



# Intel® Core™ i7-8706G Processor with Radeon™ Pro WX Vega M GL graphics

8M Cache, up to 4.10 GHz

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Essentials

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Product Collection	8th Generation Intel® Core™ i7 Processors
Code Name	Products formerly Kaby Lake G
Vertical Segment	Mobile
Processor Number	i7-8706G
Status	Launched
Launch Date	Q3'18
Lithography	14 nm

Performance

# of Cores	4
# of Threads	8
Processor Base Frequency	3.10 GHz
Max Turbo Frequency	4.10 GHz
Cache	8 MB
Bus Speed	8 GT/s DMI

Supplemental Information






Embedded Options Available	No
Description	65W Package TDP

Memory Specifications















Max Memory Size (dependent on memory type)	64 GB
Memory Types	DDR4-2400
Max # of Memory Channels	2
Max Memory Bandwidth	37.5 GB/s
ECC Memory Supported ‡	No

Discrete Graphics




Graphics Name <sup>‡</sup>	Radeon™ Pro WX Vega M GL Graphics
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Graphics Max Dynamic Frequency	1011 MHz
Graphics Base Frequency	931 MHz
Compute Units	20
Graphics Memory Bandwidth	179.2 GB/s
Graphics Memory Interface	1024 bit
Graphics Output	eDP 1.4, DP 1.4 w/ HDR, HDMI 2.0b, DVI
4K Support 	Yes, at 60Hz
Max Resolution (HDMI)† 	4096 x 2160@60Hz
Max Resolution (DP)† 	4096 x 2160@60Hz
Max Resolution (eDP - Integrated Flat Panel)†	4096 x 2160@60Hz
DirectX* Support 	12
Vulkan* Support	Yes
OpenGL* Support 	4.5
H.264 Hardware Encode/Decode	Yes
H.265 (HEVC) Hardware Encode/Decode	Yes, 10-bit
# of Displays Supported†	6

## Processor Graphics

Processor Graphics † 	Intel® HD Graphics 630
Graphics Base Frequency 	350 MHz
Graphics Max Dynamic Frequency 	1.10 GHz
Graphics Video Max Memory 	64 GB
Graphics Output 	eDP 1.4, DP 1.2, HDMI 1.4, DVI
4K Support 	Yes, at 60Hz
Max Resolution (HDMI 1.4)‡ 	4096 x 2160 @30Hz
Max Resolution (DP)‡ 	4096 x 2160 @60Hz
Max Resolution (eDP - Integrated Flat Panel)‡ 	4096 x 2160 @60Hz
DirectX* Support 	12
OpenGL* Support 	4.4
Intel® Quick Sync Video 	Yes
Intel® InTru™ 3D Technology 	Yes
Intel® Clear Video HD Technology 	Yes
Intel® Clear Video Technology 	Yes
# of Displays Supported †	3

## Expansion Options

PCI Express Revision 	3.0
PCI Express Configurations † 	Up to 1x8, 2x4
Max # of PCI Express Lanes 	8

Package Specifications

Sockets Supported	BGA2270
Max CPU Configuration	1
T <sub>JUNCTION</sub>	100°C
Package Size	31mm x 58.5mm
Low Halogen Options Available	No

Advanced Technologies

Intel® Speed Shift Technology	Yes
Intel® Turbo Boost Technology <sup>‡</sup>	2.0
Intel® vPro™ Platform Eligibility <sup>‡</sup>	Yes
Intel® Hyper-Threading Technology <sup>‡</sup>	Yes
Intel® Virtualization Technology (VT-x) <sup>‡</sup>	Yes
Intel® Virtualization Technology for Directed I/O (VT-d) <sup>‡</sup>	Yes
Intel® VT-x with Extended Page Tables (EPT) <sup>‡</sup>	Yes
Intel® TSX-NI	Yes
Intel® 64 <sup>‡</sup>	Yes
Instruction Set	64-bit
Instruction Set Extensions	Intel® SSE4.1, Intel® SSE4.2, Intel® AVX2
Intel® My WiFi Technology	Yes
Idle States	Yes
Enhanced Intel SpeedStep® Technology	Yes
Thermal Monitoring Technologies	Yes
Intel® Flex Memory Access	Yes
Intel® Identity Protection Technology <sup>‡</sup>	Yes
Intel® Stable Image Platform Program (SIPP)	Yes
Intel® Smart Response 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® OS Guard	Yes
Intel® Trusted Execution Technology <sup>‡</sup>	Yes
Execute Disable Bit <sup>‡</sup>	Yes



Product Support



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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/](http://www.intel.com/technology/turboboost/) for more information.

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

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.

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.

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

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.

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.



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