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STEVAL-MKI062V2

iNEMO: iNertial MOdule V2 demonstration board based on MEMS sensors and the STM32F103RE

Data brief

Features

- Two power supply options: power connector, USB connector
- STM32F103RE: high-density performance line ARM-based 32-bit MCU with 256 to 512 kB Flash, USB, CAN, 11 timers, 3 ADCs and 13 communication interfaces
- LPR430AL: 2-axis gyro (roll, pitch) 300°/s full scale with analog output and optional additional filters
- LY330ALH: yaw-axis gyro 300°/s full scale with analog output and optional additional filters
- LSM303DLH: 6-axis geomagnetic module: $\pm 2\text{ g}$ / $\pm 4\text{ g}$ / $\pm 8\text{ g}$ linear acceleration full scale, magnetic field configurable full scale ± 1.3 to ± 8.1 Gauss (max), I²C digital output
- LPS001DL: pressure sensor 300-1100 mbar absolute full scale with I²C digital output and barometer
- STLM75: temperature sensor with -55 to $+125^{\circ}\text{C}$ range and I²C digital interface
- Extended connector for wireless connectivity
- MicroSD™ card slot
- COM connector with RTS and CTS signals
- USB 2.0 full speed connection
- Reset button
- User LED and button
- RoHS Compliant

Description

The STEVAL-MKI062V2 is the second generation of the iNEMO™ module family. It combines accelerometers, gyroscopes and magnetometers with pressure and temperature sensors to provide 3-axis sensing of linear, angular and magnetic motion, complemented with temperature and barometer/altitude readings,



STEVAL-MKI062V2

representing the new ST 10-DOF (degrees of freedom) platform.

Based on the previous version, the STEVAL-MKI062V2 represents another step forward in miniaturization, integrating five ST sensors: a 2-axis roll-and-pitch gyroscope, a 1-axis yaw gyroscope, a 6-axis geomagnetic module, a pressure sensor and a temperature sensor.

This 10-DOF inertial system represents a complete hardware platform which can be used in numerous applications such as virtual reality, augmented reality, image stabilization, human machine interfaces and robotics.

A complete set of communication interfaces with various power supply options in a small-size form factor (4 x 4 cm) make iNEMO V2 a flexible and open demonstration platform.

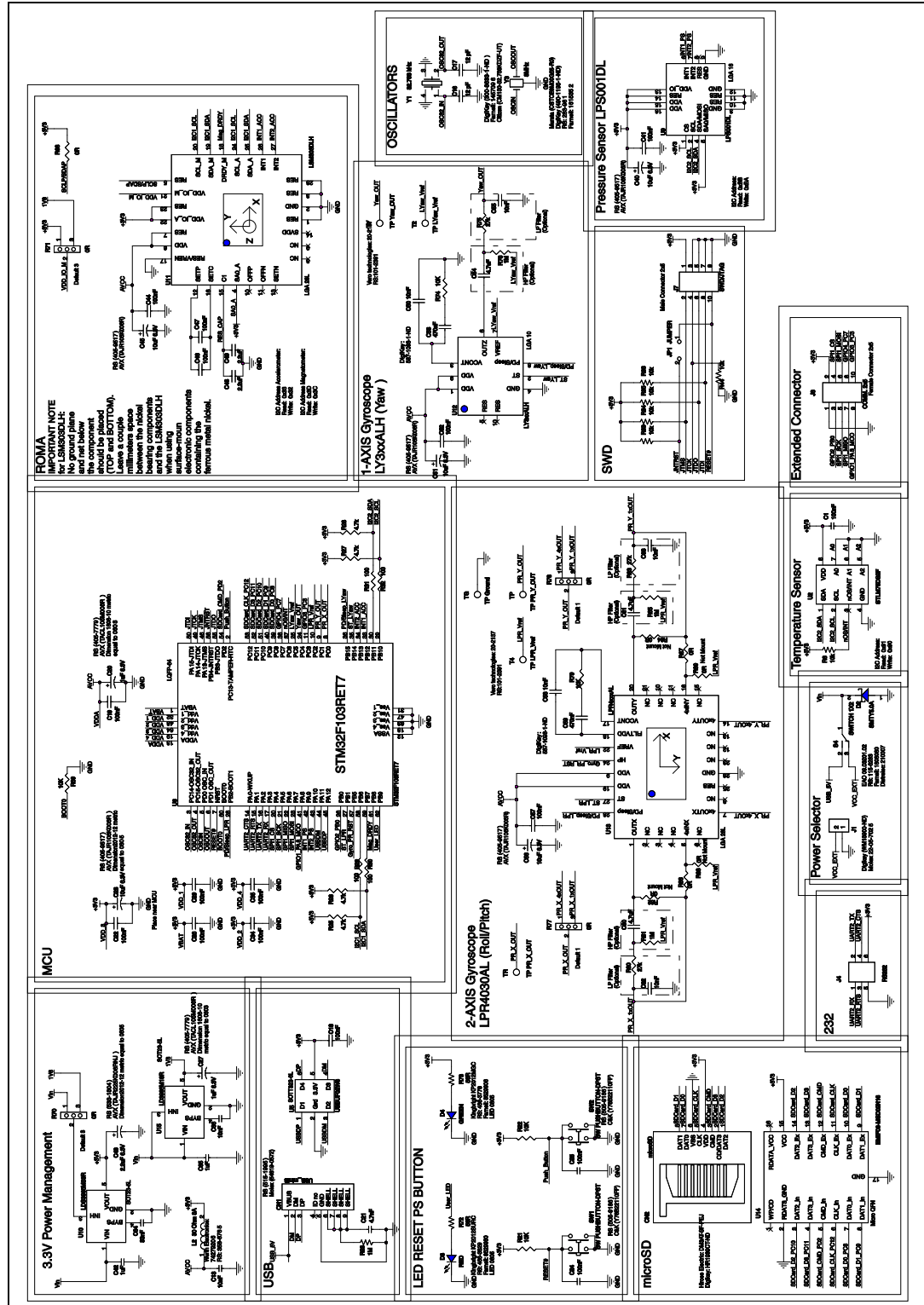
To aid in user development and analysis, the STEVAL-MKI062V2 demonstration kit includes a PC GUI for sensor output display and a firmware library to facilitate the use of the demonstration board features.

Schematic diagrams

STEVAL-MKI062V2

1 Schematic diagrams

Figure 1. STEVAL-MKI062V2 circuit schematics



2 Revision history

Table 1. Document revision history

| Date | Revision | Changes |
|-------------|----------|---------------------------------|
| 09-Feb-2010 | 1 | Initial release. |
| 15-Feb-2010 | 2 | Updated features on cover page. |

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