# 1  Node Descriptor 5 – Vibration

## 1.1  Device Description

The Vibration or Wiggle Sensor will detect the presence of motion. It is used in applications where vibration or sudden movement detection is desired.

## 1.2  Hardware Details

### 1.2.1 Vibration sensor

Possible hardware combinations include:

•        Platform RFSC Rev A, Version x: Supported.

•        Platform RFSC Rev B, Version x: Supported.

•        Platform RFSC Rev C, Version x: Supported.

•        Platform MoWi Rev 2, Version x: Supported.

| | |
|---|---|
| Raw Sensitivity | 0.05g – 0.10g |
| RoHS | Compliant |

For a less sensitive sensor, parts from the same manufacturer could be implemented with the same form factor and foot print.

## 1.3  Enclosure Details

This product is available in WIT, WIT2, Industrial, and Wi-Fi.

## 1.4  MNP Message Details

### 1.4.1 STATE (SOM, SDM)

Both the Spurious Orphan Message (SOM) and the Spurious Data Message (SDM) contain the STATE field. STATE is defined here.

| Field | Length | Description |
|---|---|---|
| Test Active | 1 bit LSB | Test state is active (1) or inactive (0) |
| Aware State | 1 bit | Aware state is active (1) or inactive (0) |
| Sensor Disable | 1 bit | Sensor is disable (communication still happens) |
| RSVD | 1 bit | Currently not used |
| Not used | 1 bit | |
| Not used | 1 bit | |
| Not used | 1 bit | |
| Not used | 1 bit MSB | |

This application specifies no additional action control types.

## 1.4.2 SDATA (SDM)

The Spurious Data Message contains the SDATA field, which is defined here. The SDATA field is defaulted to 3 bytes for this application.

SDATA[0]: STATE

SDATA[1]: If the device is set to trigger on movement, then 0 = no movement and 1 = movement. If the device is set to trigger on the cessation of movement, then 0 = movement and 1 = no movement.

SDATA[2]: 0

| Field | Length | Value | Format |
|-------|--------|-------|--------|
| SDATA[0] | 1 byte | Int8 | STATE |
| SDATA[1] | 1 byte | Int8 | Trigger on movement: 0 = no movement, 1 = movement<br>Trigger on no movement: 0 = movement, 1 = no movement |
| SDATA[2] | 1 byte | Int 8 | Always 0. |

## *1.5  General Configuration Defaults*

The Configuration Defaults below are native to the Activity sensor only.

| Field | Default | Min | Max | Comments |
|-------|---------|-----|-----|----------|
| NODEDESC | 5 | N/A | N/A | Fixed. |

## 1.6 Profile Defaults

The Activity sensor operates using the Trigger device profile.

| Field | Default | Min | Max | Comments |
|---|---|---|---|---|
| PROFILE | 2 | N/A | N/A | 2 = Triggered profile. |
| DETEVTYPE | 0 | 0 | 1 | Port idle high for trigger on movement detected. |
| DETEVPERIOD | 100 | 25 | 10000 | Value is in milliseconds. |
| DETEVCOUNT | 18 | 3 | 3000 | Sensitivity of detection events. |
| REARMTRIG | 1 | 1 | 3600 | Value in seconds for trigger rearm. |
| BISTABLE | 0 | 0 | 1 | Does not report each transition from 0 to 1 or 1 to 0. Only reports a qualified triggered event. |
| RSVD | - | - | - | Reserved for future use. |

DETEVTYPE configurable values:

| | |
|---|---|
| 0 | Port idle high for trigger on movement |
| 1 | Port idle low for trigger on no movement |