
USB HID Class

This application note shows how to create a USB device compliant to the standard USB Human Interface Device (HID) class on an XMOS multicore microcontroller.

The code associated with this application note provides an example of using the XMOS USB Device Library and associated USB class descriptors to provide a framework for the creation of a USB HID.

The HID uses XMOS libraries to provide a simple mouse example running over high speed USB. The code used in the application note creates a device which supports the standard requests associated with this class of USB devices.

The application operates as a simple mouse which when running moves the mouse pointer on the host machine. This demonstrates the simple way in which PC peripheral devices can easily be deployed using an xCORE device.

Note: This application note provides a standard USB HID class device and as a result does not require drivers to run on Windows, Mac or Linux.

Required tools and libraries

- xTIMEcomposer Tools - Version 13.0 or later
- XMOS USB library - Version 1.3.2rc0 or later

Required hardware

This application note is designed to run on an XMOS xCORE-USB series device.

The example code provided with the application has been implemented and tested on the xCORE-USB sliceKIT (XK-SK-U16-ST) but there is no dependency on this board and it can be modified to run on any development board which uses an xCORE-USB series device.

Prerequisites

- This document assumes familiarity with the XMOS xCORE architecture, the Universal Serial Bus 2.0 Specification (and related specifications, the XMOS tool chain and the xC language. Documentation related to these aspects which are not specific to this application note are linked to in the references appendix.
- For descriptions of XMOS related terms found in this document please see the XMOS Glossary¹.
- For the full API listing of the XMOS USB Device (XUD) Library please see the document XMOS USB Device (XUD) Library².
- For information on designing USB devices using the XUD library please see the XMOS USB Device Design Guide for reference³.

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