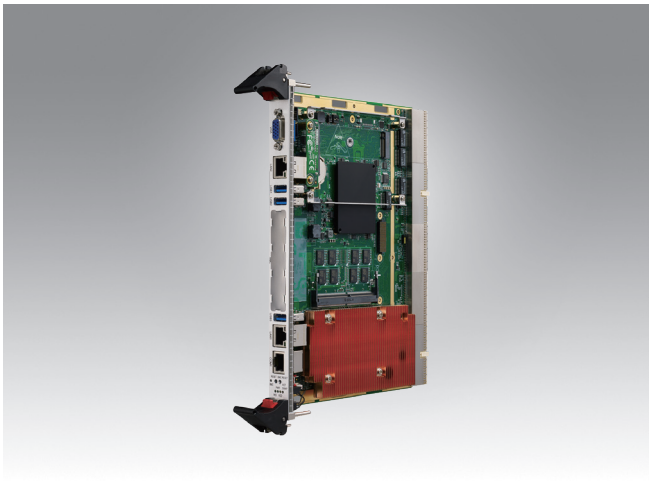
# MIC-3399

## 6U CompactPCI Intel® 6th Gen. Core™ i3/i5/i7 Processor Blade with ECC support



## Features

- Supports 6th Generation Intel® Core™ i3/i5/i7 processors and Intel® CM236 PCH with embedded graphic (up to 3 independent displays)
- Up to 32GB (DDR4-2133) memory (max 16GB on board, socket SO-DIMM x1, max 16GB)
- Optimized dual-slot SBC with 2.5" SATA-III HDD/SSD, 2240 or 2280 M.2 socket, on-board Nandflash (optional)
- TPM (Optional)
- Up to five GbE Ethernet interfaces, two COM interfaces, two SATA3.0 interfaces, one PS/2 interface, one Audio interface, two DDI interfaces for DP, one LVDS interface, two USB3.0 interfaces ,six USB2.0 interfaces and one PCIE X8 bus to the Rear Transition Module(RTM)
- Five Gigabit Ethernet ports including two PICMG 2.16 for front and rear connectivity
- PICMG 2.16 R1.0, PICMG 2.1 R2.0, PICMG 2.0 R3.0, PICMG2.9 R1.0 compliant

CE FCC

## Introduction

Using 6th generation Intel® Core™ i3/i5/i7 processors based on 14nm process technology supporting up to four cores / eight threads at 2.8GHz and 8MB last level cache, the MIC-3399 blade boosts computing performance deploying the latest virtualization, techniques and CPU enhancements. Onboard soldered low voltage DRAM (1.2V) with ECC support (optional) and optional memory expansion via an SODIMM socket extend the memory to a maximum of 32GB, supporting the most demanding applications in high performance or virtualized environments. Dual channel design and memory speeds up to 2133MT/s along with increased cache size and cache algorithms guarantee maximum memory performance. Combined with the powerful Intel® C230 Series Chipset, which offer improved I/O performance by leveraging 8GT/s DMI and 3rd generation PCIe interfaces. An onboard XMC site, with PCIe x8 gen.3 connectivity can host high speed offload or I/O mezzanines such as the MIC-3668 dual 10GE XMC card. With SATA-III support and up to 7Gbps I/O, the latest enhancements in storage technology such as high speed SSDs or traditional HDDs can be used on the MIC-3399. Five gigabit Ethernet ports based on Intel® GbE controllers for front and rear,including two PICMG 2.16, ensure best in class network connectivity.

The processor's integrated enhanced graphics engine (Iris) offers twice the performance over previous generations. With triple independent display support, the MIC-3399 is an ideal fit for demanding workstation applications.

RASUM features integrated in the CPU and chipset combined with PICMG 2.9, IPMI-based management make the MIC-3399 a highly available and reliable computing engine.

The Rear Transition Module named RIO-3316 supports PS/2 connector with both keyboard and mouse ports, USB 3.0, USB 2.0 ports, RS-232 ports, SATA ports, DVI ports, and Gigabit Ethernet ports. Details please refer to RIO-3316 datasheet.

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## Specifications

| | | |
|---|---|---|
| Processor System | CPU | 6th Generation Intel® Core™ i3/i5/i7 mobile processors up to 2.8 GHz (8MB LLC) |
| | Platform Controller Hub | Intel® C230 Series Chipsets |
| | BIOS | Redundant AMI 16MByte SPI flash |
| CompactPCI Interface | J1 Connector | 32-bit PCI local bus |
| | J2 Connector | 64-bit PCI local bus |
| | J3 Connector | PICMG2.16 + RTM area, 1x PCIex8 |
| | J4~J5 Connectors | RTM area |
| XMC Socket | PCIex8 | Gen3 (7GT/s) |
| Memory | Technology | DDR4 2133 MHz, dual channel and ECC support (optional) |
| | Max. Capacity | Up to 32GB (max. 16GB on-board, max. 16GB SODIMM) |
| | Socket | SODIMM x1 |
| Graphics | Controller | Intel® embedded graphic controller Iris (triple independent display) |
| | VRAM | Dynamic |
| | Resolution | 4096 x 2304 @ 60Hz |
| Ethernet | Controller | 5 Intel® I210AT single-port Gigabit Ethernet controllers (on PCIe x1 channel) |
| | Interface | 10/100/1000Base-TX Ethernet |
| | I/O Connector | RJ-45 x 2 (front panel), four interfaces to rear J3 & J5, one interface can be switched between front and rear (J5) connectivity |
| Storage | Onboard Mode | SATA-III |
| | Channels | On board 2.5" HDD/SSD, 1st site default, 2nd site for optional<br>On board M.2, form factor: 2242 or 2280<br>On board Nand flash (Optional) |
| | To Rear Mode | SATA |
| | Channels | 2 ports to J3 |
| Front I/O | USB3.0 | 3 type A, compatible with USB2.0 |
| | VGA | 1 |
| | Console | RJ-45 |
| | LAN | 2 x 1GbE on RJ-45 |
| | Front Panel LEDs | x1 blue for Hot Swap, 1x yellow for HDD, x1 green for Master/Drone mode, x1 green BMC Heartbeat, and x1 green for Power |
| | Buttons | CPU reset button and BMC reset button |



All product specifications are subject to change without notice.

## Specifications (Cont.)

| | | | |
|---|---|---|---|
| Rear Interface (via J3-J5) | USB2.0 | 6 | |
| | USB3.0 | 2 | |
| | COM | 2 | |
| | LAN | 4 interfaces and 1 connectivity with front port | |
| | SATA | 2 | |
| | PCIe | 1 PCIex8 | |
| | Display | 2 DDI for DP | |
| | Others | 1 PS/2 for keyboard & mouse, Audio | |
| Watchdog Timer | Output | Local Rest and Interrupt | |
| | Interval | Programmable 1s ~ 255s | |
| Hardware Monitor | HWM | NCT7904 | |
| BMC | Controller | LPC1768, IPMI v2.0 compliant | |
| Operating System | Compatibility | Win7 64bit, Win10 64bit, Linux, VxWorks (on request) | |
| Power Requirement | Configuration | 4HP | |
| | TDP | Maximum: up to 75W depending on CPU type, +5V: 12A, +3.3V: 5.5A | |
| Physical | Dimensions (W x D) | 233.35 x 160.0 mm | |
| Environment | | Operating | Non-operating |
| | Temperature | 0 ~ 55 °C (32 ~ 131 °F) | -40 ~ 85 °C (-40 ~ 185 °F) |
| | Humidity | 95 % @ 40 °C, non-condensing | 95 % @ 60 °C, non-condensing |
| | Vibration (5-500 Hz) | 2Grms (With on board 2.5" SSD) | Sine, 4.9mm@5-15Hz, 2G@15-500Hz |
| | Altitude | 15000ft, 55 °C above sea level | 40000 ft, -40 °C above sea level |
| Regulatory | Conformance | FCC Class A, CE, RoHS | |
| Compliance | Standards | PICMG2.0 R3.0, PICMG2.1 R1.0, PICMG2.9 R1.0, PICMG2.16 R1.0, | |

## Ordering Information

| Model Number | Front Panel | | | | Main On-board Features | | | | | | | | Others |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Memory | | Storage | | | | | |
| | VGA | USB3.0 (Type A) | Ethernet (RJ45) | Console (RJ45) | CPU | On Board | SODIMM Socket | M.2 | 2.5" | ECC | XMC | BMC | J3 |
| MIC-3399A2-M6E | 1 | 3 | 2 | 1 | i7-6820EQ | 16GB | Yes | SATA III | SATA III | No | Yes | Yes | Legacy |
| MIC-3399A3-M8E | 1 | 3 | 2 | 1 | i7-6820EQ | 8GB | Yes | SATA III | SATA III | No | Yes | No | Legacy |
| MIC-3399C1-M8E | 1 | 3 | 2 | 1 | I3-6100E | 8GB | Yes | SATA III | SATA III | Yes | No | No | Legacy |

*Note: For other SKUs available by request, please contact your local sales office.

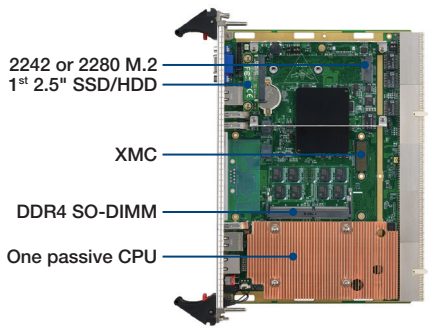
## CPU Configurations

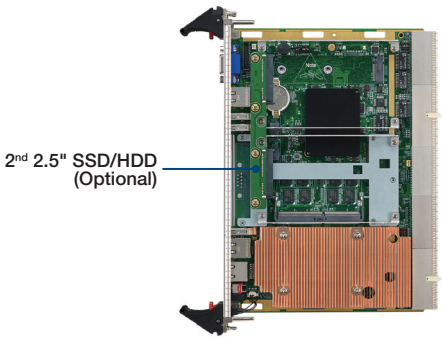
| Intel® CPU Model Number | CPU Architecture | # Cores | # Threads | Freq. | Cache | CPU TDP | ECC |
|---|---|---|---|---|---|---|---|
| i3-6100E | 14 nm | 2 | 4 | 2.7 GHz | 3 MB | 35W | Yes |
| i7-6820EQ | 14 nm | 4 | 8 | 2.8 GHz | 8 MB | 45W | No |

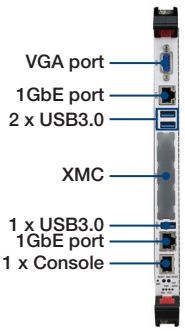
## Related Products

| Model number | Configuration |
|---|---|
| RIO-3316-C1E | RTM Module with 4 LAN ports and USB 3.0 |
| MIC-3666-AE | Dual 10 Gigabit Ethernet XMC |
| MIC-3667-AE | Quad copper (RJ-45) Gigabit Ethernet XMC |
| MIC-3042CE | 4U CompactPCI® Enclosure w/o CT-Bus, no PSU |

**MIC-3399 Series**




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