



## Letter of Volatility – ASUS NUC Products



**CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.**

ASUS NUC products contain both volatile and non-volatile (NV) components. Volatile components lose their data immediately after power is removed from the component. Non-volatile (NV) components continue to retain their data even after power is removed from the component.

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## Cautions and Power State Information



**CAUTION: All other components on the motherboard will lose data once power is removed from the system. Primary power loss, unplugging the power cord and removing the battery, will destroy all user data on the memory (DDR4 or DDR5). Secondary power loss, by removing the on board coin-cell battery, will erase any counter values that are written to CMOS in addition to destroying system date and time-of-day information. AMT passwords can be reset using BIOS and jumpers on the motherboard**

In addition, to clarify memory volatility and data retention in situations where the system is put in different ACPI power states the following is provided (those ACPI power states are S1, S0, S0iX, S3, S4, and S5):

### Supported power states:

- **S0** state is the working state where the dynamic RAM is maintained and is read/write by the processor.
- **Modern Standby (S0iX)** enables an instant on / instant off user experience. The S0 low power idle model enables the system to stay connected to the network while in a low power mode. ASUS NUC systems can go to Modern Standby if the OS and the peripherals used in the system support Modern Standby state.
- **S4** is called “suspend to disk” state or “hibernate” mode. There is minimal power used, mainly to supply trickle current to the power button and similar devices enabled to wake the system. In this state, the dynamic RAM is not maintained. If the system has been commanded to enter S4, the OS will write the system context to a non-volatile storage file and leave appropriate context markers. When the system is coming back to the working state, a restore file from the non-volatile storage can occur. The restore file must be valid. ASUS NUC systems can go to S4 if the OS and the peripherals support the S4 state. Windows supports the S4 state.
- **S5** is the “soft” off state. There is minimal power used, mainly to supply trickle current to the power button and similar devices enabled to wake the system. The OS doesn’t save any context to wake up the system. No data will remain in any component on the system board, i.e., cache or memory. The system will require a complete boot when awakened. Since S5 is the shut off state, coming out of S5 requires power on which clears all registers.

### Unsupported power states:

- **S1** state is a low wake-up latency sleeping state. In this state, no system context is lost (CPU or chip set) and hardware maintains all system contexts.
- **S3** is called “suspend to RAM” state or stand-by mode. In this state the dynamic RAM is maintained. Systems can go to S3 if the OS and the peripherals used in the system support S3 state.

## ASUS NUC Mini PCs with Intel® Core® Processors

### ASUS NUC 15 Pro+ Mini PC - (NUC15CRSu[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board
RAM	DDR5	Volatile memory	Yes	Remove power to board
SSD	M.2 2280	Non-Volatile memory	Yes	Physically remove module or delete data via software

### ASUS NUC 15 Pro+ Mini PC - (NUC15CRSv[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board
RAM	DDR5	Volatile memory	Yes	Remove power to board
SSD	M.2 2280	Non-Volatile memory	Yes	Physically remove module or delete data via software

## ASUS NUC 15 Pro Mini PC - (NUC15CR[x]v[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board
RAM	DDR5	Volatile memory	Yes	Remove power to board
SSD	M.2 2280	Non-Volatile memory	Yes	Physically remove module or delete data via software

## ASUS NUC 15 Pro Mini PC - (NUC15CR[x]u[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board
RAM	DDR5	Volatile memory	Yes	Remove power to board
SSD	M.2 2280	Non-Volatile memory	Yes	Physically remove module or delete data via software

## ASUS ROG NUC 970 / 760 - (NUC14SRKU[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board
RAM	DDR5	Volatile memory	Yes	Remove power to board
SSD	M.2 2280	Non-Volatile memory	Yes	Physically remove module or delete data via software

## ASUS NUC 14 Pro AI Mini PC - (NUC14LN[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board
RAM	DDR5	Volatile memory	Yes	Remove power to board
SSD	M.2 2280	Non-Volatile memory	Yes	Physically remove module or delete data via software

## ASUS NUC 14 Essentials Mini PC - (NUC14MNK[xx])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board
RAM	DDR5	Volatile memory	Yes	Remove power to board
SSD	M.2 2280	Non-Volatile memory	Yes	Physically remove module or delete data via software

## ASUS NUC 14 Pro+ Mini PC - (NUC14RVSu[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board
RAM	DDR5	Volatile memory	Yes	Remove power to board
SSD	M.2 2280	Non-Volatile memory	Yes	Physically remove module or delete data via software

## ASUS NUC 14 Pro Mini PC - (NUC14RV[x]v[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board
RAM	DDR5	Volatile memory	Yes	Remove power to board
SSD	M.2 2280	Non-Volatile memory	Yes	Physically remove module or delete data via software

## ASUS NUC 14 Pro Mini PC - (NUC14RV[x]u[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board
RAM	DDR5	Volatile memory	Yes	Remove power to board
SSD	M.2 2280	Non-Volatile memory	Yes	Physically remove module or delete data via software

## ASUS NUC 13 Pro Mini PC - (NUC13AN[x]i[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board
RAM	DDR4	Volatile memory	Yes	Remove power to board
SSD	M.2 2280	Non-Volatile memory	Yes	Physically remove module or delete data via software

## ASUS NUC 12 Pro Mini PC - (NUC12WS[x]i[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board
RAM	DDR4	Volatile memory	Yes	Remove power to board
SSD	M.2 2280	Non-Volatile memory	Yes	Physically remove module or delete data via software

## ASUS NUC Mini PCs with Intel® N Processors

### ASUS NUC 14 Essentials Mini PC - (NUC14MNK[xx])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board
RAM	DDR5	Volatile memory	Yes	Remove power to board
SSD	M.2 2280	Non-Volatile memory	Yes	Physically remove module or delete data via software

## ASUS NUC Kits with Intel® Core® Processors

### ASUS NUC 15 Pro+ Kit - (NUC15CRSu[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board

### ASUS NUC 15 Pro+ Kit - (NUC15CRSv[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board

### ASUS NUC 15 Pro Kit - (NUC15CR[x]v[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board

### ASUS NUC 15 Kit PC - (NUC15CR[x]u[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board

### ASUS NUC 14 Performance Kit - (NUC14SRKu[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board

### ASUS NUC 14 Pro AI Kit - (NUC14LN[x-x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board

### ASUS NUC 14 Essentials Kit - (NUC14MNK[xx])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board

### ASUS NUC 14 Pro+ Kit - (NUC14RVSu[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board

### ASUS NUC 14 Pro Kit - (NUC14RV[x]v[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board

### ASUS NUC 14 Pro Kit - (NUC14RV[x]u[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board

### ASUS NUC 13 Pro Kit - (NUC13AN[x]v[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
TPM	TPM 2.0	Non-volatile security information used with vPro AMT implementation	Yes	BIOS option and Jumper to clear
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board

### ASUS NUC 13 Pro Kit - (NUC13AN[x]i[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board

## ASUS NUC 12 Pro Kit – (NUC12WS[x]v[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
TPM	TPM 2.0	Non-volatile security information used with vPro AMT implementation	Yes	BIOS option and Jumper to clear
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board

## ASUS NUC 12 Pro Kit – (NUC12WS[x]i[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board

## ASUS NUC Kits with Intel® Pentium®, Intel® Celeron®, or Intel® Atom® Processors

### ASUS NUC 13 Rugged Kit – (NUC13BRKP2, NUC13BRFA[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board
eMMC	iNAND	Non-Volatile memory	Yes	Delete data via software

## ASUS NUC Mini PCs with Intel® N Processors

### ASUS NUC 14 Essentials Mini PC - (NUC14MNK[xx])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board
RAM	DDR5	Volatile memory	Yes	Remove power to board
SSD	M.2 2280	Non-Volatile memory	Yes	Physically remove module or delete data via software

## ASUS NUC Kits with Intel® N Processors

### ASUS NUC 14 Essentials Kit - (NUC14MKN-B[xx])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board

## ASUS NUC Boards

### ASUS NUC 15 Pro Board - (NUC15CRBu[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board

### ASUS NUC 15 Pro Board - (NUC15CRVBv[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the on board Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board

### ASUS NUC 14 Essentials Board - (NUC14MNB[xx])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board

## ASUS NUC 14 Pro AI Board - (NUC14LNB[xx])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board

## ASUS NUC 14 Pro Board - (NUC14RVBu[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board

## ASUS NUC 14 Pro Board - (NUC14RVBv[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board

## ASUS NUC 13 Rugged Board - (NUC13BRBA[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board
eMMC	iNAND	Non-Volatile memory	Yes	Delete data via software

## ASUS NUC 13 Pro Board - (NUC13ANBv[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
TPM	TPM 2.0	Non-volatile security information used with vPro AMT implementation	Yes	BIOS option and Jumper to clear
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board

## ASUS NUC 13 Pro Board - (NUC13ANBi[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board

## ASUS NUC 12 Pro Board – (NUC12WSBv[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
TPM	TPM 2.0	Non-volatile security information used with vPro AMT implementation	Yes	BIOS option and Jumper to clear
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board

## ASUS NUC 12 Pro Board – (NUC12WSBi[x])

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
System BIOS	SPI	Non-volatile memory for System BIOS, BIOS Setup/UEFI variables, Platform Firmware, Video BIOS and Ethernet Controller configuration data for basic boot	No	N/A
SMBIOS	SPI	Non-Volatile - Stored in the SPI in the NVRAM area. User accessible via software tools	Yes	N/A
CMOS	RTC	Volatile battery back-backed CMOS memory 256 bytes. Stores CMOS information.in Chipset	Yes	Removing the power and onboard Coin Cell battery.
SOC CPU	Cache	Volatile memory	Yes	Remove power to board
SOC GPU	Frame Buffer	Volatile memory	Yes	Remove power to board

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