

OXU311x Series Highlights

- **OXU3111 Vitals**
 - SuperSpeed USB 3.0 device to SATA host controller with AES encryption
 - Integrated cipher engine supporting 128- and 256-bit AES-XTS and AES-EBC
 - UAS/UASP (USB attached SCSI protocol) support
 - SPI interface for serial flash
 - Secondary SPI for simple interface to external system components
 - 6 x 6mm², 48-pin QFN package

- **OXU3110 Vitals**
 - SuperSpeed USB 3.0 device to SATA host controller
 - Integrated program ROM supporting
 - BOT (Bulk only Transport)
 - USB Mass Storage Class
 - ATA Pass Through
 - SATA hot-plug
 - Auto-power
 - USB Link Speed and Disk Activity LEDs
 - VID & PID stored on HDD
 - Optional serial flash interface to support additional functionality & features
 - UAS/UASP support
 - Additional GPIOs with PWM support
 - 6 x 6mm², 48-pin QFN package

- **OXU311x Key Features**
 - **Standards Compliant**
 - USB 3.0 Spec, r1.0
 - Serial ATA Spec, r2.6
 - USB Mass Storage Class Spec, r1.3
 - USB Attached SCSI, r4.0
 - Microsoft DTM ready
 - **High Performance**
 - Industry leading performance
 - Support UAS when running from serial flash
 - Hardware accelerated data paths
 - Real-time encryption (3111 only)
 - **Advance Power Management**
 - SATA Interface Power Management
 - Supports USB 3.0 power states
 - Supports USB 2.0 Suspend & LPM
 - Auto-power
 - **Integrated 8051 CPU**



Application: **Hard Drive Docking Station**

PLX Products: **OXU311x Series – SuperSpeed USB 3.0 to SATA Controllers**

Key Benefit: **Simple, Fast Access to Bare Hard Disk Drives**

Do you have an old internal hard disk drive lying around, after a system upgrade? No idea what is stored on it or where to use it? Are you a system administrator who needs to install multiple hard drives? Looking for a good solution to easily connect and use your bare hard disk drives?

Simple and efficient

Look no further than a hard drive docking station to give bare disk drives a new lease of life. Bridging between USB and SATA interfaces, a hard drive docking station turns any internal 2.5” and 3.5” SATA hard drive into an external drive, thus allowing access to the data on the drive without powering down the computer.

Simply plug the dock into your computer via USB and insert your hard disk and it instantly becomes available to you with no need to power-up the computer. The drive will just show up as an external USB device like any other external USB drive.

USB 3.0: The Interface for High Speed External Storage

Since the introduction of USB 2.0 more than 10 years ago, USB has become the interface of choice for consumers connecting external hard disk drives to computers due to its low cost and simple plug-and-play connectivity.

For many years USB 2.0 was fast enough for the average consumer, but with ever increasing demands placed on data transfers with high-definition video content, high megapixel count digital cameras, and terabyte storage devices, a new standard was required.

The answer is SuperSpeed USB 3.0 with a real-world maximum speed of 400MB/s is more than 2 times the speed of today’s best in class HDDs.

311x: Easiest Way to Upgrade to USB 3.0

The OXU311x series of SuperSpeed USB 3.0 to SATA controllers deliver very high data throughput and low power consumption. OXU311x offers a feature set that has been optimised for external storage applications such as Hard Drive Docking Stations.

Fully compliant with the USB 3.0 specification, the OXU311x controllers support a number of features to explicitly address the needs of hard drive docking.

SATA Hot-Plug

Hot-Plug (also known as Hot-Swap) is a feature of the SATA II specification and supports the removal of the storage media without powering down the SATA interface – a necessity for any Hard Drive Docking Station.

PLX supports this feature in the baseline firmware for both devices. The function is also available when running the OXU3110 firmware from the integrated program ROM. This reduces the need to use external serial flash to store device firmware and enabling designers to develop products with a very low BOM cost.

Power Management

Each controller offers the following power management features:

- Autopower
- SATA Interface Power Management (IPM)
- Support for all USB 3.0 power states
- Support for USB 2.0 standby / suspend

Autopower is a PLX proprietary feature where the power state of the external drive tracks and mimics host PC power state. The result is lower system power consumption and improved battery life for mobile platforms.

IPM is part of the SATA power management protocol and allows the Physical interfaces (PHYs) of both the controller and disk to be placed into reduced power modes – Partial or Slumber.

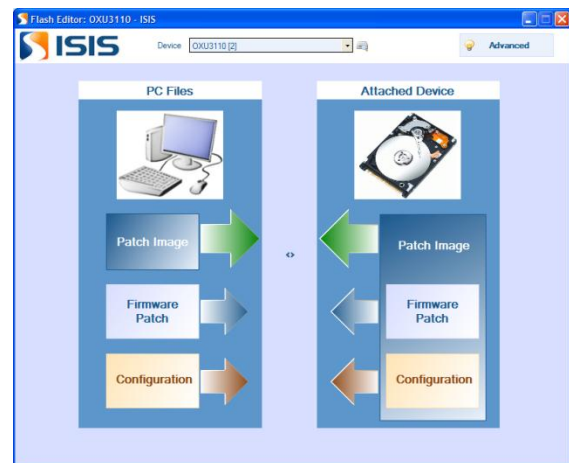
Both IPM & Autopower are supported in the baseline firmware and can be enabled or disabled via PLX's custom ISIS toolkit software to suit application requirements. In addition, IPM & Autopower functionality are also supported when running the OXU3110 firmware from the integrated program ROM.

Development Tools & Custom Solutions

PLX offers a comprehensive development & support package for the OXU311x series including:

Rapid Development Kits (RDK)

- Evaluation board with pre-built firmware application for product demo and evaluation
- Reference design schematics for reduced time-to-market
- Product documentation & application notes
- ISIS software toolkit for rapid device configuration, password verification and defining VIDs & PIDs



Software Development Kit (SDK)

- Full source code to facilitate product differentiation and customization
- Debug hardware
- Drivers, programming utilities and complete documentation

Additional PLX Advantages

- Superior consumer storage expertise
- Robust and market-proven storage system solutions
- Schematic and layout design reviews
- Signal integrity testing
- Regional support teams for fast time-to-market

Available on PLX Website:

Product Brief, Databook, Design-in Guidelines, Schematics, OrCAD symbols, Application Notes and more

- OXU3111 www.plxtech.com/3111
- OXU3110 www.plxtech.com/3110