Statement of Volatility – Dell Latitude 5510

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

The Dell Latitude 5510 contains 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 5510 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)
SSD drive(s)	M.2 - 2280	Non Volatile magnetic media, various sizes in GB. SSD (solid state flash drive).	No	Low level format
System BIOS/EC	UC6(32MB)-Vpro UC6(16MB)+UC5(8MB)-Non Vpro	Non Volatile memory, Video BIOS for basic boot operation, PSA (on board diags), PXE diags.	No	NA
Thunderbolt EEPROM	UT2	Non Volatile memory, 8Mbit (1MB) (Thunderbolt FW)	No	NA
USB-Type C PD	UT6	Non Volatile memory , 8Mbit (1MB) for USB type-C PD F/W	No	NA
LCD Panel EEDID EEPROM	Part of panel assembly	Non Volatile memory, Stores panel manufacturing information, display configuration data	No	NA
System Memory – DDR4 memory	Two DIMM on board DDR4 memory: JDIMM1/JDIMM2	Volatile memory in OFF state (see state definitions later in text)	Yes	Power off system
RTC CMOS	UC1 (PCH)	Non Volatile memory 256 bytes Stores CMOS information	No	NA
Video memory – frame buffer	For UMA platform: Using system memory	Volatile memory in off state. UMA uses main system memory size allocated out of main memory.	No	Power off system
Intel ME Firmware	Conbine on BIOS ROM	Non Volatile memory, Intel ME firmware for system configuration, security and protection	No	N/A
Security Controller	U2 (up-sell USH	Non Volatile memory, 128 Mbit (16Mbyte)	No	N/A

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (Action necessary to prevent loss of data)
Serial Flash Memory	daughter board)			
TPM Controller	UZ12	Non Volatile memory, 192K bits (24K bytes) ROM	No	N/A
ISH	Conbine on BIOS ROM		No	N/A
Touch screen Embedded Flash	N/A	Non Volatile memory	No	N/A
Digital IMVP8 controller	PU602	Non Volatile memory, 4096bit (512B) Digital IMVP8 controller	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 (DDR4, 2667 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™ 5510:

Model Number	S0	Modern standby	S4	S5
Dell Latitude™ 5510	v	v	v	v