

## Features

- Onboard Intel® Atom™ x7-E3950, 2.0GHz [i-Temp support]
- Onboard Intel® Pentium® N4200, 2.5GHz or Celeron® N3350, 2.4GHz
- 1x DDR3L-1866 SO-DIMM, Max. 8GB
- Supports HDMI 1.4b, **Dual LVDS(18/24bit)**
- 2x Intel® I210IT PCI-E Gigabit LAN or I211AT PCI-E Gigabit LAN
- Watchdog timer, Digital I/O, mSATA, EuP/ErP
- 4x USB 3.0, 2x USB 2.0, 4x COM, 2x SATA III
- 1x Mini PCI-E slot (full-size), 1x Mini PCI-E slot (half-size)
- Wide-range operating temperature in certain models

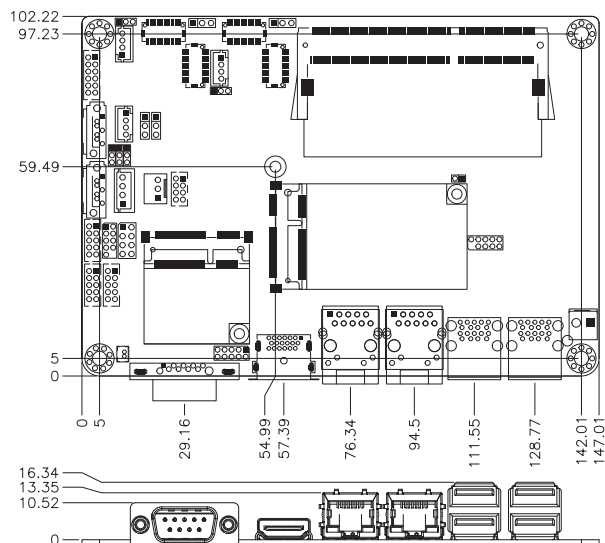
## Specifications

|                        |   |
|------------------------|---|
| CPU Socket             | Intel® Atom™ QC x7/ E3950 (1.6~2.0 GHz)<br>Intel® Pentium® QC N4200 (1.1~2.5 GHz)<br>Intel® Celeron® DC N3350 (1.1~2.4 GHz) |
| System Memory          | 1x DDR3L SO-DIMM, Max 8GB (Non-ECC)   |
| System Chipset         | Integrated in Intel® SoC  |
| BIOS                   | AMI   |
| Watchdog Timer         | 256 levels  |
| SSD                    | 1x mSATA (Via full-size Mini PCI-E)   |
| H/W Monitor            | Yes   |
| Expansion Slot         | 2x Mini PCI-E (1x full-size, 1x half-size)  |
| VGA Controller         | Intel® SoC integrated Gen9 18EUs graphics   |
| VGA Memory             | Share memory  |
| Display Interface      | Supports HDMI(1.4b), Dual LVDS (18/24bit)   |
| LAN Controller         | IB818F-I50 2x Intel® I210IT PCI-E Gigabit LAN<br>IB818F-420/335: 2x Intel® I211AT PCI-E Gigabit LAN                         |
| LAN Connector          | 2x RJ-45  |
| I/O Chipset            | Fintek F81964D-I<br>1x RS232/422/485 (jumperless selection)<br>3x RS232   |
| USB                    | 4x USB 3.0 on board<br>2x USB 2.0 via pin-header  |
| Serial ATA             | 2x SATA III   |
| Audio                  | Intel® Atom™ SoC built-in HD audio controller + Realtek ALC283 Codec w/ class-D speaker amplifier                           |
| Others                 | Digital I/O, +12V~+24V DC-in, EuP/ErP   |
| Dimensions             | 102 x 147 mm (4" x 5.8")  |
| Max. Power Requirement | Intel® Atom™ E3950, 1.6GHz w/ 8GB DDR3L +12V: 1.09A<br>Intel Pentium N4200, 1.1GHz w/8GB DDR3L +12V: 1.09A                  |
| Operating Temperature  | <b>E3950: -40°C ~ +85°C (-40°F ~ 185°F)</b><br>N4200/N3350: 0°C ~ +60°C (32°F ~ 140°F)                                      |
| Storage Temperature    | -40°C ~ 90°C (-40°F ~ 194°F)  |
| Relative Humidity      | 90% (non-condensing @60°C)  |

## Ordering Information

|            |   |
|------------|---|
| IB818F-I50 | Intel® Atom™ x7/ E3950 (1.6GHz~2.0 GHz) 3.5-inch Disk-Size SBC w/ dual GbE LAN, HDMI, 2x LVDS (18/24-bit LVDS dual-channel), EuP/ErP, 12V~24V DC-in, wide temp. support |
| IB818F-420 | Intel® Pentium® N4200 (1.1GHz~2.5GHz) 3.5-inch Disk-Size SBC w/ dual GbE LAN, HDMI, 2x LVDS (18/24-bit LVDS dual-channel), EuP/ErP, 12V~24V DC-in                       |
| IB818F-335 | Intel® Celeron® N3350 (1.1GHz~2.4GHz) 3.5-inch Disk-Size SBC w/ dual GbE LAN, HDMI, 2x LVDS (18/24-bit LVDS dual-channel), EuP/ErP, 12V~24V DC-in                       |
| HSIB818-I  | Heat sink for IB818F-I50  |
| HSIB818    | Heat sink for IB818F-420/ IB818F-335  |
| IB76A-1    | Cable kit w/ USB, COM, Power, SATA+Power  |

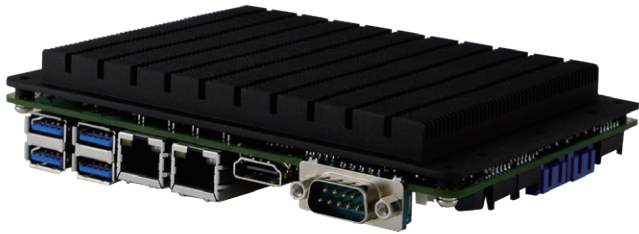
## Dimensions and Drawing



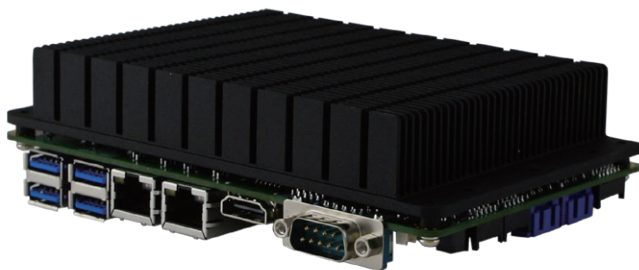
#### Processor Ultra Low Power Reference Table

| Processor Number                        | Intel® Pentium® Processors - 14 nm Apollo-Lake SoC Platform | Intel® Celeron® Processors - 14 nm Apollo-Lake SoC Platform | Intel® Atom™ Processors - 14nm or Apollo-Lake-I SoC Platform |          |          |
|---|---|---|--|----------|----------|
|   | N4200   | N3350   | x7-E3950   | x5-E3940 | x5-E3930 |
| Base Freq (GHz)                         | 1.1   | 1.1   | 1.6  | 1.6      | 1.3      |
| Intel® Turbo Boost Technology 2.0 (GHz) | 2.5   | 2.4   | 2.0  | 1.8      | 1.8      |
| Last Level Cache                        | 2M  | 2M  | 2M   | 2M       | 2M       |
| Cores/Threads                           | 4/4   | 2/2   | 4/4  | 4/4      | 2/2      |
| Memory Speed (DDR3L)                    | 1866  | 1600  | 1866   | 1866     | 1866     |
| TDP                                     | 6W  | 6W  | 12W  | 9W       | 6.5W     |

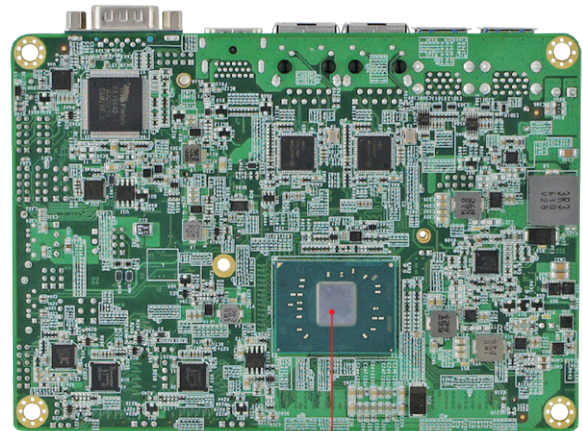
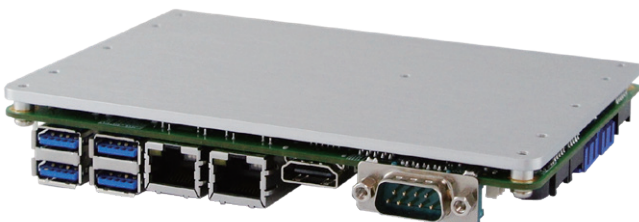
#### IB818 with heatsink for Pentium® & Celeron® SoC



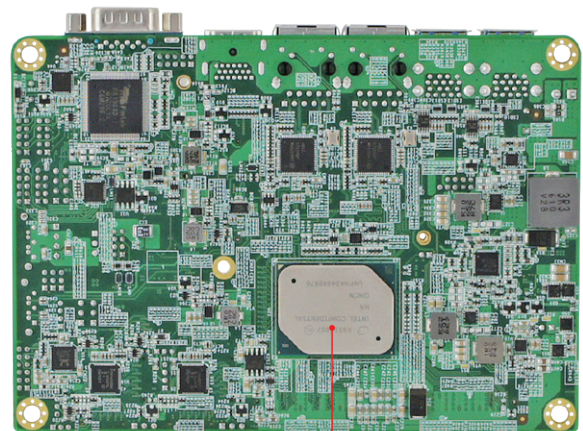
#### IB818 with heatsink for Atom™ SoC



#### IB818 with heat spreader



Intel® Pentium® QC N4200  
Intel® Celeron® DC N3350



Intel® Atom™ QC x7/ E3950

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2 CPU Modules

3 Disk-Size SBCs

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