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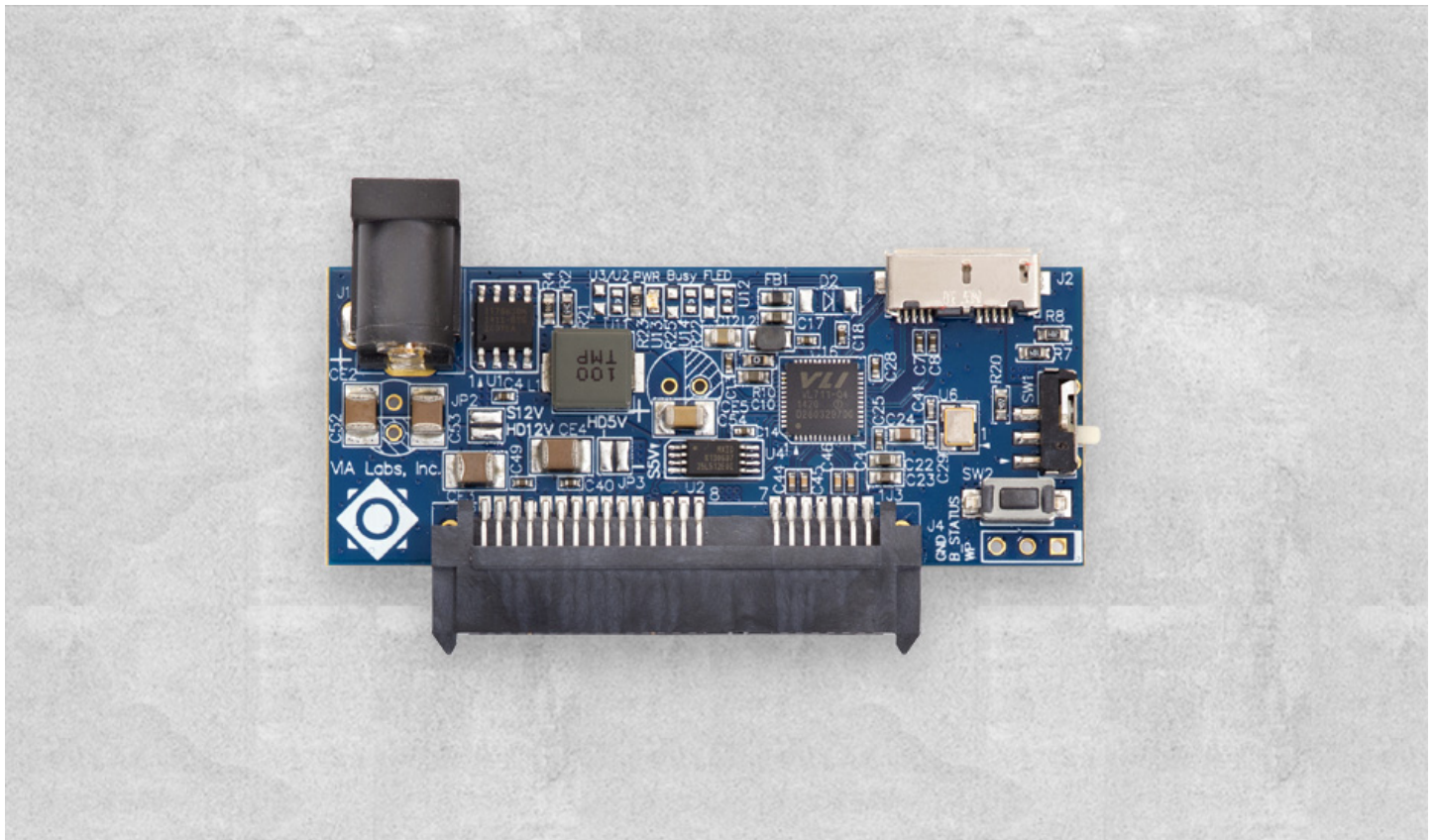
Enabling SuperSpeed USB and Beyond

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## Products

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### VL711 - Low Power Super Speed USB 3.0 to SATA 6Gb/s Bridge Controller

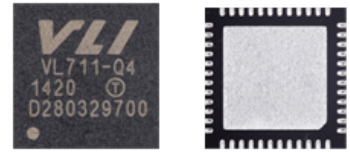


#### Description

VIA Lab' s VL711 is a high performance, low power single chip USB 3.0 to SATA  
[https://www.via-labs.com/product\\_show.php?id=44](https://www.via-labs.com/product_show.php?id=44)

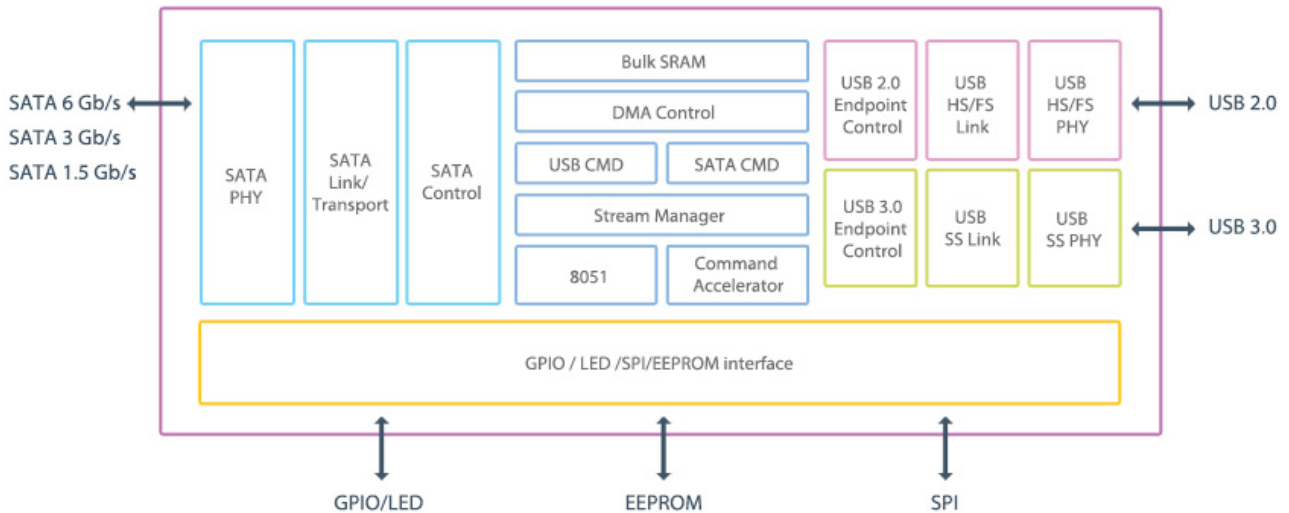


6Gb/s bridge controller designed for new generation external storage devices that connecting Hard Disk Drive (HDD), Solid-State Drive (SSD), and Optical Disc Drive (ODD). Its integrated in-house USB PHY enables VL711 to run in USB Super-Speed, High-Speed, and Full-Speed modes. Supporting USB mass storage class Bulk-Only Transport (BOT), VL711 based devices can work on Windows 8, Windows 7, Vista, XP, 2003/2000/ME, Mac OS X and various Linux kernels without additional driver. Besides Bulk-Only Transport, VL711 also support USB Attached SCSI Protocol (UASP) that allowing mass storage command queuing and out of order data transfers to further enhance read/write performance. Its integrated in-house SATA 6Gb/s host controller can work with all SATA based storage devices and can connect at SATA 6Gb/s, SATA 3Gb/s, or SATA 1.5Gb/s automatically.



Built-in all required linear and switching voltage regulators, highly integrated VL711 work perfectly with single power input from USB 5V bus power to save customer BOM cost. 7 GPIO pins are available for push button, operation LEDs, device power down control, and other special usage. The SPI interface can support external flash for firmware upgrades or additional software enhancements. VL711 is pin to pin compatible to its predecessor VL701 which can keep using the same PCB design.

**Block Diagram**



**Key Features**

- Super-Speed USB (5Gb/s) and High-Speed USB (480Mb/s)
  - Compliant to Universal Serial Bus 3.0 Specification Revision 1.0
  - Compliant to Universal Serial Bus Specification Revision 2.0
  - Mass Storage Class Bulk-Only Transport (BOT)
  - USB Attached SCSI Protocol (UASP) for streaming
  - Integrated in-house Super-Speed PHY and USB 2.0 PHY
- Serial ATA 6Gb/s, 3Gb/s and 1.5Gb/s
  - Compliant to Serial ATA Specification Revision 3.1
  - Integrated in-house SATA 6Gb/s PHY
  - RBC command conversion for ATA device
  - MMC-2 command pass-through to ATAPI
  - Supports 48-bit LBA
- Built-in Voltage Regulators
  - 5.0V to 3.3V LDO
  - 5.0V to 1.2V switching DC-DC
- GPIOs for Special Function Usage
  - 7 GPIOs in QFN48 and QFN44 for customer special usage
  - 2 dedicated BUSY/POWER LED indicators
- Misc
  - Supports device power down function
- Software
  - Supports external SPI flash for firmware upgrade
  - Supports EEPROM for customized PID/VID/SN...
  - Supports Microsoft Windows 8, Windows 7, Vista, XP, 2003, 2000, and ME
  - Supports Mac OS 10.X



- Supports multiple LUN
- Fast 8051 Macro cell 80C32-Compatible Microcontroller
- Standard 1T 8051 instruction set

- Supports various Linux kernels

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## Company

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VIA Labs, Inc., Taipei Headquarters

7F., No.529-1, Zhongzheng Rd., Xindian Dist., New Taipei City 231, Taiwan (R.O.C.)

TEL: 886-2-2218-1838 FAX: 886-2-2218-2553

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