

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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