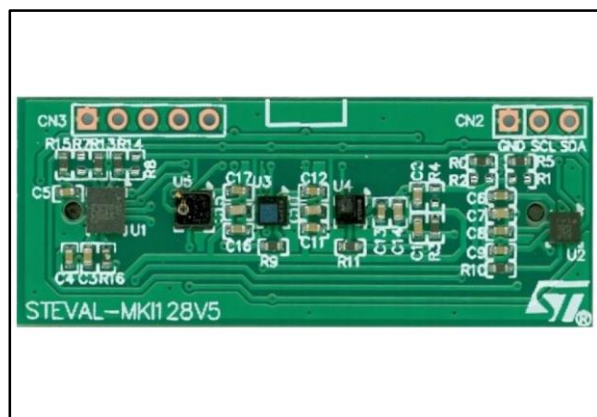




THE DATASHEET OF STEVAL-MKI128V5





- Digital UV index sensor
 - 0-15 UV index output range
 - Resolution UVI/16
 - Selectable readout: 1 Hz ODR / one shot
- ECOPACK®, RoHS, and "Green" compliant

Applications

- Tablets and mobile phones
- Gaming and virtual reality input devices
- Wellness and wearable devices
- Drones and robotics
- IoT devices such as industrial and factory automation machines

Features

- Analog supply voltage: 1.91 V to 3.6 V
- Digital supply voltage I/Os: 1.8 V
- Power-down, "always on" eco power mode
- Motion MEMS sensors:
 - 3D accelerometer sensor
±2/±4/±8/±16g selectable full-scale acceleration range
 - 3D gyroscope sensor
±125/±245/±500/±1000/±2000dps selectable full-scale angular rate range
 - 3D magnetometer ±4/±8/±12/±16gauss selectable full-scale magnetic field range
- Environmental sensors:
 - High accuracy pressure sensor
 - Piezo-resistive pressure sensor
 - 260-1260 mbar absolute pressure range
 - Low power consumption
 - Low noise (0.0075 hPa RMS)
- Humidity and temperature sensor
 - 0 to 100% RH range
 - -40 to +85 °C temperature range
 - 16 bit ADC measurement

Description

ST MEMS sensor module integrates the ST 3D accelerometer, 3D magnetometer, 3D gyroscope, pressure, relative humidity, ambient temperature and UV index sensors.

1 Introduction

STEVAL-MKI128V5 sensor module integrates a set of complementary motion and environmental sensors. It is a robust and easy-to-assemble building block for quick system prototyping.

The module features the following ST sensors:

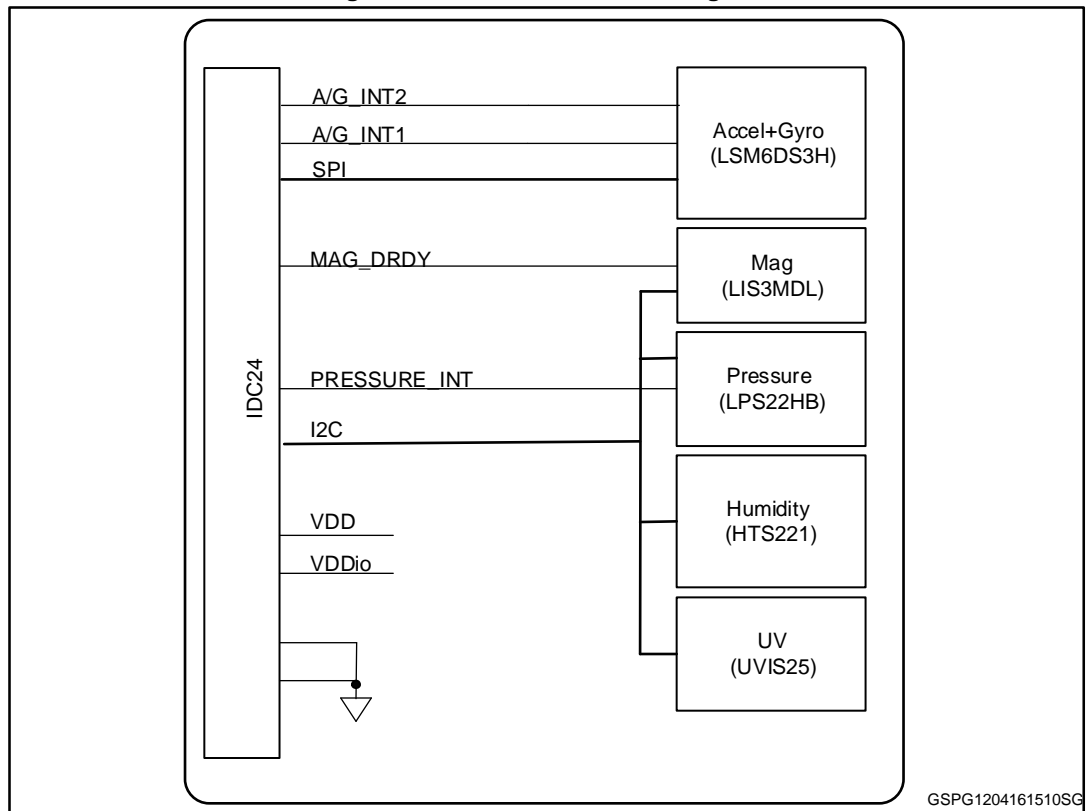
- LSM6DS3H (3D Accelerometer + 3D Gyroscope)
- LIS3MDL (3D magnetometer)
- LPS22HB (pressure)
- HTS221 (humidity + temperature)
- UVIS25 (UV index)

Each sensor has dedicated drivers available for the principal operating systems. The sensor module and accompanying software form a convenient sensor subsystem solution for developing gaming, augmented reality, indoor navigation and localization-based services.

Find the relevant sensor documentation on www.st.com.

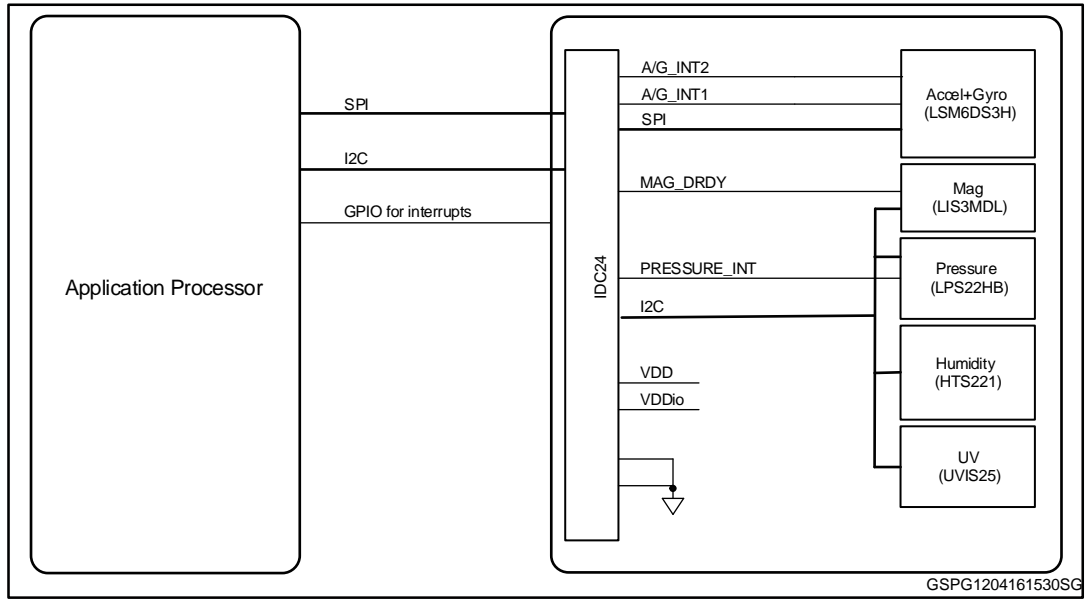
2 Block diagram

Figure 1: MEMS module block diagram



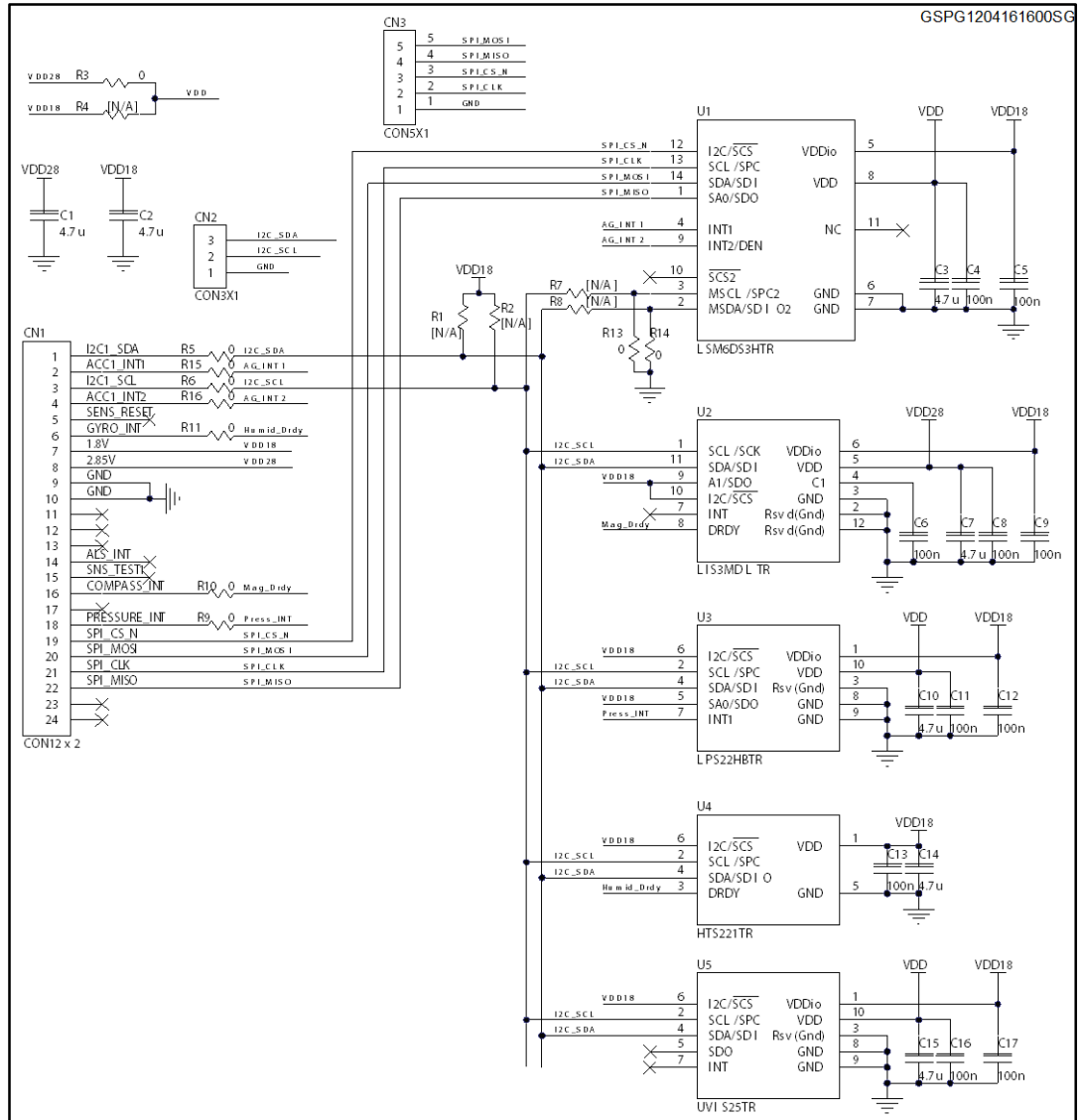
3 Application hints

Figure 2: Sensor module application example



4 Schematic diagrams

Figure 3: Module schematic



5 PCB overview

Figure 4: PCB top

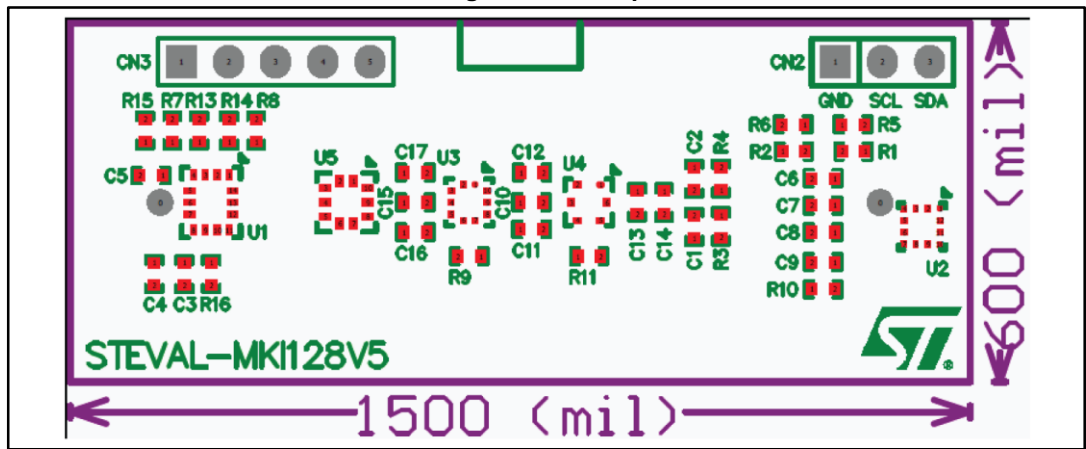
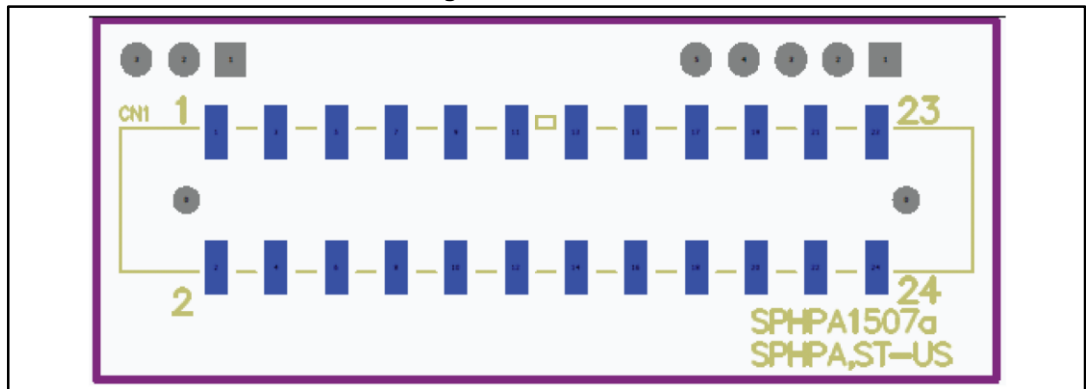


Figure 5: PCB bottom



6 Revision history

Table 1: Document revision history

Date	Version	Changes
21-Apr-2016	1	Initial release.
18-Jul-2016	2	Updated -40 to +85°C temperature range feature on the cover page.

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-  Alternative Solution
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