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Intel Atom® Processor C2538

2M Cache, 2.40 GHz

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Specifications

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Essentials

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Product Collection	Intel® Atom™ Processor C Series
Code Name	Products formerly Rangeley
Vertical Segment	Embedded
Processor Number	C2538
Status	Launched
Launch Date ?	Q3'13
Lithography ?	22 nm
Recommended Customer Price ?	
Use Conditions ?	Communications

Performance

# of Cores ?	4
# of Threads ?	4
Processor Base Frequency ?	2.40 GHz
Cache ?	2 MB
TDP ?	15 W

Supplemental Information

Embedded Options Available ?	Yes
Product Brief	View now

Memory Specifications

Max Memory Size (dependent on memory type) ?	64 GB
Memory Types ?	DDR3/DDR3L 1600
Max # of Memory Channels ?	2
Physical Address Extensions ?	36-bit
ECC Memory Supported ‡ ?	Yes

Expansion Options

PCI Express Revision ?	2
PCI Express Configurations ‡ ?	x1,x2,x4,x8,x16
Max # of PCI Express Lanes ?	16

I/O Specifications

# of USB Ports	4
USB Revision ?	2
Total # of SATA Ports ?	6
Integrated LAN ?	4x1 or 4x2.5 GbE
UART	2 Interfaces
Max # of SATA 6.0 Gb/s Ports	2

Package Specifications

Sockets Supported ?	FCBGA1283
Package Size	34 mm x 28 mm

Advanced Technologies

Intel® Turbo Boost Technology ‡ ?	No
Intel® Hyper-Threading Technology ‡ ?	No
Intel® Virtualization Technology (VT-x) ‡ ?	Yes
Intel® VT-x with Extended Page Tables (EPT) ‡ ?	Yes
Intel® 64 ‡ ?	Yes
Instruction Set ?	64-bit
Integrated Intel® QuickAssist Technology ?	No

Security & Reliability

Intel® AES New Instructions ?	Yes
Execute Disable Bit ‡ ?	Yes

More support options for Intel Atom® Processor C2538 (2M Cache, 2.40 GHz)

Product Support

Downloads and Software

Support Community

Warranty and Replacement

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whatsoever regarding accuracy of the information, nor on the product features, availability, functionality, or compatibility of the products listed. Please contact system vendor for more information on specific products or systems.

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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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