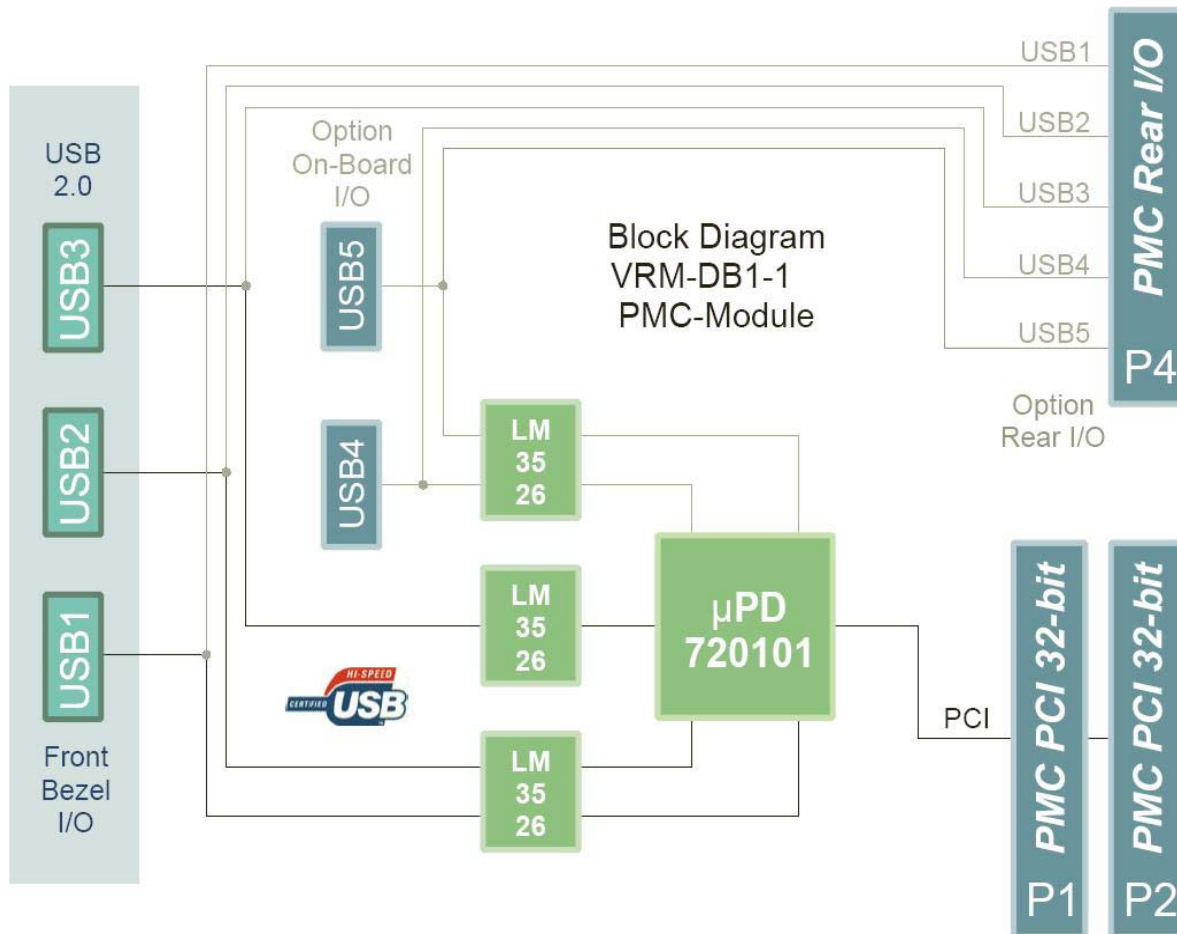


**Overview:**

The **VRM-DB1-X** is a 5-port USB2.0 host controller. The PMC mezzanine board complies with the Universal Serial Bus Specification Revision 2.0 and Open Host Controller Interface (OHCI) Specification for full-/low-speed signalling and the Intel Enhanced Host Controller Interface (EHCI) Specification for high-speed data transfers. All downstream facing ports can handle high-speed (480Mbps), full-speed (12Mbps), and low-speed (1.5Mbps) transaction. All USB power lines are protected against over-current and short circuit conditions. Three of five USB ports are accessible from the PMC front bezel. As an option, another two USB connectors are situated on-board for system internal usage. Also as an option, the **VRM-DB1-X** can be configured for rear I/O across the P4 connector.



**Features:**

- **Form Factor:** PMC Mezzanine Card 149.0 x 74.0mm Single Size CMC Envelope IEEE P1386.1
- **USB:** Root hub with 5 downstream facing ports, all ports over-current protected, data transfer rate up to 480Mbps, conforming to USB2.0, OHCI Rev. 1.0a, EHCI Rev. 1.0
- **USB Port Assignment:**
  - USB ports 1-3 wired to front bezel type A connectors
  - USB ports 4-5 wired to on-board type A connectors (option<sup>1</sup>)
  - USB ports 1-5 optionally wired to P4 for rear I/O usage (option)
    - <sup>1</sup>) connector USB5 exceeds the maximum allowable component height according to the PMC specification by ~2mm-please ensure this is permissible on your particular PMC carrier board before ordering.
- **PCI Interface:** 32-bit, 33/66MHz, P1386 PMC connectors P11/P12
- **Typical Power Consumption:**
  - +3.3V +0.17V/-0.1V 0.4A max.
  - +5V  $\pm$ 5% 0.1A max. (w/o external devices)
  - +Vio 3.3V/5V 0.1A max.
- **Thermal Conditions:** Operating Temperature: TBD. Storage Temperature: -20°C...+85°C
- **Environmental Conditions:** Humidity: 5% to 95% non-condensing. Altitude: -300m to +3000m
- **Shock:** 15g 0.33ms, 6g 6ms
- **Vibration:** 1g 5-2000Hz
- **MTBF:** tbd

**Ordering options:**

**VRM-DB1-1:** PMC USB2.0 host controller EHCI/OHCI, three front bezel USB connectors for external usage

**VRM-DB1-2:** PMC USB2.0 host controller EHCI/OHCI, three front bezel USB connectors for external usage, two on-board USB connectors for internal usage (*connector USB5 exceeds the max. allowable component height according to PMC specs by-2mm*)

**VRM-DB1-3:** PMC USB2.0 host controller EHCI/OHCI, five rear I/O USB channels routed to P4, no front bezel USB connectors.