

Statement of Volatility – Dell Pro Slim QCS1255

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

The Dell Pro Slim QCS1255 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 Slim QCS1255 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 – 2280/30 SSD2	Non-Volatile magnetic media, various sizes in GB. SSD (solid state flash drive).	Yes	Low level format
System BIOS/EC	U2501 (64 MB)-Non RPMC + U2504 (2 MB)-Non RPMC	Non-Volatile memory, 512 Mb (64 MB), System BIOS and Video BIOS for basic boot operation, ePSA (on board diags), PXE diags.	No	Not applicable
System memory – DDR5 memory	Two UDIMM on board DDR5 memory: DM1/DM2	Volatile memory in OFF state. One or two modules will be populated. System memory size will depend on DIMM modules and will be between 8 GB and 64 GB.	Yes	Power off system
System memory SPD EEPROM	On memory DIMM(s)	Non-volatile EEPROM memory. 512 bytes. One Device present on each DIMM. Stores memory manufacturer data and timing information for correct operation of system memory.	No	Not applicable
RTC CMOS	BATTERY BT1	Non-volatile memory 256 bytes stores CMOS information	No	Removing the coin-cell battery.
Video memory – frame buffer	For UMA platform: Using system memory	Volatile memory in off state. UMA uses main system memory size allocated out of main memory.	No	Enter S3-S5 state below
TPM controller NPCT760JABYX	U9101	Non-volatile memory, 192 Kb (24 KB) ROM	No	Not applicable
Embedded Flash memory in embedded controller MICROCHIP DEC1547H-D0-I-NB-1-GP	U2403	The two SRAM blocks in the DEC1547 total 256 KB. The DEC1547 contains a 64 KB block of ROM. EC use 1 MB with SPI ROM by G3 sharing mode.	No	Not applicable

⚠ CAUTION: All other components on the system board erase data if power is removed from the system. Primary power loss (unplugging the power cord) destroys all user data on the memory. Secondary power loss (removing the 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, S1, MODS, S3, S4, and S5):

S0 state is the working state where the dynamic RAM is maintained and is read/write by the processor.

S1 state is a low wake-up latency sleeping state. In this state, no system context is lost (CPU or chip set) and hardware maintains all system contexts.

MODS is called “suspend to RAM” state or stand-by mode. In this state the dynamic RAM is maintained. Dell systems will be able to go to MODS if the OS and the peripherals used in the system supports MODS state. Linux and Windows11 support MODS state.

S3 (Suspend to Ram): The S3 sleeping state is a low wake latency sleeping state. This state is similar to the S1 sleeping state except that the CPU and system cache context is lost (the OS is responsible for maintaining the caches and CPU context). Control starts from the processor's reset vector after the wake event. In NCR systems, during S3, power is only provided to the USB 3.0 ports.

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 has to be valid. Dell systems will be able to go to S4 if the OS and the peripherals support S4 state. Windows 11 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, i.e. 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.

The following table shows all the states supported by Dell Pro Slim QCS1255:

Model Number	S0	S1	MODS	S4	S5
Dell Pro Slim QCS1255	X		X	X	X