Intel Core i7-7700K Processor

- Product Collection 7th Generation Intel® Core™ i7 Processors
- Code Name Products formerly Kaby Lake
- Vertical Segment Desktop
- Processor Number i7-7700K
- Status Launched
- Launch Date Q1'17
- Lithography 14 nm
- Recommended Customer Price $339.00 - $350.00

Performance

- # of Cores 4
- # of Threads 8
- Processor Base Frequency 4.20 GHz
- Max Turbo Frequency 4.50 GHz
- Cache 8 MB SmartCache
- Bus Speed 8 GT/s DMI3
- # of QPI Links 0
- TDP 91 W

Supplemental Information

- Embedded Options Available No
- Conflict Free Yes
- Datasheet View now

Learn how Intel is pursuing conflict-free technology.

Memory Specifications

- Max Memory Size (dependent on memory type) 64 GB
- Memory Types DDR4-2133/2400, DDR3L-1333/1600 @ 1.35V
- Max # of Memory Channels 2
- ECC Memory Supported ‡ No

Graphics Specifications

- Processor Graphics ‡ Intel® HD Graphics 630
- Graphics Base Frequency 350 MHz

- Graphics Max Dynamic Frequency 1.15 GHz
- Graphics Video Max Memory 64 GB
- 4K Support Yes, at 60Hz
- Max Resolution (HDMI 1.4)‡ 4096x2304@24Hz
- Max Resolution (DP)‡ 4096x2304@60Hz
- Max Resolution (eDP - Integrated Flat Panel)‡ 4096x2304@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
- Device ID 0x5912

Expansion Options

- Scalability 1S Only
- PCI Express Revision 3.0
- PCI Express Configurations ‡ Up to 1x16, 2x8, 1x8+2x4
- Max # of PCI Express Lanes 16

Package Specifications

- Sockets Supported FCLGA1151
- Max CPU Configuration 1
- Thermal Solution Specification PCG 2015D (130W)
- $T_{JUNCTION}$ 100°C
- Package Size 37.5mm x 37.5mm
- Low Halogen Options Available See MDDS

Advanced Technologies

- Intel® Optane™ Memory Supported ‡ Yes
- Intel® Turbo Boost Technology ‡ 2.0
- Intel® vPro™ Technology ‡ 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 Yes
- Intel® 64 ‡ Yes
- Instruction Set 64-bit
- Instruction Set Extensions SSE4.1/4.2, AVX2
- Idle States Yes

- Enhanced Intel SpeedStep® Technology Yes
- Thermal Monitoring Technologies Yes
- Intel® Identity Protection Technology ‡ Yes
- Intel® Stable Image Platform Program (SIPP) No

Security & Reliability

- Intel® AES New Instructions Yes
- Secure Key Yes
- Intel® Software Guard Extensions (Intel® SGX) Yes
- Intel® Memory Protection Extensions (Intel® MPX) Yes
- Intel® OS Guard Yes
- Execute Disable Bit ‡ Yes
- Intel® Boot Guard Yes