AHB Channel

IP Core

IPC-AHBChannel-AHB

FEATURES

- AMBA® 2.0 Compatible
- Simple AHB Infrastructure for up to 7 AHB Slaves
- Multiple Masters can be easily accommodated using AHB Arbiter
- Includes Address Decoding
- Includes Read Data Muxing
- Remap to assist boot loading and debug

LICENSED IP PACKAGE INCLUDES

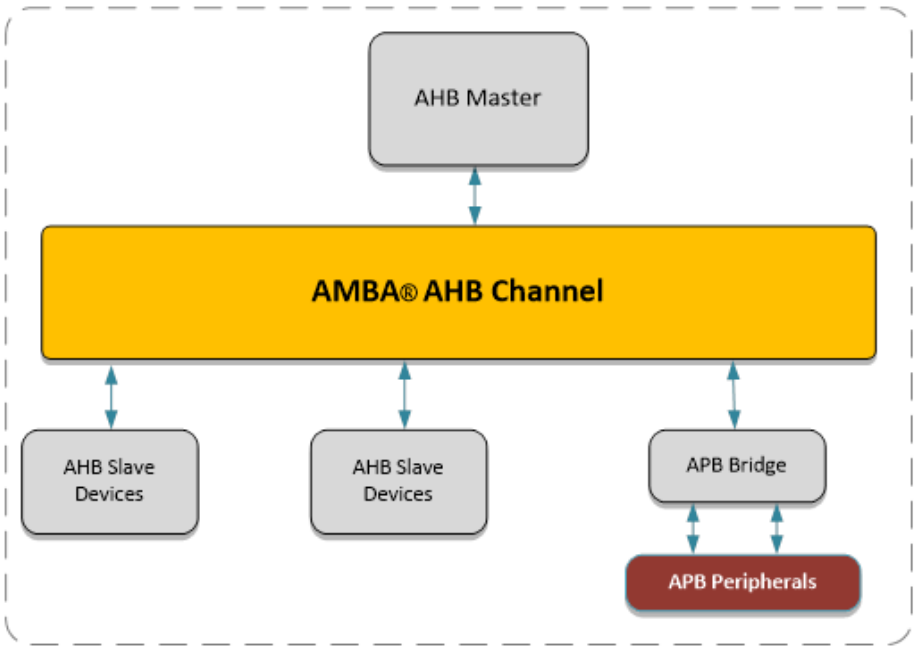
- Verilog Source
- Complete Test Environment
- AHB Bus Functional Model
- C-Sample Code

DESCRIPTION

The AHB Channel provides the necessary infrastructure to connect as many as 7 AHB Slaves (numbered 1-7) to an AHB bus Master. The AHB Channel performs a combinational decode on the incoming AHB address to produce the block selects for the various AHB Slaves. The address decoder contained in the AHB Channel has one area of memory reserved for a configurable remap application.

Typically, the AHB Channel is connected as in the following description. Each of the AHB Channel's 7 Mirrored Slave Ports is connected to an AHB Slave module (e.g. External Bus Interface, Memory Controller, AHB-to-APB Bridge). On the Master side, the AHB Channel's Mirrored Master Port is connected either to an AHB Arbiter (in an AHB system with multiple bus Masters) or directly to an AHB Master such as a micro-processor (in an AHB system with a single bus Master).

GENERAL USE



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You may also be interested in:

AMBA® Subsystems

- Low Power Subsystem (simple AHB system)
- Low Power / Performance Subsystem (includes AHB Multi-matrix Fabric)
- Custom Performance Subsystem (includes AXI Multi-layer Fabric)

IP Cores

Infrastructure Cores

AHB Multi-Matrix Fabric
AHB/AHBLite Channel
AHB Arbiter
AXI Multi-Layer Fabric
AXI to AHBLite Bridge
AXI to APB Bridge
AHB to ABP Bridge
APB Channel

AXI Cores

AXI Multi-Layer Fabric
AXI to AHBLite Bridge
AXI to APB Bridge
AXI External Bus Interface
(Memory/Flash Controller)
AXI Internal Memory Controller
AXI QSPI with Execute in Place (XIP)

AHB Cores

AHB Channel
AHB Multi-Matrix Fabric
AHB to ABP Bridge
AHB Arbiter
AHB QSPI with Execute in Place (XIP)
AHB External Bus Interface
AHB Internal SRAM Controller
AHB Interrupt Controller
AHB DMA Controller
AHB DMA 4 Channel Controller
AHB TFT LCD Controller
AHB DES/TDES Encryption/Decryption

AHB Serial Flash Controller
Octal, Quad, Dual and Single Modes

Serial to AHB Bridge
SPI slave to AHB Master
Monitor/Control

APB Cores

APB Channel
APB Quad SPI Controller
APB General Purpose IO
APB Timer
APB UART
APB I2C (Master and Slave)
APB SPI
APB Watchdog Timer
APB Pulse Width Modulator
APB Real Time Clock

General

DES – Digital Encryption Standard
Triple DES (Low Gates)
Triple DES (pipelined)
ADC Interface (semi-custom)
Mixed-Signal Interfaces (semi-custom)
Power Management Unit (semi-custom)

AES Encryption Core

For more information contact

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