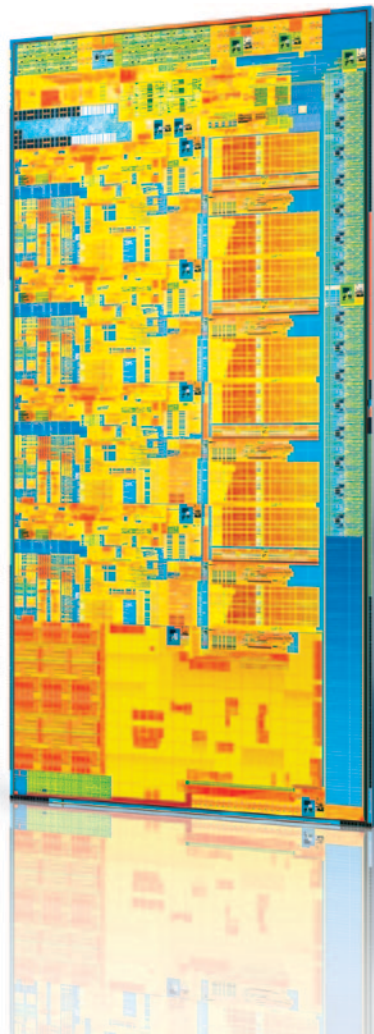


# Intel® Core™ Processor Family For Enthusiasts

## Processors Built For What You Want To Do



### Intel® Core™ Processors in the LGA2011 Socket



If you are looking for pure, raw, adrenaline-pumping power, then the Intel® Core™ processors in the LGA2011 socket are for you. These processors provide you with the most cores, I/O options, memory channels, and raw computing power of any Intel® desktop processor. These are not the processors of the past. Lay waste to everything in your path in whatever game you choose to dominate, or dive into the world of multimedia editing like a modern-day Picasso. Combining an Intel Core processor in the LGA2011 socket with one, two, three, or even four discrete video cards and up to 64 GB of memory across four channels gives you heart-stopping performance no matter what application you choose. If a super-smart, ultra-threaded, absolutely uncompromised processor is on your wish list, then pair an Intel Core processor in the LGA2011 socket with an X79 based motherboard and your search is over.

### 4th Generation Intel® Core™ Processors in the LGA1150 Socket



Looking for the perfect processor to build your gaming rig around? But you also want to edit your action videos and photos? But to do this you know you need serious performance. Not to worry - Intel is happy to announce our first 4GHz base frequency quad core processor. If it is performance you crave, then this is the processor you have been waiting for. But what if you feel the need to overclock your system to squeeze every last bit of performance out of it? Well, then this is still the perfect processor for you. The latest 4th gen Intel® Core™ i5 and Intel® Core™ i7 processors, paired with the latest Intel® 9 Series H and Z chipsets, will get you the results you want. Add in features like built in visuals and Intel® Quick Sync Video, which allows the conversion of media from one device to another and prepares your media to share online at incredible speeds, and these are processors that meet every need you have.

### Unlocked for ultimate tuning



Want to tune your every aspect of your system for the ultimate in total system control? Then the new unlocked Intel Core processors<sup>2,3</sup> which enable system tuning for the processor cores, memory, graphics, and power, were made for you. Whether you are a novice overclocker or a seasoned veteran, these processors will have you singing their praises in no time.

### Boost Your Performance

The Intel Core processor family delivers a great PC experience. Whether you are looking for improved performance, greater adaptability, or differentiated visual features, Intel has the processor to fit your needs. Whether you use your PC for creativity, playing games, or everyday tasks such as homework and e-mail, these new processors make it easier to design, render, edit, play, and share. Intel Core



And for Intel® Core™ i7 processors, Intel® Hyper-Threading Technology<sup>4</sup> allows each processor core to work on two tasks at the same time, improving multitasking, speeding up the workflow, and accomplishing more in less time.

With 4th gen Intel® Core™ processors, you can boot your PC, load applications, and resume from sleep nearly instantaneously thanks to Intel's responsiveness technologies such as Intel® Smart Response Technology,<sup>5</sup> and Intel® Rapid Start Technology.<sup>6</sup>

#### Increased Security

The 4th gen Intel Core processor family offers hardware-level security that helps protect your devices, your data, and your online transactions.

#### Better Connectivity

The 4th gen Intel Core processor family automatically connects to wireless hotspots. Your e-mail, social media, and apps are always updated thanks to Intel® Smart Connect Technology.<sup>7</sup> Finally, wirelessly stream your HD / 3-D video and games to your TV or projector for presentations and entertainment using Intel® Wireless Display Technology.<sup>8</sup>

## INTEL® CORE™ PROCESSORS IN THE LGA2011 SOCKET FEATURES

|  | INTEL® CORE™ i7 PROCESSOR (LGA2011) |
|--|-------------------------------------|
| Number of Processor Cores / Threads  | 6 / 12 or 4 / 8                     |
| Intel® Turbo Boost Technology <sup>4</sup> 2.0   | Yes                                 |
| Number of Memory Channels  | 4 (DDR3 1600 MHz)                   |
| PCI Express* Lanes   | 40                                  |
| PCI Express 3.0  | Yes                                 |
| Unlocked <sup>2,3</sup> Core Multiplier  | Yes (partial <sup>9</sup> )         |
| Intel® Hyper-Threading Technology <sup>4</sup>   | Yes                                 |
| Intel® Smart Cache   | 15 / 12 / 10 MB L3 shared           |
| Built-in Visuals   | N/A                                 |
| AES New Instructions (AES-NI)  | Yes                                 |
| Intel® Advanced Vector Extensions (AVX)  | Yes                                 |
| Overclocking Enabled <sup>2</sup>  | Yes                                 |
| Intel® Virtualization Technology (Intel® VT-x) <sup>4</sup> Recommended Intel® Chipset | Yes<br>X79                          |

## 4TH GENERATION INTEL® CORE™ PROCESSORS IN THE LGA1150 SOCKET FEATURES

|  | INTEL® CORE™ i7 PROCESSOR (LGA1150) | INTEL® CORE™ i5 PROCESSOR (LGA1150) |
|--|-------------------------------------|-------------------------------------|
| Number of Processor Cores / Threads  | 4 / 8                               | 4 / 4                               |
| Intel® Turbo Boost Technology <sup>4</sup> 2.0   | Yes                                 | Yes                                 |
| Number of Memory Channels  | 2 (DDR3 1333 / 1600 MHz)            | 2 (DDR3 1333 / 1600 MHz)            |
| PCI Express* Lanes   | 16                                  | 16                                  |
| Unlocked <sup>2,3</sup> Core Multiplier  | Yes                                 | Yes                                 |
| Intel® Hyper-Threading Technology <sup>4</sup>   | Yes                                 | No                                  |
| Intel® Smart Cache   | 8 MB L3 shared                      | 6 MB L3 shared                      |
| AES New Instructions (AES-NI)  | Yes                                 | Yes                                 |
| Intel® Advanced Vector Extensions (AVX)  | Yes                                 | Yes                                 |
| Built-in Visuals   | Yes                                 | Yes                                 |
| Intel® HD graphics 4600  | Yes                                 | Yes                                 |
| Intel® Quick Sync Video  | Yes                                 | Yes                                 |
| Intel® Wireless Display <sup>8</sup> (Intel® WiDi)                                     | Yes                                 | Yes                                 |
| Overclocking Enabled <sup>2</sup>  | Yes                                 | Yes                                 |
| PCI Express 3.0  | Yes                                 | Yes                                 |
| Intel® Virtualization Technology (Intel® VT-x) <sup>4</sup> Recommended Intel® Chipset | Yes<br>Z97                          | Yes<br>Z97                          |



The Intel® Core™ processor family for enthusiasts delivers a great PC experience.

## FEATURES AND BENEFITS OF THE 4th GENERATION CORE FAMILY

| FEATURE  | BENEFIT  |
|--|--|
| Intel® Turbo Boost Technology <sup>4</sup>         | Dynamically increases the processor's frequency as needed by taking advantage of thermal and power headroom when operating below specified limits.   |
| 2.0 Intel® Hyper-Threading Technology <sup>4</sup> | Delivers two processing threads per physical core. Highly threaded applications can get more work done in parallel, completing tasks sooner.   |
| Built-In Visuals                                   | Intel® HD graphics—Enhanced 3-D <sup>1</sup> performance for immersive mainstream and casual gaming. Can support up to three UltraHD* (4K) displays and collage display.<br>Intel® Wireless Display <sup>8</sup> —Wirelessly stream HD / 3-D video and games to your TV or projector for presentations and entertainment.<br>Intel® Quick Sync Video—Delivers fast conversion of video for portable media players, online sharing, and video editing and authoring.<br>Intel® Clear Video HD—Visual quality and color fidelity enhancements for HD playback and immersive Web browsing.<br>Intel® InTru™ 3D <sup>1</sup> —Stereoscopic 3-D Blu-ray* playback in full 1080p resolution over HDMI* 1.4 and premium audio.<br>Intel® Advanced Vector Extensions—A set of new instructions to improve software performance <sup>11</sup> for floating point-intensive applications such as audio processing, audio codecs, and image and video editing applications. |
| Integrated Memory Controller                       | An integrated memory controller offers stunning memory read/write performance through efficient prefetching algorithms, lower latency, and higher memory bandwidth.  |
| Intel® Smart Cache                                 | The shared cache is dynamically allocated to each processor core, based on workload. This significantly reduces latency <sup>11</sup> , improving performance.   |
| Intel® Virtualization Technology <sup>4</sup>      | Allows one hardware platform to function as multiple “virtual” platforms.<br>by isolating computing activities into separate partitions.   |
| Advanced Encryption Standard New Instructions      | New AES instructions add hardware acceleration to AES algorithms and speeds up the execution of AES applications.  |
| Thermal Solution for Boxed Processors              | Includes a four-pin connector for fan speed control to help minimize the acoustic noise levels generated from running the fan at higher speeds for thermal performance. <sup>10</sup>  |

<sup>1</sup> Viewing stereo 3-D content requires 3-D glasses and a 3-D capable display. Physical risk factors may be present when viewing 3-D material.

<sup>2</sup> Warning: Altering clock frequency and/or voltage may (i) reduce system stability and useful life of the system 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 has not tested, and does not warrant, the operation of the processor beyond its specifications.

<sup>3</sup> Intel® Core™ i7 and Intel® Core™ i5 processors designated by “K” in the processor number are unlocked for performance tuning.

<sup>4</sup> Intel® Turbo Boost Technology, Intel® Hyper-Threading Technology, and Intel® Virtualization Technology require a computer system with a processor, chipset, BIOS, enabling software and/or operating system, device drivers, and applications designed for these features. Performance will vary depending on your configuration. Contact your vendor for more information.

<sup>5</sup> Requires an Intel® Core™ processor, Intel® 6 Series Express Chipsets, Intel® Rapid Storage Technology (Intel® RST) software 10.5 or above, SATA HDD, SSD 18.6 GiB. Depending on system configuration, your results may vary. Contact your system manufacturer for more information. Intel® Smart Response Technology is not available on the Intel® Z75 Express Chipset.

<sup>6</sup> Intel® Rapid Start Technology requires a select Intel® processor, Intel® software and BIOS update, and Intel® Solid-State Drive (Intel® SSD). Depending on system configuration, your results may vary. Contact your system manufacturer for more information.

<sup>7</sup> Intel® Smart Connect Technology requires a select Intel® processor, Intel® software and BIOS update, Intel® Wireless adapter, and Internet connectivity. Solid-state memory or drive equivalent may be required. Depending on system configuration, your results may vary. Contact your system manufacturer for more information.

<sup>8</sup> Requires an Intel® Wireless Display enabled PC, compatible adapter, and TV. 1080p and Blu-Ray\* or other protected content playback only available on 2nd generation Intel® Core™ processor-based PCs with built-in visuals enabled. Consult your PC manufacturer. For more information, see [www.intel.com/go/widi](http://www.intel.com/go/widi)

<sup>9</sup> Partial overclocking: Partial overclocking is available on the four-core LGA2011 Intel® Core™ processor. Partial overclocking will allow you to adjust the core multiplier to a preset maximum.

<sup>10</sup> The acoustic benefits of the 4-pin header are reliant on a properly designed motherboard. Contact your board manufacturer for compatibility.

<sup>11</sup> Compared to previous generations of Intel Core processors

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\* Other names and brands may be claimed as the property of others.

