



MICROCODE REVISION GUIDANCE

JANUARY 22 2018

MICROCODE REVISION LIST – CLIENT

For those concerned about system stability while we finalize the updated solutions, we are also working with our OEM partners on the option to utilize a previous version of microcode that does not display these issues, but removes the Variant 2 (Spectre) mitigations. This would be delivered via a BIOS update, and would not impact mitigations for Variant 1 (Spectre) and Variant 3 (Meltdown).

| Product Names | Public Name | CPUID | STOP deployment of these MCU versions | Continue use of these MCU versions | Comments |
|-------------------------|--|-------|---------------------------------------|------------------------------------|---|
| Coffee Lake-S + KBL PCH | 8th Generation Intel® Core™ Desktop Processor Family | 906EB | 80 | 0x72 | |
| Kaby Lake Refresh U4+2 | 8th Generation Intel® Core™ Mobile Processor Family | 806EA | 80 | 0x70 | |
| Kaby Lake U/Y, U23e | 7th Generation Intel® Core™ Mobile Processors | 806E9 | 80 | 0x70 | |
| Kaby Lake H/S/X/G, | 7th Generation Intel® Core™ Processor Family | 906E9 | 80 | 0x70 | |
| Skylake X | Intel® Core™ i9 79xxX, 78xxX | 50654 | 0200003C | 200003A | |
| Skylake U/Y/U23e | 6th Generation Intel® Core™ m Processors | 406E3 | 000000C2 | 0xBE | |
| Skylake H/S | 6th Generation Intel® Core™ Processor Family | 506E3 | 000000C2 | 0xBE | |
| Broadwell U/Y | 5th Generation Intel® Core™ Processor Family, Intel® Pentium® Mobile Processor Family, and Intel® Celeron® Mobile Processor Family | 306D4 | 28 | 0x25 | |
| Broadwell H | 5th Generation Intel® Core™ Mobile Processor Family | 40671 | 0000001B | 0x17 | |
| Haswell ULT | 4th Generation Intel® Core™ Mobile Processor Family, Intel® Pentium® Mobile Processor Family, and Intel® Celeron® Mobile Processor Family | 40651 | 21 | 0x20 | |
| Haswell Perf | Intel® Core™ Extreme Processor (5960x, 5930x, 5820x) | 40661 | 18 | 0x17 | |
| Haswell | 4th Generation Intel® Core™ Mobile Processor Family, Intel® Pentium® Mobile Processor Family, and Intel® Celeron® Mobile Processor Family | 306C3 | 23 | 0x22 | |
| Ivy Bridge | 3rd Generation Intel® Core™ Mobile Processor Family, Intel® Pentium® Mobile Processor Family, and Intel® Celeron® Mobile Processor Family | 306A9 | N/A | 0x1C | Intel did not post a variant #2 mitigation MCU for this product |
| Sandy Bridge | Intel® Core™ i3-21xx/23xx-T/M/E/UE Processor, Intel® Core™ i5-23xx/24xx/25xx-T/S/M/K Processor Intel® Core™ i7-2xxx-S/K/M/QM/LE/UE/QE Processor Intel® Core™ i7-29xxXM Extreme Processor Intel® Celeron® Desktop G4xx, G5xx Processor Intel® Celeron® Mobile 8xx, B8xx Processor Intel® Pentium® Desktop 350, G6xx, G6xxT, G8xx Processor Intel® Pentium® Mobile 9xx, B9xx Processor | 206A7 | N/A | 0x29 | Intel did not post a variant #2 mitigation MCU for this product |

MICROCODE REVISION LIST – DATACENTER/WORKSTATION

For those concerned about system stability while we finalize the updated solutions, we are also working with our OEM partners on the option to utilize a previous version of microcode that does not display these issues, but removes the Variant 2 (Spectre) mitigations. This would be delivered via a BIOS update, and would not impact mitigations for Variant 1 (Spectre) and Variant 3 (Meltdown).

| Product Names | Public Name | CPUID | STOP deployment of these MCU versions | Continue use of these MCU versions | Comments |
|------------------------------|--|-------|---------------------------------------|------------------------------------|---|
| Sandy Bridge | Intel® Xeon® Processor E3-1200 Product Family | 206A7 | N/A | 0x29 | Intel did not post a variant #2 mitigation MCU for this product |
| Sandy Bridge E, EN, EP, EP4S | Intel® Xeon® Processor E5 Product Family | 206D7 | N/A | 0x710 | Intel did not post a variant #2 mitigation MCU for this product |
| Sandy Bridge E, EP (C1, M0) | Intel® Xeon® Processor E5 Product Family | 206D6 | N/A | 0x619 | Intel did not post a variant #2 mitigation MCU for this product |
| Ivy Bridge | Intel® Xeon® Processor E3-1200 v2 Product Family | 306A9 | N/A | 0x1C | Intel did not post a variant #2 mitigation MCU for this product |
| Ivy Bridge EN, EP | Intel® Xeon® Processor E5v2 Product Family | 306E4 | 0x42a | 0x428 | |
| Ivy Bridge EX | Intel® Xeon® Processor E7v2 Product Family | 306E7 | N/A | 0x70D | Intel did not post a variant #2 mitigation MCU for this product |
| Haswell EP, EN | Intel® Xeon® Processor E5v3 Product Family | 306F2 | 0x3b | 0x3a | |
| Haswell EX | Intel® Xeon® Processor E7v3 Product Family | 306F4 | 0x10 | 0x9 (M), 0xF (L) | |
| Haswell | Intel® Xeon® Processor E3v3 Product Family | 306C3 | 23 | 0x22 | |
| Broadwell DE (V1) | Intel® Xeon® Processor D-1500 Product Family | 50662 | 0x14 | 0xF | |
| Broadwell DE (V2, V3) | Intel® Xeon® Processor D-1500 Product Family | 50663 | 0x7000011 | 0x700000D | |
| Broadwell DE (Y0) | Intel® Xeon® Processor D-1500 Product Family | 50664 | N/A | 0x700000A | Intel did not post a variant #2 mitigation MCU for this product |
| Broadwell NS | Intel® Xeon® Processor D-1500 NS Product Family | 50665 | N/A | N/A | Intel did not post a variant #2 mitigation MCU for this product |
| Broadwell | Intel® Xeon® Processor E3v4 Product Family | 40671 | 0000001B | 0x17 | |
| Broadwell E, EP, EP4S, EX | Intel® Xeon® Processor E5v4 Product Family Intel® Xeon® Processor E7v4 Product Family | 406F1 | 0x25, 0x23 | 0x22 | |
| Kaby Lake (Xeon E3) | 7th Generation Intel® Core™ Processor Family | 906E9 | 0x80 | 0x5e | |
| Skylake (B-1) | Intel® Xeon® Scalable Processor Family | 50653 | 0x3e | 001000138 | |
| Skylake SP | Intel® Xeon® Scalable Processor Family | 50654 | 0x3a, 0x3c | 0x39 | |

LEGAL NOTICES AND DISCLAIMERS

INFORMATION IN THIS DOCUMENT IS PROVIDED IN CONNECTION WITH INTEL® PRODUCTS. NO LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE, TO ANY INTELLECTUAL PROPERTY RIGHTS IS GRANTED BY THIS DOCUMENT. EXCEPT AS PROVIDED IN INTEL'S TERMS AND CONDITIONS OF SALE FOR SUCH PRODUCTS, INTEL ASSUMES NO LIABILITY WHATSOEVER, AND INTEL DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY, RELATING TO SALE AND/OR USE OF INTEL® PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.

Intel may make changes to specifications and product descriptions at any time, without notice.

All products, dates, and figures specified are preliminary based on current expectations, and are subject to change without notice.

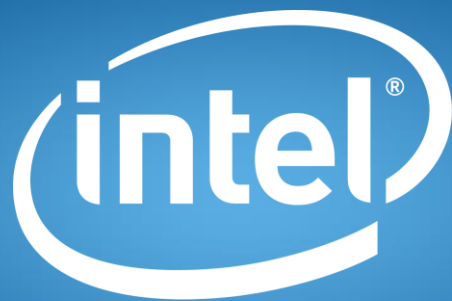
Intel, processors, chipsets, and desktop boards may contain design defects or errors known as errata, which may cause the product to deviate from published specifications. Current characterized errata are available on request.

Intel technologies' features and benefits depend on system configuration and may require enabled hardware, software or service activation. Performance varies depending on system configuration. No computer system can be absolutely secure. Check with your system manufacturer or retailer or learn more at <http://intel.com>.

Some results have been estimated or simulated using internal Intel analysis or architecture simulation or modeling, and provided to you for informational purposes. Any differences in your system hardware, software or configuration may affect your actual performance.

Intel and the Intel logo are trademarks of Intel Corporation in the United States and other countries.

Copyright © Intel Corporation 2017



experience
what's inside™