

EXM32 CPU Module Specification

What's new in Revision 1.3

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| General improvements & clarification | More detailed descriptions are added in all chapters. |
| Signal names | Some signals have been renamed to better reflect their functions. |
| Pull-Up/Pull-Down | Appendix A has been completely revised. |
| Top/Bottom pin-out. | Detailed description of to the differing signal definitions for the top and bottom side of X1 & X2 EXM32 connectors on the CPU Module. |
| PCI Express | Second PCI-Express x1 lane introduced on EXM32 connector's top side for Extension Modules. |
| USB | USB_PWEN & USB_OC# signals are available on EXM32 connector's bottom side definition (to motherboard), only. |
| Digital Audio | The two supplemental digital audio interfaces on X2 have been streamlined with 1 input- and one output data channel, each, in order to facilitate HW-design and software support. |
| CAN | CAN bus signals are available on EXM32 connector's bottom side definition (to motherboard), only. |
| VGA | VGA interface signals (VGA_xxxx) are available on EXM32 connector's bottom side definition (to motherboard), only. |
| FlexRay | FlexRay interface signals (FR_xxxx) are available on EXM32 connector's bottom side definition (to motherboard), only |
| IEEE1394 "Firewire" / HDMI | The IEEE1394 "Firewire" interface has been removed from the specification due to non-existing demand for embedded applications. The signals are now being used for the newly introduce HDMI interface. HDMI signals are available on EXM32 connector's bottom side definition (to motherboard), only. |
| Digital Video DV1 / HS-MMC | The signal lines for the 2nd digital video interface (DV1_xx) are replaced by a secondary high-speed SD/SD-IO/MMC/HS-MMC 8 bit interface (SDIO1_xxxx). |
| Gigabit Ethernet | Gigabit Ethernet PHYs require a device specific center-tap voltage on the Ethernet transformer. A dedicated signal has been introduced on pin X2-C-10 (this pin was connected to GND in Revision V10). Ethernet signals are only available on EXM32 connector's bottom side definition (to motherboard). |
| GPIO & LCD2 / Camera-Interface. | The multimode capability of these signals is now exactly defined in an extra table. |