

# The TECO Envboard: A Mobile Sensor Platform for Accurate Urban Sensing – and More

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Matthias Budde, Matthias Berning, Mathias Busse, Takashi Miyaki and Michael Beigl

## Environmental Sensing Board:

- Mobile sensing platform for research and development purposes
- Goal: broadband measurements that enable monitoring different phenomena

## API supports various modes of operation:

- Stand-alone measurements (to microSD) or transmitting via bluetooth to a host device, e.g. an Android phone, tablet PC, or notebook
- Triggered or periodic sensing
- Mobile or stationary usage

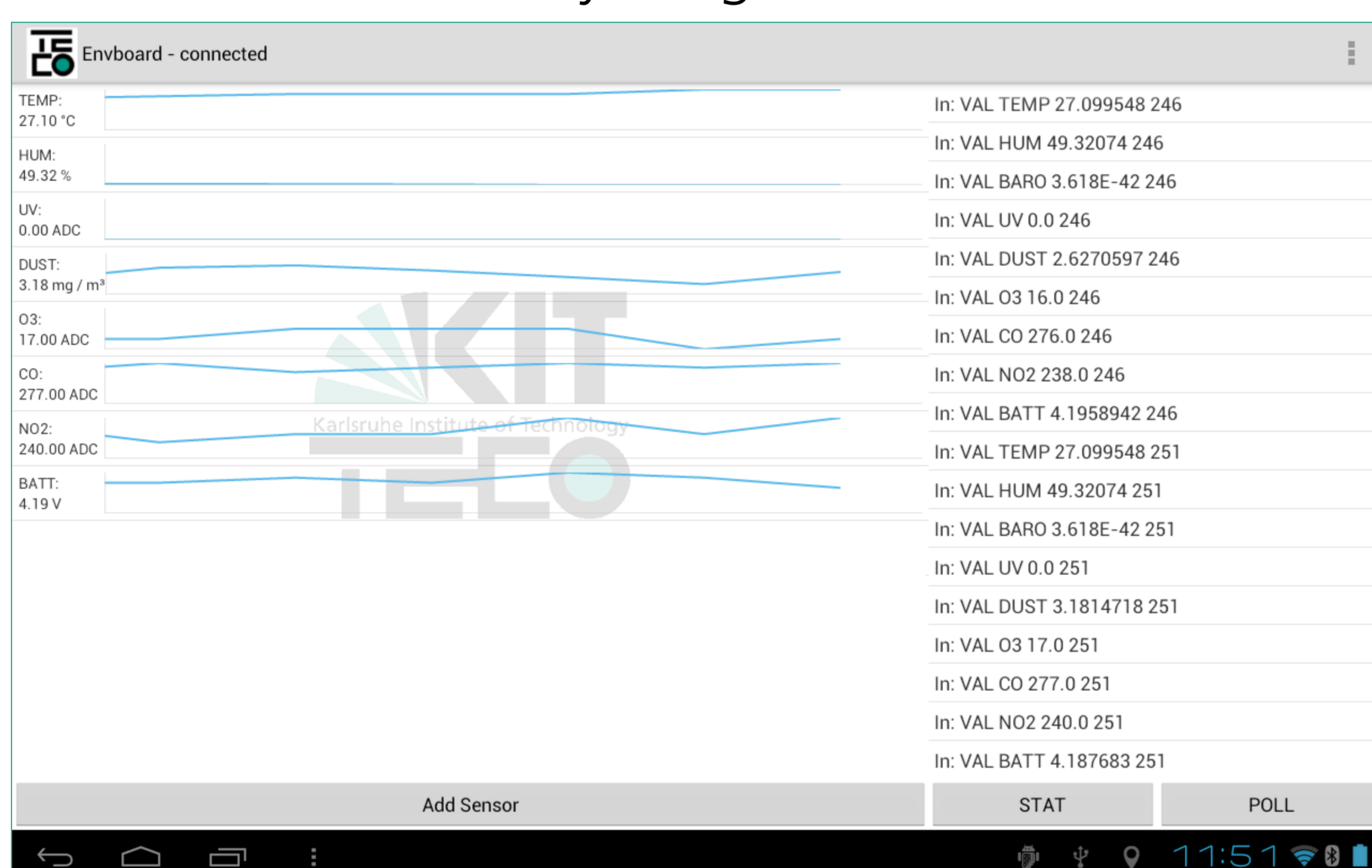


Fig. 2: Sample Android sensor data visualization application.

## Many application scenarios:

- Participatory City Sensing
- Worker safety / alert systems
- Personal exposure log / life log
- Research platform for activity and context recognition

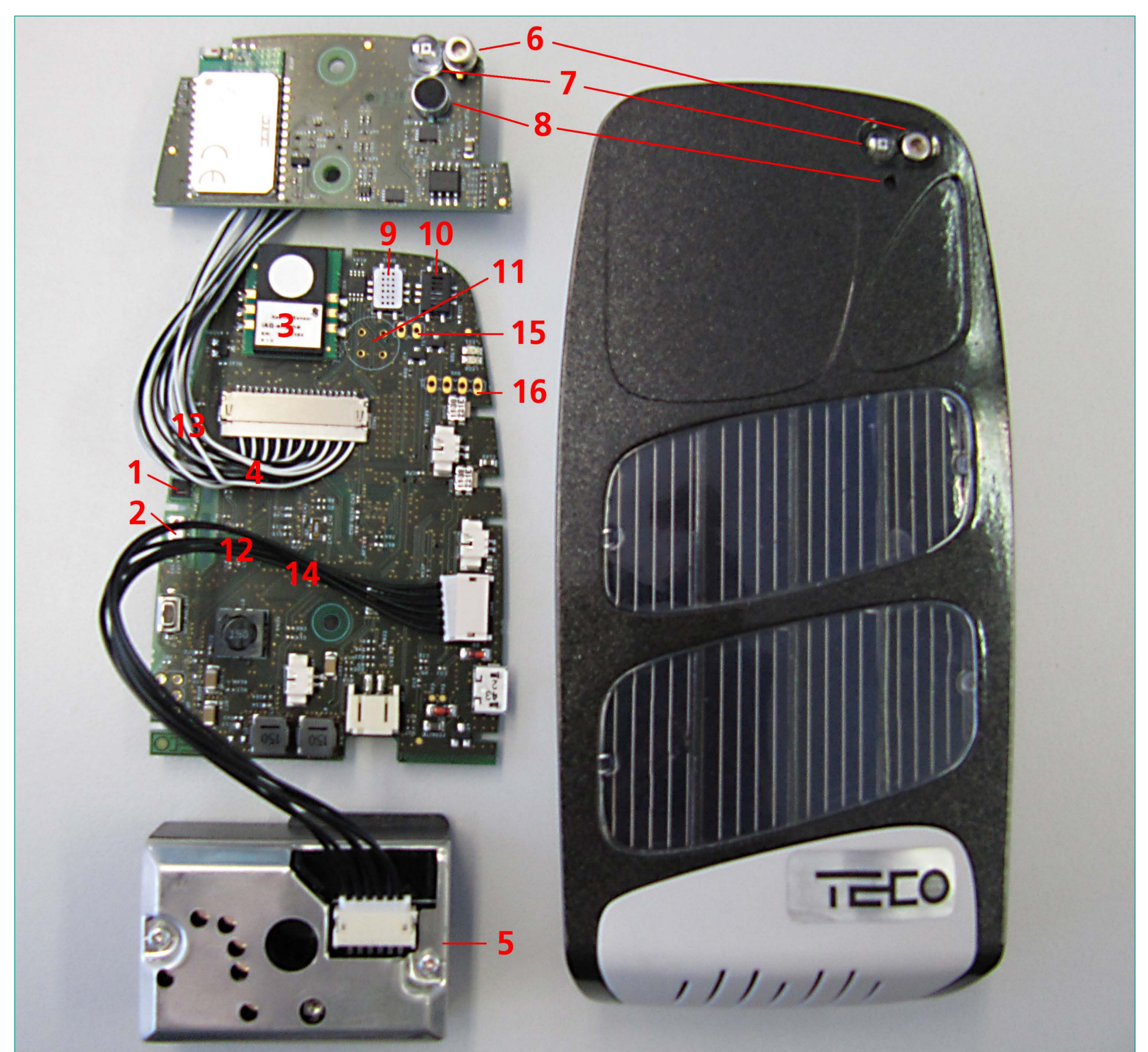


Fig. 1: The Envboard – plain PCBs (left) and in housing (right).

No	Sensor	Type
1	Sensirion SHT-21	Temperature & Humidity
2	Freescale MPL115A	Atmospheric Pressure
3	AppliedSensor iAQ-Engine	Volatile Organic Compounds (VOC, indirectly calculated: CO <sub>2</sub> )
4	Analog Devices ADXL345	Acceleration (3-axis)
5	Sharp GP2Y1010	Particulate Matter
6	SGlux AIGaN-TO18	Ultraviolet Light
7	Vishay TEPT5700	Ambient Light
8	Panasonic WM61-A	Noise Level (dBA)
9	e2v MICS 4514	Carbon Monoxide (CO) & Mono-Nitrogen Oxides (NO <sub>x</sub> )
10	e2v MICS 2614	Ozone (O <sub>3</sub> )
11	Figaro TGS4161	(optional!) Carbon Dioxide (CO <sub>2</sub> )
12	InvenSense ITG-3200	(optional!) Magnetometer (3-axis)
13	Honeywell HMC5883	(optional!) Gyroscope (3-axis)
14	Sensolute MVS0608.02	(optional!) Motion / Microvibration
15	Additional Thermistor	(optional!) Temperature
16	GPS Module	(optional!) Global Position

<sup>1</sup> Footprints for these sensors are present, but they were not populated in the current revision.