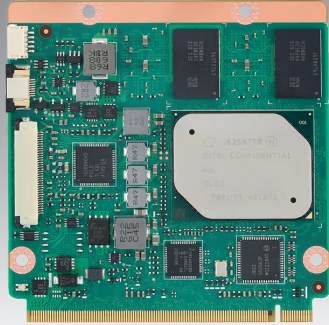


# SOM-3569

## Intel® Atom™/Pentium®/Celeron® Series Qseven CPU Module

Preliminary



### Features

- Intel® Atom™/Pentium®/Celeron® Series SoC
- Qseven® 2.1 Specification
- Onboard LPDDR4 up to 8GB, onboard eMMC up to 64GB
- Support HEVC/H.265, H.264 MPEG2 HW Decode
- GbE, 4 PCIe x1, 1 USB3.0, 8 USB2.0
- Supports iManager WISE-PaaS/RMM, and Embedded Software APIs

**Software APIs:**

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

**Utilities:**

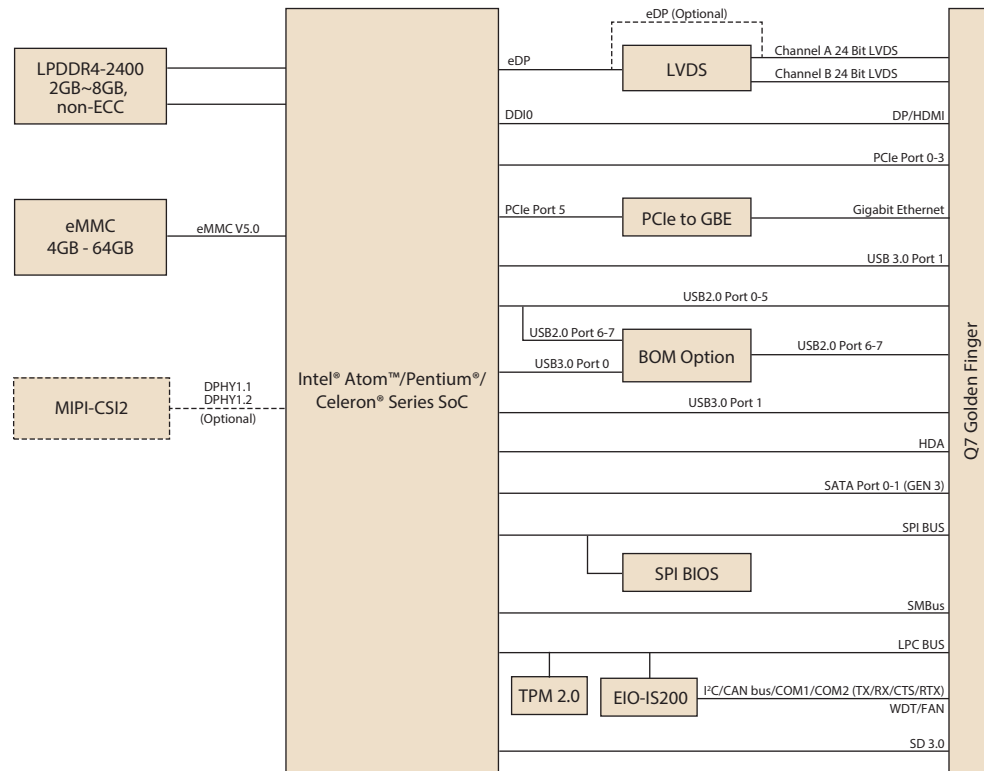
- BIOS flash
- Monitoring
- Embedded Security ID



### Specifications

|                 |                            |  |               |               |               |               |
|-----------------|----------------------------|--|---------------|---------------|---------------|---------------|
| Compliance      | Form-Factor                | QSeven 70 x 70 mm  |               |               |               |               |
|                 | Pin-out Type               | QSeven 2.1   |               |               |               |               |
| Platform        | Processor                  | Pentium® N4200   | Celeron N3350 | Atom X7-E3950 | Atom X5-E3940 | Atom X5-E3930 |
|                 | Base Frequency             | 1.1GHz   | 1.1GHz        | 1.6GHz        | 1.6GHz        | 1.3GHz        |
|                 | Burst Frequency            | 2.5GHz   | 2.4GHz        | 2.0GHz        | 1.8GHz        | 1.8GHz        |
|                 | Core/Tread                 | 4 / 4  | 2 / 2         | 4 / 4         | 4 / 4         | 2 / 2         |
|                 | LLC                        | 2MB  | 2MB           | 2MB           | 2MB           | 2MB           |
|                 | CPU TDP                    | 6W   | 6W            | 12W           | 9W            | 6W            |
|                 | Chipset                    | N/A  |               |               |               |               |
| Memory          | BIOS                       | AMI UEFI BIOS @ 128 Mb   |               |               |               |               |
|                 | Technology                 | LPDDR4-2400  |               |               |               |               |
|                 | ECC Support                | Not support  |               |               |               |               |
|                 | Channel/Socket             | Dual Channel / Onboard Memory  |               |               |               |               |
| Graphics        | Max. Capacity              | Up to 8GB  |               |               |               |               |
|                 | Controller                 | Intel® HD Graphics   |               |               |               |               |
|                 | Base/Turbo Freq.           | 200/750MHz   | 200/650MHz    | 500/650MHz    | 400/600MHz    | 400/550MHz    |
|                 | Graphics Video Max. Memory | 8GB  | 8GB           | 2GB           | 2GB           | 2GB           |
| Display         | 3D/HW Acceleration         | DX (9.3, 10, 11.3, 12), OpenGL 4.3, OGL ES 3.0, OpenCL 2.0<br>HW Decode: HEVC/H.265, H.264, MVC, VP8, VP9, MPEG2, VC-1, WMV9, JPEG/MJPEG<br>HW Encode: HEVC/H.265, H.264, MVC, VP8, JPEG/MJPEG |               |               |               |               |
|                 | LCD                        | Dual Channel 18/24-bit LVDS, up to 1920 x 1200   |               |               |               |               |
|                 | DDI                        | 1 DDI port supports HDMI/DP<br>HDMI 1.4b: up to 3840 x 2160 @ 30Hz<br>DP 1.2: up to 4096 x 2160 @ 60Hz   |               |               |               |               |
| Expansion       | Multiple Display           | Dual Display   |               |               |               |               |
|                 | PCI Express x1             | 4 PCIe x1 (or 1 PCIe x4)   |               |               |               |               |
|                 | 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              | eMMC5.0, 4GB to 64GB   |               |               |               |               |
| I/O             | SATA                       | 2 Ports, Support Gen3 (6Gb/s) and Gen2 (3 Gb/s) or Gen 1(1.5 Gb/s)   |               |               |               |               |
|                 | USB3.0                     | 1 Port (up to 2 Ports by BOM option)   |               |               |               |               |
|                 | USB2.0                     | 8 Ports  |               |               |               |               |
|                 | USB Client                 | N/A (up to 1 Port by BOM option)   |               |               |               |               |
|                 | SPI Bus                    | Support SPI BIOS EEPROM  |               |               |               |               |
|                 | GPIO                       | N/A  |               |               |               |               |
|                 | SDIO/SDXC                  | Support SD 3.0   |               |               |               |               |
|                 | Watchdog                   | 65536 level, 0 ~ 65535 sec   |               |               |               |               |
|                 | COM Port                   | 2 Ports (4-wire COM 1 port, 2-wire COM 1 port)   |               |               |               |               |
|                 | TPM                        | Yes  |               |               |               |               |
|                 | MIPI-CSI                   | Optional   |               |               |               |               |
|                 | CAN Bus                    | Yes  |               |               |               |               |
| Power           | Smart Fan                  | 1 Ports  |               |               |               |               |
|                 | Type                       | ATX: Vin, VSB, AT: Vin   |               |               |               |               |
|                 | Supply Voltage             | Vin: 5V±5%, VSB: 5V±5%, RTC Battery: 2.0-3.3V  |               |               |               |               |
| Environment     | Power Consumption          | TBD  |               |               |               |               |
|                 | Temperature                | Operating Standard: 0 ~ 60 °C (32 ~ 140 °F)<br>Extend Temp.: -40 ~ 85 °C (-40 ~ 185 °F)<br>Storage: -40 ~ 85 °C (-40 ~ 185 °F)   |               |               |               |               |
|                 | Humidity                   | Operating: 40 °C @ 95% relative humidity, non-condensing<br>Storage: 60 °C @ 95% relative humidity, non-condensing   |               |               |               |               |
| Mechanical      | Vibration Resistance       | 3.5 Grms   |               |               |               |               |
|                 | Dimensions                 | 70 x 70 mm (2.75" x 2.75")   |               |               |               |               |

## Block Diagram



## Ordering Information

| Part No.          | CPU           | Freq.  | Core | CPU TDP | Memory | eMMC | Thermal Solution | Operating Temperature |
|-------------------|---------------|--------|------|---------|--------|------|------------------|-----------------------|
| SOM-3569CN0C-S2A1 | Pentium N4200 | 1.1GHz | 4C   | 6W      | 4GB    | N/A  | Passive          | 0 ~ 60 °C             |
| SOM-3569CN0C-S1A1 | Celeron N3350 | 1.1GHz | 2C   | 6W      | 4GB    | N/A  | Passive          | 0 ~ 60 °C             |
| SOM-3569CNBC-S7A1 | Atom E3950    | 1.6GHz | 4C   | 12W     | 4GB    | 32GB | Passive          | 0 ~ 60 °C             |
| SOM-3569CN0C-S6A1 | Atom E3940    | 1.6GHz | 4C   | 9W      | 4GB    | N/A  | Passive          | 0 ~ 60 °C             |
| SOM-3569CN0C-S3A1 | Atom E3930    | 1.3GHz | 2C   | 6W      | 4GB    | N/A  | Passive          | 0 ~ 60 °C             |

\*Any other sku or combination is project based support. Please contact sales for details.

## Packing List

| Part No.       | Description  | Quantity |
|----------------|--|----------|
| -              | SOM-3569 Qseven CPU Module                         | 1        |
| 1960083260N001 | SOM-3569 non-I-APL Heatspreader (N4200 & N3350)    | 1        |
| 1960083261N001 | SOM-3569 I-APL Heatspreader (E3930, E3940 & E3950) | 1        |

## Optional Accessories

| Part No.       | Description                                  |
|----------------|--|
| 1960058145N001 | Semi-Heatsink, 70L x 63W x 13.2H (0 ~ 60 °C) |
| 1960061089N001 | Semi-Heatsink, 70L x 63W x 34H (-40 ~ 85 °C) |

## Embedded OS

| OS    | Part No.       | Description                        |
|-------|----------------|------------------------------------|
| WIN10 | 20706WX6VS0000 | img W10 16VL SOM-3569 64b 1701 ENU |

## Development Board

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