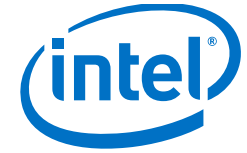


# Microcode Update Guidance

Intel Product Security Incident Response Team (PSIRT)

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## Revision History:

Revision	Date	Description
1.0	11-12-2019	Initial Release

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## Planned Microcode Updates

Code Name	Product Collection	Product Names	Vertical Segment	CPUID	Platform ID	OS Update Capable	Production Status	Minimum Production MCU Rev
Amber Lake Y	8 <sup>th</sup> Generation Intel® Core™ Processor Family	Intel® Core™ Processor i7-8510Y, i7-8500Y Intel® Core™ Processor i5-8310Y, i5-8210Y, i5-8200Y Intel® Core™ Processor m3-8100Y	Mobile	806E9	10	Yes	Production	0xC6
Amber Lake Y	10 <sup>th</sup> Generation Intel® Core™ Processor Family	Intel® Core™ Processor i7-10510Y, i5-10310Y Intel® Core™ Processor i5-10210Y, i5-10110Y	Mobile	806EC	94	Yes	Production	0xC6
Broadwell DE A1	Intel® Xeon® Processor D Family	Intel® Xeon® Processor D-1513N, D-1523N, D-1533N, D-1543N, D1553N	Server	50665	10	Yes	Production	0x0F
Broadwell DE V1	Intel® Xeon® Processor D Family	Intel® Xeon® Processor D-1520, D-1540	Server	50662	10	Yes	Production	0x1C
Broadwell DE V2,V3	Intel® Xeon® Processor D Family	Intel® Xeon® Processor D-1518, D-1519, D-1521, D-1527, D-1528, D-1529, D-1531, D-1533, D-1537, D-1539, D-1541, D-1548 Intel® Pentium® Processor D1507, D1508, D1509, D1517, D1519	Server	50663	10	Yes	Production	0x19
Broadwell DE Y0	Intel® Xeon® Processor D Family	Intel® Xeon® Processor D-1557, D-1559, D-1567, D-1571, D-1577, D-1581, D-1587	Server	50664	10	Yes	Production	0x17
Broadwell E	Intel® Core™ X-series Processors	Intel® Core™ Processor Extreme Edition i7-6950K Intel® Core™ Processor i7-6800K, i7-6850, i7-6900K	Desktop	406F1	EF	No	Production	0x38
Broadwell H 43e	5 <sup>th</sup> Generation Intel® Core™ Processor Family	Intel® Core™ Processor i7-5700EQ, i7-5700HQ, i7-5750HQ, i7-5850EQ, i7-5850HQ, i7-5950HQ, Intel® Core™ Processor i5-5575R, i5-5675C, i5-5675R, i7-5775C, i7-5775R	Desktop Mobile Embedded	40671	22	Yes	Production	0x21

# Microcode Update Guidance

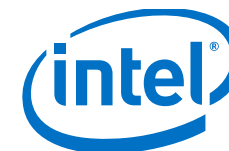
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Code Name	Product Collection	Product Names	Vertical Segment	CPUID	Platform ID	OS Update Capable	Production Status	Minimum Production MCU Rev
Broadwell Server E, EP, EP4S	Intel® Xeon® Processor E5 v4 Family	Intel® Xeon® Processor v4 E5-2603, E5-2608L, E5-2609, E5-2618L, E5-2620, E5-2623, E5-2628L, E5-2630L, E5-2630, E5-2637, E5-2640, E5-2643, E5-2648L, E5-2650L, E5-2650, E5-2658, E5-2660, E5-2667, E5-2679, E5-2680, E5-2683, E5-2690, E5-2695, E5-2697A, E5-2697, E5-2698, E5-2699A, E5-2699, E5-2699R, E5-4628L	Server Embedded	406F1	EF	Yes	Production	0x38
Broadwell Server EX	Intel® Xeon® Processor E7 v4 Family	Intel® Xeon® Processor v4 E7-4809, E7-4820, E7-4830, E7-4850, E7-8855, E7-8860, E7-8867, E7-8870, E7-8880, E7-8890, E7-8891, E7-8893, E7-8894	Server	406F1	EF	Yes	Production	0x38
Broadwell U	5 <sup>th</sup> Generation Intel® Core™ Processor Family	Intel® Core™ Processor i7-5650U, i7-5600U, i7-5557U, i7-5550U, i7-5500U Intel® Core™ Processor i5-5350U, i5-5350, i5-5300U, i5-5287U, i5-5257U, i5-5250U, i5-5200U Intel® Core™ Processor i3-5157U, i3-5020U, i3-5015U, i3-5010U, i3-5006U, i3-5005U, i3-5010U Intel® Pentium® Processor 3805U, 3825U, 3765U, 3755U, 3215U, 3205U Intel® Celeron® 3765U	Mobile	306D4	C0	Yes	Production	0x2E
Broadwell Xeon E3	Intel® Xeon® Processor E3 v4 Family	Intel® Xeon® Processor v4 E3-1258L, E3-1265L, E3-1278L, E3-1285, E3-1285	Server	40671	22	Yes	Production	0x21
Broadwell Y	5 <sup>th</sup> Generation Intel® Core™ Processor Family	Intel® Core™ Processor M-5Y71, M-5Y70, M-5Y51, M-5Y3, M-5Y10c, M-5Y10a, M-5Y10	Mobile	306D4	C0	Yes	Production	0x2E
Cascade Lake Server	2 <sup>nd</sup> Generation Intel® Xeon® Scalable Processors	Intel® Xeon® Platinum Processor 8253, 8256, 8260, 8260L, 8260M, 8260Y, 8268, 8270, 8276, 8276L, 8276M, 8280, 8280L, 8280M, 9220, 9221, 9222, 9242, 9282 Intel® Xeon® Gold Processor 5215, 5215L, 5215M, 5215R, 5217, 5218, 5218B, 5218N, 5218T, 5220,	Server	50657	BF	Yes	Production	0x2B

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Code Name	Product Collection	Product Names	Vertical Segment	CPUID	Platform ID	OS Update Capable	Production Status	Minimum Production MCU Rev
		5220R, 5220S, 5220T, 5222, 6222V, 6226, 6230, 6230N, 6230T, 6234, 6238, 6238L, 6238M, 6238T, 6240, 6240L, 6240M, 6240Y, 6242, 6244, 6246, 6248, 6252, 6252N, 6254, 6262V Intel® Xeon® Silver Processor 4208, 4208R, 4209T, 4210, 4210R, 4214, 4214C, 4214R, 4214Y, 4215, 4216, 4216R Intel® Xeon® Bronze Processor 3204, 3206R						
Cascade Lake W	Intel® Xeon® W Processor Family	Intel® Xeon® Processor W-3275M, W-3275, W-3265M, W-3265, W-3245M, W-3245, W-3235, W-3225, W-3223, W-2295, W-2275, W-2265, W-2255, W-2245, W-2235, W-2225, W-2223	Workstation	50657	BF	Yes	Production	0x2B
Coffee Lake H (6+2)	8 <sup>th</sup> Generation Intel® Core™ Processor Family	Intel® Core™ Processor i9-8950HK Intel® Core™ Processor i7-8700B, i7-8750H, i7-8850H Intel® Core™ Processor i5-8300H, i5-8400B, i5-8400H, i5-8500B	Mobile	906EA	22	Yes	Production	0xC6
Coffee Lake H (8+2)	9 <sup>th</sup> Generation Intel® Core™ Processor Family	Intel® Core™ Processor i9-9980HK, 9880H Intel® Core™ Processor i7-9850H, 9750HF Intel® Core™ Processor i5-9400H, 9300H	Mobile	906EC	22	Yes	Production	0xC6
Coffee Lake S (6+2)	8 <sup>th</sup> Generation Intel® Core™ Processor Family	Intel® Core™ Processor i7-8670, i7-8670T, i7-8700, i7-8700T Intel® Core™ Processor i5-8400, i5-8400T, i5-8420, i5-8420T, i5-8500, i5-8500T, i5-8550, i5-8600, i5-8600T, i5-8650	Desktop	906EA	22	Yes	Production	0xC6
Coffee Lake S (8+2)	9 <sup>th</sup> Generation Intel® Core™ Processor Family	Intel® Core™ Processor i9-9900K, i9-9900KF Intel® Core™ Processor i7-9700K, i7-9700KF Intel® Core™ Processor i5-9600K, i5-9600KF, i5-9400, i5-9400F	Desktop	906EC	22	Yes	Production	0xC6

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Code Name	Product Collection	Product Names	Vertical Segment	CPUID	Platform ID	OS Update Capable	Production Status	Minimum Production MCU Rev
Coffee Lake S (6+2) Xeon E	Intel® Xeon® Processor E Family	Intel® Xeon® Processor E-2186G, E-2176G, E-2176M, E-2146G, E-2136, E-2126G, 2286G, E-2276ML, E-2276ME, E-2276M, E-2276G, E-2246G, E-2236, E-2226GE, E-2226G, E-2186M, E-2176M	Server	906EA	22	Yes	Production	0xC6
Coffee Lake U43e	8 <sup>th</sup> Generation Intel® Core™ Processor Family	Intel® Core™ Processor i7-8559U Intel® Core™ Processor i5-8259U, 8269U Intel® Core™ Processor i3-8109U	Mobile	806EA	C0	Yes	Production	0xC6
Coffee Lake S (4+2)	8 <sup>th</sup> Generation Intel® Core™ Processor Family Intel® Pentium® Gold Processor Series Intel® Celeron® Processor G Series	Intel® Core™ Processor i3-8000, i3-8000T, i3-8020, i3-8100, i3-8100, i3-8100H, i3-8100T, i3-8120, i3-8300, i3-8300T, i3-8350K Intel® Pentium® Gold G5400, G5400T, G5400T, G5420, G5420T, G5420T, G5500, G5500T, G5600 Intel® Celeron® Processor G4900, G4900T, G4920	Desktop	906EB	02	Yes	Production	0xC6
Coffee Lake S (4+2) Xeon E	Intel® Xeon® Processor E Family	Intel® Xeon® Processor E-2174G, E-2144G, E-2134, E-2124, E-2124G, E-2284G, E-2274G, E-2254ML, E-2254ME, E-2244G, E-2234, E-2224, E-2224G, E-2184G	Workstation/ AMT Server/ Server	906EA	22	Yes	Production	0xC6
Coffee Lake S (6+2) x/KBP	8 <sup>th</sup> Generation Intel® Core™ Processor Family	Intel® Core™ Processor i7-8700K Intel® Core™ Processor i5-8600K, i5-8650K	Desktop	906EA	22	Yes	Production	0xC6
Coffee Lake H (8+2)	9 <sup>th</sup> Generation Intel® Core™ Processor Family	Intel® Core™ Processor i9-9980HK, i9-9880H	Desktop	906ED	22	Yes	Production	0xC6
Coffee Lake S (8+2) Xeon E	Intel® Xeon® Processor E Family	Intel® Xeon® Processor E-2288G, E-2286M, E-2278GEL, E-2278GE, E-2278G	Server	906ED	22	Yes	Production	0xC6
Comet Lake U42	10 <sup>th</sup> Generation Intel® Core™ Processor Family	Intel® Core™ Processor i7-10510U Intel® Core™ Processor i5-10210U Intel® Pentium® Gold Processor 6405U Intel® Celeron® Processor 5305U	Mobile	806EC	94	Yes	Production	0xC6

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Code Name	Product Collection	Product Names	Vertical Segment	CPUID	Platform ID	OS Update Capable	Production Status	Minimum Production MCU Rev
	Intel® Pentium® Gold Processor Series Intel® Celeron® Processor 5000 Series							
Comet Lake U62	10 <sup>th</sup> Generation Intel® Core™ Processor Family	Intel® Core™ Processor i7-10710U	Mobile	A0660	80	Yes	Production	0xC6
Haswell Server EX	Intel® Xeon® Processor E7 v3 Family	Intel® Xeon® Processor v3 E7-4809, E7-4820, E7-4830, E7-4850, E7-8860, E7-8867, E7-8870, E7-8880L, E7-8880, E7-8890, E7-8891, E7-8893	Server	306F4	80	Yes	Production	0x16
Hewitt Lake	Intel® Xeon® D Processor Family	Intel® Xeon® Processor D-1602, D-1622, D-1623N, D-1627, D-1633N, D-1637, D-1649N, D-1653N	Server	50665	10	Yes	Production	0x0F
Ice Lake	10 <sup>th</sup> Generation Intel® Core™ Processor Family	Intel® Core™ Processor i7-1060G7, i7-1065G7 Intel® Core™ Processor i5-1030G4, i5-1030G7, i5-1035G1, i5-1035G4, i5-1035G7 Intel® Core™ Processor i3-1000G1, i3-1000G4, i3-1005G1	Mobile	706E5	C0	Yes	Production	0x46
Kaby Lake G	8 <sup>th</sup> Generation Intel® Core™ Processor Family	Intel® Core™ Processor i7-8705G, i7-8706G, i7-8709G, i7-8809G Intel® Core™ Processor i5-8305G	Mobile	906E9	2A	Yes	Production	0xC6
Kaby Lake H	7 <sup>th</sup> Generation Intel® Core™ Processor Family	Intel® Core™ Processor i7-7700HQ, i7-7820EQ, i7-7820HK, i7-7820HQ, i7-7920HQ Intel® Core™ Processor i5-7300HQ, i5-7440EQ, i5-7440HQ, i5-7442EQ Intel® Core™ i3-7100H	Mobile Embedded	906E9	2A	Yes	Production	0xC6
Kaby Lake Refresh U 4+2	8 <sup>th</sup> Generation Intel® Core™ Processor Family	Intel® Core™ Processor i7-8550U, i7-8650U Intel® Core™ Processor i5-8250U, i5-8350U Intel® Core™ Processor i3-7020U, i3-8130U	Mobile	806EA	C0	Yes	Production	0xC6

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Code Name	Product Collection	Product Names	Vertical Segment	CPUID	Platform ID	OS Update Capable	Production Status	Minimum Production MCU Rev
Kaby Lake S	7 <sup>th</sup> Generation Intel® Core™ Processor Family	Intel® Core™ Processor i7-7700, i7-7700K, i7-7700T Intel® Core™ Processor i5-7400, i5-7400T, i5-7500, i5-7500T, i5-7600, i5-7600K, i5-7600T Intel® Core™ Processor i3-7100E, i3-7101E, i3-7101TE, i3-7102E, i3-7120, i3-7120T, i3-7320T, i3-7340 Intel® Celeron® Processor G3930E, G3930TE	Desktop Embedded	906E9	2A	Yes	Production	0xC6
Kaby Lake U	7 <sup>th</sup> Generation Intel® Core™ Processor Family	Intel® Core™ Processor i7-7500U, i7-7510U, i7-7600U Intel® Core™ Processor i5-7200U, i5-7210U, i5-7300U, i5-7500U Intel® Core™ Processor i3-7007U, i3-7100U, i3-7110U, i3-7130U, Intel® Pentium® Processor 4415U Intel® Celeron® Processor 3865U, 3965U	Mobile	806E9	C0	Yes	Production	0xC6
Kaby Lake U23e	7 <sup>th</sup> Generation Intel® Core™ Processor Family	Intel® Core™ Processor i7-7560U, i7-7567U, i7-7660U, Intel® Core™ Processor i5-7260U, i5-7267U, i5-7287U, i5-7360U Intel® Core™ Processor i3-7167U	Mobile	806E9	C0	Yes	Production	0xC6
Kaby Lake X	Intel® Core™ X-series Processors	Intel® Core™ Processor i7-7740X Intel® Core™ Processor i5-7640X	Desktop	906E9	2A	Yes	Production	0xC6
Kaby Lake Xeon E3	Intel® Xeon® Processor E3 v6 Family	Intel® Xeon® Processor v6 E3-1220, E3-1225, E3-1230, E3-1240, E3-1245, E3-1270, E3-1275, E3-1280, E3-1501L, E3-1501M, E3-1505L, E3-1505M, E3-1535M	Server	906E9	2A	Yes	Production	0xC6
Kaby Lake Xeon E3	Intel® Xeon® Processor E3 v6 Family	Intel® Xeon® Processor v6 E3-1535M, E3-1505M, E3-1505L, E3-1501L, E3-1501M, E3-1285, E3-1280, E3-1275, E3-1270, E3-1245, E3-1240, E3-1230, E3-1225, E3-1220	Server, Workstation Embedded	906E9	2A	Yes	Production	0xC6
Kaby Lake Y	7 <sup>th</sup> Generation Intel® Core™ Processor Family	Intel® Core™ Processor i7-7Y75 Intel® Core™ Processor i5-7Y54, i5-7Y57 Intel® Core™ Processor M3-7Y30, M3-7Y30	Mobile	806E9	C0	Yes	Production	0xC6

# Microcode Update Guidance

Intel Product Security Incident Response Team (PSIRT)

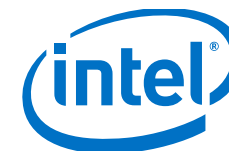
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Code Name	Product Collection	Product Names	Vertical Segment	CPUID	Platform ID	OS Update Capable	Production Status	Minimum Production MCU Rev
		Intel® Pentium® Processor 4410Y, 4415Y Intel® Celeron® Processor 3965Y						
Skylake D, Bakerville	Intel® Xeon® Processor D Family	Intel® Xeon® Processor D-2123IT, D-2141I, D-2142IT, D-2143IT, D-2145NT, D-2146NT, D-2161I, D-2163IT, D-2166NT, D-2173IT, D-2177NT, D-2183IT, D-2187NT	Server	50654	B7	Yes	Production	0x02000064
Skylake H	6 <sup>th</sup> Generation Intel® Core™ Processor Family	Intel® Core™ Processor i7-6700HQ, i7-6770HQ, i7-6820HK, i7-6820HQ, i7-6870HQ, i7-6920HQ, i7-6970HQ Intel® Core™ Processor i5-6300HQ, i5-6350HQ, i5-6440HQ Intel® Core™ Processor i3-6100H	Mobile	506E3	36	Yes	Production	0xD4
Skylake S	6 <sup>th</sup> Generation Intel® Core™ Processor Family	Intel® Core™ Processor i7-6700, i7-6700K, i7-6700T, i7-6700TE, i7-6820EQ, i7-6822EQ Intel® Core™ Processor i5-6400, i5-6400T, i5-6440EQ, i5-6442EQ, i5-6500, i5-6500T, i5-6500TE, i5-6600, i5-6600K, i5-6600T Intel® Core™ Processor i3-6100, i3-6100E, i3-6100T, i3-6100TE, i3-6102E, i3-6120, i3-6120T, i3-6300, i3-6300T, i3-6320, i3-6320T Intel® Pentium® Processor G4400, G4400T, G4400TE, G4420, G4420T, G4500, G4500T, G4520, G4520T, G4540 Intel® Celeron® Processor G3900, G3900T, G3900TE, G3902E, G3920, G3920T, G3940	Desktop Embedded	506E3	36	Yes	Production	0xD4
Skylake Server	Intel® Xeon® Scalable Processors	Intel® Xeon® Platinum Processor P-8124, P-8136	Server	50653	B7	Yes	Production	0x01000150
Skylake Server	Intel® Xeon® Scalable Processors	Intel® Xeon® Platinum Processor 8153, 8156, 8158, 8160, 8160F, 8160M, 8160T, 8164, 8168, 8170, 8170M, 8176, 8176F, 8176M, 8180, 8180M Intel® Xeon® Gold Processor 5115, 5118, 5119T, 5120,	Server	50654	B7	Yes	Production	0x02000064



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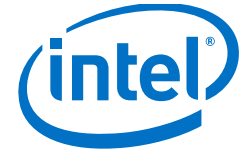
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Code Name	Product Collection	Product Names	Vertical Segment	CPUID	Platform ID	OS Update Capable	Production Status	Minimum Production MCU Rev
		5120T, 5122, 6126, 6126F, 6126T, 6128, 6130, 6130F, 6130T, 6132, 6134, 6134M, 6136, 6138, 6138F, 6138T, 6140, 6140M, 6142, 6142F, 6142M, 6144, 6146, 6148, 6148F, 6150, 6152, 6154 Intel® Xeon® Silver Processor 4108, 4109T, 4110, 4112, 4114, 4114T, 4116, 4116T Intel® Xeon® Bronze Processor 3104, 3106						
Skylake U	6 <sup>th</sup> Generation Intel® Core™ Processors	Intel® Core™ Processor i7-6500U, i7-6510U, i7-6600U Intel® Core™ Processor i5-6200U, i5-6210U, i5-6300U, i5-6310U Intel® Core™ Processor i3-6100U, i3-6110U Intel® Pentium® Processor 4405U, 4415U Intel® Celeron® Processor 3855U, 3865U, 3955U, 3965U	Mobile	406E3	C0	Yes	Production	0xD4
Skylake U23e	6 <sup>th</sup> Generation Intel® Core™ Processor Family	Intel® Core™ Processor i7-6560U, i7-6567U, i7-6650U, i7-6660U Intel® Core™ Processor i5-6260U, i5-6267U, i5-6287U, i5-6360U Intel® Core™ Processor i3-6167U	Mobile	406E3	C0	Yes	Production	0xD4
Skylake W	Intel® Xeon® Processor W Family	Intel® Xeon® Processor W-2123, W-2125, W-2133, W-2135, W-2145, W-2155, W-2195, W-2175	Workstation	50654	B7	Yes	Production	0x02000064
Skylake X	Intel® Core™ X-series Processors	Intel® Core™ Extreme Edition Processor i9-7980XE Intel® Core™ X-series Processor i9-7900X, i9-7920X, i9-7940X, i9-7960X Intel® Core™ X-series Processor i7-7800X, i7-7820X	Desktop	50654	B7	Yes	Production	0x02000064
Skylake Xeon E3	Intel® Xeon® Processor E3 v5 Family	Intel® Xeon® Processor v5 E3-1585, E3-1585L, E3-1578L, E3-1575M, E3-1565L, E3-1558L, E3-1545M, E3-1535M, E3-1515M, E3-1505M, E3-1505L, E3-1280, E3-1275, E3-1270, E3-1268L, E3-1260L, E3-1245, E3-	Server, Workstation Embedded	506E3	36	Yes	Production	0xD4

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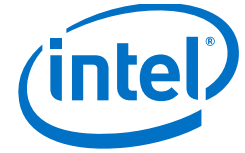


Code Name	Product Collection	Product Names	Vertical Segment	CPUID	Platform ID	OS Update Capable	Production Status	Minimum Production MCU Rev
		1240L, E3-1240, E3-1235L, E3-1230, E3-1225, E3-1220						
Skylake Y	6 <sup>th</sup> Generation Intel® Core™ Processor Family	Intel® Core™ Processor m7-6Y75 Intel® Core™ Processor m5-6Y54, m5-6Y57 Intel® Core™ Processor m3-6Y30 Intel® Pentium® Processor 4405Y	Mobile	406E3	CO	Yes	Production	0xD4
Whiskey Lake U	8 <sup>th</sup> Generation Intel® Core™ Processors	Intel® Core™ Processor i7-8565U Intel® Core™ Processor i5-8265U Intel® Core™ Processor i3-8145U Intel® Core™ Processor 4205U, 5405U	Mobile	806EB	D0	Yes	Production	0xC6
Whiskey Lake U	8 <sup>th</sup> Generation Intel® Core™ Processors	Intel® Core™ Processor i7-8565U, i7-8665U Intel® Core™ Processor i5-8365U, i5-8265U	Mobile	806EC	94	Yes	Production	0xC6

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