

Statement of Volatility – Latitude 5440

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

Latitude 5440 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 5440 system board.

Table 1. List of non-volatile components on the system board

| Description | Reference designator | Volatility description | User accessible for external data | Remedial action (action necessary to erase data) |
|---|---|--|-----------------------------------|--|
| LCD Panel EEDID EEPROM | Part of panel assembly | Non-Volatile memory; Stores panel manufacturing information and display configuration data. | No | N/A |
| EC | UE1 (EC MEC5200M) | 384 KB Code/Data SRAM | No | N/A |
| System BIOS | UC2/UC6 | Non-Volatile memory, Video BIOS for basic boot operation, PSA (onboard diagnostics), and PXE diagnostics. | No | N/A |
| System Memory – DDR5 memory | Two SODIMM connectors: JDIMM1,2 present | Volatile memory in OFF state NOTE: See state definitions later in text. One to two modules must be populated. | Yes | Power off system |
| System memory SPD EEPROM | On System memory SODIMM(s) JDIMM1,2 present | Non-Volatile memory 512 bytes. Stores memory manufacturer data and timing information for correct operation of system memory. | No | N/A |
| RTC CMOS | UC1 | Non-Volatile memory, 256 bytes. Stores CMOS information. | No | Remove the onboard coin-cell battery |
| Video memory – frame buffer | For UMA platform: using system DDR5 For DSC platform: UV34, UV35 | Volatile memory in off state. UMA uses main system memory size allocated out of main memory. Discrete graphics system uses 2 GB GDDR6. | No | Power off system |
| Security Controller serial flash memory | U1 (up-sell USH daughter board) | Non-Volatile memory, 128 Mbit (16 MB) | No | N/A |
| SSD drive(s) | M.2 - 2230 | Non-Volatile magnetic media, various sizes in GB. SSD (solid state flash drive). | Yes | Low level format |
| TPM Controller | UZ4 | Non-Volatile memory | No | N/A |

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|----------------------------|----------------------|---|-----------------------------------|--|
| Thunderbolt EEPROM | UT7 | Non-Volatile memory | Thunderbolt EEPROM | N/A |
| Touchscreen Embedded Flash | N/A | Non-Volatile memory | No | N/A |
| Digital IMVP9.1 controller | PU601 | Non-Volatile memory, 13344 bits (full configuration size) Digital IMVP9.1 controller. (OTP space supports up to four full configurations). | No | N/A |
| Intel ME Firmware | Combine on BIOS ROM | Non-Volatile memory, Intel ME firmware for system configuration, security, and protection. | No | N/A |
| Camera ISP Flash ROM | On Camera module | Non-Volatile memory, 4M-bit | 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. 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 must be valid. Dell systems will be able to go to S4 if the OS and the peripherals 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, for example, 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.

Table 2. Power states supported by Latitude 5440

| Model number | S0 | Modern Standby | S4 | S5 |
|---------------|-----|----------------|-----|-----|
| Latitude 5440 | Yes | Yes | Yes | Yes |

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