

## IP Leaflet

# USB2.0 On-The-Go (OTG) Controller IP Core

### Overview

The Renesas USB2.0 On-The-Go (OTG) Controller IP is a Dual-Role Device (DRD) controller that supports host and peripheral function. This IP is compliant with the Universal Serial Bus (USB) 2.0 Specification, Enhanced Host Controller Interface (EHCI) Specification, and On-The-Go Supplement Specification. This IP is consisting of the host controller “uu2hcabhtmi” and the peripheral controller “uu2pcabhtmi”. The system interface of this IP is AHB(AMBA®3 AHB-Lite) and the PHY interface is UTMI+(Level-3). The host-part of this IP supports High Speed (480 Mbps), Full Speed (12Mbps) and Low Speed (1.5Mbps) transfer. And peripheral-part supports High Speed (480 Mbps), Full Speed (12Mbps) transfer.

### Key Features

#### General

- Compliant with Universal Serial Bus Specification Revision 2.0.
- Compliant with Enhanced Host Controller Interface (EHCI) Specification for USB Rev.1.1.1.
- Compliant with Open Host Controller Interface (OHCI) Specification for USB Rev.1.0a.
- Compliant with AMBA®3 AHB-Lite Protocol v1.0 Specification.
- Compliant with UTMI+ Specification Rev 1.0 Level-3.
- Compliant with On-The-Go and Embedded Host Supplement to USB Revision 2.0 Specification Rev. 2.0 Ver.1.1a.

#### USB function

- Supports 1 OTG Port.
- Supports Control, Bulk, Interrupt, and Isochronous transfers.
- Supports Battery Charging Specification Rev 1.2

#### AHB I/F

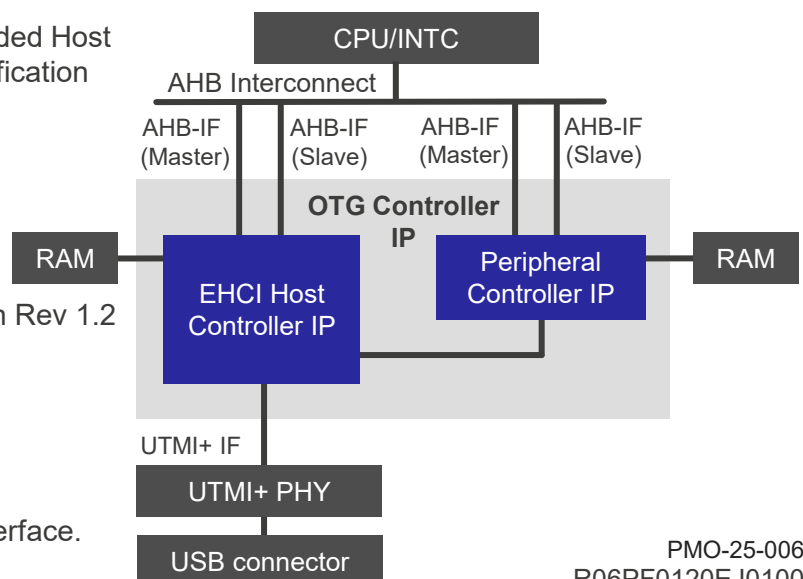
- Conforms to AMBA®3 AHB-Lite.
- Data bus width: 32 bits
- Supports big endian and little endian.
- Provides master interface and slave interface.
- Supports the AHB-Lite specification..

#### RAM interface

- For the host controller: One 32-bit x 256-word 2-port SRAM device is needed as the buffer memory outside.
- For the peripheral controller: 64-bit 1-port SRAM interface for the buffer memory outside. The memory size is configurable depends on endpoint and is up to 16KByte.

#### UTMI+ interface

- Supports UTMI+ level-3 interface.



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