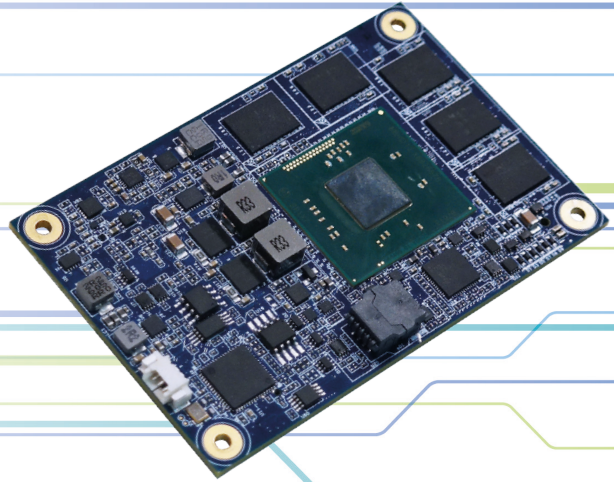# CPU-163-15

- **Intel® Atom™ E3800 Series**
- **COM Express® Mini Type 10**
- **ECC Memory**
- **Extended Temperature**
- **Fanless**
- **Customization Options**
- **IoT Middleware and Platform**

FEATURES

Powerful - Comes with Intel Atom E38xx CPU: one, two and four core configurations, up to 1.91GHz

Mini - Complies with PICMG COM Express R2.1, with a 84x55 (Mini) form factor and a Type 10 pinout

Reliable - Offers memory configurations up to 4GB with ECC

Rugged - Supports wide operating temperature (-40 to +85°C), conformal coating options, soldered memory and flash storage

Low Power - Enables fanless designs with a CPU TDP starting from 5W

Professional Services - Cuts Time-To-Market with Eurotech Professional Services, which include deep module customization, BIOS personalization, carrier board and system design and production

IoT Native - Provides native support for IoT, including IoT middleware and access to Eurotech IoT Integration Platform

The CPU-163-15 is a rugged COM Express module designed to meet the requirements for industrial and rugged fanless applications.

Compliant with PICMG COM Express R2.1, Type 10, the CPU-163-15 is a 84x55mm (Mini) form factor module based on the Intel Atom E38xx processor family, with 1 to 4 cores, up to 4GB ECC RAM and up to 32GB eMMC.

Other features include high speed interfaces: one Gbit Ethernet, two SATA 2.0, one USB 3.0 and eight USB 2.0, three PCIe x1, one LVDS and one DDI (supporting HDMI, DVI and DP).

With ECC soldered down memory and flash storage, the CPU-163-15 is the ideal hardware platform for applications requiring long life cycle, resistance to vibration and reliable data storage, even in extended temperature.

Supported operating systems include Windows 10 IoT Enterprise and Linux; moreover, the CPU-163-15 supports Everyware Software Framework (ESF), a commercial, enterprise-ready edition of Eclipse Kura, the open source Java/OSGi middleware for IoT gateways.

Distributed and supported by Eurotech, ESF adds advanced security, diagnostics, provisioning, remote access and full integration with Everyware Cloud (EC), Eurotech's IoT integration platform (separately available).

Professional Services are available for the CPU-163-15, starting from BIOS personalization and including carrier board design, system development and production. Deep module customization, such as feature changes are also available.

EUROTECH
Imagine. Build. Succeed.

Ordering code: CPU-163-15-XX				
XX		**- 01**	**- 02**	**- 03**
PROCESSOR	CPU	Atom E3815 1.46GHz, 1 Core	Atom E3827 1.75GHz, 2 Cores	Atom E3845 1.91GHz, 4 Cores
BIOS	Type	AMI BIOS		
	Size	64Mbit SPI BIOS		
MEMORY	RAM	2GB 1067MHz (DDR3L-ECC)	2GB 1333MHz (DDR3L-ECC)	4GB 1333MHz (DDR3L-ECC)
STORAGE	Embedded	8GB eMMC		
	SATA	2x SATA 2.0		
I/O INTERFACES	Ethernet	1x 10/100/1000Mbps with Integrated Transceiver		
	USB	1x USB 3.0 8x USB 2.0 (4x Native, 4x via USB HSIC)		
	Serial	2x Serial (TX/RX)		
	Digital I/O	8x DI/O		
	Video	1x LVDS (18/24bit, Single Channel, Resolution up to 1366x768@60Hz) 1x DDI (HDMI, DVI: Resolution up to 1920x1080@60Hz, DP Resolution up to 2560x1600@60Hz) Hardware Acceleration for DirectX 11, OCL 1.2, OGL 4.0, H.264, MPEG2, MVC, VC-1, WMV9 and VP8		
	Audio	High Definition Audio Interface		
	PCI Express	3x PCIe x1 (Gen 2)		
	LPC	Yes		
	I2C	Yes		
	SMBus	Yes		
OTHER	RTC	Yes		
	Watchdog	Software Programmable (From 1 to 255s)		
POWER	Input	4.75V~20V, 5VSB, VCC_RTC (ATX Mode) 4.75V~20V, VCC_RTC (AT Mode)		
	Consumption	5W (CPU TDP)	8W (CPU TDP)	10W (CPU TDP)
ENVIRONMENT	Operating Temp	- 20 to +70°C	- 40 to +85°C	
	Storage Temp	- 40 to +85°C		
CERTIFICATIONS	Environmental	RoHS2, REACh		
	Compliance	PICMG COM Express R2.1, Type 10		
MECHANICAL	Dimensions	84x55mm (LxW) - COM Express Mini		

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

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