

Intel® Atom™ x5-Z8500 Processor

2M Cache, up to 2.24 GHz

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Specifications

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Product Collection Intel® Atom™ Processor for Smartphone and Tablet		Code Name Products formerly Cherry Trail	
		Vertical Segment	Mobile
Processor Number	x5-Z8500	Status	Launched
Launch Date ?	Q1'15	Lithography ?	14 nm
Recommended Customer Price ?			

Performance

# of Cores ?	4	# of Threads ?	4
Processor Base Frequency ?	1.44 GHz	Burst Frequency	2.24 GHz
Cache ?	2 MB	Scenario Design Power (SDP) ?	2 W

Supplemental Information

Embedded Options Available ? 	No	Datasheet	<a href="#">View now</a>
Conflict Free ?	Yes	Product Brief	<a href="#">View now</a>

Learn how Intel is pursuing conflict-free technology.



Memory Specifications

Max Memory Size (dependent on memory type) ?	8 GB	Memory Types ?	LPDDR3 1600
Max # of Memory Channels ?	2	Max Memory Bandwidth ?	25.6 GB/s

Graphics Specifications

Processor Graphics <sup>‡</sup> ?	Intel® HD Graphics	Graphics Base Frequency ?	200.00 MHz
Graphics Burst Frequency	600.00 MHz	Graphics Video Max Memory ?	8 GB
Execution Units ?	12	Max Resolution (HDMI 1.4)‡ ?	3840x2160
Max Resolution (eDP - Integrated Flat Panel)‡ ?	2560x1600	# of Displays Supported <sup>‡</sup>	3

## Expansion Options

PCI Express Revision ?	2.0	PCI Express Configurations <sup>‡</sup> ?	2x1, 1x2
Max # of PCI Express Lanes ?	2		

## I/O Specifications

USB Revision ?	3.0	# of USB Ports	3
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## Package Specifications

Sockets Supported ?	UTFCBGA1380	T <sub>JUNCTION</sub> ?	90°C
Package Size	17mm x 17mm	Low Halogen Options Available	See MDDS

## Advanced Technologies

Secure Boot ?	Yes	Intel® Virtualization Technology (VT-x) <sup>‡</sup> ?	Yes
Intel® 64 <sup>‡</sup> ? 🔍	Yes	Instruction Set ?	64-bit
Intel® Identity Protection Technology <sup>‡</sup> ?	Yes		

## Intel® Data Protection Technology

Intel® AES New Instructions ? 🔍	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/](http://www.intel.com/technology/turboboost/) for more information.

The Recommended Customer -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.

## More support options for Intel® Atom™ x5-Z8500 Processor (2M Cache, up to 2.24 GHz)



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