

## **Description:**

The ICM-20948 is specially designed to coordinate the time between ICM-20948 and external sensors.

An additional feature. In addition to using the module's dedicated interrupt INT pin, developers can use the interrupt or sync pulse from the external sensor to drive the module's FSYNC pin to help developers simplify these multi-designs. sensors. The ICM-20948 provides separate external sensors. I2C interface and integrated support. The developers here connect a I2C compatible smart sensor to the I2C auxiliary port dedicated to the module. While the SPI (or I2C) is connected to the host MCU, the developer can use the TDK tube to broadcast the auxiliary interface I2C of the InvenSense ICM-20948 module (AUX\_CL connects external sensors to AUX\_DA and manages them through the special registers of the auxiliary devices of the ICM-20948.

## **Characteristic:**

- Low power 9-axis at 2.5mW device
- 3-axis gyroscope with Programmable FSR from 250 dps, 500 dps, 1000 dps and 2000 dps
- 3-Axis Accelerometer with Programmable FSR of 2g,  $\pm 4g$ , 8g and  $\pm 16g$
- 3-axis compass with wide range up to 4900 T
- Integrated digital motion processor (DMP for Android support)
- Auxiliary interface I2C for external sensors
- On chip 16-bit ADCs and programmable filters
- 7 MHz SPI or 400 kHz fast mode
- Temperature sensor with digital output
- VDD operating range of 1.71V to 3.6V
- Hermetically sealed MEMS structure bonded to the wafer

## **Description of the spindle:**

- VCC: power supply terminal
- GND: ground
- SCL: I2C serial clock interface
- SDA: I2C serial data interface
- NCS: used to read all data from MPU and configure MPU and external sensors
- ADO: SDO pin when using SPI
- INT: interrupt pin
- FSY: linked to the part of the external sensor
- ACL: I2C auxiliary serial clock line
- ADA: I2C auxiliary serial data line



