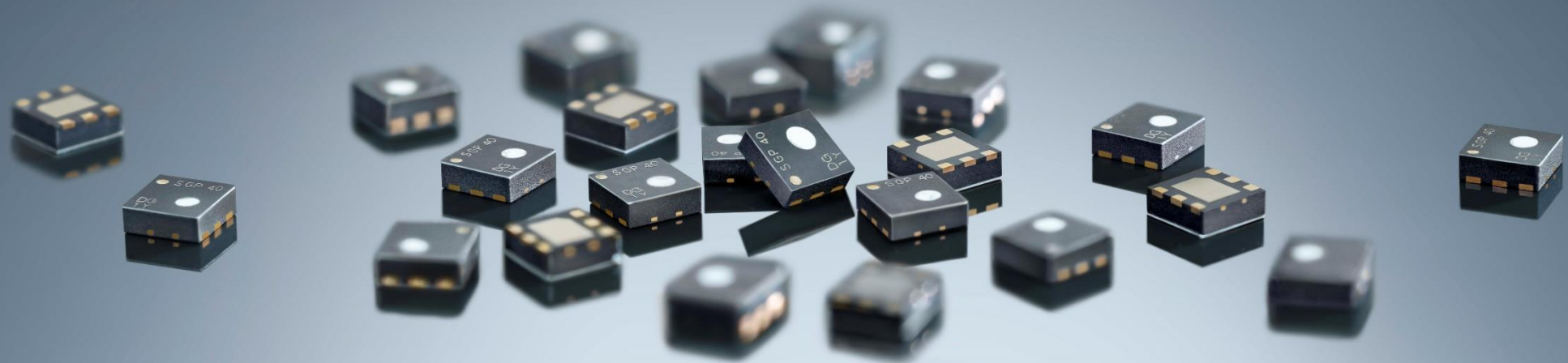


SGP41 – Quick Testing Guide

Version 0.1
Stäfa, November 2021



Setup

The goal of this quick testing guide is to enable any customer to verify that their Sensirion SGP41 sensors are performing according to specifications. Using only common household items we can create a local environment of oxidizing gases that will be sufficient to reach this goal.

Required items

- 1 small container able to cover the sensors
- 1 lighter ⁽¹⁾
- Either Sensirion SGP41 sensors or SEK-SVM4x EvalKit and Control Center Software (running on any conventional computer), also see sensirion.com/my-sgp-ek

required time: 6 hours

Safety disclaimer: ...

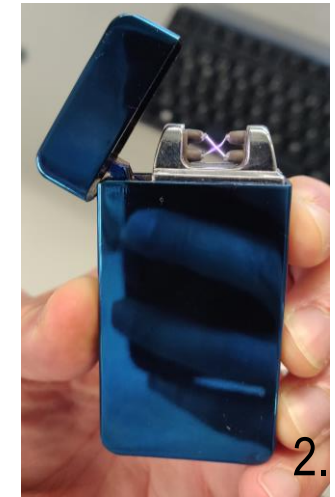
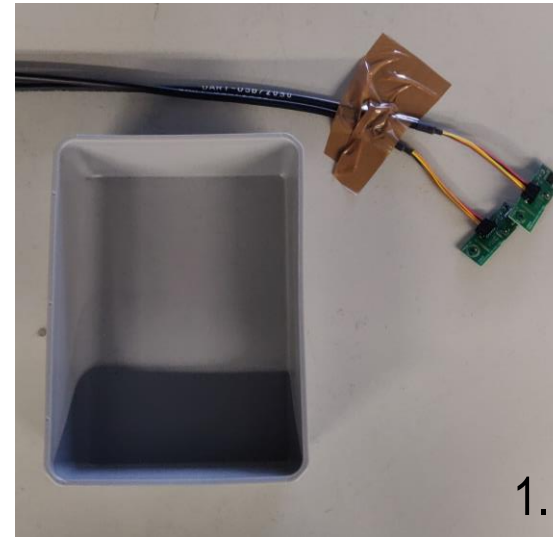
(1) An electric arc lighter was used here, but any lighter should work

Step one: table top experiment

We want to expose the sensors to an elevated concentration of NO_x. Start the measurement using Sensirion Control Center.

1. Fix the sensors / modules on a table and expose them to ambient air for about 60 min---this will be the reference air absent any NO_x concentration
2. Turn on your lighter and hold the flame under your small container for about 10 s. Combustion processes generate NO_x: if the container is small enough, concentrations of ~100ppb and higher can easily be reached (*)
3. Cover the sensors with the container and wait for a minute or two
4. Uncover the sensors
5. Repeat steps 2-4 after waiting for 5 hours

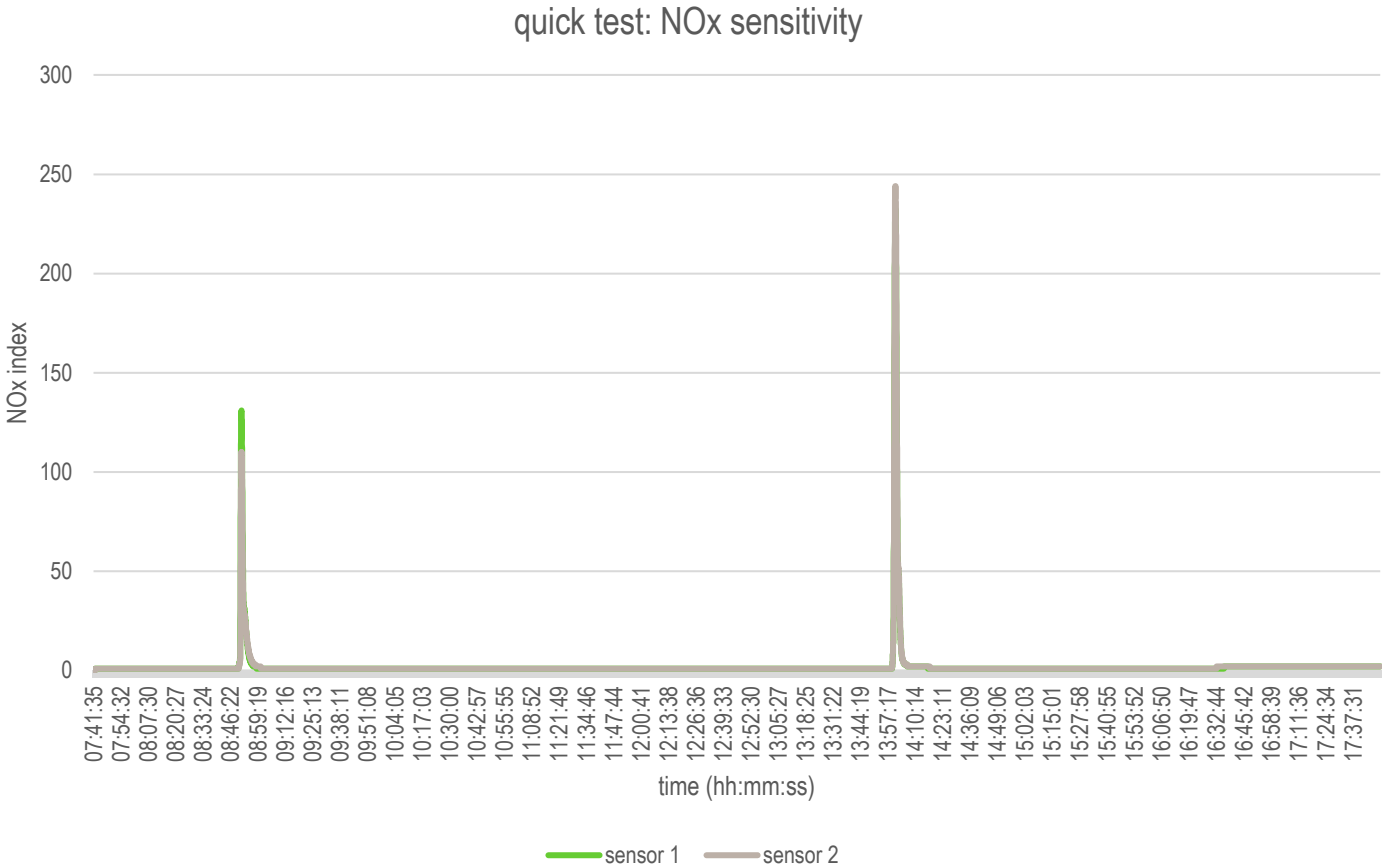
(*) if the concentration seems to be too low to register on the sensors, simply increase the time you hold the burning lighter under the container and/or decrease the container size.



Step two: evaluation

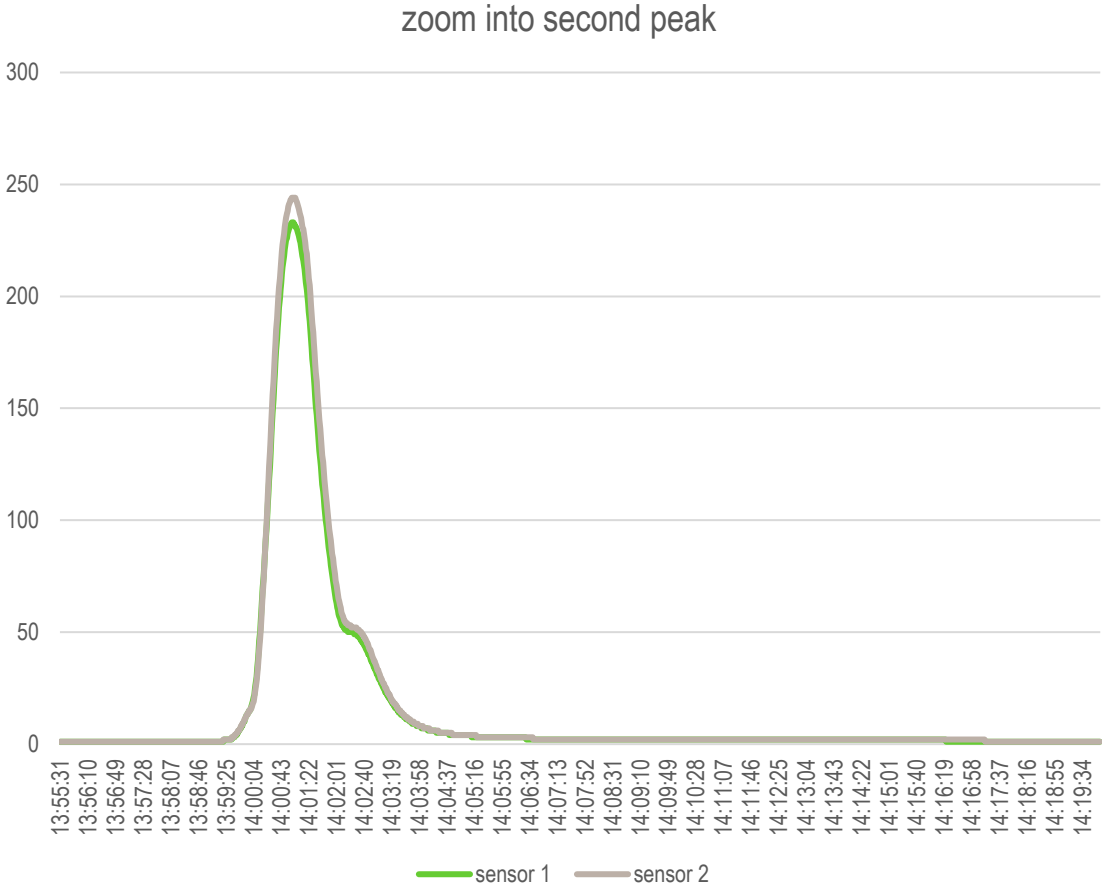
The result should look something like this: two distinct peaks 1h and 6h after the start of the experiment, respectively

Note: why first peak is smaller...



Step two: evaluation

By zooming into an individual peak we can assess the device-to-device variation



SENSIRION

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