Thermal2 Unit

SKU:U149

Description

UNIT Thermal2 is a data processing MCU-equipped MLX90640 thermal imaging acquisition unit. It has 32x24 imaging pixels, a field of view of 110°x75°, and a temperature measurement range of -40°C to 300°C. The MCU uses ESP32, which is capable of high and low temperature alarms, average, maximum and minimum values reading, and data caching via data processing. The board integrates with a buzzer, RGB indicator, function and reset buttons, and communicates with the host computer through I2C. This product can be used together with the host computer or separately, and is applicable for temperature measurement and abnormal alarms.

Features

- MCU:ESP32-PICO-D4
- MLX90640 Infrared (IR) Sensor
- Reset buttom
- Passive buzzer
- Integrated programmable RGB LED
- GROVE I2C/HY2.0-4Pinterface
- Programming platform: Arduino/UIFlow

Includes

- 1x THERMAL2 Unit

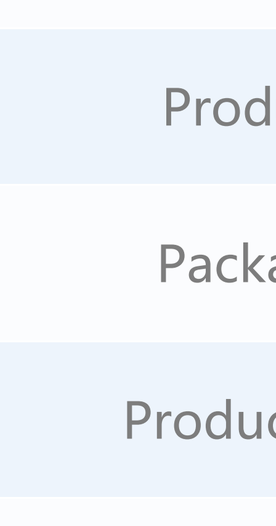
- 1x HY2.0-4P cable

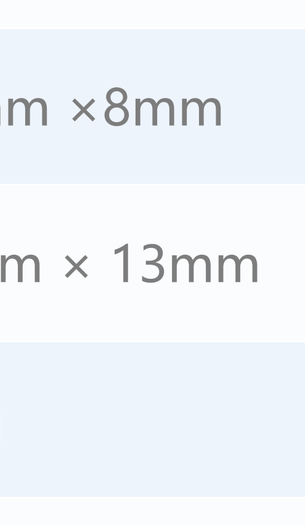
Applications

- High-precision non-contact temperature measurement
- Motion detection
- Visual infrared thermometer
- DIY Projects

Specification

Resources	Parameters
MCU	ESP32-PICO-D4
SENSOR	MLX90640
POWER	5V @ 0.5A
Field of View	110°×75°
Measurement Range	-40°C ~ 300°C
Resolution	32 x 24
Refresh Rate	0.5Hz-64Hz
Operating temperature	0°C ~ 40°C
Housing material	ABS+Plastic (PC)
Product Size	48mm × 24mm ×8mm
Package Size	136mm × 92mm × 13mm
Product Weight	4.9g
Package Weight	10.7g

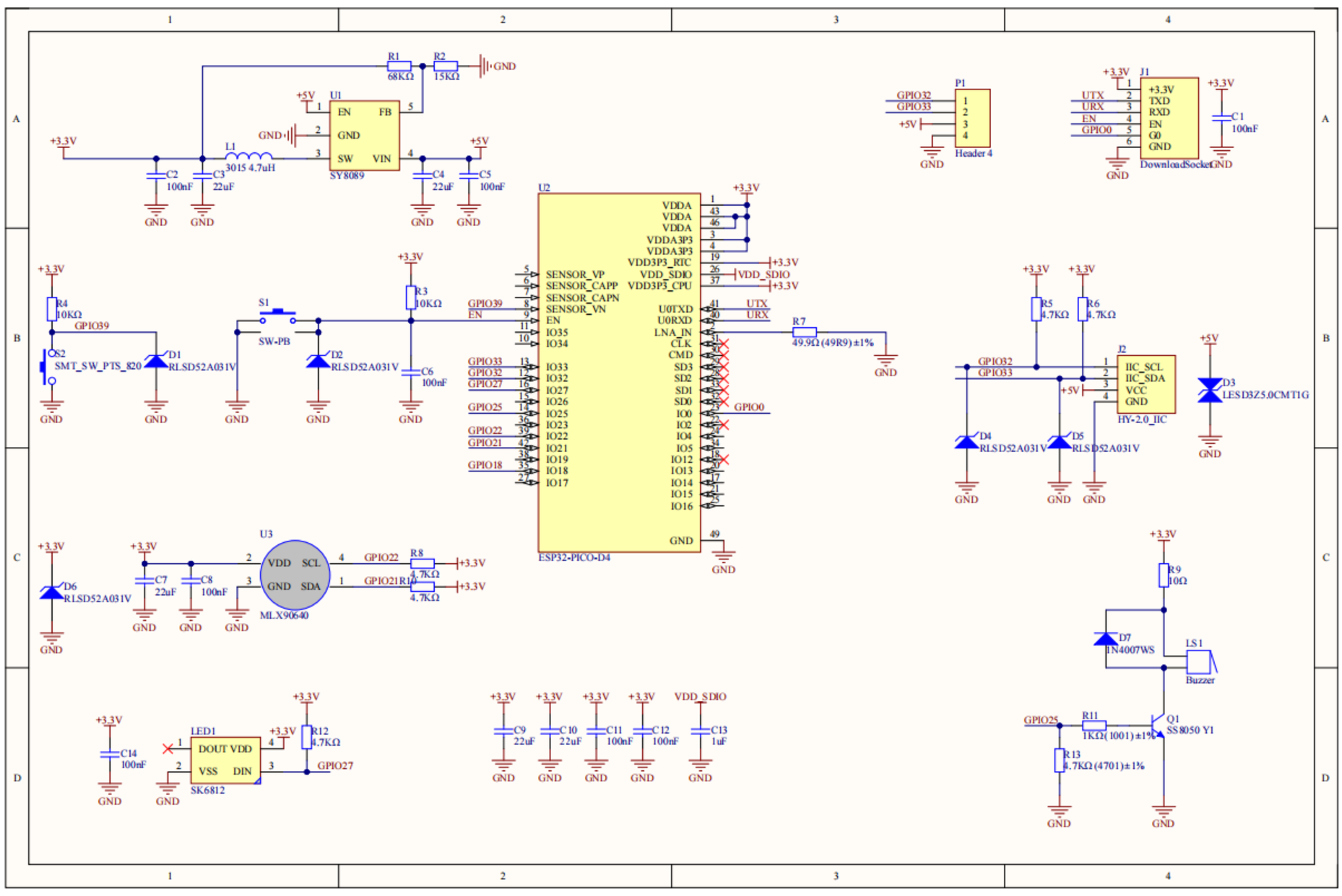




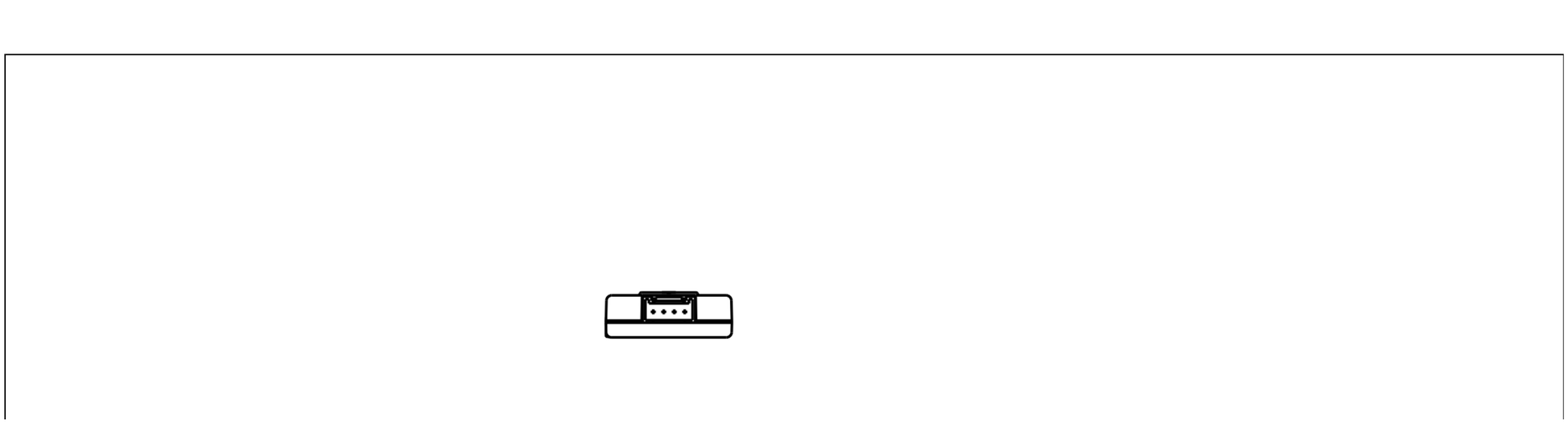

Related Link

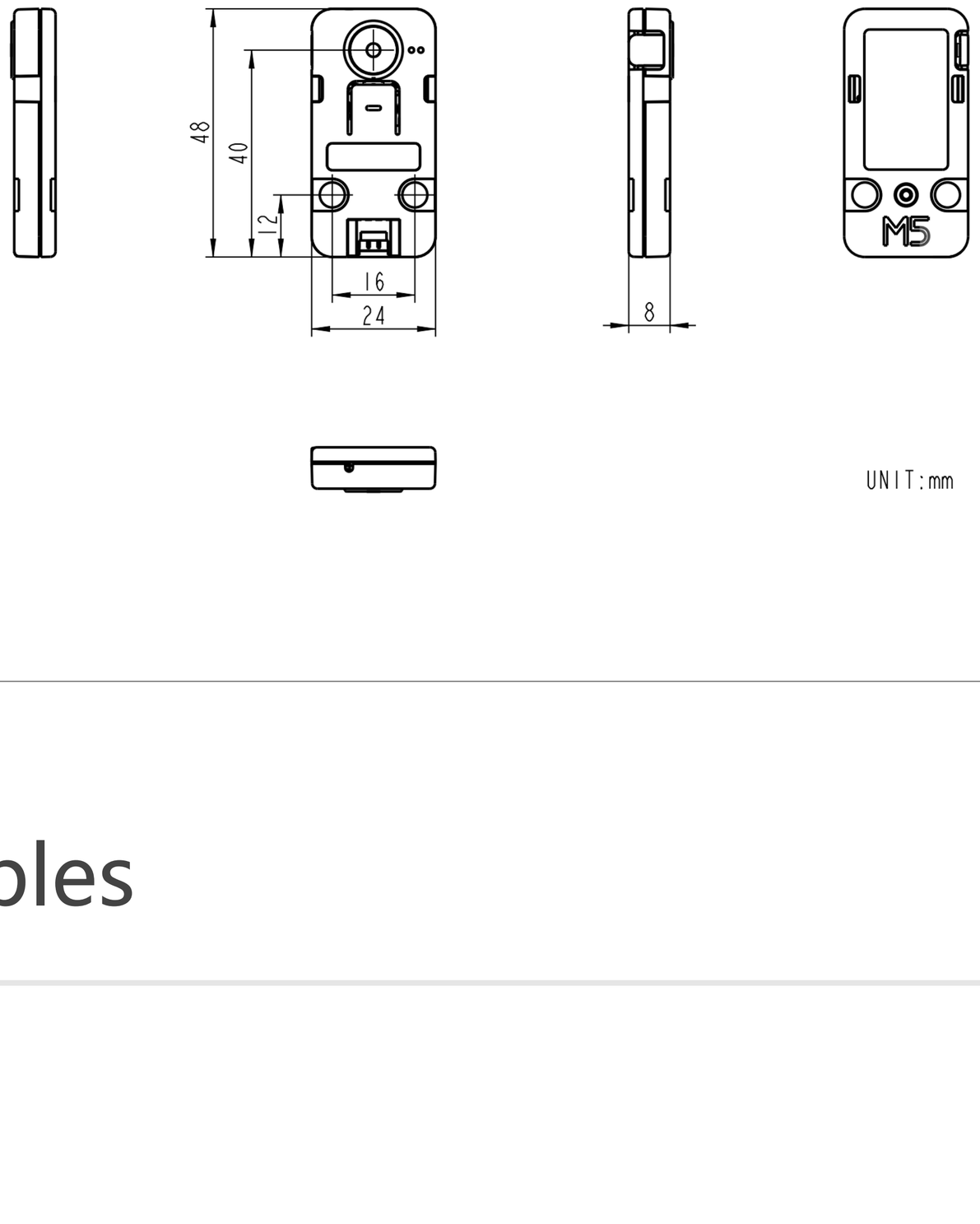
- MLX90640
- ESP32-PICO-D4
- M5Stack Unit Thermal 2 I2C Protocol

Schematic



Module Size

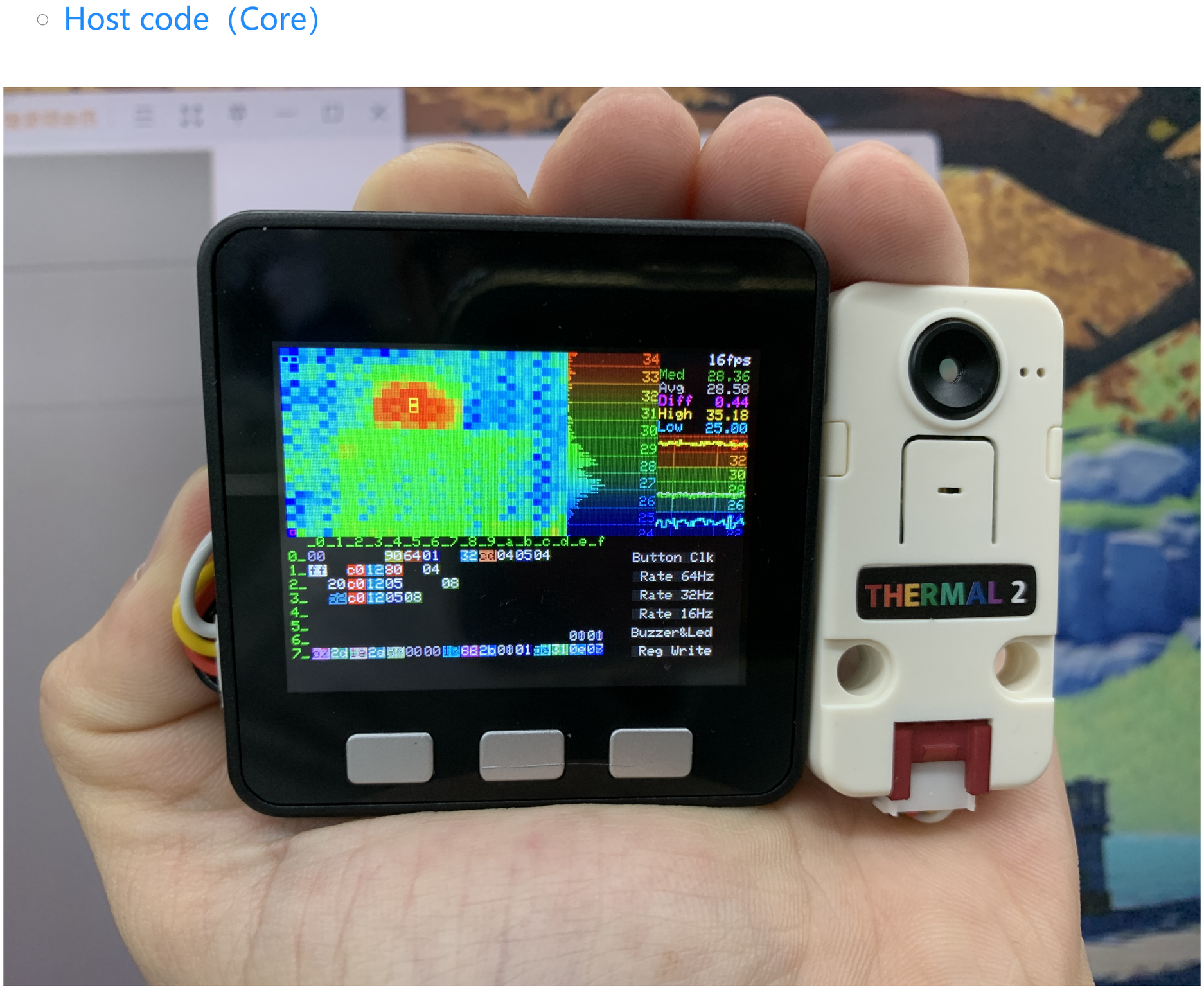




Examples

Arduino

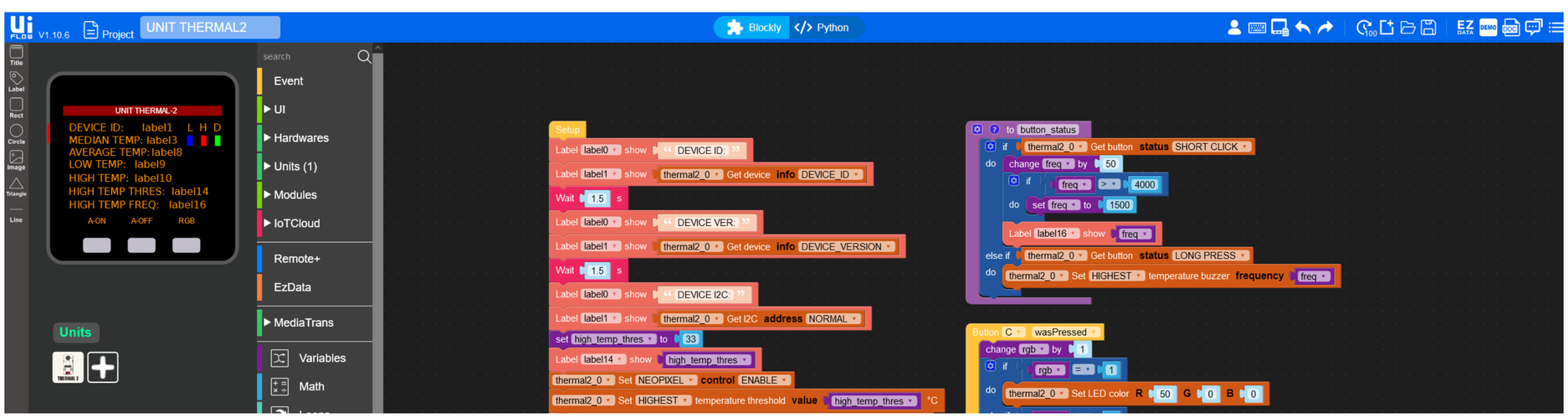
- Host code（Core）

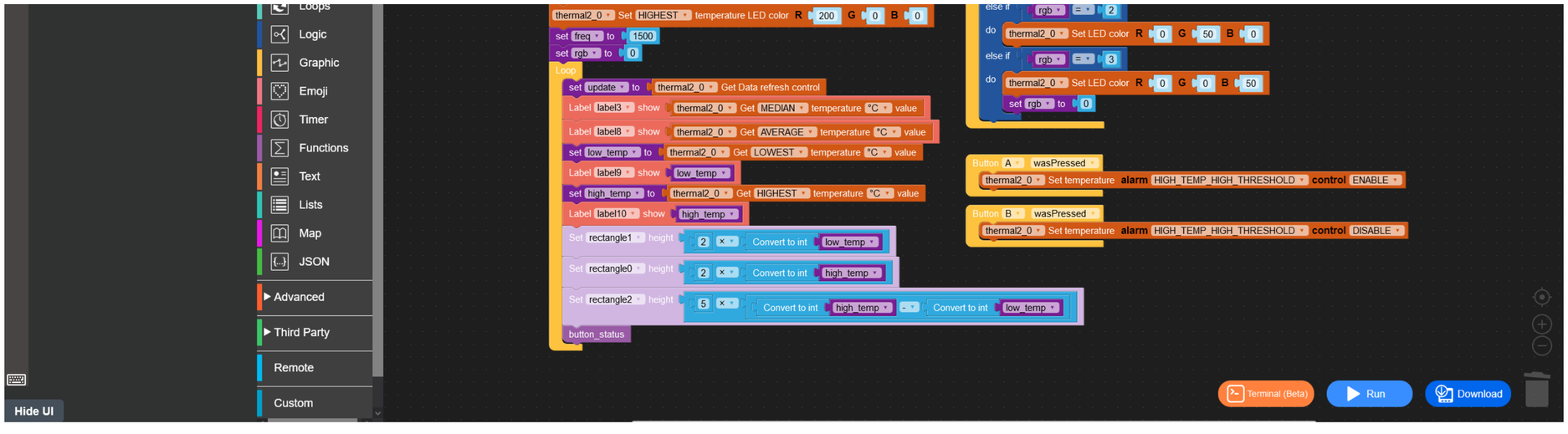


- Thermal2 firmware

UIFlow

- High Body Temperature Alert System





UIFlow Blocks

- Get button status

- Get temperaturre alarm status

- Get device info

- Get I2C address

- Get function control

- Get refresh rate

- Get noise filter

- Get temperature monitor size

- Get buzzer frequency value

- Get buzzer duty cycle

- Get lowest temperature or highest temperature threshold value

- Get low temperature or high temperature buzzer frequency

- Get low temperature or high temperature buzzer interval

- Get low temperature or high temperature LED RGB colors

- Get data refresh control

- Get subpage information

- Get (median / average / differential / lowest / highest) temperature value

- Get (differential / lowest / highest) position

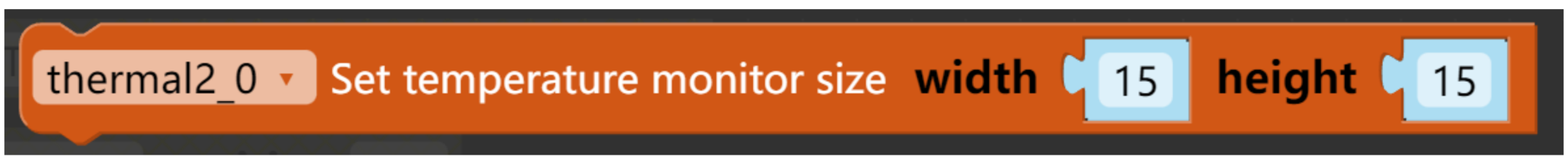
- Get temperature data buffer

- Set control for buzzer, neopixel, auto-refresh

- Set refresh rate

- Set noise filter

- Set temperature monitor size



- Set temperature alarm control

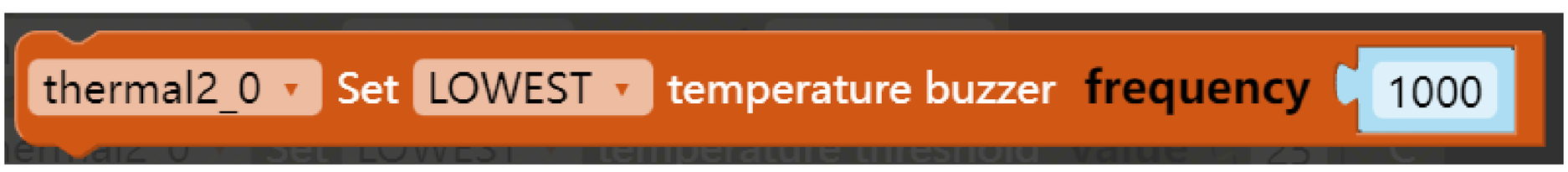
- Set buzzer frequency

- Set buzzer duty cycle

- Set RGB LED colors

- Set lowest temperature or highest temperature threshold value

- Set lowest temperature or highest temperature buzzer frequency



- Set lowest temperature or highest temperature buzzer interval

- Set lowest temperature or highest temperature LED color