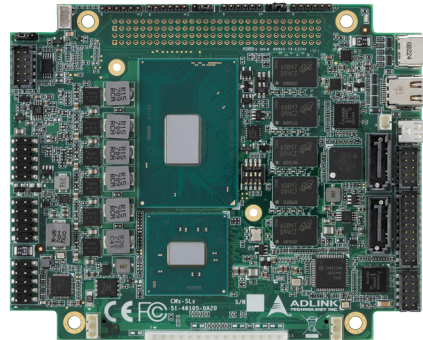


PCI/104-Express Type 1 Single Board Computer
with 6th Gen. Intel® Core™ Processor

CMx-SLx

Datasheet


PC104


Features

- 6th Gen. Intel® Core™ Processor
- Up to 16GB 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

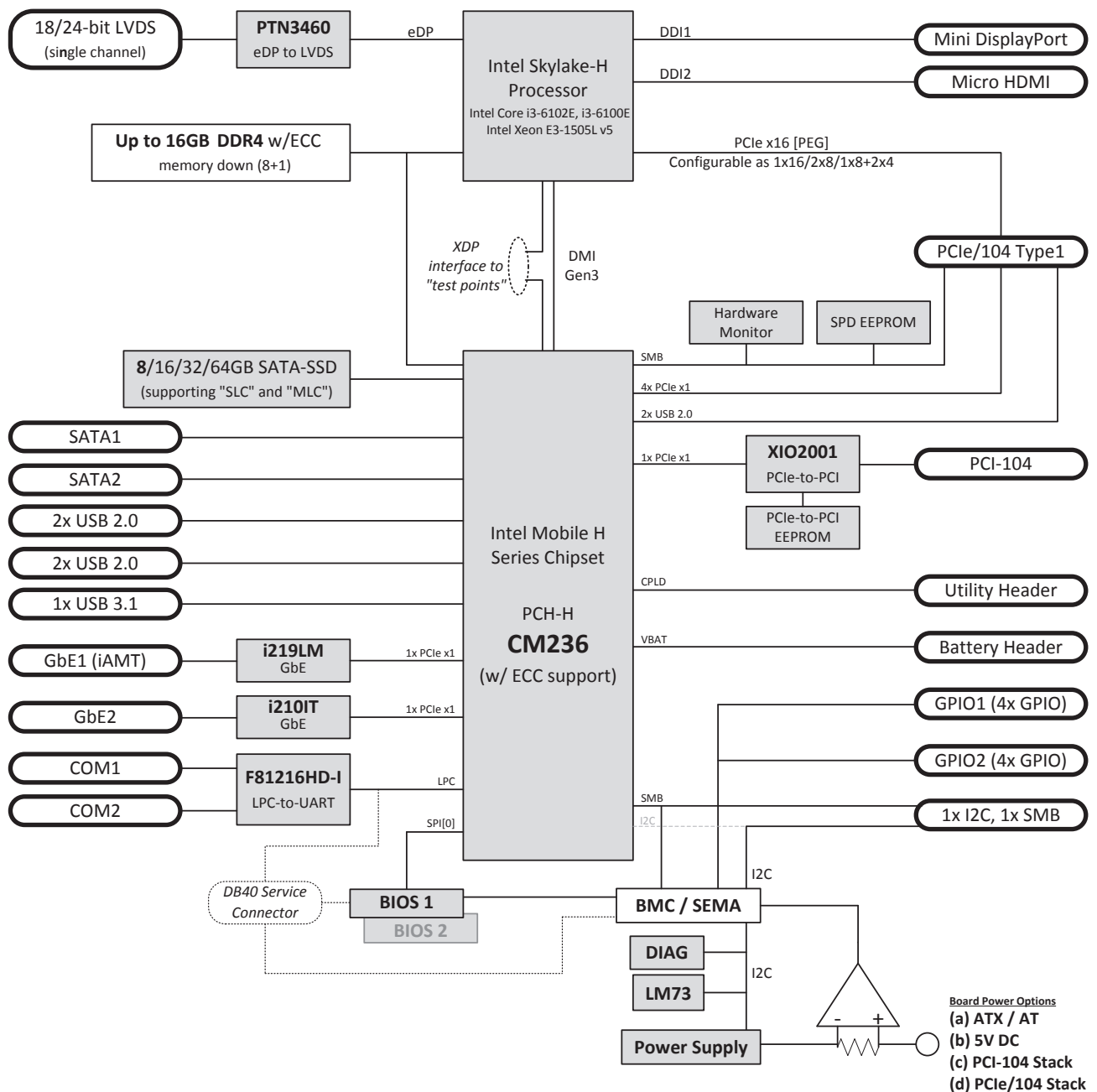
Processor & System	CPU	6th generation Intel® Processor (formerly Skylake) Intel® Core™ i3-6102E 1.9GHz (no Turbo), 25W (2C/GT2) Intel® Core™ i3-6100E 2.7GHz (no Turbo), 35W (2C/GT2) Intel® Core™ i7-6822EQ 2.0/2.8GHz (Turbo), 25W (4C/GT2) Intel® Xeon® E3-1505L v5 2.0/2.8GHz (Turbo), 25W (4C/GT2)
	PCH	Intel® CM236 (supports ECC memory, Intel® AMT)
	Memory	Up to 16GB 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	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	ATX = 5V±5% / 5Vsb ±5% or AT = 5V±5%
	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
CM4-SL4-6822E-8G-8G-ETT	PCI/104-Express Type 1 SBC, Intel® Core™ i7-6822EQ (max. 2.8GHz), CM236 chipset, 8GB DDR4-ECC, 8GB SLC SATA-SSD, -40°C to +85°C

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)

