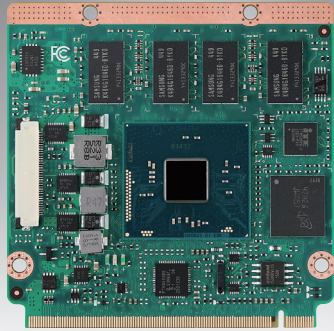


SOM-3568

Intel® Pentium®/Celeron® N3000 Series and Atom Series QSeven CPU Module

NEW



Features

- Intel® Pentium®/Celeron® N3000 Series and Atom™ SoC
- Qseven® 2.1 Specification
- Onboard DDR3L up to 8GB, onboard eMMC up to 32GB
- Support HEVC/H.265, H.264 MPEG2 HW Decode
- GbE, 3 PCIe1, 2 USB3.0, 5 USB2.0
- Supports iManager, and Embedded Software APIs

Software APIs:

- Watchdog
- I²C
- SMBus
- H/W Monitor
- GPIO
- Brightness Control

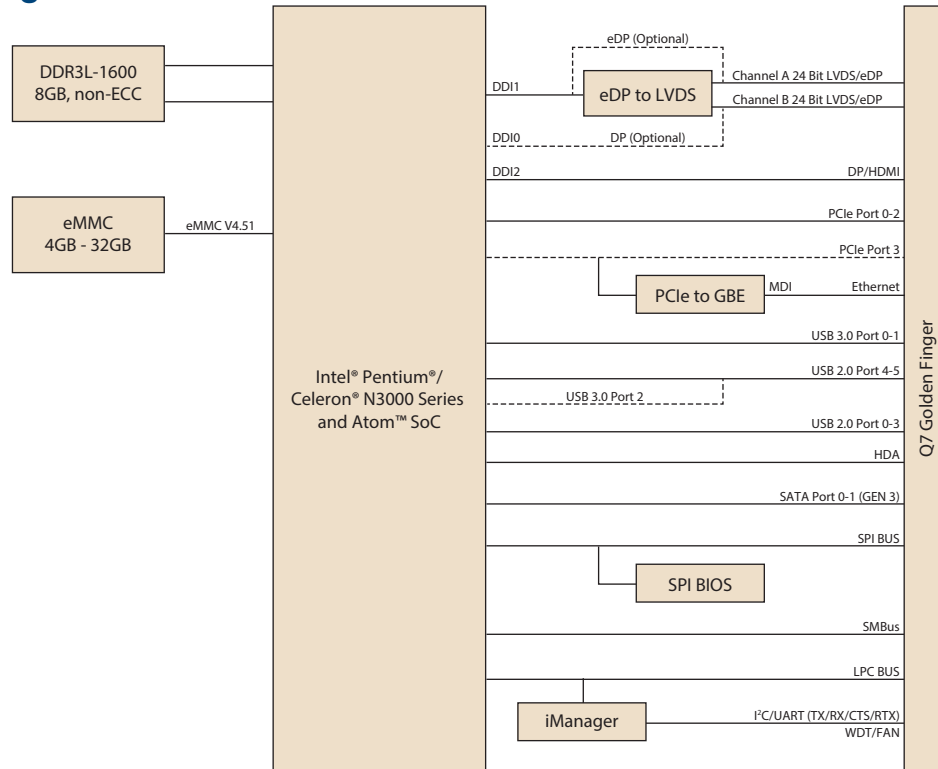
Utilities:

- BIOS flash
- Monitoring
- Embedded Security ID

Specifications

| | | | | | | |
|-----------------|----------------------|--|----------------|----------------|----------------|----------------|
| Compliance | Form-Factor | QSeven 70 x 70 mm | | | | |
| | Pin-out Type | QSeven R2.1 | | | | |
| Platform | Processor | Pentium® N3710 | Celeron® N3160 | Celeron® N3060 | Celeron® N3010 | Atom™ X5-E8000 |
| | Base Frequency | 1.6GHz | 1.6GHz | 1.6GHz | 1.04GHz | 1.04GHz |
| | Burst Frequency | 2.56GHz | 2.24GHz | 2.48GHz | 2.24GHz | 2GHz |
| | Core/Tread | 4/4 | 4/4 | 2/2 | 2/2 | 4/4 |
| | LLC | 2MB | 2MB | 2MB | 2MB | 2MB |
| | CPU TDP | 6W | 6W | 6W | 4W | 5W |
| | Chipset | N/A | | | | |
| Memory | BIOS | AMI UEFI BIOS @ 64Mb | | | | |
| | Technology | DDR3L-1600 | | | | |
| | ECC Support | Not support | | | | |
| | Channel/Socket | Dual Channel / Onboard Memory | | | | |
| Graphics | Max. Capacity | Up to 8GB | | | | |
| | Controller | Intel® HD Graphics | | | | |
| | Base/Turbo Freq. | 400/700MHz | 320/640MHz | 320/600MHz | 320/600MHz | 320/320MHz |
| | Graphics Memory | TBD | | | | |
| Display | 3D/HW Acceleration | DX 11.1, OpenGL 4.2, OpenGL ES 3.0, OpenCL 1.2, HW Decode: HEVC (H.265) @ L5, H.264 @ 5.2, MPEG2, MVC, VC-1, WMV9, JPEG/MJPEG, VP8 HW Encode: H.264 @ 5.1, MVC, JPEG/MJPEG | | | | |
| | LCD | LVDS: Dual channel 18/24-bit, up to 1920 x 1200 Optional eDP 1.4: Up to 2560 x 1440 @ 60Hz 24bpp 1 DDI port supports HDMI/DP/DVI | | | | |
| | DDI | HDMI 1.4b: up to 3840 x 2160 @ 30Hz or 2560 x 1600 @ 60Hz, 24bpp DP 1.1a: up to 3840 x 2160 @ 30Hz or 2560 x 1600 @ 60Hz, 24bpp DVI: up to 1920 x 1200 @ 60Hz | | | | |
| Expansion | Multiple Display | Triple independent display | | | | |
| | PCI Express x1 | 3 PCIe1 (option 1 PCIe4 without LAN) | | | | |
| | Audio Interface | HD Audio | | | | |
| Serial Bus | LPC | Yes | | | | |
| | SMBus | Yes | | | | |
| Ethernet | I²C Bus | Yes | | | | |
| | Controller | Intel® i211AT | | | | |
| Onboard Storage | Speed | 10/100/1000 Mbps | | | | |
| | eMMC/SATA SSD | eMMC4.51, 4GB to 32GB | | | | |
| I/O | SATA | 2 Ports, Support Gen3.1 (6Gb/s) and Gen2 (3 Gb/s) or Gen 1(1.5 Gb/s) | | | | |
| | USB3.0 | 2 Ports | | | | |
| | USB2.0 | 5 Ports | | | | |
| | USB Client | N/A | | | | |
| | SPI Bus | Support SPI BIOS EEPROM | | | | |
| | GPIO | N/A | | | | |
| | SDIO/SDXC | N/A | | | | |
| | Watchdog | 65536 level, 0 ~ 65535 sec | | | | |
| | COM Port | 4-wire COM 2 Ports; optional mux with GPIO 8-bit | | | | |
| | TPM | N/A | | | | |
| | MIPI-CSI | N/A | | | | |
| | CAN Bus | N/A | | | | |
| | Smart Fan | 1 Ports | | | | |
| Power | Type | ATX: Vin, VSB, AT: Vin | | | | |
| | Supply Voltage | Vin: 5V±5%, VSB: 5V±5%, RTC Battery: 2.0-3.3V | | | | |
| | Power Consumption | TBD | | | | |
| Environment | Temperature | 0 ~ 60° C (32 ~ 140° 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 | 70 x 70 mm (2.75" x 2.75") | | | | |

Block Diagram



Ordering Information

| Part No. | SoC | Base Freq. / Burst Freq. | Core | LLC | CPU TDP | Onboard Memory | Onboard Flash | Thermal Solution | Operating Temperature |
|--------------------|-----------------------|--------------------------|------|-----|---------|----------------|---------------|------------------|-----------------------|
| SOM-3568CMBC-S6A1E | Intel® Pentium® N3710 | 1.6GHz / 2.56GHz | 4 | 2MB | 6W | 4GB | MLC 32GB | Passive | 0 ~ 60° C |
| SOM-3568BM0C-S6A1E | Intel® Celeron® N3160 | 1.6GHz / 2.24GHz | 4 | 2MB | 6W | 2GB | N/A | Passive | 0 ~ 60° C |
| SOM-3568BM0C-S5A1E | Intel® Celeron® N3060 | 1.6GHz / 2.48GHz | 2 | 2MB | 6W | 2GB | N/A | Passive | 0 ~ 60° C |
| SOM-3568BM0C-S0A1E | Intel® Celeron® N3010 | 1.04GHz / 2.24GHz | 2 | 2MB | 4W | 2GB | N/A | Passive | 0 ~ 60° C |
| SOM-3568BM0C-S1A1E | Intel® Atom™ X5-E8000 | 1.04GHz / 2GHz | 4 | 2MB | 5W | 2GB | N/A | Passive | 0 ~ 60° C |

Packing List

| Part No. | Description | Quantity |
|----------------|---------------------|----------|
| - | SOM-3568 CPU Module | 1 |
| 1960075743N001 | Heatspreader | 1 |

Development Board

| Part No. | Description |
|------------------|--------------------------|
| SOM-DB3520-00A1E | Qseven Development Board |

Optional Accessories

| Part No. | Description |
|--------------------|--|
| 1960061089N001 | Heatsink I- 70x63x34-SC |
| 96LEDK-A084SV45NB2 | 8.4" LED PANEL 450N 800X600(G) G084SN05 V9(V901) |
| 96CB-L2040PAB4 | LVDS CABLE 20-40PIN 50CM AB4 TYPE(G) (18BIT) |
| 96CB-E0405PIB3 | LED CABLE 4-5PIN 50CM IB3 TYPE(G) |
| IDK-2121WN-K2FHA2E | 21.5" LED panel 1200N 1920x1080(G) |
| 96CB-L3040PAF5 | LVDS CABLE 30-40PIN 50CM AF5 TYPE(G) |
| 96CB-E0605HAB1 | LED CABLE 6-5PIN 50CM AB1 TYPE(G) |

Embedded OS

| OS | Part No. | Description |
|-------------------|------------|--|
| Win 10Ent | 2070014542 | img Win10Ent SOM-3568 X64 Eng |
| WE8.1 IndustryPro | 2070014543 | img WE8.1 IndustryPro SOM-3568 X64 Eng |