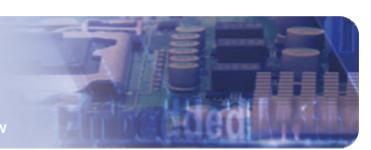
Mini-ITX Form Factor

ADE-6291

AMD Embedded Merlin Falcon APU SoC, FP4 BGA 12-35V





Key Features

- Highly integrated SoC with multimedia and display features
- Up to 4 x "Excavator" cores
- AMD Radeon™ HD 10000 GPU
- 3 displays by DVI-D*2, DP or DVI-D*2, LVDS
- Up to 4K/2K Resolution
- Supports up to DDR4-2400 with ECC
- Supports 4 x COM

| Specifications | | |
|--------------------------|--|--|
| CPU | AMD Embedded Merlin Falcon APU SoC, FP4 BGA infrastructure, 12-35W | |
| | RX-421BD, 2.1GHz, 3.4GHz(Max), 4C, L2:2M, 12-35W | |
| | RX-418GD, 1.8GHz, 3.2GHz(Max), 4C, L2:2M, 12-35W | |
| | RX-216GD, 1.6GHz, 3.0GHz(Max), 2C, L2:1M, 12-15W | |
| BIOS | AMI UEFI BIOS with 64Mb SPI Flash ROM | |
| Storage | 2 x SATA 3.0 (1 x SATA, 1 x mSATA) | |
| I/O Controller | IT8785E-I/CX | |
| System Memory | Support dual channel 2133/2400 DDR4 memory with ECC 2 x U-DIMM 288 pin sockets | |
| | Max. up to 16 GB memory | |
| Watchdog Timer | Reset; 1 sec.~255 min. and 1 sec. or 1 min. / step | |
| Wake On | Wake On LAN, Wake On Time, Wake On USB, Wake on ring | |
| H/W Status Monitor | Monitoring CPU and system temperature, voltage status & fan speed | |
| Battery | BR2032, 220mAh | |
| Expansion | One PCle x8 slot , support PCle Gen3 | |
| TPM | Reserve LPC pin header for TPM module | |
| External I/O (Rear Side) | | |
| LAN , USB | 2 x RJ-45 LAN Port (with two LED indicators) + dual USB3.0 (Max.: 900mA output each port) | |
| | 2 x USB2.0 connector (Max.: 500mA output each port) | |
| Audio | 3 x Audio Jacks for MIC-input, Line-out and Line-input | |
| DisplayPort | 1 x DisplayPort support 3840 x 2160 resolution @ 60 Hz (DP1.2) | |
| DVI | 2 x DVI-D (Single Link) support 1920 x 1200 resolution @ 60 Hz | |
| COM | 1 x RS-232 D-sub 9-pin male | |
| Internal I/O | | |
| SATA | 1 x SATA3.0 (6 Gb/s) with lockable connector, 1 x mSATA slot | |
| PC Buzzer | Standard PC buzzer on board | |
| USB | 1 x (1 x 4) 2.0mm wafer , supports 1 x USB 2.0 (Max.: 500mA output) | |
| GPIO | 2 x (2 x 5) pin header for programmable 8 in /8 out (3.3V CMOS) *No signal reverse/direction change on GPIOs when system wake up from S0 or go to S0 | |

| Fan Power | $2 \times (1 \times 4)$ pin-header, for APU & System fan with PWM function |
|--------------------------|---|
| CMOS Clear | 1 x (1 x 3) pin-header |
| Audio | 1 x (2 x 10) box-header Line-in, Line-out, MIC, Aux in, Center and Surround (5.1ch output required) |
| Front Panel | 1 x (2 x 5) pin-header (Power on, reset, Power LED, HD LED) |
| COM | 3 x (2 x 5) box header (COM2~COM4:Full) |
| LVDS | 1x(2x20) 1.25mm pin-header for 24-bit dual channel with brightness control |
| Graphic | |
| Graphics Controller | AMD Radeon™ HD 10000 GPU Support 3 independent displays |
| Display Interface | Three displays by DVI-D*2, DP or DVI-D*2, LVDS • DP (3840x2160) • DVI-D (1920 x 1200) • LVDS (1920 x 1200) |
| DP to LVDS Controller | Parade PS8625 |
| Ethernet | |
| Controller | 2 x Realtek® RTL8119-CG |
| Interface | IEEE 802.3 10/100/1000 BASE-T |
| Audio | |
| HDAC | Realtek® ALC888S-VD2 High Definition Audio Codec |
| Power | |
| Power-input | 4-pin 12V DC power connector (Max.:15A with fuse protection) Place connector near to rear IO coastline. |
| Operating sys | stems |
| <u> </u> | ws [®] 10, Ubuntu 14.04 |
| MB Environm | ents / Certification |
| Compliance | ROHS, WEEE |
| Operating Temperature | 0°C~60°C (32°F~140°F) |
| Storage Temperature | -20°C~80°C (-4°F~176°F) |
| Operating Humidity | 10%~90% relative humidity, no condensing |
| Dimension | 6.69" x 6.69" (170mm x 170mm), 8 layers PCB |
| EMI Protection | CE, FCC Class-B |
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