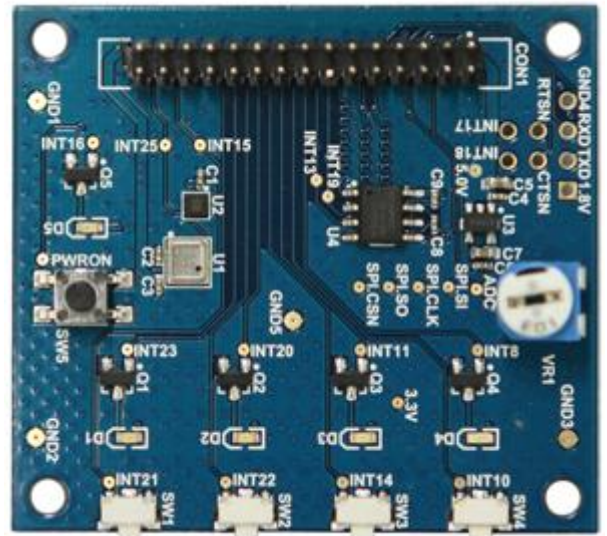


# Expansion Board

Compatible with XU Series

- 4 x buttons (GPIO)
- 1 x button (Power On)
- 5 x LEDs (GPIO)
- 1 x SPI Flash 2Mbit (Upto 20Mhz SPI clocking)
- 1 x I2C Temperature/Pressure sensor BMP180
- 1 x I2C Ambient Light sensor BH1780GLI
- 1 x Trimpot(variable resistor) for ADC access

1 x IDC cable is included.



**Schematics** <http://dn.odroid.com/ODROID-XU/Expansion Board/ExpansionBoard.pdf>

**Software Driver source code** <https://github.com/hardkernel/linux/tree/odroidxu-3.4.y/drivers/hardkernel>

**Android Example source code** <http://dn.odroid.com/ODROID-XU/Expansion Board/>

## Driver access

### SPI

Misc device driver

Device node : /dev/ioboard-spi-misc

Refer device/hardkernel/ioboard-spi.h source to read/write/erase the SPI Flash memory.

### LED & KEY

/sys/device/platform/ioboard-keyled/

board\_test : Default value is 1 and test mode. If this is 0, change to normal mode to read/write.

led1 ~ led5: write only. Chnage the LED state (1 : on, 0 : off)

sw1 ~ sw4: read only. Read the state of switch. (1 : pressed, 0 : released)

To read the Switch state, must use the polling method. (interrupt feature is not implemented)

### ADC

/sys/device/platform/ioboard-adc/

enable : on/off (read/write)

value : ADC raw value (0~4095)

voltage : 0V ~ 1800mV

**Ambient Light sensor** (Software driven bit-bang I2C)

/sys/device/platform/i2c-gpio.10/i2c-10/10-0029

enable : on/off (read/write)

lux : sensor value in Luix (0 ~ 65535 lux)

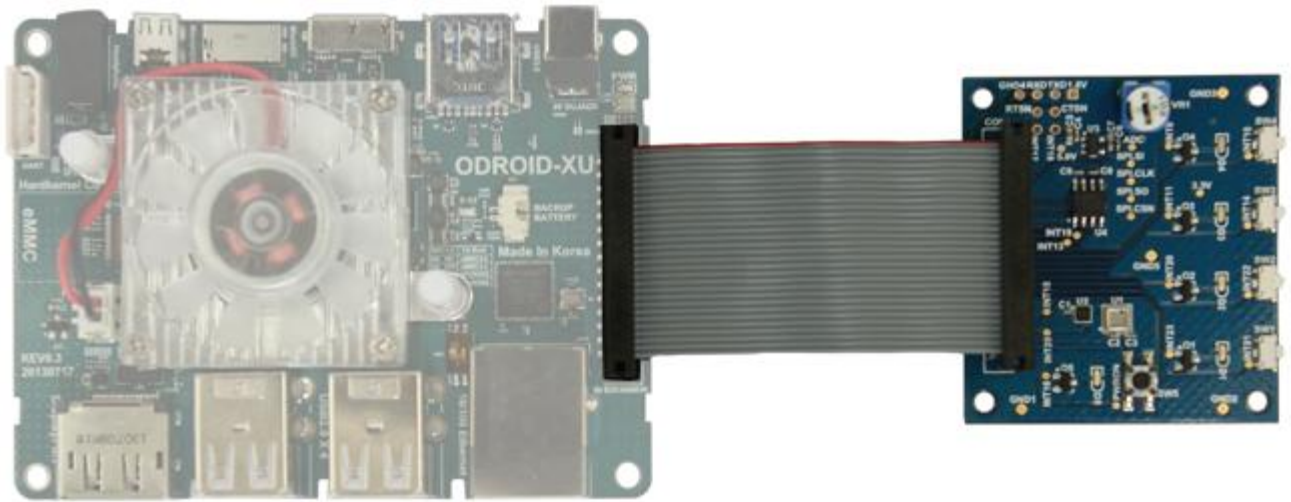
**Pressure sensor/temperature sensor** (Software driven bit-bang I2C)

/sys/device/platform/i2c-gpio.10/i2c-10/10-0077

enable : on/off (read/write)

pressure : atomospheric pressure, pa unit. (ex)101614(pa) = 1016.14hpa

temperature : 10 times.... (ex) 195 = 19.5C



**BOARD DETAIL**

