



Intel® Core™ i7-7700 Processor

8M Cache, up to 4.20 GHz

Specifications

Essentials

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Essentials

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Product Collection	7th Generation Intel® Core™ i7 Processors
Code Name	Products formerly Kaby Lake
Vertical Segment	Desktop
Processor Number	i7-7700
Status	Launched
Launch Date	Q1'17
Lithography	14 nm
Recommended Customer Price	\$303.00 - \$312.00

Performance

# of Cores	4
# of Threads	8

Expansion Options
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Ordering and Compliance
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Processor Base Frequency	3.60 GHz
Max Turbo Frequency	4.20 GHz
Cache	8 MB SmartCache
Bus Speed	8 GT/s DMI3
# of QPI Links	0
TDP	65 W
Supplemental Information	
Embedded Options Available	Yes
Conflict Free	Yes
Datasheet	View now
Memory Specifications	
Max Memory Size (dependent on memory type)	64 GB
Memory Types	DDR4-2133/2400, DDR3L-1333/1600 @ 1.35V
Max # of Memory Channels	2
ECC Memory Supported ‡	No
Graphics Specifications	
Processor Graphics ‡	Intel® HD Graphics 630
Graphics Base Frequency	350 MHz

Graphics Max Dynamic Frequency	1.15 GHz
Graphics Video Max Memory	64 GB
4K Support	Yes, at 60Hz
Max Resolution (HDMI 1.4)‡	4096x2304@24Hz
Max Resolution (DP)‡	4096x2304@60Hz
Max Resolution (eDP - Integrated Flat Panel)‡	4096x2304@60Hz
DirectX* Support	12
OpenGL* Support	4.4
Intel® Quick Sync Video	Yes
Intel® InTru™ 3D Technology	Yes
Intel® Clear Video HD Technology	Yes
Intel® Clear Video Technology	Yes
# of Displays Supported ‡	3
Device ID	0x5912
Expansion Options	
Scalability	1S Only
PCI Express Revision	3.0
PCI Express Configurations ‡	Up to 1x16, 2x8, 1x8+2x4

Max # of PCI Express Lanes	16
Package Specifications	
Sockets Supported	FCLGA1151
Max CPU Configuration	1
Thermal Solution Specification	PCG 2015C (65W)
T _{JUNCTION}	100°C
Package Size	37.5mm x 37.5mm
Low Halogen Options Available	See MDDS
Advanced Technologies	
Intel® Optane™ Memory Supported [‡]	Yes
Intel® Turbo Boost Technology [‡]	2.0
Intel® vPro™ Technology [‡]	Yes
Intel® Hyper-Threading Technology [‡]	Yes
Intel® Virtualization Technology (VT-x) [‡]	Yes
Intel® Virtualization Technology for Directed I/O (VT-d) [‡]	Yes
Intel® VT-x with Extended Page Tables (EPT) [‡]	Yes
Intel® TSX-NI	Yes
Intel® 64 [‡]	Yes

Instruction Set	64-bit
Instruction Set Extensions	SSE4.1/4.2, AVX2
Idle States	Yes
Enhanced Intel SpeedStep® Technology	Yes
Thermal Monitoring Technologies	Yes
Intel® Identity Protection Technology ‡	Yes
Intel® Stable Image Platform Program (SIPP)	Yes
Security & Reliability	
Intel® AES New Instructions	Yes
Secure Key	Yes
Intel® Software Guard Extensions (Intel® SGX)	Yes
Intel® Memory Protection Extensions (Intel® MPX)	Yes
Intel® OS Guard	Yes
Intel® Trusted Execution Technology ‡	Yes
Execute Disable Bit ‡	Yes
Intel® Boot Guard	Yes

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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.