BIOS Release Notes Form

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| Product Name | X11SCL-F |
|------------------|---|
| Release Version | 1.6 |
| Release Date | 5/28/2021 |
| Build Date | 5/28/2021 |
| Previous Version | 1.5 |
| Update Category | Critical |
| Dependencies | None |
| Important Notes | None |
| Enhancements | Changed the BIOS version to 1.6. Updated microcode M22906EA_000000EA (U-0 Stepping) for INTEL-SA-00464 Security Advisory to address CVE-2020-24512 (2.8, Low) security issue. Updated SPS firmware to SPS_E3_05.01.04.303 for INTEL-TA-00459 Security Advisory to address CVE-2020-24509 (6.7, Medium) IPU 2021.1. Updated Intel BIOS ACM & SINIT ACM to 1.8.0 for INTEL-TA-00463 to address CVE-2020-12357 (7.5, High), CVE-2020-8670 (7.5 High), and CVE-2020-12360 (5.6, Medium) security issues. Copied the BIOS binary and renamed to adhere to the unique name format |
| | format. |

| New features | N/A |
|--------------|--|
| Fixes | 1. Fixed failure of SUM test 220 due to "PCI AER Support" and "Memory Corrected Error Enabling" setting failing to preserve after flashing BIOS. |

1.5 (10/5/2020)

- 1. Added inband flash status event log to IPMI MEL.
- 2. Added Hotkey Message Enable/Disable function.
- 3. Updated SPS firmware to SPS_E3_05.01.04.208.0 for INTEL-TA-00391 Security Advisory to address CVE-2020-8744 (7.2, High) and CVE-2020-8755 (4.6, Medium) security issues.
- 4. Updated microcodes M22906EA_000000DE (U-0 Stepping), M02906EB_000000DD_000000DE (B-0 Stepping), M22906EC_000000DE (P-0 Stepping), and M22906ED_000000DE (R-0 Stepping) for Intel IPU 2020.2.
- 5. Updated Intel IPU 2020.2 RC 7.0.58.47 for Mehlow Refresh Server Platform Service Version.
- 6. Changed the BIOS version to 1.5.
- 7. Enhanced SMCI HDD Security feature.
- 8. Reduced Rowhammer susceptibility for AMI-SA50084 DDR4 Rowhammer vulnerability to address CVE-2020-10255 (9.0, high) security issue.
- 9. Fixed problem of BIOS setup menu showing "Unknown" when plugging in the InnoDisk memory and boot up into BIOS setup menu.

1.4 (5/26/2020)

- 1. Changed the BIOS version to 1.4.
- 2. Implemented IPU 2020.1 update to SPS firmware to SPS_E3_05.01.04.113.0.
- 3. Enhanced the OEM FID feature to support UUID.
- 4. Updated Intel RSTe RAID Option ROM/UEFI Driver to 6.3.0.1005.
- 5. Added SMCI HDD Security feature.
- 6. Updated microcodes M22906EA_000000D6 (U-0 Stepping), M02906EB_000000D6 (B-0 Stepping), M22906EC_000000D6 (P-0 Stepping), and M22906ED_000000D6 (R-0 Stepping) for INTEL-SA-00320 Security Advisory to address CVE-2020-0543 (6.5, High) security issue, and microcodes M22906EA_00000D6 (U-0 Stepping), M02906EB_00000D6 (B-0 Stepping), M22906EC_00000D6 (P-0 Stepping), and M22906ED_000000D6 (R-0 Stepping) for INTEL-SA-00329 Security Advisory to address CVE-2020-0548 (2.8, Low) and CVE-2020-0549 (6.5, Medium) security issues.
- 7. Set the OverclockingLock flag to enabled by default for SGX test.
- 8. Added support for InnoDisk memory.
- 9. Fixed inability to change the serial port IO resource.
- 10. Fixed failure of Secure Erase password and problem of BIOS returning "EFI_Device_Error" with SED: Seagate ST1000NX0353.

1.3 (2/20/2020)

- 1. Added solution for problem of systems with LPDDR3 2133 MT/s DRAMs failing during boot.
- 2. Corrected the "DeepSx Power Policies" item string.
- 3. Updated RC to Mehlow Refresh PV version 7.0.58.44.
- 4. Displayed the "SGX Launch Control Policy" items in the BIOS setup menu.
- 5. Added SMC HDD Security feature.
- 6. Updated Microcodes M22906EA_000000D2 (U-0 Stepping), M02906EB_000000D2 (B-0 Stepping), M22906EC_000000D2 (P-0 Stepping), and M22906ED_00000D2 (R-0 Stepping) for INTEL-SA-00320 Security Advisory to address CVE-2020-0543 (6.5, High) security issue and for INTEL-SA-00329 Security Advisory to address CVE-2020-0548 (2.8, Low) and CVE-2020-0549 (6.5, Medium) security issue.

- 7. Updated flag for skipping password prompt window.
- 8. Updated BiosAcm to 1.7.1 (20191213) and SinitAcm to 1.7.8 (20191220) for INTEL-SA-00240 to address CVE-2019-0151 (7.5, High) and CVE-2019-0152 (8.2, High), for INTEL-SA-00220 to address CVE-2018-0123 (8.2, High) and CVE-2019-0124 (8.2, High), and INTEL-SA-00164 to address CVE-2019-0184 (6.0, Medium).
- 9. Fixed inability of ME to enter recovery mode.
- 10. Fixed inability of BIOS to load default when plugging in M.2.
- 11. Added support for erasing NVMe Opal device (like Samsung 970 EVO model MZ-V7E250) without setting admin password.

1.2 (11/20/2019)

- 1. Changed BIOS version to 1.2.
- 2. Disabled the MCTP for buggy BMC workaround.
- 3. Updated Microcode M22906EA_000000CA (U-0 Stepping), M02906EB_000000CA (B-0 Stepping), and M22906EC_000000CA (P-0 Stepping) for INTEL-SA-00219 Security Advisory to address CVE-2019-0117 (6.0, Medium) security issue and for INTEL-SA-00220 Security Advisory to address CVE-2019-0123 (8.2, High) security issue.
- 4. Updated Microcode M22906ED_000000CA (R-0 Stepping) for INTEL-SA-00219 Security Advisory to address CVE-2019-0117 (6.0, Medium) security issue, Microcode M22906ED_000000CA (R-0 Stepping) for INTEL-SA-00220 Security Advisory to address CVE-2019-0123 (8.2, High) security issue, and Microcode M22906ED_000000CA (R-0 Stepping) for INTEL-SA-00270 Security Advisory to address CVE-2019-11135 (6.5, Medium) security issue.
- 5. Updated SPS firmware to SPS E3 05.01.03.094.0.
- 6. Updated the Intel PMC firmware to 300.2.11.1022.
- 7. Updated the AMI TSE to 2.20.1276.
- 8. Updated RC to Mehlow Refresh PV version 7.0.58.43 for INTEL-SA-00260 Security Advisory to address CVE-2019-0154 (6.5, Medium) security issue.
- 9. Updated SINIT ACM to 1.7.4 for INTEL-SA-00240 to address CVE-2019-0151 (7.5 High) and CVE-2019-0152 (8.2 High), INTEL-SA-00220 to address CVE-2018-0123 (8.2, High) and CVE-2019-0124 (8.2, High), and INTEL-SA-00164 to address CVE-2019-0184 (6.0, Medium).
- 10. Updated NVRAM NVMe HddSecurity SmmConfidentialMemModule and TcgStorageSecurity to INTEL-SA-00254 request version for INTEL-SA-00254 Security Advisory to address CVE-2019-0185 (6.0, Medium) security issue.
- 11. Fixed problem of CECC being recorded in event log when METW is "60".

1.1 (9/17/2019)

- 1. Displayed setup item "BME DMA Mitigation" on the Advanced -> PCIe/PCI/PnP Configuration page.
- 2. Set memory uncorrectable error to always be recorded, regardless of METW and MECI.
- 3. Updated SMC OOB module to 1.01.09, added Redfish/SUM Secure Boot feature, and updated OOB for secure boot and reserve Key.
- 4. Updated SPS firmware to SPS_E3_05.01.03.078.0.
- 5. Added "SATA Frozen" function.
- 6. Updated RC to Mehlow Refresh PV version 7.0.58.42.
- 7. Implemented dynamic change for Secure Boot Mode default value.
- 8. Fixed inability of BIOS to get SMBIOS type 39 power supply FRU data.
- 9. Updated Coffee Lake-S R-0 stepping CPU microcode M22906ED_000000BE and Coffee Lake-S P-0 stepping CPU microcode M22906EC 000000BE.

- 10. Removed "Hard Drive Security Frozen" setup item from SATA and RSTe Configuration page.
- 11. Added support for BMC AUX revision displaying.
- 12. Fixed problem of DIMM location showing "NO DIMM INFO" in Event Logs when Multi-Bit ECC error occurs.
- 13. Fixed problem of system recovery hanging with TPM installed.
- 14. Fixed problem of SATA Configuration page showing 1TB for 8TB 4KN HDDs.
- 15. Fixed problem of key details showing "Security Violation" after loading Factory secure boot keys.
- 16. Fixed problem of two boot devices occurring in the boot order when installing UEFI CentOS.
- 17. Fixed failure of OPROM control item if CSM is disabled.
- 18. Fixed inability of system to find any network adapters and problem of the installation with vSphere aborting.
- 19. Fixed inability to enable TPM in the BIOS setup menu when plugging in TPM device and then disabling it.
- 20. Fixed problem of some items being adjusted when user adjusts dual boot order in BIOS setup.
- 21. Fixed inability to identify duplicated NVMe boot option with more than one of the same NVMe drives on an add-on card.
- 22. Fixed when use JPEG1 to disabled onboard VGA, and then boot into the operating system the onboard VGA device still exists.

1.0b (5/16/2019)

- 1. Updated Coffee Lake-S R-O stepping CPU microcode M22906ED 000000B4.
- 2. Updated SPS 5.1.03.62 for INTEL-SA-00213 Security Advisory to address CVE-2019-0089, CVE-2019-0090, CVE-2019-0086, CVE-2019-0091, CVE-2019-0092, CVE-2019-0093, CVE-2019-0094, CVE-2019-0096, CVE-2019-0097, CVE-2019-0098, and CVE-2019-0099.
- 3. Displayed the CPU's PL1 & PL2 items of Advanced -> CPU Configuration page on the BIOS setup menu.
- 4. Updated Intel RSTe RAID Option ROM/UEFI driver to 6.1.0.1017.
- 5. Updated MCU (906EA-U0 + 906EB-B0 + 906EC-P0) for INTEL-SA-00233 Security Advisory to address CVE-2018-12126, CVE-2018-12127, and CVE-2018-12130.
- 6. Updated RC to version 7.0.58.41.
- 7. Updated USB and Fastboot module.
- 8. Set OptionRom and boot mode selection to EFI while CSM is disabled.
- 9. Changed UEFI LAN Boot option name format.
- 10. Added RFC3021 solution for the network stack (/32 subnet mask support).
- 11. Fixed problem of DIMM location showing ¡§No DIMM info;" in Event Logs when ECC error occurs.
- 12. Fixed problem of DIMM location always showing "DIMMA1" in BIOS Event log when ECC error occurs.
- 13. Fixed problem of "?[1;31;40m" showing on POST screen when EFI driver is "Unhealthy".
- 14. Fixed problem of system hanging when disabling LAN1.

1.0a (2/14/2019)

- 1. Changed BIOS version to 1.0a.
- 2. Updated Intel Reference Code to version 7.0.51.40.
- 3. Updated CPU MCUs (906EA, U0 + 906EB, B0 + 906EC, and P0).
- 4. Hid LAN OPROM Control items when LAN#1 OPROM is set to iSCSI.
- 5. Updated SMC OOB Module to support SMC LSI OOB Module.
- 6. Added Early Video messages when BIOS is in recovery mode.

- 7. Added "ACPI T-States" setup item.
- 8. Enhanced JPG1 function for running SUM with JPG1 2-3.
- 9. Enhanced "NVMe FW Source" function.
- 10. Added "SATA Frozen" function.
- 11. Added support for RFC4122 UUID format feature so that RFC4122 encoding from build time is produced by IPMICFG 1.29 tool or newer version.
- 12. Displayed "AERON" and "MCEON" strings during POST when "PCI AER Support" or "Memory Corrected Error" is enabled.
- 13. Hid "ECC Support" item.
- 14. Set the default of "Memory Corrected Error Enabling" to disabled.
- 15. Updated the Intel BIOS ACM version to 1.5.0 and SINIT ACM to 1.6.0.
- 16. Added "SMC SMBIOS Measurement" feature for PCR#1 measurement and enabled "Measure_Smbios_Tables".
- 17. Updated RAID option ROM and UEFI driver to 5.5.1028.
- 18. Added "MCEON" and "AERON" POST strings for SOL console when items are enabled.
- 19. Added support for Linux built-in utility efibootmgr.
- 20. Updated solution "support Linux built-in utility efibootmgr".
- 21. Added code for Consistent Device Name support.
- 22. Updated BIOS Setup Menu for the item "Always Turbo Mode" in the Advanced/CPU Configuration page.
- 23. Updated IPv4 and IPv6 setup item strings.
- 24. Added OEM strings to 50 bytes in Type 11.
- 25. Added "Driver Health" setup item.
- 26. Added Driver Health warning message.
- 27. Prevented random inability to flash OA License Keys.
- 28. Renamed "AC Loss Policy Depend on" to "Restore on AC Power Loss".
- 29. Enhanced the solution for the error/warning message from dmidecode after AMIDE modification.
- 30. Fixed problem of recovery page title showing as "Main" and recovery page disappearing when moved to another page under recovery mode.
- 31. Rolled back ME to SPS firmware SPS_E3_05.00.03.107.0 to fix inability to power on PCH PRQ sample.
- 32. Fixed problem of AER occurring in Linux dmesg when Nvidia K80 is installed.
- 33. Fixed inability of system to boot into OS environment with Apacer M2.
- 34. Fixed failure of SOL after BIOS update on the platform without real COM2.
- 35. Fixed inability to Boot Option of UEFI Application Boot Priorities to load default via Afu tool with command "/N".
- 36. Changed the "SATA Interrupt Selection" default value to MSI.
- 37. Fixed problem of system hanging in CP: 94h when three interposer add-on cards and one M.2 PCIe NVMe add-on card are plugged in.
- 38. Fixed issue of PCR#1 value to be changed during Legacy boot with TPM 2.0 when Measure Smbios tables is disabled.
- 39. Fixed problem of system hanging up at 0x94.
- 40. Fixed problem of the system having an exception while entering BIOS Setup with NVMe M2*1 + SATA M2*1.
- 41. Fixed problem of the system hanging in CP: 0xF4 when the system recovery occurs in BIOS with TPM module.
- 42. Fixed failure of workaround for BIOS flash with 156 bytes PubKey (Error: "Secure Flash Rom Verify Fail").
- 43. Updated "Restore Optimized Defaults" string for Mehlow Server template.
- 44. Modified UEFI network description to IPv4/IPv6 to follow Industry Standard.

- 45. Removed processor version "Type" string for Mehlow Server template.
- 46. Added Disabled option for "Onboard Video Option ROM" setup item.
- 47. Fixed problem of hot-plug register setting when an add-on card is not plugged in the PCH root port bridge.
- 48. Fixed issue of onboard video output displaying screen on DXE stage when JPG1 is disabled.
- 49. Fixed problem of BMC VGA status being enabled in SMBIOS Type 41 when JPG1 is disabled (In 2-3).