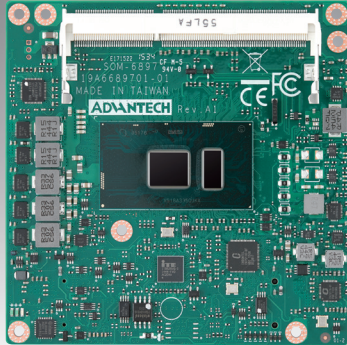


# SOM-6897

## 6<sup>th</sup> Gen Intel Core/Celeron Processors COM Express Compact Module Type 6

**NEW**



### Features

- 6<sup>th</sup> Gen Intel Core i7/i5/i3/Celeron w/ integrated PCH-LP
- Support Dual Channel DDR3L-1600 SODIMM up to 16GB
- Integrated GFX supports HEVC, VP8, VP9 HW Transcode
- Flexible PCI Express up to 8 lanes
- Supports iManager susiAccess, and Embedded Software APIs

**Software APIs:**

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

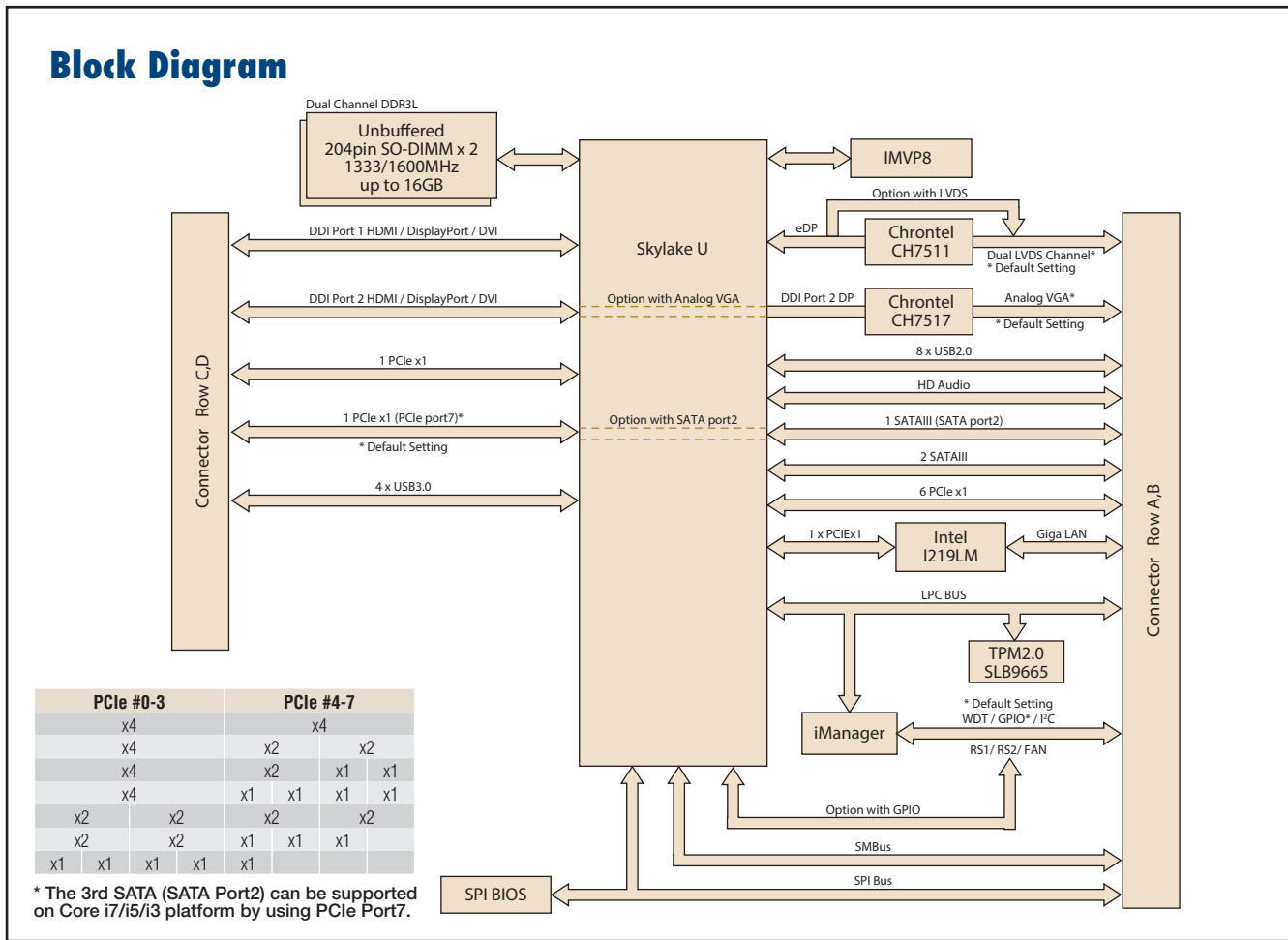
**Utilities:**

- 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            | i7-6600U   | i5-6300U               | i3-6100U           | Celeron 3955U      |
|                | Base Frequency       | 2.6 GHz  | 2.4 GHz                | 2.3 GHz            | 2.0 GHz            |
|                | Turbo Boost Freq.    | 3.4 GHz  | 3.0 GHz                | N/A                | N/A                |
|                | Core/Tread           | 2/4  | 2/4                    | 2/4                | 2C/2T              |
|                | LLC                  | 4 MB   | 3 MB                   | 3 MB               | 2 MB               |
|                | CPU TDP              | 15W  | 15W                    | 15W                | 15W                |
|                | Chipset              | Integrated PCH-LP  |                        |                    |                    |
|                | BIOS                 | AMI EFI BIOS   |                        |                    |                    |
| Memory         | Technology           | DDR3L (1.35V)-1600MHz  |                        |                    |                    |
|                | ECC Support          | Not supported  |                        |                    |                    |
|                | Channel/Socket       | Dual channels / 2 sockets  |                        |                    |                    |
|                | Max. Capacity        | Up to 16GB   |                        |                    |                    |
| Graphics       | Controller           | Intel Gen 9 LP GT2   | Intel Gen 9 LP GT2     | Intel Gen 9 LP GT2 | Intel Gen 9 LP GT1 |
|                | Base/Turbo Freq.     | 300/1050MHz  | 100/1000 MHz           | 100/1000 MHz       | 100/900 MHz        |
|                | Graphics Memory      | Intel DVMT   |                        |                    |                    |
|                | 3D/HW Acceleration   | Direct3D 2015/11.2/11.1/10/9, Direct2D, OpenGL 5.0, OpenCL 2.1/2.0/1.2<br>HW Decode: H.265/HEVC, H.264/AVC, VP9, VP8, MPEG2, WMV9/VC1, JPEG/MJPEG<br>HW Encode: H.265/HEVC, H.264/AVC, VP9, VP8, MPEG2, JPEG             |                        |                    |                    |
| Display        | VGA                  | Support up to 1920 x 1200 @ 60 Hz  |                        |                    |                    |
|                | LCD                  | LVDS support 2 channels 18/24-bit, up to 1920 x 1200 @ 60Hz<br>Optional eDP up to 3840 x 2160 @ 60Hz 24bpp or 4096 x 2304 @ 60Hz 24bpp   |                        |                    |                    |
|                | DDI                  | 1 Ports, optional 2 while remove VGA, configurable to HDMI1.4/DVI/Displayport1.2<br>HDMI up to 4096 x 2160 @ 24Hz 24bpp<br>DVI up to 1920 x 1080 @ 60Hz<br>DP up to 3840 x 2160 @ 60Hz 24bpp or 4096 x 2304 @ 60Hz 24bpp |                        |                    |                    |
|                | Multiple Display     | Support 3 independent display  |                        |                    |                    |
|                | PCI Express x16      | Not available  |                        |                    |                    |
| Expansion      | PCI Express x1       | PCI Express Gen3 (8.0 GT/s)<br>5 PCIe x1 or 4 PCIe x1 + 1 PCIe x4 (support up to 5 devices and 8 lanes)  |                        |                    |                    |
|                | Audio Interface      | Intel HD Audio Interface   |                        |                    |                    |
|                | LPC                  | Yes (24MHz)  |                        |                    |                    |
| Serial Bus     | SMBus                | Yes  |                        |                    |                    |
|                | PC Bus               | Yes  |                        |                    |                    |
| Ethernet       | Controller           | Intel i219LM   |                        |                    |                    |
|                | Speed                | 10/100/1000 Mbps   |                        |                    |                    |
| I/O            | SATA                 | Supports 2 SATA Gen 3 (8.0 Gb/s), i7/i5 optional support 3 SATA while PCIe supporting downgraded<br>Support RAID 0/1/5/10, AHCI 1.3  |                        |                    |                    |
|                | USB3.0               | 4 Ports  |                        |                    |                    |
|                | USB2.0               | 8 Ports  |                        |                    |                    |
|                | SPI Bus              | For BIOS only  |                        |                    |                    |
|                | GPIO                 | 8-bit GPIO   |                        |                    |                    |
|                | Watchdog             | 65536 level, 0 ~ 65535 sec   |                        |                    |                    |
|                | COM Port             | 2 Ports (2-wire)   |                        |                    |                    |
|                | Express Card         | 2 Ports  |                        |                    |                    |
|                | TPM                  | Optional TPM2.0 (Infineon SLB9665)   |                        |                    |                    |
|                | Smart Fan            | 2 Ports; 1 Port on COM Module. Support 12V Fan, 1 Port on Carrier Board  |                        |                    |                    |
|                | Power                | Type   | ATX: Vin, VSB; AT: Vin |                    |                    |
| Supply Voltage |                      | Vin: 8.5V (9V-5%) ~ 20V (19+5%); VSB: 5V ±5%   |                        |                    |                    |
|                | Power Consumption    | Burn in: (16GB DDR3L 1600) i3-6100U +12V @ 12.81W<br>Idle: (16GB DDR3L 1600) i3-6100U +12V @ 2.76W<br>*Only for reference and will depends on custom software loading, detail refer to user manual                       |                        |                    |                    |
| Environment    | Temperature          | Operating : 0 ~ 60° C (32 ~ 140° F), (Extend model TBD)<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   |                        |                    |                    |
|                | Vibration Resistance | 3.5 Grms   |                        |                    |                    |
| Mechanical     | Dimensions           | 95 x 95 mm (3.74" x 3.74")   |                        |                    |                    |

## Block Diagram



## Ordering Information

| Part No.           | CPU           | Freq.  | Core | Graphic   | SATA | Thermal Solution | Operating Temperature |
|--------------------|---------------|--------|------|-----------|------|------------------|-----------------------|
| SOM-6897C7-U6A1E   | i7-6600U      | 2.6GHz | 2    | Gen 9 GT2 | 2    | Active           | 0 ~ 60° C             |
| SOM-6897C5-U4A1E   | i5-6300U      | 2.4GHz | 2    | Gen 9 GT2 | 2    | Active           | 0 ~ 60° C             |
| SOM-6897C3-U3A1E   | i3-6100U      | 2.3GHz | 2    | Gen 9 GT2 | 2    | Active           | 0 ~ 60° C             |
| SOM-6897CR-U0A1E   | Celeron 3955U | 2.0GHz | 2    | Gen 9 GT1 | 2    | Active           | 0 ~ 60° C             |
| SOM-6897C7Z2-U6A1E | i7-6600U      | 2.6GHz | 2    | Gen 9 GT2 | 2    | Active           | -40 ~ 85° C           |
| SOM-6897C5Z2-U4A1E | i5-6300U      | 2.4GHz | 2    | Gen 9 GT2 | 2    | Active           | -40 ~ 85° C           |
| SOM-6897C3Z2-U3A1E | i3-6100U      | 2.3GHz | 2    | Gen 9 GT2 | 2    | Active           | -40 ~ 85° C           |
| SOM-6897CRZ2-U0A1E | Celeron 3955U | 2.0GHz | 2    | Gen 9 GT2 | 2    | Active           | -40 ~ 85° C           |

## Development Board

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

## Optional Accessories

| Part No.       | Description                                |
|----------------|--|
| 1960048819N001 | Semi-Cooler 95 x 95 x 33.5 mm with 12V Fan |

## Packing List

| Part No.       | Description         | Quantity |
|----------------|---------------------|----------|
| -              | SOM-6897 CPU module | 1        |
| 1960073722N011 | Heatspreader        | 1        |

## Embedded OS

| OS     | Part No.   | Description                |
|--------|------------|----------------------------|
| WES8.1 | 2070015099 | img W81 IP SOM-6897 64b    |
| WES7P  | 2070015100 | img WES7P SOM-6897 64b ENU |