

## **IS888 USB3.0 to SATA Storage Controller**

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### 1. General Description

This document provides technical information for IS888, a USB3.0 to SATA storage controller. IS888 is a single chip USB1.1/2.0/3.0 to SATA storage controller, which can bridge between host USB port and SATA I/II devices such as hard disk or ODD. With high performance embedded micro processor and hardware enhanced circuit design, IS888 can achieve high throughput with lower power consumption. The integrated USB3.0 transceiver is a field proven high efficiency transceiver to guarantee good compatibility with all existing USB host. The on chip USB and SATA transceivers can comply with Universal Serial Bus specification rev. 3.0 and Serial ATA specification rev. 2.6. IS888 also implements the full USB Mass Storage Class specification ver.1.0 Bulk only protocol, it can support Windows Vista/ XP/ 2000/ ME USB mass storage driver operation.

IS888 can also support HDD Lock function which provides a most easy way to protect the data content in HDD without performance suffer.

Integrated with high efficiency DC to DC converter, IS888 can achieve lowest power consumption compared with all existing USB to SATA bridge products which can meet the trend of Green-World product concept.

**With Innoston advanced in-house 128-bit data encryption/decryption mechanism, IS888 can provide hardware data protection by using 128bit security key to encrypt/decrypt all the data read/write in SATA devices. Thus provide a fully protected personal data storage solution**

With compact LQFP48/64 (7mmX7mm) package, the IS888 is the highest cost/performance solution for applications such as USB personal external hard drive, ODD, and hard disk enclosure.

# Innoston Technology Corporation

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### 2. Features

- Complies with USB 2.0 electrical specification
- Complies with USB 3.0 electrical specification
- Complies with Serial ATA II Gen1i/Gen1m Electrical Specification 2.6
- Support SuperSpeed USB (3.0) operation with data rate as high as 5Gbps
- Support SATA I/II operation which can support data rate up to 3Gbps
- Support SATA II Asynchronous Signal Recovery (Hot Plug) feature
- Support USB High-Speed and Full-Speed Operation (1.1/2.0) with data rate as high as 480Mbps
- Compliance with USB Mass Storage Class, Bulk-Only Transport Specification
- Support ATA/ATAPI command set
- Support ATA/ATAPI LBA48 addressing mode
- Support single 30MHz external crystal
- Support external I2C flash or EEPROM for Vender Specific VID/PID application.
- Support one button disk backup
- Operating system supported: Win Vista/Win XP /2000/Me; Mac OS 9.X / X.
- Support HDD Lock function
- Support firmware update through USB port with on board SPI flash
- Support low-power operation by implementing USB 3.0 U0-U3 power states, USB 2.0 suspend mode and SATA SLUMBER and PARTIAL power management control.
- **Support SATA pass-through mode operation**
- **Integrate 3.3V to 1.2V DC-DC converter which can reduce the total operation power consumption suitable for larger capacity of HDD or ODD.**
- **Support Green AP for various customer application**
- **Support data encryption/decryption by using Innoston in-house mechanism, which provide 128bit data protection.**
- **Optional Hardware support Innoston in house anti-virus ISAV.**
- LQFP 48/64 or QFN48 package
- 12 GPIO pins for customer application

### 3. Application

Portable HDD/ODD, external HDD enclosure, personal storage system.