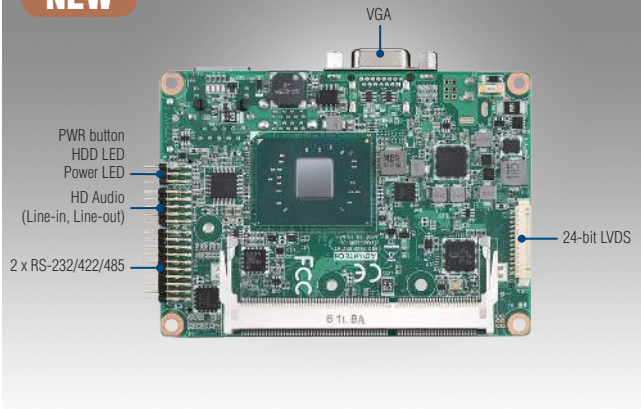


# MIO-2360

**Intel® Pentium N4200/Celeron N3350/Atom™ E3940/ Atom™ E3930 Pico-ITX SBC, DDR3L, 24-bit LVDS, VGA/HDMI, 1 GbE, Half-size Mini PCIe, 4 USB, 2 COM, SMBus, mSATA & MIOe**

**NEW**



## Features

- Embedded Intel® Pentium N4200/Celeron N3350/Atom™ E3940/ Atom™ E3930, DDR3L 1866MHz support up to 8GB
- Intel Gen 7 DirectX®11.1 support
- Dual independent display by 24-bit LVDS+VGA/HDMI
- Flexible design using integrated multiple I/O: MIOe to approach vertical applications & keep domain knowhow
- Rich I/O interface with 2 COM, 1 SATA, USB3.0, PCIe Mini Card and mSATA
- Supports WISE-PaaS/RMM and Embedded Software APIs

### Software APIs:



### Utilities:

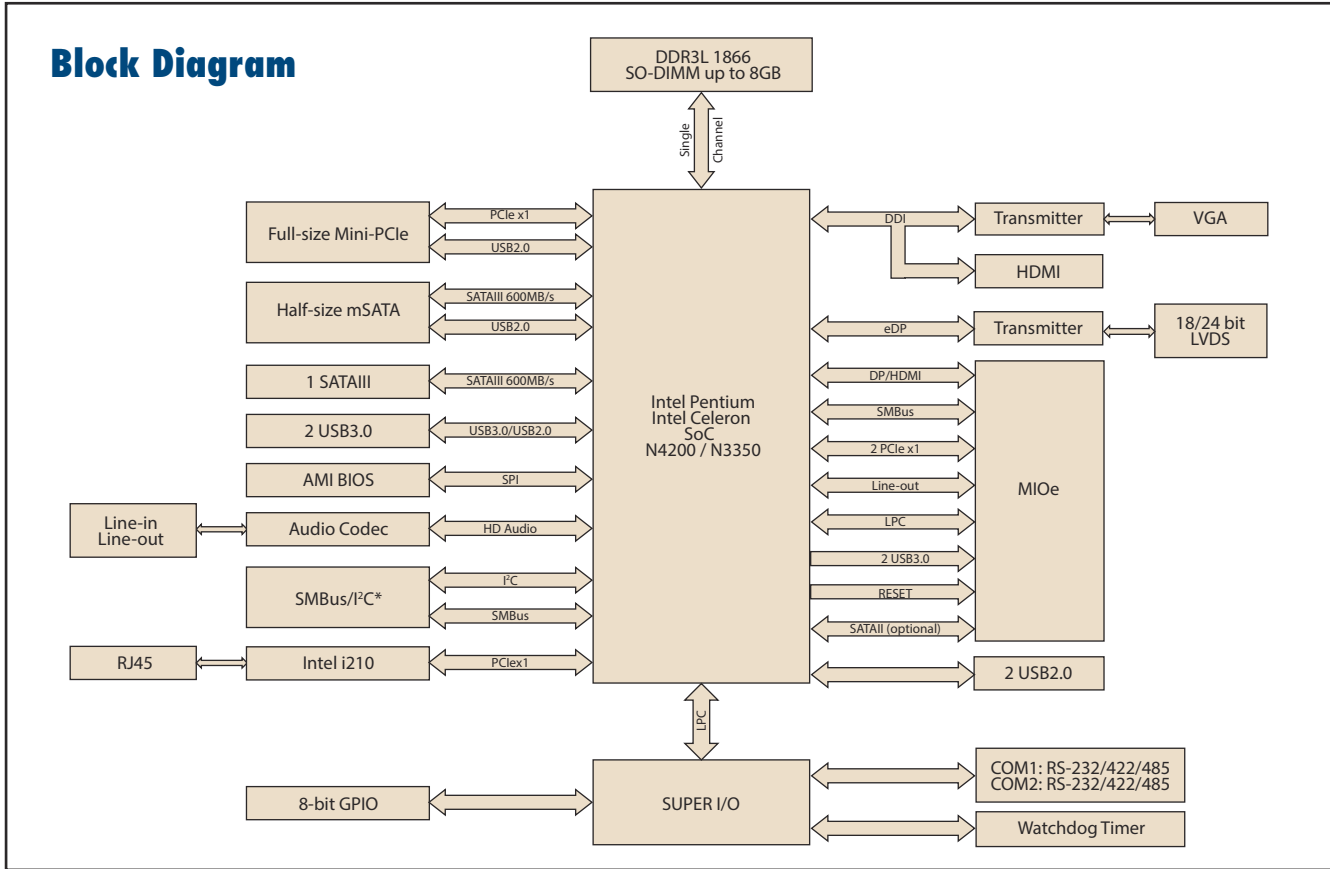


## Specifications

|                          | CPU                                  | Pentium N4200  | Intel Celeron N3350     | Intel Atom E3940     | Intel Atom E3930     |
|--------------------------|--------------------------------------|--|-------------------------|----------------------|----------------------|
| Processor System         | Frequency                            | 1.10 GHz (Quad-Core)   | 1.10 GHz (Dual-Core)    | 1.60 GHz (Quad-Core) | 1.30 GHz (Dual-Core) |
|                          | L2 Cache                             | 2 MB   |                         |                      |                      |
|                          | Max Turbo Frequency                  | 2.50 GHz   | 2.40 GHz                | 1.80 GHz             | 1.80 GHz             |
|                          | System Chipset                       | Intel Celeron / Atom SoC processor integrated  |                         |                      |                      |
|                          | BIOS                                 | AMI EFI 64 Mbit  |                         |                      |                      |
| Memory                   | Technology                           | DDR3L 1866 MHz   |                         |                      |                      |
|                          | Max. Capacity                        | 8 GB   |                         |                      |                      |
|                          | Socket                               | 1 x 204-pin SODIMM (Support 1.35V DDR3L)   |                         |                      |                      |
| Display                  | Chipset                              | Intel® Celeron/Atom SoC integrated   |                         |                      |                      |
|                          | Graphic Engine                       | TBD  |                         |                      |                      |
|                          | LVDS                                 | Supports single channel 24-bit LVDS<br>Resolution: 1440 x 900 at 60Hz  |                         |                      |                      |
|                          | VGA                                  | Up to 1920 x 1200 at 60Hz  |                         |                      |                      |
|                          | HDMI                                 | Up to 3840 x 2160 at 30Hz  |                         |                      |                      |
| Ethernet                 | Dual Display                         | Yes (VGA+LVDS+MIOe or HDMI+LVDS+MIOe)  |                         |                      |                      |
|                          | Speed                                | 10/100/1000 Mbps   |                         |                      |                      |
|                          | Controller                           | Intel i210   |                         |                      |                      |
|                          | Connector                            | RJ45 on rear I/O   |                         |                      |                      |
| Audio                    | Chipset                              | Realtek ALC888S, High Definition Audio (HD), Line-in, Line-out   |                         |                      |                      |
| Watchdog Timer           |                                      | Output system reset, programmable counter from 1-255 minutes/ seconds  |                         |                      |                      |
| Storage                  | mSATA                                | 1 x half size mini PCIe slot   |                         |                      |                      |
|                          | SATA                                 | 1, up to 6Gb/s (600MB/s)   |                         |                      |                      |
| Rear I/O                 | Ethernet                             | 1  |                         |                      |                      |
|                          | VGA                                  | 1  |                         |                      |                      |
|                          | USB                                  | 2 x USB 3.0  |                         |                      |                      |
|                          | DC Power Jack*                       | 1  |                         |                      |                      |
| Internal I/O             | USB                                  | 2 x USB 2.0  |                         |                      |                      |
|                          | Serial                               | 2 x RS-232/422/485 from COM1 & COM2 with auto-flow control<br>(ESD protection for RS-232: Air gap ±15kV, Contact ±8kV) |                         |                      |                      |
|                          | SMBus                                | 1  |                         |                      |                      |
|                          | GPIO                                 | 8-bit general purpose input/ output  |                         |                      |                      |
|                          | Expansion                            | Mini PCI Express   | 1 x Full-size           |                      |                      |
| Power                    | MIOe                                 | SMBus, 2 x USB3.0, LPC, 2 x PCIe x1, line out, DisplayPort/HDMI*, +5 Vsb/+12 Vsb power, Power On, Reset, SATA*         |                         |                      |                      |
|                          | Power Type                           | Single 12V DC power input (Supports DC power hot plug)   |                         |                      |                      |
|                          | Power supply voltage                 | Supports single 12V input, ±10%  |                         |                      |                      |
|                          | Total peripheral power supply output | 5V @ 3A for CPU board and MIOe module totally, 12V @ 2A for MIOe module  |                         |                      |                      |
|                          | Power Consumption (Typical)          | N3350:   | 0.41 @ 12V (4.89 W)     |                      |                      |
|                          |                                      | E3940:   | TBD                     |                      |                      |
|                          |                                      | E3930:   | TBD                     |                      |                      |
|                          | Power Consumption (Max, test in HCT) | N3350:   | 1.09 A @ 12 V (12.90 W) |                      |                      |
| E3940:                   |                                      | TBD  |                         |                      |                      |
| E3930:                   |                                      | TBD  |                         |                      |                      |
| Power Management         | ACPI                                 |  |                         |                      |                      |
| Battery                  | Lithium 3V/ 210mAh                   |  |                         |                      |                      |
| Environment              | Operation                            | 0 - 60° C with air flow 0.7m/s (32 - 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)                     |                         |                      |                      |
|                          | Non-Operation                        | -40° C - 85° C and 60° C @ 95% RH non-condensing   |                         |                      |                      |
| Physical Characteristics | Dimensions (L x W)                   | 100 x 72 mm (3.9" x 2.8")  |                         |                      |                      |
|                          | Weight                               | 0.47 kg (1.04 lb), weight of total package   |                         |                      |                      |
|                          | Total Height                         | 34.10 mm   |                         |                      |                      |

\* Support by request

## Block Diagram



## Ordering Information

| Part Number     | CPU                       | L2 Cache | Memory  | LVDS   | VGA | HDMI | Audio | RS-232 | RS-232/422/485 | USB 3.0 | USB 2.0 | mSATA | SATA III | MIOe | Mini PCIe | Thermal solution | Operating Temp |
|-----------------|---------------------------|----------|---------|--------|-----|------|-------|--------|----------------|---------|---------|-------|----------|------|-----------|------------------|----------------|
| MIO-2360N-S2A1E | N4200, 2.50 GHz           | 2M       | SO-DIMM | 24-bit | Yes | -    | Yes   | 1      | 1              | 2       | 2       | Yes   | 1        | Yes  | Full-size | Passive          | 0 ~ 60° C      |
| MIO-2360N-S1A1E | N3350, 2.40 GHz           | 2M       | SO-DIMM | 24-bit | Yes | -    | Yes   | 1      | 1              | 2       | 2       | Yes   | 1        | Yes  | Full-size | Passive          | 0 ~ 60° C      |
| TBD             | Intel Atom E3940 1.80 GHz | -        | -       | -      | -   | -    | -     | -      | -              | -       | -       | -     | -        | -    | -         | -                | -              |
| TBD             | Intel Atom E3930 1.80 GHz | -        | -       | -      | -   | -    | -     | -      | -              | -       | -       | -     | -        | -    | -         | -                | -              |

\* Default BIOS supports 64 bits OS installation, BIOS for 32 bits OS installation is supported by project.

## Packing List

| Part No.       | Description   | Quantity |
|----------------|---|----------|
|                | MIO-2360 SBC  | 1        |
|                | Startup Manual  | 1        |
| 1700006291     | SATA cable 30cm   | 1        |
| 1700027546-01  | A cable 1*5P-2.0/1*5P-2.0+SATA 15P 15cm MIO-2360                                  | 1        |
| 1701200220     | RS-232 x 2 ports 2.0mm pitch 22cm   | 1        |
| 1700022444-01  | Audio cable 2.0 mm pitch 20 cm (line-in & line-out)                               | 1        |
| 1700002172     | USB cable 2.0 mm pitch USB-A(F) 17 cm   | 1        |
| 1700019705     | AT power cable 12 cm  | 1        |
| 9666226300E    | Screw and stud pack (2 screw for Mini PCIe, 4 x M3 studs and screws for heatsink) | 1        |
| 1960078695T001 | CPU heatsink for MIO-2360   | 1        |

## Optional Accessories

| Part No. | Description            |
|----------|------------------------|
| TBD      | MIO-2360 Heat spreader |

## Embedded OS/API

| Embedded OS/API | Part No. | Description  |
|-----------------|----------|--------------|
| WIN10           | TBD      | 64-bit (ENG) |
| VxWorks         | TBD      |              |
| Linux           | TBD      |              |
| Software API    | TBD      | SUSI V4.0    |

## Rear I/O View

