

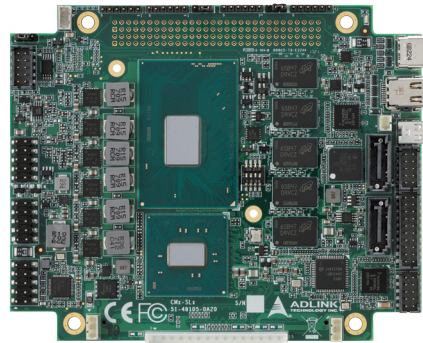
PCI/104-Express Type 1 Single Board Computer
 with 6th Gen. Intel® Core™ Processor

Datasheet

CMx-SLx



PC104




Features

- 6th Gen. Intel® Core™ Processor
- Up to 8GB DDR4-ECC soldered memory
- 3x DDI channels, 1x micro HDMI, 1x mini DP and 1x 18/24 bit single channel LVDS
- 4x PCIe x1 and 1x PCIe x16 (PEG) configurable as 1x PCIe x16 or 2x PCIe x8 or 1x PCIe x8 + 2x PCIe x4
- 2x GbE LAN, 2x SATA 6Gb/s, 1x USB 3.1, 6x USB 2.0 (2x to PCIe/104 bus connector), 2x COM, 8x GPIO
- Featuring SEMA® for easy integration of Hardware monitoring and control
- Extreme Rugged operating temperature -40°C to +85°C (build by BOM options)

Specifications

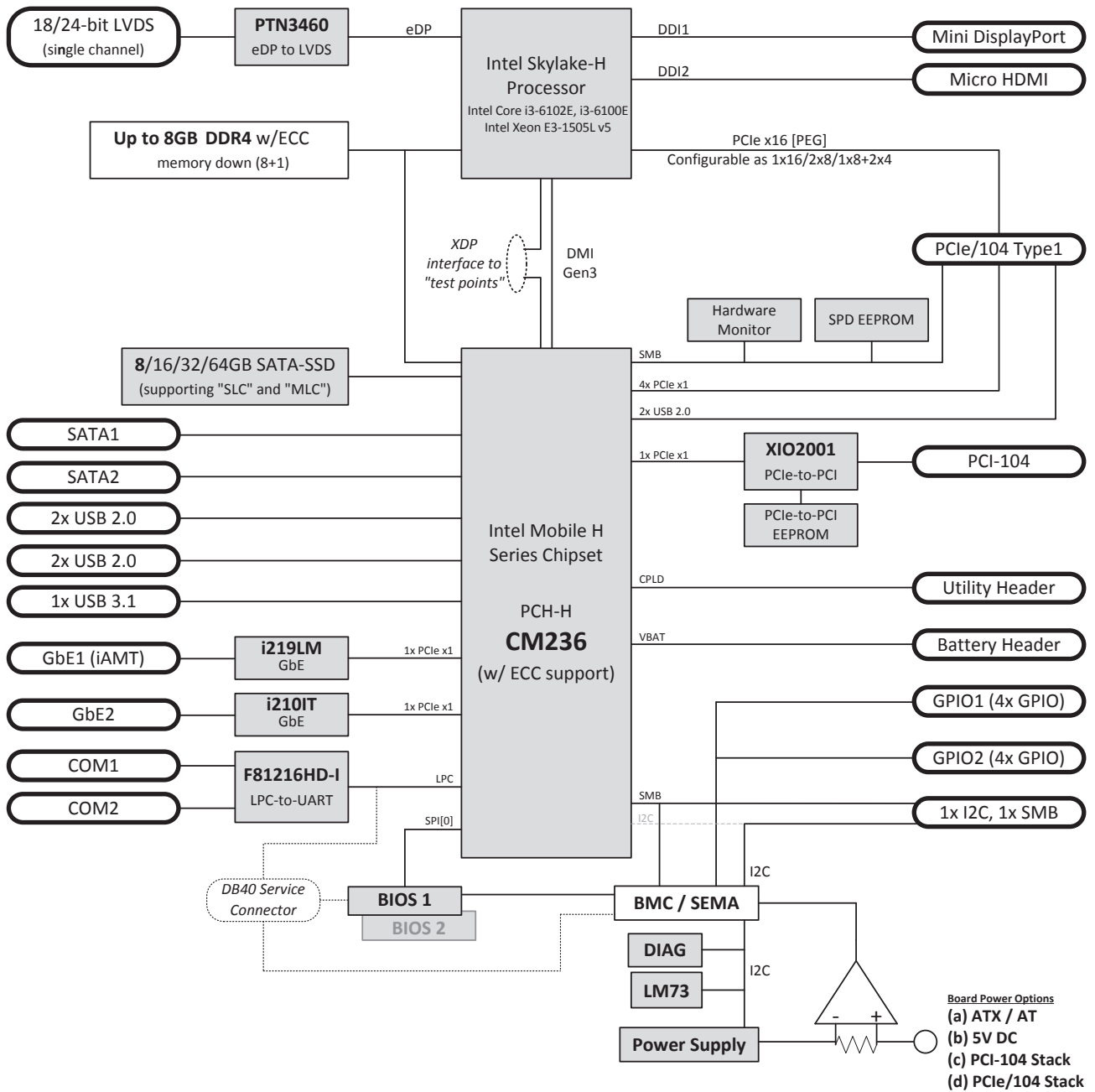
Processor & System	CPU	6th generation Intel® Processor (formerly Skylake) Intel® Core™ i3-6102E 1.9GHz (no Turbo), 25W (2C/GT2) Intel® Core™ i3-6100E 2.7GHz (no Turbo), 35W (2C/GT2) Intel® Xeon® E3-1505L v5 2.0/2.8GHz (Turbo), 25W (4C/GT2)
	PCH	Intel® CM236 (supports ECC memory, Intel® AMT)
	Memory	Up to 8GB single channel 1866/2133 MHz DDR4-ECC soldered memory
	Onboard Storage	Soldered 8GB SLC SATA-SSD Depending on application requirements, variants with following processors can be offered: 16GB SLC/MLC 32GB SLC/MLC 64GB MLC
	Embedded BIOS	AMI EFI with CMOS backup in 16MB SPI BIOS with Intel® AMT 11.00 support
	Cache	3MB for Core™ i3 (Option: 8MB for Xeon® processor)
	Expansion Busses	PCI/104-Express Type 1 (stack-down) PCI-104 (stack-down)
Audio	Chipset	Intel® HD Audio integrated in chipset available on "DisplayPort" and "HDMI" ports

Specifications

Ethernet	Intel® MAC/PHY	1x Intel® MAC/PHY: i219LM/V (LM with AMT 11.0 support) 1x Intel® MAC/PHY: i210IT
	Interface	10/100/1000 GbE connection
	TPM	TPM supported by BIOS
	Video	GPU Feature Support Intel® Generation 9 LP Graphics Core Architecture, supporting 3 independent and simultaneous display combinations of DisplayPort/HDMI/LVDS
	Hardware encode/transcode	HD content (including HEVC) DirectX 12, DirectX 11.2, DirectX 11.1, DirectX 11, DirectX 10.1, DirectX 10, DirectX 9 support OpenGL 4.4/4.3 and ES 2.0 support OpenCL 2.1, 2.0/1.2 support
	Digital Display Interface	DDI1/2 supporting DisplayPort/HDMI
	LVDS	Single channel 18/24-bit LVDS from eDP-to-LVDS IC
I/O Interfaces	USB	1x USB 3.1 and 6x USB 2.0 (2x USB 2.0 to PCIe/104 bus connector)
	SATA	2x SATA 6Gb/s and 1x SATA to onboard SATA-SSD
	Serial	2x RS-232
	GPIO	8x
	SMBus	1x
	I2C	1x
	Power	Standard Input
Optional Input		Depending on customer application and processor, "5VDC single voltage supply" variant can be offered.
Management		ACPI 5.0 compliant
Power States		C1-C6, S0, S1, S3, S4, S5, S5 ECO mode (Wake-on-USB S3/S4, WOL S3/S4/S5)
ECO mode		Supports deep S5 for power saving
Operation System	Standard Support	Windows 10 (64-bit), Windows 7 (32/64-bit), Linux YOCTO 64-bit, VxWorks 7 (64-bit), QNX 6.6
Mechanical and Environmental	Form Factor	PCI/104-Express Specification, Version 3.0
	Dimension	117.4 mm x 96 mm
	Operating Temperature	Standard: 0°C to +60°C Extreme Rugged: -40°C to +85°C
	Humidity	5-90% RH operating, non-condensing 5-95% RH storage (and operating with conformal coating)
	Shock and Vibration	IEC 60068-2-64 and IEC-60068-2-27 MIL-STD-202F, Method 213B, Table 213-I, Condition A and Method 214A, Table 214-I, Condition D
	HALT	Thermal Stress, Vibration Stress, Thermal Shock and Combined Test
Intelligent Middleware	SEMA® 	Local management, control of embedded computer systems Extended EAPI for monitoring, controlling and analytics applications Multiple OS support and across platforms (x86, ARM)

Functional Diagram

CMx-SLx



Ordering Information

CM4-SL2-6102E-8G-8G	PCI/104-Express Type 1 SBC, Intel® Core™ i3-6102E (1.9GHz), CM236 chipset, 8GB DDR4-ECC, 8GB SLC SATA-SSD, 0°C to +60°C
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For other CPU, RAM or SATA-SSD configurations, please contact your local sales representative

Optional Accessories

CMx-SLx-X-10	CMx-SLx Cable Kit
CMx-SLx-TM-00	CMx-SLx Heat Spreader
CMx-SLx-TM-10	CMx-SLx Passive Heat Sink (0°C to +60°C)
CMx-SLx-TM-20	CMx-SLx Active Heat Sink for i3-6102E CPU (-40°C to +85°C)

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