



Intel Atom® Processor E3815

512K Cache, 1.46 GHz

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Essentials

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Product Collection	Intel® Atom™ Processor E Series
Code Name	Products formerly Bay Trail
Vertical Segment	Embedded
Processor Number	E3815
Status	Launched
Launch Date ?	Q4'13
Lithography ?	22 nm
Recommended Customer Price ?	
Use Conditions ?	Automotive, Industrial Commercial Temp, Industrial Extended Temp, Embedded Broad Market Commercial Temp

Performance

# of Cores ?	1
# of Threads ?	1
Processor Base Frequency ?	1.46 GHz
Cache ?	512 KB L2
TDP ?	5 W

Supplemental Information

Embedded Options Available ?	Yes
Datasheet	View now

Memory Specifications




Max Memory Size (dependent on memory type) ?	8 GB
Memory Types ?	DDR3L 1067
Max # of Memory Channels ?	1
ECC Memory Supported ‡ ?	Yes

Processor Graphics





Processor Graphics † ?	Intel® HD Graphics for Intel Atom® Processor Z3700 Series
Graphics Base Frequency ?	400 MHz
Graphics Burst Frequency	400 MHz

Intel® Quick Sync Video 	Yes
# of Displays Supported [‡]	2



Expansion Options

PCI Express Revision 	2.0
PCI Express Configurations [‡] 	x4, x2, x1
Max # of PCI Express Lanes 	4










I/O Specifications

USB Revision 	2.0, 3.0
Total # of SATA Ports 	2
Integrated LAN 	No
Integrated IDE 	No
UART	Yes




Package Specifications

Sockets Supported 	FCBGA1170
T _{JUNCTION} 	-40°C to 110°C
Package Size	25mm x 27mm
Low Halogen Options Available	See MDDS

Advanced Technologies

Intel® vPro™ Technology [‡] 	No
Intel® Hyper-Threading Technology [‡] 	No
Intel® Virtualization Technology (VT-x) [‡] 	Yes
Intel® Virtualization Technology for Directed I/O (VT-d) [‡] 	No
Intel® VT-x with Extended Page Tables (EPT) [‡] 	Yes
Intel® 64 [‡] 	Yes
Instruction Set 	64-bit
Enhanced Intel SpeedStep® Technology 	Yes
Intel® HD Audio Technology 	Yes

Security & Reliability

Intel® AES New Instructions 	Yes
Intel® Trusted Execution Technology [‡] 	No
Execute Disable Bit [‡] 	Yes

More support options for Intel Atom® Processor E3815 (512K Cache, 1.46 GHz)

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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.

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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