Rugged 11th Gen Intel Core - COM-HPC Client Size A





- 11th Gen Intel Core
- Xe Integrated GPU
- Real Time Computing
- COM-HPC Client Size A
- Rugged and Fanless
- Customizable
- Professional Services

Features

11th Generation Intel Core - The 11th Gen Core processors combine performance and responsiveness and deliver advanced capabilities such as PCIe Gen 4 and Thunderbolt 4 / USB4 in a low power SoC

Xe Integrated GPU - The new Xe GPU with up to 96 Execution Units accelerates dramatically both graphics and computation for applications like Artificial Intelligence and Computer Vision, while supporting 4 displays

Real Time Computing - Support for TCC (Time Coordinated Computing) and TSN (Time Sensitive Networking) enables soft Real Time applications

COM-HPC Client Size A - Compliant with COM-HPC Client, the new PICMG standard that enables unprecedented capabilities for Computer-On-Module

Rugged and Fanless - Operates from -40 to +85°C, with error correcting code memory and soldered memory **Customizable** - Comes with optional personalization and full customization services, ranging from factory options to deep HW/SW configuration changes

Professional Services - Provides the foundation for Eurotech Professional Services that span from carrier board development to complete system design, certification and manufacturing

Description

The CPU-180-01 is a COM-HPC Client module that features the 11^{th} Gen Intel Core CPUs. Designed for fanless applications in harsh environments where long term reliability is a must, the CPU-180-01 delivers up to 4 CPU cores and 96 GPU execution units and inband ECC RAM. It features an all-soldered down design to improve resilience and thermal coupling, and comes with a -40 to +85°C operating temperature.

Both the CPU and the integrated GPU deliver great performance improvements compared to the previous Core generation, and offer Al and Deep Learning, with a combination of INT8 and VNNI instructions. Video encoding and decoding capabilites are also brought to the next level with dual decode boxes capable of up to 40 simultaneous 1080p streams at 30fps and four simultaneous displays.

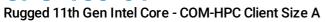
The CPU-180-01 brings novel capabilities: it features Time Sensitive Networking (TSN) on an Ethernet port capable of up to 2.5GbE, which combined with Time Coordinated Computing (TCC) enables soft Real Time applications. TSN is an evolution of the Ethernet standard that provides time determinism to networked communications, while staying completely compatible with the exisiting Ethernet infrastructures. TCC bridges the sinchronization of the internal clocks with the network to achieve microsecond accuracy.

The CPU-180-01 features the latest high speed interfaces: PCIe Gen 4, with a bandwidth that is twice the previous generation and Thunderbolt 4 / USB 4 that enable PCIe, Video, USB and Power Delivery over a single, standard connector.

Supported operating systems include Everyware Linux (based on Yocto), Ubuntu and Windows 10 IoT Enterprise; additionally, the CPU-180-01 supports Everyware Software Framework (ESF), a commercial, enterprise-ready edition of Eclipse Kura, the open source Java/OSGi middleware for IoT gateways. Professional Services are available for the CPU-180-01, starting from BIOS personalization and including carrier board design, system development and production. Deep module customization, such as feature changes are also available.

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CPU-180-01





Ordering code: CPU-180-01-XX					
xx		-01	-02	-03	
PROCESSOR	CPU	Core i3-1115GRE, 3.0/2.2/1.7GHz, 2 Cores	Core i5-1145GRE, 2.6/1.5/1.1GHz, 4 Cores	Core i7-1185GRE, 2.8/1.8/1.2GHz, 4 Cores	
GPU	Туре	UHD Integrated, Iris Xe			
	Execution Units	48EU	80EU	96EU	
MEMORY	RAM	8GB LPDDR 4 IBECC, 4267 MT/s, Soldered Down	16GB LPDDR 4 IBECC, 4267 MT/s, Soldered Down	32GB LPDDR 4 IBECC, 4267 MT/s, Soldered Down	
FLASH	Туре	256Mbit (SPI FLASH - UEFI BIOS)			
STORAGE	SATA	2x SATA 3.0 (up to 6Gb/s)			
MULTIMEDIA	Video Ports	1x DDI (HDMI/DP++) 1x DDI eDP (MIPI DSI Factory Option) 2x Thunderbolt 4 (4x Thunderbolt 4 Factory Option) Quad Display			
	Video Resolution	DDI1 and DD2 Resolution: 4Kp60 MIPI: 4 DPHY 2.1 (4.5Gbps), 4x Concurrent Dual Display			
	Video Acceleration	HW Encode: HEVC/H.265, H.264/AVC, VP9, M/JPEG; HW Decode: HEVC/H.265, H.264/AVC, VP8, VP9, VC1, M/JPEG, MPEG2			
	Audio	2x I2S/Soundwire 1x HDA (Factory Option)			
	Camera Interfaces	2x MIPI-CSI2 with DPHY 2.1 (2.5Gbps/Lane) (Factory Option)			
CAMERA INPUT	Capture Modes	Single Camera Capture (Factory Option): up to 4k@30FPS (HQV) / 120FPS (LQV) / 1080p@240FPS (SMV) Dual Camera Capture (Factory Option): (4K+4K)@30FPS (ViV) Quad Camera (Factory Option): (4K+2k+2K) w/ Stereo Depth			
I/O INTERFACES	Ethernet	1x 10/100/1000/2500Mbps with TSN			
	USB	2x USB3/4/C, (Factory Option: 4x USB3/4/C) 8x USB2, (Factory Option: 10x USB2)			
	Serial	2x UART (TX/RX)			
	Digital I/O	12x GPIO			
	PCI Express	1x PCle x4 Gen4 / 4x PCle x1 Gen3 / 1x PCle x4 Gen 3 / 1x PCle x1 Gen3 (BMC - Factory Option is Exclusive with LAN)			
	System Bus	3x I2C (One Reserved for BMC)/ 2x SPI / 1x eSPI / 1x SMBus			
OTHER	RTC	Yes			
	Watchdog	Yes (with tamper detect)			
	TPM	TPM 2.0 (Discrete Chip)			
	Sensors	Temperature			
POWER	Input	VCC 12V (8.0-20V) VCCRTC			
	Consumption	12W/15/28W (CPU TDP)			
ENVIRONMENT	Operating Temp	-40 to +85°C			
	Storage Temp	-40 to +85°C			
	Humidity	5% to 90% RH			
CERTIFICATIONS	Regulatory	CE, FCC, ISED			
	Safety	EN 62368, UL 60950			
	Environmental	RoHS3, REACH			
	Compliance	PICMG COM-HPC Client Module (J1 Only)			
MECHANICAL	Dimensions	95x120mm (LxW) - COM-HPC Size A			

Supported Software				
SOFTWARE	OS	Everyware Linux, Ubuntu, Windows 10 IoT Enterprise (Professional Services: Other Linux and RTOS)		
	IoT Framework	Everyware Software Framework (Java/OSGi)		

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