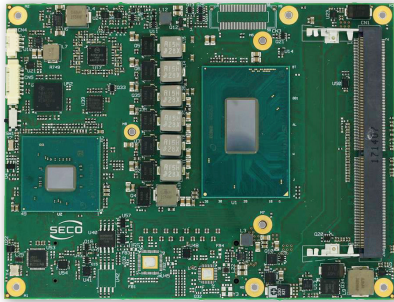




OBERON

COM Express® Rel. 3.0 Basic Type 6 module with Intel® 8th generation Core™ / Xeon® (formerly Coffee Lake) and 9th generation Core™ / Xeon® / Celeron® (formerly Coffee Lake Refresh) Processors

Exceptional platform performance with up to six cores for more processing power

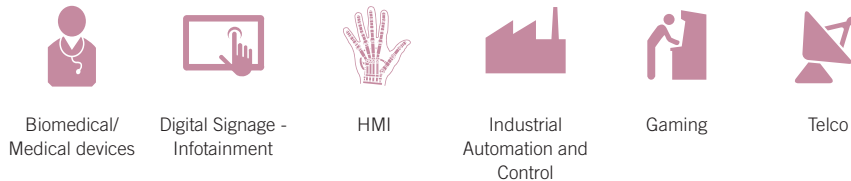


HIGHLIGHTS

CPU 8th Gen Core™/Xeon® (Coffee Lake) & 9th Gen Core™/Xeon®/Celeron® CPUs (Coffee Lake Refresh)	CONNECTIVITY 4x USB 3.0; 8x USB 2.0; 8x PCI-e x1 Gen3; PEG x16 Gen3
GRAPHICS Intel® UHD Graphics 630/P630 architecture, up to 48 Execution Units	MEMORY Two DDR4 SO-DIMM Slots supporting DDR4-2666 ECC Memory, up to 64GB



MAIN FIELDS OF APPLICATION



FEATURES



Processor



Max Cores

Intel® 8th generation Core™ / Xeon® (formerly Coffee Lake H) CPUs:

- Intel® Core™ **i7-8850H**, Six Core @ 2.6GHz (4.3GHz Max 1 Core Turbo), 9MB Cache, 45W TDP (35W cTDP), with HyperThreading
- Intel® Core™ **i5-8400H**, Quad Core @ 2.5GHz (4.2GHz Max 1 Core Turbo), 8MB Cache, 45W TDP (35W cTDP), with HyperThreading
- Intel® Core™ **i3-8100H**, Quad Core @ 3.0GHz, 6MB Cache, 45W TDP (35W cTDP)
- Intel® Xeon® **E-2176M**, Six Core @ 2.7GHz (4.4GHz Max 1 Core Turbo), 12MB Cache, 45W TDP (35W cTDP), with HyperThreading

Intel® 9th generation Core™ / Xeon® / Celeron® (formerly Coffee Lake Refresh) CPUs:

- Intel® Xeon® **E-2276ME** Six Core @2.8GHz (4.5GHz Max 1 Core Turbo), 12MB Cache, 45W TDP (35W cTDP), with Hyperthreading
- Intel® Xeon® **E-2276ML** Six Core @2.0GHz (4.2GHz Max 1 Core Turbo), 12MB Cache, 25W TDP, with Hyperthreading
- Intel® Xeon® **E-2254ME** Quad Core @2.6GHz (3.8GHz Max 1 Core Turbo), 8MB Cache, 45W TDP (35W cTDP), with Hyperthreading
- Intel® Xeon® **E-2254ML** Quad Core @1.7GHz (3.5GHz Max 1 Core Turbo), 8MB Cache, 25W TDP, with Hyperthreading
- Intel® Core™ **i7-9850HE**, Six Core @2.7GHz (4.4GHz Max 1 Core Turbo), 9MB Cache, 45W TDP (35W cTDP), with Hyperthreading
- Intel® Core™ **i7-9850HL**, Six Core @1.9GHz (4.1GHz Max 1 Core Turbo), 9MB Cache, 25W TDP, with Hyperthreading
- Intel® Core™ **i3-9100HL**, Quad Core @1.6GHz (2.9GHz Max 1 Core Turbo), 6MB Cache, 25W TDP
- Intel® Celeron® **G4930E**, Dual Core @2.4GHz, 2MB Cache, 35W TDP
- Intel® Celeron® **G4932E**, Dual Core @1.9GHz, 2MB Cache, 25W TDP

Max Thread

12

Chipset

Intel® QM370, HM370 or CM246 PCH

Memory

Two DDR4 SO-DIMM Slots supporting DDR4-2666 Memory, up to 64GB
ECC DDR4 memory modules supported only with Xeon®, Core™ i3 and Celeron® CPUs combined with CM246 PCH

Graphics

Intel® UHD Graphics 630/P630 architecture, up to 48 Execution Units
Up to 3 independent displays supported
DirectX 12, OpenGL 4.5, and OpenCL 2.1 support
HW accelerated video decode MPEG2, VC1/WMV9, AVC/H.264, VP8, JPEG/MJPEG, HEVC/H.265 (8-/10-bit), VP9
HW accelerated video encode MPEG2, AVC/H.264, VP8, JPEG, HEVC/H.265, VP9

Video Interfaces

Up to 3 x Digital Display Interfaces (DDIs), supporting DP 1.2, DVI, HDMI 1.4
eDP 1.4 or Single/Dual-Channel 18-/24-bit LVDS interface or LVDS + VGA interface

Video Resolution

eDP, DP up to 4096x2304 @ 60Hz, 24bpp
HDMI up to 4096x2160 @ 24Hz, 24bpp (HDMI 1.4)
LVDS, VGA up to 1920x1200 @ 60Hz

Mass Storage

4 x S-ATA Gen3 Channels
SD interface (shared with GPI/Os)

Networking

Gigabit Ethernet interface
Intel® I219-LM GbE Controller

USB

4 x USB 3.0 Host ports
8 x USB 2.0 Host ports

PCI-e

8 x PCI-e x 1 Gen3 lanes
PCI-express Graphics (PEG) Gen3 x16

Audio

HD Audio interface

Serial Ports

2 x UARTs



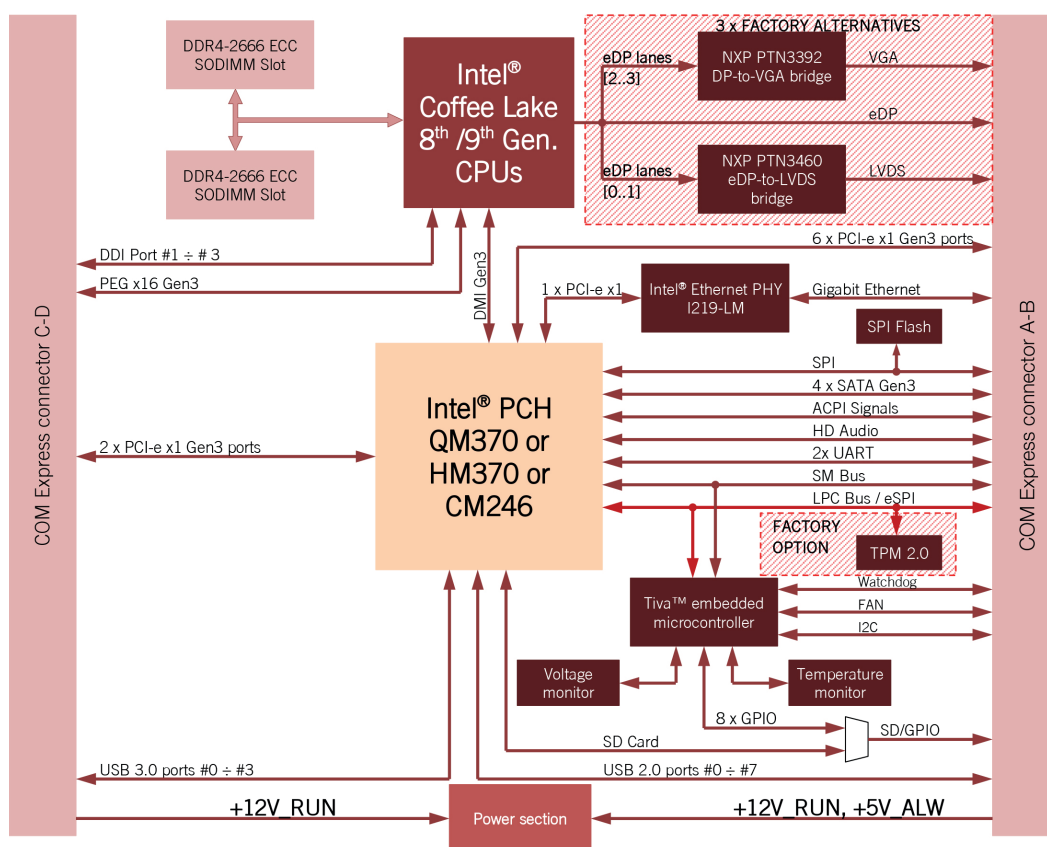
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FEATURES

Other Interfaces	SPI, I2C, SM Bus, Thermal Management, FAN management LPC bus Optional TPM 2.0 on-board LID#/SLEEP#/PWRBTN#, Watchdog 4 x GPI, 4 x GPO (pins shared with SD interface)	*Measured at any point of SECO standard heatspreader for this product, during any and all times (including start-up). Actual temperature will widely depend on application, enclosure and/or environment. Upon customer to consider application-specific cooling solutions for the final system to keep the heatspreader temperature in the range indicated.
Power Supply	+12V _{DC} ± 10% and +5V _{SB} (optional)	
Operating System	Microsoft® Windows 10 Linux	
Operating Temperature*	0°C ÷ +60°C (Commercial version)	
Dimensions	125 x 95 mm (COM Express™ Basic Form factor, Type 6 pinout)	

BLOCK DIAGRAM





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