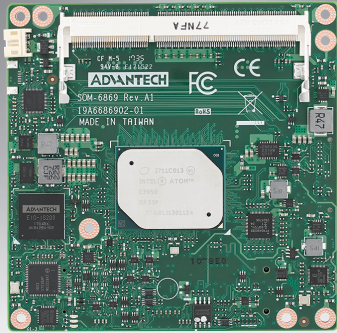


SOM-6869

Intel® Atom™ E3900 & Pentium™ and Celeron™ N Series Processors COM-Express Compact Module

NEW



Features

- COM R2.1 Type 6 Compact Module
- Intel® Atom™ E3900 & Pentium™ and Celeron™ N Series Processors
- Max. 8GB, dual Channel DDR3L memory (A1: non-ECC ; B1: ECC)
- Supports up to 3 simultaneous display: LVDS/eDP, VGA, HDMI/DisplayPort
- Supports H.264/AVC, H.265/HEVC, VP9, VP8 HW DECODE
- Supports Wide-range operating temp.
- iManager, WISE-PaaS/RMM, and Embedded Software APIs

Software APIs:

- Watchdog
- IPC
- SMBus
- H/W Monitor
- GPIO
- Brightness Control

Utilities:

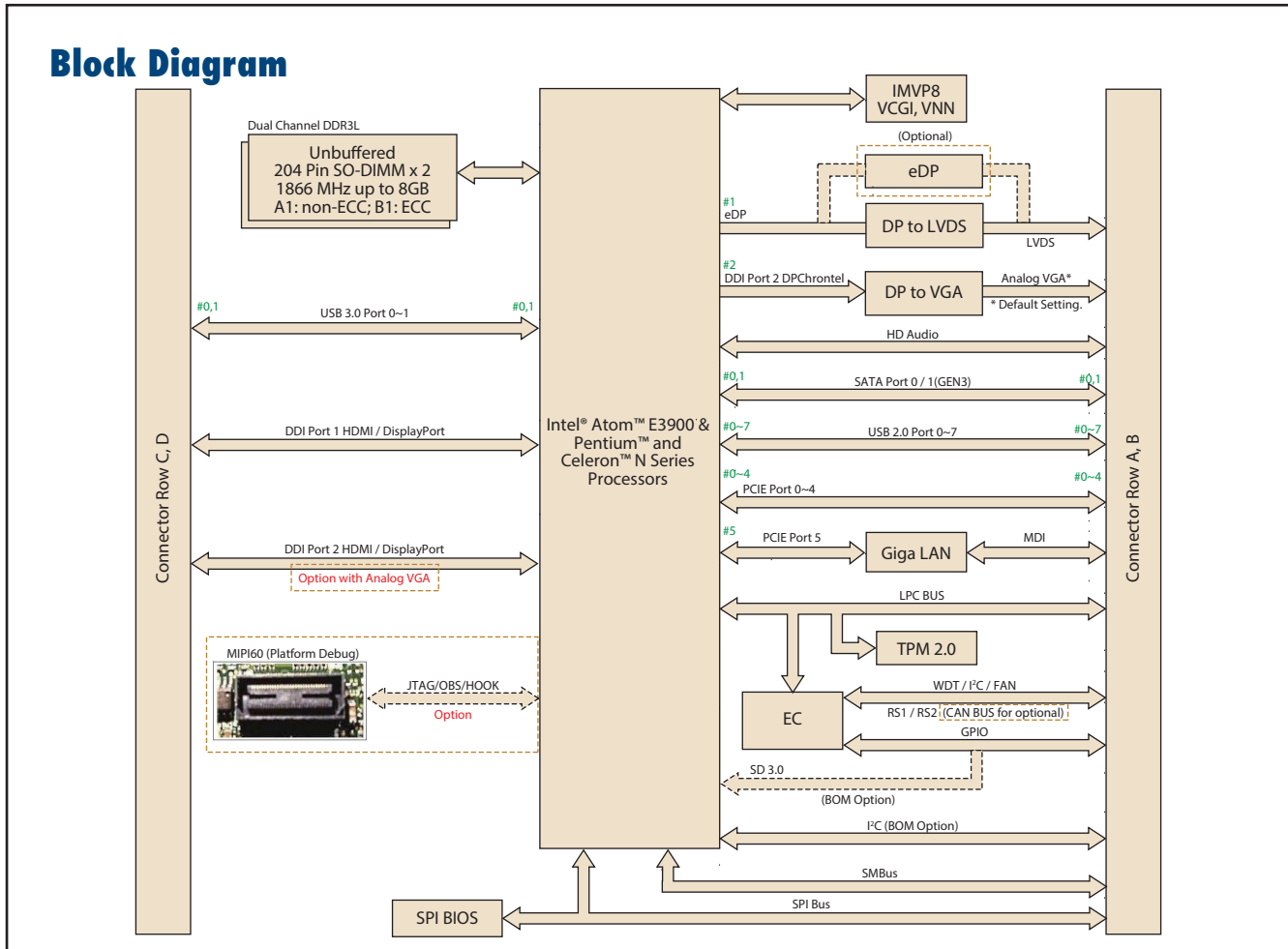
- BIOS flash
- Monitoring
- Embedded Security ID



Specifications

| | | | | | | |
|-------------|--------------------------|---|------------------------|------------------------|------------------------|------------------------|
| Compliance | Form-Factor | COM Express Compact Module | | | | |
| | Pin-out Type | COM Express R2.1 Type 6 pin out | | | | |
| Platform | Processor | Atom X7-E3950 | Atom X5-E3940 | Atom X5-E3930 | Pentium N4200 | Celeron N3350 |
| | Base Frequency | 1.6GHz | 1.6GHz | 1.3GHz | 1.1GHz | 1.1GHz |
| | Burst Frequency | 2GHz | 1.8GHz | 1.8GHz | 2.5GHz | 2.4GHz |
| | Core/Thread | 4/4 | 4/4 | 2/2 | 4/4 | 2/2 |
| | LLC | 2 MB | 2 MB | 2 MB | 2 MB | 2 MB |
| | CPU TDP | 12 W | 9.5 W | 6.5 W | 6 W | 6 W |
| Memory | BIOS | AMI UEFI BIOS @ 64 Mb | | | | |
| | Technology | Dual channel DDR3L, 1866 for non ECC/1600 for ECC | | | | |
| | ECC Support | A1: non-ECC; B1: ECC (E3900 SKU only) | | | | |
| | Channel/Socket | Dual Channels / 2 sockets | | | | |
| Graphics | Max. Capacity | Up to 8 GB | | | | |
| | Controller | Intel® HD Graphics 505 | Intel® HD Graphics 500 | Intel® HD Graphics 500 | Intel® HD Graphics 505 | Intel® HD Graphics 500 |
| | Graphics Burst Frequency | 650MHz | 600MHz | 550MHz | 750MHz | 650MHz |
| | Graphics Memory | Intel DMV15.0 | | | | |
| | 3D/HW Acceleration | DX (9.3, 10, 11.3, 12), OpenGL 4.3, OGL ES 3.0, OpenCL 2.0 HEVC (H.265) @ L5, H.264 @ 5.2, MVC, MPEG2, VP8, VP9, VC-1, WMV9, JPEG/MJPEG HW Decode, HEVC (H.265) @ L4, H.264 @ 5.2, MVC, VP8, VP9, JPEG/MJPEG HW Encode | | | | |
| Display | VGA | 1 port up to 1920 x 1200 | | | | |
| | LCD (LVDS/DP) | LVDS: Dual-channel 18/24-bit, up to 1366 x 768 eDP: Up to 4096 x 2160 @ 60 Hz | | | | |
| | DDI (HDMI/DisplayPort) | Multi-independent display: Up to 3 simultaneous display (1 Internal + 2 Externals) Resolution: ▪ HDMI1.4b: 3840 x 2160 @ 30Hz ▪ DP1.2a: 4096 x 2160 @ 60Hz | | | | |
| | Triple Display | eDP, VGA, HDMI/DisplayPort(DDI1) LVDS, VGA, HDMI/DisplayPort(DDI1) eDP, HDMI/DisplayPort(DDI1), HDMI/DisplayPort(DDI2) LVDS, HDMI/DisplayPort(DDI1), HDMI/DisplayPort(DDI2) | | | | |
| Expansion | PCI Express x1 | 5 PCIe x1, 1 PCIe x4 + 1 PCIe x1 (Optional) | | | | |
| | Audio Interface | Intel HD Audio Interface | | | | |
| | LPC | Yes (25MHz) | | | | |
| Serial Bus | SMBus | Yes (Default from CPU; Option from EC) | | | | |
| | PC Bus | Yes (Default from EC; Option from CPU) | | | | |
| Ethernet | Controller | Intel i210IT/i210AT | | | | |
| | Speed | 10/100/1000 Mbps | | | | |
| I/O | SATA | 2 ports, Support Gen 1(1.5 Gb/s) or Gen2 (3 Gb/s) and Gen3.1 (6Gb/s) | | | | |
| | USB3.0 | 2 ports | | | | |
| | USB2.0 | 8 ports | | | | |
| | SPI Bus | Support SPI BIOS EEPROM | | | | |
| | GPIO | 8-bit GPIO programmable | | | | |
| | SDIO | Optional | | | | |
| | Watchdog | 65536 level, 0 – 65535 sec | | | | |
| | COM Port | 2 Ports (2-Wire) | | | | |
| | Express Card | 2 | | | | |
| | TPM | TPM2.0 | | | | |
| | CAN Bus | Optional | | | | |
| Power | Smart Fan | 2 Ports; 1 Port on COM Module, Support 12V Fan, 1 Port on Carrier Board | | | | |
| | Type | ATX: Vin, VSB; AT: Vin | | | | |
| | Supply Voltage | ATX (Vin 4.75-20V, Vsb 4.75-5.25V) AT (Vin 4.75-20V) | | | | |
| Environment | Power Consumption | Max. 14.75Watt. (N4200) Idle 4.46Watt.(N4200) | | | | |
| | Temperature | Operating Standard: 0 ~ 60° C (32 ~ 140° F), Extend: -40 ~85 °C (-40 ~ 185 °F) (E3900 SKU only) Storage: -40 ~ 85° C (-40 ~ 185° F) | | | | |
| | Humidity | Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing | | | | |
| | Vibration Resistance | 3.5 Grms | | | | |
| Mechanical | Dimensions | 95 x 95 mm (3.74" x 3.74") | | | | |

Block Diagram



Ordering Information

| Part No. | CPU | Frequency Base/Burst | Core | CPU TDP | DDR3L Memory | ECC | LVDS | VGA | DDI | Giga LAN | HD Audio | PCle x 1 | USB 2.0 | USB 3.0 | SATAIII | LPC | Power | Thermal Solution | Operating Temperature |
|------------------|---------------|----------------------|------|---------|----------------|-----|-----------|-----|-----|----------|----------|----------|---------|---------|---------|-----|--------|------------------|-----------------------|
| SOM-6869RC-S1A1E | Celeron N3350 | 1.1/2.4 GHz | 2C | 6W | DDR3L-1866 MHz | No | 18/24-bit | 1 | 2 | 1 | Yes | 5 | 8 | 2 | 2 | Yes | AT/ATX | Passive | 0 - 60 °C |
| SOM-6869PC-S2A1E | Pentium N4200 | 1.1/2.5 GHz | 4C | 6W | DDR3L-1866 MHz | No | 18/24-bit | 1 | 2 | 1 | Yes | 5 | 8 | 2 | 2 | Yes | AT/ATX | Passive | 0 - 60 °C |
| SOM-6869AC-S3A1E | Atom x5-E3930 | 1.3/1.8 GHz | 2C | 6.5W | DDR3L-1866 MHz | No | 18/24-bit | 1 | 2 | 1 | Yes | 5 | 8 | 2 | 2 | Yes | AT/ATX | Passive | 0 - 60 °C |
| SOM-6869AC-S6A1E | Atom x5-E3940 | 1.6/1.8 GHz | 4C | 9.5W | DDR3L-1866 MHz | No | 18/24-bit | 1 | 2 | 1 | Yes | 5 | 8 | 2 | 2 | Yes | AT/ATX | Passive | 0 - 60 °C |
| SOM-6869AC-S7A1E | Atom x7-E3950 | 1.6/2.0 GHz | 4C | 12W | DDR3L-1866 MHz | No | 18/24-bit | 1 | 2 | 1 | Yes | 5 | 8 | 2 | 2 | Yes | AT/ATX | Passive | 0 - 60 °C |
| SOM-6869AC-S3B1 | Atom x5-E3930 | 1.3/1.8 GHz | 2C | 6.5W | DDR3L-1600 MHz | Yes | 18/24-bit | 1 | 2 | 1 | Yes | 5 | 8 | 2 | 2 | Yes | AT/ATX | Passive | 0 - 60 °C |
| SOM-6869AC-S6B1 | Atom x5-E3940 | 1.6/1.8 GHz | 4C | 9.5W | DDR3L-1600 MHz | Yes | 18/24-bit | 1 | 2 | 1 | Yes | 5 | 8 | 2 | 2 | Yes | AT/ATX | Passive | 0 - 60 °C |
| SOM-6869AC-S7B1 | Atom x7-E3950 | 1.6/2.0 GHz | 4C | 12W | DDR3L-1600 MHz | Yes | 18/24-bit | 1 | 2 | 1 | Yes | 5 | 8 | 2 | 2 | Yes | AT/ATX | Passive | 0 - 60 °C |
| SOM-6869AX-S3A1E | Atom x5-E3930 | 1.3/1.8 GHz | 2C | 6.5W | DDR3L-1866 MHz | No | 18/24-bit | 1 | 2 | 1 | Yes | 5 | 8 | 2 | 2 | Yes | AT/ATX | TBC | -40 - 85 °C |
| SOM-6869AX-S6A1E | Atom x5-E3940 | 1.6/1.8 GHz | 4C | 9.5W | DDR3L-1866 MHz | No | 18/24-bit | 1 | 2 | 1 | Yes | 5 | 8 | 2 | 2 | Yes | AT/ATX | TBC | -40 - 85 °C |
| SOM-6869AX-S7A1E | Atom x7-E3950 | 1.6/2.0 GHz | 4C | 12W | DDR3L-1866 MHz | No | 18/24-bit | 1 | 2 | 1 | Yes | 5 | 8 | 2 | 2 | Yes | AT/ATX | TBC | -40 - 85 °C |
| SOM-6869ACX-S3B1 | Atom x5-E3930 | 1.3/1.8 GHz | 2C | 6.5W | DDR3L-1600 MHz | Yes | 18/24-bit | 1 | 2 | 1 | Yes | 5 | 8 | 2 | 2 | Yes | AT/ATX | TBC | -40 - 85 °C |
| SOM-6869ACX-S6B1 | Atom x5-E3940 | 1.6/1.8 GHz | 4C | 9.5W | DDR3L-1600 MHz | Yes | 18/24-bit | 1 | 2 | 1 | Yes | 5 | 8 | 2 | 2 | Yes | AT/ATX | TBC | -40 - 85 °C |
| SOM-6869ACX-S7B1 | Atom x7-E3950 | 1.6/2.0 GHz | 4C | 12W | DDR3L-1600 MHz | Yes | 18/24-bit | 1 | 2 | 1 | Yes | 5 | 8 | 2 | 2 | Yes | AT/ATX | TBC | -40 - 85 °C |

Note: Any other sku or combination is project based support. Please contact sales for details.

Packing List

| Part No. | Description | Quantity |
|----------------|--|----------|
| - | SOM-6869 CPU Module (N4200, N3350 CPU SKU) | 1 |
| 1960080793T000 | Heatspreader * For N4200, N3350 CPU SKU | 1 |
| Part No. | Description | Quantity |
| - | SOM-6869 CPU Module | 1 |
| 1960080792T000 | Heatspreader (for E3900 SKU) | 1 |
| 1960080793T000 | Heat spreader (for N SKU) | 1 |

Optional Accessories

| Part No. | Description |
|--------------------|--|
| 1960048815N001 | Semi-Heatsink 95 x 95 x 16.25 mm |
| 1960048819N001 | Semi-Cooler 95 x 95 x 33 mm |
| 96LEDK-I057VG50NA1 | 5.7" LED PANEL 500N 640X480(G) |
| 96LEDK-A084SV45NB2 | 8.4" LED PANEL 450N 800X600(G) G084SN05 V9 |
| 96LEDK-C150XG40NG1 | 15" LED PANEL 400N 1024X768(G) G150XGE-L04 |
| 96LEDK-A170S3X5NF1 | 17" LED 350N 1280X1024(G) G170EG01 V1 |

Development Board

| Part No. | Description |
|------------------|--|
| SOM-DB5800-00A2E | COME Devel. Board Type6 pint-out Rev. A2 |

Embedded OS

| OS | Part No. | Description |
|-------|------------|--------------------------------------|
| Win10 | 2070015008 | img W10 16EL SOM-6869 64bit 1701 Eng |