iW-SDIO Slave Controller

iWave
Embedding Intelligence

Overview

iW-SDIO Slave controller acts as a bridge core of SDIO to UART or USB. It also facilitates the design of SDIO cards and reduces the development time. By using this IP core, customers no longer need to spend time on handling the SD bus protocol since such function is provided by the core.
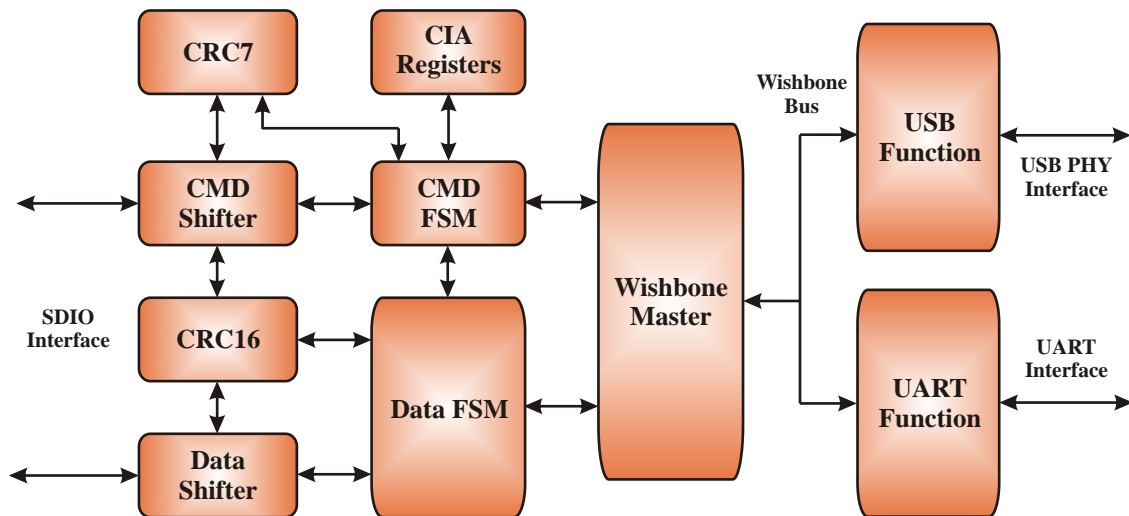
Features

✠ Compliant with SD Physical Specification Version 2.00 and SDIO Specification Version 2.00
✠ SPI, 1-bit and 4bit SD modes
✠ Supports SDIO Interrupt feature
✠ Supports all mandatory SDIO Commands/Response types
✠ SPI Mode   : CMD0, CMD5, CMD52, CMD53, CMD59
✠ SD Mode   : CMD0, CMD3, CMD5, CMD7, CMD52, CMD53
✠ CRC7 checking/generation for Command/Response
✠ CRC16 checking/generation for Data transfer
✠ Data Transfer in Multi Byte and Multi Block mode using CMD53
✠ 8 GPIO lines supported through Function0
✠ UART 16550 function features:
   ❖ Programmable baud generator divides any input clock by 1 to (216 - 1) and generates the 16x clock
   ❖ Hardware Handshaking signals (CTS, RTS)
   ❖ 5, 6, 7, or 8-bit characters
   ❖ Even, odd, or no-parity bit generation and detection
   ❖ 1, 1/2, or 2-stop bit generation
   ❖ Baud generation (DC to 1.5M baud)
   ❖ Line break generation and detection
   ❖ Independently controlled transmit, receive, line status, and data set interrupts
✠ USB 1.1 Host function features:
   ❖ Full speed (12Mbps) and low speed (1.5Mbps) operation
   ❖ Four types of USB data transfer; control, bulk, interrupt, and isochronous transfers
   ❖ Host can automatically generate SOF packets
   ❖ Supports interface to external PHY such as Fairchild USB1T11A

Core Applications

✠   Helps in designing in SDIO cards
✠   Can be used as a bridge core of SDIO to UART or USB

Block Diagram

Deliverables

✠ Technical Specification
✠ RTL Verilog Synthesizable Code
✠ Comprehensive Test Environment
✠ Technical Support and Maintenance

About Us

*i*Wave Systems Technologies is an embedded Hardware and Software Turnkey Design Services company, focused on providing integrated solutions for developing innovative products and systems in the areas of Communication, Consumer electronics and Multimedia. iWave offers complete turnkey solutions for systems engineering and product development.

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