



## Intel® Core™ i7-6950X Processor Extreme Edition (25M Cache, up to 3.50 GHz)

| Specifications   |                              |
|--|------------------------------|
| <b>- Essentials</b>  |                              |
| Processor Number   | i7-6950X                     |
| Status   | Launched                     |
| Launch Date  | Q2'16                        |
| Lithography  | 14 nm                        |
| Recommended Customer Price                                 | \$1723.00 - \$1743.00        |
| <b>- Performance</b>                                       |                              |
| # of Cores   | 10                           |
| # of Threads   | 20                           |
| Processor Base Frequency                                   | 3.00 GHz                     |
| Max Turbo Frequency  | 3.50 GHz                     |
| Cache  | 25 MB                        |
| Intel® Turbo Boost Max Technology 3.0 Frequency †          | 4.00 GHz                     |
| TDP  | 140 W                        |
| <b>- Supplemental Information</b>                          |                              |
| Embedded Options Available                                 | <input type="checkbox"/> No  |
| Conflict Free  | Yes                          |
| Datasheet  | <a href="#">Link</a>         |
| Product Brief  | <a href="#">Link</a>         |
| <b>- Memory Specifications</b>                             |                              |
| Max Memory Size (dependent on memory type)                 | 128 GB                       |
| Memory Types   | DDR4 2400/2133               |
| Max # of Memory Channels                                   | 4                            |
| ECC Memory Supported †                                     | <input type="checkbox"/> No  |
| <b>- Graphics Specifications</b>                           |                              |
| Processor Graphics †                                       | None                         |
| <b>- Expansion Options</b>                                 |                              |
| Scalability  | 1S Only                      |
| PCI Express Revision                                       | 3.0                          |
| Max # of PCI Express Lanes                                 | 40                           |
| <b>- Package Specifications</b>                            |                              |
| Sockets Supported  | FCLGA2011-3                  |
| Max CPU Configuration                                      | 1                            |
| Low Halogen Options Available                              | See MDDS                     |
| <b>- Advanced Technologies</b>                             |                              |
| Intel® Turbo Boost Max Technology 3.0 †                    | Yes                          |
| Intel® Turbo Boost Technology †                            | 2.0                          |
| Intel® vPro Technology †                                   | <input type="checkbox"/> No  |
| Intel® Hyper-Threading Technology †                        | <input type="checkbox"/> Yes |
| Intel® Virtualization Technology (VT-x) †                  | Yes                          |
| Intel® Virtualization Technology for Directed I/O (VT-d) † | <input type="checkbox"/> Yes |
| Intel® VT-x with Extended Page Tables (EPT) †              | <input type="checkbox"/> Yes |
| Intel® 64 †  | <input type="checkbox"/> Yes |
| Instruction Set  | 64-bit                       |
| Idle States  | Yes                          |
| Enhanced Intel SpeedStep® Technology                       | <input type="checkbox"/> Yes |
| Intel® Smart Response Technology                           | Yes                          |

|   |     |
|---|-----|
| - Intel® Data Protection Technology     |     |
| Intel® AES New Instructions             | Yes |
| - Intel® Platform Protection Technology |     |
| Trusted Execution Technology †          | No  |
| Execute Disable Bit †                   | Yes |

### Compatible Products

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| - Chipsets |                    |          |                            |       |                            |
|------------|--------------------|----------|----------------------------|-------|----------------------------|
| Compare    | Product Name       | Status   | Embedded Options Available | TDP   | Recommended Customer Price |
|            | (Intel® DHX99 PCH) | Launched | No                         | 6.5 W | N/A                        |

### Benchmarks

| Benchmark                            | Sockets | Score |
|--------------------------------------|---------|-------|
| <a href="#">SPECfp_rate_base2006</a> | 1       | 388   |

SPECfp is a registered trademark of the Standard Performance Evaluation Corporation (SPEC).

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 functions. 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 visit <http://www.intel.com/content/www/us/en/benchmarks/benchmark.html>.

Configurations: System configurations are included in the benchmark details linked above.

### Ordering and Spec Information




#### Trade Compliance Information

| ECCN   | CCATS   | US HTS     |
|--------|---------|------------|
| 5A992C | G077159 | 8542310000 |

#### Ordering and Spec Information

| Spec Code   | Ordering Code   | Step | RCP       |
|---|-----------------|------|-----------|
| Boxed Intel® Core™ i7-6950X Processor Extreme Edition (25M Cache, up to 3.50 GHz) FC-LGA14A |                 |      |           |
| SSR2PA  | BX80671176950X  | R0   | \$1743.00 |
| Intel® Core™ i7-6950X Processor Extreme Edition (25M Cache, up to 3.50 GHz) FC-LGA14A, Tray |                 |      |           |
| SSR2PA  | CM8067102055800 | R0   | \$1723.00 |

### Download Drivers

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**Intel® Turbo Boost Max Technology 3.0**  
 Intel® Turbo Boost Max Technology 3.0 release 1.0.0.1025 identifies the best performing core to provide increased single threaded performance.  
**Version:** 1.0.0.1027 (Latest) **Date:** 5/18/2016  
**Operating Systems:** Windows 7, 64-bit\*, Windows 8.1, 64-bit\*, Windows® 10, 64-bit\*
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**Intel® Turbo Boost Max Technology 3.0**  
 Intel® Turbo Boost Max Technology 3.0 release 1.0.0.1025 identifies the best performing core to provide increased single threaded performance.  
**Version:** 1.0.0.1025 (Previously Released) **Date:** 5/18/2016  
**Operating Systems:** Windows 7, 64-bit\*, Windows 8.1, 64-bit\*, Windows® 10, 64-bit\*
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**Intel® Beta Graphics Driver for Windows® 10 and Windows 7\*/8.1\* [15.40]**  
 Intel® Beta Graphics Driver for Windows® 10 and Windows 7\*/8.1\* [15.40].  
**Version:** Beta 15.40.23.4444 (Previously Released) **Date:** 4/29/2016  
**Operating Systems:** Windows 7, 32-bit\*, Windows 7, 64-bit\*, Windows 8.1, 32-bit\*, 3 more

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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.

"Conflict free" and "conflict-free" means "DRC conflict free", which is defined by the U.S. 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. Intel also uses the term "conflict-free" in a broader sense to refer to suppliers, supply chains, smelters and refiners whose sources of conflict minerals do not finance conflict in the DRC or adjoining countries. Intel processors manufactured before January 1, 2013 are not confirmed conflict free. The conflict free designation refers only to product manufactured after that date. For Intel Boxed Processors, the conflict free designation refers to the processor only, not to any additional included accessories, such as heatsinks/coolers.

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

The Recommended Customer Price ("RCP") is pricing guidance for Intel products. Prices are for direct Intel customers, typically represent 1,000-unit purchase quantities, and are subject to change without notice. Taxes and shipping, etc. not included. Prices may vary for other package types and shipment quantities, and special promotional arrangements may apply. If sold in bulk, price represents individual unit. Listing of these RCP does not constitute a formal pricing offer from Intel. Please work with your appropriate Intel representative to obtain a formal price quotation.

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

Low Halogen: Applies only to brominated and chlorinated flame retardants (BFRs/CFRs) and PVC in the final product. Intel components as well as purchased components on the finished assembly meet JS-709 requirements, and the PCB / substrate meet IEC 61249-2-21 requirements. The replacement of halogenated flame retardants and/or PVC may not be better for the environment.

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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