AmITX-BE-G

Mini-ITX Embedded Board with AMD® Embedded R-Series APU

Features

- AMD® Embedded R-Series APU with A77E Fusion Controller Hub
- Up to 16GB dual SODIMM socket DDR3L at 1600 MHz
- 2x PCIe slot in parallel
- PCIe x16, PCIe x1 and Mini PCIe expansion
- 4 DisplayPort



Specifications

Processor & System

CPU

AMD Embedded R-Series APU (code name: Bald Eagle)
RX-427BB 2.7GHz (3.6GHz boost), 35W (4C/8CU)
RX-425BB 2.5GHz (3.4GHz boost), 35W (4C/6CU)
RX-225FB 2.2GHz (3.0GHz boost), 17W (2C/3CU)

Memory

Dual channel non-ECC 1600/1333 MHz DDR3L memory up to 16 GB in dual vertical SODIMM sockets

BIOS

AMI EFI in 8MB SPI BIOS
Optional socket SPI BIOS socket onboard and SPI header for external BIOS, dual BIOS support
TPM module soldered onboard, dual BIOS support (build option)

SEMA Support

Supports: voltage/current monitoring, power sequence debug support, AT/ATX mode control, logistics and forensic information, flat panel control, general purpose I2C, failsafe BIOS (dual BIOS), watchdog timer, triple smart fan control

Debug Header

40-pin multipurpose flat cable connector. Use in combination with DB-40 debug module providing BIOS POST code LEDs, BMC access, SPI BIOS flashing, power testpoints, debug LEDs

I/O Interfaces

Expansion Slots

1 PCIe x16 Gen3 slot (PCIe 3.0)
1 PCIe x1 Gen2 slot (PCIe 2.0)
1 full-size Mini PCIe slot supporting PCIe+USB or mSATA by jumper setting (on the bottom side)
1 half-size Mini PCIe slot supporting PCIe and USB (on the top side)
1 SPI header for external BIOS

Serial ATA

3x SATA 6 Gbps ports
Ports 0 and 1 provide clearance for SATADOMs

USB

4x USB 3.0 and 4x USB 2.0 on rear I/O
2x USB 2.0 on front panel header
2x USB 2.0 on standard header
1x USB 2.0 on vertical connector with keep out area for dongle
1x USB 2.0 on Mini-PCIe (top) and 1x USB 2.0 on mSATA / Mini PCIe (bottom)
KB/MS
1x PS/2 internal header

Serial Ports

1x RS-232/422/485 on internal header
3x RS-232 on internal headers

Digital IO

10 GPIO on internal feature connector

Audio

Audio Codec

Realtek® ALC886

Interfaces

7.1 channel audio via 5 jacks and S/PDIF output on rear I/O
7.1 channel audio signals and S/PDIF output on internal header

Note: "Build option" indicates an alternative BOM configuration to support additional or alternative functions that are not available on the standard product. Be aware that part numbers for SKUs with "build options" will need to be created and may cause production lead times.

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Specifications

Display

Graphics core
AMD® Radeon HD 9000

DisplayPort
4 outputs with resolution up to 4096 x 2160 @ 30Hz

LVDS
Optional single/dual channel 24-bit up to 1920 x 1200 @ 60 Hz, LVDS and 1x DP are co-lay

Ethernet
Controller: 2x Intel® i211AT Ethernet controller
Interface: PCI Express x1 Bus
Wake On LAN: Yes

Power
Standard Input: ATX = 12V ±5%/5Vsb ±5% from internal header
AT = 12V ±5% from internal header
Peripherals output: Onboard headers for fan and SATA power

Mechanical and Environmental
Form Factor: Mini-ITX
Dimensions: 170 mm x 170 mm (L x W)

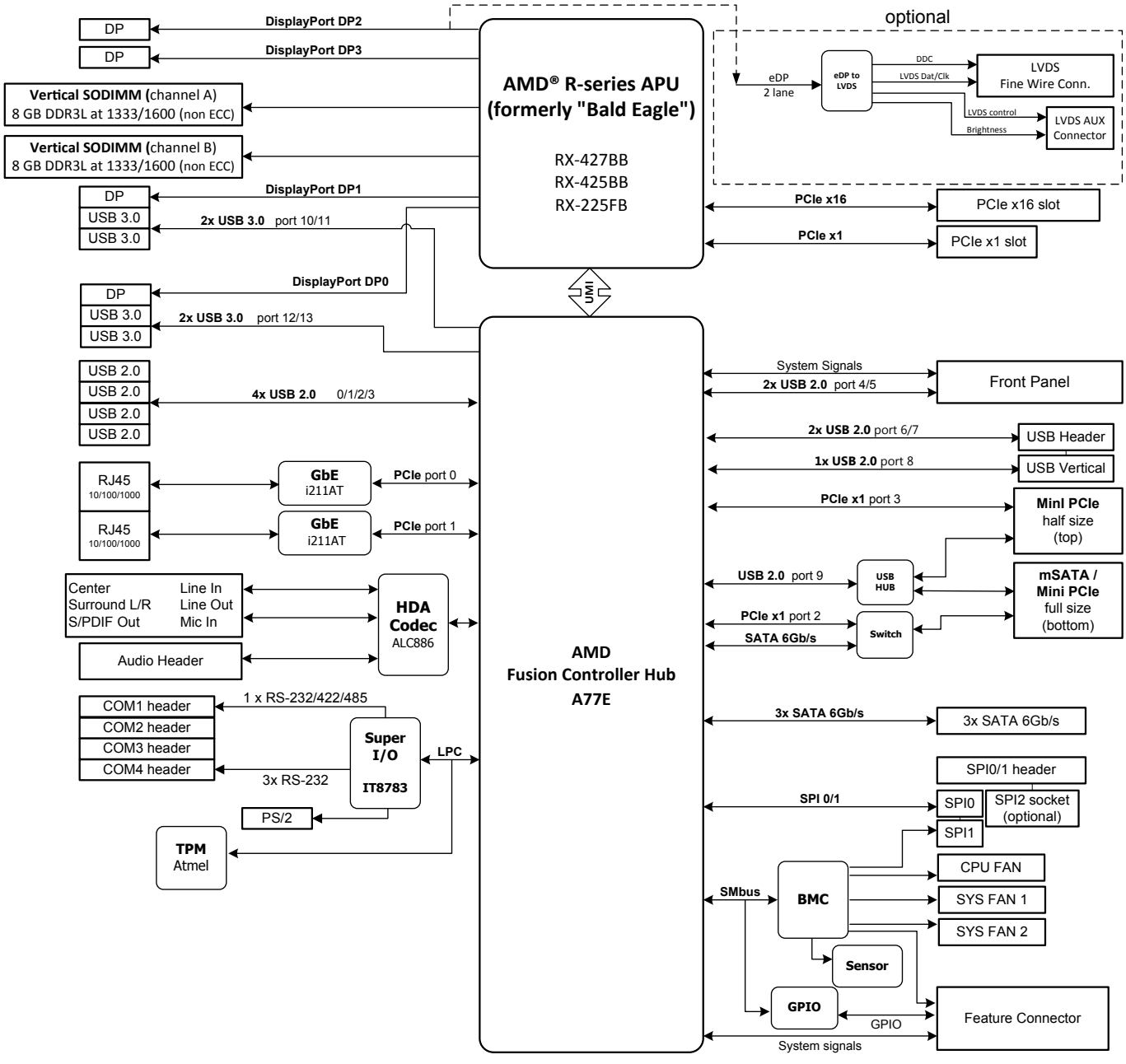
Operating Temperature
Standard: 0˚C to +60˚C

Certifications
CE, FCC Class A

Relative Humidity
10% to 90%, non-condensed

Intelligent Middleware
SEMA®
Local management, control of embedded computer systems
Extended EAPI for monitoring, controlling and analytics applications
Multiple OS support and across platforms (x86, ARM)

Functional Diagram



Ordering Information

- **AmITX-BE-G-RX427BB**
  Mini-ITX with AMD® RX-427BB
- **AmITX-BE-G-RX425BB**
  Mini-ITX with AMD® RX-425BB
- **AmITX-BE-G-RX225FB**
  Mini-ITX with AMD® RX-225FB
- **AmITX-BE-G-RX427BB-LVDS**
  Mini-ITX with AMD® RX-427BB, LVDS+3x DisplayPort
- **AmITX-BE-G-RX425BB-LVDS**
  Mini-ITX with AMD® RX-425BB, LVDS+3x DisplayPort
- **AmITX-BE-G-RX225FB-LVDS**
  Mini-ITX with AMD® RX-225FB, LVDS+3x DisplayPort

Packing List

- **30-20872-0000**
  ATX/AT Power Cable
- **30-20875-0000**
  SATA Dual Power Cable
- **30-10057-0600**
  SATA Cable
- **34-25314-0000**
  Rear I/O Shield

Optional Accessories

- **30-20876-0000**
  COM Port Cable, 1 Port, 25cm
- **30-20873-0000**
  PS/2 KB/MS Cable, 40cm
- **30-20874-1000**
  USB 2.0 Cable, 2 ports, 20cm
- **32-20478-0000**
  5010-CU-CJ APU Cooler
- **32-20499-0000**
  5010-AL-RG APU Cooler

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