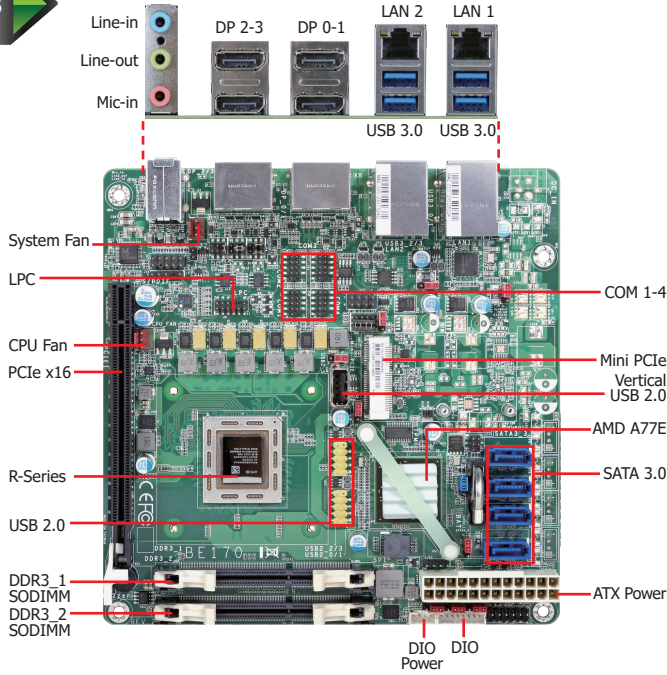




# 2nd Gen AMD® Embedded R-Series Mini-ITX

## BE170

R-Series

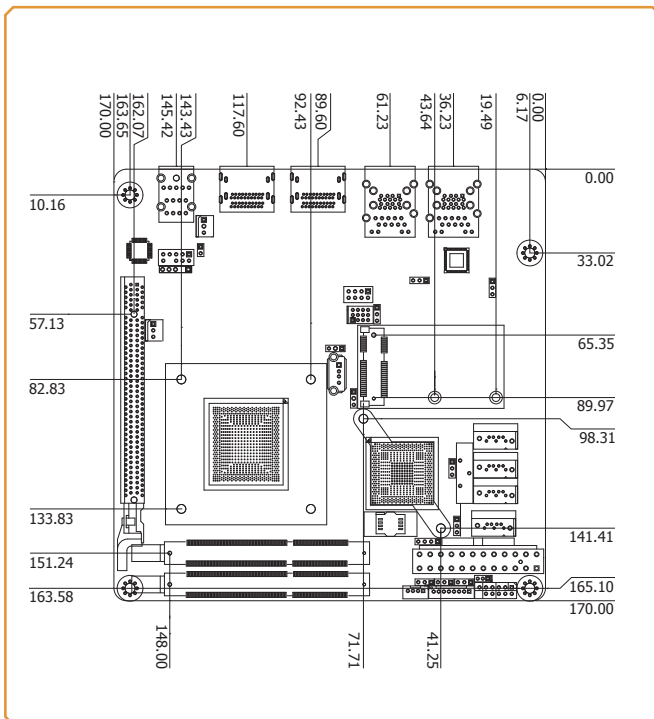


### Features

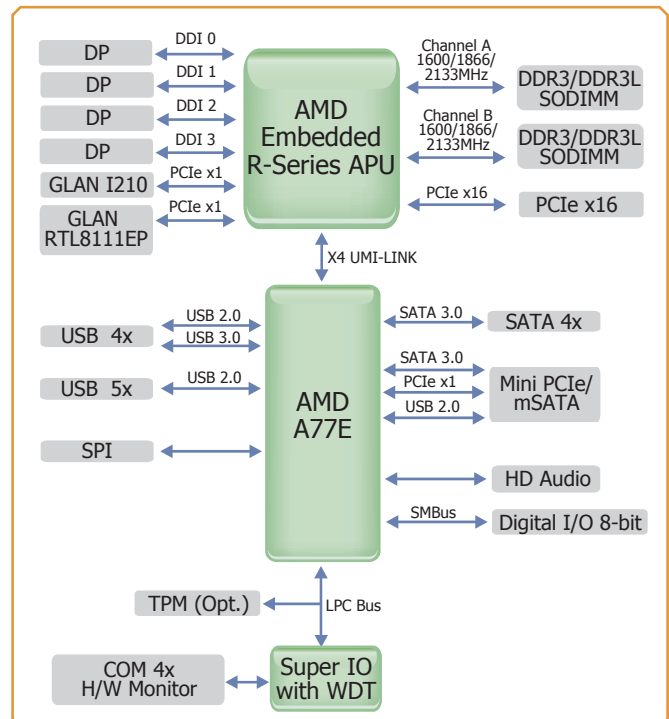
MEMORY	2 DDR3/DDR3L SODIMM up to 16GB
EXPANSION	1 PCIe x16 (1 x16 signal or 1 x8 signal) 1 Mini PCIe
DISPLAY OUTPUTS	4 DP
LAN	2 LAN
COM	4 COM
USB	9 USB: 4 USB 3.0, 5 USB 2.0
STORAGE	4 SATA 3.0
DIO	8-bit DIO



### Mechanical Drawing



### Block Diagram



# BE170

**Specifications** \* Optional and is not supported in standard model. Please contact your sales representative for more information.

**APU (Accelerated Processing Unit)**

- 2nd Generation AMD® Embedded R-Series APU FP3 BGA
- 28nm process technology
- Please refer to the Ordering Information below*

**CHIPSET**

- AMD® A77E Fusion Controller Hub

**SYSTEM MEMORY**

- Two 204-pin SODIMM sockets
- Supports DDR3/DDR3L 1600/1866/2133MHz
- Supports up to 16GB system memory
- Supports dual channel memory interface
- DRAM device technologies: 1Gb, 2Gb and 4Gb DDR3 DRAM technologies are supported for x8 and x16 devices, unbuffered, non-ECC

**EXPANSION SLOTS**

- 1 PCIe x16 slot
  - 1 x16 signal (Gen 3) (Quad Core APU)
  - 1 x8 signal (Gen 3) (Dual Core APU)
- 1 Mini PCIe slot
  - Supports USB and PCIe signals
  - Supports mSATA
  - Supports half size and/or full size Mini PCIe card

**ONBOARD GRAPHICS FEATURES**

- AMD Radeon™ HD 9000 Series Graphics
- Display ports: 4 DP (supports DP++)
- DP: resolution up to 3840x2160 @ 30Hz
- Supports hardware acceleration for DirectX 11.1, OCL 1.2, OGL 4.1/4.1+, H.264, VC-1, MPEG-4, MPEG-2 and WMV

**ONBOARD AUDIO FEATURES**

- Realtek ALC888 7.1-channel High Definition Audio
- S/PDIF audio interface

**ONBOARD LAN FEATURES**

- 1 Intel® I210 PCI Express Gigabit Ethernet controller
- 1 Realtek RTL8111EP Ethernet controller
  - supports DASH for remote management
- Integrated 10/100/1000 transceiver
- Fully compliant with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab

**SERIAL ATA INTERFACE**

- 4 SATA 3.0 ports with data transfer rate up to 6Gb/s
  - SATA port 0 provides adequate space for SATA DOM
- Integrated Advanced Host Controller Interface (AHCI) controller

**TRUSTED PLATFORM MODULE (TPM)\***

- Provides a Trusted PC for secure transactions
- Provides software license protection, enforcement and password protection

**REAR PANEL I/O PORTS**

- 4 DP ports
- 2 RJ45 LAN ports
- 4 USB 3.0 ports
- Mic-in, line-in and line-out jacks

**I/O CONNECTORS**

- 2 connectors for 4 external USB 2.0/1.1 ports
- 1 vertical USB 2.0/1.1 port
- 4 connectors for 4 external serial ports (2.0mm pitch)
  - 1 RS232/422/485
  - 3 RS232
- 1 8-bit DIO connector
- 1 Digital I/O power connector
- 1 front audio connector for line-out and mic-in jacks
- 1 S/PDIF connector
- 1 LAN LED connector\*
- 1 LPC connector
- 1 SMBus connector
- 4 Serial ATA connectors
- 1 24-pin ATX power connector
- 1 front panel connector
- 1 chassis intrusion connector
- 2 fan connectors

**WATCHDOG TIMER**

- Watchdog timeout programmable via software from 1 to 255 seconds

**BIOS**

- AMI BIOS
- 64Mbit SPI BIOS

**ENERGY EFFICIENT DESIGN**

- Supports ErP Lot6 power saving\*
- Supports ACPI
- System Power Management
- Wake-On-Events include:
  - Wake-On-USB KB/Mouse
  - Wake-On-LAN
  - RTC timer to power-on the system
- AC power failure recovery

**DAMAGE FREE INTELLIGENCE**

- Monitors APU/system temperature and overheat alarm
- Monitors APU\_VDD/APU\_VDDNB/APU\_VDDIO\_SUS/+12V voltages and failure alarm
- Monitors APU/system fan speed and failure alarm
- Read back capability that displays temperature, voltage and fan speed

**POWER CONSUMPTION**

- BE170-77EN-427B: 38.06W with RX-427BB at 2.7GHz and 2x 4GB DDR3L SODIMM

**OS SUPPORT**

- Windows 7 Ultimate x86 & SP1 (32/64-bit)
- Windows 7 Ultimate x64 & SP1 (32/64-bit)
- Windows 8.1 Embedded Pro x64 (32/64-bit)

**TEMPERATURE**

- Operating: 0°C to 60°C
- Storage: -20°C to 85°C

**HUMIDITY**

- 10% to 95%

**MTBF**

- BE170: 385,439 hrs @ 25°C; 244,380 hrs @ 45°C ; 156,536 hrs @ 60°C
  - Calculation model: Telcordia Issue 4
  - Environment: GB, GC – Ground Benign, Controlled

**DIMENSIONS**

- Mini-ITX form factor
- 170mm (6.7") x 170mm (6.7")

**Ordering Information**

Model Name	Processor	Memory	RS232	RS232/422/485	Power	Thermal	Temperature
BE170-77EN-427B	AMD® RX-427BB, Quad Core, 4M Cache, 2.7GHz (3.6GHz), 35W	2 SODIMM	3	1	24-pin ATX	Cooler	0°C to 60°C
BE170-77EN-225B	AMD® RX-225FB, Dual Core, 1M Cache, 2.2GHz (3.0GHz), 17W	2 SODIMM	3	1	24-pin ATX	Cooler	0°C to 60°C

The following specifications will be available upon request. Please contact your sales representative for more information.

Model Name	Chipset	Processors
BE170	- 77E	N - 425B
		425B: AMD® RX-425BB, Quad Core, 4M Cache, 2.5GHz (3.4GHz), 35W

**Packing List**

- 1 BE170 motherboard
- 1 Serial ATA data cable: 332-553001-005G
- 1 I/O shield: A49-BE1700-000G
- 1 Cooler: A71-108004-000G

**Optional Items**

- USB port cable: 332-253010-026G
- COM port cable: A81-015001-001G
- Serial ATA data cable: 332-553001-005G
- I/O shield: A49-BE1700-000G