Statement of Volatility – Dell Latitude 9420

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

The Dell Latitude 9420 contains both volatile and non-volatile components. Volatile components lose their data immediately after power is removed from the component. Non-volatile components continue to retain their data even after power is removed from the component. The following Non-volatile components are present on the Latitude 9420 system board.

Table 1. List of Non-Volatile Components on System Board

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (Action necessary to prevent loss of data)
Embedded Flash in embedded controller MEC5107	UE1	288 KB of embedded Flash memory	No	N/A
Panel EEDID EEPROM	Part of panel assembly	Non Volatile memory, FHD+ 256 bytes, QHD+ 256 bytes.	No	Part of panel assembly
System BIOS	UH8	Non Volatile memory, 32MB *1 for non-vPro, System BIOS and Video BIOS for basic boot operation, PSA (on board diags), PXE diags.	No	N/A
GOP BIOS	Embedded in system BIOS UH8	Non Volatile memory, 256 kbit (32 KB), Graphics system BIOS.	No	N/A
System Memory – LPDDR4/x on board memory	Two Channel on board memory: UD1, UD2 UD3, UD4	Volatile memory in OFF state System memory size will depend on LPDDR4/x ,16Gb/32Gb/64Gb (x32) per package	No	N/A
RTC CMOS – BBRAM (battery backed up)	UC1	Non Volatile memory, 256 Bytes. Stores CMOS information.	No	N/A
Video memory – frame buffer	Using system memory	Leverage system memory (UD1, UD2, UD3, UD4)	No	N/A
Intel ME Firmware	Embedded in system BIOS UH8	Non Volatile memory, 128 Mbit (16MB) for non-vPro, Intel ME firmware for system configuration, security, and protection	No	N/A
Hard drive(s)	User replaceable - one	2230 M.2 type SSD (PCIE interface)	Yes	Low level format
BBR EEPROM	Burnside Bridge F/W UTS1	Non Volatile memory. 64 Mbit (8MB) for Burnside bridge retime F/W flash.	No	N/A
Card Reader	uSD 4.0 Card reader controller F/W UR1	PCIE interface of embedded Flash memory	No	N/A

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (Action necessary to prevent loss of data)
Touch screen Embedded Flash	Part of panel assembly	I2C interface of embedded Flash memory	No	Part of panel assembly
Accelerometer + Gyro LSM6DSLUSTR	UG1 for 360 2-in-1 UG2 for 180 clamshell	I2C interface of embedded Flash memory	No	N/A
Accelerometer (secondary) LIS2DW12TR	UAC1	I2C interface of embedded Flash memory	No	N/A
Compass LIS2MDLTR	UCOM1	I2C interface of embedded Flash memory	No	N/A
ALS TCS3430	Part of camera assembly	I2C interface of embedded Flash memory	No	Part of camera assembly
TPM 2.0 ST33HTPH2X32AHD8	U712	SPI interface of embedded Flash memory	No	Low level format
MCU ATSAMD21E16C-UUT	U717	USB interface of embedded Flash memory	No	N/A
CVF CLOVER_FALLS	UCVF1	eSPI interface of embedded Flash memory	No	N/A
Darwin 3.0	UW1	I2C interface of embedded Flash memory	No	N/A
RF proximity sensor SX9324ICSTRT	U16	SMBUS interface of embedded Flash memory	No	N/A
EC MEC5107K	UE1	SPI interface of embedded Flash memory	No	N/A
PD PTPS65994AD	UPD1	I2C interface of embedded Flash memory	No	N/A
RF proximity sensor SX9331IULTRT	U718	SMBUS interface of embedded Flash memory	No	N/A
CV3 ROM	U1	Non Volatile memory. 128 Mbit (16MB) for CV3 F/W flash.	No	N/A
Fingerprint Sensor	Module	USB interface of embedded Flash memory	No	N/A
TouchPad	Module	I2C interface of embedded Flash memory	No	N/A
Camera Sensor	Module	I2C interface of embedded Flash memory	No	N/A

⚠ CAUTION: All other components on the system board lose data if power is removed from the system. Primary power loss (unplugging the power cord and removing the battery) destroys all user data on the memory (DDR3, 1067 MHz). Secondary power loss (removing the on-board coin-cell battery) destroys system data on the system configuration and time-of-day information.

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 S0, S4, S5 and Modern Standby):

S0 state is the working state, where the dynamic RAM is maintained and is read/write by the processor.

Modern standby is a standby mode state that is different from S3 mode. In this state, the dynamic RAM is maintained.

S4 is called suspend to disk state or hibernate mode, with no power. In this state, the dynamic RAM is not maintained. If the system has been commanded to enter S4, the operating system writes the system context to a non-volatile storage file and leave appropriate context markers. When the system comes back to the working state, a restore file from the non-volatile storage can occur. The restore file must be valid. Dell systems will be able to go to S4 if the operating system and the peripherals support S4 state. Windows 7/8 support S4 state.

S5 is the soft off state, with no power. The operating system does not save any context to wake up the system. No data will remain in any component on the system board, that is cache or memory. The system requires a complete boot when awakened. Since S5 is the shut off state, coming out of S5 requires power on which clears all registers.

The following table shows all the states supported by Dell Latitude 9420/9420 2-in-1:

Model Number	S0	Modern standby	S4	S5
Dell Latitude 9420/9420 2-in-1	v	v	v	v