

## Intel Core i7-4770S processor 3.1 GHz 8 MB Smart Cache Box

**Brand :** Intel

**Product family:** Core

**Product code:**  
BX80646I74770S

**Product name :** i7-4770S

Intel® Core™ i7-4770S Processor

(8M Cache, up to 3.90 GHz)

Intel Core i7-4770S. Processor family: Intel® Core™ i7, Processor socket: LGA 1150 (Socket H3), Processor lithography: 22 nm. Memory channels: Dual-channel, Maximum internal memory supported by processor: 32 GB, Memory types supported by processor: DDR3-SDRAM, DDR3L-SDRAM. On-board graphics card model: Intel® HD Graphics 4600, Maximum on-board graphics card memory: 2 GB, On-board graphics card outputs supported: Embedded DisplayPort (eDP), DisplayPort, HDMI, DVI, VGA (D-Sub). Market segment: Desktop, PCI Express configurations: 1x16, 2x8, 1x8+2x4, Supported instruction sets: SSE4.1, SSE4.2, AVX 2.0. Intel® Turbo Boost Technology 2.0 frequency: 3.9 GHz



Processor		Processor special features	
Processor manufacturer *	Intel	Intel® Turbo Boost Technology	2.0
Processor generation	4th gen Intel® Core™ i7	Intel® Quick Sync Video Technology	✓
Processor model *	i7-4770S	Intel® InTru™ 3D Technology	✓
Processor base frequency *	3.1 GHz	Intel® Wireless Display (Intel® WiDi)	✓
Processor family *	Intel® Core™ i7	Intel FDI Technology	✓
Processor cores *	4	Intel® Clear Video HD Technology (Intel® CVT HD)	✓
Processor socket *	LGA 1150 (Socket H3)	Intel Dual Display Capable Technology	✓
Component for	PC	Intel® Insider™	✓
Processor lithography *	22 nm	Intel® Smart Cache	✓
Processor series	Intel Core i7-4700 Desktop series	Intel® AES New Instructions (Intel® AES-NI)	✓
Processor threads	8	Enhanced Intel SpeedStep Technology	✓
System bus rate	5 GT/s	Intel Trusted Execution Technology	✓
Processor operating modes *	64-bit	Intel® Turbo Boost Technology 2.0 frequency	3.9 GHz
Processor boost frequency	3.9 GHz	Intel® Transactional Synchronization Extensions	✗
Processor cache	8 MB	Intel Enhanced Halt State	✓
Processor cache type	Smart Cache	Intel VT-x with Extended Page Tables (EPT)	✓
Thermal Design Power (TDP)	65 W	Intel® Secure Key	✓
Box *	✓	Intel TSX-NI	✗
Cooler included *	✓	Intel Stable Image Platform Program (SIPP)	✓
Generation	4th Generation	Intel® OS Guard	✓
Stepping	C0	Intel 64	✓
Bus type	QPI		
Number of QPI links	1		
Memory bandwidth supported by processor (max)	25.6 GB/s		
Processor codename	Haswell		
Processor code	SR14H		
Processor ARK ID	75124		

Memory		Processor special features	
Maximum internal memory supported by processor	32 GB	Intel Identity Protection Technology version	1.00
Memory types supported by processor	DDR3-SDRAM, DDR3L-SDRAM	Intel Secure Key Technology version	1.00
Memory clock speeds supported by processor	1333,1600 MHz	Intel Small Business Advantage (SBA) version	1.00
Memory channels *	Dual-channel	Intel Stable Image Platform Program (SIPP) version	1.00
ECC	✗	Intel Virtualization Technology (VT-x)	✓
Graphics		Intel Virtualization Technology for Directed I/O (VT-d)	✓
On-board graphics card *	✓	Intel TSX-NI version	0.00
On-board graphics card model *	Intel® HD Graphics 4600	Conflict-Free processor	✓
Maximum on-board graphics card memory	2 GB	Intel® vPro™ Platform Eligibility	✓
On-board graphics card outputs supported	Embedded DisplayPort (eDP), DisplayPort, HDMI, DVI, VGA (D-Sub)	Operational conditions	
On-board graphics card base frequency	350 MHz	Tcase	71.35 °C
On-board graphics card dynamic frequency (max)	1200 MHz	Technical details	
Number of displays supported (on-board graphics)	3	Born on date	Q2'13
On-board graphics card DirectX version	11.1	Bus bandwidth	5
On-board graphics card OpenGL version	4.3	Bus type units	GT/s
On-board graphics card maximum resolution (DisplayPort)	3840 x 2160 pixels	Graphics max dynamic frequency	1.20 GHz
On-board graphics card maximum resolution (eDP - Integrated Flat Panel)	3840 x 2160 pixels	Launch date	Q2'13
On-board graphics card maximum resolution (HDMI)	4096 x 2304 pixels	Maximum resolution & refresh rate (DisplayPort)	3840x2160@60Hz
On-board graphics card maximum resolution (VGA)	1920 x 1200 pixels	Maximum resolution & refresh rate (HDMI)	4096x2304@24Hz
On-board graphics card refresh rate at maximum resolution (DisplayPort)	60 Hz	Maximum resolution & refresh rate (Integrated Flat Panel)	3840x2160@60Hz
On-board graphics card refresh rate at maximum resolution (eDP - Integrated Flat Panel)	60 Hz	Maximum resolution & refresh rate (VGA)	1920x1200@60Hz
On-board graphics card refresh rate at maximum resolution (HDMI)	24 Hz	Number of graphics cores	20
On-board graphics card refresh rate at maximum resolution (VGA)	60 Hz	OpenGL support	✓
On-board graphics card ID	0x412	Processor cache	8192 KB
Features		Product name	Intel Core i7-4770S (8M Cache, up to 3.90 GHz)
Execute Disable Bit	✓	Product type	Processor
Idle States	✓	Status	Launched
Thermal Monitoring Technologies	✓	Video compression formats	✓
Market segment	Desktop	Maximum graphics card memory	1740 MB
Maximum number of PCI Express lanes	16	Maximum memory	32 GB
PCI Express slots version	3.0	Processor brand name	Intel Core i7 vPro Intel Core i7 vPro Processor
PCI Express configurations	1x16, 2x8, 1x8+2x4	Supported memory types	DDR3-SDRAM, DDR3L-SDRAM
Supported instruction sets	SSE4.1, SSE4.2, AVX 2.0	Last change	63903513
Scalability	1S	Product family	4th Generation Intel Core i7 Processors
CPU configuration (max)	1	Bus speed	5 GT/s
Embedded options available	✓	Maximum graphics card memory	2 GB
Graphics & IMC lithography	22 nm	Processor ID	0x412
Thermal solution specification	PCG 2013C	Servicing status	End of Servicing Lifetime
Export Control Classification Number (ECCN)	5A992C	End of servicing updates date	Wednesday, June 30, 2021
Commodity Classification Automated Tracking System (CCATS)	G077159	Logistics data	
		Harmonized System (HS) code	8542310001
		Packaging data	
		Package width	70 mm
		Package depth	116 mm
		Package height	101 mm
		Package weight	338 g
		Package type	Retail box
		Weight & dimensions	
		Processor package size	37.5 x 37.5 mm

Processor special features		Other features	
Intel® Anti-Theft Technology (Intel® AT)	✓	Intel® Virtualization Technology (Intel® VT)	VT-d, VT-x
Intel® Hyper Threading Technology (Intel® HT Technology)	✓	Maximum internal memory	32 GB
Intel® Identity Protection Technology (Intel® IPT)	✓	Maximum internal memory	32768 MB
Intel® My WiFi Technology (Intel® MWT)	✓	Graphics output	eDP/DP/HDMI/DVI/VGA
		Cache memory	8 MB
		Video decoding	✓



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