



## BIOS Update Release Notes

### PRODUCTS: NUC6i5SYK, NUC6i5SYH, NUC6i3SYK, NUC6i3SYH

**BIOS Version 0072 - SYSKLi35.86A.0072.2019.1001.1636**

#### About This Release:

- Date: October 1, 2019
- ROM Image Checksum: 0x7CD4
- ME Firmware: 11.8.60.3561
- Memory Reference Code: Based on 1.9.0.0
- Integrated Graphics:
  - Option ROM: Build 1070 PC 14.34
  - UEFI Driver: 9.0.1045
- SATA RAID Option ROM: 14.8.0.2377
- AHCI Code: AHCI\_10
- LAN Option ROM: 0.1.04
- Visual BIOS: 2.2.23
- Supported Flash Devices:

WinBond	W25Q64FVSSIG	8MB (3.3V)
MACRONIX	MX25L6433FM2I-08G	8MB (3.3V)
- Microcode Updates included in .ROM & .BIO Files:

M36506E3_000000CC.mcb
MC0406E3_000000CC.mcb

#### New Fixes/Features:

- Updated BIOS code for security fixes.
- Updated BIOS code for BIOS recovery with USB flash drive.

**BIOS Version 0071 - SYSKLi35.86A. 0071.2019.0524.1102**

#### About This Release:

- Date: May 24, 2019
- ROM Image Checksum: 0xD9F7
- ME Firmware: 11.8.60.3561
- Memory Reference Code: Based on 1.9.0.0
- Integrated Graphics
  - Option ROM: Build 1070 PC 14.34
  - UEFI Driver: 9.0.1045
- SATA RAID Option ROM: 14.8.0.2377
- AHCI Code: AHCI\_10
- LAN Option ROM: 0.1.04
- Visual BIOS: 2.2.23

#### New Fixes/Features:

- Updated BIOS code for security fixes.
- Updated Intel® ME firmware to version 11.8.60.3561.
- Changed Chassis type default to 0x23.

\*Other names and brands may be claimed as the property of others.

**Known Errata:**

- Due to the Intel® ME firmware update in BIOS version 0071, you can't downgrade to version 0070 or earlier.

**BIOS Version 0070 - SYSKLi35.86A.0070.2019.0401.1729****About This Release:**

- Date: April 1, 2019
- ME Firmware: 11.8.50.3425
- Memory Reference Code: Based on 1.9.0.0
- Integrated Graphics
  - Option ROM: Build 1070 PC 14.34
  - UEFI Driver: 9.0.1045
- SATA RAID Option ROM: 14.8.0.2377
- AHCI Code: AHCI\_10
- LAN Option ROM: 0.1.04
- Visual BIOS: 2.2.23

**New Fixes/Features:**

- Updated BIOS code for security fixes.

**BIOS Version 0068 - SYSKLi35.86A.0068.2018.0731.1128****About This Release:**

- Date: July 31, 2018
- ME Firmware: 11.8.50.3425
- Memory Reference Code: Based on 1.9.0.0
- MEBx Code: NA
- Integrated Graphics
  - Option ROM: Build 1070 PC 14.34
  - UEFI Driver: 9.0.1045
- SATA RAID Option ROM: 14.8.0.2377
- SATA non-RAID Option ROM: NA
- AHCI Code: AHCI\_10
- LAN Option ROM: 0.1.04
- Visual BIOS: 2.2.23

**New Fixes/Features:**

- Disabled and removed Intel® Ready Mode Technology items/codes from BIOS for Intel security fix.
- Updated CPU Microcode (Security Advisory-00115)
- Fixed issue where enabling Startup Sound in BIOS causes system to hang.

**BIOS Version 0067 - SYSKLi35.86A.0067.2018.0606.1229****About This Release:**

- Date: June 06, 2018
- ME Firmware: 11.8.50.3425
- Memory Reference Code: Based on 1.9.0.0
- Integrated Graphics
  - Option ROM: Build 1070 PC 14.34
  - UEFI Driver: 9.0.1045

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- SATA RAID Option ROM: 14.8.0.2377
- AHCI Code: AHCI\_10
- LAN Option ROM: 0.1.04
- Visual BIOS: 2.2.23

**New Fixes/Features:**

- Fixed the issue where the system wouldn't auto reboot after the BIOS was updated when "Wake System from S5" is enabled.

**BIOS Version 0066 - SYSKLi35.86A.0066.2018.0517.1803**

**About This Release:**

- Date: May 17, 2018
- ME Firmware: 11.8.50.3425
- Memory Reference Code: Based on 1.9.0.0
- Integrated Graphics:
  - Option ROM: Build 1070 PC 14.34
  - UEFI Driver: 9.0.1045
- SATA RAID Option ROM: 14.8.0.2377
- AHCI Code: AHCI\_10
- LAN Option ROM: 0.1.04
- Visual BIOS: 2.2.23

**New Fixes/Features:**

- Security enhancements

**BIOS Version 0065 - SYSKLi35.86A.0065.2018.0103.1000**

**About This Release:**

- Date: February 14, 2018
- ME Firmware: 11.8.50.3425
- Memory Reference Code: Based on 1.9.0.0
- Integrated Graphics:
  - Option ROM: Build 1070 PC 14.34
  - UEFI Driver: 9.0.1045
- SATA RAID Option ROM: 14.8.0.2377
- AHCI Code: AHCI\_10
- LAN Option ROM: 0.1.04
- Visual BIOS: 2.2.23

**New Fixes/Features:**

- Updated CPU Microcode (Security Advisory-00088)

**BIOS Version 0063 - SYSKLi35.86A.0063.2017.1115.1550**

**About This Release:**

- Date: November 15, 2017
- ME Firmware: 11.8.50.3425
- Memory Reference Code: Based on 1.9.0.0
- Integrated Graphics
  - Option ROM: Build 1070 PC 14.34
  - UEFI Driver: 9.0.1045
- SATA RAID Option ROM: 14.8.0.2377
- AHCI Code: AHCI\_10

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- LAN Option ROM: 0.1.04
- Visual BIOS: 2.2.23

### **New Fixes/Features:**

- Security Enhancements.
- Updated Management Engine Firmware to version: 11.8.50.3425 (Security Advisory-00086).
- Due to a security enhancement, it will not be possible to go to any BIOS earlier than BIOS 0063.

<b>BIOS Version 0062 - SYSKLi35.86A.0062.2017.0831.1905</b>
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#### **About This Release:**

- Date: August 31, 2017
- ME Firmware: 11.0.10.1002
- Memory Reference Code: Based on 1.9.0.0
- Integrated Graphics
  - Option ROM: Build 1070 PC 14.34
  - UEFI Driver: 9.0.1045
- SATA RAID Option ROM: 14.8.0.2377
- AHCI Code: AHCI\_10
- LAN Option ROM: 0.1.04
- Visual BIOS: 2.2.23

#### **New Fixes/Features:**

- Security enhancements.
- Added setup option "Allow UEFI 3rd Party Driver loaded".
- Fixed issue where the system would auto wake when "Wake on USB from S5" was enabled within the UEFI shell.
- Fixed issue where wake on USB from S5 would fail when "Wake on LAN from S4/S5" was set to Stay Off.
- The BIOS cannot be downgraded to SY0061 or earlier due to security enhancements.

<b>BIOS Version 0061 - SYSKLi35.86A.0061.2017.0524.1454</b>
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#### **About This Release:**

- Date: May 24, 2017
- ME Firmware: 11.0.10.1002
- Memory Reference Code: Based on 1.9.0.0
- Integrated Graphics
  - Option ROM: Build 1070 PC 14.34
  - UEFI Driver: 9.0.1045
- SATA RAID Option ROM: 14.8.0.2377
- AHCI Code: AHCI\_10
- LAN Option ROM: 0.1.04
- Visual BIOS: 2.2.23

#### **New Fixes/Features:**

- Micro Code update to fix Hyper-Threading issue.
- Updated Visual BIOS to 2.2.23 Fixes include:
  - Fixed bug that could cause hang when retrieving EFI variable.
  - Increased resolution of fan speed on home page.

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- Removed NTFS support due to conflict with changes made in Windows\* 10.
- Minor text fixes.

**BIOS Version 0060 - SYSKLi35.86A.0060.2017.0414.1652**

**About This Release:**

- Date: April 14, 2017
- ME Firmware: 11.0.10.1002
- Memory Reference Code: Based on 1.9.0.0
- Integrated Graphics
  - Option ROM: Build 1070 PC 14.34
  - UEFI Driver: 9.0.1045
- SATA RAID Option ROM: 14.8.0.2377
- SATA non-RAID Option ROM: NA
- AHCI Code: AHCI\_10
- LAN Option ROM: 0.1.04
- Visual BIOS: 2.2.20

**New Fixes/Features:**

- Fixed issue where PXE boot wouldn't work when IGD minimum memory was set to 1GB and the IGD aperture size was set to 1024MB
- Updated dbx module

**BIOS Version 0059 - SYSKLi35.86A.0059.2017.0316.1957**

**About This Release:**

- Date: March 16, 2017
- ME Firmware: 11.0.10.1002
- Memory Reference Code: Based on 1.9.0.0
- Integrated Graphics
  - Option ROM: Build 1070 PC 14.34
  - UEFI Driver: 9.0.1045
- SATA RAID Option ROM: 14.8.0.2377
- AHCI Code: AHCI\_10
- LAN Option ROM: 0.1.04
- Visual BIOS: 2.2.20

**New Fixes/Features:**

- Fixed PTT failure.
- Modified items for DCI solution.

**BIOS Version 0057 - SYSKLi35.86A.0057.2017.0119.1758**

**About This Release:**

- Date: January 19, 2017
- ME Firmware: 11.0.10.1002
- Memory Reference Code: Based on 1.9.0.0
- Integrated Graphics
  - Option ROM: Build 1070 PC 14.34
  - UEFI Driver: 9.0.1045
- SATA RAID Option ROM: 14.8.0.2377
- AHCI Code: AHCI\_10
- LAN Option ROM: 0.1.04
- Visual BIOS: 2.2.20

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**New Fixes/Features:**

- Security enhancements.
- Fixed SD card discovery issue.

**BIOS Version 0054 - SYSKLi35.86A.0054.2016.0930.1102**

**About This Release:**

- Date: September 30, 2016
- ME Firmware: 11.0.10.1002
- Framework BIOS Reference Code: Based on 1.9.0
- Integrated Graphics
  - Option ROM: Build 1070 PC 14.34
  - UEFI Driver: 9.0.1045
- LAN
  - Option ROM: 0.1.04
  - Visual Bios: 2.2.20

**New Fixes/Features:**

- Added x-Core Turbo Ratio UQI to support ITK.
- Adjust ME init delay time to 120 sec.
- Security Enhancements
- Change GPP\_B17 from GPIO interrupt pin to GPI function pin.

**BIOS Version 0052 - SYSKLi35.86A.0052.2016.0910.1456**

**About This Release:**

- Date: September 10, 2016
- ME Firmware: 11.0.10.1002
- Framework BIOS Reference Code: Based on 1.9.0
- Integrated Graphics
  - Option ROM: Build 1070 PC 14.34
  - UEFI Driver: 9.0.1045
- LAN
  - Option ROM: 0.1.04
- Visual Bios: 2.2.20

**New Fixes/Features:**

- Fixed the issue where inserting a SD card would cause the CPU usage to elevate.

**BIOS Version 0051 - SYSKLi35.86A.0051.2016.0804.1114**

**About This Release:**

- Date: August 4, 2016
- ME Firmware: 11.0.10.1002
- Framework BIOS Reference Code: Based on 1.9.0
- Integrated Graphics
  - Option ROM: Build 1070 PC 14.34
  - UEFI Driver: 9.0.1045
- LAN
  - Option ROM: 0.1.04
- Visual Bios: 2.2.20

**New Fixes/Features:**

\*Other names and brands may be claimed as the property of others.

- Security Enhancements.

**BIOS Version 0045 - SYSKLi35.86A.0045.2016.0527.1055**

**About This Release:**

- Date: May 27, 2016
- ME Firmware: 11.0.10.1002
- Framework BIOS Reference Code: Based on 1.9.0
- Integrated Graphics
  - Option ROM: Build 1070 PC 14.34
  - UEFI Driver: 9.0.1045
- LAN
  - Option ROM: 0.1.04
- Visual Bios: 2.2.20

**New Fixes/Features:**

- Fixed an issue that the system could not detect Kingston USB flash drive.
- Fixed an issue where the user could not uncheck the setup item: Force Secure Boot Defaults and Clear Secure Boot data.
- Fixed an issue that Windows 7\* and Windows 10® legacy install failed when using a USB CD drive.
- Fixed an issue that when a Public Key is installed the Intel key is not disabled.
- Fixed a WHLK issue where "IsTrue - Secure Boot is Enabled" would fail.

**BIOS Version 0044 - SYSKLi35.86A.0044.2016.0512.1734**

**About This Release:**

- Date: May 12, 2016
- ME Firmware: 11.0.10.1002
- Framework BIOS Reference Code: Based on 1.9.0
- Integrated Graphics
  - Option ROM: Build 1070 PC 14.34
  - UEFI Driver: 9.0.1045
- LAN
  - Option ROM: 0.1.04
- Visual Bios: 2.2.20

**New Fixes/Features:**

- Fixed unknown NFC device issue. Removed enable/disable NFC support in manufacturing mode. Hid NFC Setup item in Visual BIOS but kept NFC enable/disable option in ITK.
- Updated processor support.
- Improved System UUID buffer for Visual BIOS.
- Changed Windows Update GUID
- Fixed issue that Windows Update cannot perform a system reset properly.
- Updated Secure Boot module to 14.
- Fixed a Secure Boot issue, where enabling it would not a cause a reset, causing the HLK test to fail when Secure Boot was enabled.
- Improved code reliability for VR slew rates.
- Added slow slew rate test message in debug mode.
- Fixed an issue where the S3/S4 stress long run randomly hangs.

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- Changed FITC setting, OPI Link Speed to GT4.

<b>BIOS Version 0042 - SYSKLi35.86A.0042.2016.0409.1246</b>
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**About This Release:**

- Date: April 9, 2016
- ME Firmware: 11.0.10.1002
- Framework BIOS Reference Code: Based on 1.9.0
- Integrated Graphics
  - Option ROM: Build 1070 PC 14.34
  - UEFI Driver: 9.0.1045
- LAN
  - Option ROM: 0.1.04
- Visual Bios: 2.2.20

**New Fixes/Features**

- Fixed issue where USB Port 5 cannot be set to No Detect.
- Improved BIOS update function to disable keyboard and power button during flash/recovery process.
- Fixed issue where Wi-Fi access point occasionally drops out during warm boot.
- Hid BIOS Setup option for NFC.
- Changed default value for Round Trip Latency to Enabled.
- Improved electrical overstress protection in the voltage regulator circuitry.
- Added BIOS setting TCR (Temperature Controlled Refresh) to memory settings page.
- Fixed issue where hard drive password prompt appears for only one drive when two drives are locked.
- Fixed issue with front panel LED color before and after S3 sleep.
- Updated processor support.
- Fixed issue where Reject hot key function fails during DMI information injection.
- Fixed issue where BIOS Recovery generates failure message in BIOS Event Log.
- Fixed issue where pressing ESC key does not close dialog box in F7 Flash Update utility.

<b>BIOS Version 0039 - SYSKLi35.86A.0039.2016.0316.1747</b>
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**About This Release:**

- Date: March 16, 2016
- ME Firmware: 11.0.10.1002
- Framework BIOS Reference Code: Based on 1.9.0
- Integrated Graphics
  - Option ROM: Build 1070 PC 14.34
  - UEFI Driver: 9.0.1045
- LAN
  - Option ROM: 0.1.04
- Visual Bios: 2.2.20

**New Fixes/Features:**

- Fixed password issue in [F4] recovery where the BIOS will ask for the password.
- Changed "Round Trip Latency Optimization" default to Disabled.



- Changed Power Button Menu items:
  - When user hits [ESC] in power button menu recovery, the system is reset for normal POST.
  - Removed message "Please turn off power and reinstall the BIOS Security Jumper in Normal (1-2) or Lockdown (2-3) position." in jumper removal recovery.
  - Added line "If BIOS Recovery was invoked by BIOS security jumper," before the line "restore the BIOS Security Jumper in Normal (1-2) or Lockdown (2-3) position"
- Fixed issue where audio device got lost when power is lost.
- Fixed an issue with the Watch dog Timer reliability when Bluetooth is disabled in setup.
- Change deepest C-state to C7
- Fixed an issue so that the fan will now spin in ready mode.
- Updated ME to 11.0.10.1002\_G0314
- Removed setup item "SATA Port Hot Plug Capability."
- Updated processor support.
- Implemented thermal trip message and event log.
- Changed Power button menu and F4 recovery:
  - Removed G3 power button recovery.
  - Increased the key press detection time to 3.51 seconds.
  - Added BIOS ID information prompt.
  - Added an option to cancel the recovery process if ESC is selected within 20 seconds of starting.
  - Added information about the progress of the recovery process.

<b>BIOS Version 0036 - SYSKLi35.86A.0036.2016.0223.1140</b>
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**About This Release:**

- Date: February 23, 2016
- ME Firmware: 11.0.1.1001
- Framework BIOS Reference Code: Based on 1.8.0
- Integrated Graphics
  - Option ROM: Build 1070 PC 14.34
  - UEFI Driver: 9.0.1042
- LAN
  - Option ROM: 0.1.04
- Visual Bios: 2.2.20

**New Fixes/Features:**

- Improved reliability of the heatsink fan.
- Fixed issue where the LED on an m.2 SSD would not function.
- Fixed issue where an m.2 would not show device information in the SATA page in the BIOS.
- Improved EFI Capsule algorithm.
- Changed power button recovery beep count from 1 to 3.
- Fixed an issue that would cause the fan to stop spinning when user manually modify duty cycle increment to maximum value may cause fan stop spin, modified divisor from 256 to 255
- Improved LED blink code.
- Added "Round Trip Latency Optimization" checkbox in Advanced > Performance > Memory, which may allow early DDR4 memory modules to work.

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**BIOS Version 0033 - SYSKLi35.86A.0033.2016.0107.1707**

**About This Release:**

- Date: January 7, 2016
- ME Firmware: 11.0.0.1197
- Framework BIOS Reference Code: Based on 1.8.0
- Integrated Graphics
  - Option ROM: Build 1070 PC 14.34
  - UEFI Driver: 9.0.1039
- LAN
  - Option ROM: None
- Visual Bios: 2.2.20

Due to the Intel® ME firmware update in BIOS version 0033, once the BIOS has been updated to this version or later, you will need to perform a **BIOS Recovery** to downgrade the BIOS to version 0028 or earlier. Attempting a BIOS downgrade using the **F7** or **iFlash** methods may fail - the BIOS will remain at its current version.

**New Fixes/Features:**

- Updated VBIOS to version 9.0.1034 and GOP to version 9.0.1040.
- Updated Intel Visual BIOS to version 2.2.20. Fixes include:
  - Hotfix to remove download driver and automatic BIOS update feature.
  - Hotfix to remove performance page accessibility from Atom-based NUC products.
- Fixed issue where BIOS value is changed after a BIOS update.
- Fixed issue where **USB S4/S5 power** is greyed out and disabled if **Deep S4/S5** is enabled.
- Fixed issue regarding wake by USB while in Configuration mode.
- Lowered the sound volume for beep codes.
- Updated Intel® ME firmware to version 11.0.0.1197\_F1215.
- Added Round Trip Latency Optimization BIOS option.
- Improved BIOS downgrade alert.
- Improved POST time.
- Fixed issue where system cannot shutdown if using RC6 remote controller.
- Updated RAID Option ROM / RAID UEFI Driver to version 14.8.0.2377.
- Fixed issue where IPV4/IPV6 might not show in BIOS if Legacy Boot is disabled.
- Fixed issue where system fails to boot from UEFI drive in RAID mode.
- Added M.2 storage device identification string into PCI setup page.
- Added F5 hotkey for Windows recovery feature.
- Updated processor support.

**BIOS Version 0028 - SYSKLi35.86A.0028.2015.1112.1822**

**About This Release:**

- Date: November 12, 2015
- ME Firmware: 11.0.0.1183
- Framework BIOS Reference Code: Based on 1.7.0
- Integrated Graphics

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Option ROM: Build 1070 PC 14.34  
UEFI Driver: 9.0.1036

- LAN  
Option ROM: None
- Visual Bios: 2.2.17

**New Fixes/Features:**

- Fixed issue where PCIE SSD information displays Not Installed when NVME SSD is installed.
- Updated processor support.
- Improved reliability for Express BIOS Update.
- Fixed issue where setting the Processor Power Efficiency Policy as Balanced results in Low Power instead.
- Removed PEG-DMI ratio information item from Performance page.
- Fixed issues with "No Memory Error" beep code and startup sound.
- Set BIOS setting Wi-Fi Dynamic Regulatory Solution to enabled and hidden.
- Changed BIOS setting Processor Uncore Frequency to Processor Ring Frequency.
- Updated Intel® ME firmware to version 11.0.0.1183\_F1027a.
- Improved multiple display behavior: if IGD Secondary Video Port is set to None, then any monitor connected to this port is still displayed during POST/SETUP.

**BIOS Version 0024 - SYSKLi35.86A.0024.2015.1027.2142**

**About This Release:**

- Date: Oct 27, 2015
- ROM Image Checksum: 0xC49C
- ME Firmware: 11.0.0.1180
- Framework BIOS Reference Code: Based on 1.7.0
- Integrated Graphics
  - Option ROM: Build 1070 PC 14.34
  - UEFI Driver: 9.0.1036
- LAN
  - Option ROM: None
- Visual Bios: 2.2.17

**New Fixes/Features:**

- Initial production BIOS release

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