



Statement of Volatility – Dell Latitude 9520/ 9520 2-in-1

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

The Dell Latitude 9520/9520 2-in-1 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. The following NV components are present on the Latitude 9520/9520 2-in-1 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, UHD 256 bytes.	No	Part of panel assembly
System BIOS	UC5	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 UC5	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 LPDDR4x, 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 UC5	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
USB-Type C PD	Embedded in system BIOS UC5	Non Volatile memory, 256k bits for USB type-C PD F/W	No	NA

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (Action necessary to prevent loss of data)
Card Reader	uSD 4.0 Card reader controller F/W UR1	PCIe interface of embedded Flash memory	No	N/A
Touch screen Embedded Flash	Part of panel assembly	I2C interface of embedded Flash memory	No	Part of panel assembly
Accelerometer + Gyro LSM6DS3U STR	UG1	I2C interface of embedded Flash memory	No	N/A
Accelerometer (secondary) LNG2DMTR	US2	I2C interface of embedded Flash memory	No	N/A
Compass LIS2MDLTR	UCOM1	I2C interface of embedded Flash memory	No	N/A
Security Controller Serial Flash Memory	U1 (up-sell USH daughter board)	Non Volatile memory, 128 Mbit (16Mbyte)	No	N/A
Camera ISP Flash ROM	UM2	Non Volatile memory, 2M-bit	No	N/A
EMS_MCU	U721	Non Volatile memory, 4K-bytes	No	N/A
ALS TCS3430	Part of camera assembly	I2C interface of embedded Flash memory	No	Part of camera assembly
TPM 2.0 ST33HTPH2 X32AHD8	U712	SPI interface of embedded Flash memory, 384Kbytes	No	Low level format

⚠ 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 (LPDDR4x, 4267 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, Modern standby, S4, and S5):

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. There is no power. 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 has to be valid. Dell systems will be able to go to S4 if the OS and the peripherals support S4 state. Win 7 and Win 8 support S4 state.

S5 is the “soft” off state. There is no power. The OS does not 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.

The following table shows all the states supported by Dell Latitude™ 9520/ 9520 2 in 1:

Model Number	S0	Modern standby	S4	S5
Dell Latitude™ 9520/ 9520 2 in 1	v	v	v	v