

Statement of Volatility – Precision 5490

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

The Precision 5490 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 Precision 5490 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 memory, various sizes in GB. SSD (solid state flash drive). | No | Low level format |
| Embedded flash in embedded controller MEC5107 | UE1 | 288 KB of embedded flash memory | No | NA |
| System BIOS/EC | UC2 (64 GB) | Non-volatile memory, system BIOS, embedded controller and video BIOS for basic boot operation, PSA (onboard diagnosis), PXE diagnosis. | No | NA |
| Thunderbolt EEPROM | UTS1 (1 MB) | Non-volatile memory | No | NA |
| RTC CMOS | UC1 (PCH) | Non-volatile memory 256 bytes stores CMOS information | No | NA |
| Video memory – frame buffer | For UMA platform: Using system memory. For Discrete platform: UV3, UV4, UV5, UV6 | Volatile memory in off state. UMA uses main system memory size allocated out of main memory. Discrete graphics system uses 6 GB/8 GB GDDR6 | No | Power off system |
| Security controller Serial Flash Memory | U1 (upsell USH daughter board) | Non-volatile memory, 128 Mbit (16 Mbyte) | No | N/A |
| TPM controller | U712 | Non-volatile memory, 384 Kbits | No | N/A |
| LCD panel EEDID EEPROM | Part of panel assembly | Non-volatile memory, stores panel manufacturing information, display configuration data. | No | N/A |
| Touch screen embedded Flash | N/A | Non-volatile memory | No | N/A |
| Digital IMVP 9.2 controller | PUZ1 | Non-volatile memory, 1204 bits Digital IMVP 9.1 controller (Total 162 index, each index 0/4/8 bits) | | |
| Camera ISP flash ROM | On camera module | Non-volatile memory, 4 Kbit | 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. 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 computer 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 operating system does not save any context to wake up the system. No data will remain in any component on the system board, that is 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 Precision 5480:

| Model number | S0 | Modern standby | S4 | S5 |
|-----------------------|----------|----------------|-----------|-----------|
| Precision 5490 | V | V | V | V |