

Device Statistics – Freefall

T13 Technical Proposal – e06182r5

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[This document is a proposal for the T13 to describe the Device Statistics for the device to report. The device freefall is the information for the device freefall sensor detection history. The statistics supported are optional, and only applicable to the applicable devices.]

A.5 Device Statistics (Log Address 2)

A.5.1 Overview

The Device Statistics log contains selected statistics about the device. This log shall be read-only, and shall only be accessed via the GPL feature set. This log is supported if there is a non-zero length for log address TBDh in the General Purpose Log Directory. The format of the data is defined in table TBD. If the Device Statistics log is supported, only the Structure Version field is required. Each statistic is composed of a 1-byte flag field and a value field. If the bit 7 of the flag field is set to one then the value field of that statistic is valid. Each statistic shall be a multiple of 8 bytes long. The number of log pages may be greater than one.

A.5.2 Device Freefall Statistics (Page 2)

A.5.2.1 Overview

Device Statistics log page 2 contains device freefall information about the device as described in table TBD.

The summary of this usage statistics is as followed:

Structure Version

Number of Freefall Events Detected (Lifetime)

Number of Freefall Events Detected Where the Magnitude Exceeds Maximum Rating (Lifetime)

Table TBD – Freefall Statistics

Offset	Type	Content								
0-7	QWord	Structure Version								
		<table border="0"> <tr> <td>Bit</td> <td>Meaning</td> </tr> <tr> <td>63:56</td> <td>Reserved</td> </tr> <tr> <td>55:48</td> <td>Device Statistics Version Number = 0001h</td> </tr> <tr> <td>47:16</td> <td>Reserved</td> </tr> <tr> <td>15:0</td> <td>0002h, Page Number</td> </tr> </table>	Bit	Meaning	63:56	Reserved	55:48	Device Statistics Version Number = 0001h	47:16	Reserved
Bit	Meaning									
63:56	Reserved									
55:48	Device Statistics Version Number = 0001h									
47:16	Reserved									
15:0	0002h, Page Number									
8-15	QWord	Number of Freefall Events Detected (Lifetime)								
		<table border="0"> <tr> <td>Bit</td> <td>Meaning</td> </tr> <tr> <td>63:56</td> <td>Device Statistics Flags, (See Table TBD)</td> </tr> <tr> <td>55:32</td> <td>Reserved</td> </tr> <tr> <td>31:0</td> <td>Number of Freefall Events Detected (Lifetime)</td> </tr> </table>	Bit	Meaning	63:56	Device Statistics Flags, (See Table TBD)	55:32	Reserved	31:0	Number of Freefall Events Detected (Lifetime)
Bit	Meaning									
63:56	Device Statistics Flags, (See Table TBD)									
55:32	Reserved									
31:0	Number of Freefall Events Detected (Lifetime)									
16-23	QWord	Number of Freefall Events Detected Where the Magnitude Exceeds Maximum Rating (Lifetime)								
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63:56	Device Statistics Flags, (See Table TBD)									
55:32	Reserved									
31:0	Number of Freefall Events Detected Where the Magnitude Exceeds Maximum Rating (Lifetime)									
24-511	Byte	Reserved								

A.5.2.2 Structure Version

A.5.2.2.1 Description

Structure Version defines the version of the data structure arrangement for this statistics. The structure is defined by the T13 committee. When a new structure is defined the version number will be assigned.

Bit 56:48 is used for the revision number of the statistics structure. Bit 15:0 is used for the page number of the Log Page for this statistics.

A.5.2.2.2 Update Interval

Update interval is not applicable to the Structure Version field.

A.5.2.2.3 Measurement Unit

Measurement unit is not applicable to the Structure Version field.

A.5.2.2.4 Initialization

Structure Version shall be initialized to the corresponding number at the time of manufacture.

A.5.2.3 Number of Freefall Events Detected (Lifetime)

A.5.2.3.1 Description

Number of Freefall Events Detected (Lifetime) is a counter that records the number of freefall event that is detected by the device after the device is manufactured. Number of Freefall Events Detected (Lifetime) is incremented by one for each freefall event that is detected.

A.5.2.3.2 Update Interval

Number of Freefall Events Detected (Lifetime) is updated on the following events. When the device is operational the counter is updated and stored in a non-volatile location at a minimum interval of one hour.

A.5.2.3.3 Measurement Unit

Measurement Unit: Event

A.5.2.3.4 Initialization

Number of Freefall Events Detected (Lifetime) shall be initialized to zero at the time of manufacture.

A.5.2.4 Number of Freefall Events Detected Where the Magnitude Exceeds Maximum Rating (Lifetime)

A.5.2.4.1 Description

Number of Freefall Events Detected Where the Magnitude Exceeds Maximum Rating (Lifetime) is a counter that records the number of freefall events that is detected by the device with the magnitude higher than the maximum rating of the device after the device is manufactured. Number of Freefall Events Detected Where the Magnitude Exceeds Maximum Rating (Lifetime) is incremented by one for each freefall event that is detected with the magnitude higher than the maximum rating of the device.

A.5.2.4.2 Update Interval

Number of Freefall Events Detected Where the Magnitude Exceeds Maximum Rating (Lifetime) is updated on the following events. When the device is operational the counter is updated and stored in a non-volatile location at a minimum interval of one hour.

A.5.2.4.3 Measurement Unit

Measurement Unit: Event

A.5.2.4.4 Initialization

Number of Freefall Events Detected Where the Magnitude Exceeds Maximum Rating (Lifetime) shall be initialized to zero at the time of manufacture.