Statement of Volatility – Latitude 7450

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

The Dell Latitude 7450 contains both volatile and non-volatile components. Volatile components erase 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 7450 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 erase data)
SSD drive(s)	M.2 - 2230	Non-Volatile magnetic media, various sizes in GB. SSD (solid state flash drive).	Yes	Low level format
Embedded Flash in embedded controller MEC5200	UE1	288 KB of embedded Flash memory	No	NA
System BIOS/EC	UC2(64MB)	Non-volatile memory, System BIOS, embedded controller and Video BIOS for basic boot operation, PSA (on board diagnosis), PXE diagnosis.	No	NA
Thunderbolt EEPROM	UT7(1MB)	Non-volatile memory	No	NA
System Memory – LPDDR5 on board memory	4xLPDDR5x memory chips on board: UD1/UD2 UD3/UD4	Volatile memory in OFF state (see state definitions later in text) System memory size will depend on LPDDR5x,16GB/32GB/64GB per package.	No	NA
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	Combine on BIOS ROM	Non-volatile memory, Intel ME firmware for system configuration, security, and protection.	No	N/A
Security controller Serial Flash Memory	U2 (upsell USH daughter board)	Non-volatile memory, 128 Mbit (16 Mbyte)	No	N/A
TPM controller	UZ12	Non-volatile memory, 384K bits	No	N/A
ISH	Combine on BIOS ROM		No	N/A
LCD Panel EEDID EEPROM	Part of panel assembly	Non-volatile memory, stores panel manufacturing information, display configuration data.	No	NA
Touch screen embedded Flash	N/A	Non-volatile memory	No	N/A
Digital IMVP9.2 controller	PU601	Non-volatile memory, 1204 bit Digital IMVP9.2 controller. (Total 162 index, each index 0 /4 /8 bits)	No	N/A
Camera ISP Flash ROM	On Camera module	Non-volatile memory, 4k-bit	No	N/A

CAUTION: All other components on the system board erase 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 (LPDDR5x, 6400 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 11/10/8.1/7 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.

Table 2. The following table shows all the states supported by Dell Latitude 7450:

Model Number	S0	Modern standby	S4	S5
Dell Latitude 7450 & 7450 2-in-1	v	v	v	v

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