

Statement of Volatility – Latitude 7455

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

The Latitude 7455 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 7455 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	M.2 2230	Non-volatile magnetic media, various sizes in GB. Solid state drive (SSD).	Yes	Low-level format
System BIOS/EC	UC2 (64 MB) UE2 (2 MB)	Non-volatile memory, video BIOS for basic boot operation, PSA (onboard diags), PXE diags.	No	Not applicable
USB Type-C Re-timer	UT3/UT7	Non-volatile memory, Re-timer FW.	No	Not applicable
USB Type-C PD	UPD1/UPD2	Non-volatile memory for USB Type-C PD FW.	No	Not applicable
LCD Panel EEDID EEPROM	Part of panel assembly	Non-volatile memory stores panel manufacturing information and display configuration data.	No	Not applicable
System memory – LPDDR5x memory	Four onboard LPDDR5x memory: 16 GB/32 GB	Volatile memory is in OFF state (see state definitions later in the text).	Yes	Turn off the computer.
Video memory – frame buffer	For UMA platform: Using system memory	Volatile memory is in off state. The UMA uses main system memory size that is allocated out of the main memory.	Yes	Turn off the computer.
TPM controller	UK1	Non-volatile memory, 32448 bytes ROM.	No	Not applicable
Touch screen embedded Flash	Not applicable	Non-volatile memory.	No	Not applicable
Camera module EEPROM	Not applicable	64 KB non-volatile memory.	No	Not applicable

⚠ CAUTION: If power is removed from the computer, all other components on the system board erases the data. Primary power loss (unplugging the power cable and removing the battery) destroys all user data on the memory (LPDDR5x, 8448 MT/s). Secondary power loss (removing the connected 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 computer is put into 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. If the computer has been commanded to enter S4, the operating system writes the computer context to a non-volatile storage file and leaves appropriate context markers. When the computer is coming back to the working state, a restore file from the non-volatile storage can occur. The restore file must be valid. Dell computers can go to S4 if the operating system and the peripherals support S4 state.
- S5 is the “soft” off state. The operating system does not save any context to wake up the computer. The computer requires a complete boot when awakened. Since S5 is the “shut-off” state, coming out of S5 requires turning on the computer, which clears all registers.

The following table shows all the states that are supported by Latitude 7455.

Table 2. ACPI power states supported by Latitude 7455

Model number	S0	Modern standby	S4	S5
Latitude 7455	Yes	Yes	Yes ¹	Yes ²

^{1,2} When the computer enters S4 or S5 states (with the power adapter plugged in), the computer enters the OFF-mode charging state. The System-on-Chip (SOC) and memory module retain their power. Hence, data on the volatile memory is erased only when the computer enters S4 or S5 state (with the power adapter unplugged) and the computer is operating in battery mode.

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