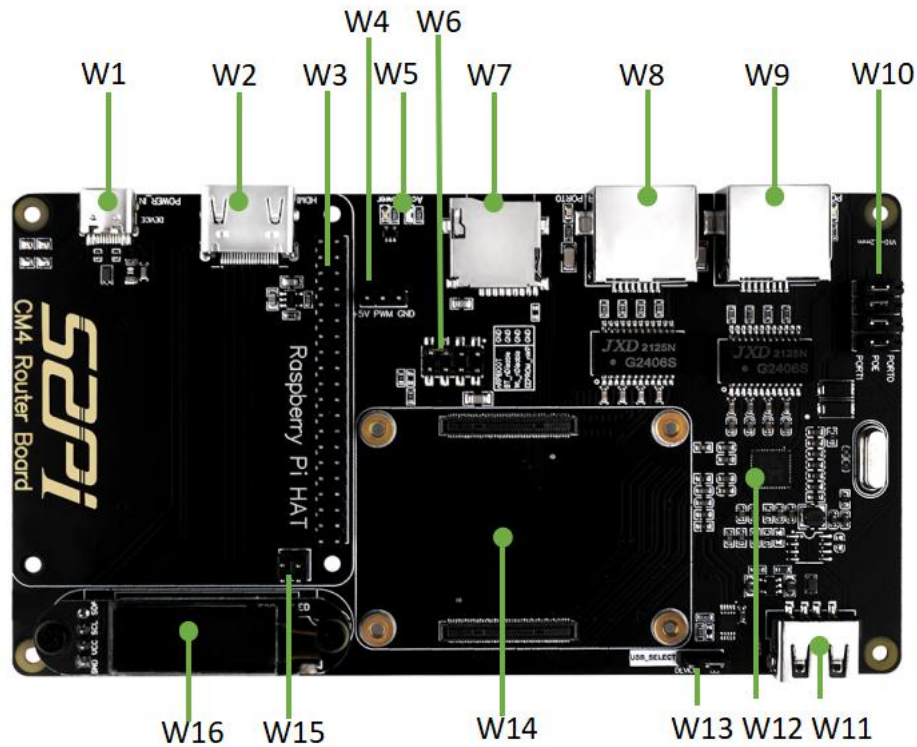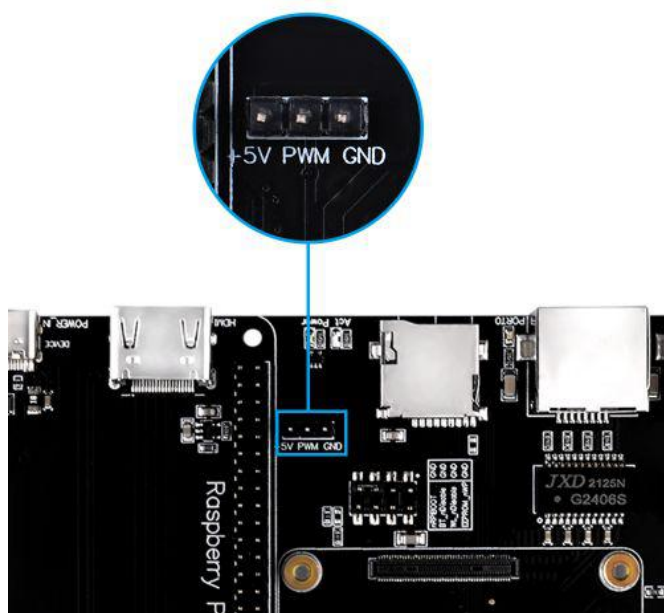Description of Pin Header

W4: DC 5V Fan Pin Header
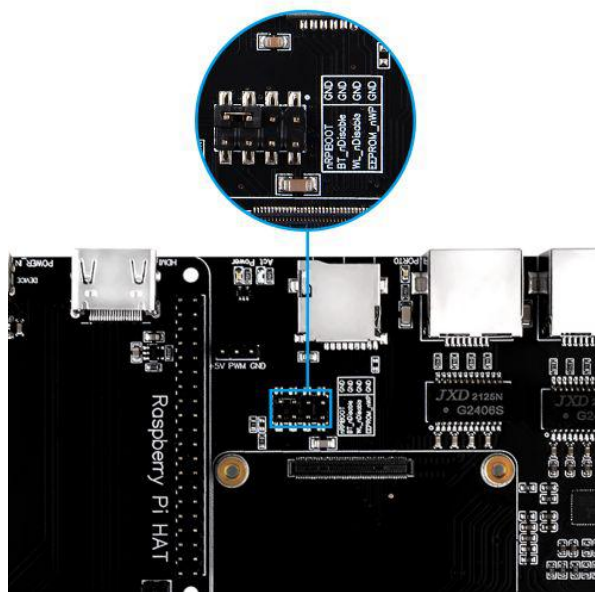
Those Pins can be handled by Raspberry Pi OS itself or by programming, please refer to `raspi-config` tool.

Silk Mark	Note
+5V	Connect to Positive Pin of Fan
PWM	Connect to Signal Pin of Fan
GND	Connect to Negative Pin of Fan

Note: PWM Fan does not included in package!

W6: eMMC version CM4 burning switch

- nRPIBOOT - Bootloader

1. Connect a HDMI cable to see if the HDMI diagnostics screen appears.
2. Short the nRPIBOOT pin to ground to force USB boot mode. The CM4 Router board has a jumper for nRPIBOOT This can be used to enable different boot modes (e.g. network) and enable UART logging.
a. See
[[https://www.raspberrypi.org/documentation/hardware/computemodule/cm-emmc-flashing.md]]

- WL_nDisable

This pin serves a number of functions:
1. It can be used to monitor the enable/disable state of wireless networking.
A logic high means the wireless networking module is powered up.

2. When driven or tied low it prevents the wireles network module from powering up. This is useful to reduce power consumption or in applications where it is required to physically ensure the wireless networking is disabled.

If theinterface is enabled after being disabled, the wireless interface driver needs reinitalised.

On CM4 modules without wireless, this pin is reserved.

- BT_nDisable

This pin serves a number of functions:

1. It can be used to monitor the enable/disable state of Bluetooth. A logic high means the Bluetooth module is powered up.

2. When driven, or tied low, it prevents the Bluetooth module from powering up.

This is useful to reduce power consumption, or in applications where it is required to physically ensure the Bluetooth is disabled.

If the interface is enabled after being disabled, the Bluetooth interface driver needs reinitalised.

On CM4 modules without wireless, this pin is reserved.

- EEPROM_nWP

It is recommended that final products pull this pin low to prevent the end users changing the contents of the on board EEPROM.
See the Raspberry Pi 4, Model B documentation for instructions on the software settings required to support EEPROM Write protection.
[[https://www.raspberrypi.org/documentation/hardware/raspberrypi/booteeprom.md#:~:text=EEPROM%20write%20protect]]
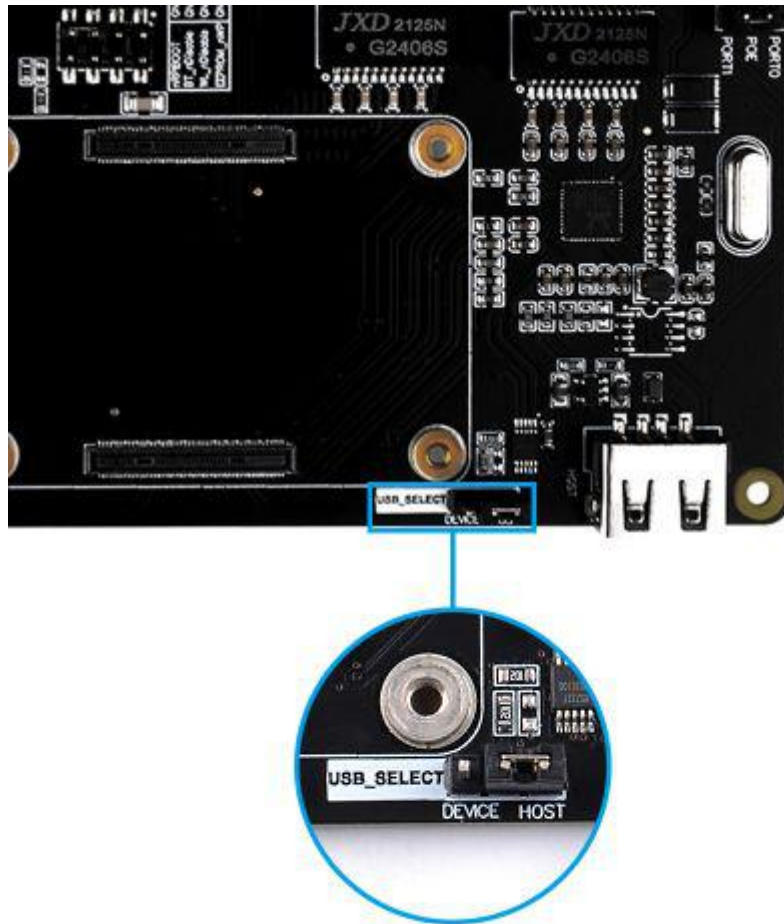
W10&W15: PoE Port Adjust Pin

It have 4 jumper caps, caps position configures POE to connect to Port 0 or Port 1

PORT0
POE
PORT1

HAT
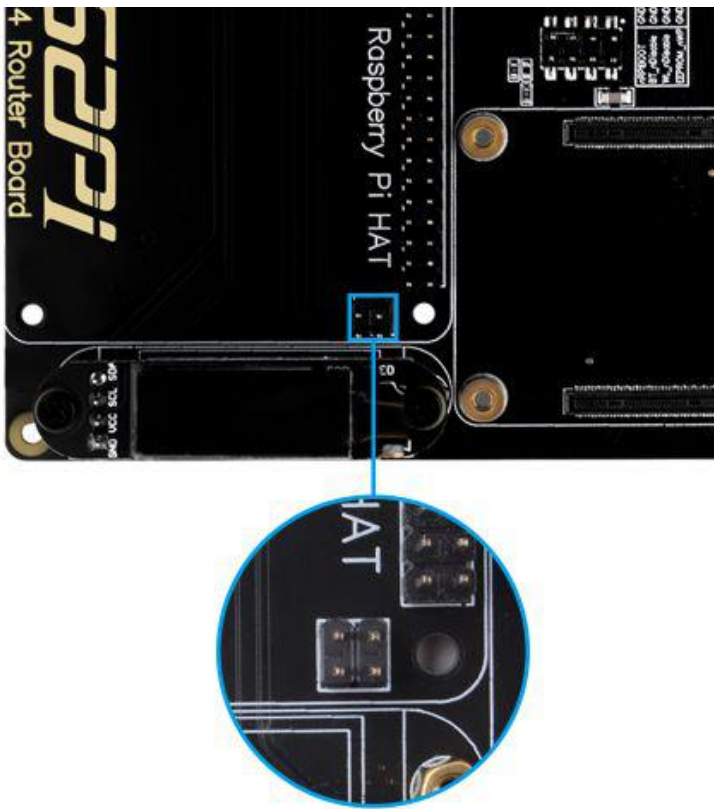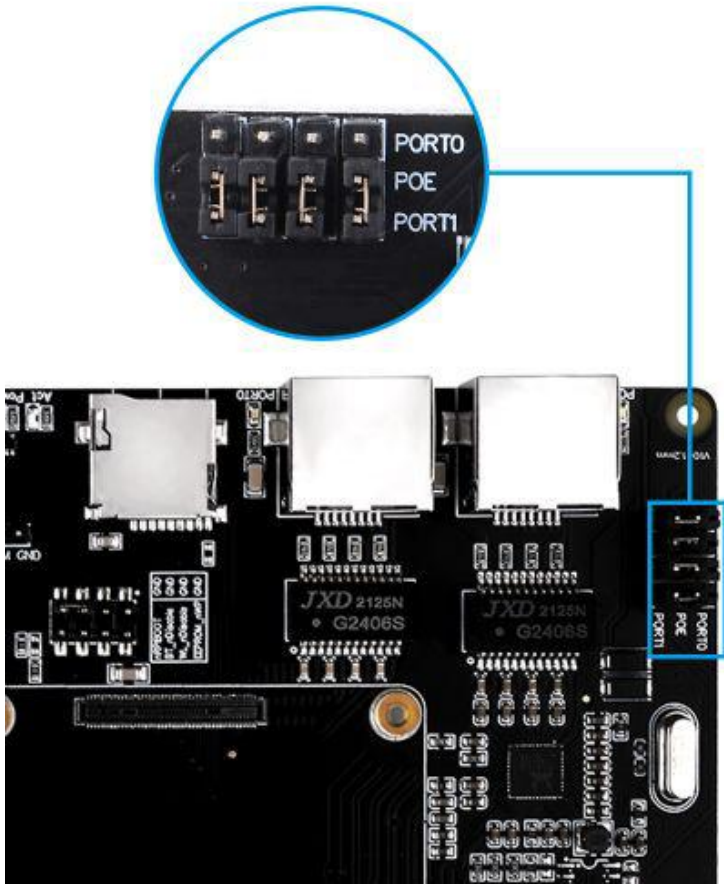
W13: USB mode selection Pin

It is USB mode selection Pin, enabled by jumper caps, can change USB mode to Device mode and Host mode. Default mode is: USB 2.0 Host
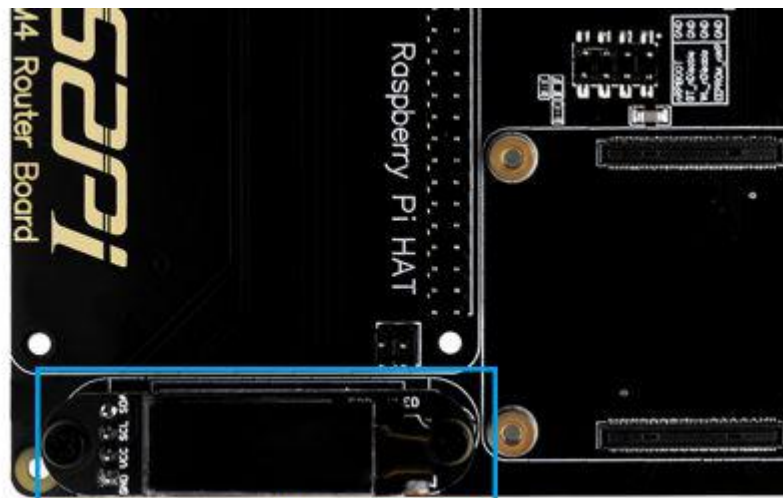

W14: CM4 Attach Position

Note: Please pay attention to the direction of the slot, wrong direction or wrong angle may damage your CM4 Module.

W16: 0.91 inch OLED display

It communicate with Raspberry Pi CM4 via I2C protocol, it is based on SSD1306 chipset, 128x32 pixels resolution. It has been pre-installed on the CM4 router board and connect to CM4 on GPIO Pin number as following chart, and need to add `dtoverlay=i2c-gpio,i2c_gpio_sda=2,i2c_gpio_scl=3,i2c_gpio_delay_us=2,bus=1` to OpenWRT image's /boot/config.txt file which provides by 52Pi.

OLED 0.91	CM4 Router Board
VCC	3.3V
GND	GND
SDA	GPIO2 (BCM Naming System)
SCL	GPIO3 (BCM Naming System)