

## USB 2.0 High Speed Device Controller

### DESCRIPTION

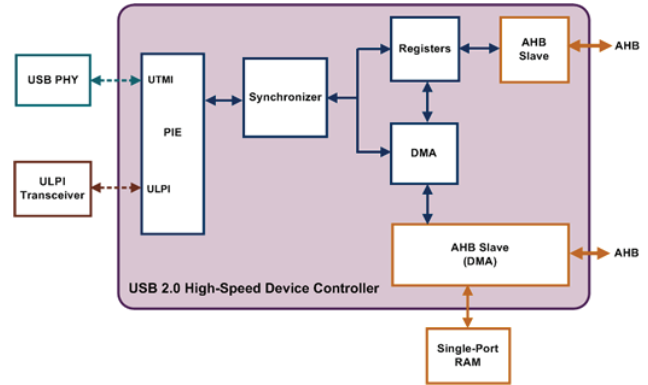
The USB 2.0 High-Speed Device Controller is a highly configurable, synthesizable USB core built from silicon-proven technology from NXP Semiconductors.

The core is an extremely low gate count design that provides an efficient USB implementation in cost-sensitive applications.

It integrates with standard UTMI-compliant PHYs or USB ULPI transceivers on USB side and AMBA AHB interfaces on the system side, supporting all major embedded microprocessor cores.

### FEATURES

- Compliant to the USB 2.0 specification
- Supports High-Speed (480 Mbps) and Full-Speed (12 Mbps) operation
- DMA engine with connection to AHB interface
- Low gate count (20K gates)
- Various low power features
- Up to 14 non-control logical endpoints
- Bulk, Interrupt, or Isochronous endpoint types
- Maximum packet size 0-1023
- Software-controlled interrupt structure
- Supports single-port RAM for endpoint buffers
- USB buffers can be programmed at the packet or transfer level
- Supported by 3rd-party software (drivers, and so on)
- Independent AMBA AHB-compliant system interfaces



### HARDWARE CONFIGURATION PARAMETERS

OPTION	RANGE
RAM_ADR_WIDTH	8-15 bits
RAM_DATA_WIDTH	32 or 64 bits
AHB_DATA_WIDTH	32 or 64 bits
NUM_ENDPOINTS	0-14
SINGLE_BUFF	Yes or No
DOUBLE_BUFF	Yes or No

### DELIVERABLES

- VHDL RTL source code (Verilog on request)
- Test bench with test suites
- Documentation including User's Guide and Integration Guide
- Technology-independent synthesis constraints

For more information, please contact us at [ip@silvaco.com](mailto:ip@silvaco.com).