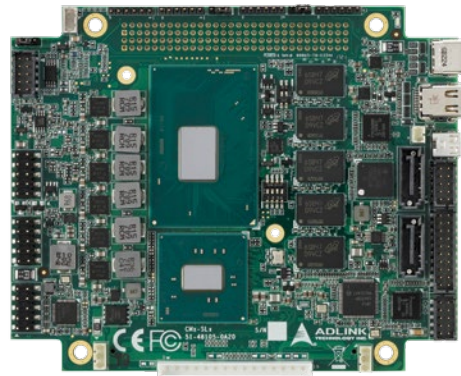


# CMx-SLX

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

### 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

#### • Core System

##### CPU

6th generation Intel® Core™ Processor  
 Core™ i3-6102E 1.9GHz (no Turbo), 25W (2C/GT2)  
 Depending on application requirements, variants with following processors can be offered:

Core™ i3-6100E 2.7GHz (no Turbo), 35W (2C/GT2)  
 Xeon® E3-1505L v5 2.0/2.8GHz (Turbo), 25W (4C/GT2)

##### PCH

CM236 (supports ECC memory, Intel® AMT)

##### Memory

8GB single channel 1867/2133 MHz DDR4-ECC soldered memory  
 Optional: 16GB DDR4-ECC single channel

##### Onboard Storage

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

#### • 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

## Specifications

### • 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

#### I<sup>2</sup>C

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<sup>®</sup>



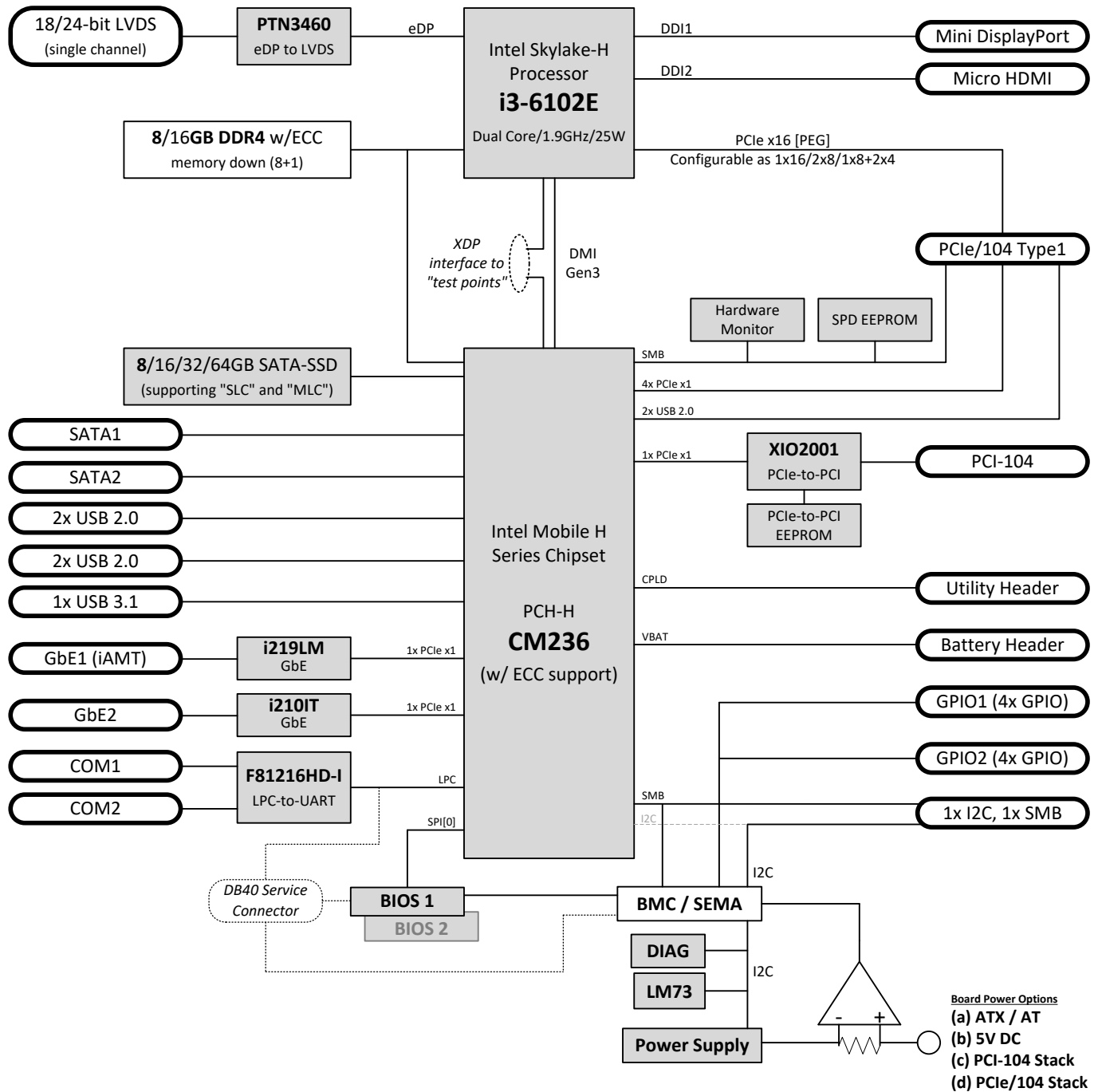
Local management, control of embedded computer systems

Extended EAPI for monitoring, controlling and analytics applications

Multiple OS support and across platforms (x86, ARM)

# Functional Diagram

## CMx-SLx



## Ordering Information

- **CMx-SLx-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

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)