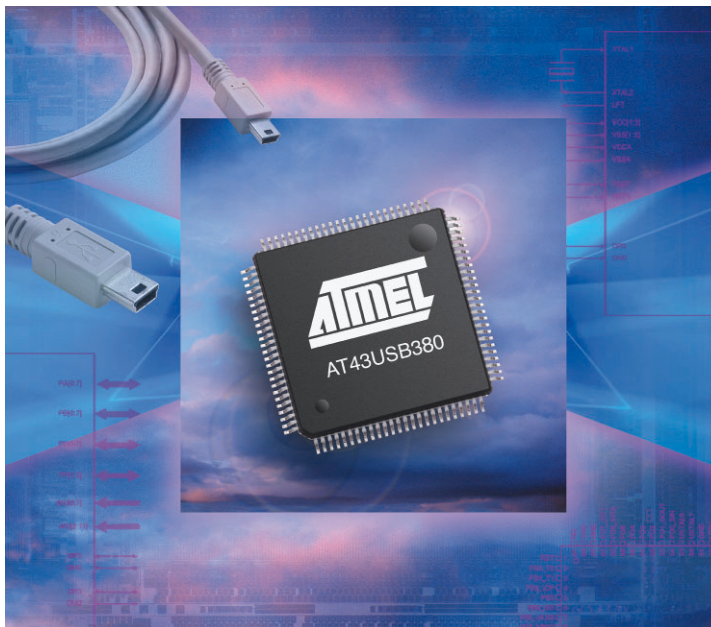


AT43USB380

PLUG & PLAY ON-THE-GO SOLUTION FOR
EMBEDDED APPLICATIONS

AT43USB380: THE BEAUTY OF SIMPLICITY



VISIT: [HTTP://WWW.ATMEL.COM/AD/PLUGPLAYOTG](http://www.atmel.com/ad/plugplayotg)

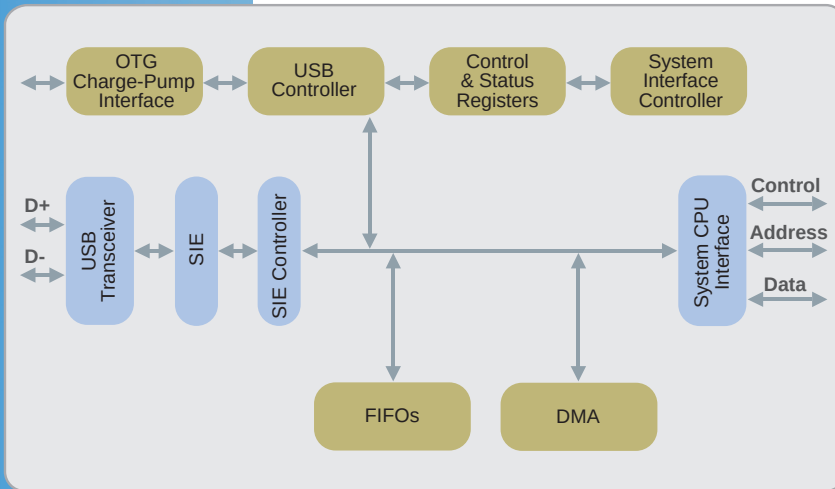
Atmel's AT43USB380 is an all-in-one USB solution designed specifically to hide the complexity of adding OTG/host functionality to embedded designs. It features:

- An intelligent OTG/host/function processor capable of managing USB transactions without system processor intervention
- A processor/RTOS independent software suite that includes standard USB class device drivers and simple Application Programming Interface (API) for custom driver development

With the AT43USB380, in-depth knowledge of USB protocol is no longer a prerequisite for your USB development.

HARDWARE BLOCKS

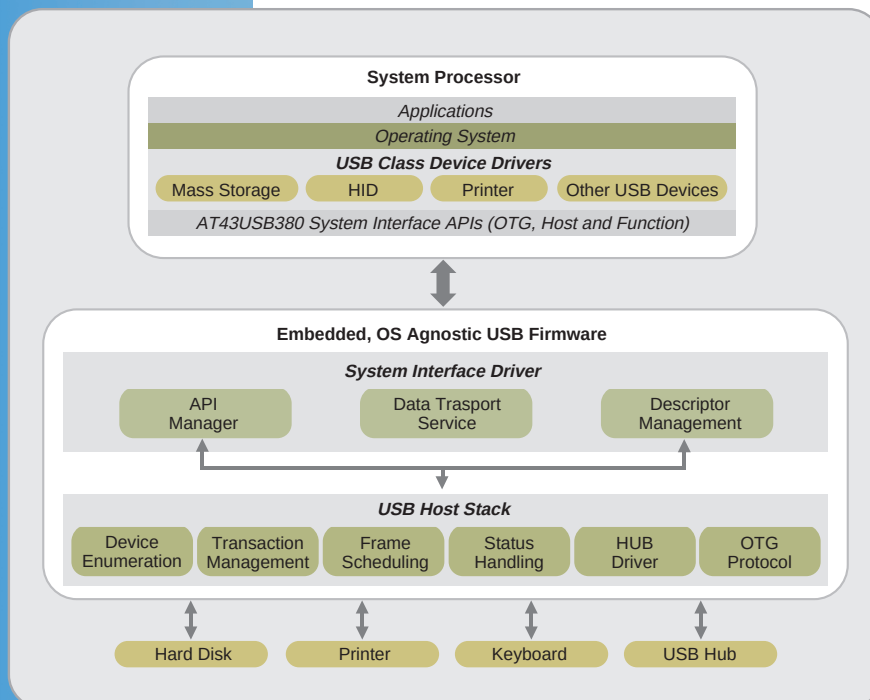
The AT43USB380 is a memory-mapped USB co-processor capable of managing USB transaction and data flow autonomously. Key AT43USB380 modules include:



- **Dedicated controllers** handling USB protocol and data flow to and from the system processor
- **Full-speed host/function port**
- **OTG charge-pump interface** providing OTG physical signaling
- **Control and data FIFO blocks** with separate Rx and Tx buffering to ensure maximum throughput
- **32-/16-/8-bit system processor interface** with DMA capability

SOFTWARE ARCHITECTURE

USB application development is made easy with the tight integration of AT43USB380 hardware and software. The platform (processor/RTOS) independent AT43USB380 software suite features:



- **On-chip USB Firmware stack** comprised of USB host, function, hub and OTG (HNP and SRP) modules
- **ANSI C compliant system interface library APIs** that serve as the building blocks of USB device drivers
- **Standard USB class device drivers** presented to the system designers in the form of ANSI C compliant APIs



FLEXIBLE HARDWARE DESIGN

INSTANT USB POINT-TO-POINT SOLUTION FOR EMBEDDED DEVICES

- Three operating modes: OTG, standalone host and standalone function
- Configurable system bus interface suitable for 32-/16-/8-bit system processors
- Generic design compatible with any standard USB class and proprietary devices



INTELLIGENT ARCHITECTURE

MINIMAL CONSUMPTION OF SYSTEM RESOURCE

- Enumeration without system processor intervention
- Automatic USB frame scheduling and transaction management without interrupts to the system processor
- High-speed DMA data transfer across system bus



COMPREHENSIVE SOFTWARE SUITE

NO USB EXPERTISE REQUIRED

- Standard USB class drivers
- Easy-to-use system APIs to build custom USB device drivers
- On-chip USB HUB driver



MINIMAL CUSTOM ENGINEERING

FASTEST TIME-TO-MARKET

- No need to develop and port USB software
- No time wasted for compatibility testing with different classes of USB devices from different vendors



<http://www.atmel.com/ad/plugplayotg>

Atmel Corporation

2325 Orchard Parkway
San Jose, CA 95131, USA
Tel: 1(408) 441-0311
Fax: 1(408) 487-2600

Regional Headquarters
Europe

Atmel Sarl
Route des Arsenaux 41
Case Postale 80
CH-1705 Fribourg
Switzerland
Tel: (41) 26-426-5555
Fax: (41) 26-426-5500

Asia

Room 1219
Chinachem Golden Plaza
77 Mody Road Tsimshatsui
East Kowloon
Hong Kong
Tel: (852) 2721-9778
Fax: (852) 2722-1369

Japan

9F, Tonetsu Shinkawa Bldg.
1-24-8 Shinkawa
Chuo-ku, Tokyo 104-0033
Japan
Tel: (81) 3-3523-3551
Fax: (81) 3-3523-7581

Literature Requests

www.atmel.com/literature

DEVELOPMENT KIT

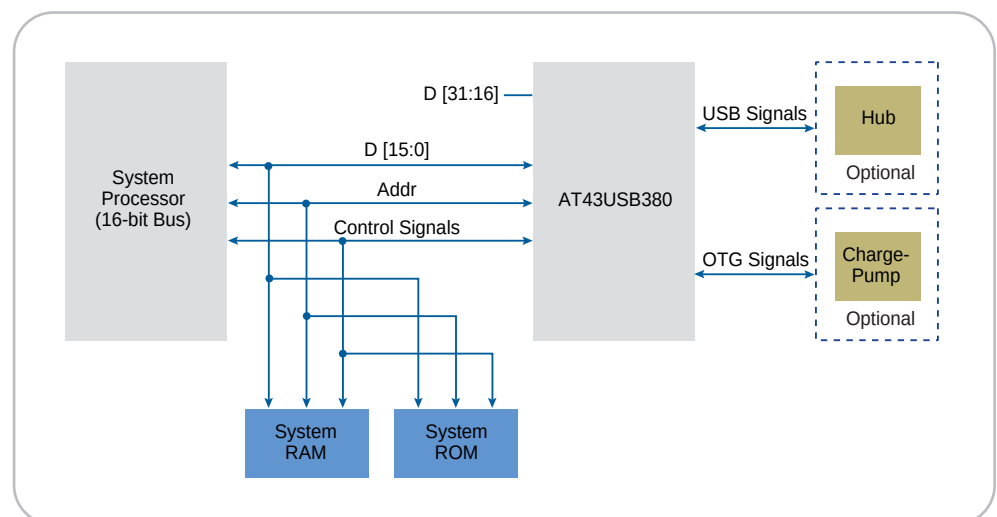
The AT43DK380 is a complete starter kit and development system for the AT43USB380 OTG/host/function processor.

AT43DK380 DEVELOPMENT KIT FEATURES

- AT43USB380 reference design board
 - OTG/host/function processor
 - 1 Mbyte Flash ROM expandable to 2 Mbytes
 - 2 Mbytes static RAM
 - 4-Port USB full-/low-speed hub
 - OTG charge-pump and voltage comparator
 - USB type A, mini A/B ports
 - 20-pin JTAG interface connector
 - Expansion connector to support 32-/16-/8-bit system processor
- System processor daughter cards
- USB software suite
 - USB stack
 - System library API set
 - Standard USB class drivers
- USB clinic diagnostic and debugging tool



TYPICAL SYSTEM PROCESSOR CONNECTION



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