



AN02019: Using Device Firmware Upgrade (DFU) in USB Audio (README)

Publication Date: 2024/12/13

Document Number: XM-015226-AN v1.0.0

IN THIS DOCUMENT

1	Overview	1
2	Key features	2
3	Known issues	2
4	Required tools	2
5	Required libraries (dependencies)	2
6	Related notes	2
7	Support	2

vendor

XMOS

version

1.0.0

scope

General Use

description

DFU in USB Audio applications

category

Audio

keywords

USB Audio, USB, DFU, Boot, Flash

hardware

XK-AUDIO-316-MC

1 Overview

This application note describes the Device Firmware Upgrade (DFU) process for a XMOS USB Audio reference applications.

The DFU implementation in these applications is compliant with version 1.1 of the [Universal Serial Bus Device Class Specification for Device Firmware Upgrade](#).

The information in this note relates to all applications in the USB Audio reference design download (`sw_usb_audio`). However, for convenience and demonstration, this note also includes a DFU capable USB audio applications for the *XK-AUDIO-316-MC* board.

On building, two applications binaries are produced: A factory image that the device should be flashed with initially and an upgrade image that is used for demonstrating the DFU operation. The factory and upgrade images differ in their `bcdDevice` version. This allows the user to quickly verify the success of the upgrade process by checking the `bcdVersion` number of the device enumerated post upgrade.



2 Key features

- ▶ Description of preparing factory and upgrade images
- ▶ Description of DFU via: * Thesycon TL-USBDFU * A small custom DFU codebase (*xmosdfu*) * *dfu-util*

3 Known issues

- ▶ None

4 Required tools

- ▶ XMOS XTC Tools: 15.3.0

5 Required libraries (dependencies)

- ▶ [lib_adat](#)
- ▶ [lib_board_support](#)
- ▶ [lib_dsp](#)
- ▶ [lib_i2c](#)
- ▶ [lib_locks](#)
- ▶ [lib_logging](#)
- ▶ [lib_mic_array](#)
- ▶ [lib_spdif](#)
- ▶ [lib_sw_pll](#)
- ▶ [lib_xassert](#)
- ▶ [lib_xua](#)
- ▶ [lib_xud](#)

6 Related notes

- ▶ None

7 Support

This package is supported by XMOS Ltd. Issues can be raised against the software at <http://www.xmos.com/support>



Copyright © 2024, All Rights Reserved.

Xmos Ltd. is the owner or licensee of this design, code, or Information (collectively, the "Information") and is providing it to you "AS IS" with no warranty of any kind, express or implied and shall have no liability in relation to its use. Xmos Ltd. makes no representation that the Information, or any particular implementation thereof, is or will be free from any claims of infringement and again, shall have no liability in relation to any such claims.

XMOS, xCore, xcore.ai, and the XMOS logo are registered trademarks of XMOS Ltd in the United Kingdom and other countries and may not be used without written permission. Company and product names mentioned in this document are the trademarks or registered trademarks of their respective owners.

