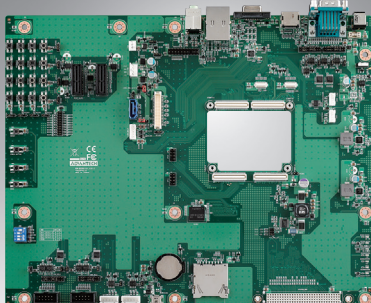


ROM-DB3900

Development Board for RTX v2.0 RISC Module



Features

- Supports RTX v2.0 module form factor
- ATX form factor
- 3 display outputs. VGA, HDMI, 24-bit LVDS
- 1 x SATA/SATA-DOM, 1 x RJ-45, 1 x USB 3.0, 1 x USB 2.0 OTG, 2 x CAN bus, 4 x UART, 10 x GPIO
- 2 PCIe slots, 1 system bus PC104 connector
- Onboard eMMC Flash 4 GB, SD card, SIM card slot
- Supports HD Audio codec, camera input daughter boards
- Support ATX mode, Input Power Range is +12V
- Cable pack included

Introduction

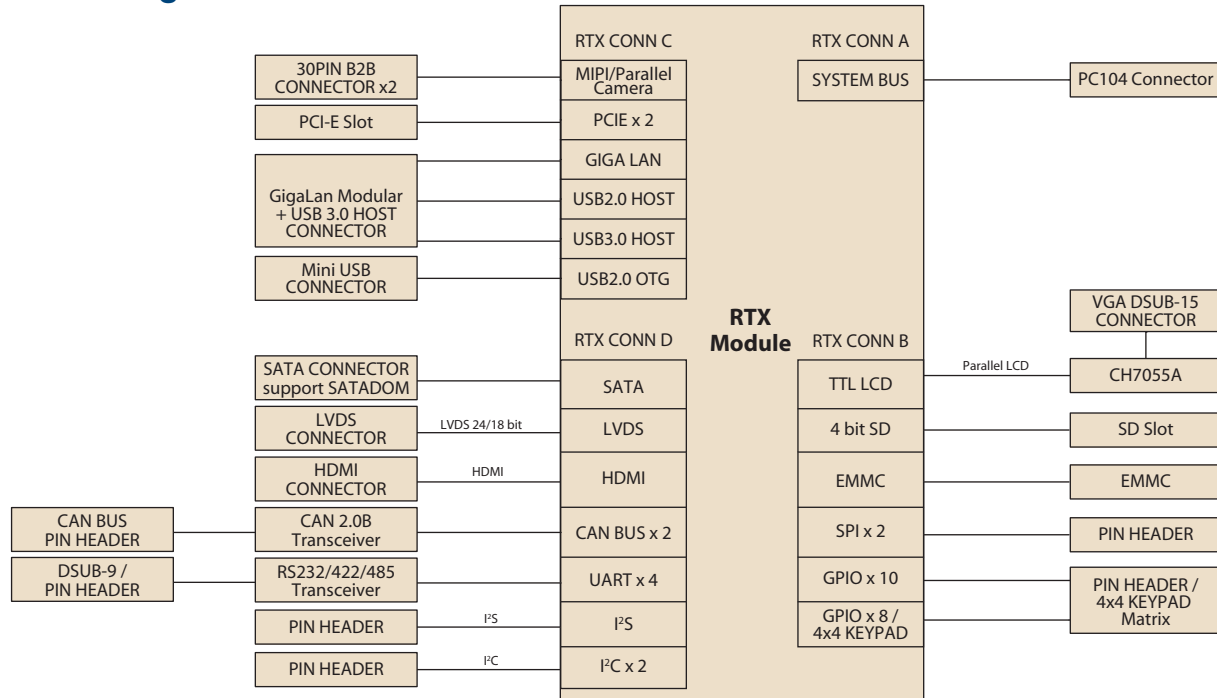
ROM-DB3900 is an evaluation carrier board designed for the Advantech RTX2.0 module. It is compatible with the RTX2.0 module ROM-3420 and has a rich I/O interface for evaluation and development. It supports wide range operating temperature, and also supports two MIPI connectors for a camera module. ROM-DB3900 is an ideal development board for ruggedized applications, such as industrial control, automation control and HDMI systems.

ROM-DB3900 is offered along with RISC RTX2.0 carrier board design documents: Carrier Board Design Guide, layout, and schematic checklist, all ready for you to start your own carrier board design. With ROM-DB3900, you can easily learn the power of Advantech's RISC RTX2.0 module.

Specifications

| | | |
|--------------------------|-----------------------|--|
| Compatible Module | | RTX v2.0 CPU Module |
| Graphics | HDMI | 1 HDMI TypeA |
| | LVDS | 1 Single 18/24-bit LVDS |
| | VGA | 1 D-Sub 15 with female connector |
| Ethernet | LAN | 1 GbE with RJ45 connector |
| Storage | Flash | Onboard 4 GB eMMC |
| | SD | 1 SD card slot |
| | SATA | 1 SATAII Connector (with SATA-DOM support) |
| I/O | USB | 1 USB mini Type B (OTG), 1 USB 2.0/3.0 Type A |
| | UART | 4 4wires UART all support RS-232/422/485(2x DB9 connector and 2x box header) |
| | Audio | 1 2 port phone jack, support Line-in , Line-out |
| | CAN | 2 CAN 2.0B ports, Differential mode +5V |
| | GPIO | 1 2x10 pin header |
| | I ² C | 2 I ² C pin header |
| | SPI | 2 SPI pin header |
| | Camera Input | 2 MIPI/Parallel B2B connectors |
| | Keypad | 18 pin headers (share with GPIO) |
| | I ^S | 1 pin header |
| Expansion | PCIe Slot | 2 PCIe x1 |
| | System bus | 1 PC104 connector (Address : 31 bits , Data : 16 bits) |
| Power input | Power | 19V DC Jack |
| Environment | Operating Temperature | 0 ~ 60 °C |
| | Operating Humidity | 0% ~ 90% relative humidity, non-condensing |
| Physical Characteristics | Dimensions | 305 x 244 mm |

Block Diagram



Ordering Information

| Part No. | Description |
|------------------|---|
| ROM-DB3900-SWA1E | Development board for RISC RTX2.0 Module series |

Packing List

| Part No. | Description |
|---------------|---|
| 9696ED2000E | Debug adapter board |
| 1700022373-01 | Debug port cable for ROM-3420 |
| 1700021882-01 | LVDS backlight cable |
| 1700021883-01 | LVDS cable |
| 1700021941-01 | SATA power |
| 1700004711 | SATA signal |
| 1700006911 | USB OTG to Type A female |
| 1700019077 | USB OTG to Type A male |
| 1701100300 | D-SUB 9P(M) for UART and CAN 30cm |
| 1700022840-01 | SPDIF to RCA cable for audio in and out |
| 1700019474 | D-SUB 9P(F) RS232/RS485 100cm cable |

Optional Accessories

| Part No. | Description |
|----------------|--|
| 96PSA-A36W12R1 | Adapter 100-240V 36W 12V 3A |
| 1700001524 | Power cord 3P UL 180cm |
| 170203183C | Power cord 3P EU 183cm |
| 170203180A | Power cord 3P UK 183cm |
| 1700008921 | Power Cord 3P PSE 183cm |
| EWM-W142F01E | 802.11 b/g/n, AR9287, 2T2R, Full size Mini PCIe |
| EWM-C106FT01E | Cellular, HSUPA/WCDMA/GPRS, Full Mini PCIe |
| 1750007156-01 | Cellular/GPS SMA Short JACK(9.5MM) L=100mm (3G Cable) |
| 1750007050-01 | WiFi RP-SMA short SMA Jack(9.5mm) to U.FL_100mm (WiFi Cable) |
| 1750000318 | EMI Antenna 2DBI 2.4GHz SMA (WiFi Antenna) |
| 1750005865 | Antenna L=10.9cm 500hm AN8921F-5701SM (3G Antenna) |
| 9680015491 | PCIe to miniPCIe adapter card |