**NUC-G BIOS ENGINEERING**



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BIOS Update Release Notes

**Alder Lake-P Standard BIOS**

**PRODUCTS**: NUC12WSxi3, NUC12WSxi5, NUC12WSxi7 (Wall Street Canyon)

### WSADL357.0087.2023.0306.1931 Production BIOS

**About This Release:**

* Date: MAR 10, 2023
* ROM Image Checksum: 939D957C
* **EC Firmware: WSTC49.00.00**
* **ME Firmware: 16.1.25.2124**
* PCH Configuration Firmware: 16.1.0.1014
* PMC Firmware: 160.01.00.1029
* iTBT Firmware: TBT\_ADL\_MP\_ALL\_19.1V1\_Rel
* IOM Firmware: 24.0006.0.0
* Retimer Firmware in BIOS capsule: rev3\_10
* NPHY Firmware: 14.530.508.8257
* Platform Properties Assessment Module: 11.22a.7
* CRB Label: 052
* Boot Guard ACM: 1.18.10
* Bios Guard: 2.0.5021
* Silicon Initialization Code: 0C.00.69.74 (3253.00)
* Memory Reference Code: 0.0.4.60
* Integrated Graphics:
  + UEFI Driver: 21.0.1054
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.3.0.5671
* AHCI Code: Base on AHCI\_30
* Visual BIOS: Intel AptioV
* Supported Flash Devices:
  + Macronix MX25L25673GZ4I-08G 32MB
  + GigaDevice GD25B256EYIGR 32MB
* Microcode Updates included in .BIN & .CAP Files:
  + M80906A2\_00000315.pdb
  + **M80906A3\_00000429.pdb**

**Feature Changes/Updates/Fixes:**

**Based on WS0086.**

1. Fixed: [AMI Change][EIP 729753][Security] “OpenSSL” (CVE-2022-3786 & CVE-2022-3602) security vulnerabilities.
2. Fixed: [AMI Change][EIP 727886][SA50157] UEFI Boot Variables Access.
3. Fixed: [AMI Change][EIP 729952][SA50148] SDIO\_DEV\_CONFIGURATION SetVariable NVRAM Corruption.
4. Fixed: [AMI Change][EIP 729522][PTK2712/SA50175] UEFI Variable access vulnerability.
5. Fixed: [AMI Change][EIP 724084][SA50170] SmmEntryPoint Underflow Vulnerability.
6. Fixed: [AMI Change][EIP 731101][PTK2427/SA50140] Stack Buffer overflow vulnerability leads to arbitrary code execution in DXE driver on Intel platforms.
7. **Updated: [AMI Change][EIP 729757] CPU Microcode to M80906A3\_00000429.pdb**
8. **Updated: [AMI Changes] ME FW to 16.1.25.2124.**
9. Fixed: [AMI Change][EIP 729752] Building Process optimize\_avoid UQI duplicates.
10. Updated: [AMI Change][EIP 729751] NUC Setup Spec v0.79: Added BIOS WU Support.
11. **Updated: [AMI Change][EIP 728713] Update EC FW to WSTC49.00.00 for Wall Street WMI Interface Spec 1.1**
12. Updated: [AMI Change][EIP 729750] BIOS Password Entry Points\_F8 hot key.

**Known Errata:**

1. **NOTE!! If current BIOS on WSADLV57 and WSADL357 is before 0034, this BIOS will fuse the board with the Intel Signing Key.**
2. **Blocked BIOS Flash/Recovery downgrade to WS0084 and previous if board has NEW MAX4210 power sensing IC.**
3. **WU files for test use only.**

**Alder Lake-P Standard BIOS**

**PRODUCTS**: NUC12WSxi3, NUC12WSxi5, NUC12WSxi7 (Wall Street Canyon)

### WSADL357.0086.2022.1103.1433 Production BIOS

**About This Release:**

* Date: NOV 3, 2022
* ROM Image Checksum: 93BA5FE8
* **EC Firmware: WSTC46.00.00**
* ME Firmware: 16.1.25.1865
* PCH Configuration Firmware: 16.0.0.1012\_v2
* PMC Firmware: 160.01.00.1028
* iTBT Firmware: TBT\_ADL\_MP\_ALL\_17.5V1\_Rel
* IOM Firmware: 24.0004.0.0
* Retimer Firmware in BIOS capsule: rev3\_10
* NPHY Firmware: 14.528.505.8211
* Platform Properties Assessment Module: 11.22a.7
* CRB Label: 052
* Boot Guard ACM: 1.18.10
* Bios Guard: 2.0.5021
* Silicon Initialization Code: 0C.00.69.74 (3253.00)
* Memory Reference Code: 0.0.4.60
* Integrated Graphics:
  + UEFI Driver: 21.0.1054
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.3.0.5671
* AHCI Code: Base on AHCI\_30
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Visual BIOS: Intel AptioV
* Supported Flash Devices:
  + Macronix MX25L25673GZ4I-08G 32MB
  + GigaDevice GD25B256EYIGR 32MB
* Microcode Updates included in .BIN & .CAP Files:
  + M80906A2\_00000315.pdb
  + M80906A3\_00000421.pdb

**Feature Changes/Updates/Fixes:**

**Based on WS0085.**

1. Updated: [AMI Change][EIP 706230][IPU] 2022 IPU update: 2022.3.
2. Fixed: [AMI Change][EIP 710067][PTK2872] Potential hack of EBU DLL.
3. Fixed: [AMI Change][EIP 711085][PTK2828/PTK2829] Intel NUC 8 vulnerability/Intel NUC 8 info leak vulnerability.
4. Fixed: [AMI Change][EIP 701908][SA50085] Grub Bootloader Vulnerability.
5. Added: [AMI Change][EIP 711036][Security] Implement S3 reboot code in MS support project.
6. Added: [AMI Change][EIP 694578][PTK2703] Fix for arbitrary code execution in DXE driver.
7. Fixed: [AMI Change][EIP 696299][PTK2617] SMM memory corruption vulnerability in SMM driver on Intel platforms.
8. Fixed: [AMI Change][EIP 697730][PTK2778] Stack overflow vulnerability in SMI handler.
9. Fixed: [AMI Change][PTK2712] UEFI Variable access vulnerability.
10. Fixed: [AMI Change][EIP 712932][SA50088] TianoCore Security Issues.
11. Fixed:[AMI Change][EIP 703037][QTC-266] The "Processor Ring Frequency" value in BIOS did not match with BIOS Spec v0.75.
12. Added: [AMI Change][EIP 712230] Added a warning message of “BIOS rollback flash” in BIOS flash due to 2nd source of power sensing IC support problem.
13. Added: [AMI Change][EIP 711699] Enable WiFi 6E support for Japan.
14. Added: [AMI Change][EIP 699606] Enable Wireless Bluetooth audio offload support.
15. **Updated: [ODM Change] EC FW to WSTC46.00.00.**
16. Added: [AMI Change] Added “Total Memory Encryption” item in BIOS Setup.
17. Added: [AMI Change] Add “StdDefaults” into “ProtectedNvVariableForRuntime” E-Link.
18. Added: [AMI Change] Variable Struct Counter.
19. Added: [AMI Change][EIP 712393] VBT setting for pre-OS dual displays.
20. Updated: [AMI Change][EIP 713738] HDD LED & Brightness & Behavior.
21. Fixed: [AMI Change][EIP 706500][WHQL][Vpro] BitLocker Tpm And Recovery Password tests for AOAC devices with PCR[7].
22. Fixed: [AMI Change][EIP 711702][NPSS] Disabled persistent from black screen >> C option and observed that during NPSS primary configuration, still getting msg to disable persistent.
23. Fixed: [AMI Change][EIP 712313] “iSetupCfg”, Removed duplicate questions found.
24. Fixed: [AMI Change] “iSetupCfg”, Not able to change default value of PLx/Fan cuver parameters due to StdDefault override mechanism.
25. Fixed: [AMI Change][EIP 713580] BIOS POST hangs w/ TBT GR card connected.

**Known Errata:**

1. **NOTE!! If current BIOS on WSADLV57 and WSADL357 is before 0034, this BIOS will fuse the board with Intel Signing Key.**
2. **Blocked BIOS downgrade to WS0084 and earlier if board has NEW MAX4210 power sensing IC.**
3. **WU files for test use only.**

**Alder Lake-P Standard BIOS**

**PRODUCTS**: NUC12WSxi3, NUC12WSxi5, NUC12WSxi7 (Wall Street Canyon)

### WSADL357.0085.2022.0718.1739 Production BIOS

**About This Release:**

* Date: JUL 18, 2022
* ROM Image Checksum: 93C9BD20
* **ME Firmware: 16.1.25.1865**
* **EC Firmware: WSTC45.00.00**
* PD Firmware: 05.05.22
* PMC Firmware: 160.01.00.1028
* **Boot Guard ACM: 1.18.10**
* Memory Reference Code: Based on 0C.00.69.74 (3253.00)
* CRB Label: 052
* Integrated Graphics:
  + **UEFI Driver: 21.0.1054**
* Intel RST Pre-OS:
  + **VMD UEFI Driver: 19.3.0.5671**
* AHCI Code: Based on AHCI\_30
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Visual BIOS: Intel AptioV
* Supported Flash Devices:
  + Macronix MX25L25673GZ4I-08G 32MB
  + GigaDevice GD25B256EYIGR 32MB
* Microcode Updates included in .BIN & .CAP Files:
  + M80906A2\_00000315.pdb
  + **M80906A3\_00000421.pdb**

**New Fixes/Features:**

1. Changed: [AMI Changes] Remove Fan Control Mode item and default keep Automatic Fan Control Mode.
2. **Updated: [AMI Changes] Updated EC FW to WSTC450000.**
3. Added: [AMI Changes] Added support for NEW power sensing IC: MAX4210.
4. Added: [AMI Changes] Block BIOS downgrade to WS0084 and earlier if board has NEW MAX4210 power sensing IC.
5. **Updated: [AMI Changes][BIOS 0083] Updated ME FW to 16.1.25.1865 (v6.1).**
6. **Updated: [AMI Changes][BIOS 0083] Updated RST VMD UEFI driver to 19.3.0.5671 PV.**
7. **Updated: [AMI Changes][BIOS 0083] Updated Boot Guard ACM to 1.18.10.**
8. **Updated: [AMI Changes][BIOS 0083] Updated IGD Vbt to Vbt\_21.0.1054\_220704.bin**
9. **Updated: [AMI Changes][BIOS 0083] Updated CPU Microcode to M80906A3\_00000421.**

**Known Errata:**

1. **NOTE!! If BIOS on WSADLV57 and WSADL357 is before 0034, this BIOS will fuse the board with Intel Key.**
2. **Blocked BIOS downgrade to WS0084 and earlier if board has NEW MAX4210 power sensing IC.**
3. **WSTC EC is for Fab C only, please make sure which board config you have before flashing EC.**
4. **WU files for test use only.**

### WSADL357.0084.2022.0712.1624 Development BIOS

**About This Release:**

* Date: JUL 12, 2022
* ROM Image Checksum: 93CA39C0
* ME Firmware: 16.1.25.1865
* EC Firmware: WSTC44.00.00
* PD Firmware: 05.05.22
* PMC Firmware: 160.01.00.1028
* Boot Guard ACM: 1.18.10
* Memory Reference Code: Based on 0C.00.69.74 (3253.00)
* CRB Label: 052
* Integrated Graphics:
  + UEFI Driver: 21.0.1054
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.3.0.5671
* AHCI Code: Based on AHCI\_30
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .BIN & .CAP Files:
  + M80906A2\_00000315.pdb
  + M80906A3\_00000421.pdb

**New Fixes/Features:**

1. Updated: [AMI Changes] Updated Thunderbolt Retimer Firmware to rev 3.10 .
2. [AMI Changes][EIP None] Merge 5.26\_1AXFE\_RC0C.00.69.74(3253.00)\_052.

**Known Errata:**

1. **NOTE!! If BIOS on WSADLV57 and WSADL357 is before 0034, this BIOS will fuse the board with Intel Key.**
2. WS0034 BIOS Release was the first with Intel signing key.
3. Switched board SKU to QS, K stepping since WS0032.
4. **WSTC EC is for Fab C only, please make sure which board config you have before flashing EC.**
5. **WU files for test use only.**

### WSADL357.0083.2022.0707.1434 Development BIOS

**About This Release:**

* Date: JUL 7, 2022
* ROM Image Checksum: 9401C69C
* **ME Firmware: 16.1.25.1865**
* EC Firmware: WSTC44.00.00
* PD Firmware: 05.05.22
* PMC Firmware: 160.01.00.1028
* **Boot Guard ACM: 1.18.10**
* Memory Reference Code: Based on 0C.00.65.70 (3091.00)
* CRB Label: 040
* Integrated Graphics:
  + **UEFI Driver: 21.0.1054**
* Intel RST Pre-OS:
  + **VMD UEFI Driver: 19.3.0.5671**
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M80906A2\_00000315.pdb
  + **M80906A3\_00000421.pdb**

**New Fixes/Features:**

1. **[AMI Changes][EIP None] Update ME to 16.1.25.1865v6.1**
2. **[AMI Changes][EIP None] Update RST VMD UEFI driver to 19.3.0.5671 PV**
3. **[AMI Changes][EIP None] Update StartupACM to 1.18.10**
4. **[AMI Changes][EIP None] Update Vbt to Vbt\_21.0.1054\_220704.bin**
5. **[AMI Changes][EIP None] Update Microcode to M80906A3\_00000421.**
6. [AMI Changes][EIP None] Fine-tuning F6 message.
7. [AMI Changes][EIP685450] Vulnerability from kernel to SMM in multiple drivers for PTK1931.
8. [AMI Changes][EIP680603] Vulnerability in PEI module PTK2702
9. [AMI Changes][EIP680601] Vulnerability PTK2699
10. [AMI Changes][EIP None] Follow Master RDv3.10.01 draft to update "Message warning" when upgrade results means a downgrade is no possible.
11. [AMI Changes][EIP None] Follow Master RDv3.10.01 draft to update F6 String.
12. [AMI Changes][EIP676226] Review memory fragmentation on NUC-G module.
13. [AMI Changes][EIP None] Remove "Sleep Type support" and "Intel Smart Connect Technology" in iSetupCfg list.
14. [AMI Changes][EIP686150] After disabling all the USB ports in the BIOS, the unit was unrecoverable, even after BIOS recovery
15. [AMI Changes][EIP681956] PTT cannot work after PCH lost power

**Known Errata:**

1. **NOTE!! If BIOS on WSADLV57 and WSADL357 is before 0034, this BIOS will fuse the board with Intel Key.**
2. WS0034 BIOS Release was the first with Intel signing key.
3. Switched board SKU to QS, K stepping since WS0032.
4. **WSTC EC is for Fab C only, please make sure which board config you have before flashing EC.**
5. **WU files for test use only.**

### WSADL357.0082.2022.0517.1417 Development BIOS

**About This Release:**

* Date: May 17, 2022
* ROM Image Checksum: 94892D5A
* ME Firmware: 16.0.15.1735
* EC Firmware: WSTC44.00.00
* PD Firmware: 05.05.22
* PMC Firmware: 160.01.00.1023
* Boot Guard ACM: 1.18.09
* Memory Reference Code: Based on 0C.00.65.70 (3091.00)
* CRB Label: 040
* Integrated Graphics:
  + UEFI Driver: 21.0.1047
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .BIN & .CAP Files:
  + M80906A2\_00000315.pdb
  + M80906A3\_0000041B.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP None] Revert setting to control LED blink by EC when do BIOS Update.
2. [AMI Changes][EIP None] Update EC WSTC440000

**Known Errata:**

1. NOTE!! WSADLV57 and WSADL357 will fuse the board with Intel Key!!
2. Release with Intel key since WS0034.
3. Switch board SKU to QS, k stepping since WS0032.
4. WSTC EC is for fab C only, please make sure the board config before flashing EC.

### WSADL357.0081.2022.0510.1634 Development BIOS

**About This Release:**

* Date: May 10, 2022
* ROM Image Checksum: 94809701
* ME Firmware: 16.0.15.1735
* EC Firmware: WSTC43.00.00
* PD Firmware: 05.05.22
* PMC Firmware: 160.01.00.1023
* Boot Guard ACM: 1.18.09
* Memory Reference Code: Based on 0C.00.65.70 (3091.00)
* CRB Label: 040
* Integrated Graphics:
  + UEFI Driver: 21.0.1047
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .BIN & .CAP Files:
  + M80906A2\_00000315.pdb
  + M80906A3\_0000041B.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP None][PTK1433] PEI memory corruption on server boards and on majority of NUCs
2. [AMI Changes][EIP None] Update EC WSTC430000
3. [AMI Changes][EIP None] Correct USB OC setting.

**Known Errata:**

1. NOTE!! WSADLV57 and WSADL357 will fuse the board with Intel Key!!
2. Release with Intel key since WS0034.
3. Switch board SKU to QS, k stepping since WS0032.
4. WSTC EC is for fab C only, please make sure the board config before flashing EC.

### WSADL357.0080.2022.0503.1534 Development BIOS

**About This Release:**

* Date: May 3, 2022
* ROM Image Checksum: 94886ED9
* ME Firmware: 16.0.15.1735
* EC Firmware: WSTC42.00.00
* PD Firmware: 17.11.21
* PMC Firmware: 160.01.00.1023
* Boot Guard ACM: 1.18.09
* Memory Reference Code: Based on 0C.00.65.70 (3091.00)
* CRB Label: 040
* Integrated Graphics:
  + UEFI Driver: 21.0.1047
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .BIN & .CAP Files:
  + M80906A2\_00000315.pdb
  + M80906A3\_0000041B.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP None] Disable "Wake on USB from S5" as default.
2. [AMI Changes][EIP None] BIOS Warning message during BIOS WU.

**Known Errata:**

1. NOTE!! WSADLV57 and WSADL357 will fuse the board with Intel Key!!
2. Release with Intel key since WS0034.
3. Switch board SKU to QS, k stepping since WS0032.
4. WSTC EC is for fab C only, please make sure the board config before flashing EC.

### WSADL357.0079.2022.0426.1455 Development BIOS

**About This Release:**

* Date: Apr 26, 2022
* ROM Image Checksum: 948D9BB1
* ME Firmware: 16.0.15.1735
* EC Firmware: WSTC420000
* PD Firmware: 17.11.21
* PMC Firmware: 160.01.00.1023
* Boot Guard ACM: 1.18.09
* Memory Reference Code: Based on 0C.00.65.70 (3091.00)
* CRB Label: 040
* Integrated Graphics:
  + UEFI Driver: 21.0.1047
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .BIN & .CAP Files:
  + M80906A2\_00000315.pdb
  + M80906A3\_0000041B.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP None] Update EC WSTC420000
2. [AMI Changes][EIP678186] After Power Failure set to Power on and boot into Win, unplug AC power then plug in, DUT did not power on

**Known Errata:**

1. NOTE!! WSADLV57 and WSADL357 will fuse the board with Intel Key!!
2. Release with Intel key since WS0034.
3. Switch board SKU to QS, k stepping since WS0032.
4. WSTC EC is for fab C only, please make sure the board config before flashing EC.

### WSADL357.0078.2022.0413.1054 Development BIOS

**About This Release:**

* Date: Apr 13, 2022
* ROM Image Checksum: 94891D50
* ME Firmware: 16.0.15.1735
* EC Firmware: WSTC410000
* PD Firmware: 17.11.21
* PMC Firmware: 160.01.00.1023
* Boot Guard ACM: 1.18.09
* Memory Reference Code: Based on 0C.00.65.70 (3091.00)
* CRB Label: 040
* Integrated Graphics:
  + UEFI Driver: 21.0.1047
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .BIN & .CAP Files:
  + M80906A2\_00000315.pdb
  + M80906A3\_0000041B.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP653087][SN] Pressing F8 at the boot logo interface will not enter the Windows Recovery mode.
2. [AMI Changes][EIP None] Add default setting of CPU/SA setup under Config Mode
3. [AMI Changes][EIP None] Remove NSS support on WS.
4. [AMI Changes][EIP653602] POST logo (Intel NUC logo) displays too large on LG 27MD5KA-B TBT monitor.

**Known Errata:**

1. NOTE!! WSADLV57 and WSADL357 will fuse the board with Intel Key!!
2. Release with Intel key since WS0034.
3. Switch board SKU to QS, k stepping since WS0032.
4. WSTC EC is for fab C only, please make sure the board config before flashing EC.

### WSADL357.0077.2022.0406.1235 Development BIOS

**About This Release:**

* Date: Apr 6, 2022
* ROM Image Checksum: 948CE0A3
* ME Firmware: 16.0.15.1735
* EC Firmware: WSTC410000
* PD Firmware: 17.11.21
* PMC Firmware: 160.01.00.1023
* Boot Guard ACM: 1.18.09
* Memory Reference Code: Based on 0C.00.65.70 (3091.00)
* CRB Label: 040
* Integrated Graphics:
  + UEFI Driver: 21.0.1047
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .BIN & .CAP Files:
  + M80906A2\_00000315.pdb
  + M80906A3\_0000041B.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP None] Only vPro SKU support NSS.
2. [AMI Changes][EIP None] Follow EDS to modify the Term of GPIO GPP\_R1/GPP\_R2/GPP\_R3/GPD1/GPD2 to GpioTermNative.
3. [AMI Changes][EIP672469] Boot menu cannot detect USB flash through charge port on second time

**Known Errata:**

1. NOTE!! WSADLV57 and WSADL357 will fuse the board with Intel Key!!
2. Release with Intel key since WS0034.
3. Switch board SKU to QS, k stepping since WS0032.
4. WSTC EC is for fab C only, please make sure the board config before flashing EC.

### WSADL357.0076.2022.0330.1538 Development BIOS

**About This Release:**

* Date: Mar 30, 2022
* ROM Image Checksum: 949083C1
* ME Firmware: 16.0.15.1735
* EC Firmware: WSTC410000
* PD Firmware: 17.11.21
* PMC Firmware: 160.01.00.1023
* Boot Guard ACM: 1.18.09
* Memory Reference Code: Based on 0C.00.65.70 (3091.00)
* CRB Label: 040
* Integrated Graphics:
  + UEFI Driver: 21.0.1047
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .BIN & .CAP Files:
  + M80906A2\_00000315.pdb
  + M80906A3\_0000041B.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP None] Update EC WSTC410000.
2. [AMI Changes][EIP None] System hangs during boot if NVRAM is exactly full (Patch from NVRAM\_26)
3. [AMI Changes][EIP654388] SPEC AX211 6E\_South Korea/Chile.
4. [AMI Changes][EIP672668] All USB port cannot detect USB flash on boot menu after disabled "USB via M.2 2242 slot" in BIOS.

**Known Errata:**

1. NOTE!! WSADLV57 and WSADL357 will fuse the board with Intel Key!!
2. Release with Intel key since WS0034.
3. Switch board SKU to QS, k stepping since WS0032.
4. WSTC EC is for fab C only, please make sure the board config before flashing EC.

**Alder Lake-P Standard BIOS**

**PRODUCTS**: NUC12WSxi3, NUC12WSxi5, NUC12WSxi7 (Wall Street Canyon)

### WSADL357.0075.2022.0322.1605 Production BIOS

**About This Release:**

* Date: Mar 22, 2022
* ROM Image Checksum: 949012BD
* **ME Firmware: 16.0.15.1735**
* EC Firmware: WSTC390000
* PD Firmware: 17.11.21
* PMC Firmware: 160.01.00.1023
* Boot Guard ACM: 1.18.09
* Memory Reference Code: Based on 0C.00.65.70 (3091.00)
* CRB Label: 040
* Integrated Graphics:
  + UEFI Driver: 21.0.1047
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Visual BIOS: Intel AptioV
* Supported Flash Devices:
  + Macronix MX25L25673GZ4I-08G 32MB
  + GigaDevice GD25B256EYIGR 32MB
* Microcode Updates included in .BIN & .CAP Files:
  + M80906A2\_00000315.pdb
  + **M80906A3\_0000041B.pdb**

**New Fixes/Features:**

1. **Updated: [AMI Changes] Updated ME FW to 16.0.15.1735.**
2. **Updated: [AMI Changes] Updated CPU Microcode to M80906A3\_0000041B.**
3. Added: [AMI Changes] Merge 5.25\_1AXFE\_RC0C.00.65.70(3091.00)\_040.
4. Added: [AMI Changes] Use Unlock ME XML setting when BIOS is TSE Setup DBIOS.

**Known Errata:**

1. **NOTE!! If BIOS on WSADLV57 and WSADL357 is before 0034, this BIOS will fuse the board with Intel Key.**
2. WS0034 BIOS Release was the first with Intel signing key.
3. Switched board SKU to QS, K stepping since WS0032.
4. **WSTC EC is for Fab C only, please make sure which board config you have before flashing EC.**
5. **WU files for test use only.**

### WSADL357.0074.2022.0315.1719 Development BIOS

**About This Release:**

* Date: Mar 15, 2022
* ROM Image Checksum: 94D88958
* ME Firmware: 16.0.15.1662
* EC Firmware: WSTC390000
* PD Firmware: 17.11.21
* PMC Firmware: 160.01.00.1019
* Boot Guard ACM: 1.18.7
* Memory Reference Code: Based on 0C.00.65.70 (3031.02)
* CRB Label: 038
* Integrated Graphics:
  + **UEFI Driver: 21.0.1047**
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Visual BIOS: Intel AptioV
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .BIN & .CAP Files:
  + M80906A2\_00000315.pdb
  + M80906A3\_00000418.pdb

**New Fixes/Features:**

1. Fixed: [AMI Changes][EIP669914] Advanced sheet has 2 items in BIOS that can be enabled after setting BIOS Master Password then using User Password to enter BIOS Setup.
2. Fixed: [AMI Changes][EIP663895] DUT triggers WDT randomly.
3. **Updated: [AMI Changes] Updated IGD VBT to Vbt\_21.0.1047\_220221.bin.**

**Known Errata:**

1. **NOTE!! If BIOS on WSADLV57 and WSADL357 is before 0034, this BIOS will fuse the board with Intel Key.**
2. WS0034 BIOS Release was the first with Intel signing key.
3. Switched board SKU to QS, K stepping since WS0032.
4. **WSTC EC is for Fab C only, please make sure which board config you have before flashing EC.**
5. **WU files for test use only.**

**Alder Lake-P Standard BIOS**

**PRODUCTS**: NUC12WSxi3, NUC12WSxi5, NUC12WSxi7 (Wall Street Canyon)

### WSADL357.0073.2022.0302.1157 Pilot Production BIOS

**About This Release:**

* Date: Mar 2, 2022
* ROM Image Checksum: 94D000FA
* ME Firmware: 16.0.15.1662
* EC Firmware: WSTC39.00.00
* PD Firmware: 17.11.21
* PMC Firmware: 160.01.00.1019
* Boot Guard ACM: 1.18.7
* Memory Reference Code: Based on 0C.00.65.70 (3031.02)
* CRB Label: 038
* Integrated Graphics:
  + UEFI Driver: 21.0.1047
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Visual BIOS: Intel AptioV
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .BIN & .CAP Files:
  + M80906A2\_00000315.pdb
  + M80906A3\_00000418.pdb

**New Fixes/Features:**

**Pilot BIOS Release.**

1. Added: [AMI Changes][EIP None] Enable UpidOsControlState as Default.
2. Updated: [AMI Changes][EIP None] Update GOP to Vbt\_21.0.1047\_220228\_HPD\_DISABLE.bin.
3. Fixed: [AMI Changes][EIP666376] BIOS Update blink code color behavior is abnormal if user changed default color setting.

**Known Errata:**

1. **NOTE!! If BIOS on WSADLV57 and WSADL357 is before 0034, this BIOS will fuse the board with Intel Key.**
2. WS0034 BIOS Release was the first with Intel signing key.
3. Switched board SKU to QS, K stepping since WS0032.
4. **WSTC EC is for Fab C only, please make sure which board config you have before flashing EC.**
5. **WU files for test use only.**

### WSADL357.0072.2022.0228.2014 Production WS Lite Pilot BIOS

**About This Release:**

* Date: Feb 28, 2022
* ROM Image Checksum: 94EA68E2
* ME Firmware: 16.0.15.1620v3.2
* EC Firmware: WSTC38.00.00
* PD Firmware: 17.11.21
* PMC Firmware: 160.01.00.1019
* Boot Guard ACM: 1.18.7
* Memory Reference Code: Based on 0C.00.65.70 (2511.04)
* CRB Label: 036
* Integrated Graphics:
  + UEFI Driver: 21.0.1046
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .BIN & .CAP Files:
  + M80906A2\_00000314.pdb
  + M80906A3\_00000414.pdb

**New Fixes/Features:**

1. Based on WS0066
2. [AMI Changes][EIP None] Update GOP to Vbt\_21.0.1046\_220228\_HPD\_DISABLE

**Known Errata:**

1. NOTE!! WSADL357 will fuse the board with Intel Key!!
2. Release with Intel key since WS0034.
3. Switch board SKU to QS, k stepping since WS0032.
4. WSTC EC is for fab C only, please make sure the board config before flashing EC.

### WSADL357.0071.2022.0222.1713 Development BIOS

**About This Release:**

* Date: Feb 22, 2022
* ROM Image Checksum: 94D9B0F4
* ME Firmware: 16.0.15.1662
* EC Firmware: WSTC390000
* PD Firmware: 17.11.21
* PMC Firmware: 160.01.00.1019
* Boot Guard ACM: 1.18.7
* Memory Reference Code: Based on 0C.00.65.70 (3031.02)
* CRB Label: 038
* Integrated Graphics:
  + UEFI Driver: 21.0.1046
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .BIN & .CAP Files:
  + M80906A2\_00000315.pdb
  + M80906A3\_00000418.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP None] Update EC WSTC390000
2. [AMI Changes][EIP None] Remove 'Save&Exit' Page in Setup.
3. [AMI Changes][EIP664616] Implement Thermal Table and PL setting v5 and change i3 fan mode setup setting.

**Known Errata:**

1. NOTE!! WSADLV57 and WSADL357 will fuse the board with Intel Key!!
2. Release with Intel key since WS0034.
3. Switch board SKU to QS, k stepping since WS0032.
4. WSTC EC is for fab C only, please make sure the board config before flashing EC.

### WSADL357.0070.2022.0215.1522 Development BIOS

**About This Release:**

* Date: Feb 15, 2022
* ROM Image Checksum: 94D47875
* ME Firmware: 16.0.15.1662
* EC Firmware: WSTC380000
* PD Firmware: 17.11.21
* PMC Firmware: 160.01.00.1019
* Boot Guard ACM: 1.18.7
* Memory Reference Code: Based on 0C.00.65.70 (3031.02)
* CRB Label: 038
* Integrated Graphics:
  + UEFI Driver: 21.0.1046
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .BIN & .CAP Files:
  + M80906A2\_00000315.pdb
  + M80906A3\_00000418.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP None] Update Microcode code to M80906A3\_00000418.
2. [AMI Changes][EIP663952] Implement Signed TBT FW v3.7
3. [AMI Changes][EIP664616] Implement Thermal Table and PL setting v5 and change i3 fan mode setup setting.

**Known Errata:**

1. NOTE!! WSADLV57 and WSADL357 will fuse the board with Intel Key!!
2. Release with Intel key since WS0034.
3. Switch board SKU to QS, k stepping since WS0032.
4. WSTC EC is for fab C only, please make sure the board config before flashing EC.

### WSADL357.0069.2022.0209.1107 Development BIOS

**About This Release:**

* Date: Feb 9, 2022
* ROM Image Checksum: 94D85F2B
* ME Firmware: 16.0.15.1662
* EC Firmware: WSTC380000
* PD Firmware: 17.11.21
* PMC Firmware: 160.01.00.1019
* Boot Guard ACM: 1.18.7
* Memory Reference Code: Based on 0C.00.65.70 (3031.02)
* CRB Label: 038
* Integrated Graphics
  + UEFI Driver: 21.0.1046
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M80906A2\_00000315.pdb
  + M80906A3\_00000416.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP654238] BIOS support MSFT Win11 Security Level 3 requirement.
2. [AMI Changes][EIP None] Correct the GPIO sequence of Lan.
3. [AMI Changes][EIP None] Merge 5.25\_1AXFE\_RC0C.00.65.70(3031.02)\_038.
4. [AMI Changes][EIP None] Force enable Tco Timers

**Changes:**

N/A

**Known Errata:**

1. NOTE!! WSADLV57 and WSADL357 will fuse the board with Intel Key!!
2. Release with Intel key since WS0034.
3. Switch board SKU to QS, k stepping since WS0032.
4. WSTC EC is for fab C only, please make sure the board config before flashing EC.

### WSADL357.0068.2022.0125.1730 Development BIOS

**About This Release:**

* Date: Jan 25, 2022
* ROM Image Checksum: 94DA5F66
* ME Firmware: 16.0.15.1662
* EC Firmware: WSTC380000
* PD Firmware: 17.11.21
* PMC Firmware: 160.01.00.1019
* Boot Guard ACM: 1.18.7
* Memory Reference Code: Based on 0C.00.65.70 (3031.01)
* CRB Label: 037
* Integrated Graphics
  + UEFI Driver: 21.0.1046
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M80906A2\_00000315.pdb
  + M80906A3\_00000416.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP None] WS vPro SKU Pre-Lock
2. [AMI Changes][EIP658682] System will get black screen when disconnect HDMI port then into BIOS menu and connect HDMI port.
3. [AMI Changes][EIP None] Merge 5.25\_1AXFE\_RC0C.00.65.70(3031.01)\_037
4. [AMI Changes][EIP660279] Button LED Modern Standby Indicator Blinking Behavior set to "Strobling" in BIOS is not responded.

**Changes:**

N/A

**Known Errata:**

1. NOTE!! WSADLV57 and WSADL357 will fuse the board with Intel Key!!
2. Release with Intel key since WS0034.
3. Switch board SKU to QS, k stepping since WS0032.
4. WSTC EC is for fab C only, please make sure the board config before flashing EC.

### WSADL357.0067.2022.0118.2311 Development BIOS

**About This Release:**

* Date: Jan 18, 2022
* ROM Image Checksum: 94DE22EE
* ME Firmware: 16.0.15.1662
* EC Firmware: WSTC380000
* PD Firmware: 17.11.21
* PMC Firmware: 160.01.00.1019
* Boot Guard ACM: 1.18.7
* Memory Reference Code: Based on 0C.00.65.70 (3023.00)
* CRB Label: 037
* Integrated Graphics
  + UEFI Driver: 21.0.1046
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M80906A2\_00000315.pdb
  + M80906A3\_00000416.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP None] Re-Sync TXT setting to CMOS at early phase.
2. [AMI Changes][EIP None] Update GOP to WS\_ADL-P\_N\_M\_GraphicsPkg\_21.0.1046\_220117
3. [AMI Changes][EIP None] Update ME to 16.0.15.1662
4. [AMI Changes][EIP None] Update MCU to M80906A2\_00000315 and M80906A3\_00000416
5. [AMI Changes][EIP None] Merge (BETA)5.25\_1AXFE\_RC0C.00.65.70(3023.00)\_037
6. [AMI Changes][EIP660030] Lan loss issue DBIOS for ODM test
7. [AMI Changes][EIP660000] Unit will always reboot if change HW configuration and enable TXT after provision.
8. [AMI Changes][EIP659356] Add Upid items to Advanced Page on vPro SKU.
9. [AMI Changes][EIP659844] Set USB Provision of AMT default as disable.

**Changes:**

N/A

**Known Errata:**

1. NOTE!! WSADL357 will fuse the board with Intel Key!!
2. Release with Intel key since WS0034.
3. Switch board SKU to QS, k stepping since WS0032.
4. WSTC EC is for fab C only, please make sure the board config before flashing EC.

### WSADL357.0066.2022.0111.1729 Development BIOS

**About This Release:**

* Date: Jan 11, 2022
* ROM Image Checksum: 94EF8750
* ME Firmware: 16.0.15.1620v3.2
* EC Firmware: WSTC380000
* PD Firmware: 17.11.21
* PMC Firmware: 160.01.00.1019
* Boot Guard ACM: 1.18.7
* Memory Reference Code: Based on 0C.00.65.70 (2511.04)
* CRB Label: 036
* Integrated Graphics
  + UEFI Driver: 21.0.1044
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M80906A2\_00000314.pdb
  + M80906A3\_00000414.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP None] Modify WMI Major Version is 0x0B and Minor Version is 0x1C of 601 Method.
2. [AMI Changes][EIP None] Follow SPG Module to modify the name of SD Card.
3. [AMI Changes][EIP659547] L10 Energy Star detect SKU number code change and follow SKU table v1.14 .
4. [AMI Changes][EIP None] Update XML by BPG v3.3
5. [AMI Changes][EIP659101] System will stuck on the post screen and no Intel NUC logo when system wake from hibernate mode using task scheduler.
6. [AMI Changes][EIP NONE] Add patch of EIP641279 - F10 boot menu issue Display abnormal from EdenBay.

**Changes:**

N/A

**Known Errata:**

1. NOTE!! WSADL357 will fuse the board with Intel Key!!
2. Release with Intel key since WS0034.
3. Switch board SKU to QS, k stepping since WS0032.
4. WSTC EC is for fab C only, please make sure the board config before flashing EC.

### WSADL357.0065.2022.0107.1216 Development BIOS

**About This Release:**

* Date: Jan 7, 2022
* ROM Image Checksum: 94F02F8E
* ME Firmware: 16.0.15.1620v3.2
* EC Firmware: WSTC380000
* PD Firmware: 17.11.21
* PMC Firmware: 160.01.00.1019
* Boot Guard ACM: 1.18.7
* Memory Reference Code: Based on 0C.00.65.70 (2511.04)
* CRB Label: 036
* Integrated Graphics
  + UEFI Driver: 21.0.1044
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M80906A2\_00000314.pdb
  + M80906A3\_00000414.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP None] Disable Network Boot as default.
2. [AMI Changes][EIP None] Block downgrade to WS0064. Correct the judgement code for LED Setting.
3. [AMI Changes][EIP None] Merge (BETA)5.25\_1AXFE\_RC0C.00.65.70(2511.04)\_036
4. [AMI Changes][EIP None] WS Non-vPro SKU Pre-Lock
5. [AMI Changes][EIP None] Update EC WSTC380000
6. [AMI Changes][EIP None] Disable Firmware Update Page of Setup after CRB036
7. [AMI Changes][EIP633400] WMI test return value fail.
8. [AMI Changes][EIP None] Disable LPM S0i3.0 as default.
9. [AMI Changes][EIP656312] WSL-WHQL USB Exposed Port System Test-Fail
10. [AMI Changes][EIP657200] Disable Rear Type A port(Upper/Lower) in the BIOS but it is workable under OS.

**Changes:**

N/A

**Known Errata:**

1. NOTE!! WSADL357 will fuse the board with Intel Key!!
2. Release with Intel key since WS0034.
3. Switch board SKU to QS, k stepping since WS0032.
4. WSTC EC is for fab C only, please make sure the board config before flashing EC.

### WSADL357.0064.2021.1228.1549 Development BIOS

**About This Release:**

* Date: Dec 28, 2021
* ROM Image Checksum: 94F73588
* ME Firmware: 16.0.15.1620v3.2
* EC Firmware: WSTC370000
* PD Firmware: 17.11.21
* PMC Firmware: 160.01.00.1019
* Boot Guard ACM: 1.18.7
* Memory Reference Code: Based on 0C.00.65.70 (2511.00)
* CRB Label: 034
* Integrated Graphics
  + UEFI Driver: 21.0.1044
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M80906A2\_00000314.pdb
  + M80906A3\_00000414.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP656538] Hardware Security Testability Interface Test-Fail.
2. [AMI Changes][EIP None] Update GOP to 21.0.1044\_211227.
3. [AMI Changes][EIP None] MCU update to 906A2\_314 and 906A3\_414
4. [AMI Changes][EIP None] ME Update to 15.0.15.1620v3.2. WS\_Consumer\_211227.xml WS\_Corporate\_211227.xml update.
5. [AMI Changes][EIP654035] DnX Enable\_Implement Pega OEM Key Hash
6. [AMI Changes][EIP633400] Modify EC RAM 0x5C0 Bit7 when modify RGB LED through WMI
7. [AMI Changes][EIP None] Force Deployed mode after SecureBoot\_39
8. [AMI Changes][EIP656130] The "M.2 slot 1" display incorrect name in the BIOS, which is not match BIOS Spec v0.75

**Changes:**

N/A

**Known Errata:**

1. Release with Intel key since WS0034.
2. Switch board SKU to QS, k stepping since WS0032.
3. WSTC EC is for fab C only, please make sure the board config before flashing EC.

### WSADL357.0063.2021.1221.1801 Development BIOS

**About This Release:**

* Date: Dec 21, 2021
* ROM Image Checksum: 95306D9B
* ME Firmware: 16.0.15.1605v1.1
* EC Firmware: WSTC370000
* PD Firmware: 17.11.21
* PMC Firmware: 160.01.00.1016
* Boot Guard ACM: 1.18.7
* Memory Reference Code: Based on 0C.00.65.70 (2511.00)
* CRB Label: 034
* Integrated Graphics
  + UEFI Driver: 21.0.1043
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M80906A2\_00000311.pdb
  + M80906A3\_00000413.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP655442] Lan 1.82 without customize BIOS GPP\_E7 code change
2. [AMI Changes][EIP NONE] Update EC WSTC370000
3. [AMI Changes][EIP NONE] Merge 5.24\_1AXFE\_RC0C.00.65.70(2511.00)\_034
4. [AMI Changes][EIP NONE] Raise the priority for display emulation event
5. [AMI Changes][EIP NONE] By change from Intel doc #685045, tuning CPU PCIE MLS
6. Revert "[AMI Changes][EIP654238] BIOS support MSFT Win11 Security Level 3 requirement"
7. [AMI Changes][EIP653592] SPEC AX211 6E\_USA/ EU/ Brazil
8. [AMI Changes][EIP NONE] Enable TOKEN for F6 exit MFG mode

**Changes:**

N/A

**Known Errata:**

1. Release with Intel key since WS0034.
2. Switch board SKU to QS, k stepping since WS0032.
3. WSTC EC is for fab C only, please make sure the board config before flashing EC.

### WSADL357.0062.2021.1214.1735 Development BIOS

**About This Release:**

* Date: Dec 14 2021
* ROM Image Checksum: 9535BF3E
* ME Firmware: 16.0.15.1605v1.1
* EC Firmware: WSTC360000
* PD Firmware: 17.11.21
* PMC Firmware: 160.01.00.1016
* Boot Guard ACM: 1.18.7
* Memory Reference Code: Based on 0C.00.62.10 (2471.04)
* CRB Label: 033
* Integrated Graphics
  + UEFI Driver: 21.0.1043
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M80906A2\_00000311.pdb
  + M80906A3\_00000413.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP653339] Energy Star logo remove when unit use PP SKU number
2. [AMI Changes][EIP650333] Re-enable BIOS Lan but find YB in Device manager
3. [AMI Changes][EIP NONE] Update retimer FW v3.7\_1210
4. [AMI Changes][EIP653592] SPEC AX211 6E\_USA/ EU/ Brazil
5. [AMI Changes][EIP NONE] Update EC WSTC360000
6. [AMI Changes][EIP654373] Fan Table update to v3 and fix previously wrong value
7. [AMI Changes][EIP NONE] Support to press F6 key from BIOS setup to exit MFG mode
8. [AMI Changes][EIP NONE] Merge 5.24\_1AXFE\_RC0C.00.62.10(2471.04)\_033 from ADL\_NPI

**Changes:**

N/A

**Known Errata:**

1. Release with Intel key since WS0034.
2. Switch board SKU to QS, k stepping since WS0032.
3. WSTC EC is for fab C only, please make sure the board config before flashing EC.

### WSADL357.0061.2021.1207.1705 Development BIOS

**About This Release:**

* Date: Dec 07 2021
* ROM Image Checksum: 9541F7AA
* ME Firmware: 16.0.15.1605v1.1
* EC Firmware: WSTC350000
* PD Firmware: 17.11.21
* PMC Firmware: 160.01.00.1016
* Boot Guard ACM: 1.18.7
* Memory Reference Code: Based on 0C.00.62.10
* CRB Label: 032
* Integrated Graphics
  + UEFI Driver: 21.0.1043
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M80906A2\_00000311.pdb
  + M80906A3\_00000413.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP NONE] Fix system hang after WOL on non-Vpro SKU
2. [AMI Changes][EIP NONE] Dynamically disable UCM device via setup item TcssUcmDevice under OS
3. [AMI Changes][EIP NONE] Update EC WSTC350000 and WSTCv350000
4. [AMI Changes][EIP652535] Fan table RPM mode min duty incorrect
5. [AMI Changes][EIP640618] SPEC Defeature SKU BIOS request
6. [AMI Changes][EIP653332] ME Secure Erase mode default setting change to Real Mode
7. [AMI Changes][EIP651116] System shows windows logo after scanning IPv4 & IPv6 timeout

**Changes:**

N/A

**Known Errata:**

1. Release with Intel key since WS0034.
2. Switch board SKU to QS, k stepping since WS0032.
3. WSTC EC is for fab C only, please make sure the board config before flashing EC.

### WSADL357.0060.2021.1201.1623 Development BIOS

**About This Release:**

* Date: Dec 01 2021
* ROM Image Checksum: 9545E665
* ME Firmware: 16.0.15.1605v1.1
* EC Firmware: WSTC340000
* PD Firmware: 17.11.21
* PMC Firmware: 160.01.00.1016
* Boot Guard ACM: 1.18.7
* Memory Reference Code: Based on 0C.00.62.10
* CRB Label: 032
* Integrated Graphics
  + UEFI Driver: 21.0.1043
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M80906A2\_00000311.pdb
  + M80906A3\_00000413.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP NONE] Update GOP1043, ME1605 and ACM 1.18.07
2. [AMI Changes][EIP NONE] Update BPG v2.9 and retimer FW v3.7
3. [AMI Changes][EIP NONE] Update EC WSTC340000 and WSTCv340000
4. [AMI Changes][EIP NONE] Update Consumer ME 1605 v1.1
5. [AMI Changes][EIP650251] L10 Energy Star detect SKU number code change and follow SKU table v1.13
6. [AMI Changes][EIP NONE] Default disable SaGv
7. [AMI Changes][EIP 645115] Hardware Security Testability Interface Test (0x00030004 Platform Auth accessible via 0x00000000)
8. [AMI Changes][EIP NONE] Fix retimer FW flash fail
9. [AMI Changes][EIP NONE] Merge 5.24\_1AXFE\_RC0C.00.62.10(2471.01)\_032 from ADL\_NPI
10. [AMI Changes][EIP NONE] Reserve setup structure for NVRAM lock
11. [AMI Changes][EIP NONE] Adding Intel sign TOKENs
12. [AMI Changes][EIP NONE] By change from Intel doc #689884, tuning CPU PCIE EQ of Gen4&Gen5
13. [AMI Changes][EIP NONE] Separate K and LR stepping for ME build and block downgrade for L&R stepping
14. [AMI Changes][EIP651113] System cannot wake on from G3 mode

**Changes:**

N/A

**Known Errata:**

1. Release with Intel key since WS0034.
2. Switch board SKU to QS, k stepping since WS0032.
3. WSTC EC is for fab C only, please make sure the board config before flashing EC.

### WSADL357.0033.2021.1116.1621 Development BIOS

**About This Release:**

* Date: Nov 16 2021
* ROM Image Checksum: A745E2A6
* ME Firmware: 16.0.15.1579v6
* EC Firmware: WSTC330000
* PD Firmware: 25.08.21
* PMC Firmware: 160.01.00.1016
* Boot Guard ACM: 1.18.5
* Memory Reference Code: Based on 0C.00.60.10
* CRB Label: 031
* Integrated Graphics
  + UEFI Driver: 21.0.1040
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M80906A2\_00000311.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP NONE] Set SLP\_A\_MIN\_ASST\_WDTH to 0s
2. [AMI Changes][EIP NONE] Disable sub-function under ADSP
3. [AMI Changes][EIP NONE] Update WS\_CORP XML by BPG v2.6
4. [AMI Changes][EIP NONE] Update EC WSTC330000
5. [AMI Changes][EIP NONE] Update ME 16.0.15.1579v6
6. [AMI Changes][EIP NONE] Merge (BETA)5.24\_1AXFE\_RC0C.00.60.10(2452.01)\_031 from ADL\_NPI

**Changes:**

N/A

**Known Errata:**

1. Switch board SKU to QS, k stepping since WS0032.
2. WSTC EC is for fab C only, please make sure the board config before flashing EC.

### WSADL357.0032.2021.1109.1837 Development BIOS

**About This Release:**

* Date: Nov 09 2021
* ROM Image Checksum: A71385D1
* ME Firmware: 16.0.15.1545
* EC Firmware: WSTC320000
* PD Firmware: 25.08.21
* PMC Firmware: 160.01.00.1015
* Boot Guard ACM: 1.18.4
* Memory Reference Code: Based on 0C.00.5D.30
* CRB Label: 030
* Integrated Graphics
  + UEFI Driver: 21.0.1040
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M80906A2\_0000030E.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP NONE] Update SMBIOS type 8 and remove unnecessary code
2. [AMI Changes][EIP NONE] Switch formal SKU to QS, default non-Vpro
3. [AMI Changes][EI647153] PTK1885: Unauthorized modification of UEFI variables could disable the protect mechanism of SMM
4. [AMI Changes][EIP NONE] Fix PEP error on audio
5. [AMI Changes][EIP633398] Display emulation fail
6. [AMI Changes][EIP NONE] Improve behavior for TXT counter
7. [AMI Changes][EIP NONE] Modify reset type of GPP\_F10 from RSMRST# to PLTRST#
8. [AMI Changes][EIP NONE] Default TBT mode as OS Dependent

**Changes:**

N/A

**Known Errata:**

1. Switch board SKU to QS, k stepping since WS0032.
2. WSTC EC is for fab C only, please make sure the board config before flashing EC.

### WSADL357.0031.2021.1102.1851 Development BIOS

**About This Release:**

* Date: Nov 02 2021
* ROM Image Checksum: A4AF1955
* ME Firmware: 16.0.15.1545
* EC Firmware: WSTB310000
* PD Firmware: 25.08.21
* PMC Firmware: 160.01.00.1013
* Boot Guard ACM: 1.18.1
* Memory Reference Code: Based on 0C.00.5D.30
* CRB Label: 030
* Integrated Graphics
  + UEFI Driver: 21.0.1040
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_0000001C.pdb
  + M82906A1\_0000011D.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP645109] [WHQL][Vpro]USB Type-C ACPI Validation-Fail
2. [AMI Changes][EIP645113] [WHQL][NonVpro]USB Type-C ACPI Validation-Fail
3. [AMI Changes][EIP NONE] Adjust GT ICCMAX
4. [AMI Changes][EIP645620] BIOS implement ISST in BIOS formal v31
5. [AMI Changes][EIP640621] SPEC Security\_Level 3 BIOS change and request enable TXT after TPM provision method
6. [AMI Changes][EIP NONE] Merge 5.24\_1AXFE\_RC0C.00.5D.30(2422\_01)\_030 from ADL\_NPI
7. [AMI Changes][EIP NONE] Update GOP 21.0.1040
8. [AMI Changes][EI645070] L10 Energy Star detect SKU number code change and follow PRD v1.5
9. [AMI Changes][EI645619] BIOS setup string M2 SATA -> change to M2 slot 2
10. [AMI Changes][EI645375] 2242 slot install with NVMe x2 SSD cannot display in BIOS menu

**Changes:**

N/A

**Known Errata:**

1. Retimer FW update only work with EC 280000 and after.

### WSADL357.0030.2021.1026.1834 Development BIOS

**About This Release:**

* Date: Oct 26 2021
* ROM Image Checksum: A4BABF25
* ME Firmware: 16.0.15.1545
* EC Firmware: WSTB310000
* PD Firmware: 25.08.21
* PMC Firmware: 160.01.00.1013
* Boot Guard ACM: 1.18.1
* Memory Reference Code: Based on 0C.00.5C.10
* CRB Label: 030
* Integrated Graphics
  + UEFI Driver: 21.0.1038
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_0000001C.pdb
  + M82906A1\_0000011D.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP NONE] Fix WDT triggered after capsule update or BIOS load default
2. [AMI Changes][EIP NONE] Change new NUC POST logo
3. [AMI Changes][EIP NONE] Update EC WSTB310000
4. [AMI Changes][EIP NONE] Update SW BKC WW43, ME1545 and GOP1038
5. [AMI Changes][EIP NONE] Merge 5.24\_1AXFE\_RC0C.00.5C.10(2411\_02)\_030 from ADL\_NPI
6. [AMI Changes][EIP644625] FAN Mode item display "No items-Error!!!" after Fan Control Mode setting "RPM Feedback Mode"

**Changes:**

N/A

**Known Errata:**

1. Retimer FW update only work with EC 280000 and after.

### WSADL357.0029.2021.1019.1733 Development BIOS

**About This Release:**

* Date: Oct 19 2021
* ROM Image Checksum: A4A3C93A
* ME Firmware: 16.0.15.1501
* EC Firmware: WSTB300000
* PD Firmware: 25.08.21
* PMC Firmware: 160.01.00.1013
* Boot Guard ACM: 1.18.1
* Memory Reference Code: Based on 0C.00.58.40
* CRB Label: 028
* Integrated Graphics
  + UEFI Driver: 21.0.1036
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_0000001C.pdb
  + M82906A1\_0000011D.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP632532] SPEC External ambient temperature tolerance layout change
2. [AMI Changes][EIP NONE] Update EC WSTB300000
3. [AMI Changes][EIP NONE] Fix BIOS version disappear under recovery
4. [AMI Changes][EIP NONE] Update CPU power settings

**Changes:**

N/A

**Known Errata:**

1. Retimer FW update only work with EC 280000 and after.

### WSADL357.0028.2021.1012.1755 Development BIOS

**About This Release:**

* Date: Oct 12 2021
* ROM Image Checksum: A4ABB809
* ME Firmware: 16.0.15.1501
* EC Firmware: WSTB290000
* PD Firmware: 25.08.21
* PMC Firmware: 160.01.00.1013
* Boot Guard ACM: 1.18.1
* Memory Reference Code: Based on 0C.00.58.40
* CRB Label: 028
* Integrated Graphics
  + UEFI Driver: 21.0.1036
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_0000001C.pdb
  + M82906A1\_0000011D.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP NONE] Merge 5.24\_1AXFE\_RC0C.00.58.40(2374.05)\_028 from ADL\_NPI
2. [AMI Changes][EIP NONE] Update EC WSTB290000
3. [AMI Changes][EIP637681] TCG Storage device cannot set user password
4. [AMI Changes][EIP641675] [WHQL][Vpro] USB4 Systems Have Support For All Type-C connectors-Fail
5. [AMI Changes][EIP641673] [WHQL][NonVpro] USB4 Systems Have Support For All Type-C connectors-Fail
6. [AMI Changes][EIP NONE] Set EC throttle
7. [AMI Changes][EIP630427] SUT cannot boot into "Display F9 for Remote Assistance" under POST

**Changes:**

N/A

**Known Errata:**

1. Retimer FW update only work with EC 280000 and after.

### WSADL357.0027.2021.1005.1728 Development BIOS

**About This Release:**

* Date: Oct 05 2021
* ROM Image Checksum: A4B99205
* ME Firmware: 16.0.15.1501
* EC Firmware: WSTB280000
* PD Firmware: 25.08.21
* PMC Firmware: 160.01.00.1013
* Boot Guard ACM: 1.17.97
* Memory Reference Code: Based on 0C.00.57.10
* CRB Label: 026
* Integrated Graphics
  + UEFI Driver: 21.0.1036
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_0000001C.pdb
  + M82906A1\_0000011D.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP NONE] Correct the calculation for fixde fan mode
2. [AMI Changes][EIP NONE] Update EC WSTB280000
3. [AMI Changes][EIP NONE] Remove WA for cardreader speed due to RC already fixed
4. [AMI Changes][EIP639944] FailSafe watchdog function
5. [AMI Changes][EIP NONE] Enable SAGV as default
6. [AMI Changes][EIP NONE] Enable retimer FW update

**Changes:**

N/A

**Known Errata:**

1. Retimer FW update only work with EC 280000 and after.

### WSADL357.0026.2021.0928.1831 Development BIOS

**About This Release:**

* Date: Sep 28 2021
* ROM Image Checksum: A4C2E132
* ME Firmware: 16.0.15.1501
* EC Firmware: WSTB270000
* PD Firmware: 04.06.00
* PMC Firmware: 160.01.00.1013
* Boot Guard ACM: 1.17.97
* Memory Reference Code: Based on 0C.00.57.10
* CRB Label: 026
* Integrated Graphics
  + UEFI Driver: 21.0.1036
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_0000001C.pdb
  + M82906A1\_0000011D.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP NONE] Update EC WSTB260000 and LAN disable control
2. [AMI Changes][EIP NONE] Follow BPG v2.2 to modify GPP\_F1 & GPP\_F3 ElectricalConfig as pull up 20k
3. [AMI Changes][EI633210] HSIO USB/SATA BIOS setting
4. [AMI Changes][EI637683] USB keyboard cannot be used on POST screen after USB port setting "Disabled" in the BIOS
5. [AMI Changes][EIP NONE] Set command for RTC wake when PG3 enable
6. [AMI Changes][EIP NONE] Disable feature, RC patch setup
7. [AMI Changes][EIP NONE] Update EC WSTB270000
8. [AMI Changes][EIP NONE] Removing module code for WMI 209h, communicate with EC directly

**Changes:**

N/A

**Known Errata:**

1. Fab A&B have different EC, please be aware before flashing EC, Fab A with WST**A**XX, Fab B with WST**B**XX.

### WSADL357.0025.2021.0921.2221 Development BIOS

**About This Release:**

* Date: Sep 21 2021
* ROM Image Checksum: A4CD0292
* ME Firmware: 16.0.15.1501
* EC Firmware: WSTB250000
* PD Firmware: 04.06.00
* PMC Firmware: 160.01.00.1013
* Boot Guard ACM: 1.17.97
* Memory Reference Code: Based on 0C.00.57.10
* CRB Label: 026
* Integrated Graphics
  + UEFI Driver: 21.0.1036
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_0000001C.pdb
  + M82906A1\_0000011D.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP None] Merge 5.24\_1AXFE\_RC0C.00.57.10\_026 from ADL\_NPI
2. [AMI Changes][EIP630886] [WHQL][Vpro]USB Type-C ACPI Validation-Fail
3. [AMI Changes][EIP633793] [WHQL][NonVpro]USB Type-C ACPI Validation-Fail
4. [AMI Changes][EIP630905] [WHQL][Vpro]USB Exposed Port System Test-Fail
5. [AMI Changes][EIP633790] [WHQL][NonVpro]USB Exposed Port System Test-Fail
6. [AMI Changes][EIP633551] TBT storage device cannot be found under BIOS
7. [AMI Changes][EIP None] Modify flow for persistent display
8. [AMI Changes][EIP NONE] Update CPU thermal table

**Changes:**

N/A

**Known Errata:**

1. Fab A&B have different EC, please be aware before flashing EC, Fab A with WST**A**XX, Fab B with WST**B**XX.

### WSADL357.0024.2021.0914.2154 Development BIOS

**About This Release:**

* Date: Sep 14 2021
* ROM Image Checksum: A526FED8
* ME Firmware: 16.0.15.1501
* EC Firmware: WSTB250000
* PD Firmware: 04.06.00
* PMC Firmware: 160.01.00.1013
* Boot Guard ACM: 1.17.97
* Memory Reference Code: Based on 0C.00.4F.10
* CRB Label: 024
* Integrated Graphics
  + UEFI Driver: 21.0.1036
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_0000001C.pdb
  + M82906A1\_0000011D.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP635183] Thunderbolt device can detect when Thunderbolt Security Level select DP++ only
2. [AMI Changes][EIP NONE] Update ME FW 16.0.15.1501 and enable boot guard
3. [AMI Changes][EIP NONE] Modify reset config of GPP\_C6 & GPP\_C7 as RSMRST#
4. [AMI Changes][EIP614811] System no power off when use AMT webUI remote executed "Graceful Shutdown" item on Modern Standby
5. [AMI Changes][EIP NONE] Update EC WSTB250000
6. [AMI Changes][EIP637680] The default setting for "Fan Mode" is Cool after setting "External Ambient Temperature Tolerance" to "User Defined" or "40 degrees C
7. [AMI Changes][EIP637682] The default setting for "S0 Indicator Blinking Frequency(Hz)" is 0 after setting "S0 Indicator Blinking Behavior" to "Breathing","Pulsing" or "Strobling"

**Changes:**

N/A

**Known Errata:**

1. Fab A&B have different EC, please be aware before flashing EC, Fab A with WST**A**XX, Fab B with WST**B**XX.

### WSADL357.0023.2021.0908.0021 Development BIOS

**About This Release:**

* Date: Sep 08 2021
* ROM Image Checksum: A52E0EFB
* ME Firmware: 16.0.10.1450
* EC Firmware: WSTB240000
* PD Firmware: 04.06.00
* PMC Firmware: 160.01.00.1013
* Boot Guard ACM: 1.17.97
* Memory Reference Code: Based on 0C.00.4F.10
* CRB Label: 024
* Integrated Graphics
  + UEFI Driver: 21.0.1036
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_0000001C.pdb
  + M82906A1\_0000011D.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP None] Merge 5.24\_1AXFE\_RC0C.00.4F.10(2277.16)\_024 from ADL\_NPI
2. [AMI Changes][EIP NONE] Fix recovery fail with different CRB
3. [AMI Changes][EIP635296] WHQL - Modern Standby Check Thermal Zones-Fail
4. [AMI Changes][EIP NONE] Customize ID for WDT device in ASL
5. [AMI Changes][EIP NONE] Update EC WSTB240000

**Changes:**

N/A

**Known Errata:**

1. Fab A&B have different EC, please be aware before flashing EC, Fab A with WST**A**XX, Fab B with WST**B**XX.

### WSADL357.0022.2021.0831.1917 Development BIOS

**About This Release:**

* Date: Aug 31, 2021
* ROM Image Checksum: A554330B
* ME Firmware: 16.0.10.1450
* EC Firmware: WSTB230000
* PD Firmware: 04.06.00
* PMC Firmware: 160.01.00.1013
* Boot Guard ACM: 1.17.97
* Memory Reference Code: Based on 0C.00.4F.10
* CRB Label: 022
* Integrated Graphics
  + UEFI Driver: 21.0.1036
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_0000001C.pdb
  + M82906A1\_0000011D.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP NONE] Update VccIn Aux Icc Max 32A
2. [AMI Changes][EIP NONE] Update PMC 160.01.00.1013
3. [AMI Changes][EIP NONE] Disable ME when recovery triggered
4. [AMI Changes][EIP633400] WMI test return value fail
5. [AMI Changes][EIP NONE] Update EC WSTB230000

**Changes:**

N/A

**Known Errata:**

1. Fab A&B have different EC, please be aware before flashing EC, Fab A with WST**A**XX, Fab B with WST**B**XX.

### WSADL357.0021.2021.0824.2031 Development BIOS

**About This Release:**

* Date: Aug 24, 2021
* ROM Image Checksum: A553B14
* ME Firmware: 16.0.10.1450
* EC Firmware: WSTB220000
* PD Firmware: 04.06.00
* PMC Firmware: 160.01.00.1012
* Boot Guard ACM: 1.17.97
* Memory Reference Code: Based on 0C.00.4F.10
* CRB Label: 022
* Integrated Graphics
  + UEFI Driver: 21.0.1036
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_0000001C.pdb
  + M82906A1\_0000011D.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP NONE] Update SW BKC WW34
2. [AMI Changes][EIP NONE] Update EC WSTB220000
3. [AMI Changes][EIP NONE] Update GOP 21.0.1036
4. [AMI Changes][EIP621085] Abnormal shutdown form when do S4 (need Plug in TBT device)

**Changes:**

N/A

**Known Errata:**

1. Fab A&B have different EC, please be aware before flashing EC, Fab A with WST**A**XX, Fab B with WST**B**XX.
2. HDMI port 2 no signal with new PMC FW, 160.01.00.1012.
3. Second LAN lost under OS.
4. Cannot enter modern standby with SD card reader.

### WSADL357.0020.2021.0817.2205 Development BIOS

**About This Release:**

* Date: Aug 17, 2021
* ROM Image Checksum: A54C3317
* ME Firmware: 16.0.10.1450
* EC Firmware: WSTB210000
* PD Firmware: 04.06.00
* PMC Firmware: 160.01.00.1011
* Boot Guard ACM: 1.17.97
* Memory Reference Code: Based on 0C.00.4F.10
* CRB Label: 022
* Integrated Graphics
  + UEFI Driver: 21.0.1035
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5428
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_0000001C.pdb
  + M82906A1\_0000011C.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP NONE] Merge 5.23\_1AXFE\_RC0C.00.4F.10\_022 from ADL\_NPI
2. [AMI Changes][EIP630426] The "Graphics Dynamic Frequency" item in BIOS dsiplay "N/A" value
3. [AMI Changes][EIP630423] Maximum Temperature (°C) / Minimum Temperature (°C) information on the right side is not match with BIOS Spec v0.75
4. [AMI Changes][EIP630422] System auto power on when G3 insert AC adapter
5. [AMI Changes][EIP NONE] Remove VmdGlobalMapping in storage page and force enable all VMD port mapping when VMD enable
6. [AMI Changes][EIP NONE] Update EC WSTB210000
7. [AMI Changes][EIP NONE] Update ME FW 16.0.10.1450
8. [AMI Changes][EIP NONE] Implement retimer FW update and default disable
9. [AMI Changes][EIP630430] USB Type-C cannot boot into BIOS recovery when set "BIOS Config Jumper to Recover Mode"

**Changes:**

N/A

**Known Errata:**

1. Due to BIOS command change for EC flash, EC flash will fail this version, have to update EC WSTA150000 by tool.
2. Fab A&B have different EC, please be aware before flashing EC, Fab A with WST**A**XX, Fab B with WST**B**XX.

### WSADL357.0019.2021.0810.1822 Development BIOS

**About This Release:**

* Date: Aug 10, 2021
* ROM Image Checksum: A5CFA1F2
* ME Firmware: 16.0.10.1372
* EC Firmware: WSTB200000
* PD Firmware: 04.06.00
* PMC Firmware: 160.01.00.1009
* Boot Guard ACM: 1.17.65
* Memory Reference Code: Based on 0C.00.4D.50
* CRB Label: 020
* Integrated Graphics
  + UEFI Driver: 21.0.1035
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5414
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_0000001C.pdb
  + M82906A1\_0000011B.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP NONE] Force enable VmdGlobalMapping when VMD enable
2. [AMI Changes][EIP NONE] Fix TXT fail if enable manually
3. [AMI Changes][EIP NONE] Update EC WSTB200000
4. [AMI Changes][EIP NONE] Update PSYS value for power consumption
5. [AMI Changes][EIP NONE] Update NSS policy

**Changes:**

N/A

**Known Errata:**

1. Due to BIOS command change for EC flash, EC flash will fail this version, have to update EC WSTA150000 by tool.
2. Fab A&B have different EC, please be aware before flashing EC, Fab A with WST**A**XX, Fab B with WST**B**XX.

### WSADL357.0018.2021.0803.1638 Development BIOS

**About This Release:**

* Date: Aug 03, 2021
* ROM Image Checksum: A5CED8D3
* ME Firmware: 16.0.10.1372
* EC Firmware: WSTB190000
* PD Firmware: 04.06.00
* PMC Firmware: 160.01.00.1009
* Boot Guard ACM: 1.17.65
* Memory Reference Code: Based on 0C.00.4D.50
* Integrated Graphics
  + UEFI Driver: 21.0.1035
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5414
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_0000001C.pdb
  + M82906A1\_0000011B.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP627128] Primary color and Secondary both is “White”
2. [AMI Changes][EIP627129] Power button LED will flash “White” color during power on after change S0 Indicator Color
3. [AMI Changes][EIP NONE] Temp solution for CardReader speed limit at GEN1
4. [AMI Changes][EIP624198] Memory "tCL" "tRCD/tRP" "tRAS"...etc item cannot be setup other value in the BIOS
5. [AMI Changes][EIP624490] When "Memory Ratio" item setup as 3/4/5/6...etc, system will hang on
6. [AMI Changes][EIP628163] BIOS will show SATA Port "not install" when enable Map this Root Port under VMD
7. [AMI Changes][EIP627530] Can not find UCMCx TI Device in device manager
8. [AMI Changes][EIP NONE] Update EC WSTB190000
9. [AMI Changes][EIP NONE] Adding VmdGlobalMapping in SPG storage setup
10. [AMI Changes][EIP NONE] Adding NSS device for WMI
11. [AMI Changes][EIP NONE] Grayout all Cooling page setting if External Ambient Temperature is not "User Defined"
12. [AMI Changes][EIP NONE] Follow Intel doc #626766 to remove CLKREQ GPIO program

**Changes:**

N/A

**Known Errata:**

1. Due to BIOS command change for EC flash, EC flash will fail this version, have to update EC WSTA150000 by tool.
2. Fab A&B have different EC, please be aware before flashing EC, Fab A with WST**A**XX, Fab B with WST**B**XX.

### WSADL357.0017.2021.0727.1732 Development BIOS

**About This Release:**

* Date: July 27, 2021
* ROM Image Checksum: A5CE1B74
* ME Firmware: 16.0.10.1372
* EC Firmware: WSTB180000
* PD Firmware: 04.06.00
* PMC Firmware: 160.01.00.1009
* Boot Guard ACM: 1.17.65
* Memory Reference Code: Based on 0C.00.4D.50
* Integrated Graphics
  + UEFI Driver: 21.0.1035
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5414
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.03
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_0000001C.pdb
  + M82906A1\_0000011B.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP NONE] Set force enable power when setting change under setup
2. [AMI Changes][EIP NONE] Update EC WSTB180000
3. [AMI Changes][EIP624775] L10 Energy Star detect SKU number code change
4. [AMI Changes][EIP NONE] Update Corp ME FW 1372 with BPG v1.7
5. [AMI Changes][EIP NONE] Update BIOS version WS0017

**Changes:**

N/A

**Known Errata:**

1. Due to BIOS command change for EC flash, EC flash will fail this version, have to update EC WSTA150000 by tool.
2. Fab A&B have different EC, please be aware before flashing EC, Fab A with WST**A**XX, Fab B with WST**B**XX.

### WSADL357.0016.2021.0720.2053 Development BIOS

**About This Release:**

* Date: July 20, 2021
* ROM Image Checksum: A5E08F30
* ME Firmware: 16.0.0.1372
* EC Firmware: WSTB170000
* PD Firmware: 04.06.00
* PMC Firmware: 160.01.00.1009
* Boot Guard ACM: 1.17.65
* Memory Reference Code: Based on 0C.00.4D.50
* Integrated Graphics
  + UEFI Driver: 21.0.1035
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5414
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.02
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_0000001C.pdb
  + M82906A1\_0000011B.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP NONE] Merge 5.23\_1AXFE\_RC0C.00.4D.50\_020 from ADL\_NPI
2. [AMI Changes][EIP624199] POST Function Hotkeys will not displayed when Secure Boot disabled
3. [AMI Changes][EIP NONE] Adding item "Force-enable power to 2242 m.2 slot"
4. [AMI Changes][EIP NONE] Set USB4 CM Mode default as "Software CM first"
5. [AMI Changes][EIP NONE] Update EC WSTB170000
6. [AMI Changes][EIP NONE] Disable boot guard

**Changes:**

N/A

**Known Errata:**

1. Due to BIOS command change for EC flash, EC flash will fail this version, have to update EC WSTA150000 by tool.
2. Fab A&B have different EC, please be aware before flashing EC, Fab A with WST**A**XX, Fab B with WST**B**XX.

### WSADL357.0015.2021.0713.2145 Development BIOS

**About This Release:**

* Date: July 13, 2021
* ROM Image Checksum: A5F5DC77
* ME Firmware: 16.0.0.1372
* EC Firmware: WSTA160000
* PD Firmware: 19.05.00
* PMC Firmware: 160.01.00.1009
* Boot Guard ACM: 1.17.65
* Memory Reference Code: Based on 0C.00.4C.70
* Integrated Graphics
  + UEFI Driver: 21.0.1035
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5414
* AHCI Code: Based on AHCI\_28
* Wired LAN Adapter:
  + UEFI Driver: 0.9.02
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_0000001C.pdb
  + M82906A1\_0000011B.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP NONE] Merge 1AXFE\_RC0C.00.4C.70\_020 from ADL\_NPI
2. [AMI Changes][EIP620129] The CPU fan will not spin if change Fixed Duty cycle (%) value
3. [AMI Changes][EIP624196] The default setting for "Power Sense" is Disabled, which is not match BIOS Spec v0.75
4. [AMI Changes][EIP624207] MEBx "User Opt-in" item is display "No items - Error!!!"
5. [AMI Changes][EIP NONE] Porting WMI function (Base on WMI\_1.28 & NUC\_EC\_0.52)

**Changes:**

N/A

**Known Errata:**

1. Due to BIOS command change for EC flash, EC flash will fail this version, have to update EC WSTA150000 by tool.
2. Fab A&B have different EC, please be aware before flashing EC, Fab A with WST**A**XX, Fab B with WST**B**XX.

### WSADL357.0014.2021.0706.1701 Development BIOS

**About This Release:**

* Date: July 06, 2021
* ROM Image Checksum: A617ED0E
* ME Firmware: 16.0.0.1372
* EC Firmware: WSTA160000
* PD Firmware: 19.05.00
* PMC Firmware: 160.01.00.1009
* Boot Guard ACM: 1.17.65
* Memory Reference Code: Based on 0C.00.4B.10
* Integrated Graphics
  + UEFI Driver: 21.0.1035
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5400
* AHCI Code: Based on AHCI\_26
* Wired LAN Adapter:
  + UEFI Driver: 0.9.02
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_0000001C.pdb
  + M82906A1\_0000011B.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP NONE] Merge 1AXFE\_RC0C.00.4B.10\_019 from ADL\_NPI
2. [AMI Changes][EIP621382] Plug with Type C device and power on will cause MB hang on debug code “1314”
3. [AMI Changes][EIP NONE] Show VMD enable item in setup page
4. [AMI Changes][EIP NONE] Update MCU 0x1C, GOP 1035 and Cons ME 1372
5. [AMI Changes][EIP NONE] Update EC WSTA160000
6. [AMI Changes][EIP615791] BIOS will hang on after click MEBx item
7. [AMI Changes][EIP NONE] Fix storage info for NVME

**Changes:**

N/A

**Known Errata:**

1. Yellow bang in device manager, “ PCI Data Acquisition and Signal Processing Controller” , IBIOS also can be duplicated.
2. Display audio lost, RVP also duplicated, will be fixed by OS driver update.
3. Due to BIOS command change for EC flash, EC flash will fail this version, have to update EC WSTA150000 by tool.

### WSADL357.0013.2021.0629.1823 Development BIOS

**About This Release:**

* Date: June 29, 2021
* ROM Image Checksum: A6569216
* ME Firmware: 16.0.0.1358
* EC Firmware: WSTA150000
* PD Firmware: 19.05.00
* PMC Firmware: 160.01.00.1007
* Boot Guard ACM: 1.17.65
* Memory Reference Code: Based on 0C.00.48.70
* Integrated Graphics
  + UEFI Driver: 21.0.1028
* AHCI Code: Based on AHCI\_26
* Wired LAN Adapter:
  + UEFI Driver: 0.9.02
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_0000001A.pdb
  + M82906A1\_0000011B.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP620131] Front USB port(Left/Right) can detect USB device during POST when Front USB port setup to No Detect
2. [AMI Changes][EIP620136] "Fan Off Temperature" value is grayed out and can't be modified
3. [AMI Changes][EIP620135] The Memory Profiles default value is uncorrected in the BIOS
4. [AMI Changes][EIP620234] 3rd LAN rework MB install sata device will cause auto reboot
5. [AMI Changes][EIP613569] SPEC PRD update\_ PseudoG3
6. [AMI Changes][EIP NONE] Update command for EC flash
7. [AMI Changes][EIP NONE] For WLAN wake
8. [AMI Changes][EIP NONE] Fix auto wake from S5 after G3
9. [AMI Changes][EIP620212] SPEC External ambient temperature tolerance
10. [AMI Changes][EIP NONE] Update EC WSTA150000

**Changes:**

N/A

**Known Errata:**

1. Yellow bang in device manager, “ PCI Data Acquisition and Signal Processing Controller” , IBIOS also can be duplicated.
2. Display audio lost, RVP also duplicated, will be fixed by OS driver update.
3. Due to BIOS command change for EC flash, EC flash will fail this version, have to update EC WSTA150000 by tool.

### WSADL357.0012.2021.0622.1630 Development BIOS

**About This Release:**

* Date: June 22, 2021
* ROM Image Checksum: A65026BB
* ME Firmware: 16.0.0.1358
* EC Firmware: WSTA140000
* PD Firmware: 19.05.00
* PMC Firmware: 160.01.00.1007
* Boot Guard ACM: 1.17.65
* Memory Reference Code: Based on 0C.00.48.70
* Integrated Graphics
  + UEFI Driver: 21.0.1028
* AHCI Code: Based on AHCI\_26
* Wired LAN Adapter:
  + UEFI Driver: 0.9.02
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_0000001A.pdb
  + M82906A1\_0000011B.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP NONE] Merge 1AXFE\_RC0C.00.48.70\_018 from ADL\_NPI
2. [AMI Changes][EIP NONE] Update EC WSTA140000
3. [AMI Changes][EIP618938] Front USB port(Left/Right) will no function when disable Front USB port then setup to enable
4. [AMI Changes][EIP618939] Rear USB port(Upper/Lower) will no function when disable Rear USB port then setup to enable
5. [AMI Changes][EIP619036] There is no "Rotation Policy" item in the BIOS
6. [AMI Changes][EIP NONE] Enable boot guard profile 5
7. [AMI Changes][EIP618299] There is no "Wireless Charging" option in the BIOS when Qi Module is inserted in the system
8. [AMI Changes][EIP NONE] For TPM provision
9. [AMI Changes][EIP617260] "Standby by Display" of HDMI CEC Control has no function
10. [AMI Changes][EIP612326] System hang on after enable PEIM
11. [AMI Changes][EIP NONE] Update ME FW 16.0.0.1358

**Changes:**

N/A

**Known Errata:**

1. Yellow bang in device manager, “ PCI Data Acquisition and Signal Processing Controller” , IBIOS also can be duplicated.
2. Display audio lost, RVP also duplicated, will be fixed by OS driver update.
3. System will keep reset while SATA storage connected.

### WSADL357.0011.2021.0615.2316 Development BIOS

**About This Release:**

* Date: June 15, 2021
* ROM Image Checksum: A65FF0BF
* ME Firmware: 16.0.0.1341v1.2
* EC Firmware: WSTA130000
* PD Firmware: 19.05.00
* PMC Firmware: 160.1.0.1007
* Boot Guard ACM: 1.17.65
* Memory Reference Code: Based on 0C.00.48.10
* Integrated Graphics
  + UEFI Driver: 21.0.1028
* AHCI Code: Based on AHCI\_26
* Wired LAN Adapter:
  + UEFI Driver: 0.9.02
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_00000019.pdb
  + M82906A1\_00000119.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP NONE] Update power setting for 45W CPU
2. [AMI Changes][EIP NONE] Update EC WSTA130000
3. [AMI Changes][EIP NONE] Update new fan speed control PRD r1.0
4. [AMI Changes][EIP NONE] Porting XHCI table
5. [AMI Changes][EIP618301] "ASPM support" doesn't disabled for PCIe devices when "PCIe ASPM Support" set to Disable in the BIOS
6. [AMI Changes][EIP NONE] Porting WMI
7. [AMI Changes][EIP NONE] Enable UCM mode with I2C0
8. [AMI Changes][EIP613559] Screen display is abnormal after update BIOS v0006
9. [AMI Changes][EIP610520] Boot menu screen is abnormal

**Changes:**

N/A

**Known Errata:**

1. Yellow bang in device manager, “ PCI Data Acquisition and Signal Processing Controller” , IBIOS also can be duplicated.
2. Display audio lost, RVP also duplicated, will be fixed by OS driver update.

### WSADL357.0010.2021.0608.2120 Development BIOS

**About This Release:**

* Date: June 08, 2021
* ROM Image Checksum: A45B63DF
* ME Firmware: 16.0.0.1341v1.2
* EC Firmware: WSTA120000
* PD Firmware: 19.05.00
* PMC Firmware: 160.1.0.1007
* Boot Guard ACM: 1.17.65
* Memory Reference Code: Based on 0C.00.48.10
* Integrated Graphics
  + UEFI Driver: 21.0.1028
* AHCI Code: Based on AHCI\_26
* Wired LAN Adapter:
  + UEFI Driver: 0.9.02
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_00000019.pdb
  + M82906A1\_00000119.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP NONE] Merge 1AXFE\_RC0C.00.48.10\_017 from ADL\_NPI
2. [AMI Changes][EIP613091] "Package Power Limit 1/Package Power Limit 2/Package Power Time Window/VR Current Limit" value is grayed out and can't be modified
3. [AMI Changes][EIP NONE] Update BPG V1.4
4. [AMI Changes][EIP NONE] Update EC WSTA120000
5. [AMI Changes][EIP611045] Porting Modern Standby for WS - DB
6. [AMI Changes][EIP NONE] Update power setting
7. [AMI Changes][EIP NONE] Update second LAN GPIO sequence

**Changes:**

N/A

**Known Errata:**

1. Yellow bang in device manager, “ PCI Data Acquisition and Signal Processing Controller” , IBIOS also can be duplicated.
2. Display audio lost, RVP also duplicated, will be fixed by OS driver update.

### WSADL357.0009.2021.0601.1817 Development BIOS

**About This Release:**

* Date: June 01, 2021
* ROM Image Checksum: A746579C
* ME Firmware: 16.0.0.1318v4
* EC Firmware: WSTA110000
* PD Firmware: 19.05.00
* PMC Firmware: 160.1.0.1007
* Boot Guard ACM: 1.17.65
* Memory Reference Code: Based on 0C.00.46.70
* Integrated Graphics
  + UEFI Driver: 21.0.1026
* AHCI Code: Based on AHCI\_26
* Wired LAN Adapter:
  + UEFI Driver: 0.9.02
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_00000019.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP NONE] Merge 1AXFE\_RC0C.00.46.70\_016 from ADL\_NPI
2. [AMI Changes][EIP614306] The "Intel Trusted Execution Technology" option shouldn't exist in the BIOS for non-vPro SKU
3. [AMI Changes][EIP613569] SPEC PRD update\_ PseudoG3
4. [AMI Changes][EIP NONE] Update EC WSTA110000
5. [AMI Changes][EIP615793] SATA Port shouldn't show "SATA Port 1" in the BIOS
6. [AMI Changes][EIP NONE] Update GPIO table base on BPG v1.3
7. [AMI Changes][EIP610843] Through exe file update BIOS fail
8. [AMI Changes][EIP610844] Through CAP file update BIOS fail

**Changes:**

N/A

**Known Errata:**

1. Yellow bang in device manager, “ PCI Data Acquisition and Signal Processing Controller” , IBIOS also can be duplicated.
2. Display audio lost, RVP also duplicated, will be fixed by OS driver update.

### WSADL357.0008.2021.0525.2220 Development BIOS

**About This Release:**

* Date: May 25, 2021
* ROM Image Checksum: A75B9B3D
* ME Firmware: 16.0.0.1318v4
* EC Firmware: WSTA100000
* PD Firmware: 19.05.00
* PMC Firmware: 160.1.0.1007
* Boot Guard ACM: 1.17.65
* Memory Reference Code: Based on 0C.00.45.10
* Integrated Graphics
  + UEFI Driver: 21.0.1026
* AHCI Code: Based on AHCI\_26
* Wired LAN Adapter:
  + UEFI Driver: 0.9.02
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_00000017.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP NONE] Merge 1AXFE\_RC0C.00.45.10\_015 from ADL\_NPI
2. [AMI Changes][EIP NONE] Set PepAudio to No Constraint and \_S0W of Audio to 0
3. [AMI Changes][EIP NONE] Update EC WSTA100000
4. [AMI Changes][EIP NONE] Fix OEM string write fail
5. [AMI Changes][EIP NONE] Update XML base on BPG v1.2
6. [AMI Changes][EIP NONE] Update ESPI GPIO setting and remove LAN GPIO sequence
7. [AMI Changes][EIP NONE] Set Retimer compliance mode

**Changes:**

N/A

**Known Errata:**

1. Yellow bang in device manager, “ PCI Data Acquisition and Signal Processing Controller” , IBIOS also can be duplicated.
2. Display audio lost, RVP also duplicated, will be fixed by OS driver update.

### WSADL357.0007.2021.0518.2220 Development BIOS

**About This Release:**

* Date: May 18, 2021
* ROM Image Checksum: A774E7CF
* ME Firmware: 16.0.0.1318v4
* EC Firmware: WSTA090000
* PD Firmware: 04.05.00
* PMC Firmware: 160.1.0.1007
* Boot Guard ACM: 1.17.65
* Memory Reference Code: Based on 0C.00.43.30
* Integrated Graphics
  + UEFI Driver: 21.0.1026
* AHCI Code: Based on AHCI\_26
* Wired LAN Adapter:
  + UEFI Driver: 0.9.02
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_00000017.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP NONE] Merge 1AXFE\_RC0C.00.43.30\_014 from ADL\_NPI
2. [AMI Changes][EIP612145] Front panel USB port cannot charged on MS/S4/S5 mode
3. [AMI Changes][EIP NONE] Disable unnecessary devices and PCIE clocks
4. [AMI Changes][EIP NONE] Update INA223 config
5. [AMI Changes][EIP NONE] Update EC WSTA090000
6. [AMI Changes][EIP NONE] Set CEC control policy to EC

**Changes:**

N/A

**Known Errata:**

1. Yellow bang in device manager, “ PCI Data Acquisition and Signal Processing Controller” , IBIOS also can be duplicated.
2. Display audio lost, RVP also duplicated, will be fixed by OS driver update.

### WSADL357.0006.2021.0511.2113 Development BIOS

**About This Release:**

* Date: May 11, 2021
* ROM Image Checksum: A7A861E3
* ME Firmware: 16.0.0.1318v4
* EC Firmware: WSTA080000
* PD Firmware: 04.05.00
* PMC Firmware: 160.1.0.1007
* Boot Guard ACM: 1.17.65
* Memory Reference Code: Based on 0C.00.42.20
* Integrated Graphics
  + UEFI Driver: 21.0.1026
* AHCI Code: Based on AHCI\_26
* Wired LAN Adapter:
  + UEFI Driver: 0.9.02
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_00000017.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP NONE] Merge CRB\_013 from ADL\_NPI
2. [AMI Changes][EIP610825] The HDD LED still working after disabled "HDD Activity LED" function in the BIOS
3. [AMI Changes][EIP609542] Press power button without function when SUT under OS mode
4. [AMI Changes][EIP610975] The "Active Processor Cores" option is abnormal after enabling 1/2/3 Cores in a multi-core Processor
5. [AMI Changes][EIP NONE] Porting Auto RTC reset feature for WS
6. [AMI Changes][EIP NONE] Update EC WSTA080000
7. [AMI Changes][EIP NONE] Porting power button LED and HDD LED behavior
8. [AMI Changes][EIP611045] Porting Modern Standby for WS
9. [AMI Changes][EIP NONE] Update XML files in BPG V1.1

**Changes:**

N/A

**Known Errata:**

1. Yellow bang in device manager, “ PCI Data Acquisition and Signal Processing Controller” , IBIOS also can be duplicated.

Display audio lost, RVP also duplicated, will be fixed by OS driver update.

### WSADL357.0005.2021.0504.1710 Development BIOS

**About This Release:**

* Date: May 04, 2021
* ROM Image Checksum: A98DC1E1
* ME Firmware: 16.0.0.1318v4
* EC Firmware: WSTA070000
* PMC Firmware: 160.1.0.1007
* Boot Guard ACM: 1.17.49
* Memory Reference Code: Based on 0C.00.3F.70
* Integrated Graphics
  + UEFI Driver: 21.0.1026
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5323
* AHCI Code: Based on AHCI\_26
* Wired LAN Adapter:
  + UEFI Driver: N/A
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_00000017.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP NONE] Update thermal page for WS
2. [AMI Changes][EIP NONE] Follow WS PRD 4.25 Board Silkscreens to set DIMM string from "SODIMM 0"
3. [AMI Changes][EIP NONE] Update XML for MFIT base on BPG v1.0
4. [AMI Changes][EIP NONE] Update EC 070000

**Changes:**

N/A

**Known Errata:**

1. Yellow bang in device manager, “ PCI Data Acquisition and Signal Processing Controller” , IBIOS also can be duplicated.

Display audio lost, RVP also duplicated, will be fixed by OS driver update.

### WSADL357.0004.2021.0427.2035 Development BIOS

**About This Release:**

* Date: Apr 27, 2021
* ROM Image Checksum: A9BB6BDF3
* ME Firmware: 16.0.0.1318v4
* EC Firmware: WSTA060000
* PMC Firmware: 160.1.0.1007
* Boot Guard ACM: 1.17.49
* Memory Reference Code: Based on 0C.00.3F.70
* Integrated Graphics
  + UEFI Driver: 21.0.1026
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5323
* AHCI Code: Based on AHCI\_26
* Wired LAN Adapter:
  + UEFI Driver: N/A
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_00000017.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP NONE] Update XML base on BPG v0.9
2. [AMI Changes][EIP605769] SD 7.0 Hot-plug Event Implementation
3. [AMI Changes][EIP607710] TPM device show in device management and TPM management on Local Computer, if disable "Trusted Platform Module 2.0 Presence" in the BIOS
4. [AMI Changes][EIP607729] BIOS doesn't show SATA port information in Storage Tab
5. [AMI Changes][EIP NONE] Move OemPl1, OemPl2 default to StdDefaultLib and add AutoRtcResetLib
6. [AMI Changes][EIP607724] The UEFI shell environment isn't full screen
7. [AMI Changes][EIP NONE] Update EC 060000
8. [AMI Changes][EIP609265] Unable wake up SUT from S5 by USB keyboard/mouse

**Changes:**

1. [AMI Changes][EIP NONE] Implement OemPxeBoot module – Still cannot boot to PXE after driver loaded, have to check PXE driver

**Known Errata:**

1. Yellow bang in device manager, “ PCI Data Acquisition and Signal Processing Controller” , IBIOS also can be duplicated.
2. Display audio lost, RVP also duplicated, will be fixed by OS driver update.

### WSADL357.0003.2021.0422.1122 Development BIOS

**About This Release:**

* Date: Apr 22, 2021
* ROM Image Checksum: A9B1921A
* ME Firmware: 16.0.0.1318
* EC Firmware: WSTA050000
* PMC Firmware: 160.1.0.1007
* Boot Guard ACM: 1.17.49
* Memory Reference Code: Based on 0C.00.3F.70
* Integrated Graphics
  + UEFI Driver: 21.0.1026
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5323
* AHCI Code: Based on AHCI\_26
* Wired LAN Adapter:
  + UEFI Driver: N/A
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_00000017.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP NONE] Merge CRB\_012 from ADL\_NPI
2. [AMI Changes][EIP NONE] Fix NVMe recovery fail
3. [AMI Changes][EIP NONE] Update ME 16.0.0.1318 and GOP 21.0.1026
4. [AMI Changes][EIP NONE] Update charging port policy to EC
5. [AMI Changes][EIP NONE] Enable C-State, SpeedStep and RC6
6. [AMI Changes][EIP NONE] Update EC to 050000
7. [AMI Changes][EIP NONE] Update GpioTable\_0419
8. [AMI Changes][EIP NONE] Review TCSS check list
9. [AMI Changes][EIP607693] Memory Slots used shows error in Task manager

**Changes:**

N/A

**Known Errata:**

1. Yellow bang in device manager, “ PCI Data Acquisition and Signal Processing Controller” , IBIOS also can be duplicated.
2. Display audio lost, RVP also duplicated, will be fixed by OS driver update.

### WSADL357.0002.2021.0414.1720 Development BIOS

**About This Release:**

* Date: Apr 14, 2021
* ROM Image Checksum: AA09187B
* ME Firmware: 16.0.0.1306
* EC Firmware: WSTA040000
* PMC Firmware: 160.1.0.1006
* Boot Guard ACM: 1.17.49
* Memory Reference Code: Based on 0C.00.3F.10
* Integrated Graphics
  + UEFI Driver: 21.0.1025
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5261
* AHCI Code: Based on AHCI\_26
* Wired LAN Adapter:
  + UEFI Driver: N/A
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_00000017.pdb

**New Fixes/Features:**

1. [AMI Changes][EIP NONE] Merge CRB\_011 from ADL\_NPI
2. [AMI Changes] [EIP604524] Porting StdDefaultLib for WS
3. [AMI Changes][EIP NONE] Correct XML settings for TBT detection
4. [AMI Changes][EIP NONE] Increase size for "FV\_MEFW\_CAPSULE\_SIZE" to 16MB
5. [AMI Changes][EIP NONE] Update EC to 040000
6. [AMI Changes][EIP NONE] Default disable VMD mode
7. [AMI Changes][EIP NONE] Increase PEI minimum memory size for BIOS flash

**Changes:**

1. [AMI Changes][EIP605769] SD 7.0 Hot-plug Event Implementation – Will have plug test once device receive.

**Known Errata:**

1. Yellow bang in device manager, “ PCI Data Acquisition and Signal Processing Controller” , IBIOS also can be duplicated.
2. Display audio lost, RVP also duplicated, will be fixed by OS driver update.
3. Since CPU C-State, SpeedStep and Graphic RC6 disable, modern standby test fail.

### WSADL357.0001.2021.0407.1042 Development BIOS

**About This Release:**

* Date: Apr 07, 2021
* ROM Image Checksum: AAD7304A
* ME Firmware: 16.0.0.1306
* EC Firmware: WSTA030000
* PMC Firmware: 160.1.0.1006
* Boot Guard ACM: 1.17.49
* Memory Reference Code: Based on 0C.00.3B.10
* Integrated Graphics
  + UEFI Driver: 21.0.1025
* Intel RST Pre-OS:
  + VMD UEFI Driver: 19.0.0.5261
* AHCI Code: Based on AHCI\_26
* Wired LAN Adapter:
  + UEFI Driver: N/A
* Supported Flash Devices:
  + MXIC MX25L25673GZ4I-08G 32MB
  + GIGADEVICE GD25B256EYIGR 32MB
* Microcode Updates included in .ROM & .BIO Files:
  + M8290671\_00000011.pdb

**New Fixes/Features:**

1. [AMI Changes] [EIP604524] WS0001 Formal BIOS release
2. [AMI Changes][EIP NONE] Adding module "AutoEcUpdate"
3. [AMI Changes][EIP NONE] Update correct "OEM\_ESRT\_FIRMWARE\_GUID" and platform tag

**Known Errata:**

1. Yellow bang in device manager, “ PCI Data Acquisition and Signal Processing Controller” , IBIOS also can be duplicated.
2. Display audio lost, still debugging.