



# BMC Manual

## SR124-2A/SR224-2A

|              |            |
|--------------|------------|
| Revision:    | 1.9        |
| Release Date | 2025/10/02 |

## Version Control

| Date       | Version | Description                                                                                                                                                                                           |
|------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 09/16/2024 | V1.0    | DVT init                                                                                                                                                                                              |
| 11/08/2024 | V1.1    | 1. Update 5.3, 9.3, 15.2<br>2. Chapter 3.3 & 3.5 – Add GPU<br>3. Chapter 4.0 – Add GPU FRU<br>4. Chapter 13.0 – Add NVIDIA & AMD Card<br>5. Chapter 15.1 – Add GPU_MEM_TEMP<br>& GPU_BOARD_TEMP       |
| 11/08/2024 | V1.2    | 1. Update 15.2 – Add Common Data                                                                                                                                                                      |
| 11/14/2024 | V1.3    | 1. Update 7.2 – Modify IPMI watchdog<br>2. Update 12 – Add MSCC RAID & Modify BRCM RAID<br>3. Update 15.2 – Modify NVMe sensor number<br>4. Update 15.3 – Add BMC Bootloader<br>& Modify Authenticate |
| 11/15/2014 | V1.4    | 1. Update 15.2                                                                                                                                                                                        |
| 11/26/2024 | V1.5    | 1. Update 7.3– Modify Chassis UID LED<br>2. Update 15.1 – Modify HDD_STATUS_RX sensor number<br>3. Update 15.2 – Modify PROCESSS_STATUS description                                                   |
| 12/25/2024 | V1.6    | 1. Update 15.1 – Modify BMC sensor<br>2. Update 15.2 – Modify BIOS sensor                                                                                                                             |
| 01/14/2025 | V1.7    | 1. Update 15.2 – Modify BIOS sensor                                                                                                                                                                   |
| 04/10/2025 | V1.8    | 1. Add Raid card 9660 support<br>2. Modify SKU config                                                                                                                                                 |
| 10/02/2025 | V1.9    | 1. Update model name                                                                                                                                                                                  |

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# 1. Introduction

This document specifies the baseboard management controller's functionality and the communication interface for the project. This BMC-specific document should be used in conjunction Intelligent Platform Management Interface Specification v2.0 describes the communication channel interfaces. This document outlines the functional specifications, system initialization, command interfaces, and sensor complement of the BMC. It also describes the commands and codes necessary to access, control, and configure the BMC.

In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence.

This document is written for software developer, system integrators and people involved in the design of, and interface to, the server management hardware addressed by this firmware document. We assume that the reader is familiar with the Intelligent Platform Management Interface Specification v2.0 and the appropriate reference documents.

## 2.Feature Support

### 2.1. IPMI 2.0

- ✧ Baseboard management controller (BMC)
- ✧ IPMI Watchdog timer
- ✧ Messaging support, including command bridging and user/session support
- ✧ Chassis device functionality, including power/reset control and BIOS boot flags support
- ✧ Event receiver device: The BMC receives and processes events from other platform subsystems.
- ✧ Field Replaceable Unit (FRU) inventory device functionality: The BMC supports access to system FRU devices using IPMI FRU commands.
- ✧ System Event Log (SEL) device functionality: The BMC supports and provides access to a SEL.
- ✧ Sensor Data Record (SDR) repository device functionality: The BMC supports storage and access of system SDRs.
- ✧ Sensor device and sensor scanning/monitoring: The BMC provides IPMI management of sensors. It polls sensors to monitor and report system health.
- ✧ IPMI interfaces: LPC, IPMB and LAN interface.
- ✧ Serial-over-LAN (SOL)
- ✧ ACPI state synchronization: The BMC tracks ACPI state changes that are provided by the BIOS.
- ✧ BMC self-test: The BMC performs initialization and run-time self-tests and makes results available to external entities.
- ✧ BMC Device ID: 0x20 (IPM Device: Get Device ID)

See also the Intelligent Platform Management Interface Specification Second Generation v2.0.

### 2.2. Non-IPMI 2.0

- ✧ Basic fan control
- ✧ System GUID storage and retrieval
- ✧ Front panel management: The BMC controls the system status LED and Chassis UID LED. It supports secure lockout of certain front panel functionality and monitors button presses. The Chassis UID LED is turned on using a front panel button or a command.
- ✧ Power unit management: Support for power unit sensor. The BMC handles power-good dropout conditions.
- ✧ Dynamic Host Configuration Protocol (DHCP): The BMC performs DHCP (supported on embedded NICs).
- ✧ Platform environment control interface (PECI) thermal management support.
- ✧ E-mail alerting
- ✧ Embedded web server
- ✧ KVM

- ✧ Remote Media Redirection
- ✧ Lightweight Directory Access Protocol (LDAP) support
- ✧ SNMP support
- ✧ Port 80h snooping capability
- ✧ Crash & Boot Video Capture support
- ✧ Redfish support

### 3. Stock Keeping Unit (SKU)

Only the differing items that are controlled by the BMC are listed here.

#### 3.1. SKU0|SR224-2A|2U

| Device             | Description            | Notes |
|--------------------|------------------------|-------|
| HDDBP_1 (SC-A095P) | SAS/SATA/NVMe 2.5" x 8 | Front |
| HDDBP_2 (SC-A095P) | SAS/SATA/NVMe 2.5" x 8 | Front |
| HDDBP_3 (SC-A095P) | SAS/SATA/NVMe 2.5" x 8 | Front |
| HDDBP_4 (SC-A098P) | SAS/SATA/NVMe 2.5" x 2 | Rear  |
| Fan                | x6                     | -     |

#### 3.2. SKU1|SR224-2A|2U

| Device             | Description            | Notes |
|--------------------|------------------------|-------|
| HDDBP_1 (SC-A095P) | SAS/SATA/NVMe 2.5" x 8 | Front |
| HDDBP_2 (SC-A095P) | SAS/SATA/NVMe 2.5" x 8 | Front |
| HDDBP_3 (SC-A095P) | SAS/SATA/NVMe 2.5" x 8 | Front |
| HDDBP_4 (SC-A098P) | SAS/SATA/NVMe 2.5" x 2 | Rear  |
| SAS expander       |                        |       |
| Fan                | x6                     | -     |

#### 3.3. SKU2|SR224-2A|2U

| Device             | Description            | Notes |
|--------------------|------------------------|-------|
| HDDBP_1 (SC-A095P) | SAS/SATA/NVMe 2.5" x 8 | Front |
| HDDBP_2 (SC-A098P) | SAS/SATA/NVMe 2.5" x 2 | Rear  |
| Fan                | x6                     | -     |
| GPU                | X2                     |       |

#### 3.4. SKU3|SR224-2A|2U

| Device             | Description             | Notes            |
|--------------------|-------------------------|------------------|
| HDDBP_1 (SC-A096P) | SAS/SATA/NVMe 3.5" x 12 | Front (NVMe)     |
| HDDBP_2 (SC-A098P) | SAS/SATA/NVMe 2.5" x 2  | Rear (SATA/NVMe) |
| Fan                | x6                      | -                |

### 3.5. SKU4| SR224-2A |2U

| Device             | Description             | Notes            |
|--------------------|-------------------------|------------------|
| HDDBP_1 (SC-A096P) | SAS/SATA/NVMe 3.5" x 12 | Front (SAS/SATA) |
| HDDBP_2 (SC-A098P) | SAS/SATA/NVMe 2.5" x 2  | Rear (Universal) |
| Fan                | x6                      | -                |

### 3.6. SKU5| SR224-2A |2U

| Device             | Description             | Notes            |
|--------------------|-------------------------|------------------|
| HDDBP_1 (SC-A096P) | SAS/SATA/NVMe 3.5" x 12 | Front (SAS/SATA) |
| Fan                | x6                      | -                |
| GPU                | X2                      |                  |

### 3.7. SKU6| SR224-2A |2U

| Device             | Description | Notes       |
|--------------------|-------------|-------------|
| HDDBP_1 (SC-A291P) | E3.S x 12   | Front(E3.S) |
| Fan                | x6          | -           |

### 3.8. SKU7| SR224-2A |2U

| Device             | Description            | Notes       |
|--------------------|------------------------|-------------|
| HDDBP_1 (SC-A291P) | E3.S x 12              | Front(E3.S) |
| HDDBP_2 (SC-A291P) | E3.S x 12              | Front(E3.S) |
| HDDBP_3 (SC-A095P) | SAS/SATA/NVMe 2.5" x 8 | Front       |
| HDDBP_4 (SC-A098P) | SAS/SATA/NVMe 2.5" x 2 | Rear        |
| Fan                | x6                     | -           |

### 3.9. SKU8| SR224-2A |2U

| Device             | Description            | Notes |
|--------------------|------------------------|-------|
| HDDBP_1 (SC-A095P) | SAS/SATA/NVMe 2.5" x 8 | Front |
| HDDBP_2 (SC-A095P) | SAS/SATA/NVMe 2.5" x 8 | Front |
| HDDBP_3 (SC-A095P) | SAS/SATA/NVMe 2.5" x 8 | Front |
| Fan                | x6                     | -     |

### 3.10. SKU9| SR224-2A |2U

| Device             | Description            | Notes |
|--------------------|------------------------|-------|
| HDDBP_1 (SC-A095P) | SAS/SATA/NVMe 2.5" x 4 | Front |
| HDDBP_2 (SC-A095P) | SAS/SATA/NVMe 2.5" x 4 | Front |
| HDDBP_3 (SC-A098P) | SAS/SATA/NVMe 2.5" x 2 | Rear  |
| Fan                | x6                     | -     |
| GPU                | X2                     |       |

### 3.11. SKU16 | SR124-2A | 1U

| Device             | Description            | Notes |
|--------------------|------------------------|-------|
| HDDBP_1 (SC-A115P) | SAS/SATA/NVMe 3.5" x 4 | Front |
| Fan                | x8                     | -     |

### 3.12. SKU17 | SR124-2A | 1U

| Device             | Description             | Notes |
|--------------------|-------------------------|-------|
| HDDBP_1 (SC-A111P) | SAS/SATA/NVMe 2.5" x 12 | Front |
| Fan                | x8                      | -     |

## 4. Field Replace Unit (FRU)

| FRU Device   | ID | SKU                           | Common Header | Chassis Info | Board Info | Product Info |
|--------------|----|-------------------------------|---------------|--------------|------------|--------------|
| MB           | 0  | ALL                           | 8             | 128          | 256        | 378          |
| DCSCM        | 1  | ALL                           | 8             |              |            |              |
| PSU1         | 2  | ALL                           | 8             | By vendor    | By vendor  | By vendor    |
| PSU2         | 3  | ALL                           | 8             | By vendor    | By vendor  | By vendor    |
| HDDBP_1      | 4  | 0 1 2 3 4 5<br> 6 7 8 9 16 17 | 8             | 0            | 256        | 0            |
| HDDBP_2      | 5  | 0 1 2 3 4 7 8 9               | 8             | 0            | 256        | 0            |
| HDDBP_3      | 6  | 0 1 7 8 9                     | 8             | 0            | 256        | 0            |
| HDDBP_4      | 7  | 0 1 7                         | 8             | 0            | 256        | 0            |
| SAS Expander | 10 | 1                             | 8             | 0            | 200        | 0            |
| GPU0         | 12 | 2 5 9                         | 8             | By vendor    | By vendor  | By vendor    |
| GPU1         | 13 | 2 5 9                         | 8             | By vendor    | By vendor  | By vendor    |

P.S. About HDDBP\_X, please reference SKU chapter.

*Notice that when the length of data is not reaching the request on note, please use space to fill.*

*Mfg. stand for value is changeable by factory.*

*Data value is just an example.*

### 4.1. Mother Board

| Area          | Field                             | Offset | Data     | Note          |
|---------------|-----------------------------------|--------|----------|---------------|
| Common Header | Common Header Format Version      | 0x00   | 0x01     |               |
|               | Internal Use Area Starting Offset | 0x01   | 0x00     |               |
|               | Chassis Info Area Starting Offset | 0x02   | 0x00     |               |
|               | Board Area Starting Offset        | 0x03   | 0x01     |               |
|               | Product Info Area Starting Offset | 0x04   | 0x00     |               |
|               | Multi-Record Area Starting Offset | 0x05   | 0x00     |               |
|               | PAD                               | 0x06   | 0x00     |               |
|               | Common Header Checksum            | 0x07   | Variable | Zero checksum |

|              |                                   |      |                    |                    |
|--------------|-----------------------------------|------|--------------------|--------------------|
| Chassis Info | Chassis Info Area Format Version  | 0x08 | 0x01               |                    |
|              | Chassis Info Area Length          | 0x09 | 0x10 (x8)          | 128 bytes          |
|              | Chassis Type                      | 0x0A | 0x17               | Rack Mount Chassis |
|              | Chassis Part Number type/length   | 0x0B | 0xD4               |                    |
|              | Chassis Part Number bytes         | 0x0C | "00000000000000"   | Mfg. Program       |
|              | Chassis Serial Number type/length | 0x20 | 0xD4               |                    |
|              | Chassis Serial Number bytes       | 0x21 | "00000000000000"   | Mfg. Program       |
|              | End of fields                     | 0x35 | 0xC1               | No more info       |
|              | remaining unused space            | 0x36 | 0x00               | Reserved 81 bytes  |
|              | Chassis Info Checksum             | 0x87 | Variable           | Zero checksum      |
| Board Info   | Board Area Format Version         | 0x88 | 0x01               |                    |
|              | Board Area Length                 | 0x89 | 0x20               | 256 bytes          |
|              | Language Code                     | 0x8A | 0x00               |                    |
|              | Mfg. Date / Time                  | 0x8B | "2000-01-01 00:00" | Mfg. Program       |
|              | Board Manufacturer type/length    | 0x8E | 0xD4               | ASCII 20 bytes     |
|              | Board Manufacturer                | 0x8F | "COMPAL"           | Mfg. Program       |
|              | Board Product Name type/length    | 0xA3 | 0xD4               | ASCII 20 bytes     |
|              | Board Product Name                | 0xA4 | "System Board "    | Mfg. Program       |
|              | Board Serial Number type/length   | 0xB8 | 0xD4               | ASCII 20 bytes     |
|              | Board Serial Number               | 0xB9 | "00000000000000"   | Mfg. Barcode       |
|              | Board Part Number type/length     | 0xCD | 0xD4               | ASCII 20 bytes     |
|              | Board Part Number                 | 0xCE | "00000000000000"   | Mfg. Barcode       |
|              | FRU File ID type/length           | 0xE2 | 0x01               | Binary 1 byte      |
|              | FRU File ID                       | 0xE3 | 0x00               |                    |
|              | Compal Field Start                |      |                    |                    |
|              | HW Revision string type/length    | 0xE4 | 0xCB               | ASCII 11 bytes     |
|              | HW Revision string                | 0xE5 | "HW Revision"      |                    |
|              | HW Revision type/length           | 0xF0 | 0x01               | Binary 1 byte      |

|              |                                     |       |                  |                    |
|--------------|-------------------------------------|-------|------------------|--------------------|
|              | HW Revision                         | 0xF1  | 0x01             | Mfg. Program       |
|              | Eth1 MAC address string type/length | 0xF2  | 0xD0             | ASCII 16 bytes     |
|              | Eth1 MAC address string             | 0xF3  | ""               |                    |
|              | Eth1 MAC address type/length        | 0x103 | 0x06             | Binary 6 bytes     |
|              | Eth1 MAC address                    | 0x104 | 000000000000     | Mfg. Program       |
|              | Eth2 MAC address string type/length | 0x10A | 0xD0             | ASCII 16 bytes     |
|              | Eth2 MAC address string             | 0x10B | ""               |                    |
|              | Eth2 MAC address type/length        | 0x11B | 0x6              | Binary 6 bytes     |
|              | Eth2 MAC address                    | 0x11C | 000000000000     | Mfg. Program       |
|              | Compal Field End                    |       |                  |                    |
|              | End of fields                       | 0x122 | C1               | No more info       |
|              | Board Unused Space                  | 0x123 | 0x00             | Reserved 100 bytes |
|              | Board Info Checksum                 | 0x187 | Variable         | Zero checksum      |
| Product Info | Product Area Format Version         | 0x188 | 0x01             |                    |
|              | Product Area Length                 | 0x189 | 0x2F             | 376 bytes          |
|              | Language Code                       | 0x18A | 0x00             |                    |
|              | Product Manufacturer type/length    | 0x18B | 0xD4             | ASCII 20 bytes     |
|              | Product Manufacturer                | 0x18C | "COMPAL"         | Mfg. Program       |
|              | Product Name type/length            | 0x1A0 | 0xF0             | ASCII 48 bytes     |
|              | Product Name                        | 0x1A1 | "COMPAL SERVER"  | Mfg. Program       |
|              | Product Part Number type/length     | 0x1D1 | 0xD4             | ASCII 20 bytes     |
|              | Product Part Number                 | 0x1D2 | "00000000000000" | Mfg. Program       |
|              | Product Version type/length         | 0x1E6 | 0xC2             | ASCII 2 bytes      |
|              | Product Version                     | 0x1E7 | "01"             | Mfg. Program       |
|              | Product Serial type/length          | 0x1E9 | 0xD4             | ASCII 20 bytes     |
|              | Product Serial                      | 0x1EA | "00000000000000" | Mfg. Program       |
|              | Product Asset Tag type/length       | 0x1FE | 0xE0             | ASCII 32 bytes     |
|              | Product Asset                       | 0x1FF | "COMPAL SERVER"  | Mfg. Program       |
|              | FRU File ID type/length             | 0x21F | 0x01             | Binary 1 byte      |

|  |                                |       |                                  |                    |
|--|--------------------------------|-------|----------------------------------|--------------------|
|  | FRU File ID                    | 0x220 | 0x00                             |                    |
|  | Compal Field Start             |       |                                  |                    |
|  | System UUID string type/length | 0x221 | 0xCB                             | ASCII 11 bytes     |
|  | System UUID string             | 0x222 | "System UUID"                    |                    |
|  | System UUID type/length        | 0x22D | 0x10                             | Binary 16 bytes    |
|  | System UUID                    | 0x22E | 00000000000000000000000000000000 | Mfg. Program       |
|  | SKU ID string type/length      | 0x23E | 0xC6                             | ASCII 6 bytes      |
|  | SKU ID string                  | 0x23F | "SKU ID"                         |                    |
|  | SKU ID type/length             | 0x245 | 0x01                             | Binary 1 byte      |
|  | SKU ID                         | 0x246 | 0x00                             | Mfg. Program       |
|  | Compal Field End               |       |                                  |                    |
|  | End of fields                  | 0x247 | 0xC1                             | No more info       |
|  | Product Unused Space           | 0x248 | 0xFF                             | Reserved 183 bytes |
|  | Product Info Checksum          | 0x2FF | Variable                         | zero checksum      |

## 4.2. DCSCM

| Area          | Field                             | Offset | Data      | Note          |
|---------------|-----------------------------------|--------|-----------|---------------|
| Common Header | Common Header Format Version      | 0x00   | 0x01      |               |
|               | Internal Use Area Starting Offset | 0x01   | 0x00      |               |
|               | Chassis Info Area Starting Offset | 0x02   | 0x01      |               |
|               | Board Area Starting Offset        | 0x03   | 0x11      |               |
|               | Product Info Area Starting Offset | 0x04   | 0x30      |               |
|               | Multi-Record Area Starting Offset | 0x05   | 0x00      |               |
|               | PAD                               | 0x06   | 0x00      |               |
|               | Common Header Checksum            | 0x07   | Variable  | Zero checksum |
| Chassis Info  | Chassis Info Area Format Version  | 0x08   | 0x01      |               |
|               | Chassis Info Area Length          | 0x09   | 0x10 (x8) | 128 bytes     |

|            |                                     |      |                    |                    |
|------------|-------------------------------------|------|--------------------|--------------------|
|            | Chassis Type                        | 0x0A | 0x17               | Rack Mount Chassis |
|            | Chassis Part Number type/length     | 0x0B | 0xD4               |                    |
|            | Chassis Part Number bytes           | 0x0C | "00000000000000"   | Mfg. Program       |
|            | Chassis Serial Number type/length   | 0x20 | 0xD4               |                    |
|            | Chassis Serial Number bytes         | 0x21 | "00000000000000"   | Mfg. Program       |
|            | End of fields                       | 0x35 | 0xC1               | No more info       |
|            | remaining unused space              | 0x36 | 0x00               | Reserved 81 bytes  |
|            | Chassis Info Checksum               | 0x87 | Variable           | Zero checksum      |
| Board Info | Board Area Format Version           | 0x88 | 0x01               |                    |
|            | Board Area Length                   | 0x89 | 0x20               | 256 bytes          |
|            | Language Code                       | 0x8A | 0x00               |                    |
|            | Mfg. Date / Time                    | 0x8B | "2000-01-01 00:00" | Mfg. Program       |
|            | Board Manufacturer type/length      | 0x8E | 0xD4               | ASCII 20 bytes     |
|            | Board Manufacturer                  | 0x8F | "COMPAL"           | Mfg. Program       |
|            | Board Product Name type/length      | 0xA3 | 0xD4               | ASCII 20 bytes     |
|            | Board Product Name                  | 0xA4 | "DCSCM "           | Mfg. Program       |
|            | Board Serial Number type/length     | 0xB8 | 0xD4               | ASCII 20 bytes     |
|            | Board Serial Number                 | 0xB9 | "00000000000000"   | Mfg. Barcode       |
|            | Board Part Number type/length       | 0xCD | 0xD4               | ASCII 20 bytes     |
|            | Board Part Number                   | 0xCE | "000000000000"     | Mfg. Barcode       |
|            | FRU File ID type/length             | 0xE2 | 0x01               | Binary 1 byte      |
|            | FRU File ID                         | 0xE3 | 0x00               |                    |
|            | Compal Field Start                  |      |                    |                    |
|            | HW Revision string type/length      | 0xE4 | 0xCB               | ASCII 11 bytes     |
|            | HW Revision string                  | 0xE5 | "HW Revision"      |                    |
|            | HW Revision type/length             | 0xF0 | 0x01               | Binary 1 byte      |
|            | HW Revision                         | 0xF1 | 0x01               | Mfg. Program       |
|            | Eth1 MAC address string type/length | 0xF2 | 0xD0               | ASCII 16 bytes     |

|              |                                     |       |                      |                    |
|--------------|-------------------------------------|-------|----------------------|--------------------|
| Product Info | Eth1 MAC address string             | 0xF3  | "Eth1 MAC address"   |                    |
|              | Eth1 MAC address type/length        | 0x103 | 0x06                 | Binary 6 bytes     |
|              | Eth1 MAC address                    | 0x104 | 000000000000         | Mfg. Program       |
|              | Eth2 MAC address string type/length | 0x10A | 0xD0                 | ASCII 16 bytes     |
|              | Eth2 MAC address string             | 0x10B | " Eth2 MAC address " |                    |
|              | Eth2 MAC address type/length        | 0x11B | 0x6                  | Binary 6 bytes     |
|              | Eth2 MAC address                    | 0x11C | 000000000000         | Mfg. Program       |
|              | Compal Field End                    |       |                      |                    |
|              | End of fields                       | 0x122 | C1                   | No more info       |
|              | Board Unused Space                  | 0x123 | 0x00                 | Reserved 100 bytes |
|              | Board Info Checksum                 | 0x187 | Variable             | Zero checksum      |
|              | Product Area Format Version         | 0x188 | 0x01                 |                    |
|              | Product Area Length                 | 0x189 | 0x2F                 | 376 bytes          |
|              | Language Code                       | 0x18A | 0x00                 |                    |
|              | Product Manufacturer type/length    | 0x18B | 0xD4                 | ASCII 20 bytes     |
|              | Product Manufacturer                | 0x18C | "COMPAL"             | Mfg. Program       |
|              | Product Name type/length            | 0x1A0 | 0xF0                 | ASCII 48 bytes     |
|              | Product Name                        | 0x1A1 | "SC-A091P"           | Mfg. Program       |
|              | Product Part Number type/length     | 0x1D1 | 0xD4                 | ASCII 20 bytes     |
|              | Product Part Number                 | 0x1D2 | "00000000000000"     | Mfg. Program       |
|              | Product Version type/length         | 0x1E6 | 0xC2                 | ASCII 2 bytes      |
|              | Product Version                     | 0x1E7 | "01"                 | Mfg. Program       |
|              | Product Serial type/length          | 0x1E9 | 0xD4                 | ASCII 20 bytes     |
|              | Product Serial                      | 0x1EA | "00000000000000"     | Mfg. Program       |
|              | Product Asset Tag type/length       | 0x1FE | 0xE0                 | ASCII 32 bytes     |
|              | Product Asset                       | 0x1FF | "COMPAL SERVER"      | Mfg. Program       |
|              | FRU File ID type/length             | 0x21F | 0x01                 | Binary 1 byte      |
|              | FRU File ID                         | 0x220 | 0x00                 |                    |
|              | Compal Field Start                  |       |                      |                    |

|                  |                                |       |                                  |                    |
|------------------|--------------------------------|-------|----------------------------------|--------------------|
|                  | System UUID string type/length | 0x221 | 0xCB                             | ASCII 11 bytes     |
|                  | System UUID string             | 0x222 | "System UUID"                    |                    |
|                  | System UUID type/length        | 0x22D | 0x10                             | Binary 16 bytes    |
|                  | System UUID                    | 0x22E | 00000000000000000000000000000000 | Mfg. Program       |
|                  | SKU ID string type/length      | 0x23E | 0xC6                             | ASCII 6 bytes      |
|                  | SKU ID string                  | 0x23F | ""                               |                    |
|                  | SKU ID type/length             | 0x245 | 0x01                             | Binary 1 byte      |
|                  | SKU ID                         | 0x246 | 00                               | Mfg. Program       |
| Compal Field End |                                |       |                                  |                    |
|                  | End of fields                  | 0x247 | 0xC1                             | No more info       |
|                  | Product Unused Space           | 0x248 | 0xFF                             | Reserved 183 bytes |
|                  | Product Info Checksum          | 0x2FF | Variable                         | zero checksum      |

### 4.3. PSU

Different manufacturers have different standards and cannot provide.

### 4.4. HDDBP

| Area          | Field                             | Offset | Data     | Note          |
|---------------|-----------------------------------|--------|----------|---------------|
| Common Header | Common Header Format Version      | 0x00   | 0x01     |               |
|               | Internal Use Area Starting Offset | 0x01   | 0x00     |               |
|               | Chassis Info Area Starting Offset | 0x02   | 0x00     |               |
|               | Board Area Starting Offset        | 0x03   | 0x01     |               |
|               | Product Info Area Starting Offset | 0x04   | 0x00     |               |
|               | Multi-Record Area Starting Offset | 0x05   | 0x00     |               |
|               | PAD                               | 0x06   | 0x00     |               |
|               | Common Header Checksum            | 0x07   | Variable | Zero checksum |
| Board Info    | Board Area Format Version         | 0x08   | 0x01     |               |
|               | Board Area Length                 | 0x09   | 0x20     | 256 bytes     |

|                    |                                 |       |                  |                    |
|--------------------|---------------------------------|-------|------------------|--------------------|
|                    | Language Code                   | 0x0A  | 0x00             |                    |
|                    | Mfg. Date / Time                | 0x0B  | 000000           | Mfg. Program       |
|                    | Board Manufacturer type/length  | 0x0E  | 0xD4             | ASCII 20 byte      |
|                    | Board Manufacturer              | 0x0F  | "COMPAL"         | Mfg. Program       |
|                    | Board Product Name type/length  | 0x23  | 0xD4             | ASCII 20 byte      |
|                    | Board Product Name              | 0x24  | "System Board"   | Mfg. Program       |
|                    | Board Serial Number type/length | 0x38  | 0xD4             | ASCII 20 byte      |
|                    | Board Serial Number             | 0x39  | "00000000000000" | Mfg. Barcode       |
|                    | Board Part Number type/length   | 0x4D  | 0xD4             | ASCII 20 byte      |
|                    | Board Part Number               | 0x4E  | "00000000000000" | Mfg. Barcode       |
|                    | FRU File ID type/length         | 0x62  | 0x01             | Binary 1 byte      |
|                    | FRU File ID                     | 0x63  | 0x00             |                    |
| Compal Field Start |                                 |       |                  |                    |
|                    | HW Revision field type/length   | 0x64  | 0xCB             | ASCII 11 byte      |
|                    | HW Revision field               | 0x65  | "HW Revision"    |                    |
|                    | HW Revision type/length         | 0x70  | 0x01             | Binary 1 byte      |
|                    | HW Revision                     | 0x71  | 01               | Mfg. Program       |
| Compal Field End   |                                 |       |                  |                    |
|                    | End of fields                   | 0x72  | 0xC1             | No more info       |
|                    | Board Unused Space              | 0x73  | 0x00             | Reserved 100 bytes |
|                    | Board Info Checksum             | 0x107 | Variable         | Zero checksum      |

## 4.5. SAS Expander

| Area          | Field                             | Offset | Data | Note |
|---------------|-----------------------------------|--------|------|------|
| Common Header | Common Header Format Version      | 0x00   | 0x01 |      |
|               | Internal Use Area Starting Offset | 0x01   | 0x00 |      |
|               | Chassis Info Area Starting Offset | 0x02   | 0x00 |      |

|            |                                    |      |                     |                |
|------------|------------------------------------|------|---------------------|----------------|
|            | Board Area Starting Offset         | 0x03 | 0x01                |                |
|            | Product Info Area Starting Offset  | 0x04 | 0x00                |                |
|            | Multi-iRecord Area Starting Offset | 0x05 | 0x00                |                |
|            | PAD                                | 0x06 | 0x00                |                |
|            | Common Header Checksum             | 0x07 | Variable            | Zero checksum  |
| Board Info | Board Area Format Version          | 0x08 | 0x01                |                |
|            | Board Area Length                  | 0x09 | 0x19                | 200 bytes      |
|            | Language Code                      | 0x0A | 0x00                |                |
|            | Mfg. Date / Time                   | 0x0B | 000000              | Mfg. Program   |
|            | Board Manufacturer type/length     | 0x0E | 0xD4                | ASCII 20 bytes |
|            | Board Manufacturer                 | 0x0F | "COMPAL"            | Mfg. Program   |
|            | Board Product Name type/length     | 0x23 | 0xD4                | ASCII 20 bytes |
|            | Board Product Name                 | 0x24 | "SAS 3x36 Expander" | Mfg. Program   |
|            | Board Serial Number type/length    | 0x38 | 0xD4                | ASCII 20 bytes |
|            | Board Serial Number                | 0x39 | "00000000000000"    | Mfg. Barcode   |
|            | Board Part Number type/length      | 0x4D | 0xD4                | ASCII 20 bytes |
|            | Board Part Number                  | 0x4E | "00000000000000"    | Mfg. Barcode   |
|            | FRU File ID type/length            | 0x62 | 0x01                | Binary 1 byte  |
|            | FRU File ID                        | 0x63 | 0x00                |                |
|            | Compal Field Start                 |      |                     |                |
|            | HW Revision string type/length     | 0x64 | 0xCB                | ASCII 11 bytes |
|            | HW Revision string                 | 0x65 | "HW Revision"       |                |
|            | HW Revision type/length            | 0x70 | 0x01                | binary 1 byte  |
|            | HW Revision                        | 0x71 | 01                  | Mfg. Program   |
|            | FW Version string type/length      | 0x72 | 0xCA                | ASCII 10 bytes |
|            | FW Version string                  | 0x73 | "FW Version"        |                |
|            | FW Version type/length             | 0x7D | 0xC4                | ASCII 4 bytes  |
|            | FW Version                         | 0x7E | "0305"              | Mfg. Program   |
|            | MFG Version string type/length     | 0x82 | 0xCB                | ASCII 11 bytes |

|                  |                                |      |                    |                   |
|------------------|--------------------------------|------|--------------------|-------------------|
|                  | MFG Version string             | 0x83 | "MFG Version"      |                   |
|                  | MFG Version type/length        | 0x8E | 0xC4               | ASCII 4 byte      |
|                  | MFG Version                    | 0x8F | "0308"             | Mfg. Program      |
|                  | SAS Address string type/length | 0x93 | 0xCB               | ASCII 11 bytes    |
|                  | SAS Address string             | 0x94 | "SAS Address"      |                   |
|                  | SAS Address type/length        | 0x9F | 0xD0               | ASCII 16 bytes    |
|                  | SAS Address                    | 0xA0 | "500023F000187A3F" | Mfg. Program      |
| Compal Field End |                                |      |                    |                   |
|                  | End of fields                  | 0xB0 | 0xC1               | No more info      |
|                  | Board Unused Space             | 0xB1 |                    | Reserved 30 bytes |
|                  | Board Info Checksum            | 0xCF | Variable           | Zero checksum     |

## 4.6. SAS4 Expander

| Area          | Field                              | Offset | Data     | Note           |
|---------------|------------------------------------|--------|----------|----------------|
| Common Header | Common Header Format Version       | 0x00   | 0x01     |                |
|               | Internal Use Area Starting Offset  | 0x01   | 0x00     |                |
|               | Chassis Info Area Starting Offset  | 0x02   | 0x00     |                |
|               | Board Area Starting Offset         | 0x03   | 0x01     |                |
|               | Product Info Area Starting Offset  | 0x04   | 0x00     |                |
|               | Multi-iRecord Area Starting Offset | 0x05   | 0x00     |                |
|               | PAD                                | 0x06   | 0x00     |                |
|               | Common Header Checksum             | 0x07   | Variable | Zero checksum  |
| Board Info    | Board Area Format Version          | 0x08   | 0x01     |                |
|               | Board Area Length                  | 0x09   | 0x19     | 200 bytes      |
|               | Language Code                      | 0x0A   | 0x00     |                |
|               | Mfg. Date / Time                   | 0x0B   | 000000   | Mfg. Program   |
|               | Board Manufacturer type/length     | 0x0E   | 0xD4     | ASCII 20 bytes |
|               | Board Manufacturer                 | 0x0F   | "COMPAL" | Mfg. Program   |

|                                    |      |                     |                      |
|------------------------------------|------|---------------------|----------------------|
| Board Product Name<br>type/length  | 0x23 | 0xD4                | ASCII 20 bytes       |
| Board Product Name                 | 0x24 | "SAS 4x40 Expander" | Mfg. Program         |
| Board Serial Number<br>type/length | 0x38 | 0xD4                | ASCII 20 bytes       |
| Board Serial Number                | 0x39 | "0000000000002"     | Mfg. Barcode         |
| Board Part Number<br>type/length   | 0x4D | 0xD4                | ASCII 20 bytes       |
| Board Part Number                  | 0x4E | "0000000000000"     | Mfg. Barcode         |
| FRU File ID type/length            | 0x62 | 0x01                | Binary 1 byte        |
| FRU File ID                        | 0x63 | 0x00                |                      |
| Compal Field Start                 |      |                     |                      |
| HW Revision string<br>type/length  | 0x64 | 0xCB                | ASCII 11 bytes       |
| HW Revision string                 | 0x65 | "HW Revision"       |                      |
| HW Revision type/length            | 0x70 | 0x01                | binary 1 byte        |
| HW Revision                        | 0x71 | 00                  | Mfg. Program         |
| SAS Address string<br>type/length  | 0x72 | 0xCB                | ASCII 11 bytes       |
| SAS Address string                 | 0x73 | "SAS Address"       |                      |
| SAS Address type/length            | 0x7E | 0xD0                | ASCII 16 bytes       |
| SAS Address                        | 0x7F | "500023F000187A3F"  | Mfg. Program         |
| Compal Field End                   |      |                     |                      |
| End of fields                      | 0x8F | 0xC1                | No more info         |
| Board Unused Space                 | 0x90 |                     | Reserved 63<br>bytes |
| Board Info Checksum                | 0xCF | Variable            | Zero checksum        |

## 4.7. GPU

Different manufacturers have different standards and cannot provide.

## 5. Power Supply Unit (PSU)

### Support List

| Vendor | Model          | Notes |
|--------|----------------|-------|
| FSP    | FSP1200-21FM   | 1200W |
|        | FSP1300-20HM   | 1300W |
|        | FSP1600-20FM   | 1600W |
|        | FSP1600-20HM   | 1600W |
|        | FSP2000-20FM   | 2000W |
|        | FSP2000-20HM   | 2000W |
|        | FSP2400-20FM   | 2400W |
|        | FSP2400-20HM   | 2400W |
| ACBEL  | RICA2122A-P00A | 1200W |
|        | RICA2132A-T00A | 1300W |
|        | RICA2162B-P00A | 1600W |
|        | RICA2162D-T00A | 1600W |
|        | RICA2202B-P00A | 2000W |
|        | RICA2202E-T00A | 2000W |

## 5.1. Over-Current Warning & Over-Current Protection

| PSU            | Vendor | Max   | OCW                                                                     | OCP                                                                      |
|----------------|--------|-------|-------------------------------------------------------------------------|--------------------------------------------------------------------------|
| FSP1200-21FM   | FSP    | 1200W | Vin Reading < 200V<br>→ Max * 1.07<br>Vin Reading > 200<br>→ Max * 1.06 | Vin Reading < 200V<br>→ Max * 1.12<br>Vin Reading > 200V<br>→ Max * 1.10 |
| FSP1300-20HM   | FSP    | 1300W | Max * 1.12                                                              | Max * 1.55                                                               |
| FSP1600-20FM   | FSP    | 1600W | Vin Reading < 200V<br>→ Max * 1.07<br>Vin Reading > 200<br>→ Max * 1.04 | Vin Reading < 200V<br>→ Max * 1.12<br>Vin Reading > 200V<br>→ Max * 1.07 |
| FSP1600-20HM   | FSP    | 1600W | Max * 1.12                                                              | Max * 1.55                                                               |
| FSP2400-20FM   | FSP    | 2400W | Vin Reading < 200V<br>→ Max * 1.07<br>Vin Reading > 200<br>→ Max * 1.03 | Vin Reading < 200V<br>→ Max * 1.12<br>Vin Reading > 200V<br>→ Max * 1.05 |
| R1CA2162B      | Acbel  | 1600W | Vin Reading < 200V<br>→ Max * 1.08<br>Vin Reading > 200<br>→ Max * 1.09 | Vin Reading < 200V<br>→ Max * 1.32<br>Vin Reading > 200V<br>→ Max * 1.16 |
| R1CA2162D-T00A | Acbel  | 1600W | Vin Reading < 200V<br>→ Max * 1.03<br>Vin Reading > 200<br>→ Max * 1.05 | Vin Reading < 200V<br>→ Max * 1.11<br>Vin Reading > 200V<br>→ Max * 1.15 |
| R1CA2132A-T00A | Acbel  | 1300W | Vin Reading < 200V<br>→ Max * 1.02<br>Vin Reading > 200<br>→ Max * 1.05 | Max * 1.14                                                               |
| Other          | N/A    | N/A   | 2000W                                                                   | 2200W                                                                    |

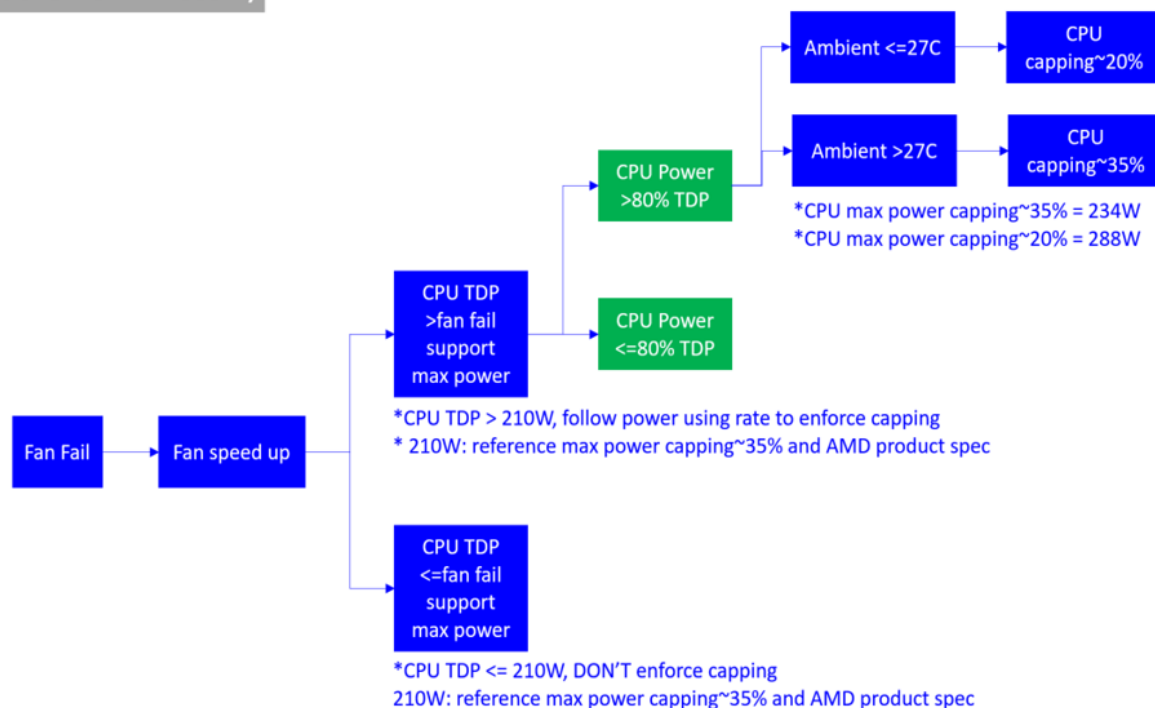
\*Defined by AC power team

## 5.2. Trigger CPU Throttle Action Condition

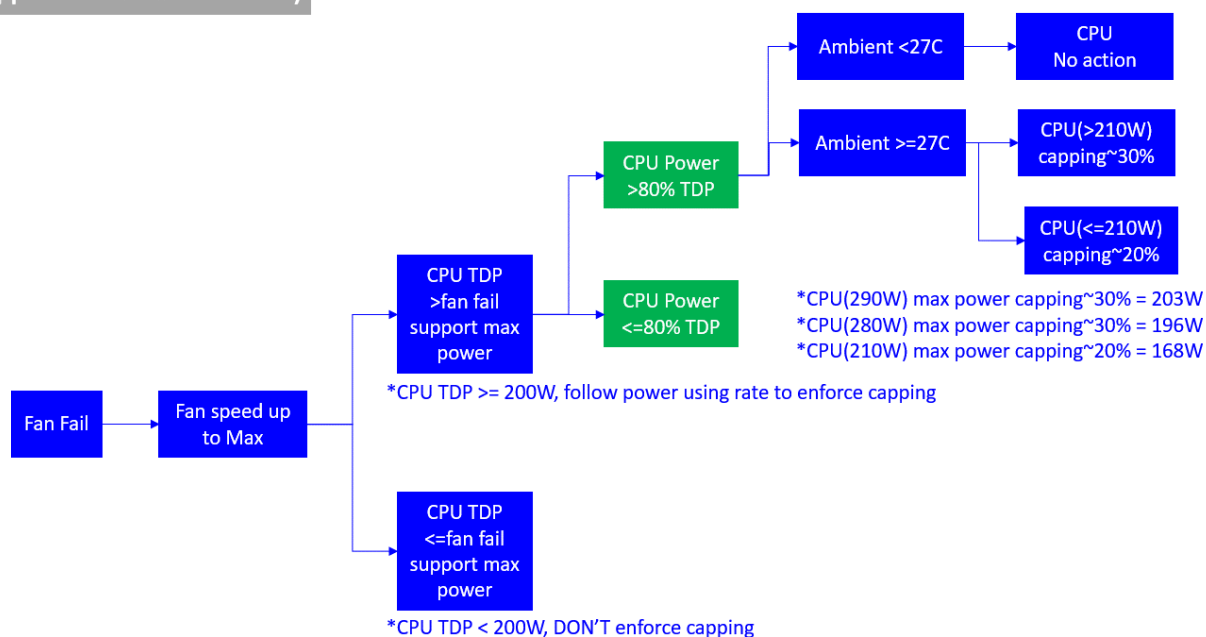
- If system power is more than OCP & this situation continues to exceed 15 seconds  
BMC shutdowns the system and logs event.
- If system power is more than OCW and less than OCP.  
BMC trigger PROHOT# and logs event.
  - If this situation continues to exceed 15 seconds  
BMC shutdowns the system and log event.
- If system power is less than OCW.  
BMC release PROHOT#.

## 5.3. Power Capping Algorithm

IER85 Fan fail diagram  
(support CPU max TDP 360W)



IER75 Fan fail diagram  
(support CPU max TDP 290W)



## 6. Power System

The BMC is in-line with the system power control path. This is implemented by an integrated hardware signal pass-through. The pass-through allows the BMC to directly block power-on if necessary. If the BMC firmware is non-functional, the default state of the pass-through hardware is to allow full system control. This is to provide a means of power control in case a BMC firmware recovery is necessary.

### 6.1. Power Control Source

The BMC supports two power supply control signals: “Power On” and “Power Good”. The “Power On” signal connects to the chassis power subsystem through the chipset and is used to request power state changes. “Power Good” is a signal from the chassis power subsystem indicating current power state.

BMC uses the “Power Good” signal to monitor whether the power supply is on and operational, and to confirm whether the actual system power state matches the intended system on/off power state that was commanded with the “Power On” signal.

The sources mentioned in the following table can initiate a power-up and/or power-down activity.

| Method                | Action                                  | Capabilities                            |
|-----------------------|-----------------------------------------|-----------------------------------------|
| Power button          | Front panel power button                | Turns power on or off                   |
| Watchdog timer        | Internal BMC timer                      | Turns power off, or power cycle         |
| Chassis control       | Chassis Control Command (IPMI)          | Turns power on or off, or power cycle   |
| Power state retention | Set Power Restore Policy Command (IPMI) | When AC power returns, chassis behavior |

### 6.2. Reset Support and Reset Source

The BMC asserts the System Reset signal on the baseboard to perform a system reset. The BMC runs a sensor initialization agent service whenever a system reset is detected. The initialization agent will restart when the BMC firmware resets.

## 7.LED

### 7.1. Power LED

The power LED is driven by the chipset. The BMC is unable to change the state of this LED.

### 7.2. System Status LED

The system status LED shows the state for the current, most severe fault. For example, if there was a critical fault due to one source and a non-critical fault due to another source, the system status LED state would be solid on. The status LED will be off if there are no errors/abnormal conditions in the system.

Followings are the meaning of system status LED.

| Event                                      | Led status | Return to normal state condition |
|--------------------------------------------|------------|----------------------------------|
| Sensor reading over critical threshold     | Steady     | De-assert                        |
| CPU CATERR                                 |            | Remain until AC cycle            |
| CPU VR fault                               |            | Remain until AC cycle            |
| CPU thermal trip                           |            | Remain until AC cycle            |
| Power supply mismatch / AC lost            |            | De-assert                        |
| Power supply failure detected              |            | De-assert                        |
| Fan fault/ Fan not present                 |            | De-assert                        |
| Sensor reading over non-critical threshold | Blinking   | De-assert                        |
| SEL almost full                            |            | De-assert                        |
| IPMI watchdog                              |            | Remain until next power on       |
| Processor throttled                        |            | De-assert                        |
| HDD fault                                  |            | De-assert                        |
| PSU not present                            |            | De-assert                        |
| USB OC                                     |            | De-assert                        |
| Healthy / No error                         | Off        | -                                |

Remark: AC cycle means unplug the PSU power cord, then plug it back after a few seconds

### 7.3. Chassis UID LED

The Chassis UID LED provides a visual indication of a system being serviced. The Chassis UID LED is turned off in default. And the state is affected by the following actions:

- ✧ Toggled by turning the Chassis UID button on or off
- ✧ Controlled by the IPMI Chassis Identify command.

There is no precedence or lock-out mechanism for the control sources. When a new request arrives, previous requests are terminated. For example, if the Chassis UID LED is blinking and the Chassis UID button is pressed, then the Chassis UID LED changes to solid on. If the button is pressed again, then the Chassis UID LED turns off.

## 7.4. POST LED

The BMC, upon receiving standby power, initializes internal hardware to monitor port 80h (POST code) writes. Data written to port 80h is via CPLD to the system POST LEDs.

## 8. Advanced Configuration and Power Interface (ACPI)

Based on the hardware architecture, the project only supports ACPI S0 and S5 state. Below describes the system behaviors while system in S0 and S5 state.

| State | Supported | Description                                                                                                                                                                                                                                                      |
|-------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| S0    | Yes       | Working. <ul style="list-style-type: none"><li>✧ The front panel power LED is on (not controlled by the BMC).</li><li>✧ The fans spin at the normal speed, as determined by sensor inputs.</li><li>✧ Front panel buttons work normally.</li></ul>                |
| S1    | No        | Not supported.                                                                                                                                                                                                                                                   |
| S2    | No        | Not supported.                                                                                                                                                                                                                                                   |
| S3    | No        | Not supported.                                                                                                                                                                                                                                                   |
| S4    | No        | Not supported.                                                                                                                                                                                                                                                   |
| S5    | Yes       | Soft off. <ul style="list-style-type: none"><li>✧ The front panel buttons are not locked.</li><li>✧ The fans are stopped.</li><li>✧ The power-up process goes through the normal boot process.</li><li>✧ The power, reset and ID buttons are unlocked.</li></ul> |

The BIOS keeps the BMC synchronized with the system ACPI state. The BIOS provides the ACPI state when the server transitions from different ACPI states. It uses the “Set ACPI Power State” command to provide the ACPI state to BMC.

## 9. LAN interface

One of BMC LAN interfaces is assigned to Dedicated NIC LAN (Default), and another interface is Shared NIC LAN of BMC in the project platform. IPMI Specification v2.0 defines how IPMI messages, encapsulated in RMCP+ packet format, can be sent to and from the BMC. This capability allows a remote console application to access the BMC and perform the following operations:

- ✧ Get system sensor status
- ✧ Get and Set system boot options
- ✧ Get Field Replaceable Unit (FRU) information
- ✧ Get System Event Log (SEL) entries
- ✧ Get Sensor Data Records (SDR)
- ✧ Set LAN configurations

### 9.1. User Model

| Users ID | Username | Password | Status   | Privilege | Characteristics                                                                                                    |
|----------|----------|----------|----------|-----------|--------------------------------------------------------------------------------------------------------------------|
| 1        | -        | -        | Disabled | Admin     | Password can be changed. This user may only be used to establish RMCP+ connections, not with any other interfaces. |
| 2        | admin    | admin    | Enabled  | Admin     | Username and password can be changed                                                                               |
| 3~10     |          |          | Disabled | Admin     | Username and password can be changed                                                                               |

### 9.2. RMCP+

| ID | Authentication Algorithm | Integrity Algorithm | Confidentiality Algorithm |
|----|--------------------------|---------------------|---------------------------|
| 3  | RAKP-HMAC-SHA1           | HMAC-SHA1-96        | AES-CBC-128               |
| 17 | RAKP-HMAC-SHA256         | HMAC-SHA256-128     | AES-CBC-128               |

### 9.3. Channel Number Assignments

| Channel Number | Type/Protocol     | Description                                                                                   |
|----------------|-------------------|-----------------------------------------------------------------------------------------------|
| 01h            | Secondary LAN     | Shared between Host and BMC, RMCP+                                                            |
| 04h            | SSIF              | IPMI-SMBus Interface                                                                          |
| 05h            | System Interface  | KCS Interface                                                                                 |
| 06h            | Secondary IPMB    | IPMB-1.0                                                                                      |
| 08h            | Primary LAN       | Dedicated to BMC, RMCP+                                                                       |
| 0Bh            | Third LAN         | USB over LAN                                                                                  |
| 0Eh            | Present Interface | The value Eh is used to identify the current channel that the command is being received from. |
| 0Fh            | System Interface  | KCS Interface                                                                                 |

## 10. BMC Internal Timestamp Clock

### 10.1. BMC time measurement

BMC time measurement is following Coordinated Universal Time (UTC), is the primary time standard by which the world regulates clocks and time. The time stored in BMC is divided into UTC timestamp and UTC time offset, is the difference in hours and minutes from UTC for a given area. For example, Local Time in California 2018/01/01 04:00:00 would be stored to UTC time 2018/01/01 12:00:00 and UTC time zone -0800 (PST).

### 10.2. Sync BMC time with RTC

In server design, there is no real-time clock (RTC) for BMC to keep track of the current time. BMC turns to BIOS to synchronize the system RTC time with BMC. BIOS uses Set SEL Time command to initial BMC time while booting on system. Above-mentioned behavior updates only BMC internal time clock, not results in a change to the system RTC.

System RTC time do not include time offset, and its usage depend on the OS. Windows takes RTC as local time, but Linux takes RTC as UTC time.

### 10.3. Sync BMC time from NTP

BMC also supports sync BMC time from NTP server. The Network Time Protocol (NTP) is a protocol for synchronizing the clocks of computer systems over packet-switched, variable-latency data networks. It is designed particularly to resist the effects of variable latency by using a jitter buffer.

### 10.4. Sync BMC time manually

Besides above approaches, it can synchronize BMC time by using IPMI command. Use Set SEL Time Command to set local time and use Set SEL Time UTC Offset to set UTC time offset.

## 11. System Firmware Update

The project will allow users to upgrade following firmware image:

- ✧ BMC
  - SoC flash utility should not be supported anymore due to it has been traded as vulnerability. So, AMI already disable SoC flash utility upgrade FW method base on vulnerability CVE 2019-6260.
- ✧ BIOS
- ✧ Backplane (optional)
- ✧ CPLD (optional)

## 12. Raid Management

### 12.1. Microsemi Raid (MSCC Raid)

| RAID/HBA  | Model      | Version      | Interface      | Notes     |
|-----------|------------|--------------|----------------|-----------|
| SmartRAID | 3254-8i    | 4.11         | MCTP over PCIe | Luxor     |
| SmartRAID | 3254-16i   | 4.11         | MCTP over PCIe | Luxor     |
| SmartRAID | 3154-8e    | 4.11         | MCTP over PCIe | Luxor     |
| SmartRAID | 3154-8i    | 4.11         | MCTP over PCIe | Luxor     |
| SmartRAID | 3154-8i16e | 4.11         | MCTP over PCIe | Luxor     |
| SmartRAID | 3258P-16i  | 03.01.04.072 | MCTP over PCIe | Excalibur |
| SmartHBA  | 2100-24i   | 4.11         | MCTP over PCIe | Luxor     |
| SmartHBA  | 2100-8i    | 4.11         | MCTP over PCIe | Luxor     |
| SmartHBA  | 2200-16i   | 03.01.04.072 | MCTP over PCIe | Excalibur |

Vendor may be supported Adaptec SmartRAID 31xx, SmartHBA 21xx, and HBA 11xx series solutions, based on Microchip's assurance that the cards are compatible; Vendor has only validated a subset of these solutions. If any validation issues occur, please provide one card for vendor to check.

### 12.2. Broadcom Raid (BRCM Raid)

| RAID/HBA      | Card Module Name | Version Validation | Interface | Note                                              |
|---------------|------------------|--------------------|-----------|---------------------------------------------------|
| RAID (Gen3)   | 9361-8i          | 4.230.20-3532      | I2C       | ROC/ICO Family: Invader Board Family 93xx series  |
| RAID (Gen3)   | 9380-8e          | N/A                | I2C       | ROC/ICO Family: Invader Board Family 93xx series  |
| RAID (Gen3)   | 9380-4i4e        | N/A                | I2C       | ROC/ICO Family: Invader Board Family 93xx series  |
| RAID (Gen3.5) | 9460-8i          | 5.140.00-3274      | I2C       | ROC/ICO Family: Harpoon Board Family 94xx series  |
| RAID (Gen3.5) | 9480-8i8e        | N/A                | I2C       | ROC/ICO Family : Harpoon Board Family 94xx series |
| RAID (Gen3.5) | 9540-2m2         | 5.130.02-3059      | I2C       | ROC/ICO Family : Aero Board Family 95xx series    |
| RAID (Gen3.5) | 9560-8i          | 5.130.02-3059      | I2C       | ROC/ICO Family : Aero Board Family 95xx series    |

|                 |                                       |                             |                |                                                           |
|-----------------|---------------------------------------|-----------------------------|----------------|-----------------------------------------------------------|
| RAID (Gen3.5)   | 9560-16i                              | 5.130.02-3059               | I2C            | ROC/ICO Family : Aero Board Family 95xx series            |
| HBA (Gen3)      | 9305-16e                              | 15.00.00.00                 | I2C            | ROC/ICO Family : Cutlass Board Family 93xx series         |
| HBA (Gen3.5)    | 9400-16i                              | 16.00.00.00                 | I2C            | ROC/ICO Family : Crusader Board Family 94xx series        |
| HBA (Gen3.5)    | 9405W-16e                             | 16.00.00.00                 | I2C            | ROC/ICO Family : Crusader Board Family 94xx series        |
| HBA (Gen4)      | 9500-16i                              | 16.00.00.00                 | I2C            | ROC/ICO Family : Aero Board Family 95xx series            |
| RAID/HBA (Gen4) | 9660-16i 、<br>9600-16i<br>(4100/4000) | 8.6.1.0-<br>00000-<br>00003 | MCTP over PCIe | ROC/IOC Family :<br>4100/4000<br>Board Family 96xx series |

Vendor may be supported Broadcom ROC 3108, 33xx, 35xx, 39xx series based on the same storlib is compliant with these ROCs, based on Broadcom confirmation. If any validation issue, please provide one card for vendor to check.

Vendor may be supported Broadcom IOC 3008 (enable OOB), 32xx, 34xx, 36xx, 38xx series based on the same storlib is compliant with these IOCs, based on Broadcom confirmation. If any validation issue, please provide one card for vendor to check.

## 13. Graphics Processing Unit (GPU)

### 13.1. NVIDIA GPU Card

| Model | Memory Size | Memory Type | Performance State | Form Fator | PCIe Interface | SMBus (8-bit address) | Note |
|-------|-------------|-------------|-------------------|------------|----------------|-----------------------|------|
| A100  | 40 GB       | HBM2        | P0                | PCIe       | 4.0            | 0x9E                  |      |
| A100  | 80 GB       | HBM2e       | P0                | PCIe       | 4.0            | 0x9E                  |      |
| H100  | 80 GB       | HBM2e       | P0                | PCIe       | 5.0            | 0x9E                  |      |

### 13.2. AMD GPU Card

| Model | Memory Size | Memory Type | ECC | RAS | Page Retirement | Form Fator | PCIe Interface | SMBus (8-bit address) | Note |
|-------|-------------|-------------|-----|-----|-----------------|------------|----------------|-----------------------|------|
| MI200 | 64 GB       | HBM2e       | Yes | Yes | Yes             | PCIe       | 4.0            | 0x9E                  |      |

## 14. IPMI Command table

This chapter defines the commands that the BMC accepts. These commands direct the BMC to perform actions. The commands are sent to the BMC from the IPMB, LPC, or LAN interfaces. For the base specification and descriptions of the BMC commands other than those specified in this chapter, see the Intelligent Platform Management Interface Specification v2.0. The BMC implements the event receiver, SEL, SDR, FRU, and sensor devices, as described in the Intelligent Platform Management Interface Specification.

Otherwise, if you get completion codes (**Unknown (0x18)**) from ipmitool, it means that you need to change your password. The reason is that you first login, you need to change the password forcibly.

### 14.1. IPM Device Global Commands

| NetFn | Command | Command Name               | Notes |
|-------|---------|----------------------------|-------|
| 06h   | 01h     | Get Device ID              |       |
|       | 02h     | Cold Reset                 |       |
|       | 03h     | Warm Reset                 |       |
|       | 04h     | Get Self Test Results      |       |
|       | 05h     | Manufacturing Test On      |       |
|       | 06h     | Get ACPI Power State       |       |
|       | 07h     | Set ACPI Power State       |       |
|       | 08h     | Get Device GUID            |       |
|       | 09h     | Get NetFn Support          |       |
|       | 0Ah     | Get Command Support        |       |
|       | 0Ch     | Get Configurable Commands  |       |
|       | 60h     | Set Command Enables        |       |
|       | 61h     | Get Command Enables        |       |
|       | 64h     | Get OEM NetFn IANA Support |       |

### 14.2. BMC Watchdog Timer Commands

| NetFn | Command | Command Name         | Notes |
|-------|---------|----------------------|-------|
| 06h   | 22h     | Reset Watchdog Timer |       |
|       | 24h     | Set Watchdog Timer   |       |
|       | 25h     | Get Watchdog Timer   |       |

### 14.3. BMC Device and Messaging Commands

| NetFn | Command | Command Name                            | Notes |
|-------|---------|-----------------------------------------|-------|
| 06h   | 2Eh     | Set BMC Global Enables                  |       |
|       | 2Fh     | Get BMC Global Enables                  |       |
|       | 30h     | Clear Message Flags                     |       |
|       | 31h     | Get Message Flags                       |       |
|       | 33h     | Get Message                             |       |
|       | 34h     | Send Message                            |       |
|       | 35h     | Read Event Message Buffer               |       |
|       | 37h     | Get System GUID                         |       |
|       | 38h     | Get Channel Authentication Capabilities |       |
|       | 39h     | Get Session Challenge                   |       |
|       | 3Ah     | Activate Session                        |       |
|       | 3Bh     | Set Session Privilege Level             |       |
|       | 3Ch     | Close Session                           |       |
|       | 3Dh     | Get Session Info                        |       |
|       | 3Fh     | Get Auth Code                           |       |
|       | 40h     | Set Channel Access                      |       |
|       | 41h     | Get Channel Access                      |       |
|       | 42h     | Get Channel Info Command                |       |
|       | 43h     | Set User Access Command                 |       |
|       | 44h     | Get User Access Command                 |       |
|       | 45h     | Set User Name                           |       |
|       | 46h     | Get User Name Command                   |       |
|       | 47h     | Set User Password Command               |       |
|       | 52h     | Master Write-Read                       |       |
|       | 58h     | Set System Info Parameters              |       |
|       | 59h     | Get System Info Parameters              |       |

## 14.4. IPMI 2.0 specific Commands

| NetFn | Command | Command Name                  | Notes |
|-------|---------|-------------------------------|-------|
| 06h   | 48h     | Activate Payload              |       |
|       | 49h     | Deactivate Payload            |       |
|       | 4Ah     | Get Payload Activation Status |       |
|       | 4Bh     | Get Payload Instance Info     |       |
|       | 4Ch     | Set User Payload Access       |       |
|       | 4Dh     | Get User Payload Access       |       |

|  |     |                                   |  |
|--|-----|-----------------------------------|--|
|  | 4Eh | Get Channel Payload Support       |  |
|  | 4Fh | Get Channel Payload Version       |  |
|  | 50h | Get Channel OEM Payload Info      |  |
|  | 54h | Get Channel Cipher Suites         |  |
|  | 55h | Suspend/Resume Payload Encryption |  |
|  | 56h | Set Channel Security Keys         |  |
|  | 57h | Get System Interface Capabilities |  |

## 14.5. Chassis Device Commands

| NetFn | Command | Command Name                   | Notes                                                                         |
|-------|---------|--------------------------------|-------------------------------------------------------------------------------|
| 00h   | 00h     | Get Chassis Capabilities       |                                                                               |
|       | 01h     | Get Chassis Status             |                                                                               |
|       | 02h     | Chassis Control                | ipmitool power soft (raw 0x00 0x02 0x05)<br>Same as short press power button. |
|       | 04h     | Chassis Identify               |                                                                               |
|       | 05h     | Set Chassis Capabilities       |                                                                               |
|       | 06h     | Set Power Restore Policy       |                                                                               |
|       | 07h     | Get System Restart Cause       |                                                                               |
|       | 08h     | Set System Boot Options        |                                                                               |
|       | 09h     | Get System Boot Options        |                                                                               |
|       | 0Ah     | Set Front Panel Button Enables |                                                                               |
|       | 0Bh     | Set Power Cycle Interval       |                                                                               |
|       | 0Fh     | Get POH Counter                |                                                                               |

## 14.6. Event Commands

| NetFn | Command | Command Name       | Notes |
|-------|---------|--------------------|-------|
| 04h   | 00h     | Set Event Receiver |       |
|       | 01h     | Get Event Receiver |       |
|       | 02h     | Platform Event     |       |

## 14.7. PEF and Alerting Commands

| NetFn | Command | Command Name         | Notes |
|-------|---------|----------------------|-------|
| 04h   | 10h     | Get PEF Capabilities |       |

|  |     |                                  |  |
|--|-----|----------------------------------|--|
|  | 11h | Arm PEF Postpone Timer           |  |
|  | 12h | Set PEF Configuration Parameters |  |
|  | 13h | Get PEF Configuration Parameters |  |
|  | 14h | Set Last Processed Event ID      |  |
|  | 15h | Get Last Processed Event ID      |  |
|  | 16h | Alert Immediate                  |  |
|  | 17h | PET Acknowledge                  |  |

## 14.8. Sensor Device Commands

| NetFn | Command | Command Name            | Notes |
|-------|---------|-------------------------|-------|
| 04h   | 24h     | Set Sensor Hysteresis   |       |
|       | 25h     | Get Sensor Hysteresis   |       |
|       | 26h     | Set Sensor Threshold    |       |
|       | 27h     | Get Sensor Threshold    |       |
|       | 28h     | Set Sensor Event Enable |       |
|       | 29h     | Get Sensor Event Enable |       |
|       | 2Ah     | Re-arm Sensor Events    |       |
|       | 2Bh     | Get Sensor Event Status |       |
|       | 2Dh     | Get Sensor Reading      |       |

## 14.9. FRU Device Commands

| NetFn | Command | Command Name                | Notes |
|-------|---------|-----------------------------|-------|
| 0Ah   | 10h     | Get FRU Inventory Area Info |       |
|       | 11h     | Read FRU Data               |       |
|       | 12h     | Write FRU Data              |       |

## 14.10. SDR Device Commands

| NetFn | Command | Command Name                       | Notes |
|-------|---------|------------------------------------|-------|
| 0Ah   | 20h     | Get SDR Repository Info            |       |
|       | 21h     | Get SDR Repository Allocation Info |       |
|       | 22h     | Reserve SDR Repository             |       |
|       | 23h     | Get SDR                            |       |
|       | 24h     | Add SDR                            |       |
|       | 25h     | Partial Add SDR                    |       |
|       | 27h     | Clear SDR Repository               |       |
|       | 28h     | Get SDR Repository Time            |       |

## 14.11. SEL Device Commands

| NetFn | Command | Command Name            | Notes |
|-------|---------|-------------------------|-------|
| 0Ah   | 40h     | Get SEL Info            |       |
|       | 41h     | Get SEL Allocation Info |       |
|       | 42h     | Reserve SEL             |       |
|       | 43h     | Get SEL Entry           |       |
|       | 44h     | Add SEL Entry           |       |
|       | 45h     | Partial Add SEL Entry   |       |
|       | 47h     | Clear SEL               |       |
|       | 48h     | Get SEL Time            |       |
|       | 49h     | Set SEL Time            |       |
|       | 5Ch     | Get SEL Time UTC Offset |       |
|       | 5Dh     | Set SEL Time UTC Offset |       |

## 14.12. LAN Device Commands

| NetFn | Command | Command Name                     | Notes                                      |
|-------|---------|----------------------------------|--------------------------------------------|
| 0Ch   | 01h     | Set LAN Configuration Parameters | Unable to edit default gateway MAC address |
|       | 02h     | Get LAN Configuration Parameters |                                            |
|       | 03h     | Suspend BMC ARPs                 |                                            |

## 14.13. SOL Commands

| NetFn | Command | Command Name                     | Notes |
|-------|---------|----------------------------------|-------|
| 0Ch   | 21h     | Set SOL Configuration Parameters |       |
|       | 22h     | Get SOL Configuration Parameters |       |

## 15. Sensor List

| Symbol | Description           |
|--------|-----------------------|
| UNR    | Upper non-recoverable |
| UC     | Upper critical        |
| UNC    | Upper non-critical    |
| LNR    | Lower non-recoverable |
| LC     | Lower critical        |
| LNC    | Lower non-critical    |
| AS     | Assertion             |
| DE     | De-assertion          |
| RD     | Only reading, no log  |
|        |                       |
|        |                       |
|        |                       |
|        |                       |

✧ Without special notes, support AS\DE

According to new system information ordering rule for A26 project

- CPU: base 0
- DIMM: base 0
- HDD: base 0
- HDDBP base 1 (temporarily)
- PSU: base 1
- FAN: base 1
- USB: base 1
- NIC: base 1
- PCIE: base 0

## 15.1. Sensor of BMC

| Name            | No  | Type | Event type | Event       | Note                   |
|-----------------|-----|------|------------|-------------|------------------------|
| SYS_FAN1_ROTOR1 | 01h | 04h  | 01h        | [LNC], [LC] |                        |
| SYS_FAN2_ROTOR1 | 02h | 04h  | 01h        | [LNC], [LC] |                        |
| SYS_FAN3_ROTOR1 | 03h | 04h  | 01h        | [LNC], [LC] |                        |
| SYS_FAN4_ROTOR1 | 04h | 04h  | 01h        | [LNC], [LC] | SR124-2A SKU16 & 17    |
| SYS_FAN5_ROTOR1 | 05h | 04h  | 01h        | [LNC], [LC] | SR124-2A SKU16 & 17    |
| SYS_FAN6_ROTOR1 | 06h | 04h  | 01h        | [LNC], [LC] |                        |
| SYS_FAN7_ROTOR1 | 07h | 04h  | 01h        | [LNC], [LC] |                        |
| SYS_FAN8_ROTOR1 | 08h | 04h  | 01h        | [LNC], [LC] |                        |
| SYS_FAN1_ROTOR2 | 09h | 04h  | 01h        | [LNC], [LC] |                        |
| SYS_FAN2_ROTOR2 | 0Ah | 04h  | 01h        | [LNC], [LC] |                        |
| SYS_FAN3_ROTOR2 | 0Bh | 04h  | 01h        | [LNC], [LC] |                        |
| SYS_FAN4_ROTOR2 | 0Ch | 04h  | 01h        | [LNC], [LC] | SR124-2A SKU16 & SKU17 |
| SYS_FAN5_ROTOR2 | 0Dh | 04h  | 01h        | [LNC], [LC] | SR124-2A SKU16 & SKU17 |
| SYS_FAN6_ROTOR2 | 0Eh | 04h  | 01h        | [LNC], [LC] |                        |
| SYS_FAN7_ROTOR2 | 0Fh | 04h  | 01h        | [LNC], [LC] |                        |
| SYS_FAN8_ROTOR2 | 10h | 04h  | 01h        | [LNC], [LC] |                        |
| CPU0_TEMP       | 24h | 01h  | 01h        | [UNC], [UC] |                        |
| CPU1_TEMP       | 25h | 01h  | 01h        | [UNC], [UC] |                        |
| CPU0_MEM_TEMP   | 2Ah | 01h  | 01h        | [UNC], [UC] |                        |
| CPU1_MEM_TEMP   | 2Bh | 01h  | 01h        | [UNC], [UC] |                        |
| GPU0_TEMP       | 2Ch | 01h  | 01h        | [UNC], [UC] | SR224-2A SKU2 & SKU5   |
| GPU1_TEMP       | 2Dh | 01h  | 01h        | [UNC], [UC] | SR224-2A SKU2 & SKU5   |
| DC_SCM_TEMP     | 2Eh | 01h  | 01h        | [UNC], [UC] |                        |
| CPU0_OCP_TEMP   | 31h | 01h  | 01h        | [UNC], [UC] |                        |
| CPU1_OCP_TEMP   | 32h | 01h  | 01h        | [UNC], [UC] |                        |
| SYS_AMB_TEMP    | 33h | 01h  | 01h        | [UNC], [UC] |                        |
| HDDBP_TEMP_01   | 38h | 01h  | 01h        | [UNC], [UC] | Optional               |
| HDDBP_TEMP_02   | 39h | 01h  | 01h        | [UNC], [UC] | Optional               |
| HDDBP_TEMP_03   | 3Ah | 01h  | 01h        | [UNC], [UC] | Optional               |
| HDDBP_TEMP_R1   | 3Bh | 01h  | 01h        | [UNC], [UC] | Optional               |

|                 |     |     |     |                                                                                             |                      |
|-----------------|-----|-----|-----|---------------------------------------------------------------------------------------------|----------------------|
| P12V_AUX        | 40h | 02h | 01h | [LNC], [LC], [UNC], [UC]                                                                    |                      |
| P3V3_BMC_STBY   | 41h | 02h | 01h | [LNC], [LC], [UNC], [UC]                                                                    |                      |
| P1V8_BMC_STBY   | 42h | 02h | 01h | [LNC], [LC], [UNC], [UC]                                                                    |                      |
| P1V0_BMC_STBY   | 43h | 02h | 01h | [LNC], [LC], [UNC], [UC]                                                                    |                      |
| P3V3_BAT_BMC    | 44h | 02h | 01h | [LNC], [LC]                                                                                 |                      |
| P5V_USB_STBY    | 45h | 02h | 01h | [LNC], [LC], [UNC], [UC]                                                                    |                      |
| GPU0_MEM_TEMP   | 46h | 01h | 01h | [UNC], [UC]                                                                                 | SR224-2A SKU2 & SKU5 |
| GPU1_MEM_TEMP   | 47h | 01h | 01h | [UNC], [UC]                                                                                 | SR224-2A SKU2 & SKU5 |
| GPU0_BOARD_TEMP | 48h | 01h | 01h | [UNC], [UC]                                                                                 | SR224-2A SKU2 & SKU5 |
| GPU1_BOARD_TEMP | 49h | 01h | 01h | [UNC], [UC]                                                                                 | SR224-2A SKU2 & SKU5 |
| SYS_POWER       | 50h | 08h | 01h | [UNC], [UC]                                                                                 |                      |
| PSU_PIN_01      | 60h | 08h | 01h |                                                                                             |                      |
| PSU_PIN_02      | 61h | 08h | 01h |                                                                                             |                      |
| PSU_POUT_01     | 62h | 08h | 01h |                                                                                             |                      |
| PSU_POUT_02     | 63h | 08h | 01h |                                                                                             |                      |
| INPUT_VOLTS_01  | 64h | 02h | 01h |                                                                                             |                      |
| INPUT_VOLTS_02  | 65h | 02h | 01h |                                                                                             |                      |
| OUTPUT_VOLTS_01 | 66h | 02h | 01h |                                                                                             |                      |
| OUTPUT_VOLTS_02 | 67h | 02h | 01h |                                                                                             |                      |
| INPUT_AMPS_01   | 68h | 03h | 01h |                                                                                             |                      |
| INPUT_AMPS_02   | 69h | 03h | 01h |                                                                                             |                      |
| OUTPUT_AMPS_01  | 6Ah | 03h | 01h |                                                                                             |                      |
| OUTPUT_AMPS_02  | 6Bh | 03h | 01h |                                                                                             |                      |
| PSU_TEMP_01     | 6Ch | 01h | 01h |                                                                                             |                      |
| PSU_TEMP_02     | 6Dh | 01h | 01h |                                                                                             |                      |
| PSU_FAN_01      | 6Eh | 04h | 01h |                                                                                             |                      |
| PSU_FAN_02      | 6Fh | 04h | 01h |                                                                                             |                      |
| HDD_STATUS_00   | 80h | 0Dh | 6Fh | 00h = Drive Presence [AS]<br>01h = Drive Fault [AS]<br>07h = Rebuild/Remap in progress [AS] | Optional             |
| HDD_STATUS_01   | 81h | 0Dh | 6Fh | 00h = Drive Presence [AS]<br>01h = Drive Fault [AS]<br>07h = Rebuild/Remap in               | Optional             |

|               |     |     |     |                                                                                             |          |
|---------------|-----|-----|-----|---------------------------------------------------------------------------------------------|----------|
|               |     |     |     | progress [AS]                                                                               |          |
| HDD_STATUS_02 | 82h | 0Dh | 6Fh | 00h = Drive Presence [AS]<br>01h = Drive Fault [AS]<br>07h = Rebuild/Remap in progress [AS] | Optional |
| HDD_STATUS_03 | 83h | 0Dh | 6Fh | 00h = Drive Presence [AS]<br>01h = Drive Fault [AS]<br>07h = Rebuild/Remap in progress [AS] | Optional |
| HDD_STATUS_04 | 84h | 0Dh | 6Fh | 00h = Drive Presence [AS]<br>01h = Drive Fault [AS]<br>07h = Rebuild/Remap in progress [AS] | Optional |
| HDD_STATUS_05 | 85h | 0Dh | 6Fh | 00h = Drive Presence [AS]<br>01h = Drive Fault [AS]<br>07h = Rebuild/Remap in progress [AS] | Optional |
| HDD_STATUS_06 | 86h | 0Dh | 6Fh | 00h = Drive Presence [AS]<br>01h = Drive Fault [AS]<br>07h = Rebuild/Remap in progress [AS] | Optional |
| HDD_STATUS_07 | 87h | 0Dh | 6Fh | 00h = Drive Presence [AS]<br>01h = Drive Fault [AS]<br>07h = Rebuild/Remap in progress [AS] | Optional |
| HDD_STATUS_08 | 88h | 0Dh | 6Fh | 00h = Drive Presence [AS]<br>01h = Drive Fault [AS]<br>07h = Rebuild/Remap in progress [AS] | Optional |
| HDD_STATUS_09 | 89h | 0Dh | 6Fh | 00h = Drive Presence [AS]<br>01h = Drive Fault [AS]<br>07h = Rebuild/Remap in progress [AS] | Optional |
| HDD_STATUS_10 | 8Ah | 0Dh | 6Fh | 00h = Drive Presence [AS]<br>01h = Drive Fault [AS]<br>07h = Rebuild/Remap in progress [AS] | Optional |
| HDD_STATUS_11 | 8Bh | 0Dh | 6Fh | 00h = Drive Presence [AS]<br>01h = Drive Fault [AS]                                         | Optional |

|               |     |     |     |                                                                                             |          |
|---------------|-----|-----|-----|---------------------------------------------------------------------------------------------|----------|
|               |     |     |     | 07h = Rebuild/Remap in progress [AS]                                                        |          |
| HDD_STATUS_12 | 8Ch | 0Dh | 6Fh | 00h = Drive Presence [AS]<br>01h = Drive Fault [AS]<br>07h = Rebuild/Remap in progress [AS] | Optional |
| HDD_STATUS_13 | 8Dh | 0Dh | 6Fh | 00h = Drive Presence [AS]<br>01h = Drive Fault [AS]<br>07h = Rebuild/Remap in progress [AS] | Optional |
| HDD_STATUS_14 | 8Eh | 0Dh | 6Fh | 00h = Drive Presence [AS]<br>01h = Drive Fault [AS]<br>07h = Rebuild/Remap in progress [AS] | Optional |
| HDD_STATUS_15 | 8Fh | 0Dh | 6Fh | 00h = Drive Presence [AS]<br>01h = Drive Fault [AS]<br>07h = Rebuild/Remap in progress [AS] | Optional |
| HDD_STATUS_16 | 90h | 0Dh | 6Fh | 00h = Drive Presence [AS]<br>01h = Drive Fault [AS]<br>07h = Rebuild/Remap in progress [AS] | Optional |
| HDD_STATUS_17 | 91h | 0Dh | 6Fh | 00h = Drive Presence [AS]<br>01h = Drive Fault [AS]<br>07h = Rebuild/Remap in progress [AS] | Optional |
| HDD_STATUS_18 | 92h | 0Dh | 6Fh | 00h = Drive Presence [AS]<br>01h = Drive Fault [AS]<br>07h = Rebuild/Remap in progress [AS] | Optional |
| HDD_STATUS_19 | 93h | 0Dh | 6Fh | 00h = Drive Presence [AS]<br>01h = Drive Fault [AS]<br>07h = Rebuild/Remap in progress [AS] | Optional |
| HDD_STATUS_20 | 94h | 0Dh | 6Fh | 00h = Drive Presence [AS]<br>01h = Drive Fault [AS]<br>07h = Rebuild/Remap in progress [AS] | Optional |
| HDD_STATUS_21 | 95h | 0Dh | 6Fh | 00h = Drive Presence [AS]                                                                   | Optional |

|                  |     |     |     |                                                                                                                   |                                 |
|------------------|-----|-----|-----|-------------------------------------------------------------------------------------------------------------------|---------------------------------|
|                  |     |     |     | 01h = Drive Fault [AS]<br>07h = Rebuild/Remap in progress [AS]                                                    |                                 |
| HDD_STATUS_22    | 96h | 0Dh | 6Fh | 00h = Drive Presence [AS]<br>01h = Drive Fault [AS]<br>07h = Rebuild/Remap in progress [AS]                       | Optional                        |
| HDD_STATUS_23    | 97h | 0Dh | 6Fh | 00h = Drive Presence [AS]<br>01h = Drive Fault [AS]<br>07h = Rebuild/Remap in progress [AS]                       | Optional                        |
| HDD_STATUS_R0    | A0h | 0Dh | 6Fh | 00h = Drive Presence [AS]<br>01h = Drive Fault [AS]<br>07h = Rebuild/Remap in progress [AS]                       | Optional                        |
| HDD_STATUS_R1    | A1h | 0Dh | 6Fh | 00h = Drive Presence [AS]<br>01h = Drive Fault [AS]<br>07h = Rebuild/Remap in progress [AS]                       | Optional                        |
| BMC_BOOT_UP      | B0h | 16h | 09h | 01h = Device Enabled [AS]                                                                                         |                                 |
| SEL_STATUS       | B1h | 10h | 6Fh | 02h = Log Area Reset/Cleared [AS]<br>04h = SEL Full [AS]<br>05h = SEL Almost Full [AS]                            |                                 |
| WATCHDOG         | B2h | 23h | 6Fh | 00h = Timer expired, status only [AS]<br>01h = Hard Reset [AS]<br>02h = Power Down [AS]<br>03h = Power Cycle [AS] |                                 |
| ACPI_POWER_STATE | B3h | 22h | 6Fh | 00h = S0/G0 "working" [AS]<br>05h = S5/G2 "soft-off" [AS]                                                         |                                 |
| CPU0_STATUS      | B4h | 07h | 6Fh | 01h = Thermal Trip [AS]<br>07h = Processor Presence detected [RD]<br>0Ah = Processor Automatically Throttled [AS] | 01h => equal Tjmax value of CPU |
| CPU1_STATUS      | B5h | 07h | 6Fh | 01h = Thermal Trip [AS]<br>07h = Processor Presence                                                               | 01h => equal Tjmax value of CPU |

|               |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                         |
|---------------|-----|-----|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
|               |     |     |     | detected [RD]<br>0Ah = Processor<br>Automatically<br>Throttled [AS]                                                                                                                                                                                                                                                                                                                                                                                  |                         |
| PSU_MISMATCH  | B9h | 08h | 6Fh | 06h = Configuration error [AS]                                                                                                                                                                                                                                                                                                                                                                                                                       |                         |
| PSU_STATUS_01 | BAh | 08h | 6Fh | 00h = Presence Detected [AS]<br>01h = Power Supply Failure [AS]<br>02h = Predictive Failure [AS]<br>03h = Power Supply input lost (AC/DC) [AS]<br>08h = Power Supply FAN airflow fault or warning has occurred<br>09h = PIN Overpower Warning<br>0Ah = POUT Overpower fault or warning<br>0Bh = Output voltage fault or warning has occurred<br>0Ch = Input voltage fault or warning has occurred<br>0Dh = TEMPERATURE fault or warning has occurred | 08h -> 0Dh is OEM field |
| PSU_STATUS_02 | BBh | 08h | 6Fh | 00h = Presence Detected [AS]<br>01h = Power Supply Failure [AS]<br>02h = Predictive Failure [AS]<br>03h = Power Supply input lost (AC/DC) [AS]<br>08h = Power Supply FAN airflow fault or warning has occurred<br>09h = PIN Overpower Warning<br>0Ah = POUT Overpower fault or warning<br>0Bh = Output voltage fault or                                                                                                                              | 08h -> 0Dh is OEM field |

|                |     |     |     |                                                                                                                                                                                              |                        |
|----------------|-----|-----|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
|                |     |     |     | <p>warning has occurred</p> <p>0Ch = Input voltage fault or warning has occurred</p> <p>0Dh = TEMPERATURE fault or warning has occurred</p>                                                  |                        |
| HEALTH_LED     | BCh | 24h | 07h | <p>00h = Transition to OK [AS]</p> <p>01h = Transition to Non-Critical from OK [AS]</p> <p>02h = Transition to Critical from less severe [AS]</p>                                            |                        |
| SYSTEM_EVENT   | 1fh | 12h | 6Fh | <p>04h = PEF Action [AS]</p> <p>05h = Timestamp Clock Synch [AS]</p>                                                                                                                         | Event-only             |
| LAN_LEASH_LOST | C1h | 05h | 6Fh | <p>04h = LAN Leash Lost (system is unplugged from LAN) [AS]</p>                                                                                                                              | Event-only             |
| BUTTON_STATUS  | C2h | 14h | 6Fh | <p>00h = Power Button pressed [AS]</p> <p>02h = Reset Button pressed [AS]</p>                                                                                                                | Event-only             |
| CPU_CATERR     | C3h | 07h | 6Fh | <p>00h = IERR (SMERR_L) [AS]</p>                                                                                                                                                             | Event-only             |
| USB_OC         | 1Ch | 21h | 6Fh | <p>OEMEvData1: 0xF4</p> <p>OEMEvData2 = USB location:</p> <p>FRONT USB3_3 = 0x00,</p> <p>FRONT USB2_1 = 0x01,</p> <p>INTERNAL USB = 0x02,</p> <p>REAR USB = 0x03</p> <p>OEMEvData3: 0xFF</p> | Event-only             |
| SYS_FAN1_R1_ST | E0h | 04h | 08h | <p>00h = Device Removed [AS]</p> <p>01h = Device Inserted [AS]</p>                                                                                                                           |                        |
| SYS_FAN2_R1_ST | E1h | 04h | 08h | <p>00h = Device Removed [AS]</p> <p>01h = Device Inserted [AS]</p>                                                                                                                           |                        |
| SYS_FAN3_R1_ST | E2h | 04h | 08h | <p>00h = Device Removed [AS]</p> <p>01h = Device Inserted [AS]</p>                                                                                                                           |                        |
| SYS_FAN4_R1_ST | E3h | 04h | 08h | <p>00h = Device Removed [AS]</p> <p>01h = Device Inserted [AS]</p>                                                                                                                           | SR124-2A SKU16 & SKU17 |
| SYS_FAN5_R1_ST | E4h | 04h | 08h | <p>00h = Device Removed [AS]</p> <p>01h = Device Inserted [AS]</p>                                                                                                                           | SR124-2A SKU16 & SKU17 |

|                |     |     |     |                                                         |                           |
|----------------|-----|-----|-----|---------------------------------------------------------|---------------------------|
| SYS_FAN6_R1_ST | E5h | 04h | 08h | 00h = Device Removed [AS]<br>01h = Device Inserted [AS] |                           |
| SYS_FAN7_R1_ST | E6h | 04h | 08h | 00h = Device Removed [AS]<br>01h = Device Inserted [AS] |                           |
| SYS_FAN8_R1_ST | E7h | 04h | 08h | 00h = Device Removed [AS]<br>01h = Device Inserted [AS] |                           |
| SYS_FAN1_R2_ST | E8h | 04h | 08h | 00h = Device Removed [AS]<br>01h = Device Inserted [AS] |                           |
| SYS_FAN2_R2_ST | E9h | 04h | 08h | 00h = Device Removed [AS]<br>01h = Device Inserted [AS] |                           |
| SYS_FAN3_R2_ST | EAh | 04h | 08h | 00h = Device Removed [AS]<br>01h = Device Inserted [AS] |                           |
| SYS_FAN4_R2_ST | EBh | 04h | 08h | 00h = Device Removed [AS]<br>01h = Device Inserted [AS] | SR124-2A SKU16 &<br>SKU17 |
| SYS_FAN5_R2_ST | ECh | 04h | 08h | 00h = Device Removed [AS]<br>01h = Device Inserted [AS] | SR124-2A SKU16 &<br>SKU17 |
| SYS_FAN6_R2_ST | EDh | 04h | 08h | 00h = Device Removed [AS]<br>01h = Device Inserted [AS] |                           |
| SYS_FAN7_R2_ST | EEh | 04h | 08h | 00h = Device Removed [AS]<br>01h = Device Inserted [AS] |                           |
| SYS_FAN8_R2_ST | EFh | 04h | 08h | 00h = Device Removed [AS]<br>01h = Device Inserted [AS] |                           |

## 15.2. Sensor of BIOS

| Name            | No  | Type | Event type | Event Trigger                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Note       |
|-----------------|-----|------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| PROCESSOR_ERROR | 01h | 07h  | 6Fh        | <p>OEM Data1 : [3:0]</p> <p>0Bh - Machine check exception<br/>(Uncorrectable)<sup>1</sup></p> <p>0Ch - Correctable Machine check Error</p> <p>OEM Data2 :</p> <p>bit[7:4] - Socket ID</p> <p>bit[3:0] - Die ID</p> <p>If Data3 = 1xh - OEM_TYPE_SMN</p> <p>OEM Data2 = Bus ID</p> <p>OEM Data3 : Error Type</p> <p>3xh - OEM_TYPE_PIE, x = Error Code</p> <p>40h - OEM_TYPE_NBIO</p> <p>50h - OEM_TYPE_NBIF</p> <p>6xh - OEM_TYPE_SMN, x = Error</p> <p>Source</p> <p>70h - OEM_TYPE_SATA</p> <p>80h = 128 - OEM_TYPE_LS</p> <p>81h = 129 - OEM_TYPE_IF</p> <p>82h = 130 - OEM_TYPE_L2</p> <p>83h = 131 - OEM_TYPE_DE</p> <p>84h = 132 - OEM_TYPE_EX</p> <p>85h = 133 - OEM_TYPE_FP</p> <p>86h = 134 - OEM_TYPE_L3</p> <p>87h = 135 - OEM_TYPE_CS</p> <p>89h = 137 - OEM_TYPE_PB</p> <p>8Ah = 138 - OEM_TYPE_PSP</p> <p>8Bh = 139 - OEM_TYPE_SMU</p> <p>8Ch = 140 - OEM_TYPE_MP5</p> <p>8Dh = 141 - OEM_TYPE_PCIE</p> <p>8Eh = 142 - OEM_TYPE_CPU_GEN</p> <p>91h = 145 - OEM_TYPE_SHUB</p> <p>92h = 146 - OEM_TYPE_USB</p> <p>93h = 147 - OEM_TYPE_WAFL</p> <p>94h = 148 - OEM_TYPE_MPDMA</p> | Event-only |
| xGMI_ERROR      | 02h | 07h  | 6Fh        | OEM Data1 : [3:0]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Event-only |

|            |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |
|------------|-----|-----|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
|            |     |     |     | 0Bh - Uncorrectable Error<br>0Ch - Correctable Error<br>OEM Data2 :<br>bit[7:4] - Socket ID<br>bit[3:0] - Die ID<br>OEM Data3 : Error Type<br>8Fh = 143 - OEM_TYPE_GMI<br>90h = 144 - OEM_TYPE_XGMI                                                                                                                                                                                                                                          |            |
| Keyboard   | 07h | 21h | 6Fh | OEM Data1 : 0x00<br>OEM Data2 : 0xFF<br>OEM Data3 : 0xFF                                                                                                                                                                                                                                                                                                                                                                                     | Event-only |
| OCP_SLOT_1 | 10h | 13h | 6Fh | OEM Data1 : [3:0]<br>4 - PERR<br>5 - SERR<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number<br>If CXL interface:<br>OEM Data1 :<br>[0] = 0 - Correctable Error<br>1 - Uncorrectable Error<br>[1] = CXL Agent Type<br>[2] = 0 - CXL_ELOG_IO<br>1 - CXL_ELOG_CACHE_MEM<br>2 - CXL_ELOG_COMPONENT_EVENT<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number | Event-only |
| M2_0       | 16h | 13h | 6Fh | OEM Data1 : [3:0]<br>4 - PERR<br>5 - SERR<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number<br>If CXL interface:<br>OEM Data1 :                                                                                                                                                                                                                                                                   | Event-only |

|            |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |
|------------|-----|-----|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
|            |     |     |     | [0] = 0 - Correctable Error<br>1 - Uncorrectable Error<br>[1] = CXL Agent Type<br>[2] = 0 - CXL_ELOG_IO<br>1 - CXL_ELOG_CACHE_MEM<br>2 - CXL_ELOG_COMPONENT_EVENT<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number                                                                                                                                                                               |            |
| OCP_SLOT_2 | 11h | 13h | 6Fh | OEM Data1 : [3:0]<br>4 - PERR<br>5 - SERR<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number<br>If CXL interface:<br>OEM Data1 :<br>[0] = 0 - Correctable Error<br>1 - Uncorrectable Error<br>[1] = CXL Agent Type<br>[2] = 0 - CXL_ELOG_IO<br>1 - CXL_ELOG_CACHE_MEM<br>2 - CXL_ELOG_COMPONENT_EVENT<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number | Event-only |
| M2_1       | 17h | 13h | 6Fh | OEM Data1 : [3:0]<br>4 - PERR<br>5 - SERR<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number<br>If CXL interface:<br>OEM Data1 :<br>[0] = 0 - Correctable Error                                                                                                                                                                                                                                    | Event-only |

|             |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |
|-------------|-----|-----|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
|             |     |     |     | 1 - Uncorrectable Error<br>[1] = CXL Agent Type<br>[2] = 0 - CXL_ELOG_IO<br>1 - CXL_ELOG_CACHE_MEM<br>2 - CXL_ELOG_COMPONENT_EVENT<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number                                                                                                                                                                                                              |            |
| PCIE_ERROR  | 20h | 13h | 6Fh | OEM Data1 : [3:0]<br>4 - PERR<br>5 - SERR<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number<br>If CXL interface:<br>OEM Data1 :<br>[0] = 0 - Correctable Error<br>1 - Uncorrectable Error<br>[1] = CXL Agent Type<br>[2] = 0 - CXL_ELOG_IO<br>1 - CXL_ELOG_CACHE_MEM<br>2 - CXL_ELOG_COMPONENT_EVENT<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number | Event-only |
| PCIE_SLOT_1 | 21h | 13h | 6Fh | OEM Data1 : [3:0]<br>4 - PERR<br>5 - SERR<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number<br>If CXL interface:<br>OEM Data1 :<br>[0] = 0 - Correctable Error<br>1 - Uncorrectable Error                                                                                                                                                                                                         | Event-only |

|             |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |
|-------------|-----|-----|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
|             |     |     |     | [1] = CXL Agent Type<br>[2] = 0 - CXL_ELOG_IO<br>1 - CXL_ELOG_CACHE_MEM<br>2 - CXL_ELOG_COMPONENT_EVENT<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number                                                                                                                                                                                                                                         |            |
| PCIE_SLOT_2 | 22h | 13h | 6Fh | OEM Data1 : [3:0]<br>4 - PERR<br>5 - SERR<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number<br>If CXL interface:<br>OEM Data1 :<br>[0] = 0 - Correctable Error<br>1 - Uncorrectable Error<br>[1] = CXL Agent Type<br>[2] = 0 - CXL_ELOG_IO<br>1 - CXL_ELOG_CACHE_MEM<br>2 - CXL_ELOG_COMPONENT_EVENT<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number | Event-only |
| PCIE_SLOT_3 | 23h | 13h | 6Fh | OEM Data1 : [3:0]<br>4 - PERR<br>5 - SERR<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number<br>If CXL interface:<br>OEM Data1 :<br>[0] = 0 - Correctable Error<br>1 - Uncorrectable Error<br>[1] = CXL Agent Type                                                                                                                                                                                 | Event-only |

|             |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |
|-------------|-----|-----|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
|             |     |     |     | [2] = 0 - CXL_ELOG_IO<br>1 - CXL_ELOG_CACHE_MEM<br>2 - CXL_ELOG_COMPONENT_EVENT<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number                                                                                                                                                                                                                                                                 |            |
| PCIE_SLOT_4 | 24h | 13h | 6Fh | OEM Data1 : [3:0]<br>4 - PERR<br>5 - SERR<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number<br>If CXL interface:<br>OEM Data1 :<br>[0] = 0 - Correctable Error<br>1 - Uncorrectable Error<br>[1] = CXL Agent Type<br>[2] = 0 - CXL_ELOG_IO<br>1 - CXL_ELOG_CACHE_MEM<br>2 - CXL_ELOG_COMPONENT_EVENT<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number | Event-only |
| PCIE_SLOT_5 | 25h | 13h | 6Fh | OEM Data1 : [3:0]<br>4 - PERR<br>5 - SERR<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number<br>If CXL interface:<br>OEM Data1 :<br>[0] = 0 - Correctable Error<br>1 - Uncorrectable Error<br>[1] = CXL Agent Type<br>[2] = 0 - CXL_ELOG_IO                                                                                                                                                        | Event-only |

|             |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |
|-------------|-----|-----|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
|             |     |     |     | 1 - CXL_ELOG_CACHE_MEM<br>2 - CXL_ELOG_COMPONENT_EVENT<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number                                                                                                                                                                                                                                                                                          |            |
| PCIE_SLOT_6 | 26h | 13h | 6Fh | OEM Data1 : [3:0]<br>4 - PERR<br>5 - SERR<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number<br>If CXL interface:<br>OEM Data1 :<br>[0] = 0 - Correctable Error<br>1 - Uncorrectable Error<br>[1] = CXL Agent Type<br>[2] = 0 - CXL_ELOG_IO<br>1 - CXL_ELOG_CACHE_MEM<br>2 - CXL_ELOG_COMPONENT_EVENT<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number | Event-only |
| PCIE_SLOT_7 | 27h | 13h | 6Fh | OEM Data1 : [3:0]<br>4 - PERR<br>5 - SERR<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number<br>If CXL interface:<br>OEM Data1 :<br>[0] = 0 - Correctable Error<br>1 - Uncorrectable Error<br>[1] = CXL Agent Type<br>[2] = 0 - CXL_ELOG_IO<br>1 - CXL_ELOG_CACHE_MEM                                                                                                                              | Event-only |

|             |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |
|-------------|-----|-----|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
|             |     |     |     | 2 - CXL_ELOG_COMPONENT_EVENT<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number                                                                                                                                                                                                                                                                                                                    |            |
| PCIE_SLOT_8 | 28h | 13h | 6Fh | OEM Data1 : [3:0]<br>4 - PERR<br>5 - SERR<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number<br>If CXL interface:<br>OEM Data1 :<br>[0] = 0 - Correctable Error<br>1 - Uncorrectable Error<br>[1] = CXL Agent Type<br>[2] = 0 - CXL_ELOG_IO<br>1 - CXL_ELOG_CACHE_MEM<br>2 - CXL_ELOG_COMPONENT_EVENT<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number | Event-only |
| PCIE_SLOT_9 | 29h | 13h | 6Fh | OEM Data1 : [3:0]<br>4 - PERR<br>5 - SERR<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number<br>If CXL interface:<br>OEM Data1 :<br>[0] = 0 - Correctable Error<br>1 - Uncorrectable Error<br>[1] = CXL Agent Type<br>[2] = 0 - CXL_ELOG_IO<br>1 - CXL_ELOG_CACHE_MEM<br>2 - CXL_ELOG_COMPONENT_EVENT                                                                                              | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |
|--------------|-----|-----|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
|              |     |     |     | <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number</p> <p>[2:0] = Function number</p>                                                                                                                                                                                                                                                                                                                                                                                                                |            |
| PCIE_SLOT_10 | 2Ah | 13h | 6Fh | <p>OEM Data1 : [3:0]</p> <p>4 - PERR</p> <p>5 - SERR</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number</p> <p>[2:0] = Function number</p> <p>If CXL interface:</p> <p>OEM Data1 :</p> <p>[0] = 0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>[1] = CXL Agent Type</p> <p>[2] = 0 - CXL_ELOG_IO</p> <p>1 - CXL_ELOG_CACHE_MEM</p> <p>2 - CXL_ELOG_COMPONENT_EVENT</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number</p> <p>[2:0] = Function number</p> | Event-only |
| NVMe_HDD_0   | 40h | 13h | 6Fh | <p>OEM Data1 : [3:0]</p> <p>4 - PERR</p> <p>5 - SERR</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number</p> <p>[2:0] = Function number</p> <p>If CXL interface:</p> <p>OEM Data1 :</p> <p>[0] = 0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>[1] = CXL Agent Type</p> <p>[2] = 0 - CXL_ELOG_IO</p> <p>1 - CXL_ELOG_CACHE_MEM</p> <p>2 - CXL_ELOG_COMPONENT_EVENT</p> <p>OEM Data2 = Bus number</p>                                                                                | Event-only |

|            |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |
|------------|-----|-----|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
|            |     |     |     | OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number                                                                                                                                                                                                                                                                                                                                                                              |            |
| NVMe_HDD_1 | 41h | 13h | 6Fh | OEM Data1 : [3:0]<br>4 - PERR<br>5 - SERR<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number<br>If CXL interface:<br>OEM Data1 :<br>[0] = 0 - Correctable Error<br>1 - Uncorrectable Error<br>[1] = CXL Agent Type<br>[2] = 0 - CXL_ELOG_IO<br>1 - CXL_ELOG_CACHE_MEM<br>2 - CXL_ELOG_COMPONENT_EVENT<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number | Event-only |
| NVMe_HDD_2 | 42h | 13h | 6Fh | OEM Data1 : [3:0]<br>4 - PERR<br>5 - SERR<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number<br>If CXL interface:<br>OEM Data1 :<br>[0] = 0 - Correctable Error<br>1 - Uncorrectable Error<br>[1] = CXL Agent Type<br>[2] = 0 - CXL_ELOG_IO<br>1 - CXL_ELOG_CACHE_MEM<br>2 - CXL_ELOG_COMPONENT_EVENT<br>OEM Data2 = Bus number<br>OEM Data3 :                                                     | Event-only |

|            |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |
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|            |     |     |     | [7:3] = Device number<br>[2:0] = Function number                                                                                                                                                                                                                                                                                                                                                                                             |            |
| NVMe_HDD_3 | 43h | 13h | 6Fh | OEM Data1 : [3:0]<br>4 - PERR<br>5 - SERR<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number<br>If CXL interface:<br>OEM Data1 :<br>[0] = 0 - Correctable Error<br>1 - Uncorrectable Error<br>[1] = CXL Agent Type<br>[2] = 0 - CXL_ELOG_IO<br>1 - CXL_ELOG_CACHE_MEM<br>2 - CXL_ELOG_COMPONENT_EVENT<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number | Event-only |
| NVMe_HDD_4 | 44h | 13h | 6Fh | OEM Data1 : [3:0]<br>4 - PERR<br>5 - SERR<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number<br>If CXL interface:<br>OEM Data1 :<br>[0] = 0 - Correctable Error<br>1 - Uncorrectable Error<br>[1] = CXL Agent Type<br>[2] = 0 - CXL_ELOG_IO<br>1 - CXL_ELOG_CACHE_MEM<br>2 - CXL_ELOG_COMPONENT_EVENT<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number                            | Event-only |

|            |     |     |     | [2:0] = Function number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            |
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| NVMe_HDD_5 | 45h | 13h | 6Fh | <p>OEM Data1 : [3:0]</p> <p>4 - PERR</p> <p>5 - SERR</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number</p> <p>[2:0] = Function number</p> <p>If CXL interface:</p> <p>OEM Data1 :</p> <p>[0] = 0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>[1] = CXL Agent Type</p> <p>[2] = 0 - CXL_ELOG_IO</p> <p>1 - CXL_ELOG_CACHE_MEM</p> <p>2 - CXL_ELOG_COMPONENT_EVENT</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number</p> <p>[2:0] = Function number</p> | Event-only |
| NVMe_HDD_6 | 46h | 13h | 6Fh | <p>OEM Data1 : [3:0]</p> <p>4 - PERR</p> <p>5 - SERR</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number</p> <p>[2:0] = Function number</p> <p>If CXL interface:</p> <p>OEM Data1 :</p> <p>[0] = 0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>[1] = CXL Agent Type</p> <p>[2] = 0 - CXL_ELOG_IO</p> <p>1 - CXL_ELOG_CACHE_MEM</p> <p>2 - CXL_ELOG_COMPONENT_EVENT</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number</p> <p>[2:0] = Function number</p> | Event-only |

|            |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |
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| NVMe_HDD_7 | 47h | 13h | 6Fh | <p>OEM Data1 : [3:0]</p> <p>4 - PERR</p> <p>5 - SERR</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number</p> <p>[2:0] = Function number</p> <p>If CXL interface:</p> <p>OEM Data1 :</p> <p>[0] = 0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>[1] = CXL Agent Type</p> <p>[2] = 0 - CXL_ELOG_IO</p> <p>1 - CXL_ELOG_CACHE_MEM</p> <p>2 - CXL_ELOG_COMPONENT_EVENT</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number</p> <p>[2:0] = Function number</p> | Event-only |
| NVMe_HDD_8 | 48h | 13h | 6Fh | <p>OEM Data1 : [3:0]</p> <p>4 - PERR</p> <p>5 - SERR</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number</p> <p>[2:0] = Function number</p> <p>If CXL interface:</p> <p>OEM Data1 :</p> <p>[0] = 0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>[1] = CXL Agent Type</p> <p>[2] = 0 - CXL_ELOG_IO</p> <p>1 - CXL_ELOG_CACHE_MEM</p> <p>2 - CXL_ELOG_COMPONENT_EVENT</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number</p> <p>[2:0] = Function number</p> | Event-only |
| NVMe_HDD_9 | 49h | 13h | 6Fh | <p>OEM Data1 : [3:0]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Event-only |

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|             |     |     |     | 4 - PERR<br>5 - SERR<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number<br>If CXL interface:<br>OEM Data1 :<br>[0] = 0 - Correctable Error<br>1 - Uncorrectable Error<br>[1] = CXL Agent Type<br>[2] = 0 - CXL_ELOG_IO<br>1 - CXL_ELOG_CACHE_MEM<br>2 - CXL_ELOG_COMPONENT_EVENT<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number                      |            |
| NVMe_HDD_10 | 4Ah | 13h | 6Fh | OEM Data1 : [3:0]<br>4 - PERR<br>5 - SERR<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number<br>If CXL interface:<br>OEM Data1 :<br>[0] = 0 - Correctable Error<br>1 - Uncorrectable Error<br>[1] = CXL Agent Type<br>[2] = 0 - CXL_ELOG_IO<br>1 - CXL_ELOG_CACHE_MEM<br>2 - CXL_ELOG_COMPONENT_EVENT<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number | Event-only |
| NVMe_HDD_11 | 4Bh | 13h | 6Fh | OEM Data1 : [3:0]<br>4 - PERR                                                                                                                                                                                                                                                                                                                                                                                                                | Event-only |

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|             |     |     |     | 5 - SERR<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number<br>If CXL interface:<br>OEM Data1 :<br>[0] = 0 - Correctable Error<br>1 - Uncorrectable Error<br>[1] = CXL Agent Type<br>[2] = 0 - CXL_ELOG_IO<br>1 - CXL_ELOG_CACHE_MEM<br>2 - CXL_ELOG_COMPONENT_EVENT<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number                                  |            |
| NVMe_HDD_12 | 4Ch | 13h | 6Fh | OEM Data1 : [3:0]<br>4 - PERR<br>5 - SERR<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number<br>If CXL interface:<br>OEM Data1 :<br>[0] = 0 - Correctable Error<br>1 - Uncorrectable Error<br>[1] = CXL Agent Type<br>[2] = 0 - CXL_ELOG_IO<br>1 - CXL_ELOG_CACHE_MEM<br>2 - CXL_ELOG_COMPONENT_EVENT<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number | Event-only |
| NVMe_HDD_13 | 4Dh | 13h | 6Fh | OEM Data1 : [3:0]<br>4 - PERR<br>5 - SERR                                                                                                                                                                                                                                                                                                                                                                                                    | Event-only |

|             |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |
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|             |     |     |     | <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number</p> <p>[2:0] = Function number</p> <p>If CXL interface:</p> <p>OEM Data1 :</p> <p>[0] = 0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>[1] = CXL Agent Type</p> <p>[2] = 0 - CXL_ELOG_IO</p> <p>1 - CXL_ELOG_CACHE_MEM</p> <p>2 - CXL_ELOG_COMPONENT_EVENT</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number</p> <p>[2:0] = Function number</p>                                                          |            |
| NVMe_HDD_14 | 4Eh | 13h | 6Fh | <p>OEM Data1 : [3:0]</p> <p>4 - PERR</p> <p>5 - SERR</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number</p> <p>[2:0] = Function number</p> <p>If CXL interface:</p> <p>OEM Data1 :</p> <p>[0] = 0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>[1] = CXL Agent Type</p> <p>[2] = 0 - CXL_ELOG_IO</p> <p>1 - CXL_ELOG_CACHE_MEM</p> <p>2 - CXL_ELOG_COMPONENT_EVENT</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number</p> <p>[2:0] = Function number</p> | Event-only |
| NVMe_HDD_15 | 4Fh | 13h | 6Fh | <p>OEM Data1 : [3:0]</p> <p>4 - PERR</p> <p>5 - SERR</p> <p>OEM Data2 = Bus number</p>                                                                                                                                                                                                                                                                                                                                                                                                                                      | Event-only |

|             |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |
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|             |     |     |     | <p>OEM Data3 :</p> <p>[7:3] = Device number</p> <p>[2:0] = Function number</p> <p>If CXL interface:</p> <p>OEM Data1 :</p> <p>[0] = 0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>[1] = CXL Agent Type</p> <p>[2] = 0 - CXL_ELOG_IO</p> <p>1 - CXL_ELOG_CACHE_MEM</p> <p>2 - CXL_ELOG_COMPONENT_EVENT</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number</p> <p>[2:0] = Function number</p>                                                                                        |            |
| NVMe_HDD_16 | 50h | 13h | 6Fh | <p>OEM Data1 : [3:0]</p> <p>4 - PERR</p> <p>5 - SERR</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number</p> <p>[2:0] = Function number</p> <p>If CXL interface:</p> <p>OEM Data1 :</p> <p>[0] = 0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>[1] = CXL Agent Type</p> <p>[2] = 0 - CXL_ELOG_IO</p> <p>1 - CXL_ELOG_CACHE_MEM</p> <p>2 - CXL_ELOG_COMPONENT_EVENT</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number</p> <p>[2:0] = Function number</p> | Event-only |
| NVMe_HDD_17 | 51h | 13h | 6Fh | <p>OEM Data1 : [3:0]</p> <p>4 - PERR</p> <p>5 - SERR</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p>                                                                                                                                                                                                                                                                                                                                                                                                                   | Event-only |

|             |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            |
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|             |     |     |     | <p>[7:3] = Device number<br/>[2:0] = Function number</p> <p>If CXL interface:</p> <p>OEM Data1 :</p> <p>[0] = 0 - Correctable Error<br/>1 - Uncorrectable Error</p> <p>[1] = CXL Agent Type<br/>[2] = 0 - CXL_ELOG_IO<br/>1 - CXL_ELOG_CACHE_MEM<br/>2 - CXL_ELOG_COMPONENT_EVENT</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number<br/>[2:0] = Function number</p>                                                                                                     |            |
| NVMe_HDD_18 | 52h | 13h | 6Fh | <p>OEM Data1 : [3:0]<br/>4 - PERR<br/>5 - SERR</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number<br/>[2:0] = Function number</p> <p>If CXL interface:</p> <p>OEM Data1 :</p> <p>[0] = 0 - Correctable Error<br/>1 - Uncorrectable Error</p> <p>[1] = CXL Agent Type<br/>[2] = 0 - CXL_ELOG_IO<br/>1 - CXL_ELOG_CACHE_MEM<br/>2 - CXL_ELOG_COMPONENT_EVENT</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number<br/>[2:0] = Function number</p> | Event-only |
| NVMe_HDD_19 | 53h | 13h | 6Fh | <p>OEM Data1 : [3:0]<br/>4 - PERR<br/>5 - SERR</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number</p>                                                                                                                                                                                                                                                                                                                                                                    | Event-only |

|             |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |
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|             |     |     |     | <p>[2:0] = Function number</p> <p>If CXL interface:</p> <p>OEM Data1 :</p> <p>[0] = 0 - Correctable Error<br/>1 - Uncorrectable Error</p> <p>[1] = CXL Agent Type</p> <p>[2] = 0 - CXL_ELOG_IO<br/>1 - CXL_ELOG_CACHE_MEM<br/>2 - CXL_ELOG_COMPONENT_EVENT</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number<br/>[2:0] = Function number</p>                                                                                                                                  |            |
| NVMe_HDD_20 | 54h | 13h | 6Fh | <p>OEM Data1 : [3:0]</p> <p>4 - PERR<br/>5 - SERR</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number<br/>[2:0] = Function number</p> <p>If CXL interface:</p> <p>OEM Data1 :</p> <p>[0] = 0 - Correctable Error<br/>1 - Uncorrectable Error</p> <p>[1] = CXL Agent Type</p> <p>[2] = 0 - CXL_ELOG_IO<br/>1 - CXL_ELOG_CACHE_MEM<br/>2 - CXL_ELOG_COMPONENT_EVENT</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number<br/>[2:0] = Function number</p> | Event-only |
| NVMe_HDD_21 | 55h | 13h | 6Fh | <p>OEM Data1 : [3:0]</p> <p>4 - PERR<br/>5 - SERR</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number<br/>[2:0] = Function number</p>                                                                                                                                                                                                                                                                                                                                           | Event-only |

|             |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |
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|             |     |     |     | <p>If CXL interface:</p> <p>OEM Data1 :</p> <p>[0] = 0 - Correctable Error<br/>1 - Uncorrectable Error</p> <p>[1] = CXL Agent Type</p> <p>[2] = 0 - CXL_ELOG_IO<br/>1 - CXL_ELOG_CACHE_MEM<br/>2 - CXL_ELOG_COMPONENT_EVENT</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number<br/>[2:0] = Function number</p>                                                                                                                                                                 |            |
| NVMe_HDD_22 | 56h | 13h | 6Fh | <p>OEM Data1 : [3:0]</p> <p>4 - PERR<br/>5 - SERR</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number<br/>[2:0] = Function number</p> <p>If CXL interface:</p> <p>OEM Data1 :</p> <p>[0] = 0 - Correctable Error<br/>1 - Uncorrectable Error</p> <p>[1] = CXL Agent Type</p> <p>[2] = 0 - CXL_ELOG_IO<br/>1 - CXL_ELOG_CACHE_MEM<br/>2 - CXL_ELOG_COMPONENT_EVENT</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number<br/>[2:0] = Function number</p> | Event-only |
| NVMe_HDD_23 | 57h | 13h | 6Fh | <p>OEM Data1 : [3:0]</p> <p>4 - PERR<br/>5 - SERR</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number<br/>[2:0] = Function number</p> <p>If CXL interface:</p>                                                                                                                                                                                                                                                                                                                  | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |
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|              |     |     |     | <p>OEM Data1 :</p> <p>[0] = 0 - Correctable Error<br/>1 - Uncorrectable Error</p> <p>[1] = CXL Agent Type</p> <p>[2] = 0 - CXL_ELOG_IO<br/>1 - CXL_ELOG_CACHE_MEM<br/>2 - CXL_ELOG_COMPONENT_EVENT</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number<br/>[2:0] = Function number</p>                                                                                                                                                                                          |            |
| R_NVMe_HDD_0 | 58h | 13h | 6Fh | <p>OEM Data1 : [3:0]</p> <p>4 - PERR<br/>5 - SERR</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number<br/>[2:0] = Function number</p> <p>If CXL interface:</p> <p>OEM Data1 :</p> <p>[0] = 0 - Correctable Error<br/>1 - Uncorrectable Error</p> <p>[1] = CXL Agent Type</p> <p>[2] = 0 - CXL_ELOG_IO<br/>1 - CXL_ELOG_CACHE_MEM<br/>2 - CXL_ELOG_COMPONENT_EVENT</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number<br/>[2:0] = Function number</p> | Event-only |
| R_NVMe_HDD_1 | 59h | 13h | 6Fh | <p>OEM Data1 : [3:0]</p> <p>4 - PERR<br/>5 - SERR</p> <p>OEM Data2 = Bus number</p> <p>OEM Data3 :</p> <p>[7:3] = Device number<br/>[2:0] = Function number</p> <p>If CXL interface:</p> <p>OEM Data1 :</p>                                                                                                                                                                                                                                                                                               | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |            |
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|              |     |     |     | [0] = 0 - Correctable Error<br>1 - Uncorrectable Error<br>[1] = CXL Agent Type<br>[2] = 0 - CXL_ELOG_IO<br>1 - CXL_ELOG_CACHE_MEM<br>2 - CXL_ELOG_COMPONENT_EVENT<br>OEM Data2 = Bus number<br>OEM Data3 :<br>[7:3] = Device number<br>[2:0] = Function number                                                                                                                                                                                                                                                                    |            |
| RTC_ERROR    | 05h | 21h | 6Fh | OEM Data1 : 0x00<br>OEM Data2 : 0xFF<br>OEM Data3 : 0xFF                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Event-only |
| CPU0_DIMM_A0 | 80h | 0Ch | 6Fh | OEM Data1: [3:0]<br>0 - Correctable Error<br>1 - Uncorrectable Error<br>4 - Memory Disabled<br>OEM Data2 :<br>[7:4] = Channel<br>[3:0] = DIMM<br>OEM Data3 :<br>[7:4] = Error Type<br>[3:0] = Socket<br>[7:0] = Socket (Only for Memory Disabled)<br><br>Error Type:<br>0 = MEM_TYPE_ECC<br>1 = MEM_TYPE_PARITY<br>2 = MEM_TYPE_CRC<br>3 = MEM_TYPE_DATA_POISON<br>4 = MEM_TYPE_ECSROW<br><br>If OEM Data3 = 95h = 149 -<br>OEM_TYPE_PMIC<br>OEM Data1 : [3:0]<br>0 - Correctable Error<br>1 - Uncorrectable Error<br>OEM Data2 : | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |
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|              |     |     |     | bit5 = Socket<br>bit4 = DIMM<br>bit[3:0] = Channel<br>OEM Data3 : Error Type<br>95h = 149 - OEM_TYPE_PMIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |
| CPU0_DIMM_A1 | 81h | 0Ch | 6Fh | OEM Data1: [3:0]<br>0 - Correctable Error<br>1 - Uncorrectable Error<br>4 - Memory Disabled<br>OEM Data2 :<br>[7:4] = Channel<br>[3:0] = DIMM<br>OEM Data3 :<br>[7:4] = Error Type<br>[3:0] = Socket<br>[7:0] = Socket (Only for Memory Disabled)<br><br>Error Type:<br>0 = MEM_TYPE_ECC<br>1 = MEM_TYPE_PARITY<br>2 = MEM_TYPE_CRC<br>3 = MEM_TYPE_DATA_POISON<br>4 = MEM_TYPE_ECSROW<br><br>If OEM Data3 = 95h = 149 -<br>OEM_TYPE_PMIC<br>OEM Data1 : [3:0]<br>0 - Correctable Error<br>1 - Uncorrectable Error<br>OEM Data2 :<br>bit5 = Socket<br>bit4 = DIMM<br>bit[3:0] = Channel<br>OEM Data3 : Error Type<br>95h = 149 - OEM_TYPE_PMIC | Event-only |
| CPU0_DIMM_B0 | 82h | 0Ch | 6Fh | OEM Data1: [3:0]<br>0 - Correctable Error<br>1 - Uncorrectable Error                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |
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|              |     |     |     | <p>4 - Memory Disabled</p> <p>OEM Data2 :</p> <p>[7:4] = Channel</p> <p>[3:0] = DIMM</p> <p>OEM Data3 :</p> <p>[7:4] = Error Type</p> <p>[3:0] = Socket</p> <p>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:</p> <p>0 = MEM_TYPE_ECC</p> <p>1 = MEM_TYPE_PARITY</p> <p>2 = MEM_TYPE_CRC</p> <p>3 = MEM_TYPE_DATA_POISON</p> <p>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -</p> <p>OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>OEM Data2 :</p> <p>bit5 = Socket</p> <p>bit4 = DIMM</p> <p>bit[3:0] = Channel</p> <p>OEM Data3 : Error Type</p> <p>95h = 149 - OEM_TYPE_PMIC</p> |            |
| CPU0_DIMM_B1 | 83h | 0Ch | 6Fh | <p>OEM Data1: [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>4 - Memory Disabled</p> <p>OEM Data2 :</p> <p>[7:4] = Channel</p> <p>[3:0] = DIMM</p> <p>OEM Data3 :</p> <p>[7:4] = Error Type</p> <p>[3:0] = Socket</p> <p>[7:0] = Socket (Only for Memory</p>                                                                                                                                                                                                                                                                                                                                                                                | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |
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|              |     |     |     | <p>Disabled)</p> <p>Error Type:</p> <ul style="list-style-type: none"> <li>0 = MEM_TYPE_ECC</li> <li>1 = MEM_TYPE_PARITY</li> <li>2 = MEM_TYPE_CRC</li> <li>3 = MEM_TYPE_DATA_POISON</li> <li>4 = MEM_TYPE_ECSROW</li> </ul> <p>If OEM Data3 = 95h = 149 -</p> <p>OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <ul style="list-style-type: none"> <li>0 - Correctable Error</li> <li>1 - Uncorrectable Error</li> </ul> <p>OEM Data2 :</p> <ul style="list-style-type: none"> <li>bit5 = Socket</li> <li>bit4 = DIMM</li> <li>bit[3:0] = Channel</li> </ul> <p>OEM Data3 : Error Type</p> <p>95h = 149 - OEM_TYPE_PMIC</p>                                |            |
| CPU0_DIMM_C0 | 84h | 0Ch | 6Fh | <p>OEM Data1: [3:0]</p> <ul style="list-style-type: none"> <li>0 - Correctable Error</li> <li>1 - Uncorrectable Error</li> <li>4 - Memory Disabled</li> </ul> <p>OEM Data2 :</p> <ul style="list-style-type: none"> <li>[7:4] = Channel</li> <li>[3:0] = DIMM</li> </ul> <p>OEM Data3 :</p> <ul style="list-style-type: none"> <li>[7:4] = Error Type</li> <li>[3:0] = Socket</li> <li>[7:0] = Socket (Only for Memory Disabled)</li> </ul> <p>Error Type:</p> <ul style="list-style-type: none"> <li>0 = MEM_TYPE_ECC</li> <li>1 = MEM_TYPE_PARITY</li> <li>2 = MEM_TYPE_CRC</li> <li>3 = MEM_TYPE_DATA_POISON</li> <li>4 = MEM_TYPE_ECSROW</li> </ul> | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |
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|              |     |     |     | <p>If OEM Data3 = 95h = 149 -<br/>OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <p>0 - Correctable Error<br/>1 - Uncorrectable Error</p> <p>OEM Data2 :</p> <p>bit5 = Socket<br/>bit4 = DIMM<br/>bit[3:0] = Channel</p> <p>OEM Data3 : Error Type<br/>95h = 149 - OEM_TYPE_PMIC</p>                                                                                                                                                                                                                                                                                                                             |            |
| CPU0_DIMM_C1 | 85h | 0Ch | 6Fh | <p>OEM Data1: [3:0]</p> <p>0 - Correctable Error<br/>1 - Uncorrectable Error<br/>4 - Memory Disabled</p> <p>OEM Data2 :</p> <p>[7:4] = Channel<br/>[3:0] = DIMM</p> <p>OEM Data3 :</p> <p>[7:4] = Error Type<br/>[3:0] = Socket<br/>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:</p> <p>0 = MEM_TYPE_ECC<br/>1 = MEM_TYPE_PARITY<br/>2 = MEM_TYPE_CRC<br/>3 = MEM_TYPE_DATA_POISON<br/>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -<br/>OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <p>0 - Correctable Error<br/>1 - Uncorrectable Error</p> <p>OEM Data2 :</p> <p>bit5 = Socket</p> | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |
|--------------|-----|-----|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
|              |     |     |     | bit4 = DIMM<br>bit[3:0] = Channel<br>OEM Data3 : Error Type<br>95h = 149 - OEM_TYPE_PMIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |
| CPU0_DIMM_D0 | 86h | 0Ch | 6Fh | OEM Data1: [3:0]<br>0 - Correctable Error<br>1 - Uncorrectable Error<br>4 - Memory Disabled<br>OEM Data2 :<br>[7:4] = Channel<br>[3:0] = DIMM<br>OEM Data3 :<br>[7:4] = Error Type<br>[3:0] = Socket<br>[7:0] = Socket (Only for Memory Disabled)<br><br>Error Type:<br>0 = MEM_TYPE_ECC<br>1 = MEM_TYPE_PARITY<br>2 = MEM_TYPE_CRC<br>3 = MEM_TYPE_DATA_POISON<br>4 = MEM_TYPE_ECSROW<br><br>If OEM Data3 = 95h = 149 -<br>OEM_TYPE_PMIC<br>OEM Data1 : [3:0]<br>0 - Correctable Error<br>1 - Uncorrectable Error<br>OEM Data2 :<br>bit5 = Socket<br>bit4 = DIMM<br>bit[3:0] = Channel<br>OEM Data3 : Error Type<br>95h = 149 - OEM_TYPE_PMIC | Event-only |
| CPU0_DIMM_D1 | 87h | 0Ch | 6Fh | OEM Data1: [3:0]<br>0 - Correctable Error<br>1 - Uncorrectable Error<br>4 - Memory Disabled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |
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|              |     |     |     | <p>OEM Data2 :</p> <p>[7:4] = Channel</p> <p>[3:0] = DIMM</p> <p>OEM Data3 :</p> <p>[7:4] = Error Type</p> <p>[3:0] = Socket</p> <p>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:</p> <p>0 = MEM_TYPE_ECC</p> <p>1 = MEM_TYPE_PARITY</p> <p>2 = MEM_TYPE_CRC</p> <p>3 = MEM_TYPE_DATA_POISON</p> <p>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -</p> <p>OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>OEM Data2 :</p> <p>bit5 = Socket</p> <p>bit4 = DIMM</p> <p>bit[3:0] = Channel</p> <p>OEM Data3 : Error Type</p> <p>95h = 149 - OEM_TYPE_PMIC</p> |            |
| CPU0_DIMM_E0 | 88h | 0Ch | 6Fh | <p>OEM Data1: [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>4 - Memory Disabled</p> <p>OEM Data2 :</p> <p>[7:4] = Channel</p> <p>[3:0] = DIMM</p> <p>OEM Data3 :</p> <p>[7:4] = Error Type</p> <p>[3:0] = Socket</p> <p>[7:0] = Socket (Only for Memory Disabled)</p>                                                                                                                                                                                                                                                                                                                                           | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |
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|              |     |     |     | <p>Error Type:</p> <p>0 = MEM_TYPE_ECC</p> <p>1 = MEM_TYPE_PARITY</p> <p>2 = MEM_TYPE_CRC</p> <p>3 = MEM_TYPE_DATA_POISON</p> <p>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -</p> <p>OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>OEM Data2 :</p> <p>bit5 = Socket</p> <p>bit4 = DIMM</p> <p>bit[3:0] = Channel</p> <p>OEM Data3 : Error Type</p> <p>95h = 149 - OEM_TYPE_PMIC</p>  |            |
| CPU0_DIMM_E1 | 89h | 0Ch | 6Fh | <p>OEM Data1: [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>4 - Memory Disabled</p> <p>OEM Data2 :</p> <p>[7:4] = Channel</p> <p>[3:0] = DIMM</p> <p>OEM Data3 :</p> <p>[7:4] = Error Type</p> <p>[3:0] = Socket</p> <p>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:</p> <p>0 = MEM_TYPE_ECC</p> <p>1 = MEM_TYPE_PARITY</p> <p>2 = MEM_TYPE_CRC</p> <p>3 = MEM_TYPE_DATA_POISON</p> <p>4 = MEM_TYPE_ECSROW</p> | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |
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|              |     |     |     | <p>If OEM Data3 = 95h = 149 -<br/>OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <p>0 - Correctable Error<br/>1 - Uncorrectable Error</p> <p>OEM Data2 :</p> <p>bit5 = Socket<br/>bit4 = DIMM<br/>bit[3:0] = Channel</p> <p>OEM Data3 : Error Type<br/>95h = 149 - OEM_TYPE_PMIC</p>                                                                                                                                                                                                                                                                                                                                             |            |
| CPU0_DIMM_F0 | 8Ah | 0Ch | 6Fh | <p>OEM Data1: [3:0]</p> <p>0 - Correctable Error<br/>1 - Uncorrectable Error<br/>4 - Memory Disabled</p> <p>OEM Data2 :</p> <p>[7:4] = Channel<br/>[3:0] = DIMM</p> <p>OEM Data3 :</p> <p>[7:4] = Error Type<br/>[3:0] = Socket<br/>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:</p> <p>0 = MEM_TYPE_ECC<br/>1 = MEM_TYPE_PARITY<br/>2 = MEM_TYPE_CRC<br/>3 = MEM_TYPE_DATA_POISON<br/>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -<br/>OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <p>0 - Correctable Error<br/>1 - Uncorrectable Error</p> <p>OEM Data2 :</p> <p>bit5 = Socket<br/>bit4 = DIMM</p> | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |
|--------------|-----|-----|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
|              |     |     |     | bit[3:0] = Channel<br>OEM Data3 : Error Type<br>95h = 149 - OEM_TYPE_PMIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |
| CPU0_DIMM_F1 | 8Bh | 0Ch | 6Fh | OEM Data1: [3:0]<br>0 - Correctable Error<br>1 - Uncorrectable Error<br>4 - Memory Disabled<br>OEM Data2 :<br>[7:4] = Channel<br>[3:0] = DIMM<br>OEM Data3 :<br>[7:4] = Error Type<br>[3:0] = Socket<br>[7:0] = Socket (Only for Memory Disabled)<br><br>Error Type:<br>0 = MEM_TYPE_ECC<br>1 = MEM_TYPE_PARITY<br>2 = MEM_TYPE_CRC<br>3 = MEM_TYPE_DATA_POISON<br>4 = MEM_TYPE_ECSROW<br><br>If OEM Data3 = 95h = 149 -<br>OEM_TYPE_PMIC<br>OEM Data1 : [3:0]<br>0 - Correctable Error<br>1 - Uncorrectable Error<br>OEM Data2 :<br>bit5 = Socket<br>bit4 = DIMM<br>bit[3:0] = Channel<br>OEM Data3 : Error Type<br>95h = 149 - OEM_TYPE_PMIC | Event-only |
| CPU0_DIMM_G0 | 8Ch | 0Ch | 6Fh | OEM Data1: [3:0]<br>0 - Correctable Error<br>1 - Uncorrectable Error<br>4 - Memory Disabled<br>OEM Data2 :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |
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|              |     |     |     | <p>[7:4] = Channel</p> <p>[3:0] = DIMM</p> <p>OEM Data3 :</p> <p>[7:4] = Error Type</p> <p>[3:0] = Socket</p> <p>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:</p> <p>0 = MEM_TYPE_ECC</p> <p>1 = MEM_TYPE_PARITY</p> <p>2 = MEM_TYPE_CRC</p> <p>3 = MEM_TYPE_DATA_POISON</p> <p>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -</p> <p>OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>OEM Data2 :</p> <p>bit5 = Socket</p> <p>bit4 = DIMM</p> <p>bit[3:0] = Channel</p> <p>OEM Data3 : Error Type</p> <p>95h = 149 - OEM_TYPE_PMIC</p> |            |
| CPU0_DIMM_G1 | 8Dh | 0Ch | 6Fh | <p>OEM Data1: [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>4 - Memory Disabled</p> <p>OEM Data2 :</p> <p>[7:4] = Channel</p> <p>[3:0] = DIMM</p> <p>OEM Data3 :</p> <p>[7:4] = Error Type</p> <p>[3:0] = Socket</p> <p>[7:0] = Socket (Only for Memory Disabled)</p>                                                                                                                                                                                                                                                                                                                        | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |
|--------------|-----|-----|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
|              |     |     |     | <p>Error Type:</p> <ul style="list-style-type: none"> <li>0 = MEM_TYPE_ECC</li> <li>1 = MEM_TYPE_PARITY</li> <li>2 = MEM_TYPE_CRC</li> <li>3 = MEM_TYPE_DATA_POISON</li> <li>4 = MEM_TYPE_ECSROW</li> </ul> <p>If OEM Data3 = 95h = 149 -</p> <p>OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <ul style="list-style-type: none"> <li>0 - Correctable Error</li> <li>1 - Uncorrectable Error</li> </ul> <p>OEM Data2 :</p> <ul style="list-style-type: none"> <li>bit5 = Socket</li> <li>bit4 = DIMM</li> <li>bit[3:0] = Channel</li> </ul> <p>OEM Data3 : Error Type</p> <p>95h = 149 - OEM_TYPE_PMIC</p>                                                                                   |            |
| CPU0_DIMM_H0 | 8Eh | 0Ch | 6Fh | <p>OEM Data1: [3:0]</p> <ul style="list-style-type: none"> <li>0 - Correctable Error</li> <li>1 - Uncorrectable Error</li> <li>4 - Memory Disabled</li> </ul> <p>OEM Data2 :</p> <ul style="list-style-type: none"> <li>[7:4] = Channel</li> <li>[3:0] = DIMM</li> </ul> <p>OEM Data3 :</p> <ul style="list-style-type: none"> <li>[7:4] = Error Type</li> <li>[3:0] = Socket</li> <li>[7:0] = Socket (Only for Memory Disabled)</li> </ul> <p>Error Type:</p> <ul style="list-style-type: none"> <li>0 = MEM_TYPE_ECC</li> <li>1 = MEM_TYPE_PARITY</li> <li>2 = MEM_TYPE_CRC</li> <li>3 = MEM_TYPE_DATA_POISON</li> <li>4 = MEM_TYPE_ECSROW</li> </ul> <p>If OEM Data3 = 95h = 149 -</p> | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |
|--------------|-----|-----|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
|              |     |     |     | <p>OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>OEM Data2 :</p> <p>bit5 = Socket</p> <p>bit4 = DIMM</p> <p>bit[3:0] = Channel</p> <p>OEM Data3 : Error Type</p> <p>95h = 149 - OEM_TYPE_PMIC</p>                                                                                                                                                                                                                                                                                                                                                                                                                              |            |
| CPU0_DIMM_H1 | 8Fh | 0Ch | 6Fh | <p>OEM Data1: [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>4 - Memory Disabled</p> <p>OEM Data2 :</p> <p>[7:4] = Channel</p> <p>[3:0] = DIMM</p> <p>OEM Data3 :</p> <p>[7:4] = Error Type</p> <p>[3:0] = Socket</p> <p>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:</p> <p>0 = MEM_TYPE_ECC</p> <p>1 = MEM_TYPE_PARITY</p> <p>2 = MEM_TYPE_CRC</p> <p>3 = MEM_TYPE_DATA_POISON</p> <p>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -</p> <p>OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>OEM Data2 :</p> <p>bit5 = Socket</p> <p>bit4 = DIMM</p> <p>bit[3:0] = Channel</p> | Event-only |

|              |     |     |     | OEM Data3 : Error Type<br>95h = 149 - OEM_TYPE_PMIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |            |
|--------------|-----|-----|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| CPU0_DIMM_I0 | 90h | 0Ch | 6Fh | <p>OEM Data1: [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>4 - Memory Disabled</p> <p>OEM Data2 :</p> <p>[7:4] = Channel</p> <p>[3:0] = DIMM</p> <p>OEM Data3 :</p> <p>[7:4] = Error Type</p> <p>[3:0] = Socket</p> <p>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:</p> <p>0 = MEM_TYPE_ECC</p> <p>1 = MEM_TYPE_PARITY</p> <p>2 = MEM_TYPE_CRC</p> <p>3 = MEM_TYPE_DATA_POISON</p> <p>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -<br/>OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>OEM Data2 :</p> <p>bit5 = Socket</p> <p>bit4 = DIMM</p> <p>bit[3:0] = Channel</p> <p>OEM Data3 : Error Type</p> <p>95h = 149 - OEM_TYPE_PMIC</p> | Event-only |
| CPU0_DIMM_I1 | 91h | 0Ch | 6Fh | <p>OEM Data1: [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>4 - Memory Disabled</p> <p>OEM Data2 :</p> <p>[7:4] = Channel</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |
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|              |     |     |     | <p>[3:0] = DIMM</p> <p>OEM Data3 :</p> <p>[7:4] = Error Type</p> <p>[3:0] = Socket</p> <p>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:</p> <p>0 = MEM_TYPE_ECC</p> <p>1 = MEM_TYPE_PARITY</p> <p>2 = MEM_TYPE_CRC</p> <p>3 = MEM_TYPE_DATA_POISON</p> <p>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -</p> <p>OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>OEM Data2 :</p> <p>bit5 = Socket</p> <p>bit4 = DIMM</p> <p>bit[3:0] = Channel</p> <p>OEM Data3 : Error Type</p> <p>95h = 149 - OEM_TYPE_PMIC</p> |            |
| CPU0_DIMM_J0 | 92h | 0Ch | 6Fh | <p>OEM Data1: [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>4 - Memory Disabled</p> <p>OEM Data2 :</p> <p>[7:4] = Channel</p> <p>[3:0] = DIMM</p> <p>OEM Data3 :</p> <p>[7:4] = Error Type</p> <p>[3:0] = Socket</p> <p>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:</p>                                                                                                                                                                                                                                                                              | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |
|--------------|-----|-----|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
|              |     |     |     | <p>0 = MEM_TYPE_ECC<br/> 1 = MEM_TYPE_PARITY<br/> 2 = MEM_TYPE_CRC<br/> 3 = MEM_TYPE_DATA_POISON<br/> 4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -<br/> OEM_TYPE_PMIC<br/> OEM Data1 : [3:0]<br/> 0 - Correctable Error<br/> 1 - Uncorrectable Error</p> <p>OEM Data2 :<br/> bit5 = Socket<br/> bit4 = DIMM<br/> bit[3:0] = Channel</p> <p>OEM Data3 : Error Type<br/> 95h = 149 - OEM_TYPE_PMIC</p>                                                                        |            |
| CPU0_DIMM_J1 | 93h | 0Ch | 6Fh | <p>OEM Data1: [3:0]<br/> 0 - Correctable Error<br/> 1 - Uncorrectable Error<br/> 4 - Memory Disabled</p> <p>OEM Data2 :<br/> [7:4] = Channel<br/> [3:0] = DIMM</p> <p>OEM Data3 :<br/> [7:4] = Error Type<br/> [3:0] = Socket<br/> [7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:<br/> 0 = MEM_TYPE_ECC<br/> 1 = MEM_TYPE_PARITY<br/> 2 = MEM_TYPE_CRC<br/> 3 = MEM_TYPE_DATA_POISON<br/> 4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -<br/> OEM_TYPE_PMIC</p> | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |
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|              |     |     |     | <p>OEM Data1 : [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>OEM Data2 :</p> <p>bit5 = Socket</p> <p>bit4 = DIMM</p> <p>bit[3:0] = Channel</p> <p>OEM Data3 : Error Type</p> <p>95h = 149 - OEM_TYPE_PMIC</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |
| CPU0_DIMM_K0 | 94h | 0Ch | 6Fh | <p>OEM Data1: [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>4 - Memory Disabled</p> <p>OEM Data2 :</p> <p>[7:4] = Channel</p> <p>[3:0] = DIMM</p> <p>OEM Data3 :</p> <p>[7:4] = Error Type</p> <p>[3:0] = Socket</p> <p>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:</p> <p>0 = MEM_TYPE_ECC</p> <p>1 = MEM_TYPE_PARITY</p> <p>2 = MEM_TYPE_CRC</p> <p>3 = MEM_TYPE_DATA_POISON</p> <p>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -</p> <p>OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>OEM Data2 :</p> <p>bit5 = Socket</p> <p>bit4 = DIMM</p> <p>bit[3:0] = Channel</p> <p>OEM Data3 : Error Type</p> | Event-only |

|              |     |     |     | 95h = 149 - OEM_TYPE_PMIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |
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| CPU0_DIMM_K1 | 95h | 0Ch | 6Fh | <p>OEM Data1: [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>4 - Memory Disabled</p> <p>OEM Data2 :</p> <p>[7:4] = Channel</p> <p>[3:0] = DIMM</p> <p>OEM Data3 :</p> <p>[7:4] = Error Type</p> <p>[3:0] = Socket</p> <p>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:</p> <p>0 = MEM_TYPE_ECC</p> <p>1 = MEM_TYPE_PARITY</p> <p>2 = MEM_TYPE_CRC</p> <p>3 = MEM_TYPE_DATA_POISON</p> <p>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 - OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>OEM Data2 :</p> <p>bit5 = Socket</p> <p>bit4 = DIMM</p> <p>bit[3:0] = Channel</p> <p>OEM Data3 : Error Type</p> <p>95h = 149 - OEM_TYPE_PMIC</p> | Event-only |
| CPU0_DIMM_L0 | 96h | 0Ch | 6Fh | <p>OEM Data1: [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>4 - Memory Disabled</p> <p>OEM Data2 :</p> <p>[7:4] = Channel</p> <p>[3:0] = DIMM</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |
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|              |     |     |     | <p>OEM Data3 :</p> <p>[7:4] = Error Type</p> <p>[3:0] = Socket</p> <p>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:</p> <p>0 = MEM_TYPE_ECC</p> <p>1 = MEM_TYPE_PARITY</p> <p>2 = MEM_TYPE_CRC</p> <p>3 = MEM_TYPE_DATA_POISON</p> <p>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -</p> <p>OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>OEM Data2 :</p> <p>bit5 = Socket</p> <p>bit4 = DIMM</p> <p>bit[3:0] = Channel</p> <p>OEM Data3 : Error Type</p> <p>95h = 149 - OEM_TYPE_PMIC</p> |            |
| CPU0_DIMM_L1 | 97h | 0Ch | 6Fh | <p>OEM Data1: [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>4 - Memory Disabled</p> <p>OEM Data2 :</p> <p>[7:4] = Channel</p> <p>[3:0] = DIMM</p> <p>OEM Data3 :</p> <p>[7:4] = Error Type</p> <p>[3:0] = Socket</p> <p>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:</p> <p>0 = MEM_TYPE_ECC</p>                                                                                                                                                                                                                                  | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |
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|              |     |     |     | <p>1 = MEM_TYPE_PARITY<br/>2 = MEM_TYPE_CRC<br/>3 = MEM_TYPE_DATA_POISON<br/>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -<br/>OEM_TYPE_PMIC<br/>OEM Data1 : [3:0]<br/>0 - Correctable Error<br/>1 - Uncorrectable Error</p> <p>OEM Data2 :<br/>bit5 = Socket<br/>bit4 = DIMM<br/>bit[3:0] = Channel</p> <p>OEM Data3 : Error Type<br/>95h = 149 - OEM_TYPE_PMIC</p>                                                                                                                 |            |
| CPU1_DIMM_A0 | A0h | 0Ch | 6Fh | <p>OEM Data1: [3:0]<br/>0 - Correctable Error<br/>1 - Uncorrectable Error<br/>4 - Memory Disabled</p> <p>OEM Data2 :<br/>[7:4] = Channel<br/>[3:0] = DIMM</p> <p>OEM Data3 :<br/>[7:4] = Error Type<br/>[3:0] = Socket<br/>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:<br/>0 = MEM_TYPE_ECC<br/>1 = MEM_TYPE_PARITY<br/>2 = MEM_TYPE_CRC<br/>3 = MEM_TYPE_DATA_POISON<br/>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -<br/>OEM_TYPE_PMIC<br/>OEM Data1 : [3:0]</p> | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |
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|              |     |     |     | 0 - Correctable Error<br>1 - Uncorrectable Error<br>OEM Data2 :<br>bit5 = Socket<br>bit4 = DIMM<br>bit[3:0] = Channel<br>OEM Data3 : Error Type<br>95h = 149 - OEM_TYPE_PMIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |            |
| CPU1_DIMM_A1 | A1h | 0Ch | 6Fh | OEM Data1: [3:0]<br>0 - Correctable Error<br>1 - Uncorrectable Error<br>4 - Memory Disabled<br>OEM Data2 :<br>[7:4] = Channel<br>[3:0] = DIMM<br>OEM Data3 :<br>[7:4] = Error Type<br>[3:0] = Socket<br>[7:0] = Socket (Only for Memory Disabled)<br><br>Error Type:<br>0 = MEM_TYPE_ECC<br>1 = MEM_TYPE_PARITY<br>2 = MEM_TYPE_CRC<br>3 = MEM_TYPE_DATA_POISON<br>4 = MEM_TYPE_ECSROW<br><br>If OEM Data3 = 95h = 149 -<br>OEM_TYPE_PMIC<br>OEM Data1 : [3:0]<br>0 - Correctable Error<br>1 - Uncorrectable Error<br>OEM Data2 :<br>bit5 = Socket<br>bit4 = DIMM<br>bit[3:0] = Channel<br>OEM Data3 : Error Type<br>95h = 149 - OEM_TYPE_PMIC | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |
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| CPU1_DIMM_B0 | A2h | 0Ch | 6Fh | <p>OEM Data1: [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>4 - Memory Disabled</p> <p>OEM Data2 :</p> <p>[7:4] = Channel</p> <p>[3:0] = DIMM</p> <p>OEM Data3 :</p> <p>[7:4] = Error Type</p> <p>[3:0] = Socket</p> <p>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:</p> <p>0 = MEM_TYPE_ECC</p> <p>1 = MEM_TYPE_PARITY</p> <p>2 = MEM_TYPE_CRC</p> <p>3 = MEM_TYPE_DATA_POISON</p> <p>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -</p> <p>OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>OEM Data2 :</p> <p>bit5 = Socket</p> <p>bit4 = DIMM</p> <p>bit[3:0] = Channel</p> <p>OEM Data3 : Error Type</p> <p>95h = 149 - OEM_TYPE_PMIC</p> | Event-only |
| CPU1_DIMM_B1 | A3h | 0Ch | 6Fh | <p>OEM Data1: [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>4 - Memory Disabled</p> <p>OEM Data2 :</p> <p>[7:4] = Channel</p> <p>[3:0] = DIMM</p> <p>OEM Data3 :</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |
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|              |     |     |     | <p>[7:4] = Error Type<br/>[3:0] = Socket<br/>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:</p> <p>0 = MEM_TYPE_ECC<br/>1 = MEM_TYPE_PARITY<br/>2 = MEM_TYPE_CRC<br/>3 = MEM_TYPE_DATA_POISON<br/>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -<br/>OEM_TYPE_PMIC<br/>OEM Data1 : [3:0]<br/>0 - Correctable Error<br/>1 - Uncorrectable Error<br/>OEM Data2 :<br/>bit5 = Socket<br/>bit4 = DIMM<br/>bit[3:0] = Channel<br/>OEM Data3 : Error Type<br/>95h = 149 - OEM_TYPE_PMIC</p> |            |
| CPU1_DIMM_C0 | A4h | 0Ch | 6Fh | <p>OEM Data1: [3:0]<br/>0 - Correctable Error<br/>1 - Uncorrectable Error<br/>4 - Memory Disabled<br/>OEM Data2 :<br/>[7:4] = Channel<br/>[3:0] = DIMM<br/>OEM Data3 :<br/>[7:4] = Error Type<br/>[3:0] = Socket<br/>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:</p> <p>0 = MEM_TYPE_ECC<br/>1 = MEM_TYPE_PARITY</p>                                                                                                                                                                     | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |
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|              |     |     |     | <p>2 = MEM_TYPE_CRC<br/>3 = MEM_TYPE_DATA_POISON<br/>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -<br/>OEM_TYPE_PMIC<br/>OEM Data1 : [3:0]<br/>0 - Correctable Error<br/>1 - Uncorrectable Error</p> <p>OEM Data2 :<br/>bit5 = Socket<br/>bit4 = DIMM<br/>bit[3:0] = Channel</p> <p>OEM Data3 : Error Type<br/>95h = 149 - OEM_TYPE_PMIC</p>                                                                                                                                                                   |            |
| CPU1_DIMM_C1 | A5h | 0Ch | 6Fh | <p>OEM Data1: [3:0]<br/>0 - Correctable Error<br/>1 - Uncorrectable Error<br/>4 - Memory Disabled</p> <p>OEM Data2 :<br/>[7:4] = Channel<br/>[3:0] = DIMM</p> <p>OEM Data3 :<br/>[7:4] = Error Type<br/>[3:0] = Socket<br/>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:<br/>0 = MEM_TYPE_ECC<br/>1 = MEM_TYPE_PARITY<br/>2 = MEM_TYPE_CRC<br/>3 = MEM_TYPE_DATA_POISON<br/>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -<br/>OEM_TYPE_PMIC<br/>OEM Data1 : [3:0]<br/>0 - Correctable Error</p> | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |
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|              |     |     |     | 1 - Uncorrectable Error<br>OEM Data2 :<br>bit5 = Socket<br>bit4 = DIMM<br>bit[3:0] = Channel<br>OEM Data3 : Error Type<br>95h = 149 - OEM_TYPE_PMIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |
| CPU1_DIMM_D0 | A6h | 0Ch | 6Fh | OEM Data1: [3:0]<br>0 - Correctable Error<br>1 - Uncorrectable Error<br>4 - Memory Disabled<br>OEM Data2 :<br>[7:4] = Channel<br>[3:0] = DIMM<br>OEM Data3 :<br>[7:4] = Error Type<br>[3:0] = Socket<br>[7:0] = Socket (Only for Memory Disabled)<br><br>Error Type:<br>0 = MEM_TYPE_ECC<br>1 = MEM_TYPE_PARITY<br>2 = MEM_TYPE_CRC<br>3 = MEM_TYPE_DATA_POISON<br>4 = MEM_TYPE_ECSROW<br><br>If OEM Data3 = 95h = 149 -<br>OEM_TYPE_PMIC<br>OEM Data1 : [3:0]<br>0 - Correctable Error<br>1 - Uncorrectable Error<br>OEM Data2 :<br>bit5 = Socket<br>bit4 = DIMM<br>bit[3:0] = Channel<br>OEM Data3 : Error Type<br>95h = 149 - OEM_TYPE_PMIC | Event-only |
| CPU1_DIMM_D1 | A7h | 0Ch | 6Fh | OEM Data1: [3:0]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |
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|              |     |     |     | <p>0 - Correctable Error<br/>1 - Uncorrectable Error<br/>4 - Memory Disabled</p> <p>OEM Data2 :<br/>[7:4] = Channel<br/>[3:0] = DIMM</p> <p>OEM Data3 :<br/>[7:4] = Error Type<br/>[3:0] = Socket<br/>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:<br/>0 = MEM_TYPE_ECC<br/>1 = MEM_TYPE_PARITY<br/>2 = MEM_TYPE_CRC<br/>3 = MEM_TYPE_DATA_POISON<br/>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -<br/>OEM_TYPE_PMIC<br/>OEM Data1 : [3:0]<br/>0 - Correctable Error<br/>1 - Uncorrectable Error</p> <p>OEM Data2 :<br/>bit5 = Socket<br/>bit4 = DIMM<br/>bit[3:0] = Channel</p> <p>OEM Data3 : Error Type<br/>95h = 149 - OEM_TYPE_PMIC</p> |            |
| CPU1_DIMM_E0 | A8h | 0Ch | 6Fh | <p>OEM Data1: [3:0]<br/>0 - Correctable Error<br/>1 - Uncorrectable Error<br/>4 - Memory Disabled</p> <p>OEM Data2 :<br/>[7:4] = Channel<br/>[3:0] = DIMM</p> <p>OEM Data3 :<br/>[7:4] = Error Type</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |
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|              |     |     |     | <p>[3:0] = Socket<br/>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:<br/>0 = MEM_TYPE_ECC<br/>1 = MEM_TYPE_PARITY<br/>2 = MEM_TYPE_CRC<br/>3 = MEM_TYPE_DATA_POISON<br/>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -<br/>OEM_TYPE_PMIC<br/>OEM Data1 : [3:0]<br/>0 - Correctable Error<br/>1 - Uncorrectable Error<br/>OEM Data2 :<br/>bit5 = Socket<br/>bit4 = DIMM<br/>bit[3:0] = Channel<br/>OEM Data3 : Error Type<br/>95h = 149 - OEM_TYPE_PMIC</p> |            |
| CPU1_DIMM_E1 | A9h | 0Ch | 6Fh | <p>OEM Data1: [3:0]<br/>0 - Correctable Error<br/>1 - Uncorrectable Error<br/>4 - Memory Disabled<br/>OEM Data2 :<br/>[7:4] = Channel<br/>[3:0] = DIMM<br/>OEM Data3 :<br/>[7:4] = Error Type<br/>[3:0] = Socket<br/>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:<br/>0 = MEM_TYPE_ECC<br/>1 = MEM_TYPE_PARITY<br/>2 = MEM_TYPE_CRC</p>                                                                                                                         | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |            |
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|              |     |     |     | <p>3 = MEM_TYPE_DATA_POISON<br/>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -<br/>OEM_TYPE_PMIC<br/>OEM Data1 : [3:0]<br/>0 - Correctable Error<br/>1 - Uncorrectable Error</p> <p>OEM Data2 :<br/>bit5 = Socket<br/>bit4 = DIMM<br/>bit[3:0] = Channel</p> <p>OEM Data3 : Error Type<br/>95h = 149 - OEM_TYPE_PMIC</p>                                                                                                                                                                                                                    |            |
| CPU1_DIMM_F0 | AAh | 0Ch | 6Fh | <p>OEM Data1: [3:0]<br/>0 - Correctable Error<br/>1 - Uncorrectable Error<br/>4 - Memory Disabled</p> <p>OEM Data2 :<br/>[7:4] = Channel<br/>[3:0] = DIMM</p> <p>OEM Data3 :<br/>[7:4] = Error Type<br/>[3:0] = Socket<br/>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:<br/>0 = MEM_TYPE_ECC<br/>1 = MEM_TYPE_PARITY<br/>2 = MEM_TYPE_CRC<br/>3 = MEM_TYPE_DATA_POISON<br/>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -<br/>OEM_TYPE_PMIC<br/>OEM Data1 : [3:0]<br/>0 - Correctable Error<br/>1 - Uncorrectable Error</p> | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |
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|              |     |     |     | <p>OEM Data2 :</p> <p>bit5 = Socket</p> <p>bit4 = DIMM</p> <p>bit[3:0] = Channel</p> <p>OEM Data3 : Error Type</p> <p>95h = 149 - OEM_TYPE_PMIC</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |
| CPU1_DIMM_F1 | ABh | 0Ch | 6Fh | <p>OEM Data1: [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>4 - Memory Disabled</p> <p>OEM Data2 :</p> <p>[7:4] = Channel</p> <p>[3:0] = DIMM</p> <p>OEM Data3 :</p> <p>[7:4] = Error Type</p> <p>[3:0] = Socket</p> <p>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:</p> <p>0 = MEM_TYPE_ECC</p> <p>1 = MEM_TYPE_PARITY</p> <p>2 = MEM_TYPE_CRC</p> <p>3 = MEM_TYPE_DATA_POISON</p> <p>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -</p> <p>OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>OEM Data2 :</p> <p>bit5 = Socket</p> <p>bit4 = DIMM</p> <p>bit[3:0] = Channel</p> <p>OEM Data3 : Error Type</p> <p>95h = 149 - OEM_TYPE_PMIC</p> | Event-only |
| CPU1_DIMM_G0 | ACH | 0Ch | 6Fh | <p>OEM Data1: [3:0]</p> <p>0 - Correctable Error</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |
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|              |     |     |     | <p>1 - Uncorrectable Error</p> <p>4 - Memory Disabled</p> <p>OEM Data2 :</p> <p>[7:4] = Channel</p> <p>[3:0] = DIMM</p> <p>OEM Data3 :</p> <p>[7:4] = Error Type</p> <p>[3:0] = Socket</p> <p>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:</p> <p>0 = MEM_TYPE_ECC</p> <p>1 = MEM_TYPE_PARITY</p> <p>2 = MEM_TYPE_CRC</p> <p>3 = MEM_TYPE_DATA_POISON</p> <p>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -</p> <p>OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>OEM Data2 :</p> <p>bit5 = Socket</p> <p>bit4 = DIMM</p> <p>bit[3:0] = Channel</p> <p>OEM Data3 : Error Type</p> <p>95h = 149 - OEM_TYPE_PMIC</p> |            |
| CPU1_DIMM_G1 | ADh | 0Ch | 6Fh | <p>OEM Data1: [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>4 - Memory Disabled</p> <p>OEM Data2 :</p> <p>[7:4] = Channel</p> <p>[3:0] = DIMM</p> <p>OEM Data3 :</p> <p>[7:4] = Error Type</p> <p>[3:0] = Socket</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |
|--------------|-----|-----|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
|              |     |     |     | <p>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:</p> <ul style="list-style-type: none"> <li>0 = MEM_TYPE_ECC</li> <li>1 = MEM_TYPE_PARITY</li> <li>2 = MEM_TYPE_CRC</li> <li>3 = MEM_TYPE_DATA_POISON</li> <li>4 = MEM_TYPE_ECSROW</li> </ul> <p>If OEM Data3 = 95h = 149 -<br/>OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <ul style="list-style-type: none"> <li>0 - Correctable Error</li> <li>1 - Uncorrectable Error</li> </ul> <p>OEM Data2 :</p> <ul style="list-style-type: none"> <li>bit5 = Socket</li> <li>bit4 = DIMM</li> <li>bit[3:0] = Channel</li> </ul> <p>OEM Data3 : Error Type</p> <p>95h = 149 - OEM_TYPE_PMIC</p> |            |
| CPU1_DIMM_H0 | AEh | 0Ch | 6Fh | <p>OEM Data1: [3:0]</p> <ul style="list-style-type: none"> <li>0 - Correctable Error</li> <li>1 - Uncorrectable Error</li> <li>4 - Memory Disabled</li> </ul> <p>OEM Data2 :</p> <ul style="list-style-type: none"> <li>[7:4] = Channel</li> <li>[3:0] = DIMM</li> </ul> <p>OEM Data3 :</p> <ul style="list-style-type: none"> <li>[7:4] = Error Type</li> <li>[3:0] = Socket</li> <li>[7:0] = Socket (Only for Memory Disabled)</li> </ul> <p>Error Type:</p> <ul style="list-style-type: none"> <li>0 = MEM_TYPE_ECC</li> <li>1 = MEM_TYPE_PARITY</li> <li>2 = MEM_TYPE_CRC</li> <li>3 = MEM_TYPE_DATA_POISON</li> </ul>                            | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |
|--------------|-----|-----|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
|              |     |     |     | <p>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -<br/>OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <p>0 - Correctable Error<br/>1 - Uncorrectable Error</p> <p>OEM Data2 :</p> <p>bit5 = Socket<br/>bit4 = DIMM<br/>bit[3:0] = Channel</p> <p>OEM Data3 : Error Type</p> <p>95h = 149 - OEM_TYPE_PMIC</p>                                                                                                                                                                                                                                                                          |            |
| CPU1_DIMM_H1 | AFh | 0Ch | 6Fh | <p>OEM Data1: [3:0]</p> <p>0 - Correctable Error<br/>1 - Uncorrectable Error<br/>4 - Memory Disabled</p> <p>OEM Data2 :</p> <p>[7:4] = Channel<br/>[3:0] = DIMM</p> <p>OEM Data3 :</p> <p>[7:4] = Error Type<br/>[3:0] = Socket<br/>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:</p> <p>0 = MEM_TYPE_ECC<br/>1 = MEM_TYPE_PARITY<br/>2 = MEM_TYPE_CRC<br/>3 = MEM_TYPE_DATA_POISON<br/>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -<br/>OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <p>0 - Correctable Error<br/>1 - Uncorrectable Error</p> <p>OEM Data2 :</p> | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |
|--------------|-----|-----|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
|              |     |     |     | bit5 = Socket<br>bit4 = DIMM<br>bit[3:0] = Channel<br>OEM Data3 : Error Type<br>95h = 149 - OEM_TYPE_PMIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |
| CPU1_DIMM_I0 | B0h | 0Ch | 6Fh | OEM Data1: [3:0]<br>0 - Correctable Error<br>1 - Uncorrectable Error<br>4 - Memory Disabled<br>OEM Data2 :<br>[7:4] = Channel<br>[3:0] = DIMM<br>OEM Data3 :<br>[7:4] = Error Type<br>[3:0] = Socket<br>[7:0] = Socket (Only for Memory Disabled)<br><br>Error Type:<br>0 = MEM_TYPE_ECC<br>1 = MEM_TYPE_PARITY<br>2 = MEM_TYPE_CRC<br>3 = MEM_TYPE_DATA_POISON<br>4 = MEM_TYPE_ECSROW<br><br>If OEM Data3 = 95h = 149 -<br>OEM_TYPE_PMIC<br>OEM Data1 : [3:0]<br>0 - Correctable Error<br>1 - Uncorrectable Error<br>OEM Data2 :<br>bit5 = Socket<br>bit4 = DIMM<br>bit[3:0] = Channel<br>OEM Data3 : Error Type<br>95h = 149 - OEM_TYPE_PMIC | Event-only |
| CPU1_DIMM_I1 | B1h | 0Ch | 6Fh | OEM Data1: [3:0]<br>0 - Correctable Error<br>1 - Uncorrectable Error                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |
|--------------|-----|-----|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
|              |     |     |     | <p>4 - Memory Disabled</p> <p>OEM Data2 :</p> <p>[7:4] = Channel</p> <p>[3:0] = DIMM</p> <p>OEM Data3 :</p> <p>[7:4] = Error Type</p> <p>[3:0] = Socket</p> <p>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:</p> <p>0 = MEM_TYPE_ECC</p> <p>1 = MEM_TYPE_PARITY</p> <p>2 = MEM_TYPE_CRC</p> <p>3 = MEM_TYPE_DATA_POISON</p> <p>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -</p> <p>OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>OEM Data2 :</p> <p>bit5 = Socket</p> <p>bit4 = DIMM</p> <p>bit[3:0] = Channel</p> <p>OEM Data3 : Error Type</p> <p>95h = 149 - OEM_TYPE_PMIC</p> |            |
| CPU1_DIMM_J0 | B2h | 0Ch | 6Fh | <p>OEM Data1: [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>4 - Memory Disabled</p> <p>OEM Data2 :</p> <p>[7:4] = Channel</p> <p>[3:0] = DIMM</p> <p>OEM Data3 :</p> <p>[7:4] = Error Type</p> <p>[3:0] = Socket</p> <p>[7:0] = Socket (Only for Memory</p>                                                                                                                                                                                                                                                                                                                                                                                | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |
|--------------|-----|-----|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
|              |     |     |     | <p>Disabled)</p> <p>Error Type:</p> <ul style="list-style-type: none"> <li>0 = MEM_TYPE_ECC</li> <li>1 = MEM_TYPE_PARITY</li> <li>2 = MEM_TYPE_CRC</li> <li>3 = MEM_TYPE_DATA_POISON</li> <li>4 = MEM_TYPE_ECSROW</li> </ul> <p>If OEM Data3 = 95h = 149 -</p> <p>OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <ul style="list-style-type: none"> <li>0 - Correctable Error</li> <li>1 - Uncorrectable Error</li> </ul> <p>OEM Data2 :</p> <ul style="list-style-type: none"> <li>bit5 = Socket</li> <li>bit4 = DIMM</li> <li>bit[3:0] = Channel</li> </ul> <p>OEM Data3 : Error Type</p> <p>95h = 149 - OEM_TYPE_PMIC</p>                                |            |
| CPU1_DIMM_J1 | B3h | 0Ch | 6Fh | <p>OEM Data1: [3:0]</p> <ul style="list-style-type: none"> <li>0 - Correctable Error</li> <li>1 - Uncorrectable Error</li> <li>4 - Memory Disabled</li> </ul> <p>OEM Data2 :</p> <ul style="list-style-type: none"> <li>[7:4] = Channel</li> <li>[3:0] = DIMM</li> </ul> <p>OEM Data3 :</p> <ul style="list-style-type: none"> <li>[7:4] = Error Type</li> <li>[3:0] = Socket</li> <li>[7:0] = Socket (Only for Memory Disabled)</li> </ul> <p>Error Type:</p> <ul style="list-style-type: none"> <li>0 = MEM_TYPE_ECC</li> <li>1 = MEM_TYPE_PARITY</li> <li>2 = MEM_TYPE_CRC</li> <li>3 = MEM_TYPE_DATA_POISON</li> <li>4 = MEM_TYPE_ECSROW</li> </ul> | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |
|--------------|-----|-----|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
|              |     |     |     | <p>If OEM Data3 = 95h = 149 -<br/>OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <p>0 - Correctable Error<br/>1 - Uncorrectable Error</p> <p>OEM Data2 :</p> <p>bit5 = Socket<br/>bit4 = DIMM<br/>bit[3:0] = Channel</p> <p>OEM Data3 : Error Type<br/>95h = 149 - OEM_TYPE_PMIC</p>                                                                                                                                                                                                                                                                                                                             |            |
| CPU1_DIMM_K0 | B4h | 0Ch | 6Fh | <p>OEM Data1: [3:0]</p> <p>0 - Correctable Error<br/>1 - Uncorrectable Error<br/>4 - Memory Disabled</p> <p>OEM Data2 :</p> <p>[7:4] = Channel<br/>[3:0] = DIMM</p> <p>OEM Data3 :</p> <p>[7:4] = Error Type<br/>[3:0] = Socket<br/>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:</p> <p>0 = MEM_TYPE_ECC<br/>1 = MEM_TYPE_PARITY<br/>2 = MEM_TYPE_CRC<br/>3 = MEM_TYPE_DATA_POISON<br/>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -<br/>OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <p>0 - Correctable Error<br/>1 - Uncorrectable Error</p> <p>OEM Data2 :</p> <p>bit5 = Socket</p> | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |
|--------------|-----|-----|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
|              |     |     |     | bit4 = DIMM<br>bit[3:0] = Channel<br>OEM Data3 : Error Type<br>95h = 149 - OEM_TYPE_PMIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |
| CPU1_DIMM_K1 | B5h | 0Ch | 6Fh | OEM Data1: [3:0]<br>0 - Correctable Error<br>1 - Uncorrectable Error<br>4 - Memory Disabled<br>OEM Data2 :<br>[7:4] = Channel<br>[3:0] = DIMM<br>OEM Data3 :<br>[7:4] = Error Type<br>[3:0] = Socket<br>[7:0] = Socket (Only for Memory Disabled)<br><br>Error Type:<br>0 = MEM_TYPE_ECC<br>1 = MEM_TYPE_PARITY<br>2 = MEM_TYPE_CRC<br>3 = MEM_TYPE_DATA_POISON<br>4 = MEM_TYPE_ECSROW<br><br>If OEM Data3 = 95h = 149 -<br>OEM_TYPE_PMIC<br>OEM Data1 : [3:0]<br>0 - Correctable Error<br>1 - Uncorrectable Error<br>OEM Data2 :<br>bit5 = Socket<br>bit4 = DIMM<br>bit[3:0] = Channel<br>OEM Data3 : Error Type<br>95h = 149 - OEM_TYPE_PMIC | Event-only |
| CPU1_DIMM_L0 | B6h | 0Ch | 6Fh | OEM Data1: [3:0]<br>0 - Correctable Error<br>1 - Uncorrectable Error<br>4 - Memory Disabled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Event-only |

|              |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |
|--------------|-----|-----|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
|              |     |     |     | <p>OEM Data2 :</p> <p>[7:4] = Channel</p> <p>[3:0] = DIMM</p> <p>OEM Data3 :</p> <p>[7:4] = Error Type</p> <p>[3:0] = Socket</p> <p>[7:0] = Socket (Only for Memory Disabled)</p> <p>Error Type:</p> <p>0 = MEM_TYPE_ECC</p> <p>1 = MEM_TYPE_PARITY</p> <p>2 = MEM_TYPE_CRC</p> <p>3 = MEM_TYPE_DATA_POISON</p> <p>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -</p> <p>OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>OEM Data2 :</p> <p>bit5 = Socket</p> <p>bit4 = DIMM</p> <p>bit[3:0] = Channel</p> <p>OEM Data3 : Error Type</p> <p>95h = 149 - OEM_TYPE_PMIC</p> |            |
| CPU1_DIMM_L1 | B7h | 0Ch | 6Fh | <p>OEM Data1: [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>4 - Memory Disabled</p> <p>OEM Data2 :</p> <p>[7:4] = Channel</p> <p>[3:0] = DIMM</p> <p>OEM Data3 :</p> <p>[7:4] = Error Type</p> <p>[3:0] = Socket</p> <p>[7:0] = Socket (Only for Memory Disabled)</p>                                                                                                                                                                                                                                                                                                                                           | Event-only |

|                |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |
|----------------|-----|-----|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
|                |     |     |     | <p>Error Type:</p> <p>0 = MEM_TYPE_ECC</p> <p>1 = MEM_TYPE_PARITY</p> <p>2 = MEM_TYPE_CRC</p> <p>3 = MEM_TYPE_DATA_POISON</p> <p>4 = MEM_TYPE_ECSROW</p> <p>If OEM Data3 = 95h = 149 -</p> <p>OEM_TYPE_PMIC</p> <p>OEM Data1 : [3:0]</p> <p>0 - Correctable Error</p> <p>1 - Uncorrectable Error</p> <p>OEM Data2 :</p> <p>bit5 = Socket</p> <p>bit4 = DIMM</p> <p>bit[3:0] = Channel</p> <p>OEM Data3 : Error Type</p> <p>95h = 149 - OEM_TYPE_PMIC</p> |            |
| BIOS_SYS_EVENT | 1Fh | 12h | 6Fh | <p>04h = PEF Action [AS]</p> <p>05h = Timestamp Clock Synch [AS]</p>                                                                                                                                                                                                                                                                                                                                                                                     | Event-only |

**1:** (Uncorrectable) Will not show on BMC Web SEL

### 15.3. Sensor of PFR

| Name | Record Type | Manufacturer ID | OEM Defined                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Note       |
|------|-------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| PFR  | C4h         | 0x00C5C6        | <b>Authenticate :</b><br><b>Byte 1 = TypeID = 0x00</b><br>Byte 2 : ImageID,<br>BMC Bootloader = 0x00, BMC Kernel = 0x01,<br>BIOS = 0x02, Authenticate = 0x03<br>Byte 3 : Direction,<br>Primary = 0x01, Secondary = 0x02<br>Byte 4 : Fail = 0x00, Pass = 0x01<br>Byte 5 = Preserve<br>Byte 6 = Log index<br><br><b>Recovery All :</b><br><b>Byte 1 = TypeID = 0x04</b><br>Byte 2 : ImageID, BMC = 0xA0, BIOS = 0xA1<br>Byte 3 : Direction,<br>Primary->Secondary = 0x00, Secondary->Primary = 0x01<br>Byte 4 = Byte 5 = Preserve<br>Byte 6 = Log index | OEM Record |