




Intel® Xeon® Processor E5-2680 (20M Cache, 2.70 GHz, 8.00 GT/s Intel® QPI)

Specifications


- Essentials

Status	End of Life
Launch Date	Q1'12
Expected Discontinuance	Q2'15
Processor Number	E5-2680
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	 No
Lithography	32 nm
Scalability	2S Only
VID Voltage Range	0.60V-1.35V
Recommended Customer Price	TRAY: \$1723.00 BOX : \$1727.00
Datasheet	Link

- Performance

# of Cores	8
# of Threads	16
Processor Base Frequency	2.7 GHz
Max Turbo Frequency	3.5 GHz
TDP	130 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 [‡]	 Yes

- Expansion Options

PCI Express Revision	3.0
Max # of PCI Express Lanes	40

- Package Specifications

Max CPU Configuration	2
T _{CASE}	85°C

	Intel® Server System R1304GL4DS9	Launched	1U Rack	Custom 16.5" x 16.5"	Socket R
	Intel® Server System R1208GZ4GC	End of Life	1U Rack	Custom 16.5" x 16.5"	Socket R
	Intel® Server System R1208GZ4GCSAS	End of Life	1U Rack	Custom 16.5" x 16.5"	Socket R
	Intel® Server System R1208GZ4GS9	End of Life	1U Rack	Custom 16.5" x 16.5"	Socket R
	Intel® Server System R1304GZ4GC	Launched	1U Rack	Custom 16.5" x 16.5"	Socket R
	Intel® Server System R1304GZ4GS9	End of Life	1U Rack	Custom 16.5" x 16.5"	Socket R
	Intel® Server System R1208JP4GS	End of Life	1U Rack	Custom 6.8" x 13.8"	Socket R
	Intel® Server System R1208JP4OC	Launched	1U Rack	Custom 6.8" x 13.8"	Socket R
	Intel® Server System R1208JP4TC	End of Life	1U Rack	Custom 6.8" x 13.8"	Socket R
	Intel® Server System R1304JP4GS	Launched	1U Rack	Custom 6.8" x 13.8"	Socket R
	Intel® Server System R1304JP4OC	Launched	1U Rack	Custom 6.8" x 13.8"	Socket R
	Intel® Server System R1304JP4TC	End of Life	1U Rack	Custom 6.8" x 13.8"	Socket R
	Intel® Server System H2216JFFJR	End of Life	2U Rack	Custom 6.42" x 17.7"	Socket R
	Intel® Server System H2216JFFKR	End of Life	2U Rack	Custom 6.42" x 17.7"	Socket R
	Intel® Server System H2216JFJR	End of Life	2U Rack	Custom 6.42" x 17.7"	Socket R
	Intel® Server System H2216JFKR	End of Life	2U Rack	Custom 6.42" x 17.7"	Socket R
	Intel® Server System H2216JFQJR	End of Life	2U Rack	Custom 6.42" x 17.7"	Socket R
	Intel® Server System H2216JFQKR	End of Life	2U Rack	Custom 6.42" x 17.7"	Socket R
	Intel® Server System H2312JFFJR	End of Life	2U Rack	Custom 6.42" x 17.7"	Socket R
	Intel® Server System H2312JFFKR	End of Life	2U Rack	Custom 6.42" x 17.7"	Socket R
	Intel® Server System H2312JFJR	End of Life	2U Rack	Custom 6.42" x 17.7"	Socket R
	Intel® Server System H2312JFKR	End of Life	2U Rack	Custom 6.42" x 17.7"	Socket R
	Intel® Server System H2312JFQJR	End of Life	2U Rack	Custom 6.42" x 17.7"	Socket R
	Intel® Server System H2312JFQKR	End of Life	2U Rack	Custom 6.42" x 17.7"	Socket R
	Intel® Server System H2216WPFJR	End of Life	2U Rack	Custom 6.8" x 18.9"	Socket R
	Intel® Server System H2216WPFKR	End of Life	2U Rack	Custom 6.8" x 18.9"	Socket R
	Intel® Server System H2216WPJR	End of Life	2U Rack	Custom 6.8" x 18.9"	Socket R
	Intel® Server System H2216WPKR	End of Life	2U Rack	Custom 6.8" x 18.9"	Socket R
	Intel® Server System H2216WPQJR	End of Life	2U Rack	Custom 6.8" x 18.9"	Socket R
	Intel® Server System H2216WPQKR	End of Life	2U Rack	Custom 6.8" x 18.9"	Socket R
	Intel® Server System H2312WPFJR	End of Life	2U Rack	Custom 6.8" x 18.9"	Socket R
	Intel® Server System H2312WPFKR	End of Life	2U Rack	Custom 6.8" x 18.9"	Socket R
	Intel® Server System H2312WPJR	End of Life	2U Rack	Custom 6.8" x 18.9"	Socket R
	Intel® Server System H2312WPKR	End of Life	2U Rack	Custom 6.8" x 18.9"	Socket R
	Intel® Server System H2312WPQJR	End of Life	2U Rack	Custom 6.8" x 18.9"	Socket R
	Intel® Server System H2312WPQKR	End of Life	2U Rack	Custom 6.8" x 18.9"	Socket R
	Intel® Server System R2208GL4DS9	End of Life	2U Rack	Custom 16.5" x 16.5"	Socket R
	Intel® Server System R2208GL4GS	End of Life	2U Rack	Custom 16.5" x 16.5"	Socket R
	Intel® Server System R2308GL4DS9	End of Life	2U Rack	Custom 16.5" x 16.5"	Socket R
	Intel® Server System R2308GL4GS	Launched	2U Rack	Custom 16.5" x 16.5"	Socket R
	Intel® Server System R2312GL4GS	End of Life	2U Rack	Custom 16.5" x 16.5"	Socket R
	Intel® Server System R2208GZ4GC	Launched	2U Rack	Custom 16.5" x 16.5"	Socket R
	Intel® Server System R2208GZ4GS9	End of Life	2U Rack	Custom 16.5" x 16.5"	Socket R

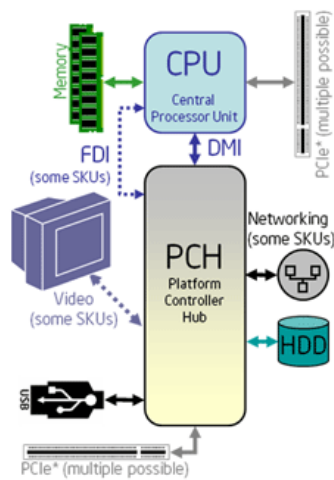
	Intel® Server System R2216GZ4GC	End of Life	2U Rack	Custom 16.5" x 16.5"	Socket R
	Intel® Server System R2216GZ4GCLX	End of Life	2U Rack	Custom 16.5" x 16.5"	Socket R
	Intel® Server System R2224GZ4GC4	Launched	2U Rack	Custom 16.5" x 16.5"	Socket R
	Intel® Server System R2224GZ4GCSAS	End of Life	2U Rack	Custom 16.5" x 16.5"	Socket R
	Intel® Server System R2308GZ4GC	Launched	2U Rack	Custom 16.5" x 16.5"	Socket R
	Intel® Server System R2308GZ4GS9	End of Life	2U Rack	Custom 16.5" x 16.5"	Socket R
	Intel® Server System R2312GZ4GC4	Launched	2U Rack	Custom 16.5" x 16.5"	Socket R
	Intel® Server System R2312GZ4GCSAS	End of Life	2U Rack	Custom 16.5" x 16.5"	Socket R
	Intel® Server System R2312GZ4GS9	End of Life	2U Rack	Custom 16.5" x 16.5"	Socket R
	Intel® Server System R2216IP4LHPC	End of Life	2U Rack	Custom 14.2" x 15"	Socket R
	Intel® Server System R2224IP4LHPC	End of Life	2U Rack	Custom 14.2" x 15"	Socket R
	Intel® Server System R2208IP4LHPC	End of Life	2U Rack	Custom 14.2" x 15"	Socket R
	Intel® Server System R2308IP4LHPC	End of Life	2U Rack	Custom 14.2" x 15"	Socket R
	Intel® Server System R2312IP4LHPC	End of Life	2U Rack	Custom 14.2" x 15"	Socket R
	Intel® Server System P4208CP4MHGC	End of Life	4U Pedestal	12" x 13"	Socket R
	Intel® Server System P4308CP4MHEN	End of Life	4U Pedestal	12" x 13"	Socket R
	Intel® Server System P4308CP4MHGC	Launched	4U Pedestal	12" x 13"	Socket R
	Intel® Server System P4208IP4LHGC	End of Life	4U Pedestal	Custom 14.2" x 15"	Socket R
	Intel® Server System P4216IP4LHJC	End of Life	4U Pedestal	Custom 14.2" x 15"	Socket R
	Intel® Server System P4216IP4LHKC	End of Life	4U Pedestal	Custom 14.2" x 15"	Socket R
	Intel® Server System P4224IP4LHKC	End of Life	4U Pedestal	Custom 14.2" x 15"	Socket R
	Intel® Server System P4308IP4LHGC	End of Life	4U Pedestal	Custom 14.2" x 15"	Socket R
	Intel® Server System P4308IP4LHJC	End of Life	4U Pedestal	Custom 14.2" x 15"	Socket R
	Intel® Server System P4308IP4LHJCL	End of Life	4U Pedestal	Custom 14.2" x 15"	Socket R
	Intel® Server System P4308IP4LHKC	End of Life	4U Pedestal	Custom 14.2" x 15"	Socket R
	Intel® Workstation System P4304CR2LFGN	End of Life	4U Pedestal	Custom 14.2" x 15"	Socket R
	Intel® Workstation System P4304CR2LFJN	End of Life	4U Pedestal	Custom 14.2" x 15"	Socket R
	Intel® Workstation System P4304CR2LFJNL	End of Life	4U Pedestal	Custom 14.2" x 15"	Socket R
	Intel® Workstation System P4304CR2LFKN	End of Life	4U Pedestal	Custom 14.2" x 15"	Socket R

- Server/Workstation Board

Compare	Product Name	Status	Board Form Factor	Chassis Form Factor	Socket	Embedded Options Available	TDP
Compare All +							
	Intel® Server Board S1600JP2	Launched	Custom 6.8" x 13.8"	1U Rack	Socket R	Yes	135 W
	Intel® Server Board S1600JP4	Launched	Custom 6.8" x 13.8"	1U Rack	Socket R	Yes	135 W
	Intel® Server Board S2600CO4	Launched	SSI EEB 12" x 13"	4U Rack or Pedestal	Socket R	Yes	135 W
	Intel® Server Board S2600COE	End of Life	SSI EEB 12" x 13"	4U Rack or Pedestal	Socket R	Yes	150 W
	Intel® Server Board S2600COEIOC	End of Life	SSI EEB 12" x 13"	Pedestal	Socket R	Yes	150 W

	Intel® Server Board S2600CP2	Launched	SSI EEB 12" x 13"	4U Rack or Pedestal	Socket R	Yes	135 W
	Intel® Server Board S2600CP2IOC	End of Life	SSI EEB 12" x 13"	Pedestal	Socket R	Yes	135 W
	Intel® Server Board S2600CP2J	End of Life	SSI EEB 12" x 13"	Pedestal	Socket R	Yes	135 W
	Intel® Server Board S2600CP4	Launched	SSI EEB 12" x 13"	4U Rack or Pedestal	Socket R	Yes	135 W
	Intel® Server Board S2600CP4IOC	End of Life	SSI EEB 12" x 13"	Pedestal	Socket R	Yes	135 W
	Intel® Server Board S2600GL	Launched	Custom 16.5" x 16.5"	Rack	Socket R	Yes	135 W
	Intel® Server Board S2600GZ	Launched	Custom 16.5" x 16.5"	Rack	Socket R	Yes	135 W
	Intel® Server Board S2600IP4	End of Life	Custom 14.2" x 15"	Rack or Pedestal	Socket R	Yes	135 W
	Intel® Server Board S2600IP4L	End of Life	Custom 14.2" x 15"	Rack or Pedestal	Socket R	Yes	135 W
	Intel® Server Board S2600JF	End of Life	Custom 6.42" x 17.7"	2U Rack	Socket R	No	135 W
	Intel® Server Board S2600JFF	End of Life	Custom 6.42" x 17.7"	2U Rack	Socket R	No	135 W
	Intel® Server Board S2600JFQ	End of Life	Custom 6.42" x 17.7"	2U Rack	Socket R	No	135 W
	Intel® Server Board S2600WP	End of Life	Custom 6.8" x 18.9"	2U Rack	Socket R	No	135 W
	Intel® Server Board S2600WPF	End of Life	Custom 6.8" x 18.9"	2U Rack	Socket R	No	135 W
	Intel® Server Board S2600WPQ	End of Life	Custom 6.8" x 18.9"	2U Rack	Socket R	No	135 W
	Intel® Workstation Board W2600CR2	End of Life	Custom 14.2" x 15"	4U Rack or Pedestal	Socket R	No	150 W
	Intel® Workstation Board W2600CR2L	End of Life	Custom 14.2" x 15"	Pedestal	Socket R	No	150 W
	Intel® Compute Module HNS2600JF	Launched	Custom 23.3" x 6.99" x 1.68"	2U Rack	Socket R	No	135 W
	Intel® Compute Module HNS2600JFF	End of Life	Custom 23.3" x 6.99" x 1.68"	2U Rack	Socket R	No	135 W
	Intel® Compute Module HNS2600JFQ	End of Life	Custom 23.3" x 6.99" x 1.68"	2U Rack	Socket R	No	135 W
	Intel® Compute Module HNS2600WP	End of Life	Custom 6.8" x 18.9"	2U Rack	Socket R	No	135 W
	Intel® Compute Module HNS2600WPF	End of Life	Custom 6.8" x 18.9"	2U Rack	Socket R	No	135 W
	Intel® Compute Module HNS2600WPQ	End of Life	Custom 6.8" x 18.9"	2U Rack	Socket R	No	135 W

Product Images



Ordering and Spec Information

Trade Compliance Information

ECCN	CCATS	US HTS
5A992C	G077159	8542310000-HYBRD


Ordering and Spec Information

Spec Code	Ordering Code	Step	RCP
Intel® Xeon® Processor E5-2680 (20M Cache, 2.70 GHz) FC-LGA10, Tray			
SROKH	CM8062107184424	C2	\$1723.00


Retired and Discontinued

Spec Code	Ordering Code	Step	RCP
Boxed Intel® Xeon® Processor E5-2680 (20M Cache, 2.70 GHz) FC-LGA10			
SROKH	BX80621E52680	C2	\$1727.00
Intel® Xeon® Processor E5-2680 (20M Cache, 2.70 GHz) FC-LGA10, Tray			
SROGY	CM8062107184424	C1	N/A


Download Drivers




BIOS Implementation Test Suite (BITS)
BITS provides a bootable pre-OS environment for testing BIOSes and in particular their initialization of Intel® Processors, hardware, and technologies
Version: Build 2073 (Latest) **Date:** 2/10/2016
Operating Systems: OS Independent



Intel® Processor Diagnostic Tool
The Intel® Processor Diagnostic Tool release 3.0.0.25 is compatible with multiprocessor systems.
Version: 3.0.0.25 (Latest) **Date:** 1/25/2016
Operating Systems: Linux*, Windows 7*, Windows 8*, 5 more



Linux* Processor Microcode Data File
The microcode data file contains the latest microcode definitions for all Intel processors. Intel periodically releases these microcode updates.
Version: 20150121 (Latest) **Date:** 1/27/2015
Operating Systems: Caldera Linux*, Chromium OS*, Debian 3.1 Linux*, 91 more



Linux* Processor Microcode Data File
The microcode data file contains the latest microcode definitions for all Intel processors. Intel periodically releases these microcode updates.
Version: 20150107 (Latest) **Date:** 1/13/2015

Operating Systems: Caldera Linux*, Chromium OS*, Debian 3.1 Linux*, 89 more



Linux* Processor Microcode Data File

The microcode data file contains the latest microcode definitions for all Intel processors. Intel periodically releases these microcode updates.

Version: 20140913 (Latest)

Date: 9/15/2014

Operating Systems: Caldera Linux*, Chromium OS*, Debian 3.1 Linux*, 82 more



Linux* Processor Microcode Data File

The microcode data file contains the latest microcode definitions for all Intel processors. Intel periodically releases these microcode updates.

Version: 20140122 (Latest)

Date: 2/24/2014

Operating Systems: Caldera Linux*, Chromium OS*, Debian 3.1 Linux*, 80 more



Display Drivers for Intel® Core™ Processors on 64-bit Windows 7* and Windows Embedded Standard 7*

Intel® HD Graphics, Intel® Display Audio Driver, and Intel® Turbo Boost Technology for Intel® processors on 64-bit Windows 7*.

Version: 15.22.54.64.2622 (Current)

Date: 3/22/2013

Operating Systems: Windows 7, 64-bit*, Windows Embedded Standard 7*



TnT Hardware Tools SW Updates DB

This is the rev of the DB that is already present on the InstallShield-like service.

Version: 5 (Current)

Date: 11/14/2011

Operating Systems: Windows XP Professional*



Linux* Processor Microcode Data File

The microcode data file contains the latest microcode definitions for all Intel processors. Intel periodically releases these microcode updates.

Version: 20140624 (Previously Released)

Date: 9/17/2014

Operating Systems: Linux*



Linux* Processor Microcode Data File

The microcode data file contains the latest microcode definitions for all Intel processors. Intel periodically releases these microcode updates.

Version: 20140430 (Previously Released)

Date: 9/15/2014

Operating Systems: Linux*



Linux* Processor Microcode Data File

The microcode data file contains the latest microcode definitions for all Intel processors.

Version: 20130906 (Previously Released) **Date:** 9/10/2013

Operating Systems: Caldera Linux*, Chromium OS*, Debian 3.1 Linux*, 80 more



Linux* Processor Microcode Data File

The microcode data file contains the latest microcode definitions for all Intel processors. Intel periodically releases these microcode updates.

Version: 20130808 (Previously Released)

Date: 8/14/2013

Operating Systems: Caldera Linux*, Chromium OS*, Debian 3.1 Linux*, 80 more



Linux* Processor Microcode Data File

The microcode data file contains the latest microcode definitions for all Intel processors.

Version: 20130222 (Previously Released) **Date:** 2/26/2013

Operating Systems: Caldera Linux*, Chromium OS*, Debian 3.1 Linux*, 75 more



Linux* Processor Microcode Data File

The microcode data file contains the latest microcode definitions for all Intel processors. Intel periodically releases these microcode updates.

Version: 20120606-v2 (Previously Released)

Date: 10/1/2012

Operating Systems: Caldera Linux*, Debian 3.1 Linux*, Debian Linux*, 73 more



Linux* Processor Microcode Data File

The microcode data file contains the latest microcode definitions for all Intel processors. Intel periodically releases these microcode updates.

Version: 20120606 (Previously Released)

Date: 6/6/2012

Operating Systems: Caldera Linux*, Debian 3.1 Linux*, Debian Linux*, 73 more



Linux* Processor Microcode Data File

The microcode data file contains the latest microcode definitions for all Intel processors.

Version: 20111110 (Previously Released) **Date:** 2/29/2012

Operating Systems: Caldera Linux*, Debian 3.1 Linux*, Debian Linux*, 71 more

**Linux* Processor Microcode Data File**

The microcode data file contains the latest microcode definitions for all Intel processors.

Version: 20110915 (Previously Released) **Date:** 11/14/2011

Operating Systems: Caldera Linux*, Debian 3.1 Linux*, Debian Linux*, 71 more

**Linux* Processor Microcode Data File**

The microcode data file contains the latest microcode definitions for all Intel processors.

Version: 20110428 (Previously Released) **Date:** 11/14/2011

Operating Systems: Caldera Linux*, Debian 3.1 Linux*, Debian Linux*, 71 more

**Linux* Processor Microcode Data File**

The microcode data file contains the latest microcode definitions for all Intel processors.

Version: 20101123 (Previously Released) **Date:** 11/14/2011

Operating Systems: Caldera Linux*, Debian 3.1 Linux*, Debian Linux*, 71 more

**Linux* Processor Microcode Data File**

The microcode data file contains the latest microcode definitions for all Intel processors.

Version: 20100914 (Previously Released) **Date:** 11/14/2011

Operating Systems: Caldera Linux*, Debian 3.1 Linux*, Debian Linux*, 71 more

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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 heatsinks/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, typically represent 1,000-unit purchase quantities, 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. If sold in bulk, price represents individual unit. 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.

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