intel®
experience
what's inside™

MORE INNOVATION MORE CHOICES

WITH NEW MICROARCHITECTURE FOR 6TH GEN INTEL® CORE™ PROCESSORS

New processor family enables a range of innovative designs with great performance, visuals and longer battery life

The 6th Gen Intel® Core™ processor family is comprised of Intel's newest wave of 14nm processors that deliver a leap in performance and power efficiency, provide stunning visuals, enable the broadest range of designs, and enable amazing user experiences when paired with Windows® 10. The all-new 6th Gen Intel Core processors (Y-series, U-series, and H-series) deliver a new class of computing with a host of new features to power the next generation of 2 in 1s, thin and light clamshell notebooks, and other small form factor or mobile devices.

ASTOUNDING ADVANCES IN PROCESSOR EFFICIENCY

NEW ENHANCEMENTS TO 6TH GEN INTEL® CORE™ PROCESSORS INCLUDE:

- Architectural and design improvements to the 14nm process that result in superior performance vs. previous generations on Y-series, U-series, and H-series processors[27].

- Additional execution units on select H-series processors and eDRAM on select U-series processors, for exceptional compute and graphics processing power that brings stunning visuals to life.

- Platform and SOC power reductions that enable significantly longer battery life on active workloads[29].

- I/O Integration and enhancements such as the Intel® Integrated Sensor Solution and enhanced audio DSP.

- Hardware-level security features including Intel® Software Guard Extensions that hardens multifactor authentication.

RESPONSIVE PERFORMANCE

6th Gen Intel® Core™ processors leverage the power efficiency of a new microarchitecture to deliver faster performance than previous generation processors[27]. Intelligent power management with Intel® Turbo Boost 2.0 dynamically controls performance and power—for cores and graphics—boosting performance precisely when it is needed, and saving energy when it counts. Both the Y-series and U-series processors (Core m and Core i, respectively) support two cores and four threads with Intel® Hyper-Threading Technology (Intel® HT Technology), enabling compelling 2 in 1 designs and clamshells that achieve a unique balance between performance and mobility. For the ultimate performance in mainstream and premium notebooks, H-series processors support up to four cores and eight threads, delivering the power that enthusiasts, gamers, and content creators demand. With the newly expanded 6th Gen Intel® Core™ processor H-series, Intel is introducing its first mobile K SKU with enhanced overclocking through BCLK and DDR4 overclocking as well as introducing mobile quad-core processing to Core i5.

BOOSTING PERFORMANCE WHEN IT'S NEEDED
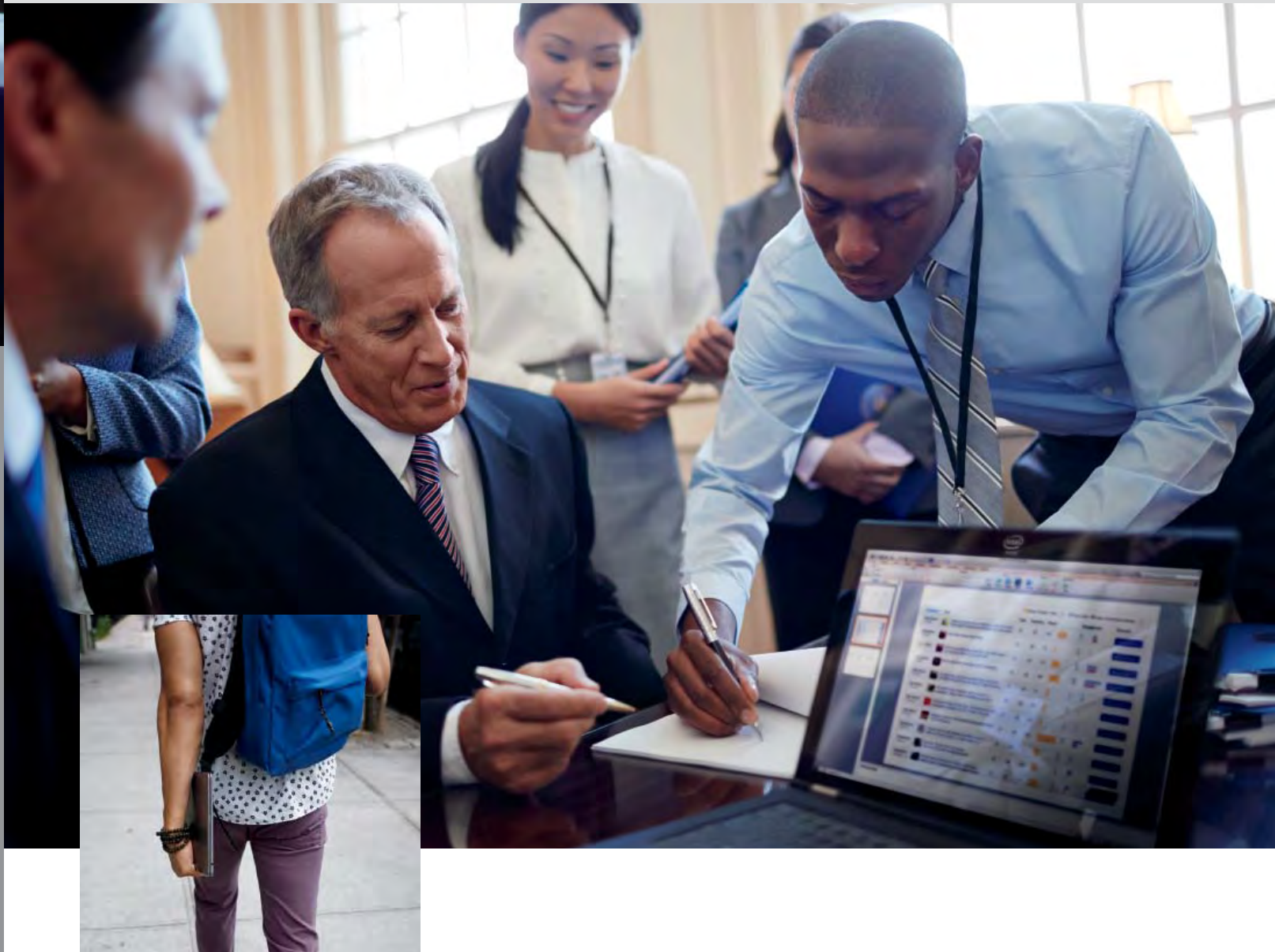
STRIKING VISUALS

Intel® HD graphics, Intel® Iris™ graphics, and Intel® Iris Pro™ graphics deliver an eye-popping visual experience and take Intel built-in visuals to the next level. With 6th Gen Intel® Core™ processors, you can watch, game, and create like never before. 6th Gen Core offers significant graphics performance improvement compared to prior generation[28]. Videos come to life in Ultra HD 4K, so users can enjoy amazing and vibrant multimedia experiences on compatible displays. 6th Gen Intel Core processors also decode HEVC 8-bit content in hardware and natively support the new DirectX 12 API. Finally, 6th Gen Intel Core processors also support graphics programmability features like OpenCL 2.0 so programmers can easily leverage graphics compute capabilities.

MORE FREEDOM WITH EXTENDED BATTERY LIFE[29]

With the 6th Gen Intel Core processor family improving energy efficiency at a processor and platform level new possibilities emerge. Compared to previous generations, 6th Gen Intel Core systems have longer battery life and can use even smaller batteries to enable thinner and lighter systems. On video playback and video conferencing, a new low-power media transcode enhancement reduces power consumption dramatically. With the Core m processors (Y-series), 2 in 1s and clamshell notebooks are reimagined, enabling razor thin and fanless designs for ultra mobility. With Core i processors (U-series), the improvements mean that productivity and creation are possible in increasingly sleek designs.
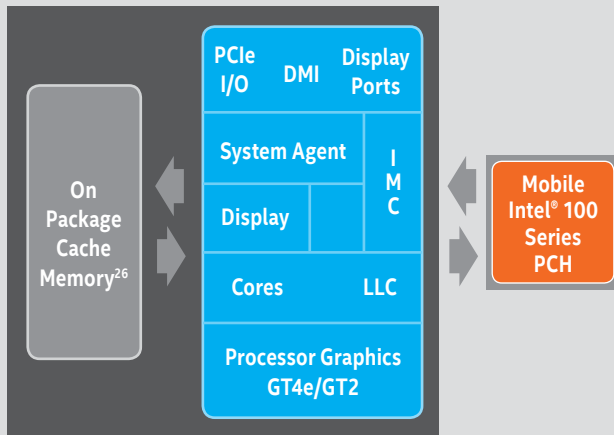
CREATE LIKE NEVER BEFORE

SUPPORTING HIGHER DATA TRANSFER RATES

EXPANDED I/O

6th Gen Intel® Core™ platform I/O in Y-series and U-series now offers Gen 3 PCIe support, supporting higher data transfer rates of 8 GT/s versus 5 GT/s with PCIe Gen 2. The latest Intel® Rapid Storage Technology now supports NVMe PCIe x4 Solid State Drives and is capable of utilizing Gen 3 PCIe speeds. Intel is also offering an Integrated Sensor Solution Context Sensing SDK so that third-party software vendors can develop exciting sensor-enhanced applications.
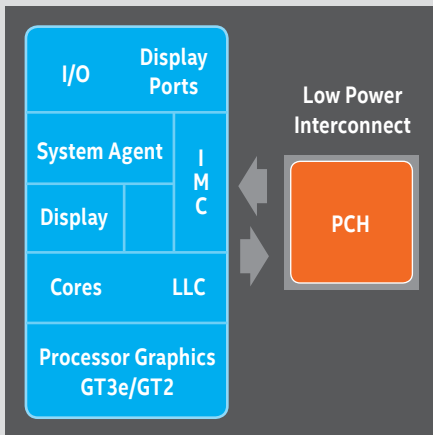
6th Gen Intel® Core™ processor architecture for the Y-series and U-series.

6th Gen Intel Core processor architecture for the H-series mobile 2-chip platforms.

FEATURES[1]	BENEFITS
Intel® Turbo Boost Technology 2.0[2]	Dynamically increases the processor's frequency, as needed, by taking advantage of thermal and power headroom when operating below specified limits.
Intel® Hyper-Threading Technology[3]	Delivers two processing threads per physical core. Highly threaded applications can get more work done in parallel, completing tasks sooner.
Intel Built-In Visuals	**Intel® Iris™ Pro Graphics4** —Intel's best graphics deliver the stunning graphics performance enthusiasts, content creators, and gamers demand with dedicated on package cache memory.
	Intel® Iris™ Graphics[4] —Delivers stunning 3D visuals and faster, more advanced video and photo editing than the previous gen. For high-speed game performance on the go and in your home.
	Intel® HD Graphics — Allows playing of HD videos with exceptional clarity, viewing and editing of even the smallest details of photos, and playing today's modern games.
	Intel® Quick Sync Video— Delivers excellent video conferencing capability, fast video conversion, online sharing, and fast video editing and authoring.
	Intel® Clear Video HD—Visual quality and color fidelity enhancements for HD playback and immersive web browsing.
	Intel® Wireless Display[5] —Lets you beam your apps and personal and online content such as movies, photos, and music to an HDTV with a simple wireless connection.
Integrated Memory Controller	Offers stunning memory read/write performance through efficient prefetching algorithms, lower latency, and higher memory bandwidth.
Intel® Smart Cache	Dynamically allocates shared cache to each processor core, based on workload, reducing latency and improving performance.
Intel® Virtualization Technology[6]	Allows one hardware platform to function as multiple "virtual" platforms. Offers improved manageability by limiting downtime and maintaining productivity by isolating computing activities into separate partitions.
Intel® Advanced Encryption Standard New Instructions (Intel® AES-NI)[7]	Fast, secure AES engine for a variety of encryption apps, including whole disk encryption, file storage encryption, conditional access of HD content, internet security, and VoIP. Consumers benefit from protected internet and email content, plus fast, responsive disk encryption.
Intel® Power Optimizer & Processor C-States	Intel® Power Optimizer increases periods of silicon sleep state across the platform ingredients, including the CPU, chipset, and third-party system components, to reduce power. Processor C-states (C8-C10) provide low idle power.
Configurable TDP Power	With Configurable TDP, the processor is now capable of modulating the maximum sustained power vs. performance. Configurable TDP thus provides design and performance flexibility to control system performance based on the cooling capability and usage scenarios. For example, a detachable Ultrabook™ may need more performance when used in a full clamshell mode (vs. tablet mode), or when balanced performance is needed in a quiet conference room setting.
On-Package Cache Memory	Delivers higher bandwidth for graphics and memory-intensive applications, resulting in performance boosts on 6th Gen Intel® Core™ processors with Intel® Iris™ and Intel® Iris™ Pro graphics. Up to 128MB of capacity supported.
CPU/Memory/Graphics Overclocking[19]	On H-series processors, CPU/graphics and memory can be run at frequencies above the rated frequency of the part resulting in higher performance.

FEATURES[1]	BENEFITS
Intel® Secure Key[8] (formerly Digital Random Number Generator [DRNG])	Security hardware-based random number generator that can be used for generating high-quality keys for cryptographic (encryption and decryption) protocols. Provides quality entropy that is highly sought after in the cryptography world for added security.
Intel® Transactional Synchronization Extensions New Instructions (TSX-NI)[9]	TSX-NI is a set of instructions focused on enterprise-level multi-threaded performance scaling, making parallel operations more efficient via improved control of software threads and locks. This offers performance benefits for enterprise-level big data analytics/business intelligence and visualization apps, which involve multi-user collaboration.
Intel® Advanced Vector Extensions (Intel®AVX) 2.0[10]	AVX 2.0 is an extension of AVX 1.0 with new optimized instructions to deliver enhanced performance on floating point–intensive apps. AVX 2.0 adds 256-bit integer instructions and new instructions for FMA (Fused Multiply Add). FMA delivers better performance on media and floating point computations, including face recognition; professional imaging; high-performance computing; consumer video and imaging; compression; and encryption.
Collaborative Processor Performance Control (CPPC)	A technology based on the ACPI 5.0 specification that dynamically modulates performance vs. active application power. It reduces active power to deliver better battery life and allows deep low power states to be reached.
Intel® Software Guard Extensions (Intel® SGX)[31]	A processor enhancement designed to help protect application integrity and confidentiality of secrets and withstand software and certain hardware attacks.
Intel® Memory Protection Extensions (Intel® MPX)[32]	Provides hardware accelerated mechanism for memory testing (heap and stack) buffer boundaries in order to identify buffer overflow attacks.
Intel® BIOS Guard[11]	Intel BIOS Guard is an augmentation of existing chipset-based BIOS flash protection capabilities targeted to address the increasing malware threat to BIOS flash storage. It helps protect the BIOS flash from modification without platform manufacturer authorization, helps defend the platform against low-level DOS (denial of service) attacks, and restores BIOS to a known good state after an attack.
Intel® Boot Guard[12]	Hardware-based boot integrity protection that helps prevent unauthorized software and malware takeover of boot blocks critical to a system's function, thus providing added level of platform security based on hardware. Configurable boot types include: **Measured Boot**—Measures the initial boot block into the platform storage device such as trusted platform module (TPM) or Intel® Platform Trust Technology (PTT). **Verified Boot**—Cryptographically verifies the platform initial boot block using the boot policy key.
Intel® OS Guard[13]	A hardware-based security feature that protects the OS (operating system) kernel. OS Guard helps prevent use of malicious data or attack code located in areas of memory marked as user mode pages from taking over or compromising the OS kernel. OS Guard is not application-specific and protects the kernel from any application.
Intel® Platform Trust Technology[14]	A trusted element of the platform execution that provides enhanced security by verifying the boot portion of the boot sequence on U-series processors.
VMCS shadowing	VMCS shadowing allows a Virtual Machine Manager (VMM) running in a guest (nested virtualization) to access a shadow VMCS memory area using the normal VMRead/VMWrite instructions. This technology reduces overhead for a more natural and responsive user experience. It also allows users to take control of their personal and professional data and apps while being protected by game-changing security.

6TH GEN INTEL® CORE PROCESSOR™ FEATURES AT A GLANCE

FEATURES[1]	BENEFITS
Intel® Active Management Technology (Intel® AMT)[15]	Using built-in platform capabilities and popular third-party management and security applications, Intel AMT allows IT to discover, heal, and protect computing assets on wired and wireless networks. Intel AMT is supported on platforms that have Intel® vPro™.
Intel® Rapid Storage Technology (Intel® RST)[17]	Offers excellent levels of performance, responsiveness, and expandability. Take advantage of the enhanced performance and lower power consumption available with Intel® RST with one or more SATA or PCIe storage drives. With additional SATA drives, Intel® RST provides quicker access to digital photo, video, and data files with RAID 0, 5, and 10, and greater data protection against a storage disk drive failure with RAID 1, 5, and 10. Dynamic Storage Accelerator unleashes the maximum performance of Solid State Drives (SSD) when multitasking.[17]
Intel® Speed Shift Technology	Delivers dramatically quicker responsiveness with single-threaded, transient (short duration) workloads, such as web browsing, by allowing the processor to more quickly select its best operating frequency and voltage for optimal performance and power efficiency.
Intel® Smart Response Technology[18]	Spend less time waiting, with fast access to the files and applications you use the most.
Intel® Identity Protection Technology[21]	Help protect your One Time Password (OTP) credentials and PKI certificates and add a layer of encrypted second factor authentication for online transactions. Log into your system or make secure credit card purchases on your system using near-field communication (NFC)–enabled cards.

SPEND LESS TIME WAITING

6TH GEN INTEL® CORE PROCESSOR™ FEATURES AT A GLANCE

Y-SERIES & U-SERIES PROCESSORS

FEATURES[1]	BENEFITS
Intel® High Definition Audio[22]	Integrated audio support enables premium digital surround sound and delivers advanced features such as multiple audio streams and jack re-tasking.
Intel® Smart Sound Technology[23]	A dedicated audio Digital Signal Processor designed to process audio for media playback and voice for PC interactions like Cortana*, Nuance Dragon*, or Skype*. Enables long battery life while providing new usages and maintaining high-end audio playback.
Universal Serial Bus 3.0	Integrated USB 3.0 support enhances performance with a design data rate of up to 5 gigabits per second (Gbps) with up to 6 USB 3.0 ports.[24]
Universal Serial Bus 2.0	Hi-Speed USB 2.0 support with a design data rate of up to 480 megabits per second (Mbps) with up to 6 USB 2.0 ports in Y-series and 10 USB 2.0 ports in U-series.[24]
Serial ATA (SATA) 6 Gb/s	Next-generation high-speed storage interface supporting up to 6 Gb/s transfer rates for optimal data access with up to 2 SATA 6Gb/s ports[24] in Y-series and 3 SATA 6Gb/s ports[24] in U-series. The PCH SATA controller also supports SATA 3 Gb/s and 1.5 Gb/s transfer capabilities.
eSATA	SATA interface designed for use with external SATA devices. Provides a link for 3 Gb/s data speeds to eliminate bottlenecks found with current external storage solutions.
SATA Port Disable	Enables individual SATA ports to be enabled or disabled as needed. This feature provides added protection of data by preventing malicious removal or insertion of data through SATA ports. Especially targeted for eSATA ports.
PCI Express* 3.0 Interface	Offers up to 5 GT/s for fast access to peripheral devices and networking with up to 12 lanes and 6 ports.[24] PCI Express ports can be configured as x1, x2 and x4 depending on motherboard designs.
USB Port Disable	Enables individual USB ports to be enabled or disabled as needed. This feature provides added protection of data by preventing malicious removal or insertion of data through USB ports.
Intel® Integrated 10/100/1000 MAC	Support for the Intel® I219LM and Intel® I219V Gigabit Network Connection
Green Technology	Manufactured with lead-free and halogen-free component packages
Conflict Free	"Conflict-free" means "DRC conflict-free", which is defined by the Securities and Exchange Commission rules to mean products that do not contain conflict minerals (tin, tantalum, tungsten and/or gold) that directly or indirectly finance or benefit armed groups in the Democratic Republic of the Congo (DRC) or adjoining countries.

6TH GEN INTEL® CORE PROCESSOR™ COMPARISON

Y-SERIES PROCESSORS	6TH GEN INTEL® CORE™ m7 PROCESSOR	6TH GEN INTEL® CORE™ m5 PROCESSOR	6TH GEN INTEL® CORE™ m3 PROCESSOR	INTEL® PENTIUM® PROCESSOR
Number of Processor Cores/Threads	2/4	2/4	2/4	2/4
Intel® Turbo Boost Technology 2.0[2]	Yes	Yes	Yes	No
Number of Memory Channels	2 (DDR3L 1600 MHz, up to LPDDR3 1866MHz)	2 (DDR3L 1600 MHz, up to LPDDR3 1866MHz)	2 (DDR3L 1600 MHz, up to LPDDR3 1866MHz)	2 (DDR3L 1600 MHz, up to LPDDR3 1866MHz, up to DDR4 2133 MHz)
Intel® Hyper-Threading Technology[3]	Yes	Yes	Yes	Yes
Intel® Smart Cache	Yes	Yes	Yes	Yes
Intel® AES–New Instructions (AES–NI)[7]	Yes	Yes	Yes	Yes
Intel® Advanced Vector Extensions (AVX) 2.0	Yes	Yes	Yes	No
Intel® HD Graphics	Yes	Yes	Yes	Yes
Intel® Quick Sync Video	Yes	Yes	Yes	Yes
Intel Clear Video HD	Yes	Yes	Yes	No
Intel® Wireless Display[5]	Yes	Yes	Yes	Yes
Intel® Virtualization Technology[6] (Intel® VT)	Yes	Yes	Yes	Yes
Windows InstantGo* Capable	Yes	Yes	Yes	Yes
Intel® Active Management Technology 11.0[15]	Yes	Yes	No	No
Intel® TSX-NI[9]	Yes[9]	Yes[9]	No	No[9]
Intel® Identity Protection Technology[21]	Yes	Yes	Yes	Yes
Intel® Secure Key[8]	Yes	Yes	Yes	Yes
Intel® Platform Trust Technology[14]	Yes	Yes	Yes	Yes
Intel® Boot Guard[12]	Yes	Yes	Yes	Yes
Intel® OS Guard[13]	Yes	Yes	Yes	No
Intel BIOS Guard[11]	Yes	Yes	Yes	Yes
Conflict Free	Yes	Yes	Yes	Yes

6TH GEN INTEL® CORE PROCESSOR™ COMPARISON

U-SERIES PROCESSORS	6TH GEN INTEL® CORE™ i7 PROCESSOR	6TH GEN INTEL® CORE™ i5 PROCESSOR	6TH GEN INTEL® CORE™ i3 PROCESSOR	INTEL® PENTIUM® PROCESSOR
Number of Processor Cores/Threads	2/4	2/4	2/4	2/4
Intel® Turbo Boost Technology 2.0[2]	Yes	Yes	No	No
Number of Memory Channels	2 (DDR3L 1600 MHz, up to LPDDR3 1866MHz, up to DDR4 2133 MHz)	2 (DDR3L 1600 MHz, up to LPDDR3 1866MHz, up to DDR4 2133 MHz)	2 (DDR3L 1600 MHz, up to LPDDR3 1866MHz, up to DDR4 2133 MHz)	2 (DDR3L 1600 MHz, up to LPDDR3 1866MHz, up to DDR4 2133 MHz)
Intel® Hyper-Threading Technology[3]	Yes	Yes	Yes	Yes
Intel® Smart Cache	Yes	Yes	Yes	Yes
Intel® AES–New Instructions (AES–NI)[7]	Yes	Yes	Yes	Yes
Intel® Advanced Vector Extensions (AVX) 2.0	Yes	Yes	Yes	No
Intel® Iris™ Graphics[4]	Yes[4]	Yes[4]	No	No
Intel® HD Graphics	Yes	Yes	Yes	Yes
Intel® Quick Sync Video	Yes	Yes	Yes	Yes
Intel Clear Video HD	Yes	Yes	Yes	No
Intel® Wireless Display[5]	Yes	Yes	Yes	Yes
Intel® Virtualization Technology[6] (Intel® VT)	Yes	Yes	Yes	Yes
Windows InstantGo* Capable	Yes	Yes	Yes	Yes
Intel® Active Management Technology 11.0[15]	Yes	Yes	No	No
Intel® TSX-NI[9]	Yes[9]	Yes[9]	No	No[9]
Intel® Identity Protection Technology[21]	Yes	Yes	Yes	Yes
Intel® Secure Key[8]	Yes	Yes	Yes	Yes
Intel® Platform Trust Technology[14]	Yes	Yes	Yes	Yes
Intel® Boot Guard[12]	Yes	Yes	Yes	Yes
Intel® OS Guard[13]	Yes	Yes	Yes	No
Intel BIOS Guard[11]	Yes	Yes	Yes	Yes
Conflict Free	Yes	Yes	Yes	Yes

6TH GEN INTEL® CORE PROCESSOR™ COMPARISON

H-SERIES PROCESSORS	6TH GEN INTEL® CORE™ i7 PROCESSOR	6TH GEN INTEL® CORE™ i5 PROCESSOR	6TH GEN INTEL® CORE™ i3 PROCESSOR
Number of Processor Cores/Threads	4/8	4/4	2/4
Intel® Turbo Boost Technology 2.0[2]	Yes	Yes	Yes
Number of Memory Channels	2 (DDR3L 1600 MHz, up to LPDDR3 1866MHz, up to DDR4 2133 MHz)	2 (DDR3L 1600 MHz, up to LPDDR3 1866MHz, up to DDR4 2133 MHz)	2 (DDR3L 1600 MHz, up to LPDDR3 1866MHz, up to DDR4 2133 MHz)
Intel® Hyper-Threading Technology[3]	Yes	Yes	Yes
Intel® Smart Cache	Yes	Yes	Yes
Intel® AES–New Instructions (AES–NI)[7]	Yes	Yes	Yes
Intel® Advanced Vector Extensions (AVX) 2.0	Yes	Yes	Yes
CPU/Graphics/Memory Overclocking[19]	Yes	No	No
Intel® Iris™ Pro Graphics[4]	Yes[4]	Yes[4]	No[4]
Intel® HD Graphics	Yes	Yes	Yes
Intel® Quick Sync Video	Yes	Yes	Yes
Intel Clear Video HD	Yes	Yes	Yes
Intel® Wireless Display[5]	Yes	Yes	Yes
Intel® Virtualization Technology[6] (Intel® VT)	Yes	Yes	Yes
Intel® Identity Protection Technology[21]	Yes	Yes	Yes
Intel® Secure Key[8]	Yes	Yes	Yes
Intel® Boot Guard[12]	Yes[20]	Yes[20]	Yes[20]
Intel® OS Guard[13]	Yes	Yes	Yes
Intel BIOS Guard[11]	Yes	Yes	Yes
Conflict Free	Yes	Yes	Yes

Y-SERIES & U-SERIES PROCESSOR PLATFORM INPUT/OUTPUT CONFIGURATION

Y-series & U-series processors have integrated platform input/output. The following table summarizes the two configurations supported.

FEATURE[1]	PREMIUM	BASELINE
Independent Displays Supported[25]	3	3
Intel® Rapid Storage Technology[17]	RAID, AHCI support	AHCI support
Intel® Smart Response Technology[18]	Yes	No
Intel® High Definition Audio[22]	Yes	Yes
Intel® Smart Sound Technology[23]	Yes	Yes
USB 3.0 Ports	Up to 6	Up to 4
USB 2.0 Ports	6 (for Y-series) & 10 (for U-series)	8 (for U)
PCIe Express*	Up to 10 Gen 3 lanes[24] for Y-series and Up to 12 Gen 3 lanes[24] for U-series	Up to 10 Gen 2 lanes[24] for U
SATA Ports	Up to 4 SATA 6Gbps[24]	2 SATA 6Gbps[24]
I2C	6[24]	6
UART	3	3
SDXC	1	1

H-SERIES PROCESSORS PCH CONFIGURATION

H-series processors have a separate PCH. The following table summarizes the three configurations available.

FEATURE[1]	HM170	QM170	CM236
Independent Displays Supported	3	3	3
Intel® Rapid Storage Technology[17]	Yes	Yes	Yes
Intel® Smart Response Technology and RAID[18]	Yes	Yes	Yes
Intel® Boot Guard[12]	Yes	Yes	Yes
Intel® High Defintion Audio[22]	Yes	Yes	Yes
USB 3.0 Ports[24]	Up to 8	Up to 8	Up to 10
USB 2.0 Ports[24]	14	14	14
PCIe 3.0 Express Lanes[24]	Up to 16	Up to 16	Up to 20
SATA 3.0 Ports[24]	Up to 4	Up to 4	Up to 8

For more information, visit http://www.intel.com/content/www/us/en/processors/core/6th-gen-core-family-mobile-brief.html

1 Not all features available on all systems.

2 Requires a system with Intel® Turbo Boost Technology. Intel Turbo Boost Technology and Intel Turbo Boost Technology 2.0 are only available on select Intel® processors. Consult your system manufacturer. Performance varies depending on hardware, software, and system configuration. For more information, visit http://www.intel.com/go/turbo.

3 Available on select Intel® Core™ processors. Requires an Intel® HT Technology-enabled system. Consult your PC manufacturer. Performance will vary depending on the specific hardware and software used. For more information, including details on which processors support HT Technology, visit http://www.intel.com/info/hyperthreading.

4 Available on select models of Intel® Core™ processors. For more information on which processors support the capability, see ark.intel.com.

5 Requires an Intel® Wireless Display–enabled PC, tablet, or smartphone, a compatible adapter, and a TV. 1080p and Blu-Ray* or other protected content playback only available on select Intel® processors with built-in visuals enabled. 4K support requires a 6th generation Intel® Core™ processor, Intel® graphics driver 15.36.13.4062 or later, Intel® Wireless 7260/7265 and wireless driver 17.13.1 or later, Windows 8.1 with August Update, and a 2015 model year LG WebOS* 2.0 series TV (UF and EG series). System must be connect to AP at 5GHz for resolutions >1080p. 4K support not available on Intel Pro WiDi. Consult your PC manufacturer. For more information, see www.intel.com/go/widi.

6 Intel® Virtualization Technology requires a computer system with an enabled Intel® processor, BIOS, and virtual machine monitor (VMM). Functionality, performance or other benefits will vary depending on hardware and software configurations. Software applications may not be compatible with all operating systems. Consult your PC manufacturer. For more information, visit http://www.intel.com/go/virtualization.

7 Intel® AES-NI requires a computer system with an AES-NI enabled processor, as well as non-Intel software to execute the instructions in the correct sequence. AES-NI is available on select Intel® processors. For availability, consult your reseller or system manufacturer. For more information, see Intel® Advanced Encryption Standard Instructions (AES-NI).

8 No system can provide absolute security. Requires an Intel® Secure Key-enabled platform, available on select Intel processors, and software optimized to support Intel Secure Key. Consult your system manufacturer for more information.

9 Available on select processor models enabled for Intel® vPro™ Technology. For details, see ark.intel.com.

10 Intel® Advanced Vector Extensions (Intel® AVX)* are designed to achieve higher throughput to certain integer and floating point operations. Due to varying processor power characteristics, utilizing AVX instructions may cause a) some parts to operate at less than the rated frequency and b) some parts with Intel® Turbo Boost Technology 2.0 to not achieve any or maximum turbo frequencies. Performance varies depending on hardware, software, and system configuration and you should consult your system manufacturer for more information. *Intel® Advanced Vec-tor Extensions refers to Intel® AVX, Intel® AVX2 or Intel® AVX-512. For more information on Intel® Turbo Boost Technology 2.0, visit http://www.intel.com/go/turbo

11 No system can provide absolute security. Requires an Intel® BIOS Guard–enabled platform, available on select Intel processors, and an enabled operating system. Consult your system manufacturer for more information.

12 No system can provide absolute security. Requires an Intel® Boot Guard–enabled platform, available on select Intel processors, and an enabled operating system. Consult your system manufacturer for more information.

13 No system can provide absolute security. Requires an Intel® OS Guard–enabled platform, available on select Intel processors, and an enabled operating system. Consult your system manufacturer for more information.

14 No system can provide absolute security. Requires an Intel® Platform Trust Technology–enabled platform, available on select Intel processors, and an enabled operating system. Consult your system manufacturer for more information.

15 Requires activation and a system with a corporate network connection, an Intel® AMT–enabled chipset, network hardware, and software. For notebooks, Intel AMT may be unavailable or limited over a host OS-based VPN, when connecting wirelessly, on battery power, sleeping, hibernating, or powered off. Results dependent upon hardware, setup, and configuration. For more information, visit In-tel® Active Management Technology.

16 Requires an Intel® Small Business Advantage enabled system and proper configuration. Availability of features will depend upon the setup and configuration by your PC manufacturer. Consult your system manufacturer.

17 Requires a select Intel® Core™ processor, an enabled chipset, Intel® Rapid Storage Technology software, and a properly configured storage device. PCIe and SATA storage supported on U series. SATA storage supported on H series.

18 Requires an Intel® Core™ processor, an enabled chipset, Intel® Rapid Storage Technology software, and a properly configured dual drive (HDD + small SSD). Depending on system configura-tion, your results may vary. Contact your system manufacturer for more information.

19 Available on select processor models only. Warning: Altering PC clock or memory frequency and/or voltage may (i) reduce system stability and use life of the system, memory and processor; (ii) cause the processor and other system components to fail; (iii) cause reductions in system performance; (iv) cause additional heat or other damage; and (v) affect system data integrity. Intel assumes no responsibility that the memory, included if used with altered clock frequencies and/or voltages, will be fit for any particular purpose. Check with memory manufacturer for warranty and additional details.

20 Feature support dependent on PCH configuration selected. See the H processor line PCH table in this document for details.

21 No system can provide absolute security under all conditions. Requires an Intel® Identity Protection Technology–enabled system, including a 2nd gen or higher Intel® Core™ processor ena-bled chipset, firmware and software, and participating website. Consult your system manufacturer. Intel assumes no liability for lost or stolen data and/or systems or any resulting damages. For more information, visit http://ipt.intel.com/.

22 Requires an Intel® HD Audio enabled system. Consult your PC manufacturer for more information. Sound quality will depend on equipment and actual implementation. For more infor-mation about Intel HD Audio, refer to Intel® High Definition Audio.

23 Intel® Smart Sound Technology (SST) requires the use of an I2S based CODEC for operation. Intel SST cannot be used concurrently with Intel High Definition Audio. Not available on all systems. Consult your PC manufacturer for more information. Sound quality will depend on equipment and actual implementation.

24 Actual number of ports available may vary by processor number and system configuration. Please refer to the specifications corresponding to the processor number of interest or consult your system vendor for more information.

25 Display performance may vary depending on SoC power, resolution, and application.

26 On Package Cache Memory available only on select products.

27 Software and workloads used in performance tests may have been optimized for performance only on Intel microprocessors.

Performance tests, such as SYSmark and MobileMark, are measured using specific computer systems, components, software, operations and func-tions. Any change to any of those factors may cause the results to vary. You should consult other information and performance tests to assist you in fully evaluating your contemplated purchases, including the performance of that product when combined with other products. For more complete information visithttp://www.intel.com/performance.

For Y Series, Performance comparison based on measurement of Intel® Core™ m7-6Y75 vs. Intel® Core™ M-5Y71 using SYSmark* 2014. System con-figuration info for 6th generation processor: Intel reference platform running Intel® Core™ m7-6Y75 PL1=4.5W TDP, 2C4T, Turbo up to 3.1 GHz, Memory: LPDDR3; 2X2GB @ 1600MHz, Samsung* 128GB, NGFF, MZ-HVP1280, Display Resolution:1920x1080. System configuration for 5th Gen processor: Intel reference platform running Intel® Core™ M-5Y71 PL1=4.5W, 2C4T, Turbo up to 2.9 GHz, Memory: LPDDR3; 2X2GB @ 1600MHz, Samsung* 128GB, NGFF, VS951 PCIe, Display Resolution:1920x1080.

For U Series, Performance comparison based on measurement of Intel® Core™ i7-6600U vs. Intel® Core™ i7-5600U using SYSmark* 2014. System configuration info for 6th generation processor: Intel reference platform running Intel® Core™ i7-6600U PL1=15W TDP, 2C4T, Turbo up to 3.4 GHz, Memory: DDR4: 2X4GB @ 2133MHz, LPDDR3: 2X4GB @1600MHz, Samsung* 128GB, AHCI, HVP128R, Display Resolution:1920x1080. System con-figuration for 5th Gen processor: Intel reference platform running Intel® Core™ i7-5600U; PL1 =15W, 2C4T, Turbo up to 3.2 GHz, Memory: 2x4GB DDR4-2133, Samsung 128GB, NGFF, VS951 PCIe, Display Resolution:1920x1080.

For H Series, Performance comparison based on measurement of Intel® Core™ i7-6920HQvs. Intel® Core™ i7-4910MQ using SYSmark* 2014. System configuration info for 6th generation processor: Intel reference platform running Intel® Core™ i7-6920HQ PL1=45W TDP, PL1=45W TDP, 4C8T, Tur-bo up to 3.7GHz, Memory: 2x4GB DDR4-2133, Storage: Intel SSD, Display Resolution:1920x1200. System configuration for 4th Gen processor: Intel reference platform running Intel®

Core™ i7-4910MQ; PL1 =47W, 4C8T, Turbo up to 3.9GHz, Memory: 2x4GB DDR3L-1600, Storage: Intel SSD, Display Resolution:1920x1200.

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Graphics performance comparison based on measurement of 3DMark* 1.1.0 – Ice Storm.

For Y Series, Graphics performance comparison based on measurement of Intel® Core™ m7-6Y75 vs. Intel® Core™ M-5Y71. See Footnote 27 for System Configuration.

For U Series, Graphics performance comparison based on measurement of Intel® Core™ i7-6600U vs. Intel® Core™ i7-5600U using SYSmark* 2014. See Footnote 27 for System Configuration.

For H Series, , Graphics performance comparison based on measurement of Intel® Core™ i7-6920HQvs. Intel® Core™ i7-4910MQ .See Footnote 27 for System Configuration.

3DMark* 1.1.0 – Ice Storm: 3DMark is a benchmark from Futuremark* that measures the graphical processing performance of devices supporting the Microsoft DX 9 and Khronos OpenGL ES graphics APIs. 3DMark* Ice Storm is a cross-platform benchmark for mobile devices. It is used to test the performance of smartphone, tablet, ultra-portable notebook or entry-level PC devices.

29 Battery life comparison based on Intel® Core™ m7-6Y75 vs. Intel® Core™ M-5Y71 For Y Series, Intel® Core™ i7-6600U vs. Intel® Core™ i7-5600U For U Series, Intel® Core™ i7-6920HQvs. Intel® Core™ i7-4910MQ For H Series. (see footnote 27 for system configurations).

Disconnect all USB devices, connect to a local WiFi access point and set the screen brightness to 200 nits (disable DPST, set brightness to 200 nits on a white background and enable DPST). Wait for 10 mins for the OS to completely idle. Launch Tears of Steel (1080p H264 10MBps) video using the Windows metro player.

Measure and calculate average power for the duration of the video. Report 3 run median. Battery life is calculated by using a battery size of 35Whr and above calculated power.

30 Performance comparison based on measurement of WebXPRT with Intel® Speed Shift Technology enabled vs. disabled.

31 No system can provide absolute security. Requires an Intel® Software Guard Extensions –enabled platform, available on select Intel processors, and an enabled operating system. Consult your system manufac-turer for more information.

32 No system can provide absolute security. Requires an Intel® Memory Protection Extensions–enabled platform, available on select Intel processors, and an enabled operating system. Consult your system manufacturer for more information.

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