



SPECIFICATION BRIEF

Audio & Control: SLIMbus[®], SoundWireSM

Overview

MIPI Alliance provides the Serial Low-power Inter-chip Media Bus (SLIMbus) and SoundWire, a pair of optimized interfaces with both complementary and unique features to integrate audio devices in a mobile or mobile-inspired system.

SLIMbus and SoundWire are designed to replace older legacy interface designs that present limitations to system designers, whether in terms of power, pin count, ease of integration and consistency of design from one system to another, or lack of scalability. Both can coexist in a system or with non-MIPI interfaces through bridging solutions.

SLIMbus (v1.1, March 2013)

The efforts of many audio codec, application processor, baseband, and other companies produced the first SLIMbus Specification in 2007, supporting a wide range of digital audio and control solutions to transport audio for larger-sized components in mobile terminals, such as the processor and modem.

Features

- Geared to transport audio for larger sized components in mobile terminals, such as the processor, audio codec and modem.
- Single data rate
- Fixed frame size
- Clock handover capabilities for low-power operation in specific use cases
- Unified messages
- Device-to-device communications

Target Applications

- Audio input and Output
- Control of Peripherals
- Low-bandwidth Data Transmission

Common Feature Highlights

- Two-wire, 1.2 or 1.8 V, time-division transport
- Embedded control and data channels to support audio, data and control applications.
- Support for multiple clocks, including natural audio clocks (24.576, 24, 19.2 MHz)
- Isochronous and asynchronous modes
- PCM format

FEATURES

SoundWire (v1.0, In Press)

More than 25 companies, from audio peripheral, electronic design automation, silicon vendors and OEMs, took part in developing MIPI SoundWire, currently scheduled for approval at the end of 2014. SoundWire can be implemented in small, very cost-sensitive audio peripherals such as amplifiers and microphones.

Features

- Double data-rate
- Configurable frame size to reduce protocol overhead
- Low complexity, low power, low latency
- Optional multilane extensions
- PDM format
- Multichannel data
- Lower gate count can be implemented in small, very cost-sensitive audio peripherals such as amplifiers and microphones.

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