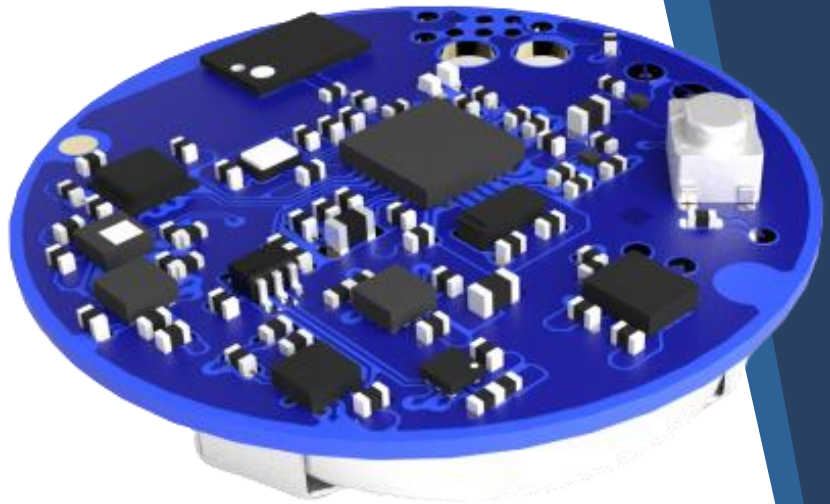


BLE Sensor board R1

1. Overview

The BLE Sensor board is an **Internet of Things** device focused on environmental and motion measurements. Thanks to **multiple different sensors** the data is collected and sent further via **Bluetooth Low Energy** technology. Its small dimensions and ultra-low power consumption make it compact, long-term solution.



2. Key features

- Battery driven device
 - ◆ Ultra – Low Power Circuitry
 - ◆ Lifetime up to several years depending on chosen sensors
- BLE 5.2
- Reset button
- LED indicators
- Optimal transmission range
- Operating Temperature
 - ◆ $-40 \div 65[^\circ\text{C}]$
- Movement/Activity detection
- Rotation detection
- Temperature and humidity measurements
- Absolute pressure measurements
- Air quality measurements
- Magnetic field detection
- UV Index and ambient light measurements

3. Applications

- Connected home
- Alarm systems
- Smart city
- Environmental monitoring
- Indoor air quality
- Movement detectors

design is not enough

ELECTRICAL

Input Voltage		Power Consumption	
Typ.	3.0V	▪ <i>Deep Sleep</i>	Typ. 1-13[uA] @ 3.0[V]
Min.	1.7V	▪ <i>BLE advertising</i>	Mean 0.7[mA] @ 3.0[V] & 4[dBm]
Max.	3.6V	▪ <i>BLE connection</i>	Mean 0.25[mA] @ 3.0[V] & 4[dBm]

*additional power consumption is highly depended on the chosen use case (mounted sensors)

SENSORS

Environment			
Temperature	Accuracy	±0.2[°C]	@ Range: -40 to 125[°C]
	Humidity	Accuracy	±2[%] @ Range: 0 to 100[%]
Pressure	Relative accuracy	±0.1 [hPa]	@ Range: 260 to 1260 [hPa]
	Sensitivity	0.24 [digit/Pa]	@ Range: 260 to 1260 [hPa]
UV Index	Accuracy	±0.75 UV Index	@ Range: 0 to 20 UV Index
Light	Resolution	100 [mlx]	
Gas	Range	0.16 - 30 [ppm]	Measured ethanol in air

Motion			
Accelerometer	Min sensitivity	187.5 [mg/digit]	@ Range: ±16 [gauss]
	Max sensitivity	15.6 [mg/digit]	@ Range: ±4 [gauss]
Magnetometer	Min sensitivity	0.85 [mg/digit]	@ Range: ±16 [gauss]
	Max sensitivity	0.15 [digit/mg]	@ Range: ±4 [gauss]
Gyroscope	Min sensitivity	0.06 [°/s /digit]	@ Range: 2000 [°/s]
	Max sensitivity	0.004 [°/s /digit]	@ Range: 125 [°/s]

BATTERY

	Capacity	Lifetime
Li-Ion	250 [mAh] & 3.0V	Up to 5 years with 5 activities per day on a basic version equipped (temperature, humidity, accelerometer)

design is not enough

