Introduction The *BlueCore Device Firmware Upgrade (DFU) Wizard* enables you to upgrade the firmware of a Cambridge Silicon Radio BlueCore module connected to your computer via USB or a COM port. It will take you through the following steps:

- Upgrade the Firmware of your BlueCore Module
- Connection Type
- <u>USB Device Selection</u>
- COM Port Selection
- <u>Upgrade Action</u>
- <u>Upgrade File</u>
- Ready To Upgrade
- <u>Upgrade In Progress</u>
- Results

Use the above links or click Help on each page of the wizard to display information relevant to that page.

There is also a **Command Line Interface**.

Command Line Interface

The wizard accepts the following command line options:

/upload

Perform an upload followed by a download.

/download [file]

Perform a download of the specified file. An upload will be performed first if either /upload is also specified or an upload has not been performed previously.

/restore

Restore the previously uploaded file. This option is ignored if /upload or /download has also been specified, or if an upload has not been performed previously.

/serial [port]

Use a COM port connection.

/usb [device]

Use a USB connection.

/auto

Automatically step through the pages of the wizard as far as possible. Unless /exit is also specified this will stop before actually starting the upgrade to enable the user to verify the selected options.

/exit

Exit automatically if the upgrade was successful.

/noabort

Disable the Abort button during the upgrade.

These options should be considered as hints to the wizard; they can be overridden by the user, and are subject to the usual constraints such as always performing an upload before a download.

Upgrade the Firmware of your BlueCore Module

The BlueCore Device Firmware Upgrade Wizard enables you to upgrade the firmware of a Cambridge Silicon Radio BlueCore module connected to your computer via USB or a COM port.

The first page of the wizard explains its purpose and summarizes the information that you will need to provide to complete the upgrade.

The version number of the wizard is displayed in the bottom right-hand corner of the window; this information must be supplied to Cambridge Silicon Radio Limited in any communication about this wizard.

When you are ready, click on the Next > button to progress to the next page. You can click on the < Back button at any stage to check your options or make any changes.

Next: Connection Type

Connection Type

The first item of information required by the wizard is the type of connection between the BlueCore module and your computer. Two options are offered:

Universal Serial Bus (USB)

Select this option if the BlueCore module is connected via a USB interface, either directly to the computer or indirectly via a hub.

COM port (RS-232)

Select this option if the BlueCore module is connected to an RS-232 COM port, or serial port, on your computer.

Select the appropriate option and then click on the Next > button to progress to the next page.

Next: USB Device Selection

Previous: Upgrade the Firmware of your BlueCore Module

USB Device Selection

If you selected the Universal Serial Bus (USB) option then the wizard will display a list of all suitable USB devices that can be found. Each device will be listed with both its USB device number and, if available, the Bluetooth device address (BD_ADDR). This page is skipped if only a single suitable device could be found.

Select the device that you wish to upgrade and then click on the Next > button to progress to the next page.

If the device that you wish to upgrade is not displayed then ensure that it is properly connected, and close any other programs that may be using it. Then click on the < Back button followed by the Next > button to update the list of devices.

Next: <u>COM Port Selection</u> Previous: <u>Connection Type</u>

COM Port Selection

If you selected the COM port (RS-232) option then the wizard will display a list of all suitable COM ports that could be found.

This page also allows the baud rate and protocol (BCSP or H4) to be selected. Do not worry if these terms are unfamiliar to you; the wizard can usually determine these settings itself, so leave the Automatically detect communications settings option checked. Setting these options incorrectly will not result in any damage, but it will prevent the wizard from communicating with the device to be upgraded.

Select the COM port that you wish to use and then click on the Next > button to progress to the next page.

If the COM port that you wish to use is not displayed then ensure that the computer is properly configured, and close any other programs that may be using it. Then click on the < Back button followed by the Next > button to update the list of ports.

Next: <u>Upgrade Action</u>

Previous: <u>USB Device Selection</u>

Upgrade Action

The wizard is usually used to upgrade the firmware of a BlueCore module to a later version. However, to guard against the possibility of the new version not operating correctly, the wizard also provides the option to revert to an earlier version of software.

Three options are offered:

Download a new version of the firmware, saving a copy of the current version first.

The wizard will save a copy of the existing firmware in the BlueCore module, and then the new version will be downloaded. This is the normal option to use.

Download a new version of the firmware, without first saving a copy of the current version.

The wizard will overwrite the existing firmware in the BlueCore module without saving a copy first. This operation is irreversible; only use it if the BlueCore module does not contain a version of firmware that you may wish to restore.

Restore the previous version of the firmware.

The wizard will overwrite the existing firmware in the BlueCore module with the version saved during the most recent upgrade. Use this option if problems have been encountered after performing an upgrade.

The wizard is not supplied with a saved copy of the firmware. Hence, until an upgrade has been successfully completed, only the first option will be selectable.

Select the appropriate option and then click on the Next > button to progress to the next page.

Next: <u>Upgrade File</u>

Previous: **COM Port Selection**

Upgrade File

If you have chosen to download a new version of firmware to the BlueCore module then the wizard will request that you select the file to download. New versions of firmware will usually be contained in files with a .DFU extension (Device Firmware Upgrade file).

Click on the Browse... button to open a file open dialog box, select the required file and then click on the Next > button to progress to the next page.

Be careful to check that the file is suitable for your particular BlueCore module before starting an upgrade.

Next: <u>Ready to Upgrade</u> Previous: <u>Upgrade Action</u>

Ready to Upgrade

After the wizard has obtained all of the information required to perform the upgrade it will display a summary of the selected options.

Carefully check that the options are correct. If you want to make any changes then click on the < Back button, otherwise click on the Next > button to start the upgrade. This is the last opportunity to make any changes.

Next: <u>Upgrade in Progress</u> Previous: <u>Upgrade File</u>

Upgrade in Progress

The wizard displays two progress bars to illustrate the status of the upgrade. The top bar shows the fraction of the complete upgrade procedure that has been completed. The lower bar shows the fraction of the current operation that has been completed.

Wait for the upgrade to complete.

If you wish to stop the upgrade then click on the Abort button. However, this should only be used as a last resort – it may leave the BlueCore module in a non-operational state.

Next: Results

Previous: Ready to Upgrade

Results

After the upgrade has been completed the wizard will display a summary of the actions performed, and whether it was successful.

If problems were encountered then follow the advice given to complete the upgrade successfully.

Previous: <u>Upgrade in Progress</u>