












Intel® Core™ i7-3920XM Processor Extreme Edition
(8M Cache, up to 3.80 GHz)

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Specifications

Essentials		
Status	Launched	
Launch Date	Q2'12	
Processor Number	i7-3920XM	
Intel® Smart Cache	8 MB	
DMI	5 GT/s	
Instruction Set	64-bit	
Instruction Set Extensions	AVX	
Embedded Options Available		No
Lithography	22 nm	
Recommended Customer Price	TRAY: \$1096.00	
Conflict Free	<div>Yes</div>	
Datasheet	Link	
Performance		
# of Cores	4	
# of Threads	8	
Processor Base Frequency	2.9 GHz	
Max Turbo Frequency	3.8 GHz	
TDP	55 W	
Memory Specifications		
Max Memory Size (dependent on memory type)	32 GB	
Memory Types	DDR3/L-/RS 1333/1600	
Max # of Memory Channels	2	
Max Memory Bandwidth	25.6 GB/s	
ECC Memory Supported *		No
Graphics Specifications		
Processor Graphics *	Intel® HD Graphics 4000	
Graphics Base Frequency	650 MHz	
Graphics Max Dynamic Frequency	1.3 GHz	
Graphics Output	eDP/DP/HDMI/SDVO/CRT	
Intel® Quick Sync Video		<div>Yes</div>
Intel® InTru™ 3D Technology	<div>Yes</div>	
Intel® Insider™	<div>Yes</div>	
Intel® Wireless Display		<div>Yes</div>
Intel® Flexible Display Interface (Intel® FDI)	<div>Yes</div>	
Intel® Clear Video HD Technology	<div>Yes</div>	
# of Displays Supported *	3	
Expansion Options		
PCI Express Revision	3.0	
PCI Express Configurations *	1x16, 2x8, 1x8 2x4	
Max # of PCI Express Lanes	16	
Package Specifications		
Max CPU Configuration	1	
T _{JUNCTION}	105 C	
Package Size	37.5 x 37.5mm (rPGA988B)	
Graphics and IMC Lithography	22 nm	
Sockets Supported	FCPGA988	
Low Halogen Options Available	See MDDS	
Advanced Technologies		
Intel® Turbo Boost Technology *	2.0	
Intel® vPro Technology *		<div>Yes</div>
Intel® Hyper-Threading Technology *		<div>Yes</div>
Intel® Virtualization Technology (VT-x) *	<div>Yes</div>	
Intel® Virtualization Technology for Directed I/O (VT-d) *		<div>Yes</div>
Intel® VT-x with Extended Page Tables (EPT) *		<div>Yes</div>
Intel® 64 *		<div>Yes</div>
Intel® My WiFi Technology	<div>Yes</div>	
4G WiMAX Wireless Technology	<div>Yes</div>	
Idle States	<div>Yes</div>	
Enhanced Intel SpeedStep® Technology		<div>Yes</div>
Intel® Demand Based Switching		No
Thermal Monitoring Technologies	<div>Yes</div>	
Intel® Fast Memory Access	<div>Yes</div>	
Intel® Flex Memory Access	<div>Yes</div>	
Intel® Identity Protection Technology *	<div>Yes</div>	
Intel® Data Protection Technology		
AES New Instructions		<div>Yes</div>
Intel® Platform Protection Technology		
Trusted Execution Technology *		<div>Yes</div>
Execute Disable Bit *	<div>Yes</div>	
Anti-Theft Technology	<div>Yes</div>	

Related Products

3rd Generation Intel® Core™ i7 Extreme Processor

Intel® Core™ i7-3900 Mobile Processor Extreme Edition Series

Products formerly Ivy Bridge



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PCN/MDDS Information

SR0T2

921341: PCN | MDDS

SR0MH

919641: MDDS

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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.

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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 J5-709 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.us/en/processors/processor-numbers.html](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.