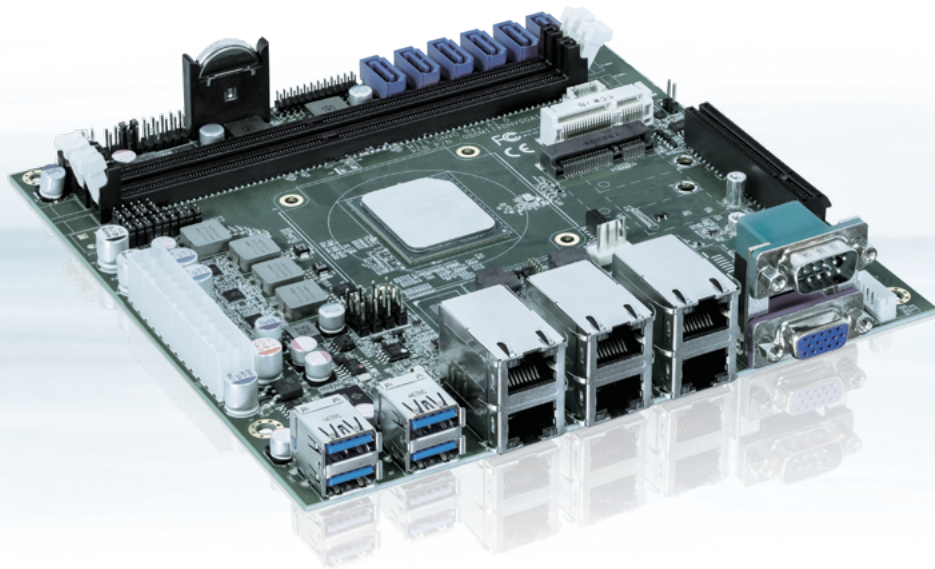


# mITX-DNV

## Ideal for Dense Low-Power Applications

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Product of  
Kontron Asia

### 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

POSSIBILITIES START HERE



# 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.

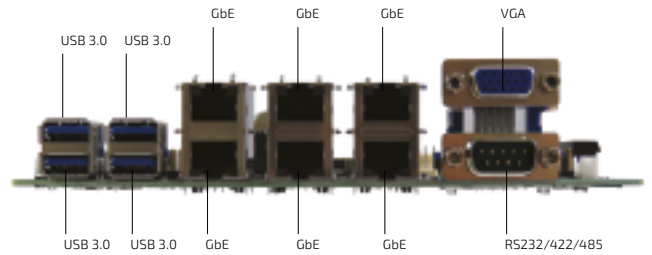
It has six SATA 3.0 sockets and one M.2 Key B socket for HDD/SSD storage device connection as well as optional eMMC drive sol-

dered on-board. In addition, It also supports 6 GbE LAN ports to deliver sufficient traffic flow for huge data volumes.

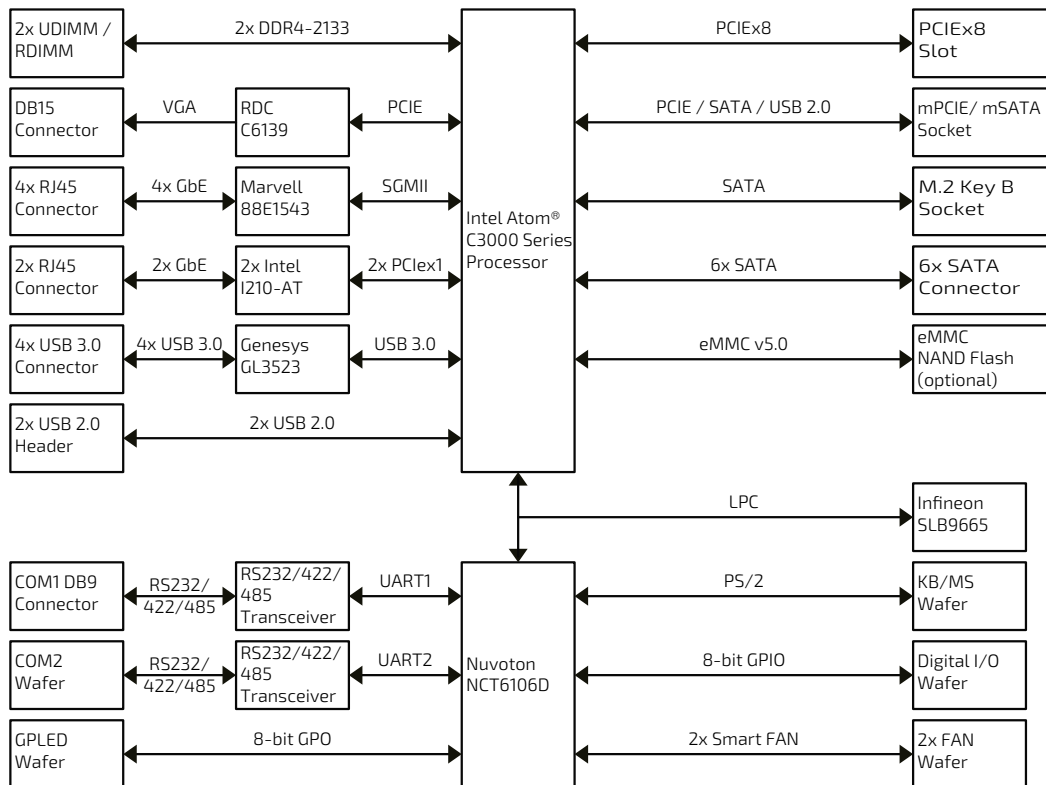
mITX-DNV reserves one mSATA/mPCIe slot and one PCIe x8 slot, allowing users to expand SSD or specific functions such as wireless connection or additional network interface card.

### 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

<b>SYSTEM</b>	<b>PROCESSOR</b>	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)
	<b>MEMORY</b>	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)
<b>VIDEO</b>	<b>GRAPHICS DISPLAY INTERFACE</b>	RDC® C6139 1x VGA (on rear, 1024 x 768 @ 60 Hz)
<b>NETWORK CONNECTION</b>	<b>ETHERNET</b>	6x GbE LAN (RJ45 on rear, 2x Intel® I210-AT, 4x Marvell® 88E1543)
<b>PERIPHERAL CONNECTION</b>	<b>USB</b>	4x USB 3.0 (Type A on rear from HUB) 2x USB 2.0 (by wafer from SoC)
	<b>SERIAL PORT OTHER I/O</b>	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)
<b>STORAGE &amp; EXPANSION</b>		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)
<b>POWER</b>	<b>INPUT VOLTAGE CONNECTOR</b>	2x12-pin ATX connector DC +5 V / -5 V / +12 V / -12 V / +3.3 V / 5 VSB
<b>FIRMWARE</b>	<b>BIOS WATCHDOG H/W MONITOR REAL TIME CLOCK TPM</b>	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)
<b>SYSTEM CONTROL &amp; MONITORING</b>	<b>FP HEADER</b>	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
<b>COOLING</b>	<b>FAN</b>	1x Wafer for CPU Smart Fan 1x Wafer for System Smart Fan
<b>SOFTWARE</b>	<b>OS SUPPORT</b>	Windows Server
<b>MECHANICAL</b>	<b>DIMENSION (L x W)</b>	Mini-ITX (170 mm x 170 mm/6.70" x 6.70")
<b>ENVIRONMENTAL</b>	<b>OPERATION TEMPERATURE</b>	0 °C ~ 60 °C/32 °F ~ 140 °F (Standard)
	<b>STORAGE TEMPERATURE</b>	-20 °C ~ 70 °C/-4 °F ~ 158 °F (Extended)
	<b>HUMIDITY</b>	-20 °C ~ 80 °C/-4 °F ~ 176 °F (Standard) -40 °C ~ 85 °C/-40 °F ~ 185 °F (Extended) 0 % ~ 95 %
<b>CERTIFICATION</b>	<b>EMC &amp; SAFETY</b>	CE Class A, FCC Class A

## ▶ ORDERING INFORMATION

ARTICLE	PART NO.	DESCRIPTION
MITX-DNV-C3338	46013-0000-15-2	Intel Atom® C3338, 1x DDR4 UDIMM, Operating Temperature: 0 °C ~ 60 °C
MITX-DNV-C3538	46013-0000-21-4	Intel Atom® C3538, 2x DDR4 UDIMM, Operating Temperature: 0 °C ~ 60 °C
MITX-DNV-C3338-ET	46013-0000-15-2EXT	Intel Atom® C3338, 1x DDR4 UDIMM, Operating Temperature: -20 °C ~ 70 °C
MITX-DNV-C3538-ET	46013-0000-21-4EXT	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*	1064-2427	10-pin pitch = 1.25 mm to DB9 connector, L = 350 mm
DIO CABLE*	1065-3137	MX51021-10P 1x10P 1.25 pitch to D-SUB-9P (Female), L = 200 mm
USB 2.0 CABLE (2 PORTS)*	1064-2429	DP-2.54 2x5P pitch = 2.54 mm to 2x USB Female, L = 340 mm
SATA CABLE*	1064-2431	With lock, 1.27 mm pitch 1x7P, L = 460 mm
PS/2 CABLE*	0C5020002500010L	Y-cable, 6-pin pitch 2.0 mm wafer connector to KB & MS connector, L = 250 mm
MINI SIM CARD HOLDER KIT*	1064-2434	W/ SIM card holder x1, cable x1
HEATSINK*		60 x 60 x 45 mm, Push Pin x4, Thermal Pad: 32 x 32 x 0.2 mm, Lead Free
COOLER*	0H05XX000002070L	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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