Arasan
The Bus Stops Here

PRODUCT OVERVIEW

SD/SDIO/MMC4/CE-ATA Device

Hardware Validation Platform (HVP)

Features

- Meets SD Host Controller Specification v2.0
- Supports SDIO card Specification v2.0
- Supports SD Memory Card Security Specification v1.10
- Meets MMC Specification v3.31 and v4.2
- Meets CE-ATA Digital Protocol v1.1
- Supports CE-ATA Digital Protocol commands (CMD60/CMD61)
- Supports command completion disable
- Supports MMC Plus and MMC Mobile
- Card detection (insertion/removal)
- Password protection of cards
- Up to 50 MHz host clock rate
- Supports 1, 4 and 8-bit SD modes
- Supports DMA and Non-DMA modes
- Error Correction Code (ECC) support for MMC4.0 cards
- Supports card interrupt in 1 and 4-bit SD modes
- Up to 200 Mbit/s read/write with 4-bit parallel data lines
- Up to 416 Mbit/s read/write with 8-bit parallel data lines
- CRC7 for command and CRC16 for data integrity
- Supports I/O cards, read-only cards and read/write cards
- Supports read wait control, suspend/resume operations
- Supports multi block read and write
- Conforms to PCI local bus specification 2.2
- Supports PCI interrupts
- 33 MHz PCI clock

Overview

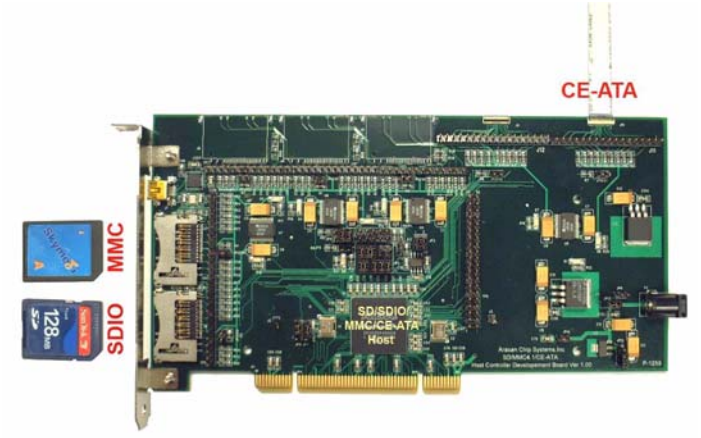
The Arasan SD/SDIO/MMC4/CE-ATA Device Hardware Validation Platform (HVP) is a SD host standard compliant reference tool for validation of SDIO on CE-ATA card. It consists of a 32-bit PCI plug-in board with an Arasan host controller that is fully compliant with SD host v2.0, SDIO v.2.0, MMC 3.31/4.1/4.2, and CE-ATA v1.1 specifications. Evaluation and validation of SDIO bus width, command sets, and other related functions can be performed throught the platform's SD, SDIO, MMC, or CE-ATA interfaces.

The HVP has five SD/SDIO/MMC slots that allow simultaneous support of multiple hosts and devices. Two low pin count (LPC) connectors are available for simultaneous attachment of CE-ATA devices. The board also provides test points that connect to the host controller, SD/SDIO/MMC slots, and CE-ATA slots for debugging, monitoring, or testing.

The Arasan SD/SDIO/MMC4/CE-ATA host controller provides programmed IO method and DMA data transfer method on the 33 MHz PCI bus. It also performs functions such as SDIO/SD protocol handling, data packing, cyclic redundancy checking, and transaction formatting. The controller supports 1, 2, and 4-bit SD modes. In SD mode, the maximum data rate is 200 Mbit/s on a 4-bit SD bus and 416 Mbit/s on a 8-bit parallel data.

The HVP supports both MMC Plus and MMC Mobile. Error correction code is supported for MMC4.2 cards. The CE-ATA interface combines the MMC interface with an optimized subset of ATA command set to address mobile handheld applications. Beside a comprehensive set of SD/SDIO/MMC drivers, the Arasan SD/SDIO/MMC4/CE-ATA DVP also includes a feature-rich CE-ATA driver stack. The Arasan SDIO nex CE-ATA stack provides an OS and hardware independent layer that allows simple and easy implementation of CE-ATA hardware on different operating systems.

SD/SDIO/MMC4/CE-ATA Device Hardware Validation Platform



Version 1.1

SD 2.0/SDIO 1.2 Compliant

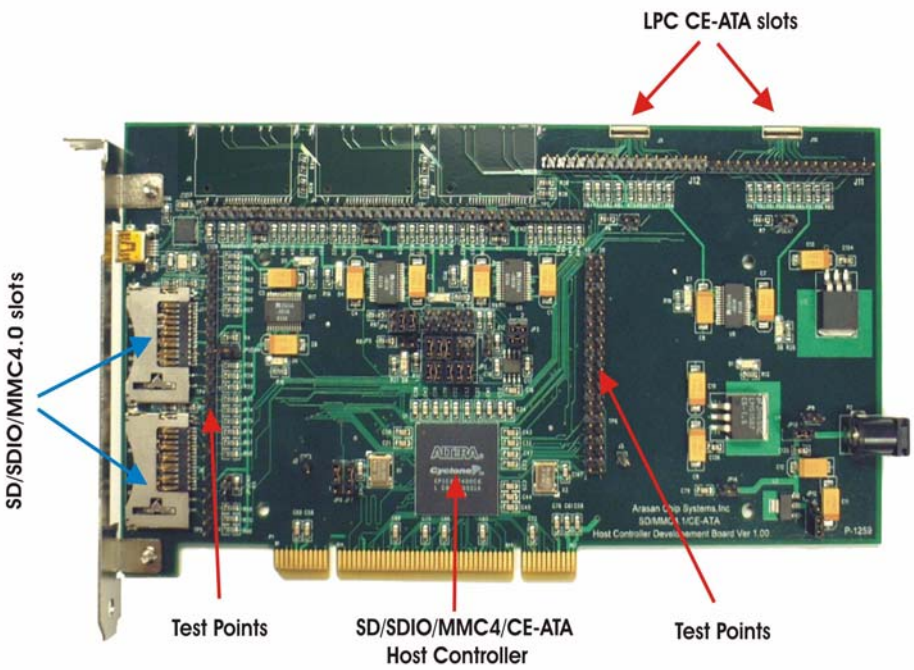
MMC 3.31/4.1/4.2 compliant

CE-ATA 1.1 compliant

SD/SDIO/MMC4/CE-ATA Device

Hardware Validation Platform (HVP)

SD/SDIO/MMC4/CE-ATA Device Hardware Validation Platform



Benefits:

- Premier direct support from Arasan IP core designers
- Commercial/industrial standard testbench development platforms
- Customer training available
- RoHS compliant

Deliverables:

Device Hardware Validation Platform

- Device hardware validation board
- Schematics
- Bill of material
- Hardware manual
- User guide

Device Drivers

- Linux 2.6, Fedora 7
- Drivers user guide

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Related Links:

SD/MMC4.1/CE-ATA Host IP Core:
http://www.arasan.com/products/mmc_overview.php

For a complete directory of Arasan IPs, please visit: www.arasan.com