



Intel® Xeon® Processor E5-2650L (20M Cache, 1.80 GHz, 8.00 GT/s Intel® QPI)

Specifications
Essentials
Performance
Memory Specifications
Expansion Options
Package Specifications
Advanced Technologies
Intel® Data Protection Technology
Intel® Platform Protection Technology

Compatible Products
Product Images
Ordering / sSpecs / Steppings

Specifications	
Essentials	
Status	Launched
Launch Date	Q1'12
Processor Number	E5-2650L
Intel® Smart Cache	20 MB
Intel® QPI Speed	8 GT/s
# of QPI Links	2
Instruction Set	64-bit
Instruction Set Extensions	AVX
Embedded Options Available	Search No
Lithography	32 nm
Scalability	2S Only
VID Voltage Range	0.60V-1.35V
Recommended Customer Price	TRAY: \$1107.00
Datasheet	Link
Performance	
# of Cores	8
# of Threads	16
Processor Base Frequency	1.8 GHz
Max Turbo Frequency	2.3 GHz
TDP	70 W
Memory Specifications	
Max Memory Size (dependent on memory type)	384 GB
Memory Types	DDR3 800/1066/1333/1600
Max. # of Memory Channels	4
Max Memory Bandwidth	51.2 GB/s
ECC Memory Supported *	Search Yes
Expansion Options	
PCI Express Revision	3.0
Max. # of PCI Express Lanes	40
Package Specifications	
Max CPU Configuration	2
T _{CASE}	72.0°C
Package Size	52.5mm x 45.0mm
Sockets Supported	FC-LGA2011
Low Halogen Options Available	See MDDs
Advanced Technologies	
Intel® Turbo Boost Technology *	2.0
Intel® vPro Technology *	Search Yes
Intel® Hyper-Threading Technology *	Search Yes
Intel® Virtualization Technology (VT-x) *	Search Yes
Intel® Virtualization Technology for Directed I/O (VT-d) *	Search Yes
Intel® VT-x with Extended Page Tables (EPT) *	Search Yes
Intel® 64 *	Search Yes
Idle States	Yes
Enhanced Intel SpeedStep® Technology	Search Yes
Intel® Demand Based Switching	Search Yes
Thermal Monitoring Technologies	Yes
Intel® Flex Memory Access	No
Intel® Identity Protection Technology *	No
Intel® Data Protection Technology	
AES New Instructions	Search Yes
Intel® Platform Protection Technology	
Trusted Execution Technology *	Search Yes
Execute Disable Bit *	Yes

[Compare](#) +**Related Products**[Intel® Xeon® Processor E5 Family](#)[Intel® Xeon® Processor E5-2600 Product Family](#)[Products formerly Sandy Bridge EP](#)**Quick Links**[Export Full Specifications >](#)[Search Distributors >](#)[Software Downloads >](#)[Support Overview >](#)[Search all of intel.com >](#)**PCN/MDDs Information**[SROKL](#)[919073: PCN | MDDs](#)[SROHO](#)[917887: PCN | MDDs](#)

All information provided is subject to change at any time, without notice. Intel may make changes to manufacturing life cycle, specifications, and product descriptions at any time, without notice. The information herein is provided "as-is" and Intel does not make any representations or warranties whatsoever regarding accuracy of the information, nor on the product features, availability, functionality, or compatibility of the products listed. Please contact system vendor for more information on specific products or systems.

"Intel classifications" consist of Export Control Classification Numbers (ECCN) and Harmonized Tariff Schedule (HTS) numbers. Any use made of Intel classifications are without recourse to Intel and shall not be construed as a representation or warranty regarding the proper ECCN or HTS. Your company may be the exporter of record, and as such, your company is responsible for determining the correct classification of any item at the time of export.

Refer to Datasheet for formal definitions of product properties and features.

"Announced" SKUs are not yet available. Please refer to the Launch Date for market availability.

Some products can support AES New Instructions with a Processor Configuration update, in particular, i7-2630QM/i7-2635QM, i7-2670QM/i7-2675QM, i5-2430M/i5-2435M, i5-2410M/i5-2415M. Please contact OEM for the BIOS that includes the latest Processor configuration update.

*This feature may not be available on all computing systems. Please check with the system vendor to determine if your system delivers this feature, or reference the system specifications (motherboard, processor, chipset, power supply, HDD, graphics controller, memory, BIOS, drivers, virtual machine monitor-VMM, platform software, and/or operating system) for feature compatibility. Functionality, performance, and other benefits of this feature may vary depending on system configuration.

"Conflict free" and "conflict-free" means "DRC conflict free", which is defined by the U.S. Securities and Exchange Commission rules to mean products that do not contain conflict minerals (tin, tantalum, tungsten and/or gold) that directly or indirectly finance or benefit armed groups in the Democratic Republic of the Congo (DRC) or adjoining countries. Intel also uses the term "conflict-free" in a broader sense to refer to suppliers, supply chains, smelters and refiners whose sources of conflict minerals do not finance conflict in the DRC or adjoining countries. Intel processors manufactured before January 1, 2013 are not confirmed conflict free. The conflict free designation refers only to product manufactured after that date. For Intel Boxed Processors, the conflict free designation refers to the processor only, not to any additional included accessories, such as heat sinks/coolers.

See <http://www.intel.com/content/www/us/en/architecture-and-technology/hyper-threading/hyper-threading-technology.html?wapkw=hyper+threading> for more information including details on which processors support Intel® HT Technology.

Max Turbo Frequency refers to the maximum single-core processor frequency that can be achieved with Intel® Turbo Boost Technology. See www.intel.com/technology/turboboost/ for more information.

The Recommended Customer Price ("RCP") is pricing guidance for Intel products. Prices are for direct Intel customers and are subject to change without notice. Taxes and shipping, etc. not included. Prices may vary for other package types and shipment quantities, and special promotional arrangements may apply. Listing of these RCP does not constitute a formal pricing offer from Intel. Please work with your appropriate Intel representative to obtain a formal price quotation.

System and Maximum TDP is based on worst case scenarios. Actual TDP may be lower if not all I/Os for chipsets are used.

Low Halogen: Applies only to brominated and chlorinated flame retardants (BFRs/CFRs) and PVC in the final product. Intel components as well as purchased components on the finished assembly meet JS-709 requirements, and the PCB / substrate meet IEC 61249-2-21 requirements. The replacement of halogenated flame retardants and/or PVC may not be better for the environment.

For benchmarking data see <http://www.intel.com/performance>.

Intel processor numbers are not a measure of performance. Processor numbers differentiate features within each processor family, not across different processor families. See <http://www.intel.com/content/www/us/en/processors/processor-numbers.html> for details.

Processors that support 64-bit computing on Intel® architecture require an Intel 64 architecture-enabled BIOS.

[Send us your feedback!](#)

About

Support

Legal

Social

Company Information

Support Home

Terms of Use

[Intel Communities](#)

Investor Relations

Download Center

*Trademarks

[Intel on Twitter](#)

Contact Us

Product Specifications (ARK)

Privacy

[Intel on Facebook](#)

Newsroom

Cookies

[Intel on LinkedIn](#)

Site Map

[Intel on Instagram](#)

Jobs

[Intel on YouTube](#)