

# Statement of Volatility – Precision 3580

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

The Precision 3580 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 3580 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 2280/2230                                                                                                                           | Non-volatile memory of various sizes on SSD.                                                                                                                        | Yes                               | Low-level format                                 |
| Embedded flash in embedded controller MEC5200 | U2401                                                                                                                                   | 384 KB code/data SRAM                                                                                                                                               | No                                | N/A                                              |
| System BIOS/EC                                | <b>vPro:</b> <ul style="list-style-type: none"> <li>U2501 (32 MB)</li> <li>U2502 (16 MB)</li> <li>U7901 (up-sell GPU config)</li> </ul> | Non-volatile memory, system BIOS, embedded controller and video BIOS for basic boot operation, PSA onboard diagnostics, PXE diagnostics.                            | No                                | N/A                                              |
| Thunderbolt EEPROM                            | U7103 (1 MB)                                                                                                                            | Non-volatile memory                                                                                                                                                 | No                                | N/A                                              |
| System memory SPD EEPROM                      | On-system memory SODIMM(s) DM1, DM2 present                                                                                             | Non-volatile memory, 512 bytes for DDR4, 1024 bytes for DDR5.<br><br>Stores memory manufacturer data and timing information for correct operation of system memory. | No                                | N/A                                              |
| RTC CMOS                                      | CPU1 (PCH)                                                                                                                              | Non-volatile memory 256 bytes, stores CMOS information.                                                                                                             | No                                | Remove the onboard coin cell battery             |
| Security controller serial flash memory       | U401 (up-sell USH-daughter board)                                                                                                       | Non-volatile memory, 128 Mbit (16 MB)                                                                                                                               | No                                | N/A                                              |
| TPM controller                                | U9101                                                                                                                                   | Non-volatile memory, 43K bits                                                                                                                                       | 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                                              |

| Description                | Reference designator | Volatility description                                                                                                    | User accessible for external data | Remedial action (action necessary to erase data) |
|----------------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------------------------------------------------|
| Digital IMVP9.1 controller | PU4601               | Non-volatile memory, 13,344 bits (full config size), digital IMVP9.1 controller (OTP space supports up to 4 full configs) | No                                | N/A                                              |
| Camera ISP Flash ROM       | On-camera module     | Non-volatile memory, 4 Mbit                                                                                               | 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.
- 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 3580:**

| Model number  | S0  | Modern Standby | S4  | S5  |
|---------------|-----|----------------|-----|-----|
| Latitude 3580 | Yes | Yes            | Yes | Yes |

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