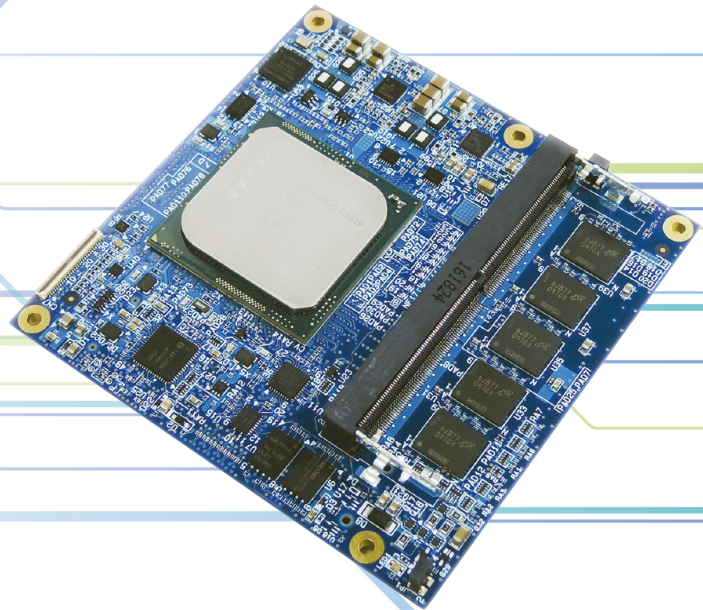


CPU-161-18

- **HPEC and Microserver Ready**
- **Powered by Xeon D-15xx**
- **Rugged and Fanless**
- **Hybrid RAM Architecture**
- **Compact Size with PCIe x16 Port**
- **Customizable**
- **Design Service**



FEATURES

HPeC and Microserver Ready - Combines computational power with a rugged design to enable High Performance applications even in-the-field

Powered by Xeon D-15xx - Supports the latest generation of embedded Pentium and Xeon D-15xx CPUs to deliver a server-class module

Rugged and Fanless - Allows robust, fanless designs thanks to 100% soldered-down components and with a range of energy efficient CPUs

Hybrid RAM Architecture - Innovates by offering the reliability of soldered-down RAM and the expandability of SO-DIMMs

Compact Size with PCIe x16 Port - Complies with COM Express Type 6 Rev 2.1, including support for a PCIe x16 port

Customizable - Comes with optional personalization and full customization services, ranging from factory options to deep HW/SW configuration changes

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

The CPU-161-18 combines a high performance and truly embedded CPU with an innovative hybrid RAM architecture that offers the ruggedness of soldered memory and the expandability of SO-DIMMs. The standard configuration provides 8GB of memory soldered directly on the PCB and supports up to 24GB DDR4 RAM with ECC error correction through a SO-DIMM slot, targeting use cases where extreme ruggedness is required, and those that need a large memory.

The CPU-161-18 can be configured with any member of the Xeon/Pentium D 15xx family; standard versions support extended temperature CPUs, such as the Pentium D-1519 and the Xeon D-1559, closing the gap between traditional embedded applications and servers.

Compatible with existing Type 6 carrier boards, the CPU-161-18 is a headless unit that provides a fast upgrade path to existing projects and that allows the creation of new high-performance ones: a notable feature of this Compact size module is the availability of a x16 PCIe Gen 3 port in addition to the x8 one, a characteristic that is more commonly found only on larger modules; other features include: Gigabit Ethernet, 4x SATA 3.0 ports, 4x USB 3.0 and 7x USB 2.0 interfaces.

Supported operating systems include Windows 10 IoT Enterprise and Linux; moreover, the CPU-161-18 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-161-18, starting from BIOS personalization and including carrier board design, system development and production. Deep module customization, such as feature changes are also available.

CPU-161-18

Specifications

Rugged Xeon D-15xx COM Express Compact Type 6

Ordering code: CPU-161-18-XX

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XX		- 05	- 06	- 07	- 08
PROCESSOR	CPU	Pentium D-1519 1.50GHz, 4 Cores	Xeon D-1529 1.30GHz, 4 Cores	Xeon D-1539 1.60GHz, 8 Cores	Xeon D-1559 1.50GHz, 12 Cores
MEMORY	On-board	8GB DDR4 ECC Memory Down (2133-2400MT/s)			
	On-socket	1x DDR4 ECC SODIMM up to 16GB			
STORAGE	Embedded	2x SPI-Flash (16MB + 32MB) 1x EEPROM (8kB)			
	SATA	4x SATA 3.0 (up to 6Gb/s)	2x SATA 3.0 (up to 6Gb/s)	4x SATA 3.0 (up to 6Gb/s)	
	RAID	Factory Option			
I/O INTERFACES	Ethernet	1 Gbit/s			
	USB	4x USB 3.0 7x USB 2.0 (EHCI supported)	7x USB 2.0 (EHCI supported)	4x USB 3.0 7x USB 2.0 (EHCI supported)	
	Serial	2x UART (TX/RX)			
	Digital I/O	1x 8bit Digital I/O			
	PCI Express	1x PCIe x16 (Gen 3) 4x PCIe x1 (Gen 2) 1x PCIe x4 (Gen 2) Non-transparent bridge or Transparent bridge (Switchable)	1x PCIe x16 (Gen 2) Non-transparent bridge or Transparent bridge (Switchable)	1x PCIe x16 (Gen 3) 4x PCIe x1 (Gen 2) 1x PCIe x4 (Gen 2) Non-transparent bridge or Transparent bridge (Switchable)	
	LPC	Yes			
	I2C	Yes			
	SMBus	Yes			
OTHER	RTC	Yes			
	Watchdog	Yes			
	Security	Intel AES-NI Intel Secure Key			
	Sensors	Temperature Sensor			
POWER	Input	12V, 5VSBY, 3V_RTC			
	Consumption	25W (CPU TDP)	20W (CPU TDP)	35W (CPU TDP)	45W (CPU TDP)
ENVIRONMENT	Operating Temp.	- 40 to +85°C			
	Storage Temp.	- 40 to +85°C			
	Humidity	35% to 85%			
CERTIFICATIONS	Environmental	RoHS (2011/65/EU)			
	Compliance	PICMG COM Express R2.1, Type 6			
MECHANICAL	Dimensions	95x95mm (LxW) - COM Express Compact			

SUPPORTED SOFTWARE

OS	CentOS 7, Windows 10 IoT Enterprise (Professional Service: Yocto, Fedora, Other Linux and RTOS)
IoT Framework	Everyware Software Framework (Java/OSGi)

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