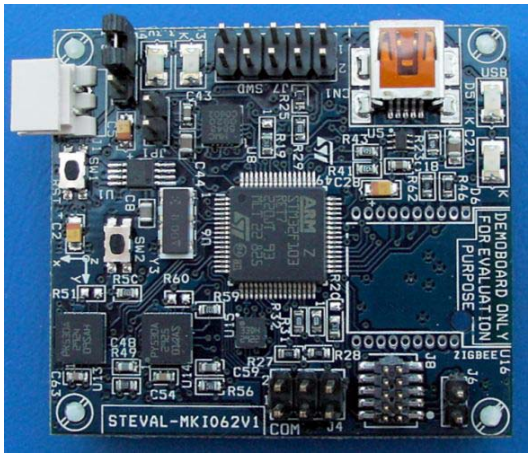
STEVAL-MKI062V1

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

Data brief

Features

- Two power supply options:
  - power connector
  - USB connector
- Battery monitoring via LBO signal
- 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
- Boot from user Flash, system memory or SRAM
- LPR530AL: 2–axis gyro (roll, pitch) 300°/s full scale with analog output and optional additional filters
- LPY530AL: 2–axis gyro (pitch, yaw) 300°/s full scale with analog output and optional additional filters
- LIS331DLH: 3–axis accelerometer ±2 *g*/±4 *g*/±8 *g* full scale with SPI digital output
- HMC5843: 3-axis magnetometer with configurable full scale ±4 gauss (max) and I^2C digital output
- LPS001DL: pressure sensor 300-1100 mbar absolute full scale with I^2C digital output and barometer
- STLM75: temperature sensor with –55 to +125 °C range and I^2C digital interface
- Wireless capability, ZigBee® module plug-in with InSight™ Port
- 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-MKI062V1 is a unique platform designed to demonstrate the performance of ST's most advanced inertial, temperature and pressure sensors. It provides a complete set of inertial measurements from an accelerometer, magnetometer and gyroscopes, as well as data from pressure and temperature sensors to measure environmental conditions.

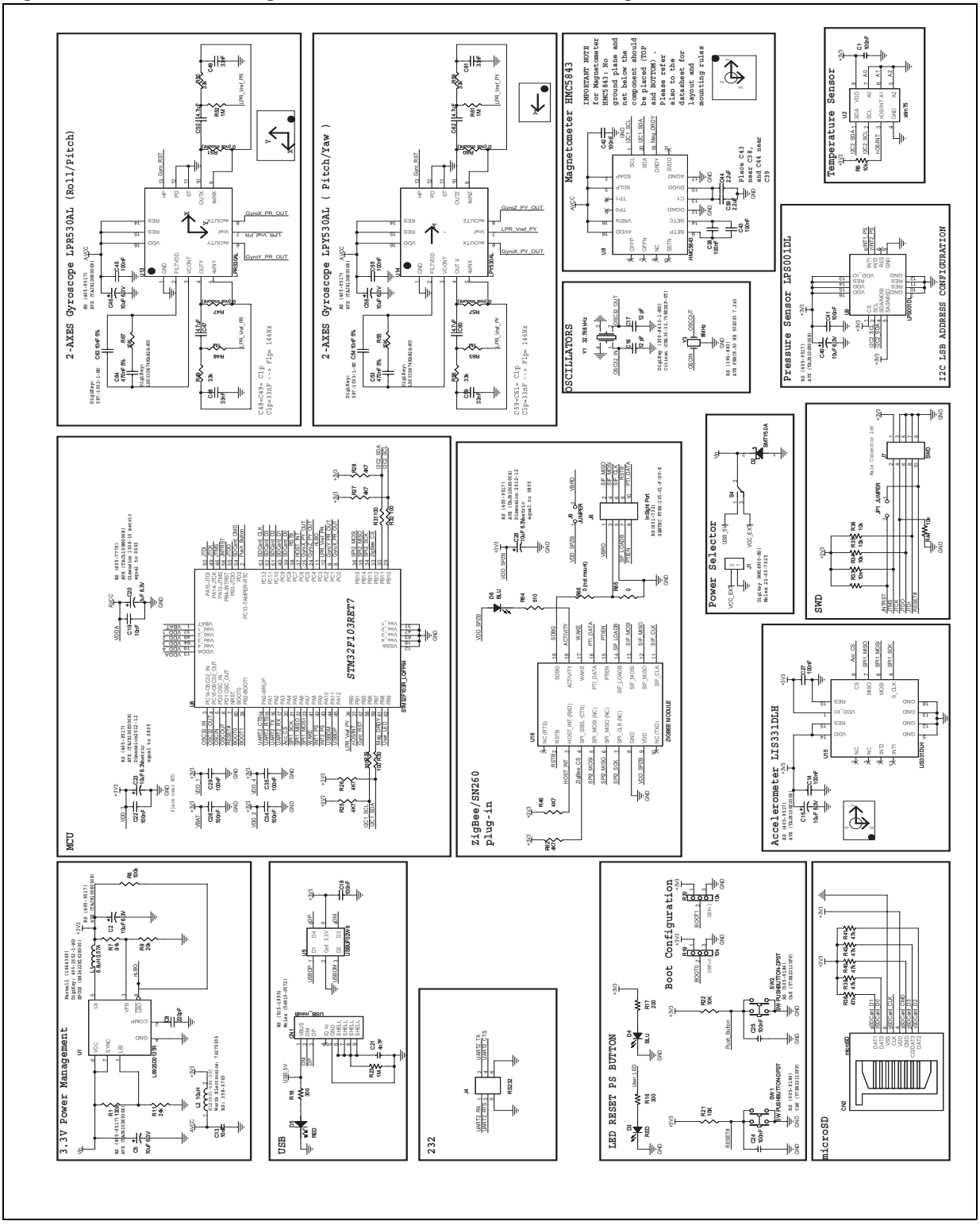
This 10-DOF (degrees of freedom) inertial system represents a complete hardware platform for a variety of applications including virtual reality, augmented reality, platform stabilization, human machine interfaces and robotics.

To aid in user development and analysis, the STEVAL-MKI062V1 demonstration kit includes a PC GUI for sensor output display and a firmware library to facilitate the use of the demonstration board features.

A complete set of communication interfaces (USB, wireless, COM), small 4.5x5 cm size, and several power supply options make iNEMO a flexible, open evaluation platform.

1 Schematic diagrams

Figure 1. Schematic diagrams of the STEVAL-MKI062V1 stages



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
16-Oct-2009	1	Initial release.
10-Feb-2010	2	Updated description on cover page.

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