

Socket 1151 ES CPU SPEC SHEET

by FDG1343039 (tpeng99, u/ylp1194045441)

Not for commercial use.

This sheet does not include QS chips.

Please message me in chat if you suspect an error or you have data for a SKU that is not on this list.

I am not responsible of poor purchase decisions after consulting this spec sheet

Please do your research and make sure you buy the right chip for your use case!

Change log August 14th:

- Added QRA1 and QQZ4
- Edited NOTE 3 for CFL P0

Q-Spec	uArc + Stepping + Core Config	Freq + turbo + (all core) GHz ****	CPUID	OC	iGPU	Closest product on SKU or nickname	SKU	TDP
QH8E/ QH8F/ QH8G	Skylake A0 4C8T	2.2-2.6 (2.4)	506E0h	BCLK	?*****	i7-6400T A0	Core i	95/65/35 W
QH73	Skylake A0 4C8T	2.3-3.1 (2.9)	506E0h	BCLK	?*****	i7-6400T A0	Core i	95W
QH5N	Skylake A0 4C8T	2.6-3.4 (3.2)	506E0h	BCLK	N/A	E3-1230 V5 A0	Xeon*	95W
QHQJ	Skylake Q0 4C8T	1.6-2.2 (2)	506E1h	BCLK	HD 530	i7-6400T	Core i	35W
QHQG(1)	Skylake Q0 4C8T	2.2-2.6 (2.4)	506E1h	BCLK	HD 530	i7-6400T	Core i	65W
QHQG(2)	Skylake Q0 4C8T	2.2-2.6 (2.4)	506E1h	BCLK	N/A	E3-1230 V5	Xeon	80W
QHQF	Skylake Q0 4C8T	2.6-3.4	506E1h	BCLK+M multiplier	HD 530	i7-6700K	Core i	95W
QHVZ	Skylake Q0 4C4T	2.2-2.7 (2.4)	506E1h	BCLK	HD 530	i5-6400T	Core i	35W
QHVX	Skylake Q0 4C8T	2.4-2.7 (2.4?)	506E1h	BCLK	HD 530	i7-6400T	Core i	35W
QHW0	Skylake Q0 2C4T	2.1-2.1 (2.1)	506E1h	BCLK	HD 530	i3-6300T	Core i	35W

Q-Spec	uArc + Stepping + Core Config	Freq + turbo + (all core) GHz ****	CPUID	OC	iGPU	Closest producti on SKU or nickman e	SKU	TDP
QHJE	Skylake Q0 4C8T	2.6-3.2 (3)	506E1h	BCLK	N/A	E3-1230 V5	Xeon*	80W
QKYM	Kaby Lake A0 4C4T	2.7-3.3 (3.1)	506E8h	Locked	HD 630	I5-7400	Core i	65W
QKYN	Kaby Lake A0 4C8T	3.0-3.5 (3.2)	506E8h	Locked	HD 630	I7-7700	Core i	65W
QKYP	Kaby Lake A0 4C8T	3.7-4.1	506E8h	BCLK+M ultipplier	HD 630	I7-7700K	Core i	95W
QKYL	Kaby Lake A0 4C8T	2.4-3.0 (2.7)	506E8h	Locked	HD 630	I7-7700T	Core i	35W
QL32	Kaby Lake A0 4C8T	3.2-3.7 (3.4/3.5)	506E8h	Locked	N/A	E3-1230 V6	Xeon*	74W
QL33	Kaby Lake A0 4C8T	3.5-3.9 (3.7)	506E8h	Locked	HD P630	E3-1245 V6	Xeon*	78W
QN8J	Coffee Lake U0 6C12T	1.6-3.6 (3.1)	906EAh	Locked	UHD 630	i7-8700T	Core i	35W
QN8H	Coffee Lake U0 6C12T	2.9-4.0 (3.6)	906EAh	Locked	UHD 630	I7-8700	Core i	65W
QN8G	Coffee Lake U0 6C12T	3.2-4.1	906EAh	BCLK+M ultipplier	UHD 630	i7-8700K	Core i	95W
Q???	Coffee Lake U0 6C12T	2.3-3.7 (3.2)	906EAh	Locked	UHD 630	i7-8700T	Core i	35W
QNLU	Coffee Lake U0 6C12T	3.7-4.2	906EAh	BCLK+M ultipplier	UHD 630	i7-8700K	Core i	95W
QNLV	Coffee Lake U0 6C12T	3.2-3.6	906EAh	BCLK+M ultipplier	UHD 630	i7-8700K	Core i	95W

Q-Spec	uArc + Stepping + Core Config	Freq + turbo + (all core) GHz ****	CPUID	OC	iGPU	Closest producti on SKU or nickman e	SKU	TDP
QNLW	Coffee Lake U0 6C12T	3.1-4.2 (3.9)	906EAh	Locked	UHD 630	I7-8700	Core i	65W
QNCU	Coffee Lake U0 6C12T	3.5-4.3 (4.1)	906EAh	Locked	N/A	E2136	Xeon*	80W
QNCV	Coffee Lake U0 6C12T	3.7-4.3 (4.1)	906EAh	Locked	UHD P630	E2176G	Xeon*	95W
QNCW	Coffee Lake U0 6C12T	3.4-4.3 (4.1)	906EAh	Locked	UHD P630	E2146G	Xeon*	80W
QNMR	Coffee Lake U0 6C12T	2.7-3.8	906EAh	BCLK+M ultiplier	UHD 630	i7-8700K	Core i	65W
QNTM	Coffee Lake U0 6C6T	3.0-3.0 (3)	906EAh	Locked	UHD P630	E2106G	Xeon*	80W
QQC0	Coffee Lake P0 8C16T	1.7-3.8 (3.1)	906ECh	Locked	UHD 630	i9-9900T	Core i	35W
QQZ6	Coffee Lake P0 8C16T	1.7-3.8 (3.1)	906ECh	Locked	UHD 630	i9-9900T	Core i	35W
QQZ5	Coffee Lake P0 8C16T	2.6-4.4 (4.2)	906ECh	Locked	UHD 630	I9-9900	Core i	65W
QQBY	Coffee Lake P0 8C16T	3.1-4.5	906ECh	BCLK+M ultiplier	UHD 630	i9-9900K	Core i	95W
QQZ4	Coffee Lake P0 8C16T	3.1-4.5	906ECh	BCLK+M ultiplier	UHD 630	i9-9900K	Core I	95W
QQBZ	Coffee Lake P0 8C16T	2.6-4.4 (4.2)	906ECh	Locked	UHD 630	I9-9900	Core i	65W

Q-Spec	uArc + Stepping + Core Config	Freq + turbo + (all core) GHz ****	CPUID	OC	iGPU	Closest product on SKU or nickname	SKU	TDP
QQM5	Coffee Lake P0 8C16T	3.1-4.5 (4.3)	906ECh	Locked	UHD P630	E2288G	Xeon*	95W
QRA1	Coffee Lake P0 8C16T	3.1-4.5 (4.3)	906ECh	Locked	UHD P630	E2288G	Xeon*	
QQM6	Coffee Lake P0 8C16T	2.6-4.4 (4.2)	906ECh	Locked	UHD P630	E2278G	Xeon*	80W
QRA2	Coffee Lake P0 8C16T	2.6-4.4 (4.2)	906ECh	Locked	UHD P630	E2278G	Xeon*	80W

* 300 series (14nm PCH, H310, H370, B360, Z390, Q370) boards use ME 12 and therefore currently, there is no way to port older SKUs and Xeon onto them. 100/200/300 (22nm PCH, H310C, B365, Z370) can use ME 11 and therefore porting different ME versions into the BIOS file and disabling it can partially enable Xeon support.

** There is 8th generation Coffee Lake and 9th generation Coffee Lake. They have stepping U0 and P0 respectively. Locked 8th gen SKUs have locked IMC multipliers too (QNLW is an exception).

**** No all core turbo data for unlocked SKUs.

NOTE 1: Xeon SKUs will require you to turn off Intel ME completely (BIOS displays version 0) if you don't have a C series motherboard. Most 200/300 series boards (ASUS and MSI are exceptions, the fix is available in Chinese on SMXDIY) will not turn after first boot. Please use 100 series chipsets for this mod.

NOTE 2: There are apparently two versions of QHQG. One version is a the regular version which has iGPU with a 65W TDP. The other version has no iGPU but has a 80W TDP. This could be a fake. The real Q-Spec is unknown.

NOTE 3: Some (about 3% according to a seller) early Coffee Lake P0 have a bug that may cause the PCIe controller to fail or become unstable causing PCIe devices to malfunction. QQC0, QQBZ, QQBY, QQM6, and QQM5 should be affected. QQZ6, QQZ5, QQZ4, QRA2, and QRA1 respectively are the SKU's that supposedly fixed this bug. However, it is unknown if other P0 chips have this bug. It is recommended not to purchase these chips for daily usage.