

## EL331-RM

### Intel® Q45 microATX Board

#### PROCESSOR

- LGA 775 socket for:
  - Intel® Core™2 Quad Q9400
  - Intel® Core™2 Duo E8400/E7400/E6400/E4300
  - Intel® Pentium® E6500/E5300/E2160
  - Intel® Celeron® E3400/E1500/440
- Supports Intel Enhanced Memory 64 Technology (EM64T)
- Supports Enhanced Intel SpeedStep Technology (EIST)
- 1333/1066/800MHz FSB

#### CHIPSET

- Intel® chipset
  - Intel® Q45 Express chipset
  - Intel® ICH10DO I/O Controller Hub

#### SYSTEM MEMORY

- Four 240-pin DDR3 DIMM sockets
- Supports DDR3 800/1066MHz DIMM
- Supports maximum memory bandwidth of 17GB/s in dual-channel mode when using DDR3 1066MHz
- Supports dual channel memory interface
- Supports up to 8GB system memory
- Supports unbuffered x8 and x16 DIMMs

#### EXPANSION SLOTS

- 1 PCI Express x16 slot (PCIe 2.0)
- 1 PCI Express x4 slot (PCIe 1.1)
- 2 PCI slots (PCI 2.3)

#### ONBOARD GRAPHICS FEATURES

- Integrated Intel GMA 4500
  - Supports 3D, 2D and video capabilities, DX10 and OpenGL 2.1
- Display port: VGA

#### ONBOARD AUDIO FEATURES

- Realtek ALC262 2-channel High Definition Audio
- Two 24-bit stereo DACs and three 20-bit stereo ADCs
- S/PDIF audio interface

#### ONBOARD LAN FEATURES

- Intel WG82567LM PCI Express Gigabit Ethernet controller
- Supports 10Mbps, 100Mbps and 1Gbps data transmission
- IEEE 802.3 (10/100Mbps) and IEEE 802.3ab (1Gbps) compliant

#### SERIAL ATA (SATA) INTERFACE

- 4 SATA (Serial ATA) interfaces compliant with SATA 1.0 specification
- SATA speed up to 3Gb/s (SATA 2.0)
- Supports RAID 0/1/5/10

#### IDE INTERFACE

- Supports up to two IDE devices
- Supports Ultra ATA 133/100/66/33

#### INTEL ACTIVE MANAGEMENT TECHNOLOGY (AMT)

- Supports iAMT5.0
- Out-of-band system access
- Remote troubleshooting and recovery
- Hardware-based agent presence checking
- Proactive alerting
- Remote hardware and software asset tracking

#### TRUSTED PLATFORM MODULE (TPM)

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

#### REAR PANEL I/O PORTS

- 1 mini-DIN-6 PS/2 mouse port
- 1 mini-DIN-6 PS/2 keyboard port
- 1 DB-25 parallel port
- 1 DB-9 RS232 serial port
- 1 DB-15 VGA port
- 1 RJ45 LAN port
- 4 USB 2.0/1.1 ports
- Mic-in, line-in and line-out

#### I/O CONNECTORS

- 2 connectors for 4 external USB 2.0/1.1 ports
- 1 connector for an external RS232 serial port
- 1 8-bit DIO connector
- 1 front audio connector for line-out and mic-in jacks
- 1 CD-in connector
- 1 S/PDIF connector
- 4 Serial ATA ports
- 1 40-pin IDE connector
- 1 FDD connector
- 1 24-pin ATX power connector
- 1 4-pin 12V power connector
- 1 chassis intrusion connector
- 1 front panel connector
- 3 fan connectors

#### BIOS

- AMI BIOS
- 32Mbit SPI BIOS

#### ENERGY EFFICIENT DESIGN

- ACPI v2.0 specification
- System Power Management
- Wake-On-Events include:
  - Wake-On-USB Keyboard/Mouse
  - Wake-On-LAN
- AC power failure recovery

#### DAMAGE FREE INTELLIGENCE

- Monitors CPU/system temperature and overheat alarm
- Monitors CPU/DIMM/5V/12V/5VSB/VBAT voltages and failure alarm
- Monitors CPU/system fan speed and failure alarm
- Read back capability that displays temperature, voltage and fan speed

#### TEMPERATURE

- 0°C to 60°C

#### HUMIDITY

- 10% to 90%

#### PCB

- microATX form factor
- 244mm (9.6") x 244mm (9.6")

#### REAR PANEL I/O PORTS

