



- 6th Gen Intel® Core™
- COM Express® Compact Type 6
- Triple Display, 8 PCIe Lanes
- Extended Temperature
- Fanless
- Customization Options
- IoT Middleware and Platform

## Features

- Powerful** - Comes with 6th Gen Intel Core CPUs: Core i7, i5, i3 and Celeron dual core configurations, up to 2.6GHz (3.4GHz burst)
- Compact** - Complies with PICMG COM Express R2.1, with a 95x95 (Compact) form factor and a Type 6 pinout
- Rich** - Delivers multiple interfaces, including three independent video ports, 8 PCIe lanes, three SATA interfaces with RAID and much more
- Rugged** - Supports wide operating temperature (-40 to +85°C) and conformal coating options
- Low Power** - Enables fanless designs with DDR3L and a CPU TDP of only 15W
- 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

## Description

The CPU-161-17 is a rugged COM Express module designed to deliver intense computation while meeting the requirements for industrial and rugged fanless applications.

Compliant with PICMG COM Express R2.1, Type 6, the CPU-161-17 is a 95x95mm (Compact) form factor module based on the 6th Generation Intel Core processor family (i7, i5, i3 and Celeron), with two cores and up to 16GB SO-DIMM RAM.

Other features include high speed interfaces: one Gbit Ethernet, three SATA 3.0 with RAID support, four USB 3.0 and eight USB 2.0, eight PCIe Gen 3 lanes, and three independent video ports (LVDS, VGA and DDI supporting up to 4096x2304@60Hz).

The CPU-161-17 is a solid building block for projects where reliability in harsh conditions is mandatory, and long term availability is a must, thanks to an operating temperature of -40 to +85°C, support for RAID 0/1/5, optional conformal coating and long term support/lifecycle programs.

Supported operating systems include Windows 10 IoT Enterprise and Linux; moreover, the CPU-161-17 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 IoT integration platform (separately available).

Professional Services are available for the CPU-161-17, starting from BIOS personalization and including carrier board design, system development and production. Deep module customization, such as feature changes are also available.

### Ordering code: CPU-161-17-XX

| XX                    |                | - 01   | - 02                                   | - 03                                   |
|-----------------------|----------------|--|--|--|
| <b>PROCESSOR</b>      | CPU            | Celeron 3955U 2.0GHz, 2 Cores  | Core i5 6300U 2.4GHz (3.4GHz), 2 Cores | Core i7 6600U 2.6GHz (3.4GHz), 2 Cores |
| <b>BIOS</b>           | Type           | Insyde   |  |  |
|                       | Size           | SPI 128Mbit  |  |  |
| <b>MEMORY</b>         | RAM            | 2x SODIMM Sockets - up to 16GB DDR3L 1600MHz - Dual Channel  |  |  |
| <b>STORAGE</b>        | SATA           | 2x SATA 3.0 (up to 6Gb/s)  | 3x SATA 3.0 (up to 6Gb/s)              |  |
|                       | RAID           | No   | RAID 0/1/5                             |  |
| <b>I/O INTERFACES</b> | Ethernet       | 1x 10/100/1000Mbps   | 1x 10/100/1000Mbps (iAMT Support)      |  |
|                       | USB            | 4x USB 3.0, 8x USB 2.0   |  |  |
|                       | Serial         | 2x Serial (TX/RX)  |  |  |
|                       | Digital I/O    | 8x DI/O  |  |  |
|                       | Video          | Intel HD Graphics GT Series, Triple Independent Displays: 1x VGA (up to 2560x1600 @60Hz), 1x LVDS (up to 1920x1200 @60Hz, Dual Channel, 24bit), 1x DDI (HDMI: up to 4096x2160 @60Hz / 2560x1600 @60Hz - DP++: up to 4096x2304 @60Hz) |  |  |
|                       | Audio          | HD Audio   |  |  |
|                       | PCI Express    | 5x PCIe x1, or 4x PCIe x1 + 1x PCIe x4, or 3x PCIe x1 + 2x PCIe x2 (up to 5 Devices and 8 Lanes, Gen 3)  |  |  |
|                       | LPC            | Yes  |  |  |
|                       | I2C            | Yes  |  |  |
|                       | SMBus          | Yes  |  |  |
| <b>OTHER</b>          | RTC            | Yes  |  |  |
|                       | Watchdog       | Software Programmable (from 1 to 255s)   |  |  |
|                       | TPM            | Factory Option   |  |  |
| <b>POWER</b>          | Input          | 12V, 5VSB, VCC_RTC (ATX Mode) – 12V, VCC_RTC (AT Mode)   |  |  |
|                       | Consumption    | 15W (CPU TDP)  |  |  |
| <b>ENVIRONMENT</b>    | Operating Temp | - 40 to +85°C (Temperature Screened)   |  |  |
|                       | Storage Temp   | - 40 to +85°C  |  |  |
| <b>CERTIFICATIONS</b> | Environmental  | RoHS2, REACH   |  |  |
|                       | Compliance     | PICMG COM Express R2.1, Type 6   |  |  |
| <b>MECHANICAL</b>     | Dimensions     | 95x95mm (LxW) - COM Express Compact  |  |  |

### Supported Software

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