

# Intel® Xeon® Processor E5-2680

(20M Cache, 2.70 GHz, 8.00 GT/s Intel® QPI)

## SPECIFICATIONS

### Essentials

#### Memory Specifications

#### Expansion Options

#### Package Specifications

#### Advanced Technologies

#### Intel® Platform Protection Technology


#### Intel® Data Protection Technology


## COMPATIBLE PRODUCTS

## PRODUCT IMAGES

## ORDERING / SSPECS / STEPPINGS









## SPECIFICATIONS


Essentials	
Status	Launched
Launch Date	Q1'12
Processor Number	E5-2680
# of Cores	8
# of Threads	16
Clock Speed	2.7 GHz
Max Turbo Frequency	3.5 GHz
Cache	20 MB
Intel® QPI Speed	8 GT/s
# of QPI Links	2
Instruction Set	64-bit
Instruction Set Extensions	AVX
Embedded Options Available	 No
Lithography	32 nm
Scalability	2S Only
Max TDP	130 W
VID Voltage Range	0.60V-1.35V
Recommended Customer Price	BOX: <input type="text"/> TRAY: <input type="text"/>

Memory Specifications	
Max Memory Size (dependent on memory type)	384 GB
Memory Types	DDR3-800/1066/1333/1600
# of Memory Channels	4
Max Memory Bandwidth	51.2 GB/s
ECC Memory Supported ‡	 <a href="#">Yes</a>

Expansion Options	
PCI Express Revision	3.0
Max# of PCI Express Lanes	40

Package Specifications	
Max CPU Configuration	2
T <sub>CASE</sub>	85°C
Package Size	52.5mm x45.0mm
Sockets Supported	FCLGA2011, FCLGA2011, FCLGA2011
Low Halogen Options Available	See MDDS

Advanced Technologies	
Intel® Turbo Boost Technology ‡	2.0
Intel® vPro Technology ‡	 <a href="#">Yes</a>
Intel® Hyper-Threading Technology ‡	 <a href="#">Yes</a>
Intel® Virtualization Technology (VT-x) ‡	 <a href="#">Yes</a>
Intel® Virtualization Technology for Directed I/O (VT-d) ‡	 <a href="#">Yes</a>
Intel® VT-x with Extended Page Tables (EPT) ‡	 <a href="#">Yes</a>
Intel® 64 ‡	 <a href="#">Yes</a>
Idle States	<a href="#">Yes</a>
Enhanced Intel SpeedStep® Technology	 <a href="#">Yes</a>
Intel® Demand Based Switching	 <a href="#">Yes</a>
Thermal Monitoring Technologies	<a href="#">Yes</a>
Intel® Flex Memory Access	No
Intel® Identity Protection Technology ‡	No

Intel® Platform Protection Technology	
Trusted Execution Technology ‡	 <a href="#">Yes</a>


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## QUICK LINKS

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## PCNMDDS Information

**SR0KH**  
919064: [PCN](#) | [MDDS](#)  
919846: [PCN](#) | [MDDS](#)  
**SR0GY**  
917883: [PCN](#) | [MDDS](#)

Execute Disable Bit ‡	Yes
Intel® Data Protection Technology	
AES New Instructions	 Yes

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

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.

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

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

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.

‡ 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.

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.

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/](http://www.intel.com/technology/turboboost/) for more information.

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.

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

Check <http://ipt.intel.com/> for systems that support Intel® Identity Protection Technology (Intel® IPT).

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.

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