- 4 Install 'Check UBoot variable' IPK (if on firmware 2.0.99.0 or earlier)
- 5 Install the new firmware
- 6 Restore your settings (optional)
- 7 Confirm firmware upgrade

Log in to the web interface

In order to perform a firmware update, you must be logged into the router with the root manager account.

To access the router's web interface:

- 1 Connect one end of the RJ-45 (Ethernet cable) to the Ethernet port of the router and the other end to the Ethernet port of your computer.
- 2 Connect the power adapter to the DC power jack of the router and plug it into an available wall socket. Wait approximately 1 minute for the router to start up.
- 3 Open a web browser (such as Google Chrome or Mozilla Firefox), type following address into the address bar and press **Enter**.
<https://192.168.1.1>
- 4 The **Log in** page is displayed:



NetCommWireless | Status | Networking | Services | System | Help

Log in

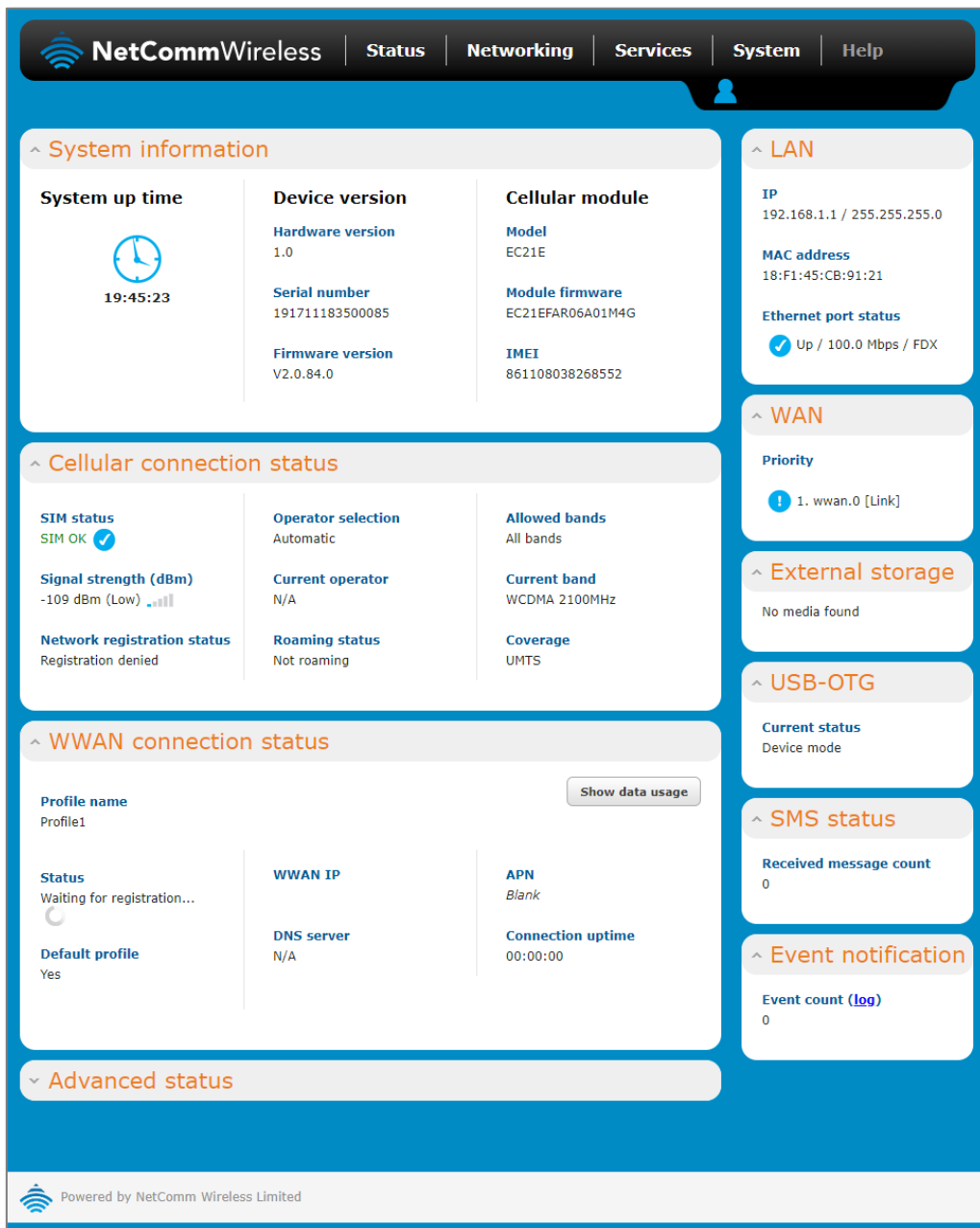
Username: root

Password: [Redacted]

Log in

- In the **Username** field, select **root** and enter the password for the device in the **Password** field, then click the **Log in** button.

The **Status** page is displayed.



NetCommWireless | Status | Networking | Services | System | Help

System information

System up time	Device version	Cellular module
19:45:23	Hardware version: 1.0 Serial number: 191711183500085 Firmware version: V2.0.84.0	Model: EC21E Module firmware: EC21EFAR06A01M4G IMEI: 861108038268552

Cellular connection status

SIM status	Operator selection	Allowed bands
SIM OK	Automatic	All bands
Signal strength (dBm): -109 dBm (Low)	Current operator: N/A	Current band: WCDMA 2100MHz
Network registration status: Registration denied	Roaming status: Not roaming	Coverage: UMTS

WWAN connection status

Profile name: Profile1

Status: Waiting for registration...

Default profile: Yes

WWAN IP: [Blank]

DNS server: N/A

APN: [Blank]

Connection uptime: 00:00:00

Advanced status

LAN

IP: 192.168.1.1 / 255.255.255.0

MAC address: 18:F1:45:CB:91:21

Ethernet port status: Up / 100.0 Mbps / FDX

WAN

Priority: 1. wwan.0 [Link]

External storage

No media found

USB-OTG

Current status: Device mode

SMS status

Received message count: 0

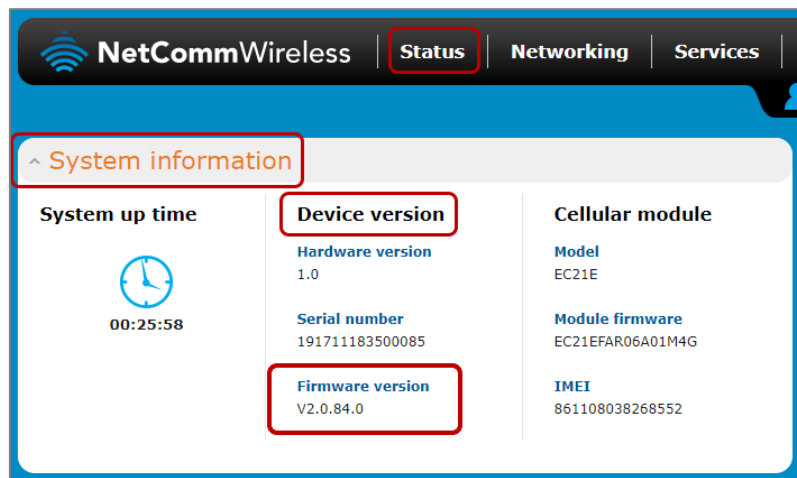
Event notification

Event count (log): 0

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Check and download most recent firmware

- 1 When the **Status** page is displayed, go to the **System information** section and note the **Firmware version** in the **Device version** section:



- 2 Open a new tab in your browser and go to the NetComm support website page for the NTC-220 Series:
<https://support.netcommwireless.com/product/ntc-220-series>
- 3 Choose your model from the page and select it to open its support information page
- 4 Click its **Firmware** link to jump to details of the latest firmware release.

FIRMWARE				
<p>In order to provide the best possible user experience, please update your device to the latest firmware release. Please note that NetComm supports the last two official firmware releases only. If you have upgraded your device and are still experiencing difficulties, please contact us.</p>				
NAME	FILE SIZE	LAST MODIFIED	RELEASE NOTES	
NTC-225 Firmware Version	47.5 MB	29/04/2019	View	Download Link

- 5 If the Firmware version on the NetComm support site is more recent than that shown on the router's **Status** page (refer to step 1, above), click the **Download Link** and the following .zip file will be downloaded into your browser's download folder:

NTC-220_Firmware_Vx.x.xx.x.zip

- 6 Unzip the folder and extract the file in the **ntc_220_x.x.xx.x.cdi** format to a safe location.



Important – Do not change the file extension (.cdi) of the router firmware files as this can cause the firmware upgrade process to fail.

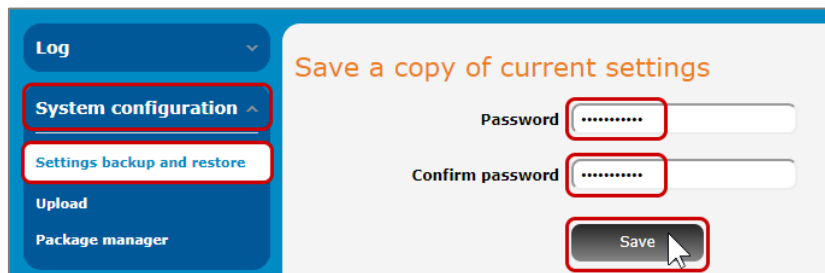
Back up current settings (optional)

NTC-220 Series routers and their firmware upgrade files are designed to retain your existing settings throughout the upgrade process. Strictly speaking, you do not need to back up your current settings prior to the firmware upgrade.

However, it is recommended that you back up your settings on a regular basis in case of damage to the router or an unexpected interruption during the firmware upgrade process.

To make a backup of your current router configuration do the following.

- 1 Log in to the router web user interface and select **System** from the menu at the top of the screen.
- 2 From the **System** menu on the left, select **System Configuration** and then **Settings backup and restore** from its submenu.



- 3 If you want the backup file to be encrypted, enter a **Password** and then enter it again in the **Confirm password** field. Leave the two password fields empty if you do not require an encrypted backup file.
- 4 Click the **Save** button to begin downloading the backup file.
- 5 A warning advising not to change the file extension will appear, click the **OK** button to download the configuration backup file.
- 6 The backup file in the following format will be saved in your browser's designated download folder:

ntc_220_XXXX.cfg.tar.gz



Note – We recommend that you save this backup file to a secure location.

Do not change the file extension of the router firmware files as this can cause the firmware upgrade process to fail.



Important – Do not change the file extension of the router firmware files as this can cause the firmware upgrade process to fail.

Install 'Check UBoot variable' IPK

If the existing firmware on your device is on version 2.0.99.0 or earlier, you must install the **ntc-check-uboot-variable_1.0_arm.ipk-signed.ipk** file before upgrading the router firmware. This file is included in the zip archive of the updated firmware.

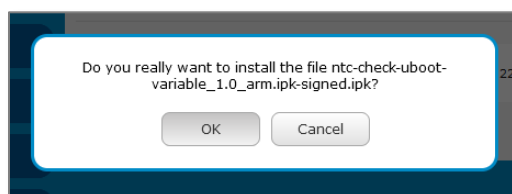
To install the IPK, perform the following.

- 1 Navigate to **System > System configuration > Upload**
- 2 Click on the **Choose a file** button and locate the IPK file on your computer. Click on the **Open** button.
- 3 Click on the **Upload** button.

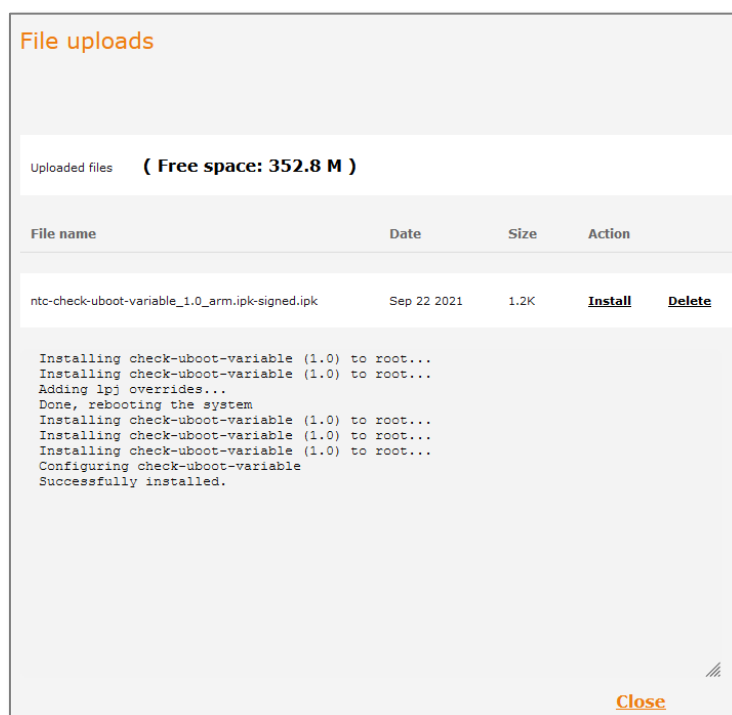


The IPK is displayed in the uploaded file list.

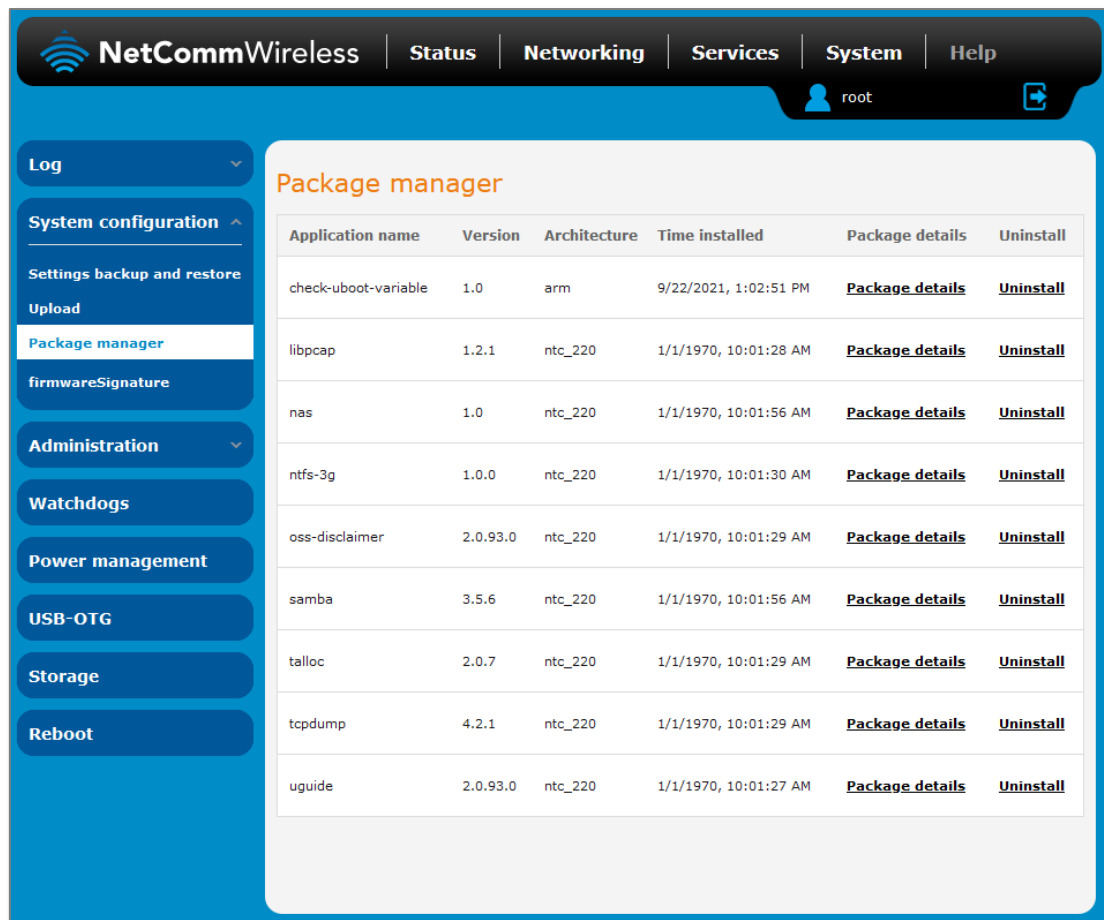
- Click on the [Install](#) link next to the file. A confirmation message is displayed.



- Click on the **OK** button. The IPK is installed.



- 6 Navigate to **System > System configuration > Package manager** to confirm that the 'check-uboot-variable' package is installed.



Install the new firmware

The router uses a single combined image which contains both recovery and main images.

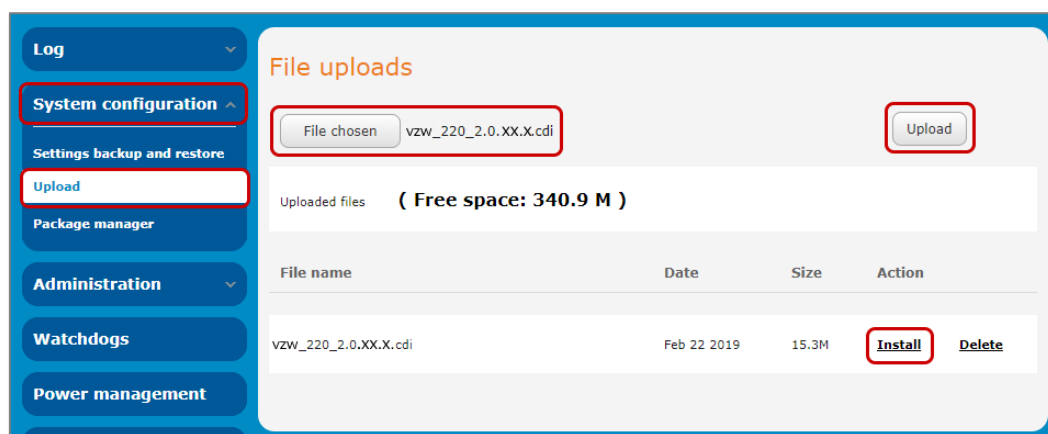
The firmware upgrade file includes a script which performs checks to determine which components require updating and performs all the updates automatically.



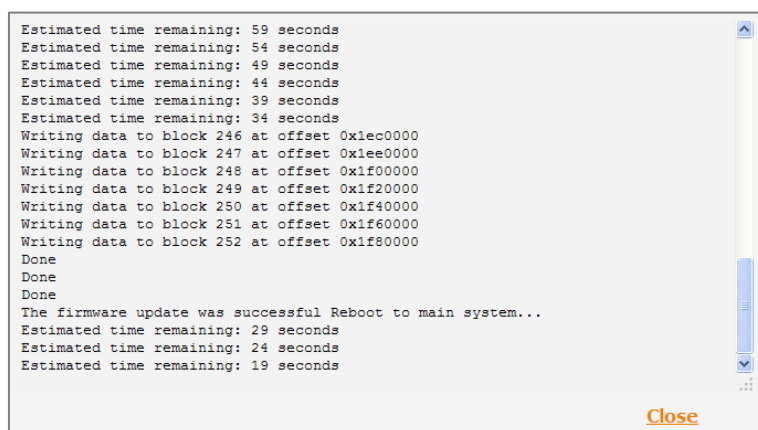
Note – To install firmware which has not been signed, you must first navigate to **System > System configuration > Firmware signature** and toggle the **Enable firmware signature check** option off.

To install the firmware upgrade, do the following.

- 1 Log in to the web user interface and select **System** from the menu at the top of the screen.
- 2 From the **System** menu on the left, select **System Configuration** and then **Upload** from its submenu.



- 3 Click the **Choose a file** button and select the **ntc_220_x.x.xx.x.cdi** file that you had previously downloaded from the NetComm support website, refer to steps 5 and 6 of the *Check and download most recent firmware* section of this guide, above.
- 4 Once chosen, the filename will appear after the **File Chosen** button
- 5 When the new file appears in the **File name** list, click its **Install** link to install the new firmware on to the router.
- 6 You will be asked to confirm that you want to install the selected file. Click the **OK** button to proceed.
- 7 The LED lights on the front of the router will begin to flash and the progress details will be displayed in the bottom area of the **File uploads** page:



Important – Do not remove the power when the router's LEDs are flashing as this is when the firmware update is in process.

- 8 The installation is complete when the countdown reaches zero. The router automatically reboots into the main system.
- 9 Log in and check that you can access the router's web interface.



Note – Your login password should be the same one that you had defined prior to the firmware upgrade.

- 10 Go to the **Status** page and check in the **System information** section that the **Firmware version** has changed.
- The firmware upgrade is complete.

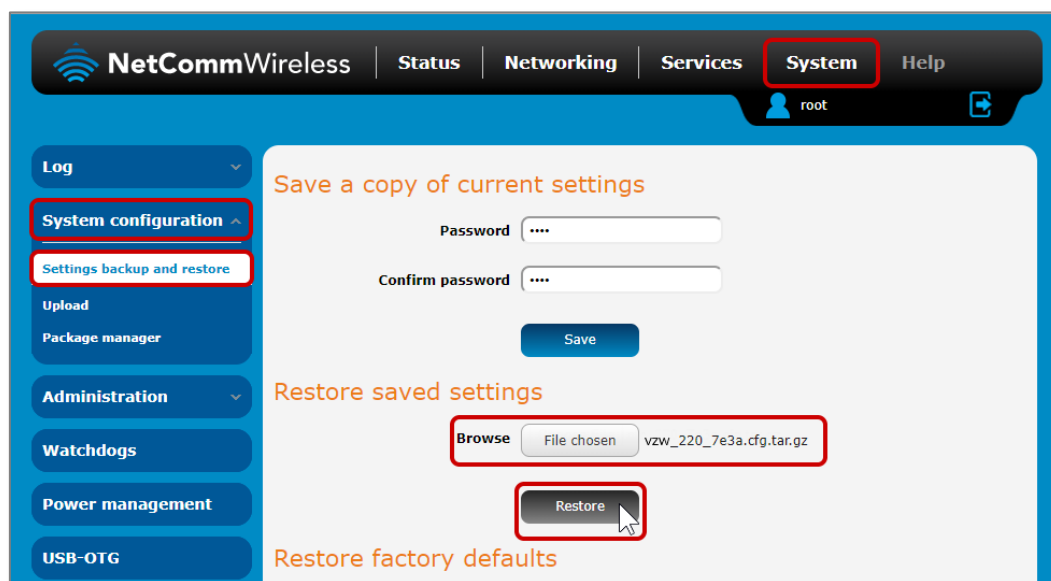
Restore your settings (optional)

This section provides you with instructions to restore the saved configuration.

As mentioned in the *Back up current settings* section, NTC-220 Series routers and their firmware upgrade files are designed to retain your existing settings throughout the upgrade process. Unless something unusual happened during the firmware update process, for example a power failure during the process, all your previous settings, including your login password, will be preserved.

To restore your previously saved configuration (refer to the *Back up current settings* section, above) do the following

- 1 Log in to the router's web user interface and select **System** from the menu at the top of the screen.
- 2 From the **System** menu on the left, select **System Configuration** and then **Settings backup and restore** from its submenu.

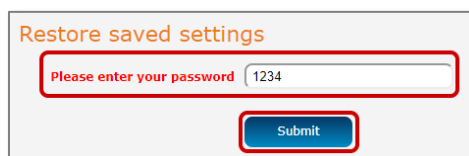


- 3 From the **Restore saved settings** section click the **Choose a file** button.
- 4 Navigate to the location of the backup file in that you had previously created. It will be in the following file format:
ntc_220_XXXX.cfg.tar.gz
- 5 Select the file and click the **Open** button.

The button in the **Restore saved settings** will change to read **File Chosen** and the filename of the backup file will appear to the left of the button.

- 6 Click the **Restore** button to begin the settings restoration process.

Note – If when you made the backup file you had elected to make an encrypted file with a password, you will be prompted to enter the password:



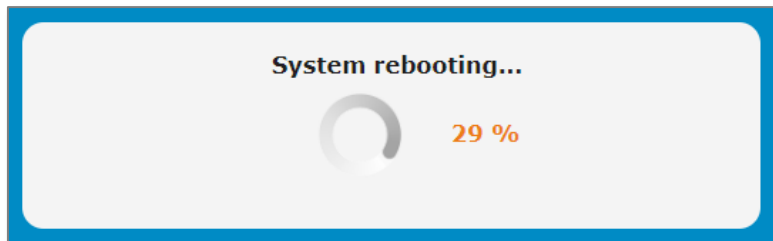
- 7 Enter the backup file's password and click the **Submit** button to continue with the settings restoration process.
- 8 Once the file has been uploaded and validated, you will be advised that it was successful and that the system will now reboot:

Configuration successful. The router will now reboot.

OK

Click the **OK** button to proceed with the reboot.

- 9 During the rebooting process, a progress indicator displays.



- 10 When the reboot is complete you will be returned to the login page.

Confirm firmware upgrade

- 1 In the **Username** field, select **root** and enter the password for the device in the **Password** field, then click the **Log in** button.
- 2 The **Status** page will display. go to the **System information** section and note the **Firmware version** in the **Device version** section:

