

# 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

## 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®**

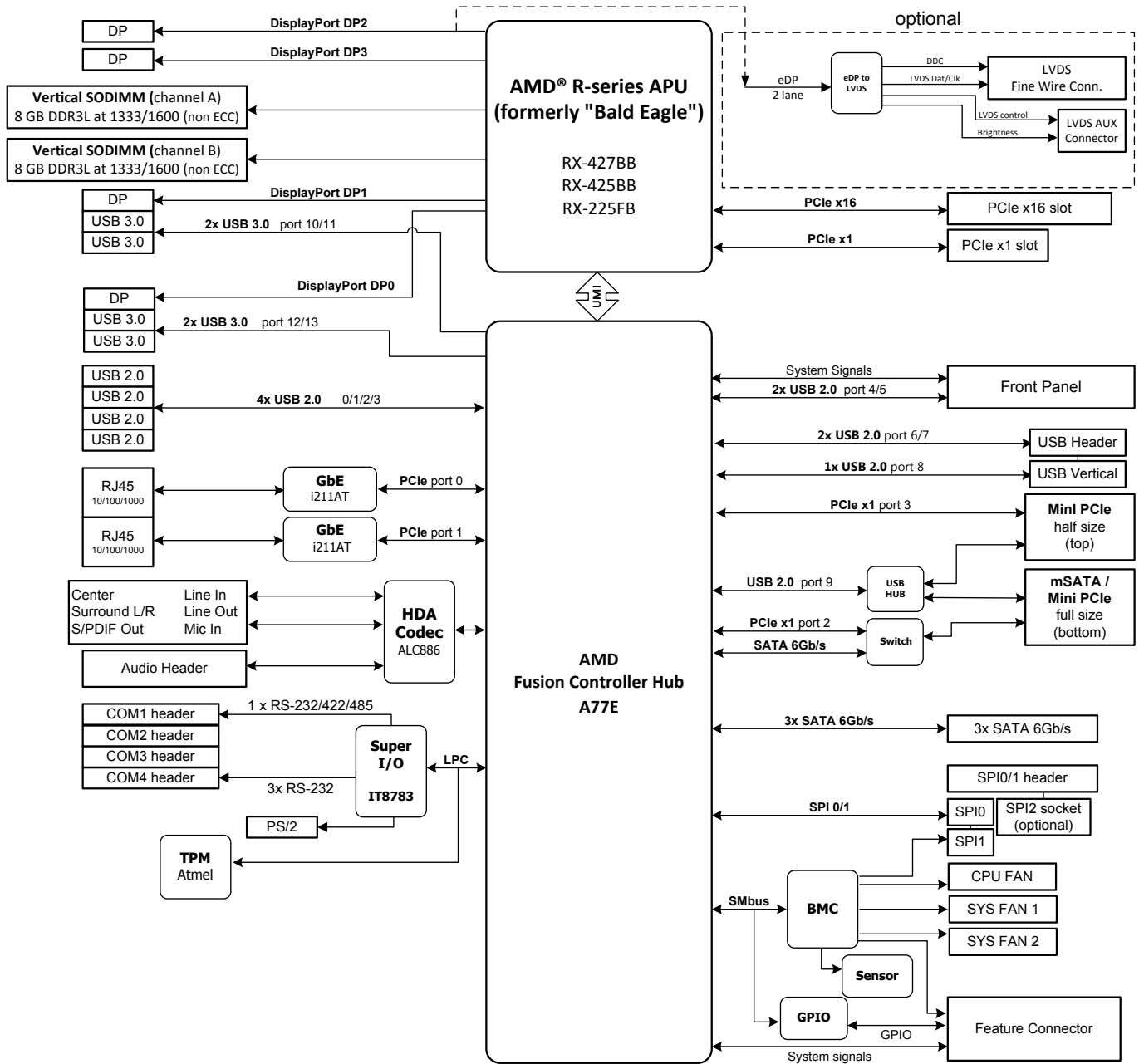
Local management, control of embedded computer systems

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