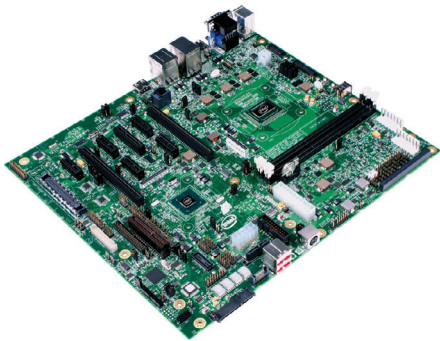


# 2nd Generation Intel® Core™ i7 Processor Series and Intel® Celeron® Processor with Intel® QM67 Express Chipset Development Kits



## Product Overview

With advanced features for remote management capabilities and reliability, these development kits meet the requirements of a broad range of embedded applications, including retail and transaction solutions, signage, gaming platforms, industrial automation and medical equipment. Processors are based on the 2nd generation Intel® Core™ microarchitecture on 32nm process technology, featuring new levels of performance for embedded, compute-intensive applications. Paired with the Intel® QM67 Express chipset, these platforms provide excellent media, graphics and I/O flexibility, stunning and seamless visual experiences, and error correcting code (ECC) memory.

The next-generation graphics engine, Intel® HD Graphics 3000<sup>1</sup>, doubles graphics performance compared with previous Intel® Core™ processor-based platforms. Full integration of the CPU, media/graphics capabilities and memory controller reduces overall platform footprint and provides faster performance as well as board real estate savings. Additionally, developers can create one board design and scale a product line between quad-, dual- and single-core processors using the same socket. Thermal design power (TDP) options include 17W, 25W and 45W.

This platform is part of Intel's comprehensive validation process, enabling rapid deployment of next-generation platforms to help developers maximize competitive advantage and minimize development risks. This and other development kits from Intel provide a working system with a range of performance options that can be modified or used immediately for product development, and allow software vendors to test BIOS and operating system software.

## Product Highlights

- Four different processor options are available:
  - Intel® Core™ i7-2715QE<sup>A</sup> processor: quad-core at 2.1 GHz base frequency and 45 W TDP
  - Intel® Core™ i7-2655LE<sup>A</sup> processor: dual-core at 2.2 GHz base frequency and 25 W TDP
  - Intel® Core™ i7-2610EU<sup>A</sup> processor: dual-core at 1.5 GHz base frequency and 17 W TDP
  - Intel® Celeron® processor 827E<sup>A</sup>: single-core at 1.4 GHz base frequency and 17 W TDP<sup>1</sup>
- Intel HD Graphics 3000 supports high-end enhanced media/graphics capabilities and performance while reducing overall platform power requirements.
- Intel® Advanced Vector Extensions accelerates floating-point compute performance for signal and image processing applications.
- Intel® Quick Sync Video<sup>2</sup> improves media/video performance and frees up the CPU for other tasks.
- ECC provides a high level of data integrity, reliability, and system uptime.
- Intel® Turbo Boost Technology<sup>3</sup> 2.0 runs applications faster by using available thermal headroom to run at a higher frequency.
- Intel® vPro™ technology<sup>4</sup> delivers unprecedented hardware support for vital security and management functions utilizing Intel® Virtualization Technology<sup>5</sup>, Intel® Active Management Technology<sup>5</sup> and Intel® Trusted Execution Technology<sup>7</sup>

## Board and Peripheral Features

- Two (2) slots for DDR3 memory support for dual ranks, 1066 MHz/1333 MHz
- One (1) PCI Express\* x16 bus add-in card slot, four (4) PCI Express x1 slots, and one (1) PCI Express x4 slot supporting Gen2 5 GT/s speeds
- On-board PHY (Intel® 82579LM Gigabit Ethernet PHY) and LAN connector
- PS/2 keyboard and mouse ports
- CRT, eDP, LVDS, HDMI<sup>8</sup>, DP and display mini-PCIe connectors on-board

- Six (6) on-board USB connectors
- Six (6) SATA ports
- One (1) serial port
- One (1) TPM header
- Two (2) 8 MB SPI flash devices
- XDP connectors for processor and PCH debug support

### Included in the Kit

- Development board
- Memory: 1 GB, DDR3, UDIMM, 1333 MT/s, 240P, ECC, MT

- User's guide and software CD with reference design materials, drivers and utilities
- SPI flash, mounted and flashed with reference BIOS
- 16 Mbit SPI flash with BIOS
- ATX chassis and power supply
- SATA 80 GB hard drive
- Drives: DVD-ROM drive, USB floppy drive, and SATA Gen2 HDD (preloaded with Windows\* Embedded Standard 7 64-bit operating system), pre-installed jumpers and associated cables

## Software Overview

The following independent operating systems and BIOS vendors provide support for these platforms:

OPERATING SYSTEM	CONTACT	BIOS
Microsoft Windows* 7	Intel provides drivers <sup>9</sup>	American Megatrends
Microsoft Windows* XP SP3	Intel provides drivers <sup>9</sup>	Insyde Software
Microsoft Windows Embedded Standard 7	Intel provides drivers <sup>9</sup>	Phoenix Technologies
Microsoft Windows Embedded Standard 2009	Intel provides drivers <sup>9</sup>	Byosoft
Microsoft Windows Embedded POS Ready (WEPOS)	Intel provides drivers <sup>9</sup>	
Red Hat Enterprise Linux* 6.1	Red Hat	
SUSE SLE* 11 SP1	Novell	
Wind River Linux* 3.0	Wind River	
Wind River VxWorks* 6.8	Wind River	

Intel strives to provide customers with a complete development environment supporting customer applications and operating systems. Any software provided in these development kits is subject to change without notice. Please check for software updates at [intel.com/design/intarch/devkits/index.htm](http://intel.com/design/intarch/devkits/index.htm).

## Order Information

PRODUCT NAME <sup>Δ</sup>	PRODUCT CODE
Intel® Core™ i7-2715QE processor with Intel® QM67 Express chipset development kit	EBSBI7SVCPCCDK
Intel® Core™ i7-2655LE processor with Intel® QM67 Express chipset development kit	EBSBI7LVCPCCDK
Intel® Core™ i7-2610UE processor with Intel® QM67 Express chipset development kit	EBSBI7UVCPCCDK
Intel® Celeron® processor 827E with Intel® QM67 Express chipset development kit	EBSBCLCPCCDK

## Intel in Embedded and Communications: [intel.com/embedded](http://intel.com/embedded)

<sup>Δ</sup> Intel processor numbers are not a measure of performance. Processor numbers differentiate features within each processor family, not across different processor families. See [www.intel.com/products/processor\\_number](http://www.intel.com/products/processor_number) for details.

<sup>1</sup> Not all technologies or graphics features are available on the Intel® Celeron® processor 827E.

<sup>2</sup> Available on the 2nd generation Intel® Core™ processor family. Includes Intel® HD Graphics, Intel® Quick Sync Video, Intel® Clear Video HD Technology, Intel® InTru™ 3D Technology, and Intel® Advanced Vector Extensions. Also optionally includes Intel® Wireless Display depending on whether enabled on a given system or not. Whether you will receive the benefits of built-in visuals depends upon the particular design of the PC you choose. Consult your PC manufacturer whether built-in visuals are enabled on your system. Learn more about built-in visuals at <http://www.intel.com/technology/visualtechnology/index.htm>.

<sup>3</sup> Requires a system with Intel® Turbo Boost Technology capability. Consult your PC manufacturer. Performance varies depending on hardware, software and system configuration. For more information, visit <http://www.intel.com/technology/turboboost>.

<sup>4</sup> Intel® vPro™ Technology is sophisticated and requires setup and activation. Availability of features and results will depend upon the setup and configuration of your hardware, software and IT environment. To learn more visit: <http://www.intel.com/technology/vpro>.

<sup>5</sup> Intel® Virtualization Technology requires a computer system with an enabled Intel® processor, BIOS, virtual machine monitor (VMM). Functionality, performance or other benefits will vary depending on hardware and software configurations. Software applications may not be compatible with all operating systems. Consult your PC manufacturer. For more information, visit <http://www.intel.com/go/virtualization>.

<sup>6</sup> Requires activation and a system with a corporate network connection, an Intel® AMT-enabled chipset, network hardware and software. For notebooks, Intel AMT may be unavailable or limited over a host OS-based VPN, when connecting wirelessly, on battery power, sleeping, hibernating or powered off. Results dependent upon hardware, setup & configuration. For more information, visit <http://www.intel.com/technology/platform-technology/intel-amt>.

<sup>7</sup> No computer system can provide absolute security under all conditions. Intel® Trusted Execution Technology (Intel® TXT) requires a computer system with Intel® Virtualization Technology, an Intel TXT-enabled processor, chipset, BIOS, Authenticated Code Modules and an Intel TXT-compatible measured launched environment (MLE). Intel TXT also requires the system to contain a TPM v1.s. For more information, visit <http://www.intel.com/technology/security>.

<sup>8</sup> Rework is required to enable HDMI.

<sup>9</sup> Drivers available at: [downloadcenter.intel.com](http://downloadcenter.intel.com) (enter chipset name).

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