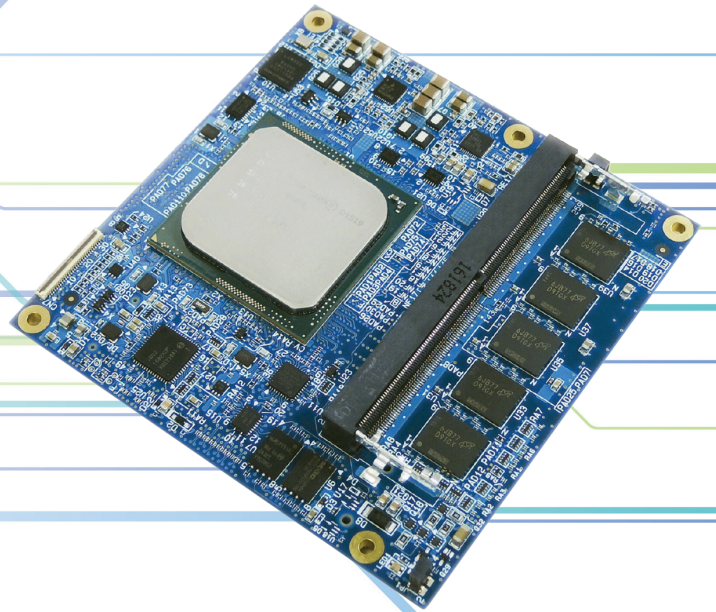


## CPU-161-18

- HPEC and Microserver Ready
- Intel® Xeon® D-1500
- Hybrid RAM Architecture
- Compact Size with PCIe x16
- Rugged and Fanless
- Customizable
- Professional Services



### FEATURES

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

**Powerful** - Supports the latest generation of embedded Intel Pentium and Xeon D-1500 CPUs to deliver a server-class module

**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

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

**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

The CPU-161-18 is a COM Express module that 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 SODIMM 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-1500 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, four SATA 3.0 ports, four USB 3.0 and seven USB 2.0 interfaces.

Supported operating systems include Yocto Linux and CentOS; moreover, the CPU-161-18 supports Eurotech 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

## COM Express Compact Type 6 Rugged Intel Xeon D

Ordering code: CPU-161-18-XX						
XX		- 05	- 06	- 07	- 08	
PROCESSOR	CPU	Pentium D1519 1.50GHz, 4 Cores	Xeon D-1529 1.30GHz, 4 Cores (IEC 61508 Safety Integrity Compliant)	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	1x 10/100/1000Mbps				
	USB	4x USB 3.0, 7x USB 2.0 (EHCI Supported)	7x USB 2.0 (EHCI Sup- ported)	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	Eurotech Everywhere Linux, CentOS 7 (Professional Services: Windows 10 IoT Enterprise, Fedora, Other Linux and RTOS)
IoT Framework	Everyware Software Framework (Java/OSGi)

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