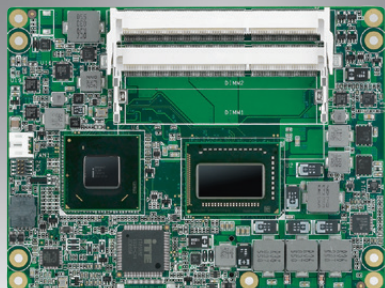


# SOM-5890

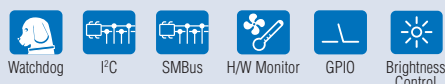
## 2nd Gen. Intel® Core™ Processor COM Express® Basic Module



### Features

- Embedded Intel® Core™ i7/i5/i3/Celeron® processor + QM67
- Intel® Gfx supports VGA, 18/24-bit 2-CH LVDS, HDMI, DVI, DP
- Supports Dual Channel DDR3-1333 SODIMM sockets up to 16 GB
- Supports PCIe x16, 7 PCIe x1, 2 SATAIII, 2 SATAII, 8 USB 2.0, GbE
- Supports iManager, SUSIAccess and Embedded Software APIs

#### Software APIs:

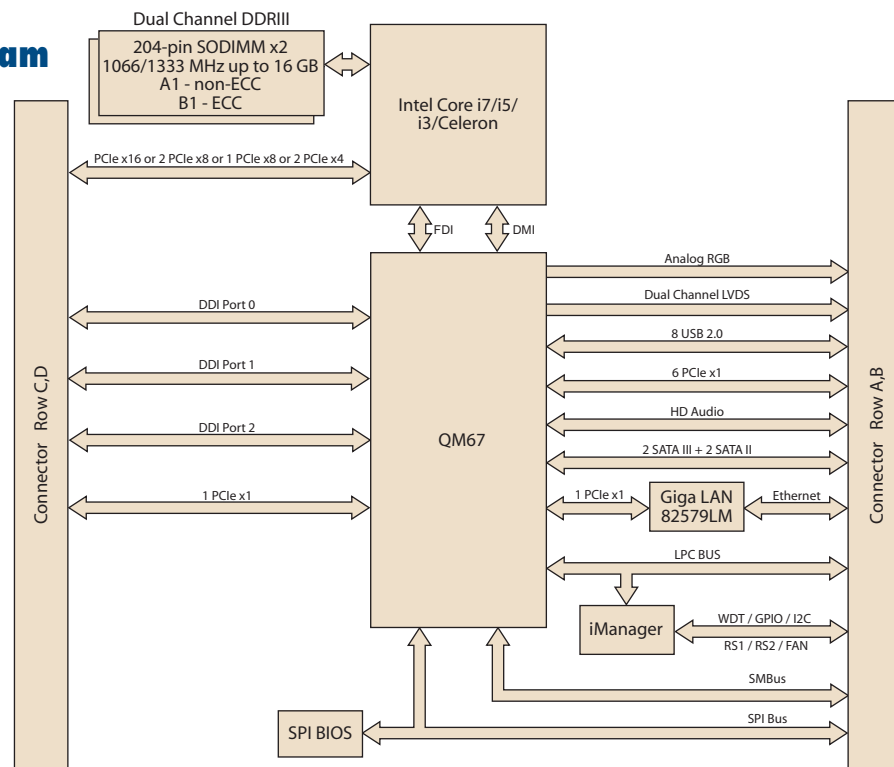


iManager susiAccess CE FCC

### Specifications

|                  |                          |                                                                                                                   |
|------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------|
| Form Factor      |                          | COM Express 2.0 Basic Module, Type 6 Pin-out                                                                      |
| Processor System | CPU                      | Intel Core i7-2715QE Processor (4C, 6M Cache, 2.1 GHz)                                                            |
|                  |                          | Intel Core i7-2655LE Processor (2C, 4M Cache, 2.2 GHz)                                                            |
|                  |                          | Intel Core i7-2610UE Processor (2C, 4M Cache, 1.5 GHz)                                                            |
|                  |                          | Intel Core i5-2515E Processor (2C, 3M Cache, 2.5 GHz)                                                             |
|                  |                          | Intel Core i3-2310E Processor (2C, 3M Cache, 2.1 GHz)                                                             |
|                  |                          | Intel Core i3-2340UE Processor (2C, 3M Cache, 1.3 GHz)                                                            |
|                  |                          | Intel Celeron B810E Processor (2C, 2M Cache, 1.6 GHz)                                                             |
|                  |                          | Intel Celeron 847E Processor (2C, 2M Cache, 1.1 GHz)                                                              |
|                  |                          | Intel Celeron 827E Processor (1C, 1.5M Cache, 1.4 GHz)                                                            |
|                  | System Chipset           | Intel QM67                                                                                                        |
|                  | BIOS                     | AMI EFI 64Mb                                                                                                      |
| Memory           | Technology               | DDR3 1066/1333 MHz                                                                                                |
|                  | ECC Support              | A1 Series - not supported, B1 Series - supported                                                                  |
|                  | Max. Capacity            | 16 GB                                                                                                             |
|                  | Socket                   | 2 x 204-pin SODIMM sockets                                                                                        |
| Display          | Chipset                  | Intel Gfx integrated in Core i7, Core i5, or Core i3                                                              |
|                  | LVDS                     | Single and dual channel 18/24-bit LVDS                                                                            |
|                  | VGA                      | up to 2048 x 1536                                                                                                 |
|                  | DDI                      | 3 DDI ports support configurable HDMI/DVI/DisplayPort                                                             |
|                  | SDVO                     | 1 port shared with DDI port                                                                                       |
| Ethernet         | Chipset                  | Intel 82579LM Gigabit Ethernet                                                                                    |
|                  | Speed                    | 10/100/1000 Mbps                                                                                                  |
| WatchDog Timer   |                          | 65536 level timer interval, from 0~65535 sec, multi-level, multi-option watchdog timer                            |
| Expansion        |                          | 1 PEGx16, 7 PCIe x1, LPC, SPI, SMBus, I2C                                                                         |
| I/O              | SATA                     | 2 x SATAIII (6.0 Gb/s), 2 x SATAII (3.0 Gb/s)                                                                     |
|                  | USB                      | 8 x USB 2.0                                                                                                       |
|                  | Audio                    | High definition audio interface                                                                                   |
|                  | GPIO                     | 8-bit GPIO                                                                                                        |
|                  | Serial port              | 2 x UARTs up to 115.2K bps                                                                                        |
| Power            | Power Type               | ATX, AT                                                                                                           |
|                  | Power Supply Voltage     | +12 V and +5 VSB for ATX, +12 V for AT                                                                            |
|                  | Power Consumption (Max.) | i7-2715QE w/ DDR3 16 GB: 42.8 W @ 12 V                                                                            |
|                  | Power Consumption (Idle) | i7-2715QE w/ DDR3 16 GB: 9.6 W @ 12 V                                                                             |
| Environment      | Operating Temperature    | 0 ~ 60° C (32 ~ 140° F)                                                                                           |
|                  | Humidity                 | Operating: 40° C @ 95% relative humidity, non-condensing<br>Storage: 60° C @ 95%relative humidity, non-condensing |
| Mechanical       | Dimensions               | 125 x 95 mm (4.92" x 3.74")                                                                                       |

## Block Diagram



## Ordering Information

| Part No.         | CPU                    | LLC    | Chipset | DDR3 SODIMM | LVDS      | VGA | HDMI / DVI / DP | SDVO | Giga LAN | HDA | PEG x16 | PCle x1 | USB 2.0 | SATA                        | LPC | ATX Power | AT Power | Thermal Solution | Operating Temp. |
|------------------|------------------------|--------|---------|-------------|-----------|-----|-----------------|------|----------|-----|---------|---------|---------|-----------------------------|-----|-----------|----------|------------------|-----------------|
| SOM-5890FG-U1A1E | Core i7-2715QE 2.1 GHz | 6 MB   | QM67    | non-ECC     | 18/24-bit | Yes | 3               | 1    | 1        | Yes | 1       | 7       | 8       | 2 x SATA III<br>2 x SATA II | Yes | Yes       | Yes      | Active           | 0 ~ 60° C       |
| SOM-5890FG-U2A1E | Core i7-2655LE 2.2 GHz | 4 MB   | QM67    | non-ECC     | 18/24-bit | Yes | 3               | 1    | 1        | Yes | 1       | 7       | 8       | 2 x SATA III<br>2 x SATA II | Yes | Yes       | Yes      | Active           | 0 ~ 60° C       |
| SOM-5890FG-S5A1E | Core i7-2610UE 1.5 GHz | 4 MB   | QM67    | non-ECC     | 18/24-bit | Yes | 3               | 1    | 1        | Yes | 1       | 7       | 8       | 2 x SATA III<br>2 x SATA II | Yes | Yes       | Yes      | Active           | 0 ~ 60° C       |
| SOM-5890FG-U5A1E | Core i5-2515E 2.5 GHz  | 3 MB   | QM67    | non-ECC     | 18/24-bit | Yes | 3               | 1    | 1        | Yes | 1       | 7       | 8       | 2 x SATA III<br>2 x SATA II | Yes | Yes       | Yes      | Active           | 0 ~ 60° C       |
| SOM-5890FG-U0A1E | Core i3-2310E 2.1 GHz  | 3 MB   | QM67    | non-ECC     | 18/24-bit | Yes | 3               | 1    | 1        | Yes | 1       | 7       | 8       | 2 x SATA III<br>2 x SATA II | Yes | Yes       | Yes      | Active           | 0 ~ 60° C       |
| SOM-5890FG-S3A1E | Core i3-2340UE 1.3 GHz | 3 MB   | QM67    | non-ECC     | 18/24-bit | Yes | 3               | 1    | 1        | Yes | 1       | 7       | 8       | 2 x SATA III<br>2 x SATA II | Yes | Yes       | Yes      | Active           | 0 ~ 60° C       |
| SOM-5890FG-S6A1E | Celeron® B810E 1.6 GHz | 2 MB   | QM67    | non-ECC     | 18/24-bit | Yes | 3               | 1    | 1        | Yes | 1       | 7       | 8       | 2 x SATA III<br>2 x SATA II | Yes | Yes       | Yes      | Active           | 0 ~ 60° C       |
| SOM-5890FG-S1A1E | Celeron® B847E 1.1 GHz | 2 MB   | QM67    | non-ECC     | 18/24-bit | Yes | 3               | 1    | 1        | Yes | 1       | 7       | 8       | 2 x SATA III<br>2 x SATA II | Yes | Yes       | Yes      | Active           | 0 ~ 60° C       |
| SOM-5890FG-S4A1E | Celeron® B827E 1.4 GHz | 1.5 MB | QM67    | non-ECC     | 18/24-bit | Yes | 3               | 1    | 1        | Yes | 1       | 7       | 8       | 2 x SATA III<br>2 x SATA II | Yes | Yes       | Yes      | Active           | 0 ~ 60° C       |
| SOM-5890FG-U1B1E | Core i7-2715QE 2.1 GHz | 6 MB   | QM67    | ECC         | 18/24-bit | Yes | 3               | 1    | 1        | Yes | 1       | 7       | 8       | 2 x SATA III<br>2 x SATA II | Yes | Yes       | Yes      | Active           | 0 ~ 60° C       |
| SOM-5890FG-U2B1E | Core i7-2655LE 2.2 GHz | 4 MB   | QM67    | ECC         | 18/24-bit | Yes | 3               | 1    | 1        | Yes | 1       | 7       | 8       | 2 x SATA III<br>2 x SATA II | Yes | Yes       | Yes      | Active           | 0 ~ 60° C       |
| SOM-5890FG-S5B1E | Core i7-2610UE 1.5 GHz | 4 MB   | QM67    | ECC         | 18/24-bit | Yes | 3               | 1    | 1        | Yes | 1       | 7       | 8       | 2 x SATA III<br>2 x SATA II | Yes | Yes       | Yes      | Active           | 0 ~ 60° C       |
| SOM-5890FG-U5B1E | Core i5-2515E 2.5 GHz  | 3 MB   | QM67    | ECC         | 18/24-bit | Yes | 3               | 1    | 1        | Yes | 1       | 7       | 8       | 2 x SATA III<br>2 x SATA II | Yes | Yes       | Yes      | Active           | 0 ~ 60° C       |
| SOM-5890Z-S5A1E  | Core i7-2610UE 1.5 GHz | 4MB    | QM67    | non-ECC     | 18/24-bit | Yes | 3               | 1    | 1        | Yes | 1       | 7       | 8       | 2 x SATAIII<br>2 x SATAII   | Yes | Yes       | Yes      | Active           | -20 ~ 80° C     |
| SOM-5890Z2-S5A1E | Core i7-2610UE 1.5 GHz | 4MB    | QM67    | non-ECC     | 18/24-bit | Yes | 3               | 1    | 1        | Yes | 1       | 7       | 8       | 2 x SATAIII<br>2 x SATAII   | Yes | Yes       | Yes      | Active           | -40 ~ 85° C     |

Note: Passive = fanless; Active = with fan

## Development Board

| Part No.         | Description                                  |
|------------------|----------------------------------------------|
| SOM-DB5800-00A2E | COM Express® Development Board A2 for Type 6 |

## Optional Accessories

| Part No.       | Description                            |
|----------------|----------------------------------------|
| 1960048820N001 | Semi-Cooler 125x95x33.5mm with 12V Fan |

## Packing List

| Part No.       | Description                         | Quantity |
|----------------|-------------------------------------|----------|
| -              | SOM-5890 CPU Module                 | 1        |
| 1960052233N001 | Heatspreader for Core™ i7/i5/i3 sku | 1        |
| 1960052233N011 | Heatspreader for Celeron® sku       | 1        |