



Intel® Core™ i7-8500Y Processor

4M Cache, up to 4.20 GHz

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Product Collection	8th Generation Intel® Core™ i7 Processors
Code Name	Products formerly Amber Lake Y
Vertical Segment	Mobile
Processor Number	i7-8500Y
Off Roadmap	No
Status	Launched
Launch Date ?	Q1'19
Lithography ?	14 nm
Recommended Customer Price ?	

Performance

# of Cores ?	2
# of Threads ?	4
Processor Base Frequency ?	1.50 GHz
Max Turbo Frequency ?	4.20 GHz
Cache ?	4 MB Intel® Smart Cache
Bus Speed ?	4 GT/s
TDP ?	5 W
Configurable TDP-up Frequency ?	1.60 GHz
Configurable TDP-up ?	7 W
Configurable TDP-down Frequency ?	600 MHz
Configurable TDP-down ?	3.5 W

Supplemental Information

Embedded Options Available ?	No
Datasheet	View now

Memory Specifications

Max Memory Size (dependent on memory type) ?	16 GB
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Memory Types 

LPDDR3-1866, DDR3L-1600

Max # of Memory Channels 

2

Max Memory Bandwidth 

33.3 GB/s

ECC Memory Supported ‡ 

No

Processor Graphics

Processor Graphics ‡ 

Intel® UHD Graphics 615

Graphics Base Frequency 

300 MHz

Graphics Max Dynamic Frequency 

1.05 GHz

Graphics Video Max Memory 

16 GB

Graphics Output 

eDP/DP/HDMI/DVI

4K Support 

Yes, at 60Hz

Max Resolution (HDMI 1.4)‡ 

4096x2304@24Hz

Max Resolution (DP)‡ 

3840x2160@60Hz

Max Resolution (eDP - Integrated Flat Panel)‡ 

3840x2160@60Hz

DirectX* Support 

12

OpenGL* Support 

4.5

Intel® Quick Sync Video 

Yes

Intel® Clear Video HD Technology 

Yes

Intel® Clear Video Technology 

Yes

of Displays Supported ‡

3

Device ID

0x591C

Expansion Options

PCI Express Revision 

3.0

PCI Express Configurations ‡ 

1x4, 2x2, 1x2+2x1 and 4x1

Max # of PCI Express Lanes 

10

Package Specifications

Sockets Supported 

FCBGA1515

Max CPU Configuration

1

T_{JUNCTION} 

100

Package Size

20mm X 16.5mm

Advanced Technologies

Intel® Speed Shift Technology 

Yes

Intel® Turbo Boost Technology ‡ 

2.0

Intel® vPro™ Platform Eligibility ‡ 

No

Intel® Hyper-Threading Technology ‡ 

Yes

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® TSX-NI ?	No
Intel® 64 ‡ ?	Yes
Instruction Set ?	64-bit
Instruction Set Extensions ?	Intel® SSE4.1, Intel® SSE4.2, Intel® AVX2
Idle States ?	Yes
Enhanced Intel SpeedStep® Technology ?	Yes
Thermal Monitoring Technologies ?	Yes
Intel® Flex Memory Access ?	Yes
Intel® Identity Protection Technology ‡ ?	Yes
Intel® Stable Image Platform Program (SIPP) ?	No
Intel® Smart Response Technology ?	Yes
Intel® My WiFi Technology ?	Yes

Security & Reliability

Intel® AES New Instructions ?	Yes
Secure Key ?	Yes
Intel® Software Guard Extensions (Intel® SGX) ?	Yes with Intel® ME
Intel® Memory Protection Extensions (Intel® MPX) ?	Yes
Intel® Trusted Execution Technology ‡ ?	No
Execute Disable Bit ‡ ?	Yes
Intel® OS Guard	Yes

More support options for Intel® Core™ i7-8500Y Processor (4M Cache, up to 4.20 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.

‡ 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.

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.

System and Maximum TDP is based on worst case scenarios. Actual TDP may be lower if not all I/Os for chipsets are used.

"Announced" SKUs are not yet available. Please refer to the Launch Date for market availability.

Intel® Smart Response Technology requires a select Intel® Core™ processor, an enabled chipset, Intel® Rapid Storage Technology software, and a properly configured hybrid drive (HDD + small SSD). Depending on system configuration, your results may vary. Contact your system manufacturer for more information.

Check <http://ipt.intel.com/> for systems that support Intel® Identity Protection Technology (Intel® IPT).

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.

Processors that support 64-bit computing on Intel® architecture require an Intel 64 architecture-enabled BIOS.

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.

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.



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