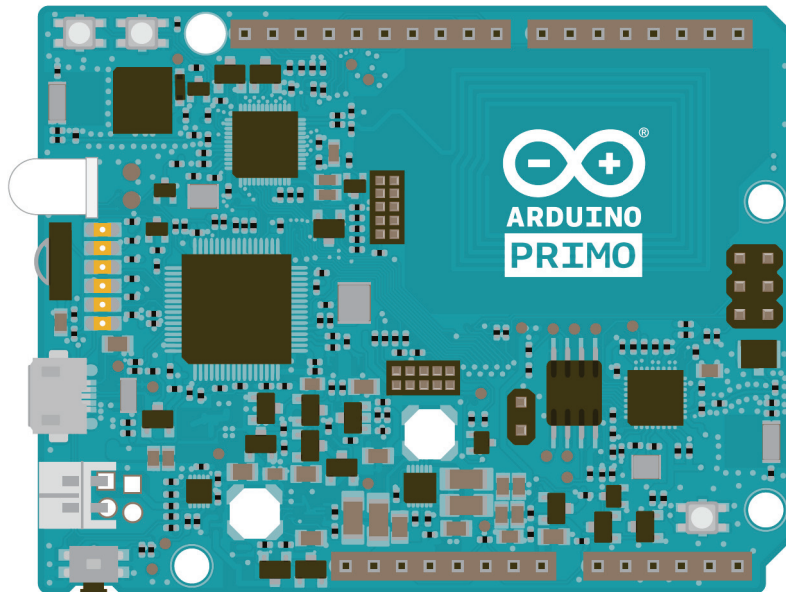


ARDUINO
NEW PRODUCTS





Arduino **PRIMO**



PRIMO is the first Arduino board featuring a Nordic nRF52 processor with WiFi.

The PRIMO combines the processing power from the Nordic nRF52 processor, an Espressif ESP8266 for WiFi, as well as several on-board functions and a battery charger. The nRF52 includes NFC-A tag (Near Field Communication) and Bluetooth Smart . The board includes one RESET and two USER buttons, LEDs , Buzzer and infrared receiver and transmitter .

INTERMEDIATE





Arduino PRIMO

ARDUINO MICROCONTROLLER

| | |
|---------------------------|--|
| Microcontroller | Nordic nRF52 832 ARM® Cortex®-M4 32-bit processor with FPU, 64 MHz |
| Operating Voltage | 3.3V |
| Flash Memory | 512 KB |
| SRAM | 64KB |
| DC Current per I/O | 14 mA |
| Digital I/O Pins | 20, with 12 PWM |
| Analog Input Pins | 6 |
| Interfaces | 1x I2C, 1x I2S, 1x SPI, 1x UART |
| Bluetooth Smart (BLE 4.0) | TX power up to +4dBm-96dBm sensitivity in BLE mode |

NFC-A LISTEN MODE OPERATION

13.56 MHz input frequency
Bit rate 106 kbps
Wake-on-field low power field detection (SENSE) mode

WIFI MICROCONTROLLER

| | |
|-------------------|--|
| Processor | ESP8266 |
| Architecture | Tensilica Xtensa LX106 32bit |
| Flash Memory | 4 MB |
| Operating Voltage | 3.3V |
| Clock Speed | 80 MHz |
| WiFi | 802.11 b/g/n 2.4 GHz , supports WPA/WPA2 |
| Wake up time | < 2ms |

SERVICE MICROCONTROLLER

| | |
|-----------------|---|
| Microcontroller | STM32F103RBT6 |
| Main features: | USB/Uart converter CMSIS-DAP GPIO expander Board power management IrDA |

GENERAL

| | |
|-------------------|---------------------------|
| Input Voltage | 5 V |
| Power Consumption | 94.4(Max.)~0.936(Min.)mA |
| Other Features | Battery input and charger |
| PCB size | 53 x 68.5 mm |
| Weight | 20 g |
| Product Code | A000135 |





Arduino PRIMO

USB port - Used for powering your Arduino, uploading your sketches to your Arduino, and for communicating with your Arduino sketch.

Battery Connector - Used for powering the board through the Battery.

LEDs - ON, L9, USER2, WIFI, BLE and CHG Leds. Also useful for debugging.

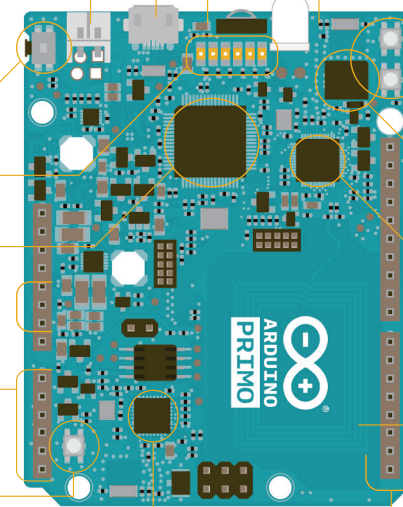
Analog in - Use these pins with analogRead().

ESP B/L button - used to enter the ESP8266 in boot-loader mode and upgrade the chip if needed.

WIFI ESP8266 - This chip allows to communicate via Wi-Fi with sensors or actuators to create your IoT System.

User button - The user button is at user disposal.

STM32 - minor microcontroller. Used to upload the sketch to your Arduino.



Infrared - both reception and transmission modules.

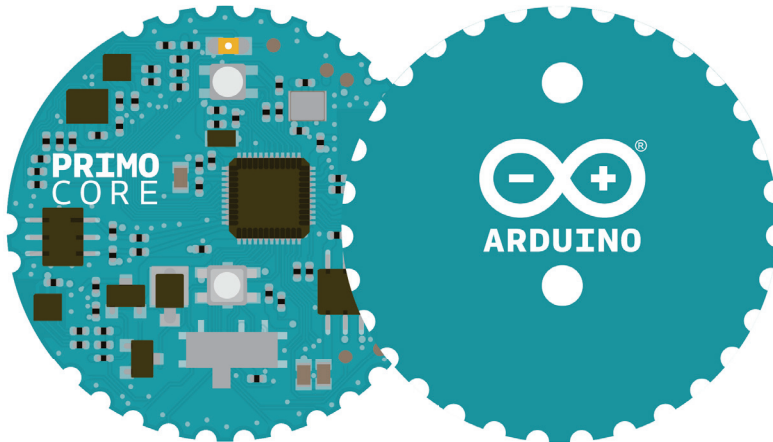
Reset button and user button - Resets all the microcontrollers. The user button is at user disposal.

Buzzer - Piezoelectric signal generator which produces a buzz or beep.

nRF52 - The main board microcontroller, managing the BLE and the NFC.

NFC tag - Data that can be read by an NFC device.

Digital pins - Use these pins for digitalRead(), digitalWrite(), and analogWrite().



Arduino PRIMO CORE

PRIMO CORE is a low-power coin-sized version of the PRIMO, ideal for wearables.

The PRIMO CORE is a compact device, using a Nordic nrf52832 chip with Bluetooth smart (BLE 4.0) and NFC-A tag functions, and also integrated motion and environmental sensors. The low power consumption permits powering the Primo Core with a coin cell battery. The Arduino PRIMO CORE can be mounted on a breakout board to extend its functionalities.

INTERMEDIATE





Arduino PRIMO CORE

GENERAL

| | |
|---------------------------|--|
| Operating Voltage | 3V~3.3V |
| PCB Size | 32 x 32mm |
| Bluetooth Smart (BLE 4.0) | TX power up to +4dBm-96dBm sensitivity in BLE mode |
| Product Code | A000138 |

SENSORS&ACTUATORS

| | |
|----------------------|------------|
| Humidity sensor | ST HTS221 |
| Temperature sensor | ST HTS221 |
| 3-axis Accelerometer | ST LSM6DS3 |

NFC-A LISTEN MODE OPERATION

13.56 MHz input frequency
Bit rate 106 kbps
Wake-on-field low power field detection (SENSE) mode

PRIMO NFC ANTENNA (optional)

| | |
|----------|-----------|
| PCB Size | 32 x 32mm |
|----------|-----------|





Arduino PRIMO CORE

Accelerometer -

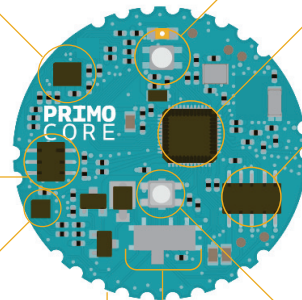
Multifunction 3D digital accelerometer and a 3D digital gyroscope.

NFC Connector -

You can connect the external NFC Antenna through this connector.

Sensor - Temperature and Humidity sensor.

Battery Connector - The connector on the back of your board is used for powering it through a coin Battery.



RGB LED - RGB Light Emitting Diodes (LEDs). Diode that illuminates when electricity passes through it.

nRF52 - The main board microcontroller, managing the BLE and the NFC.

SWD Connector - You can use it to program and debug the board with an Arduino PRIMO or another external programmer.

Reset Button - Resets the nRF52 microcontroller.

Power Switch - Used for powering your Arduino board.

MORE INFORMATION AT
ARDUINO.CC & ARDUINO.ORG

