

RENASAS ZMOD4510 OUTDOOR AIR QUALITY HAT

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Avnet's Renesas ZMOD4510 Outdoor Air Quality HAT for Raspberry Pi is intended for professionals developing applications for monitoring and reporting Outdoor Air Quality (OAQ) based on gases present.

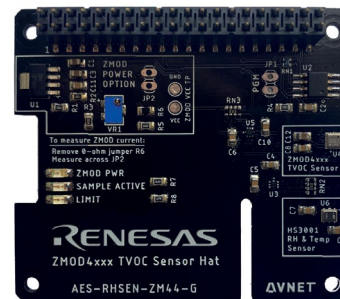
The ZMOD4510 includes non-selective measurement of nitrogen dioxide (NO₂) and ozone (O₃), as well as selective ozone measurement using ultra-low power. It supports international standards for air quality (such as the US EPA), is excellent for low-voltage and low power battery applications (ultra-low power consumption down to 0.2 mW). Water and dustproof versions are available, and can be customized for mobile, industrial and consumer applications.

Validating the Renesas ZMOD4510 HAT operation with a Raspberry Pi:

1. [Download](#) the "out of the box" test/validation application, a pre-compiled test application built with algorithm libraries which runs under the Raspberry Pi operating system (formerly Raspbian).
2. [View the Tutorial](#) demonstrating the measurement of Total Volatile Organic Compounds (TVOC).

Renesas Algorithm libraries

- Algorithm libraries developed by Renesas are required to operate the sensors. These algorithm libraries are not included with the HAT but are available directly from Renesas subject to the terms and conditions of Renesas' Software License Agreement. An application for the Software License Agreement, along with the procedure to download the algorithms and related confidential data, is available [here](#).
- [Download](#) Renesas' Software License Agreement and procedure to download the ZMOD algorithm libraries and related confidential data.



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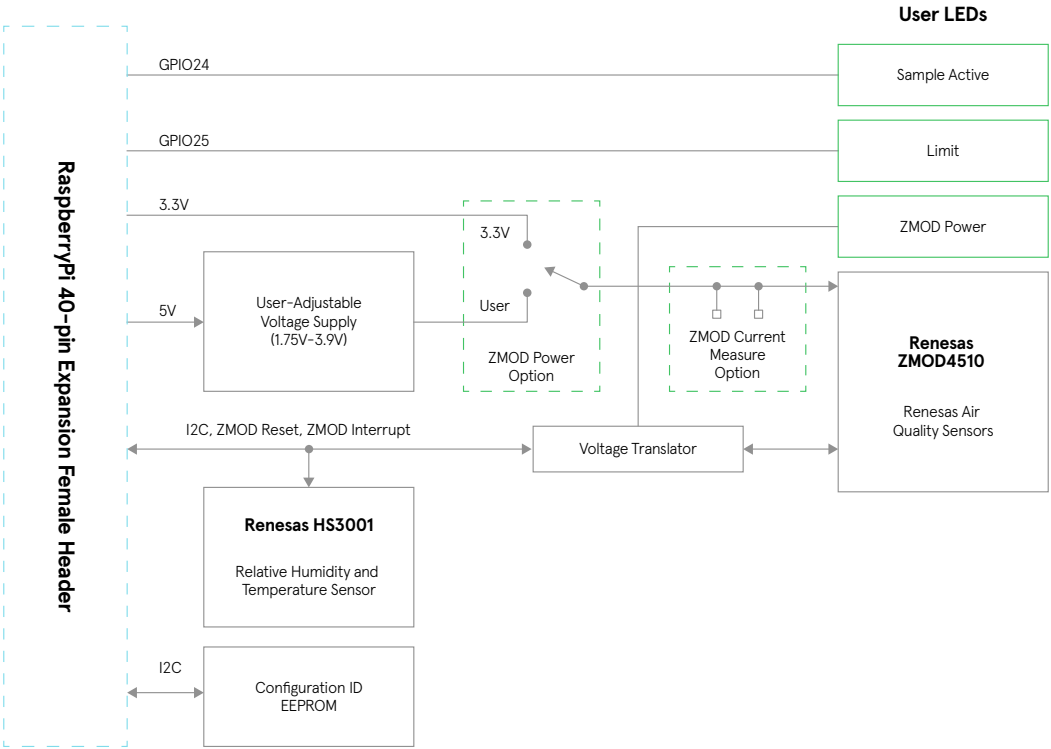
Benefits

- Convenient Raspberry Pi HAT form factor for evaluation, development and quick prototyping of products that monitor air quality
- Sensors are chemically tested and factory calibrated
- On-board user-adjustable power supply option and current measurement connection points
- Configurable alarm/interrupt output
- Supplied with pre-compiled Raspberry Pi OS test / validation application
- Licensed downloadable compiled code offered by Renesas.

Target applications:

- Air monitoring for nitrogen dioxide and ozone
- Detect unhealthy conditions in outdoor air
- Personal air quality monitors
- Smart City instrumentation
- Automation based on AQI (HCAV systems, building air purification systems)

Block diagram



Featured manufacturers



Parts

Part number	Description	Price and availability
AES-RHSEN-ZM45-G	Avnet's Renesas ZMOD4510 Outdoor Air Quality Hat for Raspberry Pi	\$49.95 USD

Related parts

Part number	Description	Price and availability
ZMOD4510AI1	Outdoor Air Quality Sensor Platform	CALL
ZMOD4510-EVK-HC	Outdoor Air Quality Sensor Platform Evaluation Kit	CALL

Countries available for purchase: Americas

Contact information

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