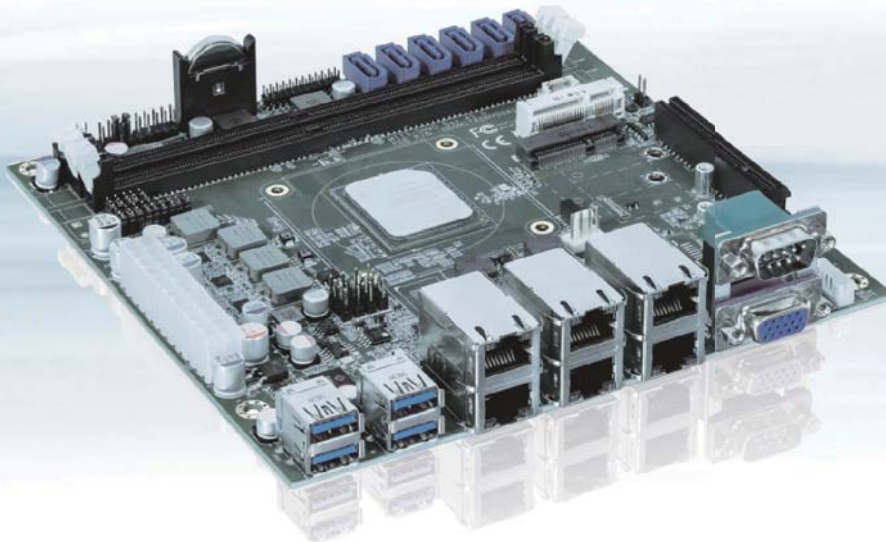


mITX-DNV

IDEAL FOR DENSE LOW-POWER APPLICATIONS



MINI-ITX INDUSTRIAL MOTHERBOARD WITH INTEL® ATOM® C3000 SERIES PROCESSORS

- ▶ 1x VGA for display output
- ▶ 6x GbE LAN for Ethernet
- ▶ 4x USB 3.0, 2x USB 2.0, 2x RS232/422/485, 1x 8-bit DIO for peripherals
- ▶ 6x SATA 3.0, Up to 1x mSATA, 1x M.2 Key B, optional eMMC for storage
- ▶ Up to 1x mPCIe, 1x PCIe x8 for expansion

mITX-DNV

MINI-ITX INDUSTRIAL MOTHERBOARD WITH INTEL® ATOM® C3000 SERIES PROCESSOR

mITX-DNV is a Mini-ITX industrial motherboard equipped with Intel® Atom® C3000 Series processors, which is specially suitable for dense low-power network, storage, and IoT applications.

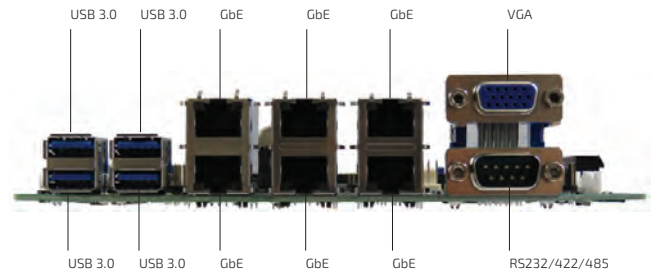
It has six SATA 3.0 sockets and one M.2 Key B socket for HDD / SSD storage device connection as well as optional eMMC drive soldered on-board. In addition, It also supports 6 GbE LAN ports to deliver

sufficient traffic flow for huge data volumes.

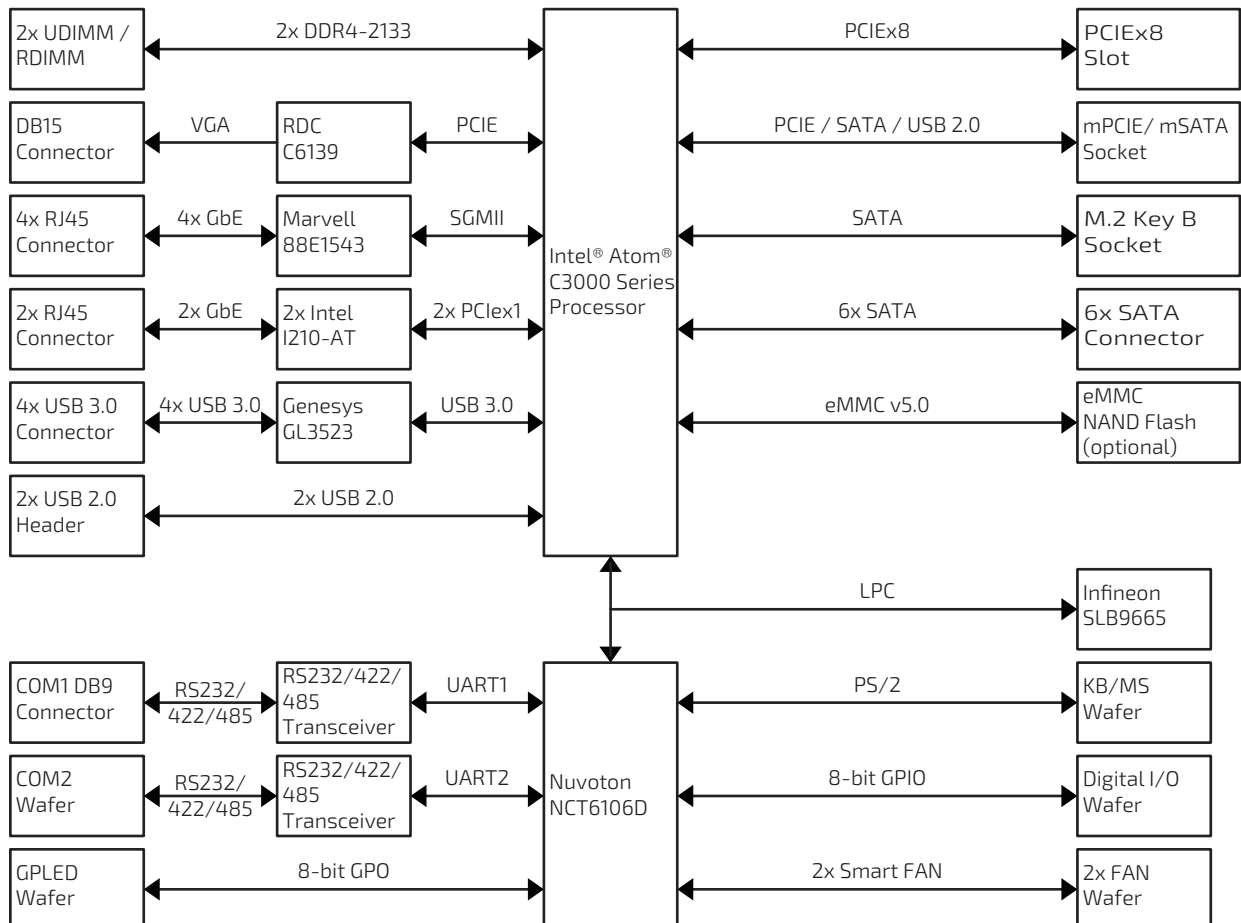
mITX-DNV reserves one mSATA / mPCIe slot and one PCIe x8 slot, allowing users to expand SSD or specific functions such as wireless connection or additional network interface card.

▶ PRODUCT HIGHLIGHTS

- ▶ Intel® Atom® C3000 Series processors
- ▶ Up to 2x DDR4 UDIMM memory socket
- ▶ 1x VGA for video output
- ▶ 6x GbE LAN for Ethernet
- ▶ 4x USB 3.0, 2x USB 2.0 for USB device connection
- ▶ 2x RS232/422/485 for serial device connection
- ▶ 8-bit DIO for device / signal control
- ▶ 6x SATA 3.0, 1x M.2 Key B, optional eMMC for storage
- ▶ 1x mSATA / mPCIe for SSD, WLAN, WWAN expansion
- ▶ 1x PCIe x8 for application-specific expansion
- ▶ TPM 2.0 support
- ▶ Extended temperature model available: -20 °C ~ 70 °C



▶ BLOCK DIAGRAM



► TECHNICAL INFORMATION

| | | |
|----------------------------------------|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SYSTEM | PROCESSOR | Intel® Atom® C3338 (Dual Core, 4M Cache, up to 2.20 GHz, FCBGA1310, 9 W TDP) Intel® Atom® C3538 (Quad Core, 8M Cache, up to 2.10 GHz, FCBGA1310, 15 W TDP) Intel® Atom® C3750 (Octa Core, 16M Cache, up to 2.40 GHz, FCBGA1310, 21 W TDP) Intel® Atom® C3950 (Hexadeca Core, 16M Cache, up to 2.20 GHz, FCBGA1310, 24 W TDP) |
| | MEMORY | 1x DDR4 1866 UDIMM up to 128 GByte (Atom® C3338 model) 2x DDR4 2133 UDIMM up to 256 GByte (Atom® C3538 model) 2x DDR4 2400 UDIMM up to 256 GByte (Atom® C3750 / C3950 model) |
| VIDEO | GRAPHICS DISPLAY INTERFACE | RDC® C6139 1x VGA (on rear, 1024 x 768 @ 60 Hz) |
| NETWORK CONNECTION | ETHERNET | 6x GbE LAN (RJ45 on rear, 2x Intel® I210-AT, 4x Marvell® 88E1543) |
| PERIPHERAL CONNECTION | USB | 4x USB 3.0 (Type A on rear from HUB) |
| | SERIAL PORT | 2x USB 2.0 (by wafer from SoC) |
| | OTHER I/Os | 2x RS232/422/485 (1x DB9 on rear w/ 5 V / 12 V output support, 1x by wafer) 1x 8-bit DIO (by wafer) 1x PS/2 Keyboard / Mouse (by wafer) |
| STORAGE & EXPANSION | | 6x SATA 3.0 eMMC support (optional) 1x M.2 Key B (type 2280, for SSD only) 1x mPCIe / mSATA (full size, mixed with SATA, USB 2.0) 1x PCIe x8 (supporting PCIe x1 / x4 / x8 depending on HSIO selection) 1x SIM Card Cage (by wafer) |
| POWER | CONNECTOR INPUT VOLTAGE | 2x12-pin ATX connector DC +5 V / -5 V / +12 V / -12 V / +3.3 V / 5 VSB |
| FIRMWARE | BIOS WATCHDOG H/W MONITOR REAL TIME CLOCK TPM | AMI uEFI BIOS w/ 128 Mb SPI Flash Programmable WDT to generate system reset event Voltages, Temperatures SoC integrated RTC Supported (Infineon SLB9665 TPM 2.0) |
| SYSTEM CONTROL & MONITORING | FP HEADER | 1x Header for Reset button, HDD LED & External Speaker 1x Header for Power button, Power LED & SM bus 1x Header for 6x LAN LED 1x Header for mPCIe LED 1x Header for 8-bit GPLED |
| COOLING | FAN | 1x Wafer for CPU Smart Fan 1x Wafer for System Smart Fan |
| SOFTWARE | OS SUPPORT | Windows Server |
| MECHANICAL | DIMENSION (L x W) | Mini-ITX (170 mm x 170 mm / 6.70" x 6.70") |
| ENVIRONMENTAL | OPERATION TEMPERATURE | 0 °C ~ 60 °C / 32 °F ~ 140 °F (Standard) -20 °C ~ 70 °C / -4 °F ~ 158 °F (Extended) |
| | STORAGE TEMPERATURE | -20 °C ~ 80 °C / -4 °F ~ 176 °F (Standard) -40 °C ~ 85 °C / -40 °F ~ 185 °F (Extended) |
| | HUMIDITY | 0 % ~ 95 % |
| CERTIFICATION | EMC & SAFETY | CE Class A, FCC Class A |

▶ ORDERING INFORMATION

| ARTICLE | DESCRIPTION |
|-----------------------------|--------------------------------------------------------------------------|
| mitX-DNV-C3338 | Intel® Atom® C3338, 1x DDR4 UDIMM, Operating Temperature: 0 °C ~ 60 °C |
| mitX-DNV-C3538 | Intel® Atom® C3538, 2x DDR4 UDIMM, Operating Temperature: 0 °C ~ 60 °C |
| mitX-DNV-C3338-ET | Intel® Atom® C3338, 1x DDR4 UDIMM, Operating Temperature: -20 °C ~ 70 °C |
| mitX-DNV-C3538-ET | Intel® Atom® C3538, 2x DDR4 UDIMM, Operating Temperature: -20 °C ~ 70 °C |
| mitX-DNV-C3750 (by project) | Intel® Atom® C3750, 2x DDR4 UDIMM, Operating Temperature: 0 °C ~ 60 °C |
| mitX-DNV-C3950 (by project) | Intel® Atom® C3950, 2x DDR4 UDIMM, Operating Temperature: 0 °C ~ 60 °C |

ACCESSORIES

| ARTICLE | PART NO. | DESCRIPTION |
|---------------------------|------------------|---------------------------------------------------------------------------------------------------------------------------|
| COM PORT CABLE* | OC5020000005130L | 10-pin pitch = 1.25 mm to DB9 connector, L = 350 mm |
| DIO CABLE* | OC5020000003360L | MX51021-10P 1x10P 1.25 pitch to D-SUB-9P (Female), L = 200 mm |
| USB 2.0 CABLE (2 PORTS)* | OC5040000000110L | DP-2.54 2x5P pitch = 2.54 mm to 2x USB Female, L = 340 mm |
| SATA CABLE* | OC5020000004240L | With lock, 1.27 mm pitch 1x7P, L = 460 mm |
| PS/2 CABLE* | OC5020002500010L | Y-cable, 6-pin pitch 2.0 mm wafer connector to KB & MS connector, L = 250 mm |
| MINI SIM CARD HOLDER KIT* | OZHK12003GSIM003 | W/ SIM card holder x1, cable x1 |
| HEATSINK* | OH05XX000002070L | 60 x 60 x 45 mm, Push Pin x4, Thermal Pad: 32 x 32 x 0.2 mm, Lead Free |
| COOLER* | OH05XX000002130L | 60 x 60 x 30 mm, Heatsink: 60 x 60 x 16.5 mm, Fan: 60 x 60 x 10.3 mm, Thermal Pad: 30 x 30 x 0.2 mm, w/ Bracket Lead Free |

(* : Optional)

▶ GLOBAL HEADQUARTERS

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