Statement of Volatility – Dell Pro Rugged 14 RB14250

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

The Dell Pro Rugged 14 RB14250 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 Dell Pro Rugged 14 RB14250 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 – 2280/2230	Non-volatile magnetic media, various sizes in GB. SSD (solid state flash drive).	Yes	Low level format
Embedded Flash in embedded controller MEC5200	U3000	384 KB Code/Data SRAM	No	N/A
System BIOS/EC	vPro: U2801-64 MB GU7202(up-sell GPU configuration)	Non-volatile memory, System BIOS, embedded controller and Video BIOS for basic boot operation, PSA (onboard diagnosis), PXE diagnosis.	No	N/A
Thunderbolt EEPROM	U501 (1 MB) (Type-C board)	Non-volatile memory	No	N/A
System memory SPD EEPROM	On system memory SODIMM(s) DM1, DM2 present	Non-volatile memory 1024 bytes for DDR5. Stores memory manufacturer data and timing information for correct operation of system memory.	No	N/A
RTC CMOS	UCPU1 (PCH)	Non-volatile memory 256-bytes stores CMOS information	No	Remove the onboard Coin-cell battery
Security controller Serial Flash Memory	U201 (up-sell USH board)	Non-volatile memory, 128 Mbit (16 Mbyte)	No	N/A
TPM controller	U4501	Non-volatile memory, 43 Kbits	No	N/A
LCD panel EEDID EEPROM	Part of display panel assembly	Non-volatile memory, Stores panel manufacturing information, display configuration data	No	N/A
Touch screen Embedded Flash	Part of panel assembly	Non-volatile memory	No	N/A
Digital IMVP9.2 controller	PU9100	Non-volatile memory, 13,344 bits (full configuration size) Digital IMVP9.2 controller (OTP space supports up to 4 full configurations)	No	N/A
Camera ISP Flash ROM	On camera module	Non-volatile memory	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 (DDR5, 5600 MT/s). 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 operating system writes 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 can go to S4 if the operating system and the peripherals support S4 state.
- S5 is the “soft” off state. There is no power. The operating system does not save any context to wake up the system. No data remains 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.

The following table shows all the states that are supported by Dell Pro Rugged 14 RB14250:

Model Number	S0	Modern standby	S4	S5
Dell Pro Rugged 14 RB14250	Yes	Yes	Yes	Yes

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