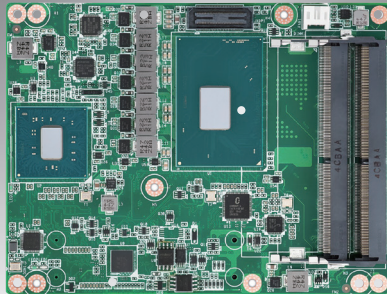


# SOM-5897

## 6th Gen Intel Xeon/Core/Celeron Processors COM Express Basic Module Type 6

NEW

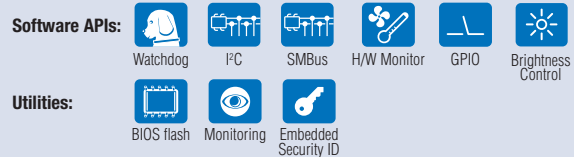


Windows Embedded

iManager susiAccess CE FCC

### Features

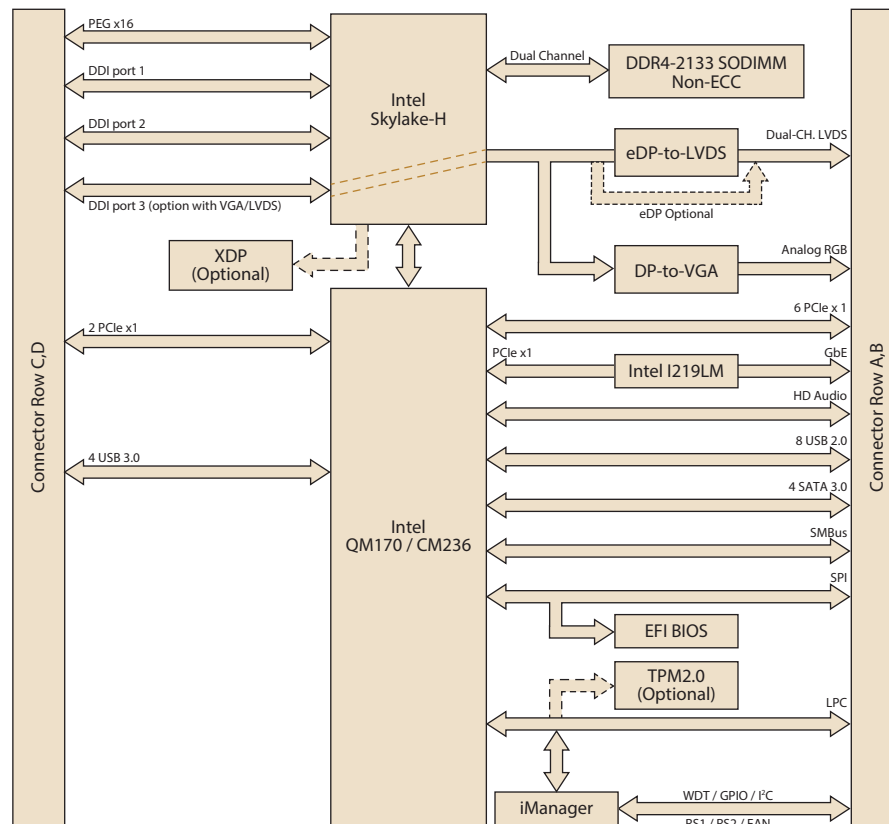
- 6th Gen Intel Xeon/Core i7/i5/i3/Celeron + PCH QM170
- Dual DDR4 2133, 1.2V Low Power Memory, Max. 32GB
- Support XDP, TPM2.0
- Flexible I/O support: 8 PCIe x1 (Gen3) with LAN, TPM2.0
- Supports iManager susiAccess, and Embedded Software APIs



### Specifications

|             |                      |                                                                                                                                                                                               |               |               |               |               |                                                       |               |             |                         |             |                                |
|-------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|---------------|---------------|-------------------------------------------------------|---------------|-------------|-------------------------|-------------|--------------------------------|
| Compliance  | Form-Factor          | COM Express Basic Module                                                                                                                                                                      |               |               |               |               |                                                       |               |             |                         |             |                                |
|             | Pin-out Type         | COM Express R2.1 Type 6 pin out                                                                                                                                                               |               |               |               |               |                                                       |               |             |                         |             |                                |
| Platform    | Processor            | i7-6820EQ                                                                                                                                                                                     | i7-6822EQ     | i5-6440EQ     | i5-6442EQ     | i3-6100E      | i3-6102E                                              | G3900E        | E3-1505M V5 | E3-1505L V5             | E3-1515M v5 |                                |
|             | Base Frequency       | 2.8GHz                                                                                                                                                                                        | 2.0GHz        | 2.7GHz        | 1.9GHz        | 2.7GHz        | 1.9GHz                                                | 2.4GHz        | 2.8GHz      | 2.0GHz                  | 2.8GHz      |                                |
|             | Turbo Boost Freq.    | 3.5GHz                                                                                                                                                                                        | 2.8GHz        | 3.4GHz        | 2.7GHz        | -             | -                                                     | -             | 3.7GHz      | 2.8GHz                  | 3.7GHz      |                                |
|             | Core/Tread           | 4/8                                                                                                                                                                                           | 4/8           | 4/4           | 4/4           | 2/4           | 2/4                                                   | 2/2           | 4/8         | 4/8                     | 4/8         |                                |
|             | LLC                  | 8                                                                                                                                                                                             | 8             | 6             | 6             | 3             | 3                                                     | 2             | 8           | 8                       | 8           |                                |
|             | CPU TDP              | 45W                                                                                                                                                                                           | 25W           | 45W           | 25W           | 35W           | 25W                                                   | 35W           | 45W         | 25W                     | 45W         |                                |
|             | Chipset              | Core with QM170; Xeon with CM236                                                                                                                                                              |               |               |               |               |                                                       |               |             |                         |             |                                |
| Memory      | BIOS                 | AMI UEFI 128Mbit                                                                                                                                                                              |               |               |               |               |                                                       |               |             |                         |             |                                |
|             | Technology           | DDR4                                                                                                                                                                                          |               |               |               |               |                                                       |               |             |                         |             |                                |
|             | ECC Support          | Not supported                                                                                                                                                                                 | Not supported | Not supported | Not supported | Not supported | Not supported                                         | Not supported | Support     | Support                 | Support     |                                |
| Graphics    | Channel/Socket       | Dual Channels / 2 sockets                                                                                                                                                                     |               |               |               |               |                                                       |               |             |                         |             |                                |
|             | Max. Capacity        | Up to 32GB                                                                                                                                                                                    |               |               |               |               |                                                       |               |             |                         |             |                                |
|             | Controller           | Intel Gen 9                                                                                                                                                                                   |               |               |               |               |                                                       |               |             | Intel® HD Graphics P530 |             | Intel® Iris™ Pro Graphics P580 |
|             | Base/Turbo Freq.     | 350/1000                                                                                                                                                                                      | 350/1000      | 350/1000      | 350/1000      | 350/950       | 350/950                                               | 350/950       | 350/1050    | 350/1000                | 350/1000    |                                |
| Display     | Graphics Memory      | Intel DMVT5.0, share memory up to 1024MB                                                                                                                                                      |               |               |               |               |                                                       |               |             |                         |             |                                |
|             | 3D/HW Acceleration   | HW Encode: H.265/HEVC, H.264, MPEG2, HW Decode: H.264, Direct3D 12(2015)/11.2/11.1/10/9, Direct2D, OpenGL 4.4, OpenCL 2.0/1.2                                                                 |               |               |               |               |                                                       |               |             |                         |             |                                |
|             | VGA                  | 1 port up to 1920 x 1200 @ 60 Hz                                                                                                                                                              |               |               |               |               |                                                       |               |             |                         |             |                                |
|             | LCD                  | LVDS Dual Channel 18/24-bit, up to 1920 x 1200 @ 60Hz                                                                                                                                         |               |               |               |               |                                                       |               |             |                         |             |                                |
| Expansion   | DDI                  | 2 Port configurable to HDMI1.4/DVI/Displayport1.2                                                                                                                                             |               |               |               |               |                                                       |               |             |                         |             |                                |
|             | Multiple Display     | Dual display, Triple display with each display combinations                                                                                                                                   |               |               |               |               |                                                       |               |             |                         |             |                                |
|             | PCI Express x16      | 1 PCIe x16 configurable to 1 x16, 2 x8, 1 x8 + 2 x4                                                                                                                                           |               |               |               |               |                                                       |               |             |                         |             |                                |
| Serial Bus  | PCI Express x1       | 8 PCIe x1, configurable to x4 or x2                                                                                                                                                           |               |               |               |               |                                                       |               |             |                         |             |                                |
|             | Audio Interface      | Intel HD Audio Interface                                                                                                                                                                      |               |               |               |               |                                                       |               |             |                         |             |                                |
|             | LPC                  | Yes                                                                                                                                                                                           |               |               |               |               |                                                       |               |             |                         |             |                                |
| Ethernet    | SMBus                | Yes                                                                                                                                                                                           |               |               |               |               |                                                       |               |             |                         |             |                                |
|             | I2C Bus              | Yes                                                                                                                                                                                           |               |               |               |               |                                                       |               |             |                         |             |                                |
| I/O         | Controller           | Intel i219                                                                                                                                                                                    |               |               |               |               |                                                       |               |             |                         |             |                                |
|             | Speed                | 10/100/1000 Mbps                                                                                                                                                                              |               |               |               |               |                                                       |               |             |                         |             |                                |
|             | SATA                 | 4 SATAIII 6.0Gb/s                                                                                                                                                                             |               |               |               |               |                                                       |               |             |                         |             |                                |
|             | USB3.0               | 4 Ports                                                                                                                                                                                       |               |               |               |               |                                                       |               |             |                         |             |                                |
|             | USB2.0               | 8 Ports                                                                                                                                                                                       |               |               |               |               |                                                       |               |             |                         |             |                                |
|             | SPI Bus              | Yes                                                                                                                                                                                           |               |               |               |               |                                                       |               |             |                         |             |                                |
|             | GPIO                 | 8-bit                                                                                                                                                                                         |               |               |               |               |                                                       |               |             |                         |             |                                |
|             | Watchdog             | 65536 level, 0-65535 sec                                                                                                                                                                      |               |               |               |               |                                                       |               |             |                         |             |                                |
|             | COM Port             | 2 Ports (2-wire)                                                                                                                                                                              |               |               |               |               |                                                       |               |             |                         |             |                                |
|             | Express Card         | 2 Ports                                                                                                                                                                                       |               |               |               |               |                                                       |               |             |                         |             |                                |
| Power       | TPM                  | Optional TPM2.0 (Infineon SLB9665)                                                                                                                                                            |               |               |               |               |                                                       |               |             |                         |             |                                |
|             | 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       | Vin: 8.5V (9V-5%) ~ 20V (19+5%); VSB: 5 +/-5%, RTC Battery: 2.0-3.3V                                                                                                                          |               |               |               |               |                                                       |               |             |                         |             |                                |
| Environment | Power Consumption    | Max: (16GB DDR4 2133) i7-6820EQ +12V @ 43.3W<br>Idle: (16GB DDR4 2133) i7-6820EQ +12V @ 5.23W<br>*Only for reference and will depends on custom software loading, detail refer to user manual |               |               |               |               |                                                       |               |             |                         |             |                                |
|             | Temperature          | Operating Standard: 0 ~ 60° C (32 ~ 140° F),<br>Extend: -40 ~ 85° C (-40 ~ 185° F)                                                                                                            |               |               |               |               | Storage -40 ~ 85° C (-40 ~ 185° F)                    |               |             |                         |             |                                |
|             | Humidity             | Operating: 40° C @ 95% relative humidity, non-condensing                                                                                                                                      |               |               |               |               | Storage: 60° C @ 95%relative humidity, non-condensing |               |             |                         |             |                                |
| Mechanical  | Vibration Resistance | 3.5 Grms                                                                                                                                                                                      |               |               |               |               |                                                       |               |             |                         |             |                                |
|             | Dimensions           | 125 x 95 mm (4.92" x 3.74")                                                                                                                                                                   |               |               |               |               |                                                       |               |             |                         |             |                                |

## Block Diagram



## Ordering Information

| Part No.           | CPU              | Freq.   | Core | CPU TDP | LLC | DDR4 Memory | Thermal Solution | Operating Temperature |
|--------------------|------------------|---------|------|---------|-----|-------------|------------------|-----------------------|
| SOM-5897C7-U8A1E   | i7-6820EQ        | 2.8 GHz | 4    | 45W     | 8   | non-ECC     | Active           | 0 ~ 60 °C             |
| SOM-5897C7-U0A1E   | i7-6822EQ        | 2.0 GHz | 4    | 25W     | 8   | non-ECC     | Active           | 0 ~ 60 °C             |
| SOM-5897C5-U7A1E   | i5-6440EQ        | 2.7 GHz | 4    | 45W     | 6   | non-ECC     | Active           | 0 ~ 60 °C             |
| SOM-5897C5-S9A1E   | i5-6442EQ        | 1.9 GHz | 4    | 25W     | 6   | non-ECC     | Active           | 0 ~ 60 °C             |
| SOM-5897C3-U7A1E   | i3-6100E         | 2.7 GHz | 2    | 35W     | 3   | non-ECC     | Active           | 0 ~ 60 °C             |
| SOM-5897C3-S9A1E   | i3-6102E         | 1.9 GHz | 2    | 25W     | 3   | non-ECC     | Active           | 0 ~ 60 °C             |
| SOM-5897CR-U4A1E   | G3900E           | 2.4 GHz | 2    | 35W     | 2   | non-ECC     | Active           | 0 ~ 60 °C             |
| SOM-5897E4C-U7A1E  | E3-1505M V5      | 2.8 GHz | 4    | 45W     | 8   | ECC         | Active           | 0 ~ 60 °C             |
| SOM-5897E4C-U0A1E  | E3-1505L V5      | 2.0 GHz | 4    | 25W     | 8   | ECC         | Active           | 0 ~ 60 °C             |
| SOM-5897E4C-U8A1E  | E3-1515M V5      | 2.8 GHz | 4    | 45W     | 8   | ECC         | Active           | 0 ~ 60 °C             |
| SOM-5897E4X-U0A1E  | Xeon E3-1505L V5 | 2.0 GHz | 4    | 25W     | 8   | ECC         | Active           | -40 ~ 85 °C           |
| SOM-5897C7Z2-U0A1E | i7-6822EQ        | 2.0 GHz | 4    | 25W     | 8   | non-ECC     | Active           | -40 ~ 85 °C           |
| SOM-5897C7X-U8A1E  | i7-6820EQ        | 2.8 GHz | 4    | 45W     | 8   | non-ECC     | Active           | -40 ~ 85 °C           |
| SOM-5897E4X-U7A1E  | Xeon E3-1505M V5 | 2.8 GHz | 4    | 45W     | 8   | ECC         | Active           | -40 ~ 85 °C           |
| SOM-5897E4X-U8A1E  | Xeon E3-1515M V5 | 2.8 GHz | 4    | 45W     | 8   | ECC         | Active           | -40 ~ 85 °C           |

## Development Board

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

## Packing List

| Part No.       | Description         | Quantity |
|----------------|---------------------|----------|
| -              | SOM-5897 CPU module | 1        |
| 1960073944N001 | Heatspreader        | 1        |

## Optional Accessories

| Part No.       | Description                               |
|----------------|-------------------------------------------|
| 1960048820N001 | Semi-Cooler 125 x 95 x 33 mm with 12V FAN |
| 1960073941T061 | Low Profile DHCS (125 x 95 x 30 mm)       |
| 1960073941T051 | High Perf. DHCS (125 x 95 x 43 mm)        |

\* Test conditions follow Advantech regulations and procedures.

\* DHCS: Dynamic Heat Conduction System Cooler

## Embedded OS

| OS             | Part No.   | Description                   |
|----------------|------------|-------------------------------|
| Win10 IoT LTSP | 2070015177 | Img Win10 IoT Ent_LTSP 64 bit |



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Электрон  
Связь**

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