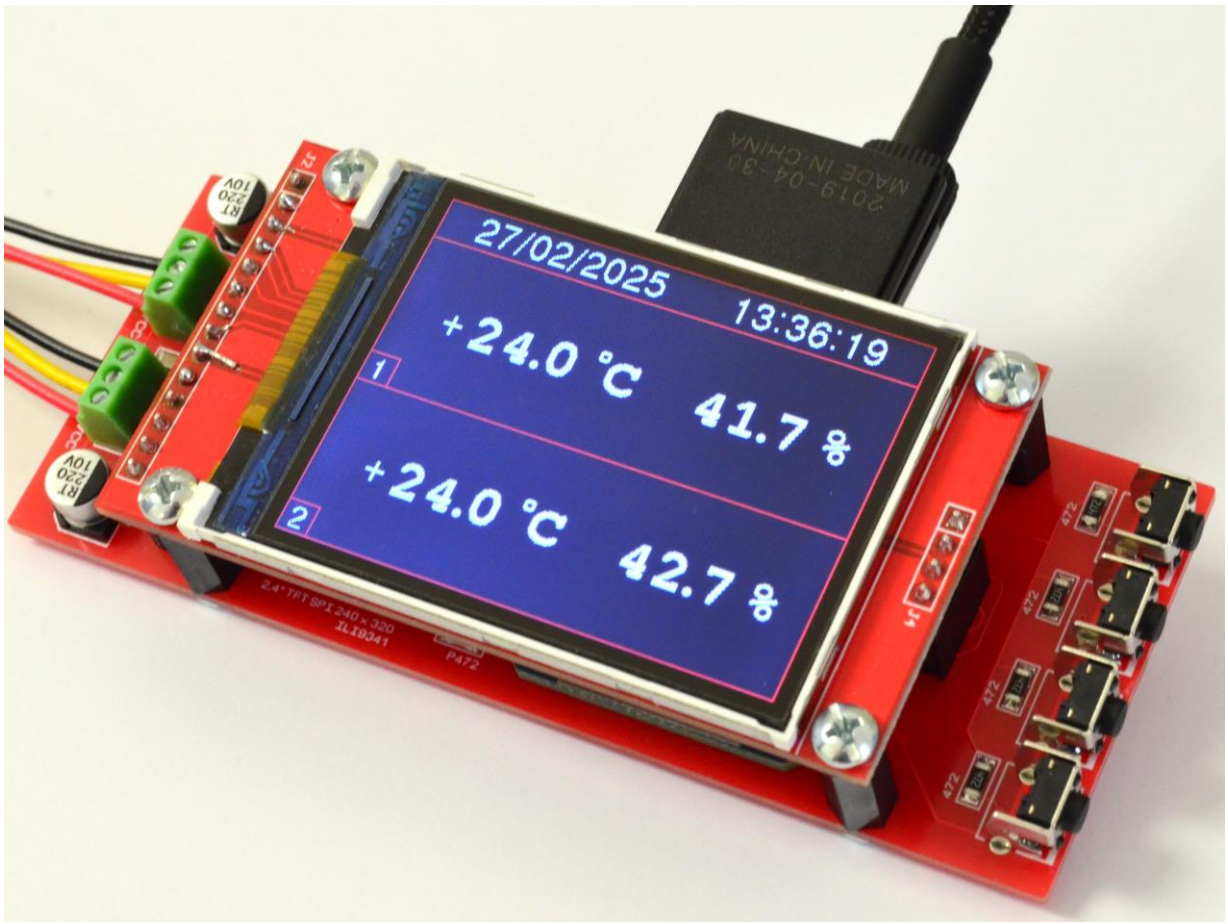
2 Channel Temperature Humidity Standalone SD card DATALOGGER

DHT22, AM2302, AM2305



1. What is this?

This is 2 channel temperature and humidity data logger with measuring temperature range -40 … + 80 °Celsius (-40 … + 185 °Fahrenheit) and humidity range 0…99% RH which work with digital temperature and humidity sensor DHT22. All measured temperature and humidity data are stored on the external sd card. This temperature and humidity data logger is fully standalone and not necessary connect it to pc for data stored.

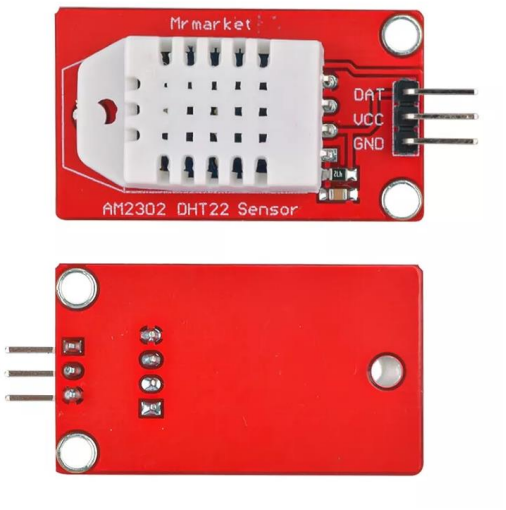
Real-life data are transferring via usb cable in *TXT format.

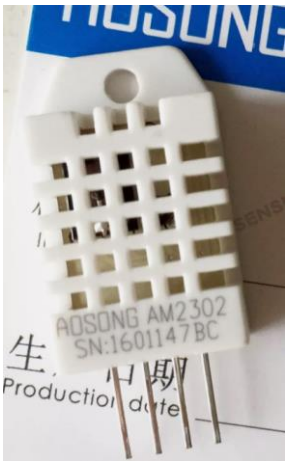
2. Device specification.

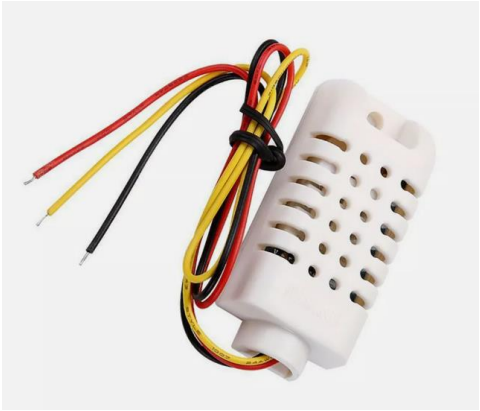
- Size - width 43mm, length 107mm, height 25mm
- Device weight - 120gr
- Colorful TFT 2.4 inch 240x320 display
- Temperature and humidity probe type - digital sensor DHT22
- Temperature measuring range: -40 …+80 °C / -40 … +185 °F
- Temperature accuracy - ±0.5°C / (-40 ~ 80°C / -40 ~ +185 °F)
- Humidity measuring range: 0…99%
- Resolution temperature and humidity - 0.1 °C / 0.1 °F
- Sensor wire length can be extended up to 10 meters
- Power supply – usb type-C
- Device current - max 100mA
- Usb speed - 115200
- Usb driver chip - CH9102X (or similar)
- Software selectable - Celsius / Fahrenheit
- Software selectable output format - TXT or CSV
- Changeable backlight level 5%...100%
- Changeable log interval – 1sec … 9999sec
- Integrated clock off-time battery type - CR1220
- Accepted SD Card types – SDHC, microSDHC
- SD Card file system - FAT32
- SD Card maximum size - 32Gb

3. What sensors type can I use?

You can use any modification of digital sensor type DHT22, AM2302 and AM2305 with 1wire data transferring protocol. Your digital sensor must have 3 wires – VCC, GND and DATA. Please be noticed that same sensor modification can have 4 wires. This 4 wires sensor is with i2c data transferring data and it NOT compatible with the data logger.







4. How much sd card memory is used to store measurement data?

With record interval 1sec, one year stored data will take only 1.2GB.

	1 sensor	2 sensors
1 sec	32 bytes	40 bytes
1 min	1,9 KB	2,3 KB
1 hour	112,5 KB	140,6 KB
1 day	2,6 MB	3,3 MB
1 month (30 days)	79,0 MB	98,9 MB
1 year (365 days)	962,4 MB	1,2 GB

DATA.TXT file maximum memory size with 1 second logging

5. How do I use device menu?

On the right side of the device are 4 buttons – enter, select, increase +, decrease - . Each button had double functionality - quick press and long press. With these four buttons you can operate device menu.

Quick press have a direct purpose.

Long press ENTER button – entering to the calibration menu.

Long press SELECT button – entering to the main menu.

Long press INCREASE+ button – entering to the system information.

Long press DECREASE- button – reboot the device.

6. Device setup calibration menu.

In this menu available four values for calibration:

- T1 temparature calibration value
- H1 humidity calibration value
- T2 temperature calibration value
- H2 humidity calibration value

These calibartion values are stored in eeprom memory.

7. Device setup changeable settings.

1. Set time – user setup time.
2. Set date – user setup date.
3. Set measuring value – user setup temperature measuring in Celsius or Fahreheit
4. Set logging interval – user setup measuring interval range. Value range from 1sec to 9999 sec, step 1 second.
5. Set output log format – CSV or TXT.
6. Set backlight level – user setup lcd display backlight level. Level range from 5% to 100%, step 5%.

Device settings are stored in eeprom memory.

8. Device system information menu page.

With this menu page device showing system information such as chip type, firmware version and volume, manufacturing date, uart speed, sd card info and device serial number.

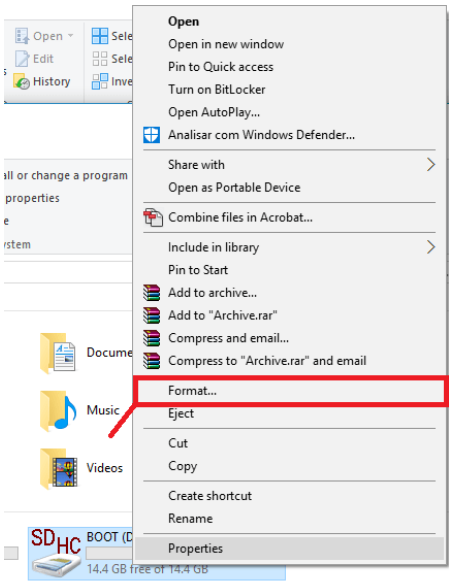
9.How do I connect SD card?

On the top side of the device is located sd card slot.

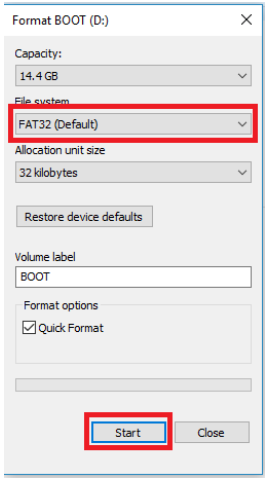
10. Formatting the SD card and DATA.txt file creating

When using a SD card with the DATALOGGER, you should format it first. Maximum size of SD card is 32GB. Follow the next instructions to format your SD card.

A. Insert the SD card in your computer. Go to **My Computer** and right click on the SD card. Select **Format** as shown in figure below.

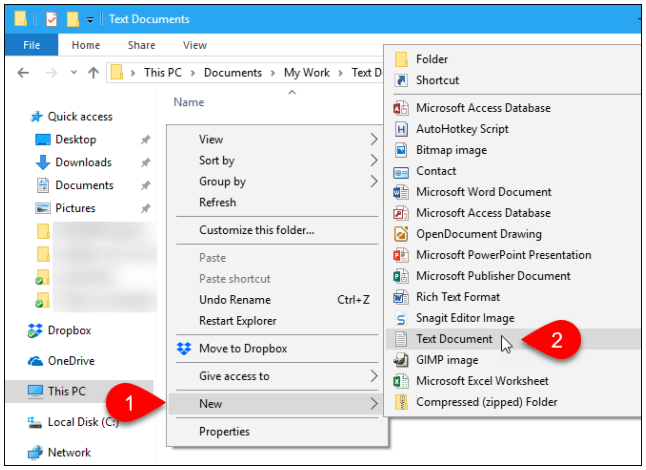


B. A new window pops up. Select **FAT32**, press **Start** to initialize the formatting process and follow the onscreen instructions.

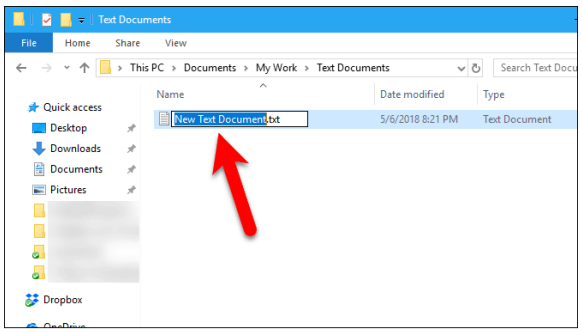


C. The next one step is to create DATA.txt file for temperature values storage.

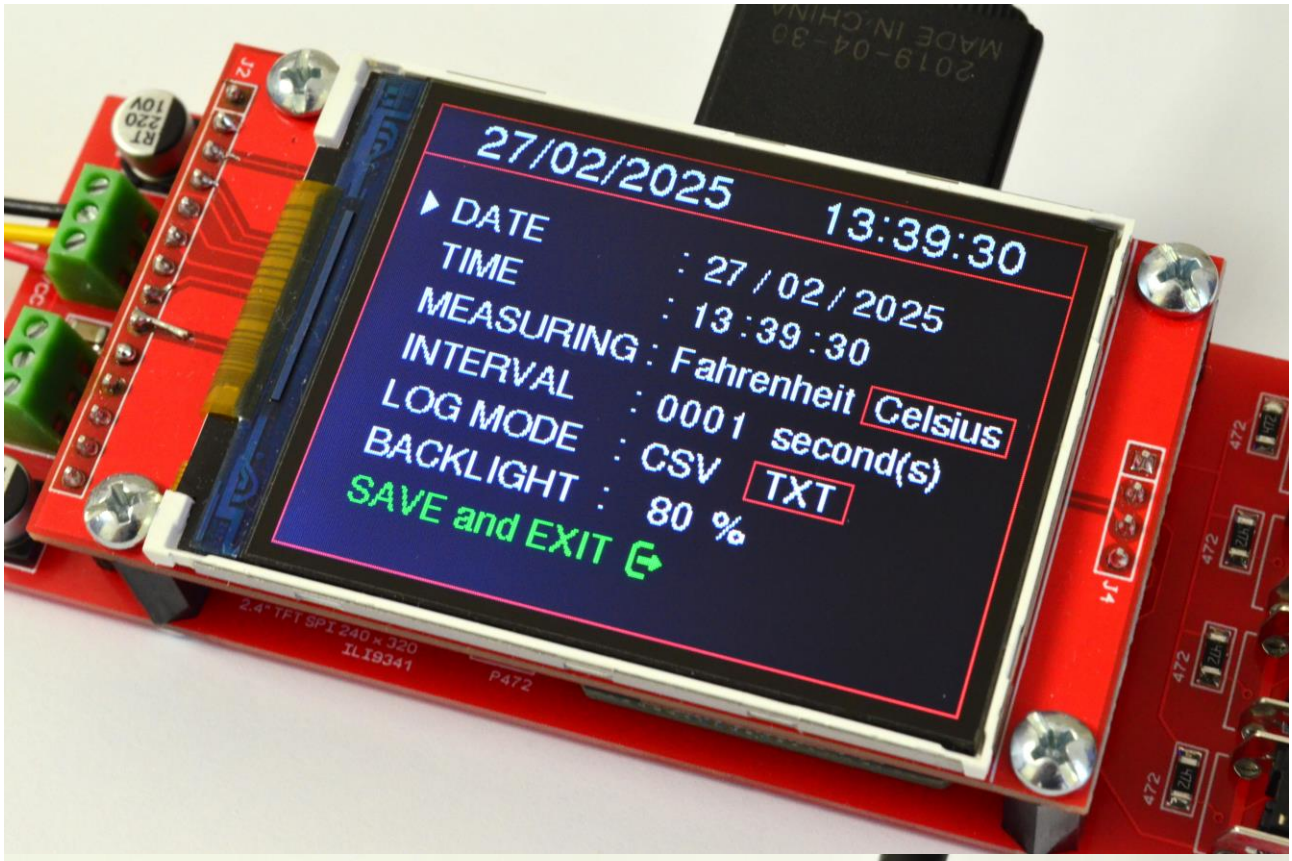
Open File Explorer and navigate to the SD card. Right-click in the folder and go to **New > Text Document**.

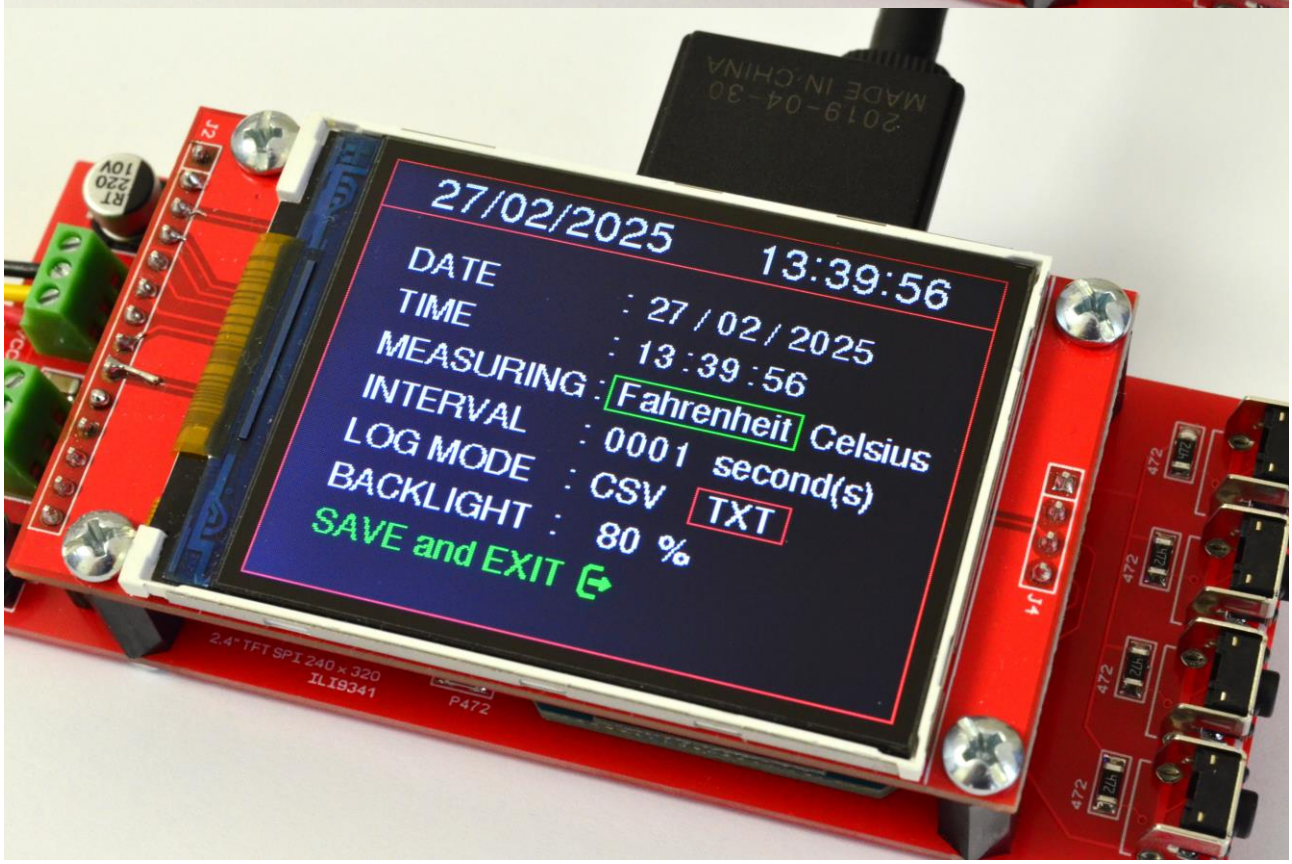


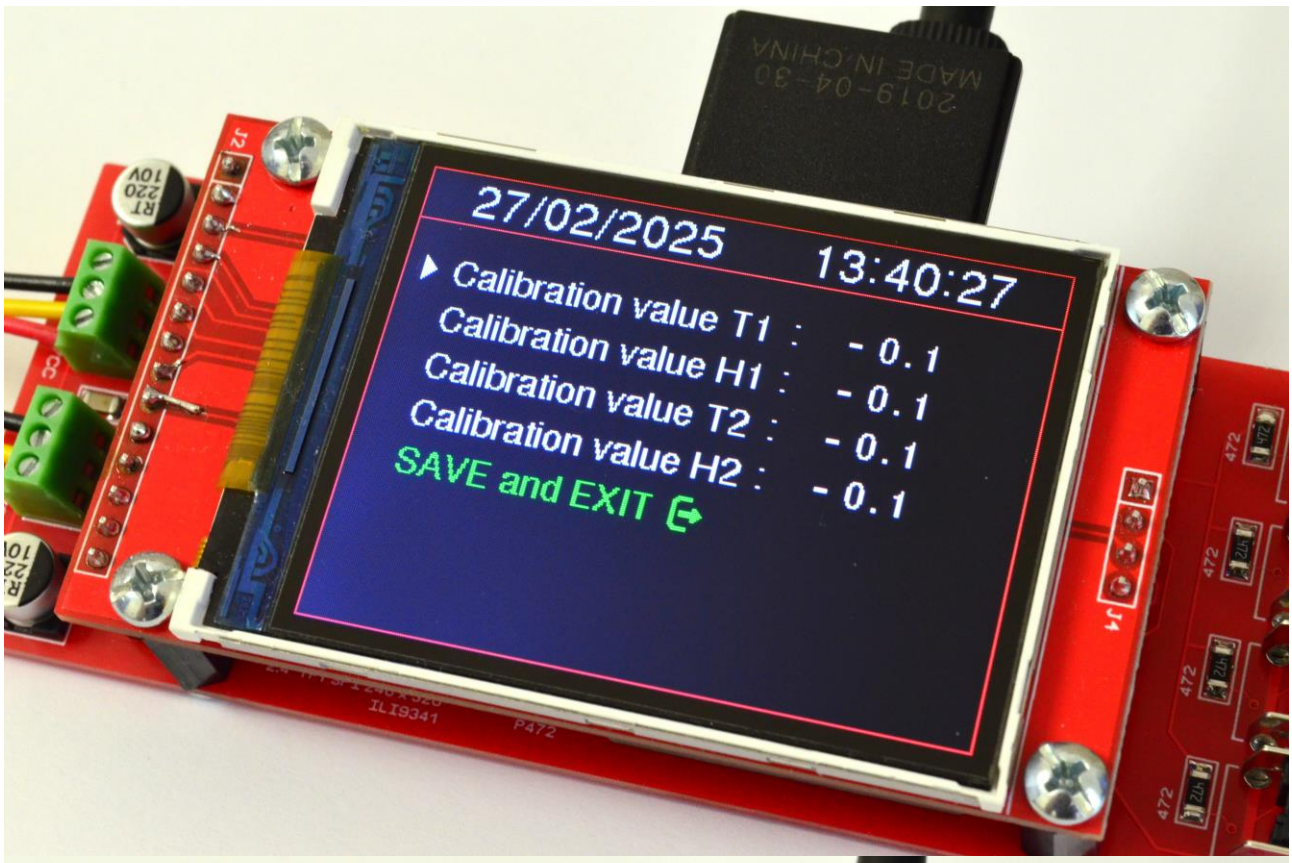
The text file is given a default name, **New Text Document.txt**, but the file name is highlighted. Type a new name for the file and press **Enter**. New name is **data**.txt. Now log data will be stored in this file.



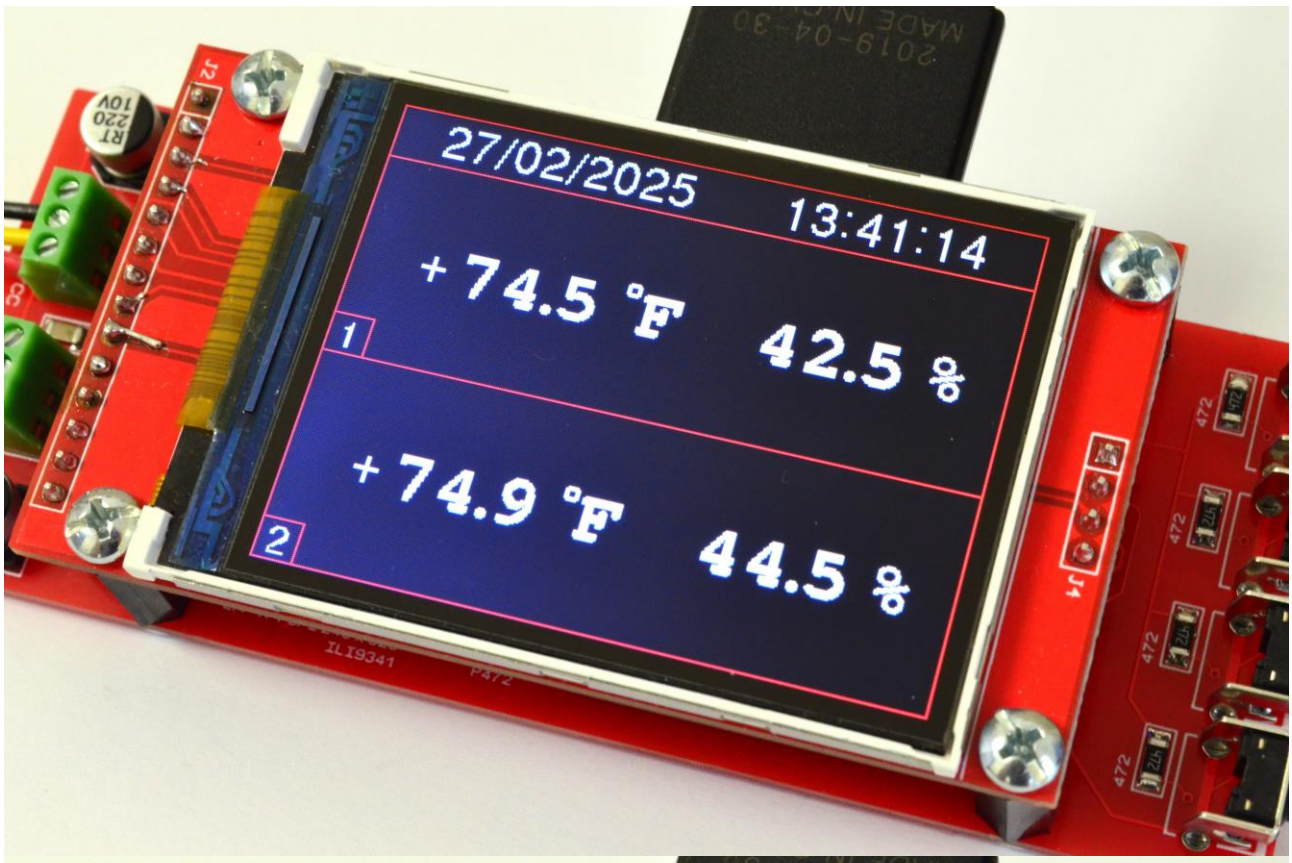
11. Device photos:

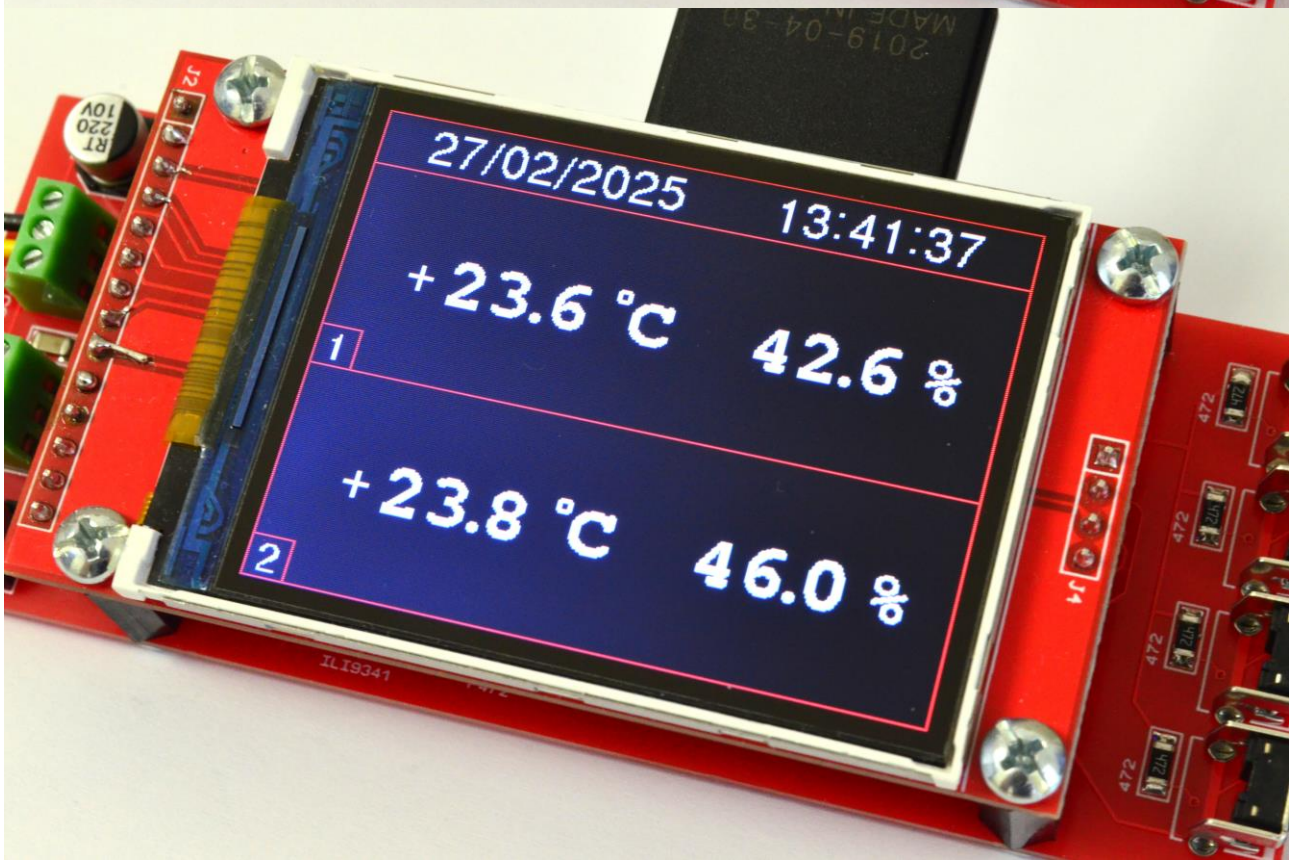


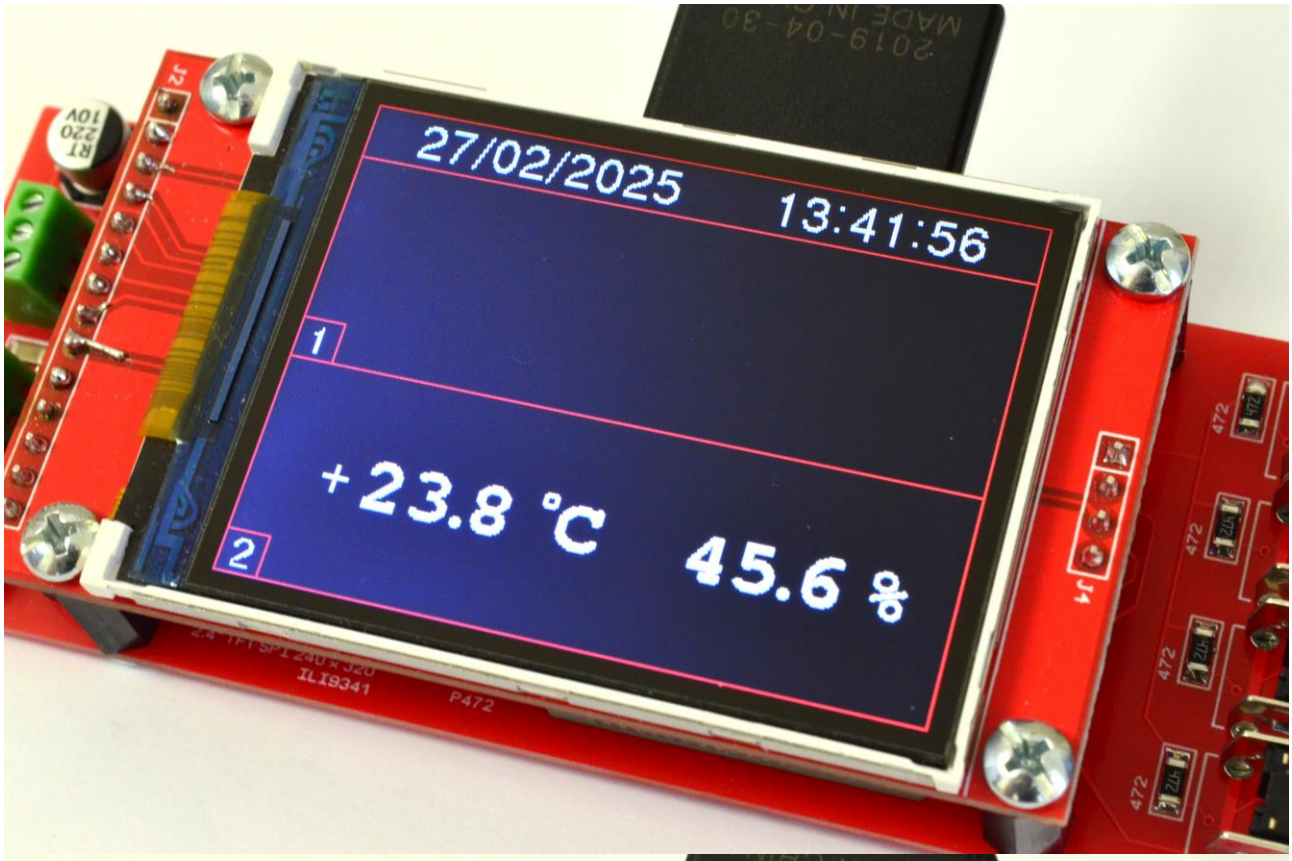


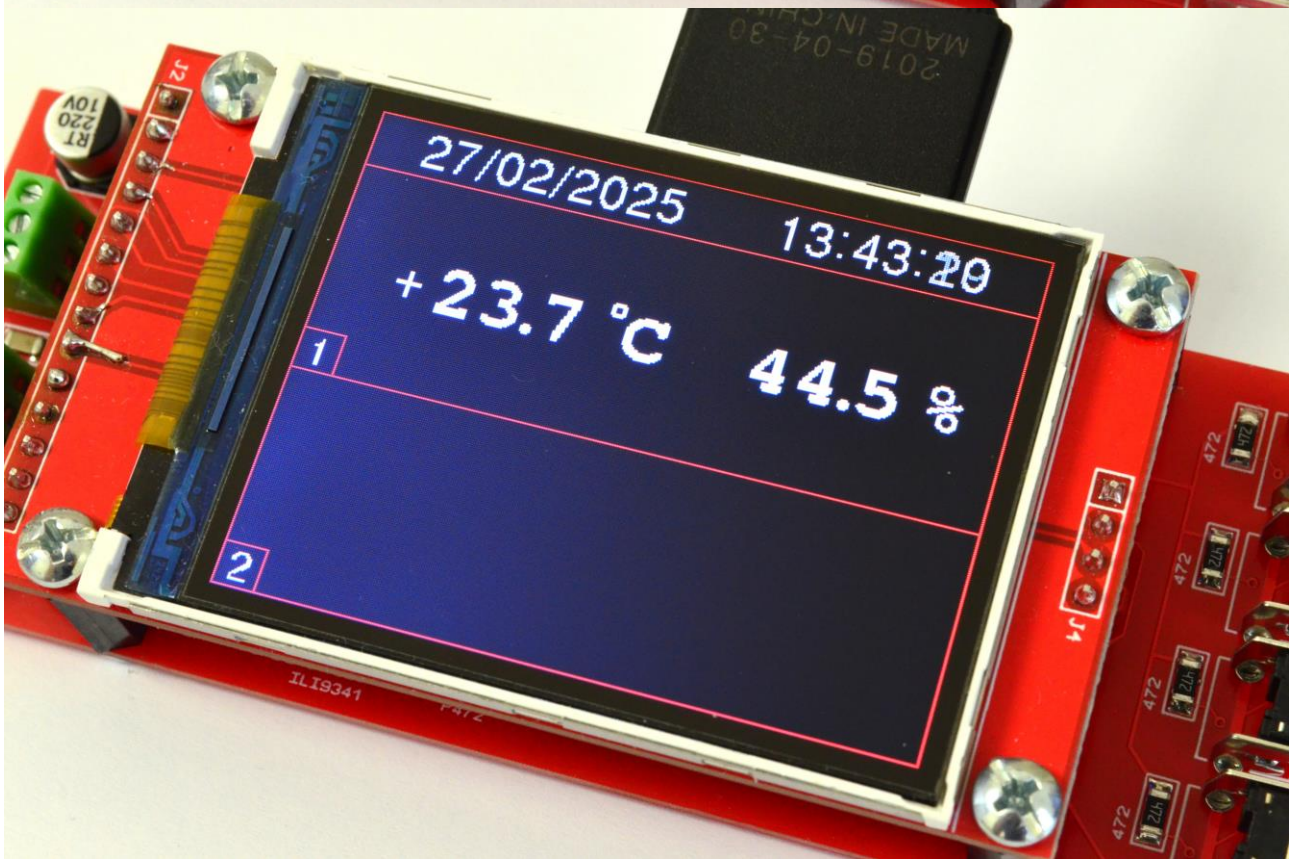

27/02/2025
13:40:27
Calibration value T1 : - 0.1
Calibration value H1 : - 0.1
Calibration value T2 : - 0.1
Calibration value H2 : - 0.1
SAVE and EXIT

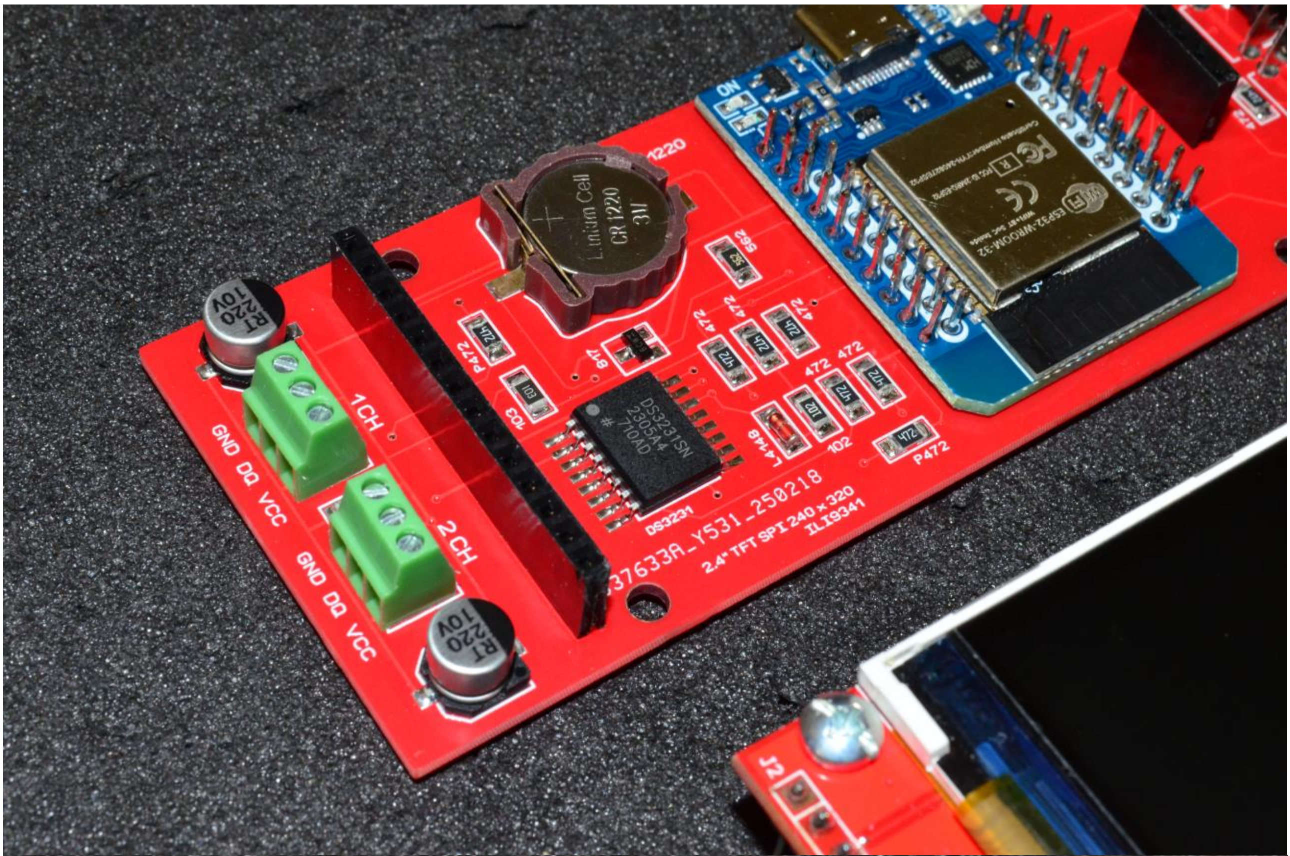
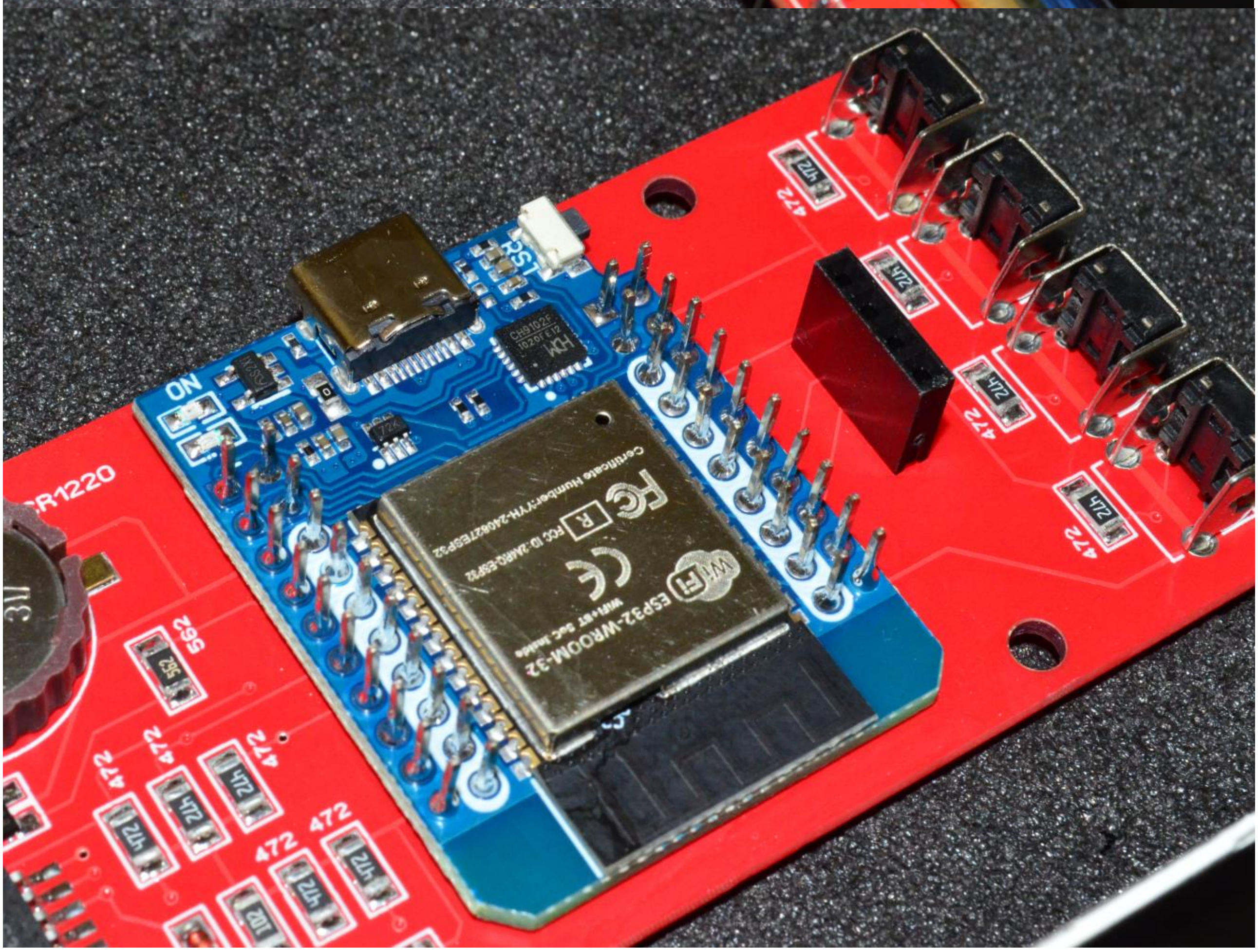

27/02/2025
13:40:48
Chip type: ESP32-D0WD-V3.1
Firmware : v1.00, 465716 bytes
Manufacturing: 25 FEB 2025
UART speed: 115200 baud
SD Card: SDHC, 30528 MB
SN: 3337633A_Y507_250108
< Reboot device to exit >

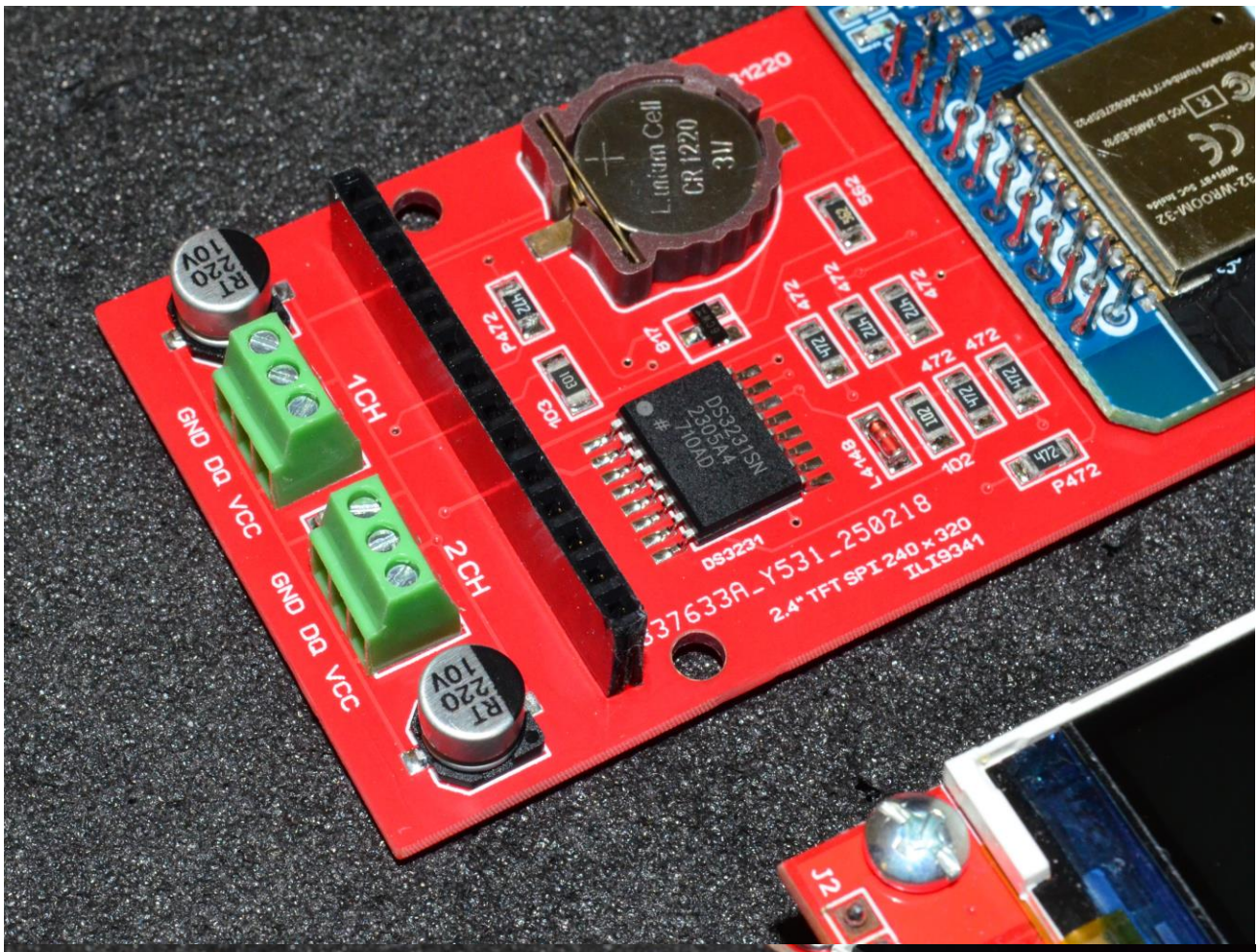

27/02/2025
13:41:14
+74.5 °F
42.5 %
1
+74.9 °F
44.5 %
2

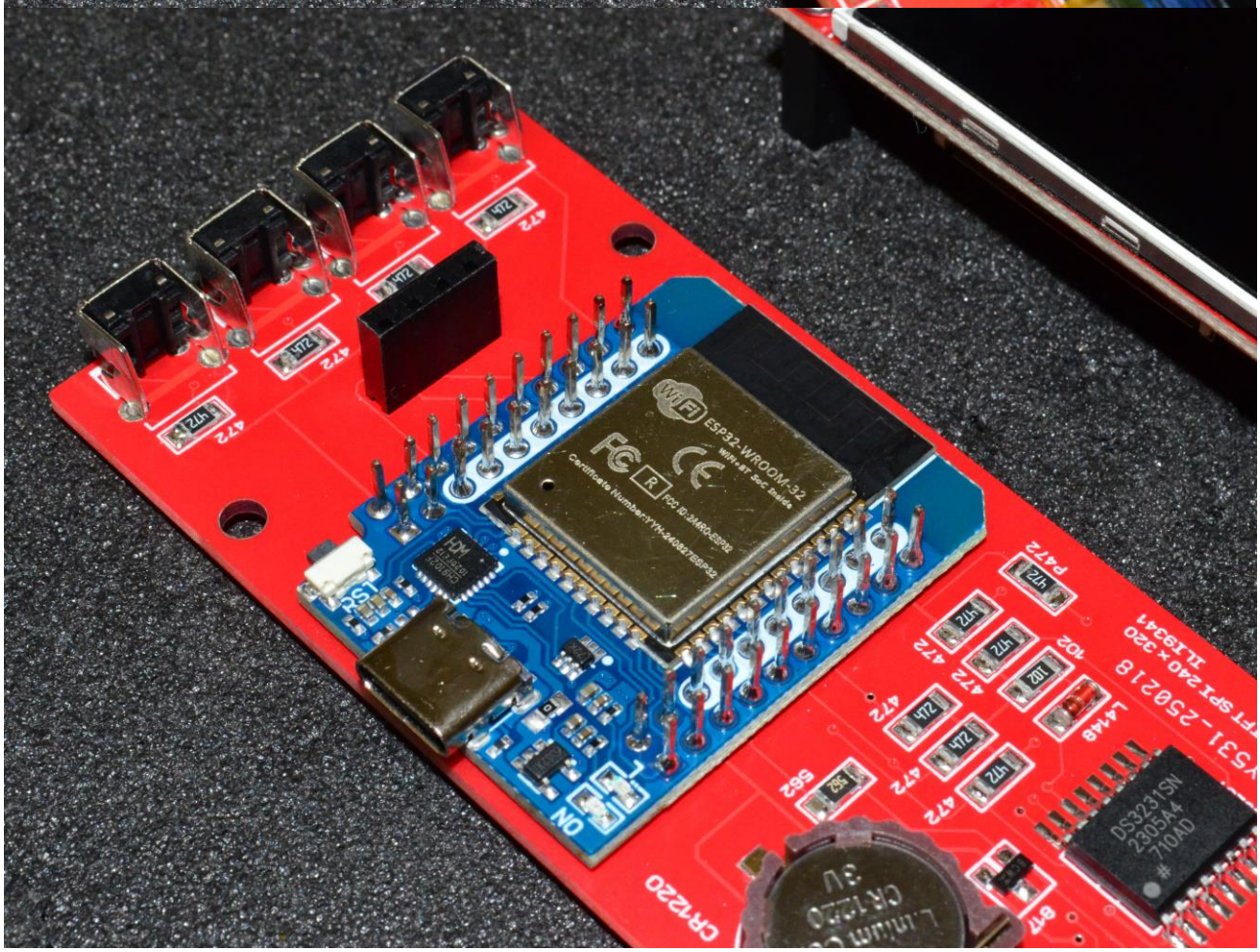

27/02/2025
13:41:37
+23.6 °C
42.6 %
1
+23.8 °C
46.0 %
2

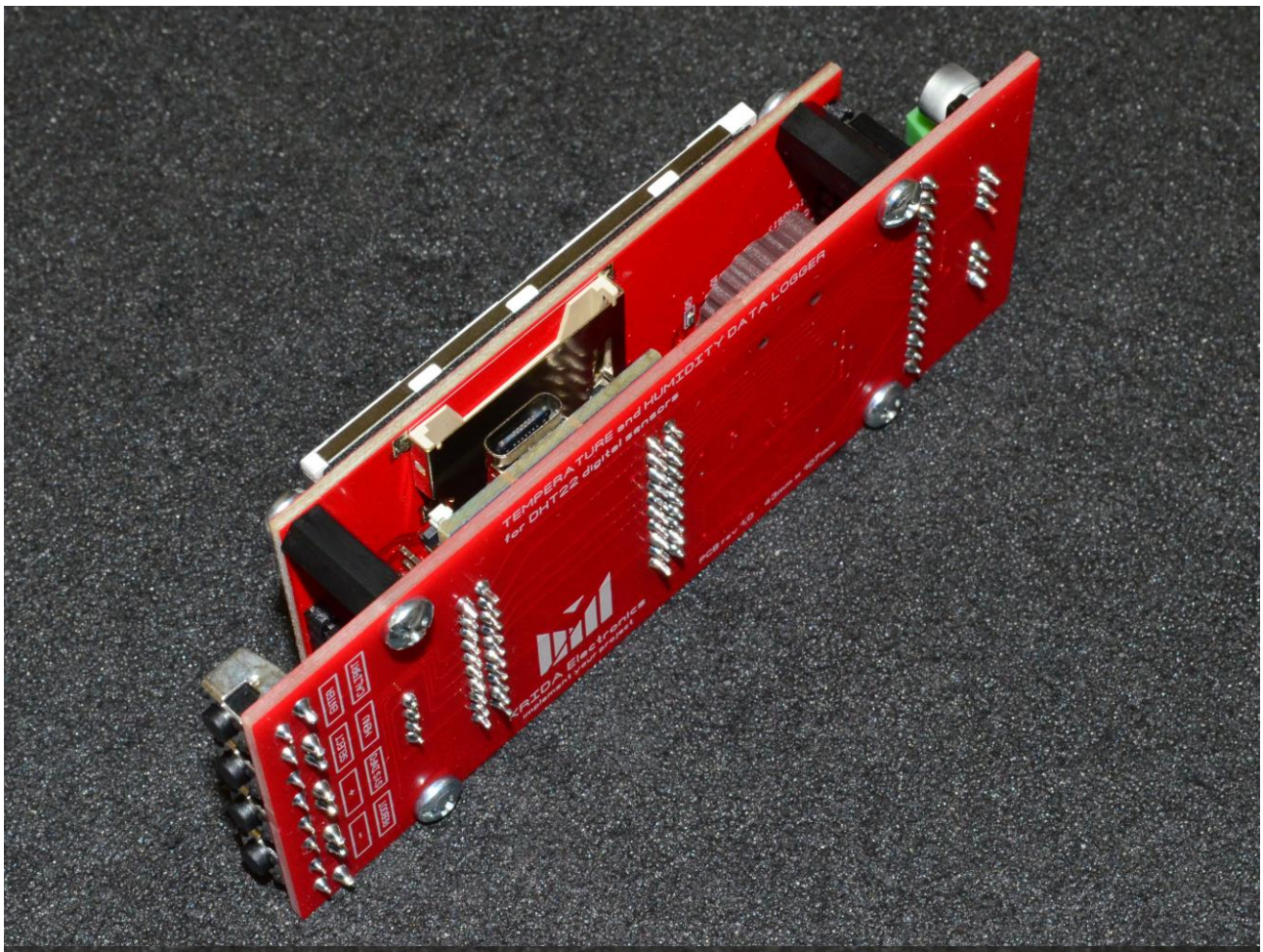

27/02/2025
13:41:56
1
+23.8 °C
45.6 %
2
ILI9341

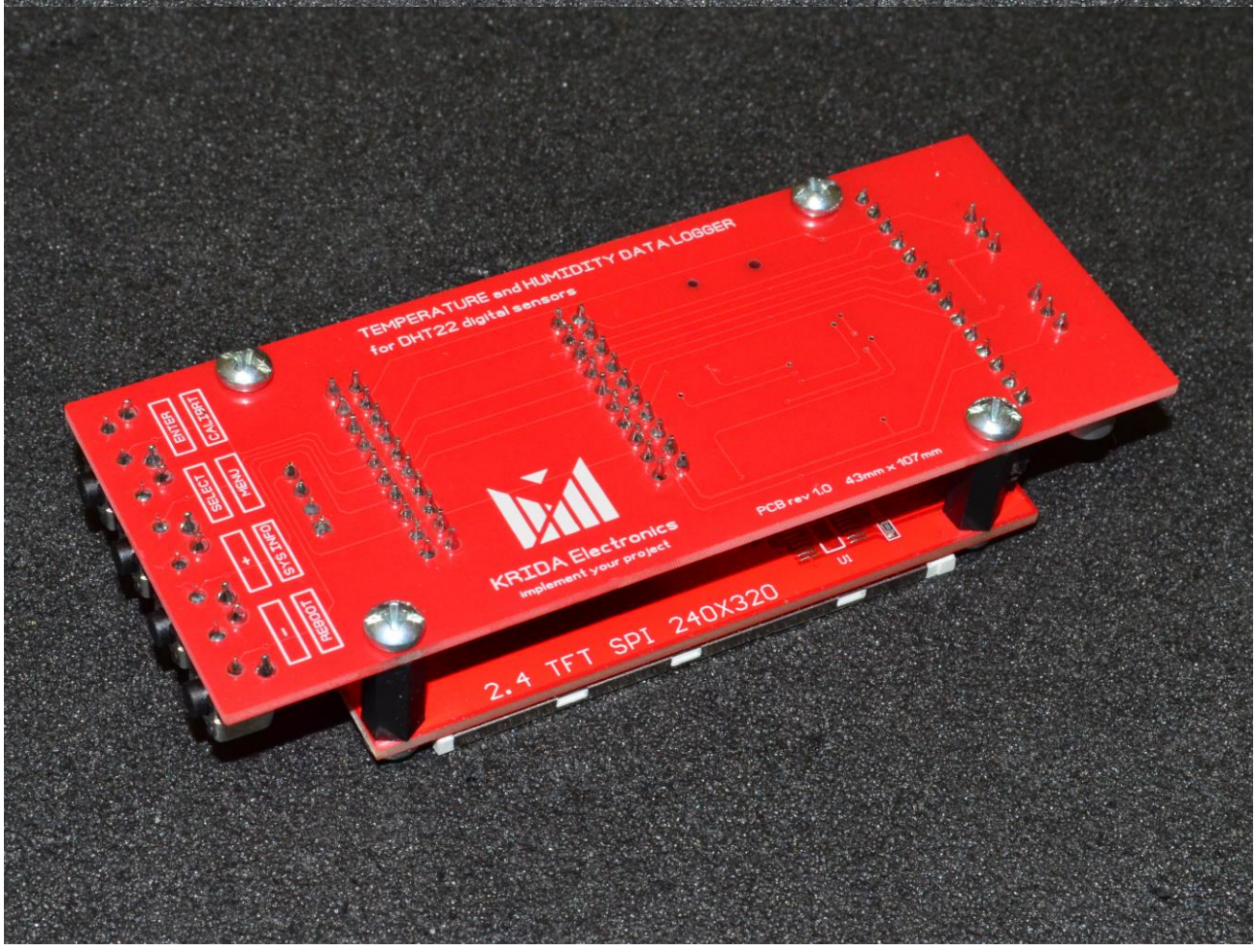

27/02/2025
13:43:20
1
+23.7 °C
44.5 %
2
ILI9341

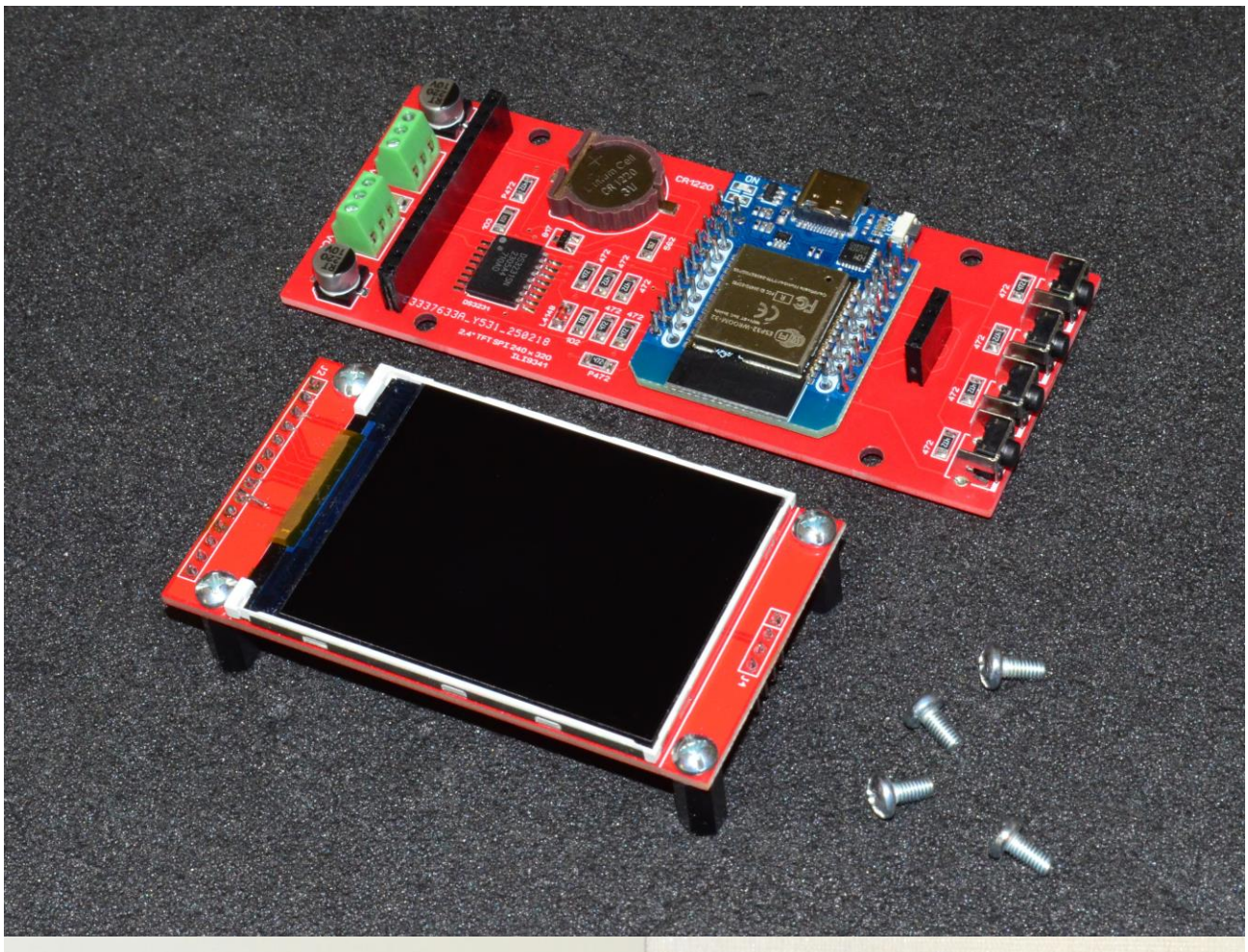

Lithium Cell
CR1220
3V
RT 220 10V
1CH
2CH
GND DQ VCC
GND DQ VCC
DS3231SN
DS3231
37633A_Y531_250218
2.4" TFT SPI 240×320
ILI9341
ESP32-WROOM-32
ON

ON
RST
CR1220
ESP32-WROOM-32
562

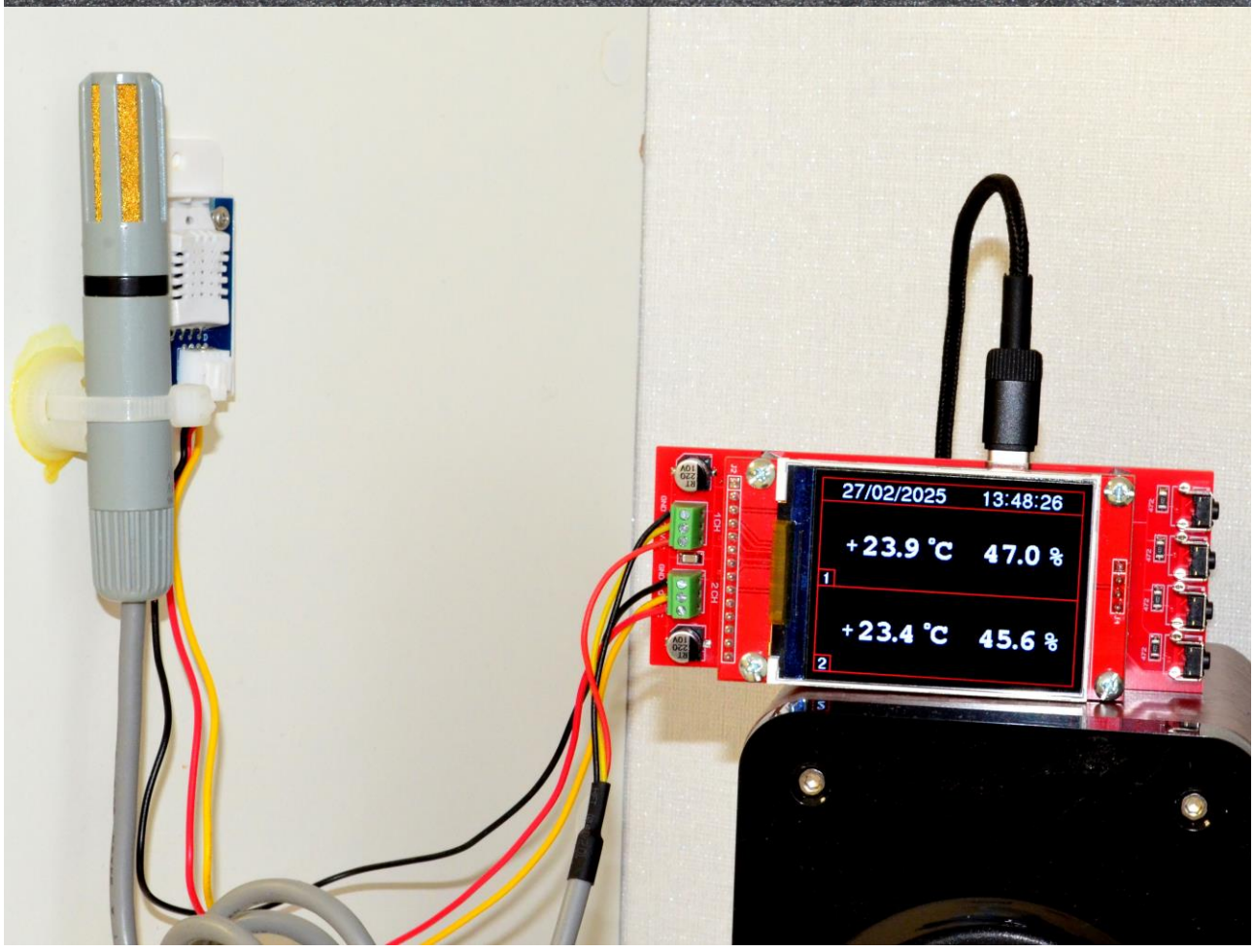

Lithium Cell
CR1220
3V
1CH
2CH
GND DQ VCC
GND DQ VCC
DS3231SN
2305A4
710AD
DS3231
337633A_Y531_250218
2.4" TFT SPI 240×320
ILI9341
J2


ESP32-WROOM-32
DS3231SN
2305A4
710AD
CR1220


TEMPERATURE and HUMIDITY DATA LOGGER
for DHT22 digital sensors
KRIDA Electronics
implement your project
PCB rev 1.0 43mm x 107mm
ENTER
CALIBRAT
SELECT
MENU
SYSTEMCO
REBOOT
U1


TEMPERATURE and HUMIDITY DATA LOGGER
for DHT22 digital sensors
ENTER
CALIBRAT
SELECT
MENU
SYSTEMCO
REBOOT
KRIDA Electronics
implement your project
PCB rev 1.0 43mm x 107mm
U1
2.4 TFT SPI 240X320




27/02/2025
13:48:26
+23.9 °C
47.0 %
+23.4 °C
45.6 %