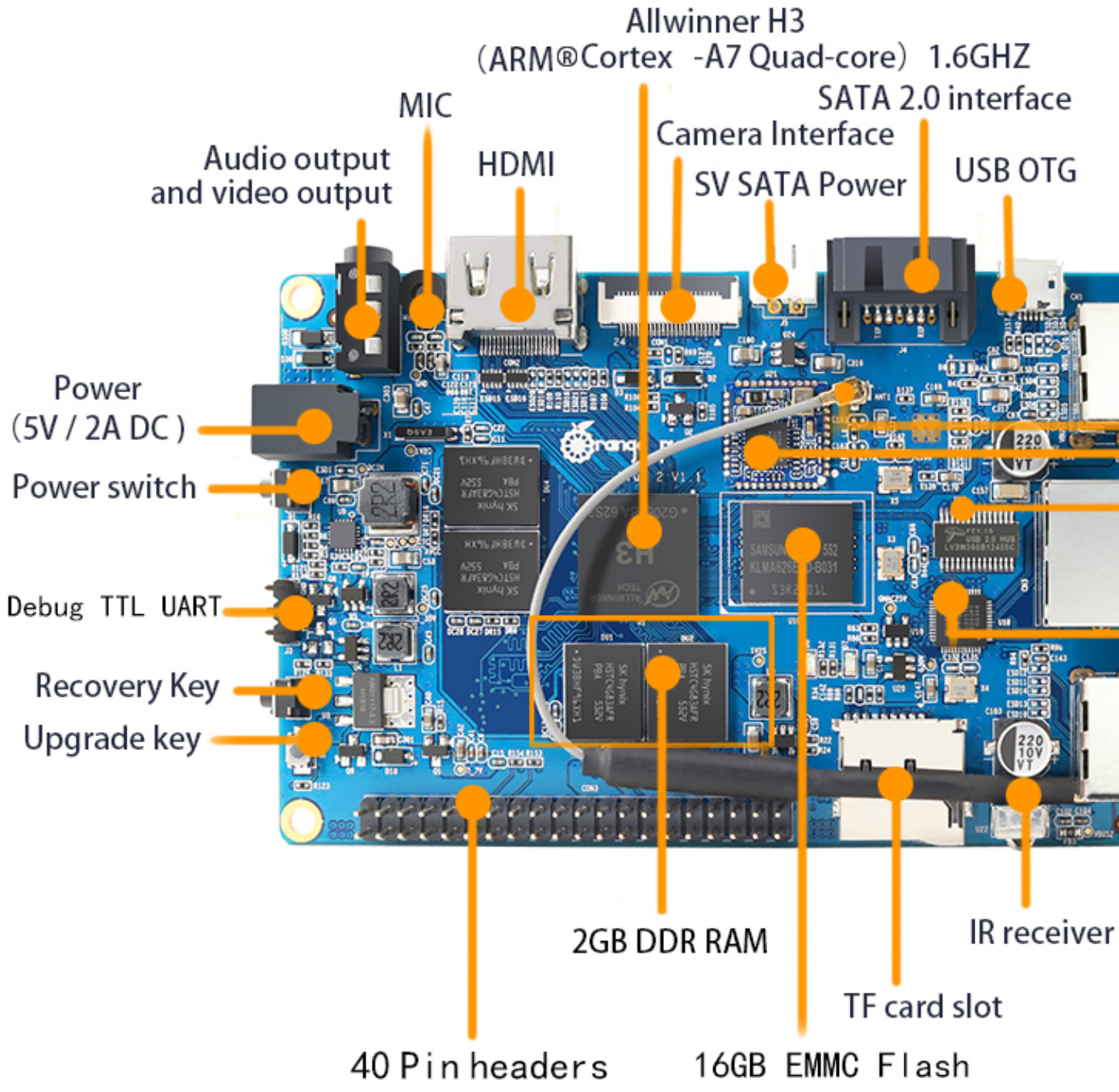


iiio.conf

# Top view



# Bottom view

<http://www.orangepi.org/orangepiplus2/>

<https://www.armbian.com/orange-pi-plus-2/>

SoC H3 @ 1.2GHz[1]  
DRAM 2GiB DDR3 @ ?MHz (H5TC4G83AFR-PBA)  
NAND 16GB EMMC Flash (in 2016 KLMAG2GEND-B031 but now slower KLMAG2WEPD-B031)  
Power DC 5V @ 2A (4.0mm/1.7mm barrel plug - centre positive)

Features

Video HDMI (HDCP, CEC), CVBS

Audio 3.5 mm Jack, HDMI, Microphone

Network 10/100/1000Mbps Ethernet (Realtek RTL8211E), WiFi 802.11 b/g/n (Realtek RTL8189ETV)

Storage 1/2SD (max 64GB), SATA 2.0 (via GL830 USB-to-SATA bridge, +5V power on JST XH 2.5mm connector)

USB 4 USB 2.0 Host (via FE1.1s hub), 1 USB 2.0 OTG

## bme280 i2c temperature/humidity/pressure

```
/home/dpavlin/linux-gpio-pinout/overlay-load.sh /boot/dtb-`uname -r`/overlay/*h3*i2c0*
```

```
root@opip:/home/dpavlin/linux-gpio-pinout# i2cdetect -y 2
   0  1  2  3  4  5  6  7  8  9  a  b  c  d  e  f
00:  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --
10:  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --
20:  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --
30:  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --
40:  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --
50:  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --
60:  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --
70:  --  --  --  --  --  --  76  --
```

Check i2c address in datasheet

Connecting SDO to GND results in slave

address 1110110 (0x76); connection it to V DDIO results in slave address 1110111 (0x77)

```
root@opip:/home/dpavlin/linux-gpio-pinout# zgrep BMP280 /proc/config.gz
CONFIG_BMP280=m
CONFIG_BMP280_I2C=m
CONFIG_BMP280_SPI=m
```

```
root@opip:/home/dpavlin/linux-gpio-pinout# echo bmp280 0x76 > /sys/bus/i2c/devices/i2c-2/new_device
root@opip:/home/dpavlin/linux-gpio-pinout# [Sat Jan  2 11:43:58 2021] i2c i2c-2: new_device: Inst
[Sat Jan  2 11:43:58 2021] bmp280 2-0076: supply vddd not found, using dummy regulator
[Sat Jan  2 11:43:58 2021] bmp280 2-0076: supply vdda not found, using dummy regulator
[Sat Jan  2 11:43:58 2021] bmp280 2-0076: bad chip id: expected 58 got 60
[Sat Jan  2 11:43:58 2021] bmp280: probe of 2-0076 failed with error -22
```

So it's not BMP280, but BME280.

## Using

<https://www.raspberrypi-spy.co.uk/2016/07/using-bme280-i2c-temperature-pressure-sensor-in-python/>  
I downloaded and modified for python3 [bme280.py](#)

```
root@opip:/home/dpavlin# ./bme280.py
Chip ID : 96
Version : 0
Temperature : 24.65 C
Pressure : 998.4304559219445 hPa
Humidity : 41.458674890198445 %e
```

## So let's try with correct sensor name

```
root@opip:/sys/bus/i2c/devices/i2c-2# echo bme280 0x76 > /sys/bus/i2c/devices/i2c-2/new_device
[Sat Jan  2 12:32:01 2021] bmp280 2-0076: supply vddd not found, using dummy regulator
[Sat Jan  2 12:32:01 2021] bmp280 2-0076: supply vdda not found, using dummy regulator
[Sat Jan  2 12:32:01 2021] i2c i2c-2: new_device: Instantiated device bme280 at 0x76
```

```
root@opip:~# apt install libiio-utils
```

```
root@opip:~# iio_info
Library version: 0.16 (git tag: v0.16)
Compiled with backends: local xml ip usb serial
IIO context created with local backend.
Backend version: 0.16 (git tag: v0.16)
Backend description string: Linux opip 5.10.0-rc7-sunxi #20.11.3 SMP Fri Dec 11 21:18:30 CET 2020
IIO context has 1 attributes:
    local, kernel: 5.10.0-rc7-sunxi
IIO context has 1 devices:
    iio:device0: bme280
        3 channels found:
            humidityrelative: (input)
                2 channel-specific attributes found:
                    attr 0: input value: 40775
                    attr 1: oversampling_ratio value: 16
            pressure: (input)
                2 channel-specific attributes found:
                    attr 0: input value: 99.809761718
                    attr 1: oversampling_ratio value: 16
            temp: (input)
                2 channel-specific attributes found:
                    attr 0: input value: 25350
                    attr 1: oversampling_ratio value: 2
```

## collect using telegraf

```
root@opip:/etc/telegraf/telegraf.d# ../telegraf --config iio.conf --test
2021-01-02T12:39:39Z I! Starting Telegraf
> iio,host=opip,name=bme280 humidityrelative=39.934,pressure=99.801214843,temperature=25.66 16095
```