



Intel Atom® x5-E3930 Processor

2M Cache, up to 1.80 GHz

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Product Collection	Intel® Atom™ Processor X Series
Code Name	Products formerly Apollo Lake
Vertical Segment	Embedded
Processor Number	E3930
Status	Announced
Launch Date	Q4'16
Lithography	14 nm
Recommended Customer Price	N/A
Use Conditions	Industrial Extended Temp, Embedded Broad Market Extended Temp

Performance

# of Cores	2
# of Threads	2
Processor Base Frequency	1.30 GHz
Burst Frequency	1.80 GHz
Cache	2 MB L2
TDP	6.5 W

Supplemental Information

Embedded Options Available	Yes
Additional Information URL	View now

Memory Specifications

Max Memory Size (dependent on memory type)	8 GB
Memory Types	DDR3L (ECC and Non ECC) up to 1866 MT/s; LPDDR4 up to 2133 MT/s
Max # of Memory Channels	4
Max Memory Bandwidth	34.1 GB/s
Physical Address Extensions	40-bit
ECC Memory Supported ‡	Yes

Processor Graphics

Processor Graphics [‡]	Intel® HD Graphics 500
Graphics Base Frequency	400 MHz
Graphics Burst Frequency	550 MHz
Graphics Video Max Memory	2 GB
Graphics Output	eDP/DP/HDMI/MIPI-DSI
Execution Units	12
4K Support	Yes, at 60Hz
Max Resolution (HDMI 1.4)‡	3840x2160 @30Hz
Max Resolution (DP)‡	4096x2160 @60Hz
Max Resolution (eDP - Integrated Flat Panel)‡	3840x2160 @ 60Hz
DirectX* Support	Yes
OpenGL* Support	Yes
Intel® Quick Sync Video	Yes
Intel® InTru™ 3D Technology	No
Intel® Clear Video HD Technology	Yes
Intel® Clear Video Technology	Yes
# of Displays Supported [‡]	3
Device ID	0x5A85

Expansion Options

PCI Express Revision	2.0
PCI Express Configurations [‡]	x4,x2,x1
Max # of PCI Express Lanes	6

I/O Specifications

# of USB Ports	8
USB Revision	2.0/3.0
Total # of SATA Ports	2
Integrated LAN	No
General Purpose IO	Yes
UART	Yes
Max # of SATA 6.0 Gb/s Ports	2

Package Specifications

Max CPU Configuration	1
T _{CASE}	103°C
T _{JUNCTION}	110°C
Operating Temperature Range	-40°C to 85°C
Package Size	24mm x 31mm

Advanced Technologies

Intel® Turbo Boost Technology ‡ ?	No
Intel® vPro™ Platform Eligibility ‡ ?	No
Secure Boot ?	Yes
Intel® Hyper-Threading Technology ‡ ?	No
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® 64 ‡ ?	Yes
Instruction Set ?	64-bit
Idle States ?	Yes
Enhanced Intel SpeedStep® Technology ?	Yes
Thermal Monitoring Technologies ?	Yes
Intel® HD Audio Technology ?	Yes
Intel® Identity Protection Technology ‡ ?	Yes
Intel® Rapid Storage Technology ?	No
Intel® Smart Connect Technology ?	No
Intel® Stable Image Platform Program (SIPP) ?	No
Intel® Smart Response Technology ?	No
Intel® Virtualization Technology for Itanium (VT-i) ?	No

Security & Reliability

Intel® AES New Instructions ?	Yes
Secure Key ?	Yes
Intel® Trusted Execution Technology ‡ ?	No
Execute Disable Bit ‡ ?	Yes
Anti-Theft Technology ?	No
Intel® OS Guard	No

More support options for Intel Atom® x5-E3930 Processor (2M Cache, up to 1.80 GHz)



Product Support



Downloads and Software



Support Community



Warranty and Replacement



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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.

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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.

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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