USB2611 Sideload Accelerator

Fully-Integrated Hi-Speed USB 2.0 Sideload Accelerator Featuring MTP Boost Technology and Multimedia Synchronization Capabilities

Summary

Microchip's USB2611 Hi-Speed USB 2.0 Sideload Accelerator provides ultra-fast card reader download speeds for mobile phones and portable consumer electronics devices.

Synchronizing media between PCs and mobile devices can be very time consuming, especially with large file sizes driven by higher megapixel cameras and HD video content. The USB2611 provides a key differentiator for any mobile product by enabling enhanced data transfer speeds. Without the USB2611, current mobile platform architectures transfer data very slowly at approximately 1 MB/s. This translates to over 30 minutes for a single movie file. With Microchip's USB2611 Sideload Accelerator, the transfer time can be cut to less than one minute for the same movie file. The USB2611 provides an enhanced user experience via a USB 2.0 connection between the PC and the portable device by sideloading the data transfer task from the platform processor. This enables true USB 2.0 data transfer speeds limited only by media storage capabilities.

The USB2611 is available in an extremely small WLCSP package and is well-suited for mobile platform applications with ultra-low standby current. The USB2611 is targeted for any application where Hi-Speed USB data downloads are required and board space, power requirements and interface pins must be minimized. Microchip's complimentary and confidential USBCheck™ online design review service is available for customers who select the USB2611 for their application design-in.

Target Applications

- Mobile/smartphones/PDAs
- Digital still cameras
- Digital/Personal Video Recorders (DVRs/PVRs)
- Gaming consoles
- Portable Media Players (PMPs)
- GPS Personal Navigation Devices (PNDs)
- Ultra-Mobile PCs (UMPCs)
- USB connectivity cards
- Media players/viewers
- HDTVs
- Printers, scanners and external hard drives
- IP and video phones

Highlights

- Hi-Speed USB 2.0 and an ultra-fast Flash media controller (FMC) provide download speeds up to 35 MB/s
- Supports two virtual Logical Unit Numbers (LUNs) per media device
- Two memory card ports supporting the following media formats:
  - Memory Stick® (MS)
  - Secure Digital (SD™)
  - MultiMediaCard™ (MicroSD™, MMC and eMMC)
- Multimedia synchronization capabilities via MTP Boost
- Flexible multi-frequency reference clock supported: 19.2, 24, 26 and 52 MHz
- High level of integration minimizes eBOM part count and cost
  - Up to ±15 kV IEC air discharge ES protection without external devices
  - Flash media power FETs for each memory card port
  - Integrated 3.3V and 1.8V regulators
- Software loading and device programming via I^2C™ or SPI interfaces
- Extremely small, WLCSP, RoHS-compliant package

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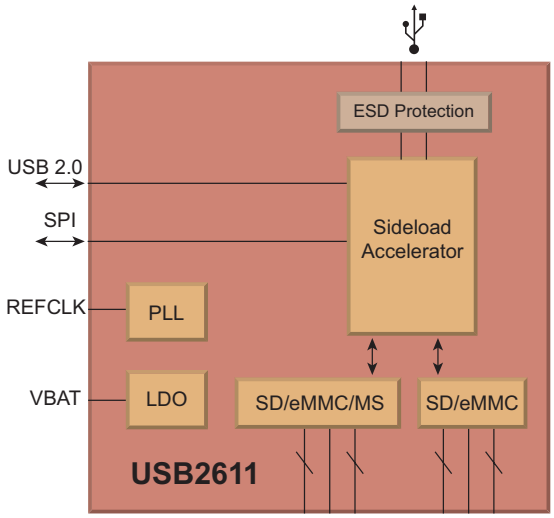
Key Features	Benefits
Sideload Accelerator	Provide Hi-Speed USB to memory card media transfers for mobile phones or other portable electronic devices
PHYBoost Technology	Programmable USB transceiver drive strength for recovering signal integrity due to compromised system environment
VariSense™ Technology	Programmable levels of USB signal receiver sensitivity allows operation in a sub-otimal system environment
USB-IF 1.1 Charger Detection	Integrated battery charger detection circuitry used to detect the attachment of a USB charger, determine its type and provide an interrupt output to the portable device
flexPWR® Technology	Low-current design well-suited for battery-powered applications
Integrated USB Switch and ESD Protection	Provide lower eBOM part count and smaller PCB footprint area
Flexible and Easy-to-Use Solution	Faster time-to-market and lower product development costs
Multiple Clock Input Frequencies Supported	Allows operation from the system clock, eliminating the need for an external crystal oscillator
Optimized Package Footprint (WLCSP)	Efficient PCB board space utilization

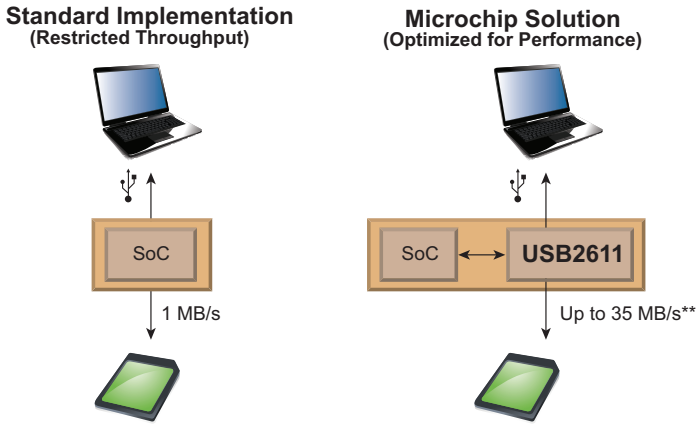
Microchip MTP Boost Benefits

- Well-suited for connecting portable devices to a Windows® PC
- Provides up to 20× speed enhancement in performance
- Enables swift synchronization of digital media content
- Offers driver and software support
- Digital Rights Management (DRM) compatible

USB2611 Block Diagram



USB2611 Sideload Accelerator Performance



*Data rate is card speed limited

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