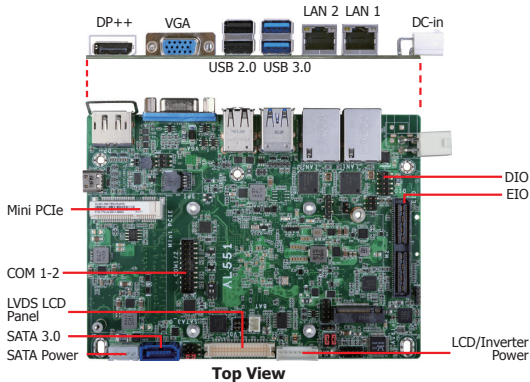


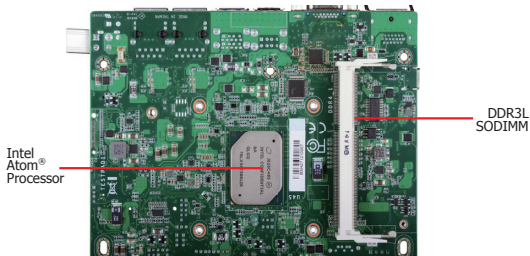
3.5" Board

Features

- 1 DDR3L SODIMM up to 8GB
- Three independent displays: VGA + LVDS + DP++
- DP++ resolution up to 4096x2160 @ 60Hz
Dual Channel LVDS resolution up to 1920x1200 @ 60Hz
- Wireless communication: mini PCIe
- Rich I/O: 2 Intel GbE, 2 COM, 2 USB 3.0, 4 USB 2.0

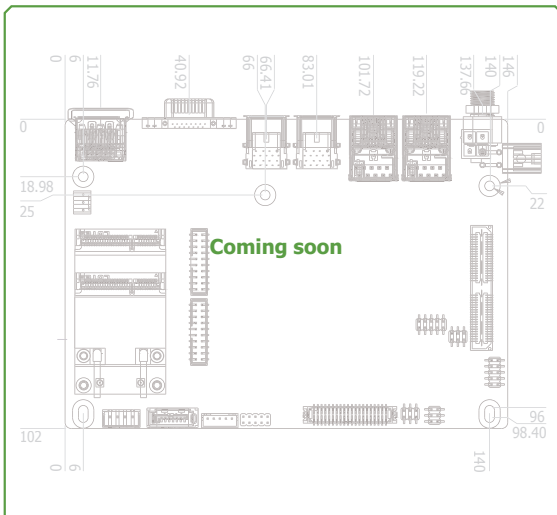


Top View

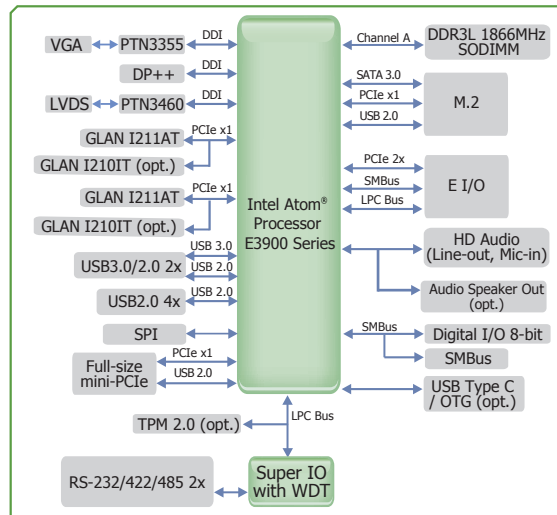


Bottom View

Mechanical Drawing



Block Diagram



3.5" Board

► Specifications

| | | |
|-----------------------|------------------------------|--|
| SYSTEM | Processor | Intel Atom® Processor E3900 Family, BGA 1296 Intel Atom® x7-E3950 Processor, Quad Core, 2M Cache, 1.6GHz (2.0GHz), 12W Intel Atom® x5-E3940 Processor, Quad Core, 2M Cache, 1.6GHz (1.8GHz), 9.5W Intel Atom® x5-E3930 Processor, Dual Core, 2M Cache, 1.3GHz (1.8GHz), 6.5W Intel Pentium® Processor N4200, Quad Core, 2M Cache, 1.1GHz (2.5GHz), 6W Intel® Celeron® Processor N3350, Dual Core, 2M Cache, 1.1GHz (2.4GHz), 6W |
| | Memory | One 204-pin SODIMM up to 8GB Single Channel DDR3L 1866MHz |
| | BIOS | Insyde SPI 128Mbit |
| GRAPHICS | Controller | Intel® HD Graphics |
| | Feature | OpenGL 4.2, Direct X 11.1, OpenCL 1.2, OGL ES 3.0 HW Decode: H.264, MPEG2, VC1, VP8, H.265, MPEG4 HW Encode: H.264, MPEG2, MPEG4 |
| | Display | 1 x VGA 1 x LVDS 1 x DP++ VGA: resolution up to 2048x1536 @ 50Hz LVDS: dual channel 48-bit, resolution up to 1920x1200 @ 60Hz DP++: resolution up to 4096x2160 @ 60Hz |
| EXPANSION | Triple Displays | VGA + LVDS + DP++ |
| | Interface | 1 x Full-size mini-PCIe (USB/PCIe) 1 x Extension I/O connector (available upon request) 1 x M.2 B key 2242 (PCIe/USB 2.0/SATA 3.0) |
| AUDIO | Audio Codec | Realtek ALC262 |
| ETHERNET | Controller | 2 x Intel® I211AT PCIe (10/100/1000Mbps) 2 x Intel® I210IT PCIe (10/100/1000Mbps) (available upon request) |
| REAR I/O | Ethernet | 2 x GbE (RJ-45) |
| | USB | 2 x USB 3.0 2 x USB 2.0 1 x USB Type C OTG (Linux only, available upon request) |
| | Display | 1 x VGA 1 x DP++ 1 x LVDS |
| INTERNAL I/O | Serial | 2 x RS-232/422/485 (2.0mm pitch) |
| | USB | 2 x USB 2.0 (2.0mm pitch) |
| | Display | 1 x LVDS LCD Panel Connector 1 x LCD/Inverter Power |
| | Audio | 1 x Audio (Line-out/Mic-in) Audio Speaker Out, Support 2 x 3W Speaker (available upon request) |
| | SATA | 1 x SATA 3.0 (up to 6Gb/s) 1 x SATA Power |
| | DIO | 1 x 8-bit DIO |
| | SMBus | 1 x SMBus |
| WATCHDOG TIMER | Output & Interval | System Reset, Programmable via Software from 1 to 255 Seconds |
| SECURITY | TPM 2.0 | Available Upon Request |
| POWER | Type | Single 12V +/-10% DC |
| | Connector | Right Angle Connector (4-pin) DC-in Jack (available upon request) Vertical Type Connector (4-pin) (available upon request) |
| | Consumption | TBD |
| | RTC Battery | Lithium 3V (210mAH) |
| OS SUPPORT | | Windows 10 64-bit Ubuntu 16.04 |
| ENVIRONMENT | Temperature | Operating: 0 to 60°C (Option: -20 to 70°C / -40 to 85 °C) Storage: -40 to 85°C |
| | Humidity | Operating: 10 to 90% RH Storage: 10 to 90% RH |
| | MTBF | TBD |
| MECHANICAL | Dimensions | 3.5" SBC Form Factor 146mm (5.75") x 102mm (4.02") |
| | Height | PCB: 1.6mm Top Side: TBD, Bottom Side: TBD |
| CERTIFICATIONS | | TBD |

► Ordering Information

| Model Name | P/N | Processor | Memory | Display | RS-232/422/485 | GbE | USB 3.0 | USB 2.0 | Power | Thermal | Temp. |
|----------------|-----|-----------|----------|-------------------|----------------|-----|---------|---------|-------|---------|-------------|
| AL551-BN-E3950 | TBD | X7-E3950 | 1 SODIMM | VGA + LVDS + DP++ | 2 | 2 | 2 | 4 | 12VDC | Fanless | 0 to 60°C |
| AL551-BN-E3940 | TBD | X5-E3940 | 1 SODIMM | VGA + LVDS + DP++ | 2 | 2 | 2 | 4 | 12VDC | Fanless | 0 to 60°C |
| AL551-BN-E3930 | TBD | X5-E3930 | 1 SODIMM | VGA + LVDS + DP++ | 2 | 2 | 2 | 4 | 12VDC | Fanless | 0 to 60°C |
| AL551-BN-N4200 | TBD | N4200 | 1 SODIMM | VGA + LVDS + DP++ | 2 | 2 | 2 | 4 | 12VDC | Fanless | 0 to 60°C |
| AL551-BN-N3350 | TBD | N3350 | 1 SODIMM | VGA + LVDS + DP++ | 2 | 2 | 2 | 4 | 12VDC | Fanless | 0 to 60°C |
| AL551-EN-E3950 | TBD | X7-E3950 | 1 SODIMM | VGA + LVDS + DP++ | 2 | 2 | 2 | 4 | 12VDC | Fanless | -20 to 70°C |
| AL551-TN-E3950 | TBD | X7-E3950 | 1 SODIMM | VGA + LVDS + DP++ | 2 | 2 | 2 | 4 | 12VDC | Fanless | -40 to 85°C |

► Packing List

| | |
|---|-----|
| • 1 AL551 board | |
| • 1 COM port cable (Length: 300mm, 2 x COM ports) | TBD |
| • 1 Serial ATA data cable (Length: 500mm) | TBD |
| • 1 Serial ATA power cable (Length: 250mm) | TBD |
| • 1 Heat sink (Height: TBD) | TBD |

► Optional Items

| | |
|---|-----|
| • USB port cable (Length: 200mm) | TBD |
| • COM port cable (Length: 300mm, 2 x COM ports) | TBD |
| • Power adapter (60W, 12V, DC Jack) | TBD |
| • Heat spreader (Height: 8mm) | TBD |
| • 1 Audio cable (Length: 160mm) | TBD |