



seeed studio
The IoT Hardware Enabler



The latest version of the successful Crazyflie development platform comes with improved flight performance, durability and radio. Together with an extensive ecosystem of software and deck expansions it's ideal for education, research and swarming.

The Crazyflie 2.1 is a versatile open source flying development platform that only weighs 27g and fits in the palm of your hand. Crazyflie 2.1 is equipped with low-latency/long-range radio as well as Bluetooth LE. This gives you the option of downloading the app and using your mobile device as a controller or, in combination with the Crazyradio PA, using your computer to display data and fly with a game controller. To read more about the Crazyflie 2.1 go to our website.

Features

- Durable design
- Easy to assemble and no soldering required
- Supports expansion decks with automatic detection
- Supports flying from iOS and Android with Bluetooth LE, as well as from Windows/Mac OSX/Linux with the Crazyradio or Crazyradio PA
- Tested to further than 1 km radio range line-of-sight (LOS) with the Crazyradio PA
- Wireless firmware updates
- On-board charging via standard microUSB
- Dual-MCU architecture with dedicated radio/power management SoC for advanced applications
- Real-time logging, graphing and variable setting in addition to full use of expansion decks when using a Crazyradio or Crazyradio PA and a computer

Mechanical specifications

- Take-off weight: 27g
- Size (WxHxD): 92x92x29mm (motor-to-motor and including motor mount feet)

Radio specifications

- Increased range with radio amplifier, tested to > 1 km range LOS with Crazyradio PA (environmentally dependent)
- Bluetooth Low Energy support with iOS and Android clients available
- Dual antenna support with both on board chip antenna and U.FL connector

Microcontrollers

- STM32F405 main application MCU (Cortex-M4, 168MHz, 192kb SRAM, 1Mb flash)
- nRF51822 radio and power management MCU (Cortex-M0, 32Mhz, 16kb SRAM, 128kb flash)
- microUSB connector
- On-board LiPo charger with 100mA, 500mA and 980mA modes available
- Full speed USB device interface
- Partial USB OTG capability (USB OTG present but no 5V output)
- 8KB EEPROM

IMU

- 3 axis accelerometer/gyroscope (BMI088)
- High precision pressure sensor (BMP388)

Flight specifications

- Flight time with stock battery: 7 minutes
- Charging time with stock battery: 40 minutes
- Max recommended payload weight: 15 g

Supported clients/controllers

- Win/Linux/OSX python client
- The gamepads used by the Xbox 360 and the Playstation 3 are used as reference controllers
- Any gamepad/controller with at least 4 analogue axes
- Android mobile device
- iOS mobile device

Expansion connectors

- VCC (3.0V, max 100mA)
- GND
- VCOM (unregulated VBAT or VUSB, max 1A)
- VUSB (both for input and output)
- I2C (400kHz)
- SPI
- 2 x UART
- 4 x GPIO/CS for SPI
- 1-wire bus for expansion identification
- 2 x GPIO connected to nRF51

ECCN/HTS

HSCODE	9023009000
USHSCODE	90230000

