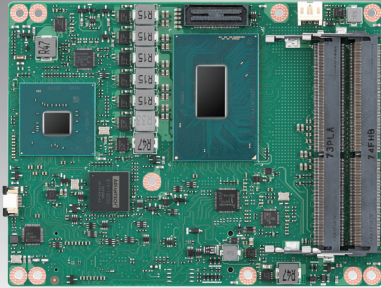


SOM-5899R/5899

9th/8thGen Intel® Xeon®/Core™ Processors COM Express Basic Module Type 6

NEW



Windows Embedded

iManager WISE-PaaS/RMM CE FC

Features

- Intel 9th/8th Gen Xeon®/Core™ Hexa/Quad Cores + PCH QM370/CM246
- Dual channel DDR4, Max 96GB (ECC optional)
- High Speed I/O: 4 USB3.1 (Gen2), 8 PCIe1(Gen3), 4 SATA (Gen3)
- Three Independent Symmetrical Displays (Up to 4K)
- Supports iManager, WISE-PaaS/RMM and Embedded Software APIs

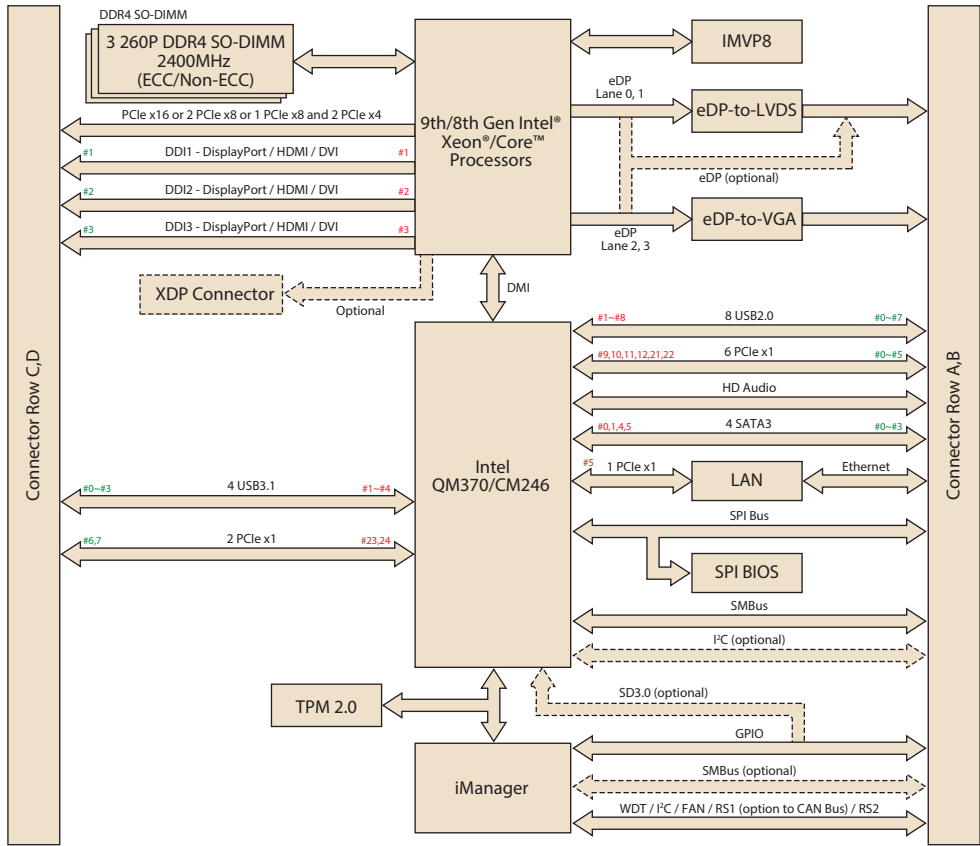
Software APIs:



Specifications

| | | | | | | | | | | | | | | | |
|------------------|---------------------------------|--|----------|----------|----------|-----------|-----------|-----------|----------------|----------------|----------------|---------|----------|----------|----------|
| Form Factor | Form Factor | COM Express Basic Module | | | | | | | | | | | | | |
| | Pin-out Type | COM Express R3.0 Type 6 pin out | | | | | | | | | | | | | |
| Processor System | CPU | E-2276ME | E-2276ML | E-2254ME | E-2254ML | I7-9850HE | I7-9850HL | I3-9100HL | Pentium G5600E | Celeron G4930E | Celeron G4932E | E-2176M | i7-8850H | i5-8400H | i3-8100H |
| | Base Frequency | 2.8 GHz | 2.0 GHz | 2.6 GHz | 1.7 GHz | 2.7 GHz | 1.9 GHz | 1.6 GHz | 2.6 GHz | 2.4 GHz | 1.9 GHz | 2.7GHz | 2.6GHz | 2.5GHz | 3.0GHz |
| | Max Single Core Turbo Frequency | 4.5 GHz | 4.2 GHz | 3.8 GHz | 3.5 GHz | 4.4 GHz | 4.1 GHz | 2.9 GHz | NA | NA | NA | 4.4GHz | 4.3GHz | 4.2GHz | N/A |
| | Cores | 6 | 6 | 4 | 4 | 6 | 6 | 4 | 2 | 2 | 2 | 6/12 | 6/12 | 4/8 | 4/4 |
| | LLC | 12MB | 12MB | 8MB | 8MB | 9MB | 9MB | 6MB | 4MB | 2MB | 2MB | 12MB | 9MB | 8MB | 6MB |
| | CPU TDP | 45W | 25W | 45W | 25W | 45W | 25W | 25W | 35W | 35W | 25W | 45W/35W | 45W/35W | 45W/35W | 45W/35W |
| BIOS | AMI UEFI 256Mbit | | | | | | | | | | | | | | |
| Memory | Technology | DDR4 (2DPC: Up to DDR4 2400 x 3 SO-DIMM/1DPC: Up to DDR4 2666 x 2 SO-DIMM) | | | | | | | | | | | | | |
| | ECC Support | ECC is supported with specific SKU | | | | | | | | | | | | | |
| | Max. Capacity | 96GB | | | | | | | | | | | | | |
| | Socket | 3 260P SO-DIMM: 2 on front side (channel 0&1) / 1 on rear side (channel 0) | | | | | | | | | | | | | |
| Graphics | Controller | Intel® UHD Graphics 630/P630 | | | | | | | | | | | | | |
| | Max. Frequency | 1200MHz | | | | | | | | | | | | | |
| | Graphic Memory | Shared Memory | | | | | | | | | | | | | |
| | 3D/HW Acceleration | HW Encode: MPEG2, AVC/H264, VP8, JPEG, HEVC/H265, VP9 HW Decode: MPEG2, VC1/MMV9, AVC/H264, VP8, JPEG/MJPEG, JPEG/MJPEG, HEVC/H265 (10 bits & 8 bits), VP9 | | | | | | | | | | | | | |
| Display | VGA | 1920 x 1200@60Hz | | | | | | | | | | | | | |
| | LCD | LVDS dual channel: 1920 x 1200@60Hz (option support eDP 4096 x 2304@60Hz, 24bpp) | | | | | | | | | | | | | |
| | DDI | 3 DDI ports support configurable HDMI/DVI/DisplayPort | | | | | | | | | | | | | |
| | Multiple Display | HDMI: 4096 x 2160@24Hz, DVI: 1920 x 1200@60Hz, DP: 4096 x 2304@60Hz Triple displays with each display combinations | | | | | | | | | | | | | |
| Expansion | PCI Express x16 (Gen3) | 1 PCIe x16 configurable to 1 x16, 2 x8, 1 x8 + 2 x4 | | | | | | | | | | | | | |
| | PCI Express x1 (Gen3) | 8 PCIe x1, configurable to x4 or x2 | | | | | | | | | | | | | |
| | Audio Interface | Intel HD Audio Interface | | | | | | | | | | | | | |
| | LPC | Yes | | | | | | | | | | | | | |
| Serial Bus | SMBus | Yes | | | | | | | | | | | | | |
| | I²C Bus | Yes | | | | | | | | | | | | | |
| | CAN Bus | Yes (Optional, co-layout with COM2) | | | | | | | | | | | | | |
| Ethernet | Controller | Intel I219 | | | | | | | | | | | | | |
| | Speed | 10/100/1000 Mbps | | | | | | | | | | | | | |
| I/O | SATA3.0 | 4 Ports (6Gbps) | | | | | | | | | | | | | |
| | USB3.1 (Gen2) | 4 Ports (10Gbps) | | | | | | | | | | | | | |
| | USB2.0 | 8 Ports (480Mbps) | | | | | | | | | | | | | |
| | SPI Bus | Yes | | | | | | | | | | | | | |
| | GPIO | 8 bits (Option support SD Card) | | | | | | | | | | | | | |
| | Watchdog | 65536 level, 0-65535 sec | | | | | | | | | | | | | |
| | COM Port | 2 Ports (2-wire) | | | | | | | | | | | | | |
| | TPM | TPM2.0 (Infineon SLB9665) | | | | | | | | | | | | | |
| Power | Smart Fan | 2 Ports: 1 port on COM module (Notice: the input voltage of fan is aligned to Vin); 1 port on carrier board | | | | | | | | | | | | | |
| | Type | ATX: Vin, VSB; AT: Vin | | | | | | | | | | | | | |
| | Supply Voltage | Vin: 8.5V ~ 20V; VSB: 4.75V ~ 5.25 V, RTC Battery: 2.0V ~ 3.3V | | | | | | | | | | | | | |
| Environment | Power Consumption | Max: 44.63W @ 12V (i7-8850H with 48GB DDR4 2400) Idle: 6.89W @ 12V (i7-8850H with 48GB DDR4 2400) *Only for reference and will depends on custom software loading, detail refer to user manual | | | | | | | | | | | | | |
| | Operating Temperature | Standard: 0 ~ 60 °C (32 ~ 140 °F), Extend: -40 ~ 85 °C (-40 ~ 185 °F) | | | | | | | | | | | | | |
| Mechanical | Storage Temperature | -40 ~ 85 °C (-40 ~ 185 °F) | | | | | | | | | | | | | |
| | Humidity | Operating: 40 °C @ 95% relative humidity, non-condensing Storage: 60 °C @ 95%relative humidity, non-condensing | | | | | | | | | | | | | |
| | Vibration Resistance | 3.5 Grms | | | | | | | | | | | | | |
| | Dimensions | 125 mm x 95 mm (4.92" x 3.74") | | | | | | | | | | | | | |

Block Diagram



***Display Configuration Table**

| | DDI 1 | DDI 2 | DDI 3 | LVDS/eDP | VGA |
|----------|-------|-------|----------|--------------|------|
| Default | DP++ | DP++ | HDMI/DVI | LVDS | VGA |
| Option 1 | DP++ | DP++ | HDMI/DVI | eDP (2-lane) | VGA |
| Option 2 | DP++ | DP++ | DP++ | eDP (4-lane) | None |

Support maximum 3 independent displays simultaneously.