

General Description

The AHB Trace Module allows to record AHB accesses for debugging purposes.

- Record up to 1024 AHB bus accesses
- Record up to 1024 AHB Interrupts
- Programmable address mask register for selective recording

Manual: GERA_TRACE Manual V1.0.doc

Features

The AHB Trace Module records AHB bus traffic. It stores the following data:

- 32-bit timestamp (based on the AHB clock)
- 32-bit address
- 32-bit data
- Type of access: Read/Write
- Value of hsize
- Value of hresp
- Value of hgrant

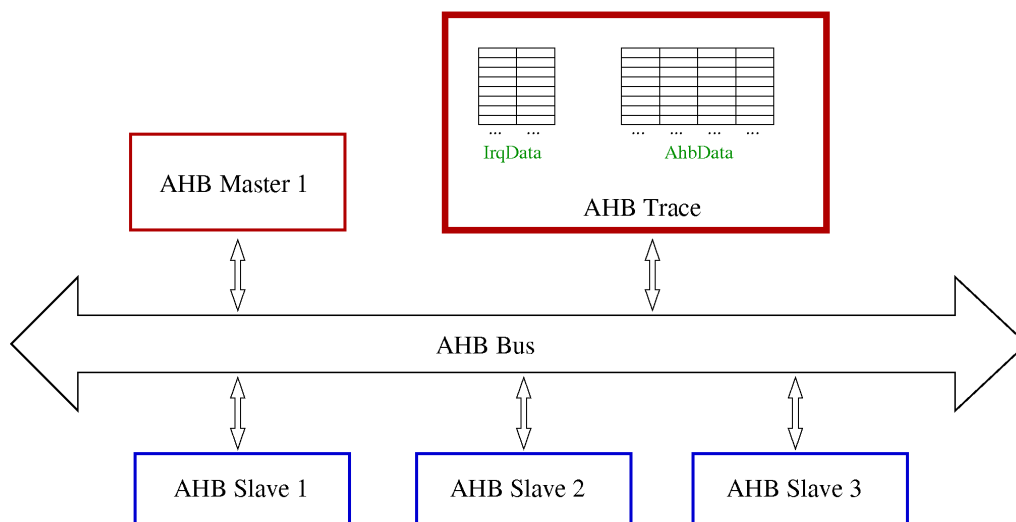
In addition interrupts can be recorded, using the following data:

- 32-bit timestamp (based on the AHB clock)
- AHB Interrupt vector (1 bit per interrupt)

Functional Description

The recorded data is stored in FIFOs. When a FIFO is full, no further data is recorded. It is possible to clear the FIFOs by setting the clear_data bit in the CONTROL register. There is a masking mechanism available to restrict recording to a given AHB address pattern.

Block Diagram



Device Utilisation & Performance

Technology	Device	Utilization (Average out of some different applications)	Performance
Stratix III (Altera)	EP3SL150F780C2	Logic Elements: 682 Block Memory: 196.608 bit	100 MHz AHB bus clock
ArriaGX (Altera)	EP1AGX90EF1152C6	Logic Elements: 780 Block Memory: 196.608 bit	100 MHz AHB bus clock