

PM2.5 Air Quality Kit-SHT30

SKU:K023-B

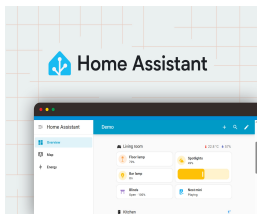




Description

PM2.5 Air Quality Kit-SHT30 is an air quality monitoring kit composed of a Basic controller, Module Air Quality with a built-in PMSA003 digital particulate matter concentration sensor, and Base BTC with a built-in SHT30 temperature and humidity sensor. It can simultaneously collect environmental particulate matter concentration and temperature/humidity data. The kit supports suspended particulate matter detection across multiple particle size ranges and can output mass concentration data related to PM2.5 standard values. It is suitable for real-time air quality monitoring, data logging, and trend analysis at fixed locations such as homes, offices, classrooms, and laboratories. It can also provide data reference for environmental improvement devices such as air purifiers and fresh air systems.

Tutorial



Home Assistant

This tutorial introduces how to integrate the PM2.5 Air Quality Kit-SHT30 air quality monitoring kit into Home Assistant.

Features

- Based on M5Stack Basic controller
 - Equipped with screen and buttons for local data display and interaction
- Module Air Quality
 - Built-in PMSA003 particulate matter concentration sensor
 - Supports multi-particle-size particulate matter and PM2.5 mass concentration detection
 - Provides 2.54-8P expansion interface with SPI/I2C IO pins exposed
- Base BTC
 - SHT30 temperature and humidity sensor for simultaneous environmental temperature and humidity data collection
- Supports DC 5V / USB Type-C power supply, compatible with M5Stack modular stacking expansion system

Includes

- 1 x Basic

- 1 x Module Air Quality
- 1 x Base BTC
- 1 x USB Type-C Cable (100cm)
- 2 x M3x16 screw
- 1 x Hex Key L-Shape 2.5mm (For M3 Screw)

| Applications

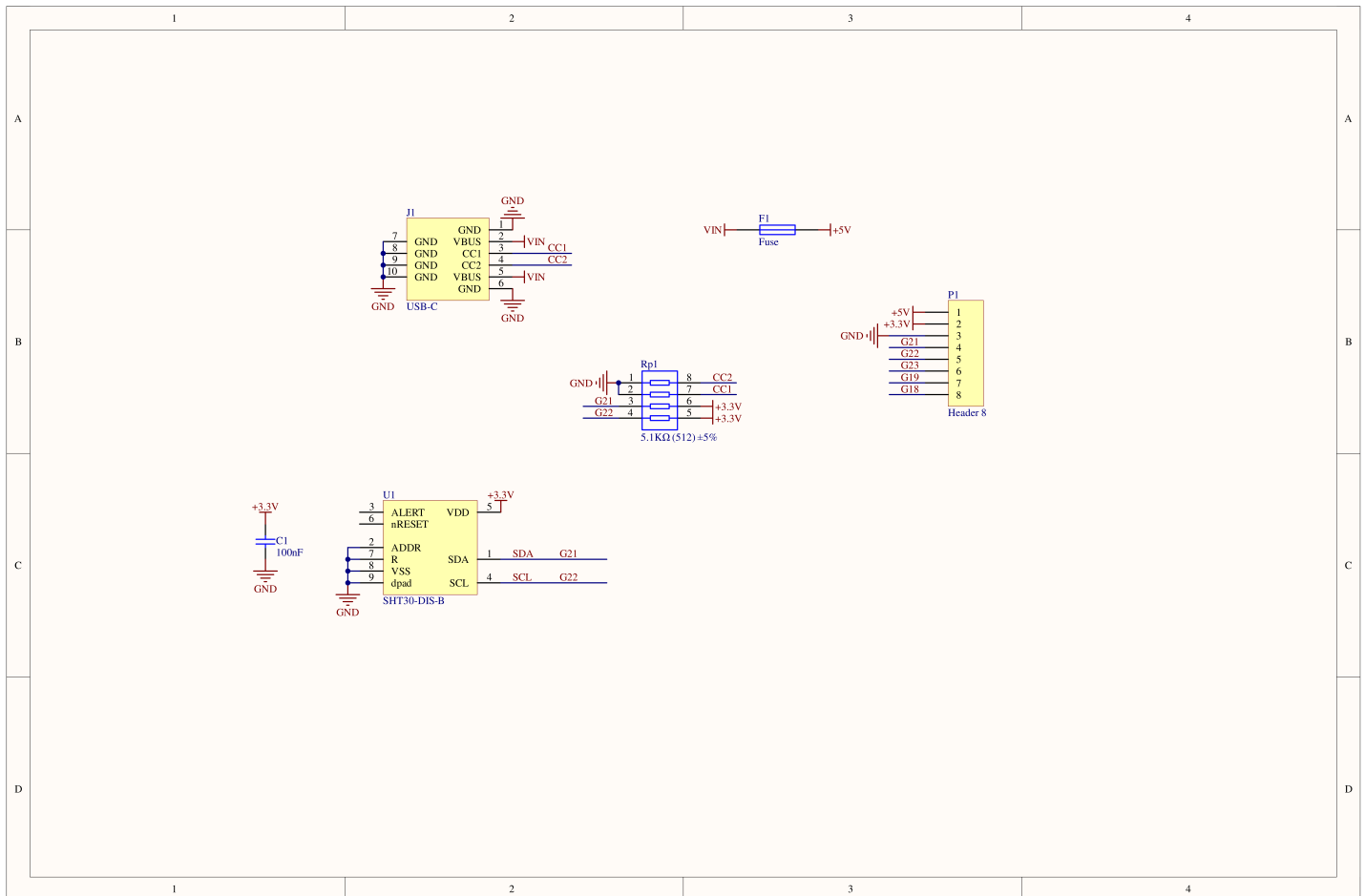
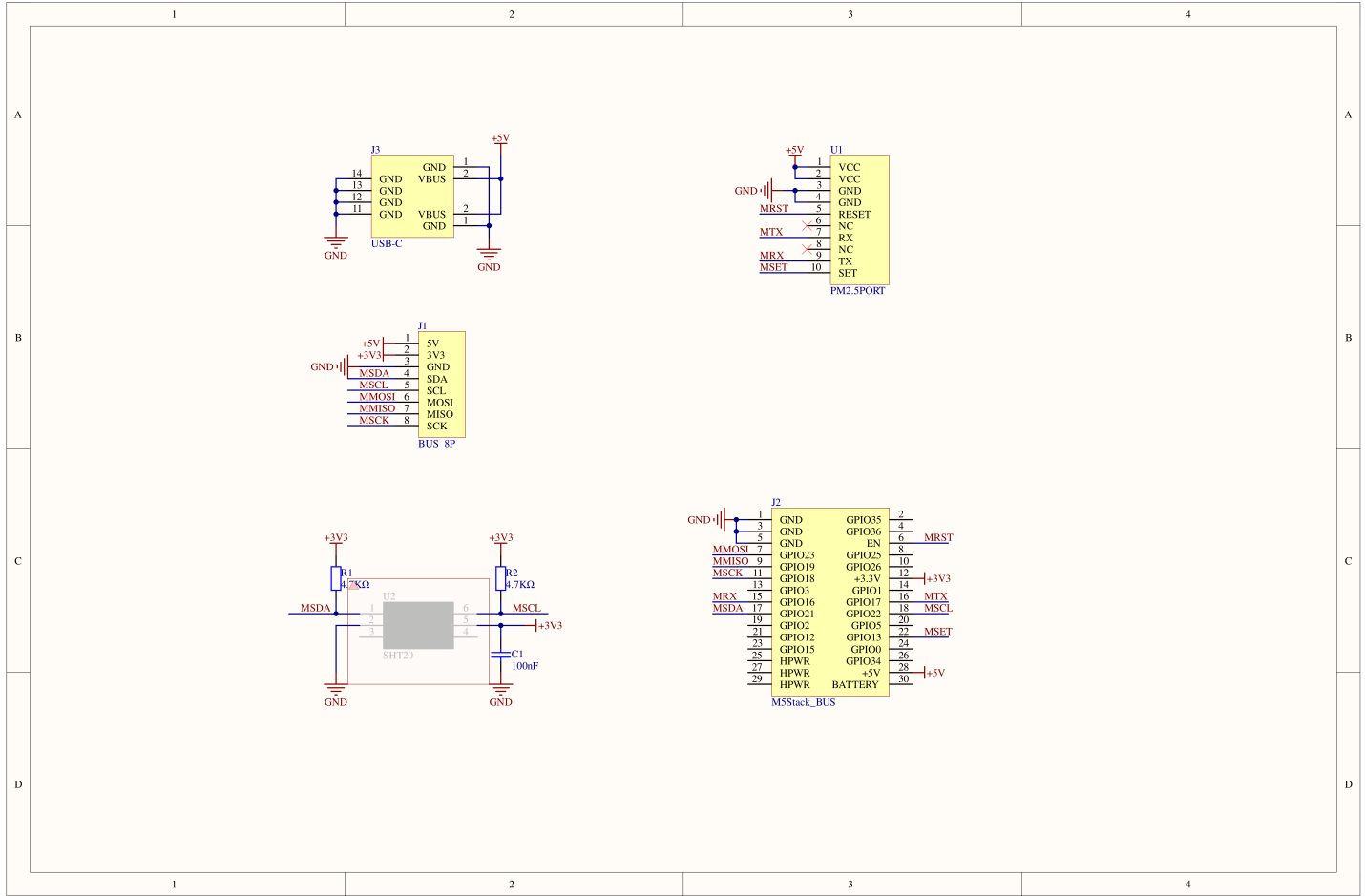
- Indoor PM2.5 and air quality real-time monitoring
- Temperature, humidity, and particulate matter environmental data collection
- Home Assistant smart home air quality monitoring
- Environmental monitoring at fixed locations such as classrooms, offices, and laboratories
- Data reference for environmental improvement devices such as air purifiers and fresh air systems
- IoT environmental monitoring node prototype development

| Specifications

Specification	Parameter
PM2.5 Sensor	PMSA003
Minimum Distinguishable Particle Size	0.3µm
Particulate Matter Mass Concentration Resolution	1µg/m³
Particulate Matter Measurement Range	0.3-1.0, 1.0-2.5, 2.5-10 µm
Particulate Matter Counting Efficiency	50%@0.3µm; 98%@≥0.5µm
Particulate Matter Mass Concentration Effective Range (PM2.5)	0 ~ 500µg/m³
Particulate Matter Mass Concentration Maximum Range (PM2.5)	≥1000µg/m³
Particulate Matter Mass Concentration Consistency (PM2.5)	±10%@100 ~ 500µg/m³ ±10µg/m³@0 ~ 100µg/m³
Nominal Volume	0.1L
Temperature & Humidity Sensor	SHT30
Temperature Measurement Range	-40 ~ 125°C
Temperature Measurement Accuracy	Typ. 0 ~ 65°C, ±0.2°C
Humidity Measurement Range	0 ~ 100%RH
Humidity Measurement Accuracy	±2% RH
Supply Voltage	DC 5V
Product Size	54.0 x 54.0 x 24.8mm (excluding base)
Product Weight	70.8g (including base)
Package Size	125.0 x 67.0 x 23.0mm
Gross Weight	136.6g

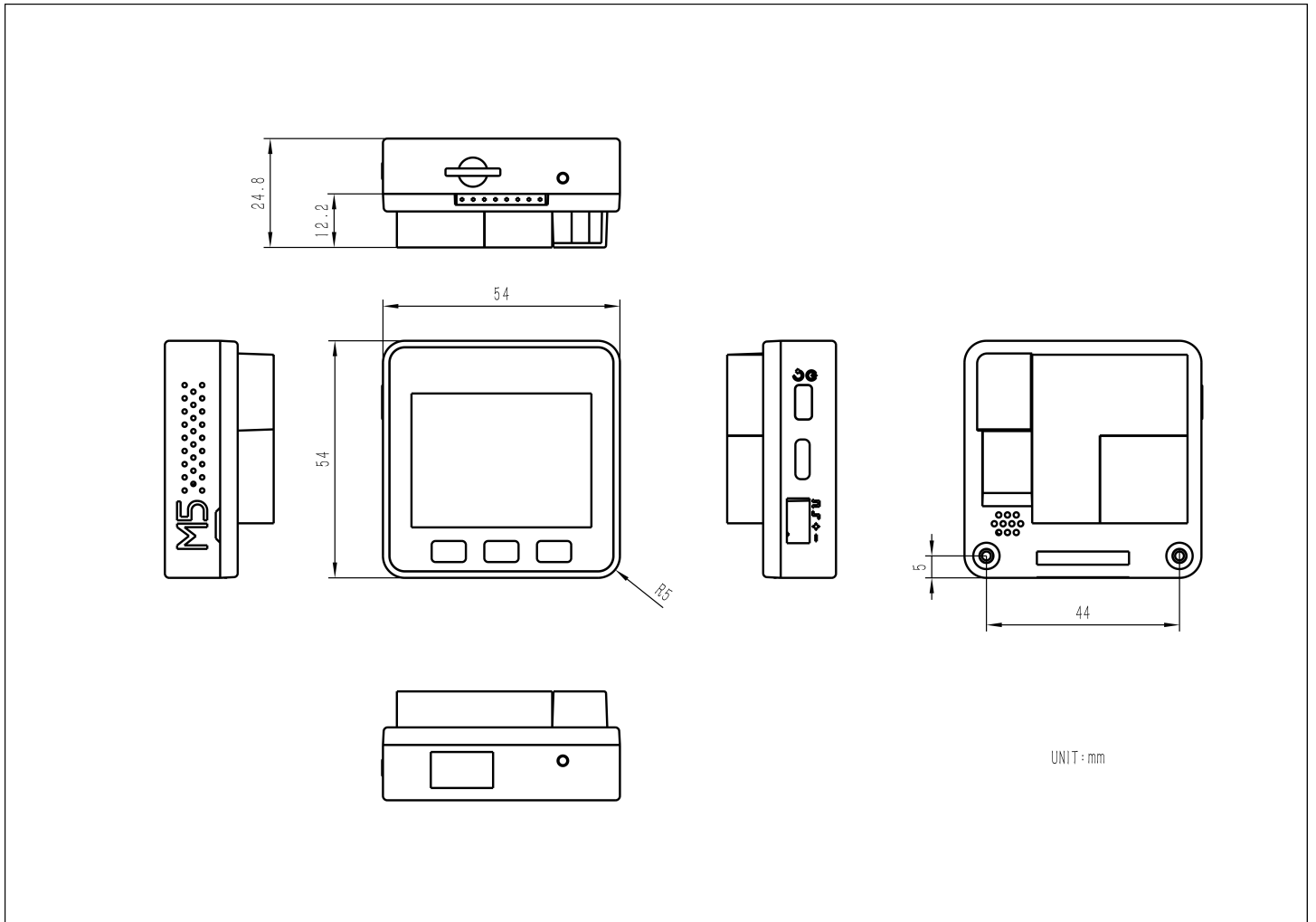
Schematics

- [Module Air Quality Schematics PDF](#)
- [Base BTC Schematics PDF](#)



Model Size

- [PM2.5 Air Quality Kit-SHT30 Model Size PDF](#)



Datasheets

- [PMSA003](#)
- [SHT30](#)

Softwares

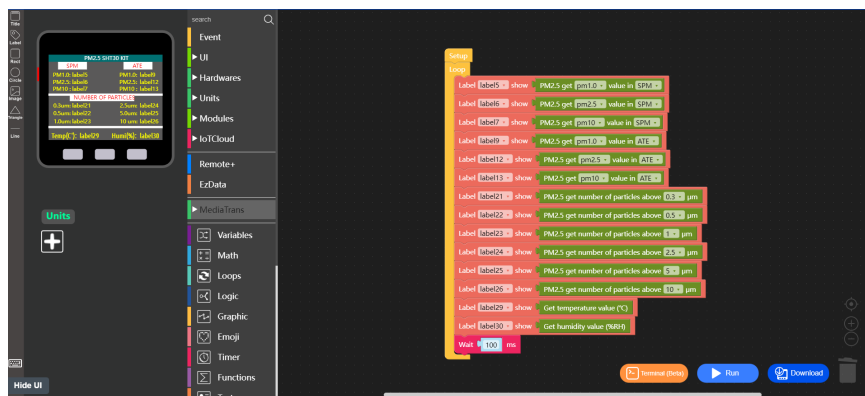
Arduino

- [PM2.5 Air Quality Kit-SHT30 Example](#)



UiFlow1

- PM2.5 Air Quality Kit-SHT30 Example



Easyloader

Easyloader	Download	Note
PM2.5 Air Quality Kit Easyloader	download	/

Home Assistant

- PM2.5 Air Quality Kit-SHT30 Home Assistant Integration

Room

	Air Quality Kit Display Backlight	
	Air Quality Kit 0.3 µm particle count	1,149 /dL
	Air Quality Kit 0.5 µm particle count	355 /dL
	Air Quality Kit 1.0 µm particle count	62 /dL
	Air Quality Kit 2.5 µm particle count	16 /dL
	Air Quality Kit 5.0 µm particle count	4 /dL
	Air Quality Kit 10.0 µm particle count	2 /dL
	Air Quality Kit Button A	On
	Air Quality Kit Button B	On
	Air Quality Kit Button C	On
	Air Quality Kit Humidity	44.7%
	Air Quality Kit PM1	4 µg/m³
	Air Quality Kit PM1.0 STD	4 µg/m³
	Air Quality Kit PM2.5	8 µg/m³
	Air Quality Kit PM2.5 STD	8 µg/m³
	Air Quality Kit PM10	10 µg/m³
	Air Quality Kit PM10 STD	10 µg/m³
	Air Quality Kit Temperature	27.2 °C



Video