

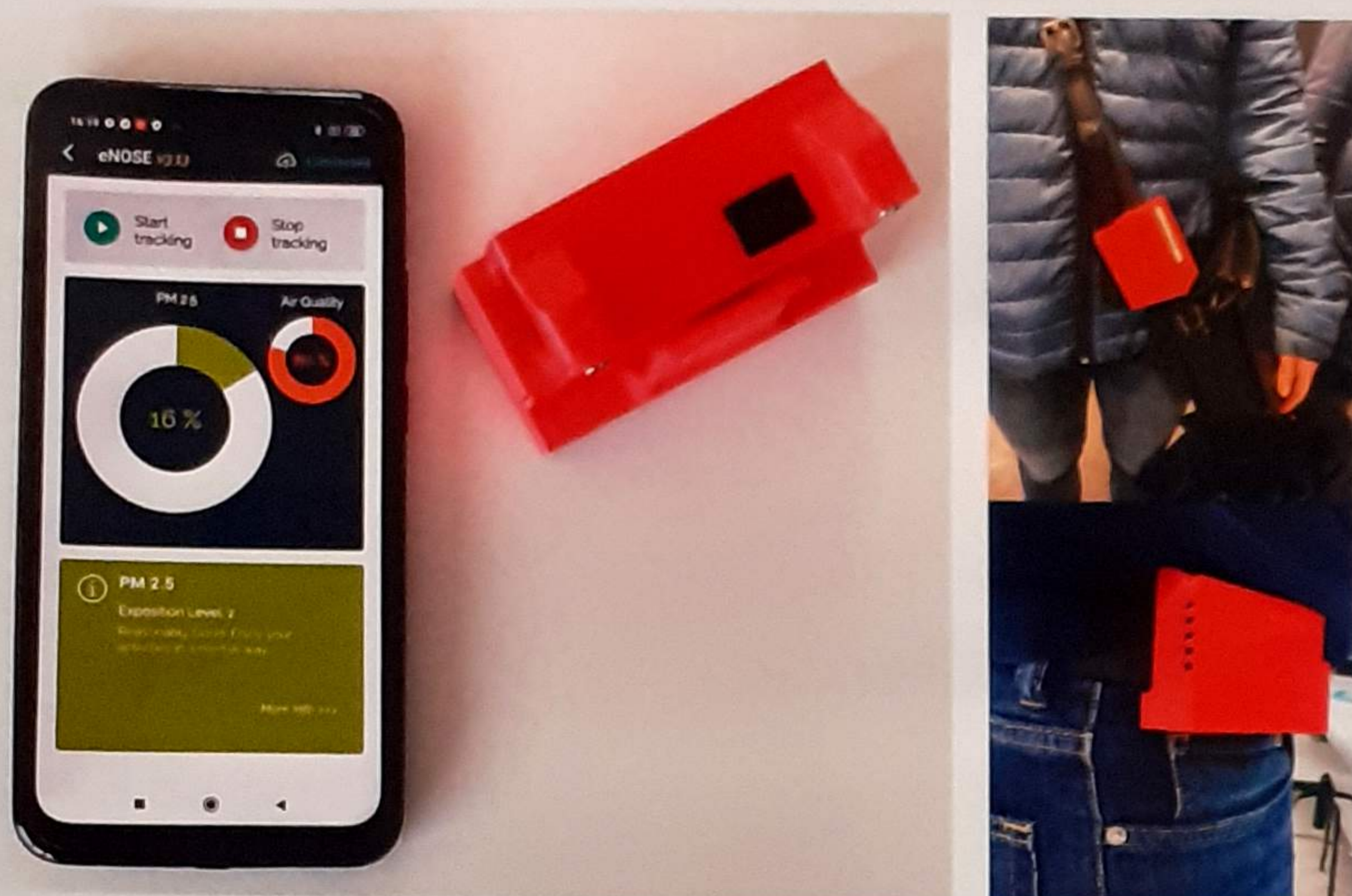
Personal IOMS for performing odours and pollutants maps

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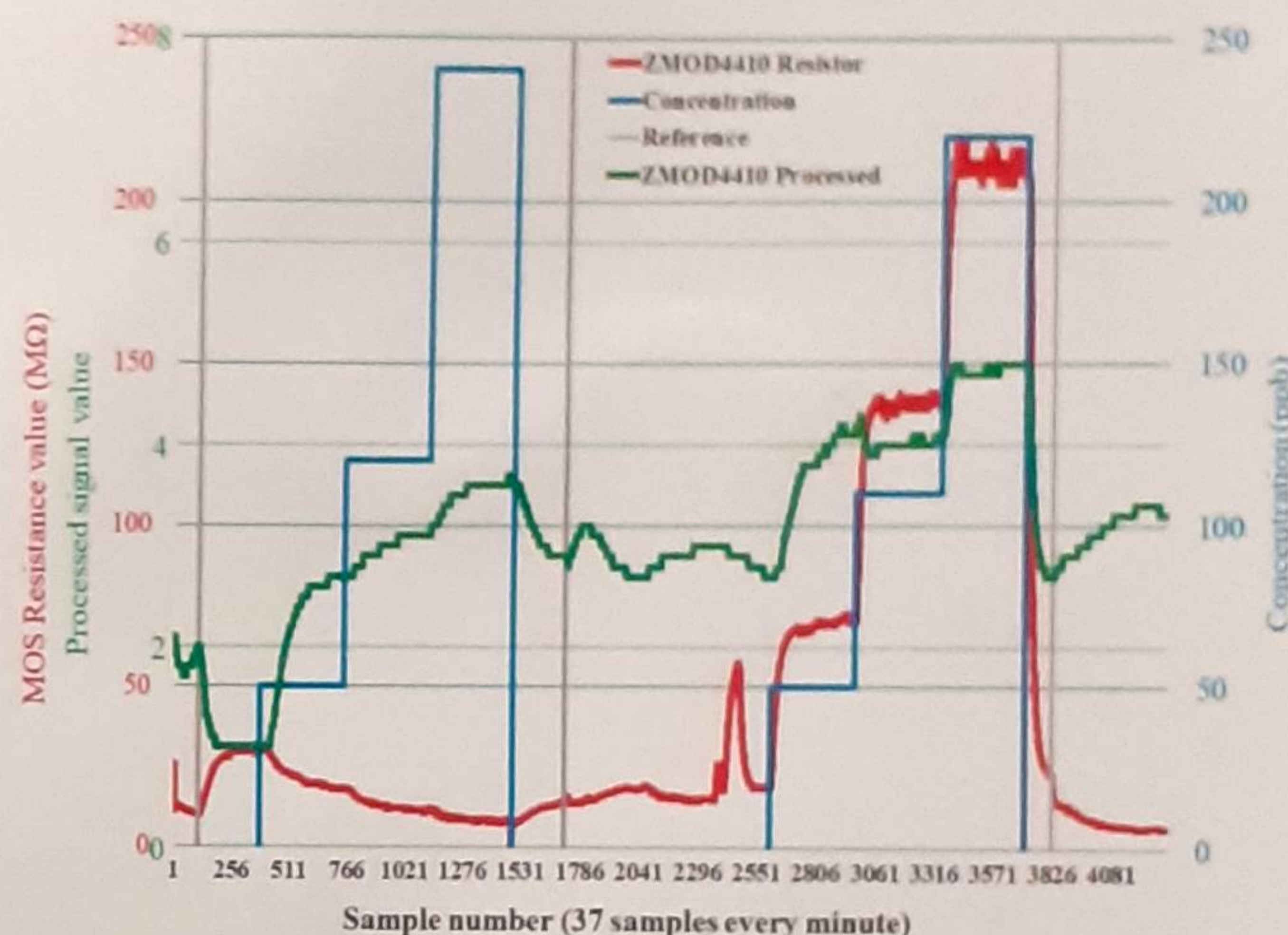
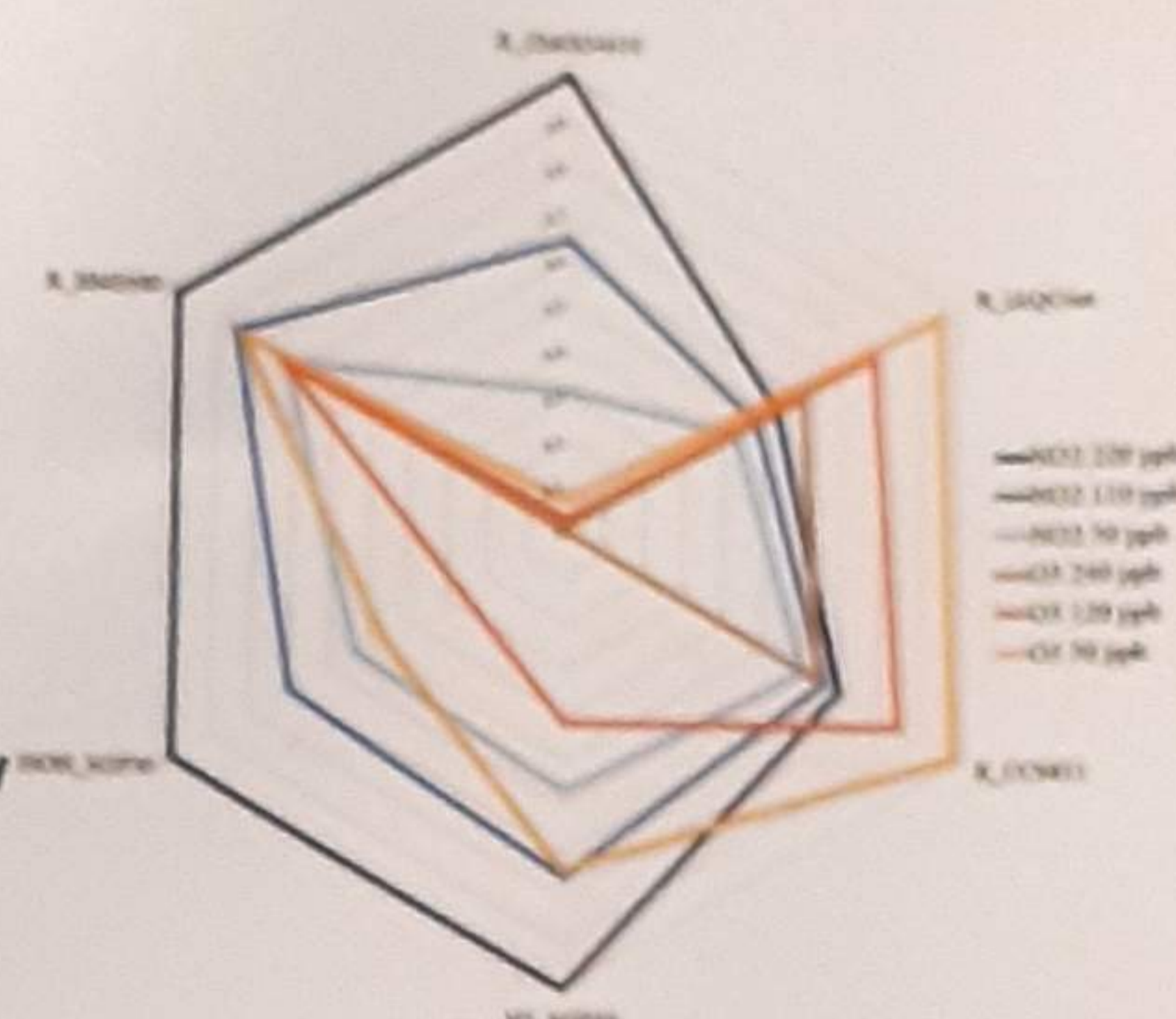
SUMMARY

- We developed an easy to use and affordable portable personal sensing platform for air quality monitoring.
- Deployed in a campaign at Barcelona with volunteers.

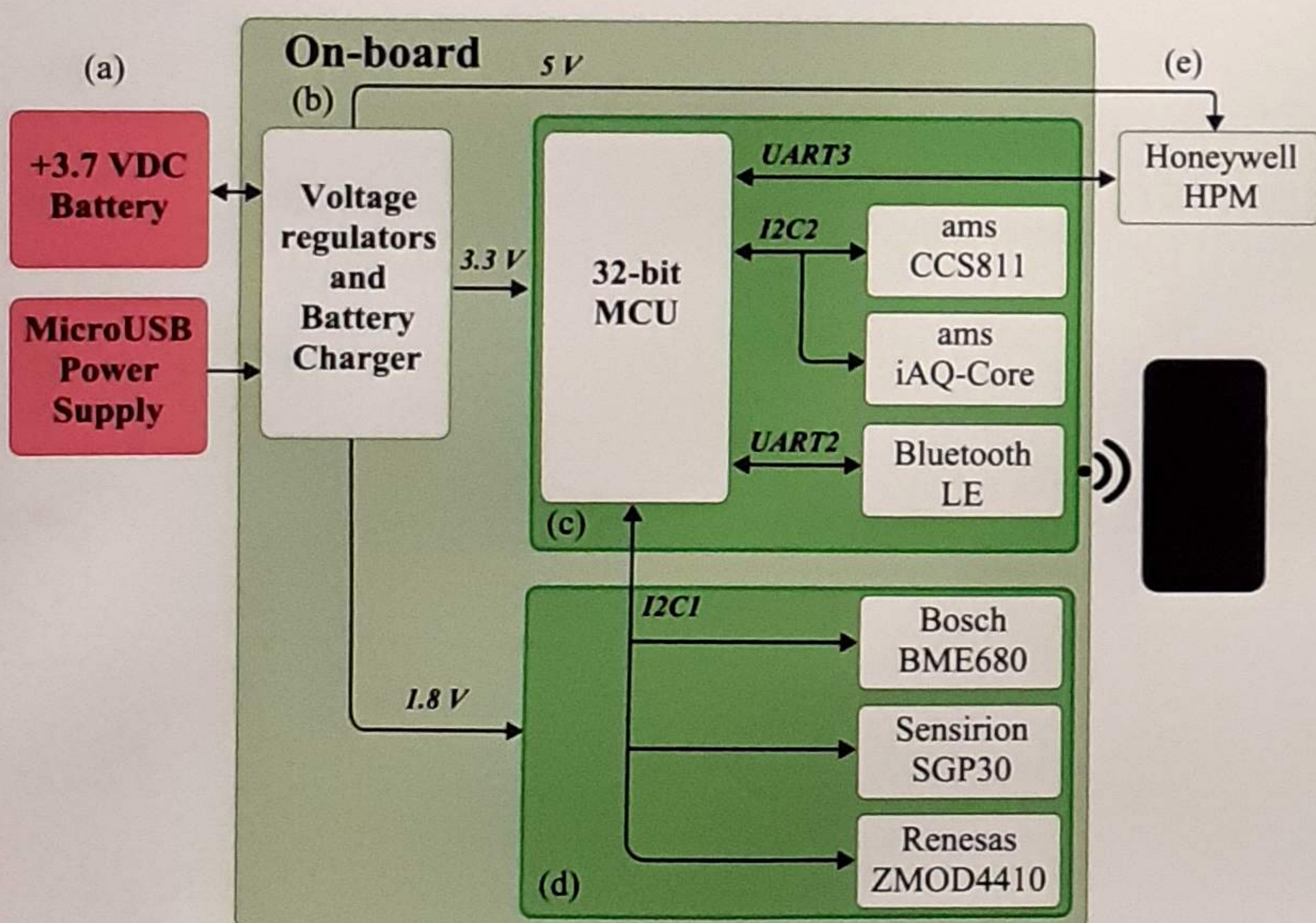


LABORATORY RESULTS

- The device was tested in a controlled environment.
- Calibration instrument Model 714 NO₂/NO/O₃ Calibration Source by 2B Technologies, US.
- We determined the response of the sensor array to two major outdoor air pollutants: NO₂ and O₃.



DEVICE OVERVIEW



- Battery powered recharged through a microUSB-B plug.
- While working, the device draws 290 mA from the battery.
- Five integrated digital MOS commercial gas sensors.
- A smartphone app gathers data, store it in a file and sent it to the cloud.

CAMPAIGN RESULTS

- We deployed the platform at Sant Adrià de Besòs.

Air Quality Index

PM2.5



CONCLUSIONS

- We developed an e-nose for air quality monitoring, that works with smartphones to create **higher resolution** networks.
- The detection capability of the device to two major air pollutants has been tested, with different concentrations of NO₂ and O₃ in laboratory conditions.
- Additional tests with pollutants and odours to apply the calibration algorithms for mapping.

ACKNOWLEDGEMENTS