

AL9A8

Intel® Atom® Processor E3900 Series
COM Express® Mini

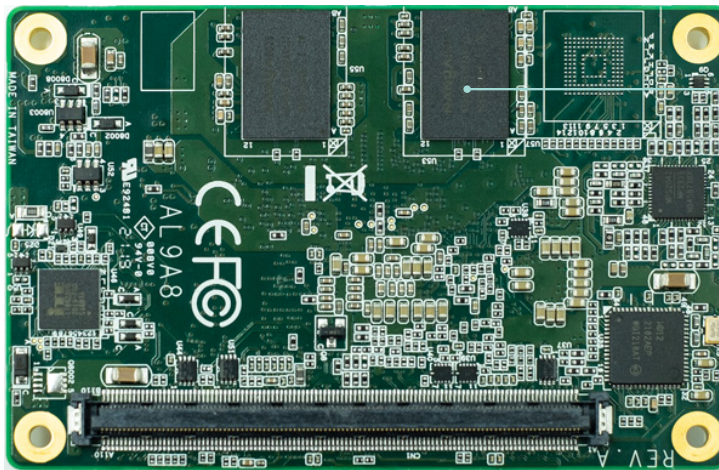


Intel® Atom® Processor
E3900 Series



LPDDR4 Memory

Top View



LPDDR4 Memory

Bottom View

KEY FEATURES



DDR4

LPDDR4-2400 up to 8GB



4K High Resolution

Supports 4K resolution



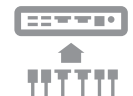
High Speed Ethernet

Supports 100M/1000M/2.5Gbps



Multiple Expansion

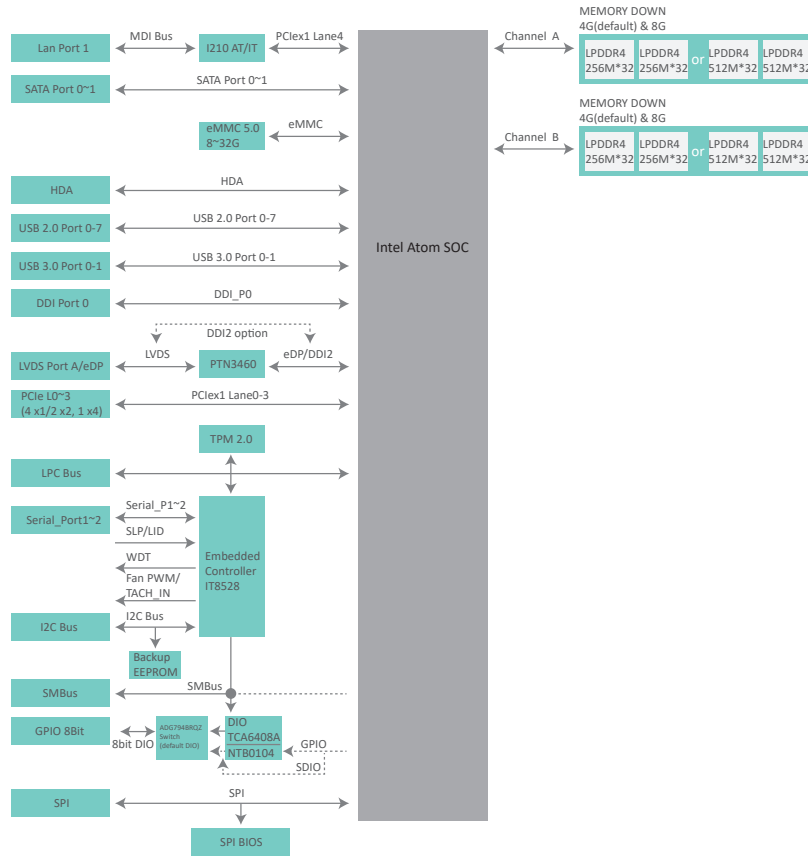
4 PCIe x1, 1 SMBus, 1 I²C, 1 SPI, 1 CANbus



Rich I/O

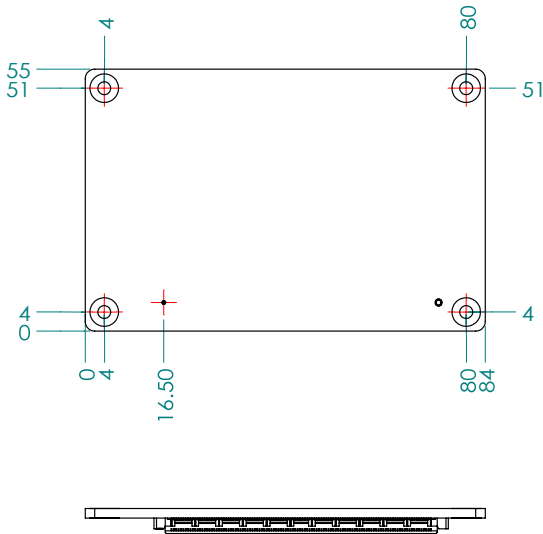
2 USB 3.0
8 USB 2.0

BLOCK DIAGRAM

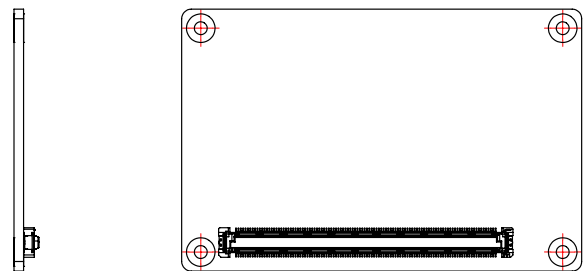


MECHANICAL DRAWING

TOP
Limit H=7mm



BOTTOM
Limit H=3.5mm



SPECIFICATION

| | | |
|------------------------------|-------------------------------|--|
| SYSTEM | Processor | Intel® Atom Processor E3900 Series, BGA 1296 Intel® Atom, Dual/Quad Core, 2M Cache, 1.8~2.0GHz, 5.5~12W Intel® Pentium® Processor N4200, Quad Core, 2M Cache, 2.5GHz, 6W Intel® Celeron® Processor N3350, Dual Core, 2M Cache, 2.2GHz, 6W |
| | Memory | 4GB/8GB Memory Down Dual Channel LPDDR4 2400MHz |
| | BIOS | SPI 128Mbit 8 pin |
| GRAPHICS | Controller | Intel® HD Graphics |
| | Feature | OpenGL 5.0, DirectX 12, OpenCL 2.1 HW Decode: AVC/H.264, MPEG2, VC1, WMV9, JPEG/MJPEG, HEVC/H.265, VP8, VP9, MVC HW Encode: AVC/H.264, JPEG/MJPEG, HEVC/H.265, VP8, VP9, MVC |
| | Display | 1 x DDI (HDMI/DP++) 1 x LVDS/eDP eDP: resolution up to 4096x2304 @ 60Hz HDMI: resolution up to 4096x2160 @30Hz DP++: resolution up to 4096x2304 @ 60Hz/3840x2160 @ 60Hz Dual Display: DDI+ LVDS/eDP |
| | Interface | 4 x PCIe x1 (Gen 2) 1 x SDIO (available upon request) 1 x LPC 1 x I2C 1 x SMBus 1 x SPI 2 x UART (TX/RX) |
| AUDIO | Interface | HD Audio |
| ETHERNET | Controller | 1 x Intel® I210AT (10/100/1000Mbps) (0°C to 60°C) 1 x Intel® I210IT (10/100/1000Mbps) (-40°C to 85°C) |
| I/O | USB | 2 x USB 3.0 8 x USB 2.0 |
| | SATA | 2 x SATA 3.0 (up to 6Gb/s) |
| | eMMC | 1 x eMMC up to 128 GByte |
| | GPIO | 1 x 6-bit GPIO |
| WATCHDOG TIMER | Output & Interval | System Reset, Programmable via Software from 1 to 255 Seconds |
| POWER | Type | 4.75V~20V, 5VSB, VCC_RTC (ATX mode) 4.75V~20V, VCC_RTC (AT mode) |
| | Consumption | Typical: E3940: 12V @ 0.34A (4.08W) Max.: E3940:12V @ 1.62A (19.44W) |
| OS SUPPORT | OS Support (UEFI Only) | Windows: Windows 10 IoT Enterprise 64-bit Linux |
| ENVIRONMENT | Temperature | Operating: -5 to 65°C, -40 to 85°C Storage: -40 to 85°C |
| | Humidity | Operating: 5 to 90% RH Storage: 5 to 90% RH |
| | MTBF | 1,090,551 hrs @ 25°C; 509,776 hrs @ 45°C; 283,622 hrs @ 60°C Calculation model: Telcordia Issue 2 Environment: GB, GC – Ground Benign, Controlled |
| MECHANISM | Dimensions | COM Express® Mini 84mm (3.3") x 55mm (2.16") |
| | Compliance | PICMG COM Express® R3.0, Type 10 |
| STANDARDS AND CERTIFICATIONS | Certifications | CE, FCC |

ORDERING INFORMATION

| Model Name | P/N | Processor | Memory | Display | Temp. |
|-----------------|-----------------|-----------|------------|---------|-------------|
| AL9A8-B40-E3930 | 770-AL9A81-000G | E3930 | 4GB LPDDR4 | LVDS | -5 to 65°C |
| AL9A8-T80-E3940 | 770-AL9A81-100G | E3940 | 8GB LPDDR4 | LVDS | -40 to 85°C |
| AL9A8-T80-E3950 | 770-AL9A81-200G | E3950 | 8GB LPDDR4 | LVDS | -40 to 85°C |
| AL9A8-B80-N4200 | 770-AL9A81-300G | N4200 | 8GB LPDDR4 | LVDS | -5 to 65°C |