

萬鈞伯裘書院  
2023-2024 年度  
承投提供編程教材服務供應商

招標編號：MKPC-T2324-018

附件一

### Microbit V2 Specification

- USB, Radio, serial, and Bluetooth Low energy connectivity.
- A Compass and Accelerometer.
- 2 x user-assignable buttons.
- A fully programmable 25 LED display.
- 25-pin notched edge connector.
- Onboard speaker.
- MEMs Microphone with LED indicator.
- Touch-sensitive logo.
- Light level sensing.
- Temperature sensing.
- Built-in sleep/off mode allows the board to be powered-down with batteries connected.
- A discrete regulator that can supply up to 200mA of current to external accessories.
- Power status LED and USB data transfer LED.
- Code it with MakeCode; Blocks, Javascript, or Python.

### Smart Science IoT Kit

IoT:bit for Microbit	X1
OLED	X1
BME 280	X1
PIR sensor	X1
Light sensor	X1
Noise sensor	X1
Water level sensor	X1
soil moisture sensor	X1
Sonar:bit	X1
Dust sensor	X1
180° servo	X1

### Husky Lens Pro Specification

- Processor: Kendryte K210
- Image Sensor: OV5640 (5.0MegaPixel Camera)
- Supply Voltage: 3.3~5.0V
- Current Consumption(TYP): 320mA@3.3V, 230mA@5.0V (face recognition mode; 80% backlight brightness; fill light off)
- Communication Port: UART; I2C
- Display: 2.0-inch IPS screen with 320\*240 resolution
- Built-in Algorithms: Face Recognition, Object Tracking, Object Recognition, Line Tracking, Color Recognition, Tag Recognition, Object Classification
- Dimension: 52mm x 44.5mm (2.05\*1.75 inch )

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**DFrobot Environment Science Expansion Board V2.0 for micro:bit Specification**

Power Supply: MicroUSB (5V) / Three 1.5V AAA Batteries (4.5V)

(Note: Because the power consumption of WIFI-IoT card is relatively large, it may not work properly if the AAA battery is low. Please use MicroUSB port to supply power to ensure the normal operation of the product when using it for class teaching.)

Digital Port Output Voltage: 3.3V

GPIO: I2C×2 P0 P1 P2 P8 P12 P13 P14 P15 P16

ML8511 UV Sensor	Operating Temperature: -20°C~70°C Sensitive Area: UV-A, UV-B Sensitivity Wavelength: 280-390nm
BME280 Environment Sensor	Operating Current: 2mA Operating Temperature: -40°C~+85°C Temperature Measuring Range: -40°C~+85°C, Resolution 0.1°C, Deviation±0.5°C Humidity Measuring Range: 0~100%RH, Resolution 0.1%RH, Deviation±2%RH Response Time of Humidity Measurement: 1S Atmospheric Pressure Measuring Range: 300~1100hPa
Waterproof Temperature Sensor	Temperature Display Range: -10°C~+85°C (Deviation±0.5°C) Operating Temperature Range: -55°C~125°C Query Time: less than 750ms
TDS Water Quality Sensor	The TDS probe should not be used in water above 55°C. The TDS probe should not be placed too close to the edge of the container, as this will affect the accuracy.
CCS811 Air Quality Sensor	Operating Temperature Range: -40°C~85°C Operating Humidity Range: 10%RH~95%RH CO2 Measuring Range: 400ppm~8000ppm TVOC Measuring Range: 0ppb~1100ppb
Capacitive Soil Humidity Sensor	Operating Voltage: 3.3V-5.5V DC Output Voltage: 0-3.0V DC Connector: PH2.0-3P Dimension: 98×23mm
RGB Light	RGB Light Model: WS2812 Port: P15
Light Sensor	Output Date Type: analog value Data Range: 0-1023
Buzzer	Dimension: 9mm in diameter Model: passive buzzer Port: P0
Sound Sensor	Output Date Type: analog value Data Range: 0-1023
OLED Display	Dimension: 0.96" Display Color: blue Pixels: 128 × 64 Refresh Rate: 60 fps Brightness: 60 (Typ) cd/m2 Full-screen Lighting Consumption: about 22.75mA Operating Temperature: -30°C~+70°C Display Area: 21.744×10.864 (mm)
Motor Driving	Driving Mode: PWM Compatible Motor: Low Power DC Motors such as N20 Gear Motor and 130 Gear Motor
WIFI IoT	Wireless Mode: IEEE802.11b/g/n Encryption Type: WPA WPA2/WPA2-PSK Frequency: 2.4GHz Built-in Protocol: TCP/IP protocol stack Supported IoT Platform: EasyIoT, IFTTT, ThingSpeak, SloT Status Indicator: Red: disconnected Blue: connecting Green: connected

Dimension: 196mm\*110.6mm/7.72\*4.35"

Programming Platform: MakeCode, Mind+