Statement of Volatility – Latitude 3140

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

The Latitude 3140 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 3140 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)
SSD drive(s)	M.2 2230 JNGFF1	Non-volatile memory of various sizes on SSD.	Yes	Low-level format
EMMC	UM1 (64 GB)	Non-volatile memory	Yes	Low-level format
System BIOS/EC	USPI1 (32 MB)	Non-volatile memory, system BIOS, embedded controller and video BIOS for basic boot operation, PSA onboard diagnostics, PXE diagnostics.	No	N/A
Thunderbolt EEPROM	N/A	Non-volatile memory	No	N/A
LC Panel, EEDID, EEPROM	Part of panel assembly	Non-volatile memory, stores panel manufacturing information, display configuration data	No	N/A
System memory, LPDDR5	Two on board, LPDDR5 (UD1/UD2)	Volatile memory in off state (see ACPI power state definitions below)	No	Power off system
RTC CMOS	UC1 (PCH)	Non-volatile memory 256 bytes, stores CMOS information.	No	N/A
Video memory, frame buffer	Configurations with UMA: Using system memory	Volatile memory in off state (see ACPI power state definitions below) 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	Combine on BIOS ROM	Non-volatile memory	No	N/A
TPM controller	U712	Non-volatile memory, 192Kbits (24K bytes) ROM	No	N/A
ISH	Integrated in PCH	Non-volatile memory	No	N/A
Touch screen embedded flash	N/A	Non-volatile memory	No	N/A

Description	Reference designator	Volatility description	User accessible for external data	Remedial action (action necessary to erase data)
Digital IMVP9 controller	PU601	Non-volatile memory, 232 bits digital IMVP9 controller (Total 29 indexes, each index 8 bits)	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, these are the different ACPI power states that affect memory volatility and data retention:

- 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 where dynamic RAM is maintained.

- S4 is a "suspend to disk" state or "hibernate" mode, where there is no power. In this state, the dynamic RAM is not maintained. If the system is 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 computers can go to S4 if the OS and the peripherals support S4 state. Windows 10 and Windows 11 support S4 state.

- S5 is a "soft-off" state, where 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, the 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, which clears all registers.

Table 2. ACPI power states supported by Latitude 3140:

Model number	S0	Modern Standby	S4	S5
Latitude 3140	Yes	Yes	Yes	Yes