AirQualityHoboken project

Applied IoT Project 23 - 24

3ITIOT & 2VTITIOT

Groep: Gil Struyf, Niels Aarts, Jordy Van Mol, Joos Van Esbeeck, Jurgen Vanpeteghem

Inhoudsopgave

[Componentenlijst: 3](#_Toc146193384)

[Links: 4](#_Toc146193385)

[PCB design: 5](#_Toc146193386)

[Afmetingen: 5](#_Toc146193387)

# 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/EspressifSystems-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-oBhC6ARIsAGuzdw1UnPXiduS0PeR8wvGpTGsoqaWtrCjvV7uu_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%2FLORA%2520ANTENNA%2520KIT/7721843?utm_adgroup=&utm_source=google&utm_medium=cpc&utm_campaign=PMax%20Shopping_Product_Medium%20ROAS&utm_term=&productid=7721843&gclid=Cj0KCQjw06-oBhC6ARIsAGuzdw0quU4vBBvcwUWUPu1ohaDuoyhi4YIcPcKDr1nE_Ml7SZSHsvy-O_UaAuszEALw_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:

