

pynode⁺ airQ

Specsheet
draft 1.0

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1.0 Overview

Bluetooth® Low Energy (BLE) 5.1 Air Quality and Temperature sensor featuring Dialog Semiconductor DA14531 BLE 5.1 and Bosch BME688 Air Quality sensor. The Pynode+ airQ is a Bluetooth BLE enabled sensor that connects seamlessly to your Pycom's WiPy, GPy, LoPy4, FiPy, OEM module or any other device that runs BLE 5.1.

2.0 Features

- BLE: Dialog Semiconductor DA14531 - SmartBond TINY™
- Sensor: Bosch BME688 Air Quality sensor

3.0 Specifications

3.1 DA14531 - SmartBond TINY™

- Low Power Bluetooth 5.1 system-on-chip
- 16 MHz 32-bit Arm® Cortex-M0+
- Compatible with Bluetooth v5.1, ETSI EN 300/328 and EN 300 440 Class 2 (Europe), FCC CFR47 Part 15 (US) and ARIB STD-T66 (Japan)
- Supports up to three BLE connections
- TX: 3.5 mA, RX: 2.2 mA (system currents with DC-DC, VBAT_HIGH =3 V and 0 dBm)

3.2 Bosch BME688 Air Quality Sensor

- Gas sensor with Artificial Intelligence (AI)
- Integrated with high-linearity/accuracy pressure, humidity and temperature sensors
- Low Power Consumption
- Operation Range:
Pressure: 300-1100 hPa
Humidity: 0-100 %
Temperature -40 - +85 C°
- Capable to detect Volatile Organic Compounds (VOCs), volatile sulfur compounds (VSCs) and other gases such as carbon monoxide and hydrogen in the part per billion (ppb) range.

3.3 Battery

- Panasonic CR2032 Lithium 3V Coin

Table 1 – Power consumption by feature

Nominal Voltage(V)	3.0
Nominal Capacity(mAh)	225.00
Continuous Standard Drain(mA)	0.2000
Maximum Pulse Discharge Current(A)	-
Diameter(mm)	20.0
Thickness(mm)	-
Hight(mm)	3.2
Weight(Approx.)(g)	2.80
Operating Temperature) (C°)	-30 - +85
Type	CR coin
JIS	CR2032
IEC	CR2032
IEC 60086-4	Certified
UL1642	Certified

5.0 Power Consumption

- Central role for initial configuration: avg: 446uA and max: 1.67mA
- Peripheral & Advertising mode (1minute sleep timer): avg: 220uA and max: 17.10mA (Gas sensor enabled)

6.0 Ordering Information

For pre-orders or to discuss supply please contact sales@pycom.io quoting pynode+ airQ

7.0 Revision History

Table 2 – Document revision history

Version	Initial Release
Draft 1.0 first draft release	06SEPT2021