EZ-USB™ SX3 Configuration Utility Release Notes

About this document

Scope and purpose

Thank you for your interest in EZ-USB™ SX3 Configuration Utility 1.1. This document lists the installation requirements and describes the software updates and changes.

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1 Release contents

1.1 System requirements and recommendations

Hardware/Operating system requirements	Minimum	Recommended
Processor speed	1 GHz	2 GHz
RAM	1 GB	2 GB
Free hard drive space	200 MB	1 GB
Screen resolution	1024 x 768	1920x 1080
USB	High Speed	3.0 SuperSpeed
Windows 10 (64-bit)		✓
Ubuntu 20.04 (64-bit)		✓
macOS Big Sur (64-bit)		✓

Note: The EZ-USB™ SX3 Configuration Utility may work on earlier versions of Windows, Linux, and macOS, but is not tested on those versions.

Software prerequisites	Minimum	Recommended
Adobe Reader (or any .pdf reader)	-	-
Cyusb3 driver	1.2.3.20	1.2.3.33
libusb	1.0.16	1.0.24

The EZ-USB™ SX3 configuration tool uses the cyusb3 driver in Windows and the libusb driver in macOS and Linux to program the connected SX3 devices. The cyusb3 drivers for Windows are packaged along with the SX3 configuration utility and are available in the driver folder at the chosen installation path.

1.2 Release components

The EZ-USB™ SX3 configuration utility package includes the configuration utility and SX3 firmware images corresponding to these SX3 part numbers: CYUSB3015, CYUSB3016, and CYUSB3017. The configurations supported in EZ-USB™ SX3 are USB Video Class (UVC) only, USB Audio Class (UAC) only, UVC+UAC, and Vendor-class FIFO bridge.

Example configurations are also available as templates with the installer for each of the above configurations. The FPGA source code projects used to generate bit files for these example configurations are part of the **AN231295 - Getting Started with EZ-USB SX3** application note.

Note: The FPGA projects are provided only as example implementations for demonstrating EZ-USB™ SX3 features on the EZ-USB™ SX3 HDMI-USB3 reference design kit.

2 Tool Information

2.1 Installation

Download and install the latest version of the EZ-USB™ SX3 configuration utility installer from **https://www.infineon.com/cms/en/design-support/tools/configuration/usb-ez-usb-sx3-configuration-utility**.

By default, the utility is installed under the `C:\Program Files(x86) \Cypress\EZ-USB SX3 Configuration Utility` folder in Windows.

2.2 Supported kits and devices

This version of the EZ-USB SX3 Configuration Utility has been tested on the following kits:

- EZ-USB SX3 HDMI-USB3 Reference Design Kit
- EZ-USB SX3 Explorer Kit

2.3 Features

2.3.1 Firmware features

- Support for USB – SuperSpeed and High-Speed device operation.
- Tested with Intel xHCI host controllers on Windows 10, Linux, and macOS 64-bit systems.
- Supports UVC, UAC, UVC+UAC, and Vendor class device configurations.
- Supports FPGA configuration update for Lattice ECP5, Lattice Crosslink, Xilinx Artix-7, and Intel FPGAs.
- Supports configuring FIFO interface as standard Slave FIFO interface or image sensor parallel interface.
- Supports data traffic pass-through between USB host and FIFO interface at USB 2.0 and 3.0 speeds.
- Supports generic HDMI event handling and ITE6801 HDMI receiver.
- Supports debug through CDC interface.
- Supports I^2C (master mode only) for configuration and data communication.
- Supports SPI (master mode only) for configuration and data communication.
- Supports firmware upgrade through HID interface.
- Supports configurable GPIO access

2.3.2 Configuration utility features

- Supported on Windows, Linux, and macOS
- Supports configuration of SX3-UVC (CYUSB3017) and SX3-Data (CYUSB3015 and CYUSB3016) variants
- Supports generation of new configuration and importing of existing configurations
- Creates a single merged file with the SX3 device configuration, FIFO Master (FPGA/ISP) configuration, and video source (image sensor/ HDMI receiver) configuration
- Supports programming of the SX3 device with the generated configuration file
- Supports import and export of generated device configurations
- Provides integrated help content for each configuration parameter in the Help tab

2.4 Limitations

2.4.1 EZ-USB™ SX3 firmware 1.0 limitations

- In the UVC-HDMI generic configuration, video streaming resolution at the USB side should be manually selected when the HDMI source resolution changes. Automatic resolution detection at USB side is currently not supported. This feature is supported only in HDMI RX – IT6801 configurations.
- All camera control and processing unit requests are passed over to the FIFO Master as I2C writes. ROI and Window Control camera controls are not tested.

2.4.2 EZ-USB™ SX3 configuration utility 1.0 limitations

- Program utility does not auto-detect the connected SX3 devices and needs a manual re-scan.
- Program utility does not support programming if multiple bootloader devices are detected
- Multiple instances of SX3 configuration utility is not supported

2.5 Changes from EZ-USB™ SX3 Configuration Utility release 1.0 build 3 to 1.1 build 1

2.5.1 EZ-USB™ SX3 firmware 1.0 to 1.1 changes

- Added debug messages for FIFO overrun and underrun errors
- Added debug messages for each received UVC frame (visible only from debug level 4 and above)
- Added support for 32 KHz and 64 KHz audio sampling frequencies for USB Audio Class devices

2.5.2 EZ-USB™ SX3 configuration utility 1.0 to 1.1 changes

- Added support for 32 KHz and 64 KHz audio sampling frequencies for USB Audio Class devices
- Added support to view and edit the comma-separated source configuration parameters
- The file browser for the import and export configuration option opens at the last-used user directory

2.6 Documentation

The Help Menu of the utility has the link to the user guide in PDF format.

2.7 Technical support

For assistance, create a post in the **Infineon Developer Community.**

2.8 Additional information

For more information on EZ-USB™ SX3, visit the **web page**.

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