

Quick User Guide: Portable Air Quality Monitor

Step 1: Powering Up

- Connect your STM32 Nucleo board to a USB power source or computer.
- The system automatically starts and initializes sensors.

Step 2: Serial Monitoring Setup

- Connect the USART cable from the STM32 board (PA9) to your computer.
- Open PuTTY
 - Set the connection to the correct COM port.
 - Set baud rate to 9600, Data bits: 8, Stop bits: 1, Parity: None.
 - Click "Open" to start monitoring.

Step 3: Operating the Device

- The monitor continuously displays:
 - Temperature (°C) and humidity (%RH).
 - Air quality level (MQ135 sensor ADC value).
 - Alert messages (e.g., "Buzzer ON" or "Buzzer OFF").

Step 4: Responding to Alerts

- If air quality or environmental parameters exceed preset thresholds:
 - Audible buzzer activates.
 - Serial output clearly indicates alert status.
- To silence alerts temporarily, press the reset button on the STM32 Nucleo board.

Step 5: Shutting Down

- To power off, simply disconnect the USB cable from the board.

Note:

- Allow MQ135 sensor a few minutes of warm-up for accurate readings.
- Place monitor centrally in the area for optimal air quality detection.