

AirQualityHoboken project

Applied IoT Project 23 - 24

3ITIOT & 2VTITIOT

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Componentenlijst:

Component	# nummer	Link
LoRa Chip esp32	SX1276	https://jlcpcb.com/partdetail/Vollgo-SX1276S8S_TX1/C718834
Esp32 MCU	ESP32-WROOM-32-N8	https://jlcpcb.com/partdetail/EsspressifSystems-ESP32_WROOM_32N8/C529582
Zonnepaneel	110X80	Aanwezig op school
Solar power manager DF robot	DFR0559	https://www.dfrobot.com/product-1712.html + stand offs
Batterij 3,7V	45F2232	https://www.sossolutions.nl/lithium-ion-batterij-3-7v-1200mah?gclid=Cj0KCQjw06-oBhC6ARIsAGuzdw1UnPXiduS0PeR8wvGpTGsogaWtrCjvV7u_u_FQso4fSVID3qY53XXMaApUvEALw_wcB
Milieu sensor	SEN55	https://www.sensirion.com/products/catalog/SEN55
Stikstof sensor	SGP41	https://sensirion.com/products/catalog/SGP41
USB --> UART	CP2102N	https://jlcpcb.com/partdetail/SILICONLABS-CP2102N_A02GQFN24/C1550551
Testboard	ESP32-dev-board	https://www.tinytronics.nl/shop/en/development-boards/microcontroller-boards/with-wi-fi/esp32-wifi-and-bluetooth-board-cp2102
Wartel		Voor zonnepaneel kabel
Antenne LoRa 868MHz		https://www.digikey.be/nl/products/detail/pycom-ltd./SIGFOX%20FLORA%2520ANTENNA%2520KIT/7721843?utm_adgroup=&utm_source=google&utm_medium=cpc&utm_campaign=PMax%20Shopping_Product_Medium%20ROAS&utm_term=&productid=7721843&gclid=Cj0KCQjw06-oBhC6ARIsAGuzdw0quU4vBBvcwUWUPu1ohaDuoyhi4YlcPcKDr1nE_Ml7SZSHsvy-O_UaAusZ_EALw_wcB
Installatie doos	Z74H	https://www.tinytronics.nl/shop/en/tools-and-mounting/enclosures/universal/kradex-enclosure-176x126x57mm-ip65-red-transparent-z74h

- Op PCB --> blauw | Wordt besteld op het PCB via JLCPCB
- Bestellen -> Groen | Opmerking: DevKits voor ontwikkeling indien mogelijk. (Niet SVM41, losse SGP, losse SEN)
- Aanwezig op school -> Oranje | ESP32 T-Beam nog gaan halen. 5 DFRobots aanwezig.

Links:

Gateway BOM: <https://github.com/Jappie3/zanzi-doc/blob/master/gateway/BOM.md>

ESP32 CP2102 Programmer Schematic: <https://pcbartists.com/design/esp32-cp2102-programmer-schematic/>

PCB design:

Aansluiting SX1276 -> ESP32

<https://circuitdigest.com/microcontroller-projects/esp32-lora-communication-with-the-things-network>

Afmetingen:

Stand offs:

