



Qualcomm® Flight Pro™ Development Board

Based on the Qualcomm® Snapdragon™ 820 System-on-Chip

The Qualcomm Flight Pro development board targets the drone and robotics development community and is based on the powerful Snapdragon 820, with its high-end imaging and signal processing capabilities.

The new Qualcomm Flight Pro board is smaller than a credit card (75x36mm) and brings together photography, video, navigation, and communication technologies on a single board. The Flight Kit includes the Flight Pro board with a plastic housing to hold the board and four cameras, plus a power supply, serial console adapter, power adapter board, and USB cable. This is everything you will need for evaluation and SW development on the bench. An electronic speed control board for driving motors is available separately and to build a full flying drone, a third-party airframe kit is also available.

Key Features

- 4 cameras included
- Pre-certified Wi-Fi/BT Module with antennas
- Linux® BSP Software included
- Compatible with:
 - Qualcomm Navigator SDK
 - Qualcomm Machine Vision SDK
 - Robot Operating System (ROS)

Applications

- Drone and Robotics research and development
- Consumer Drone products
- Aerial Robotics
- Land Robotics
- Embedded vision and navigation applications

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snapdragon



Technical Specifications

Processor	Qualcomm® Snapdragon™ 820 (APQ8096) SoC Qualcomm® Kryo™ CPU Quad-Core, 64-bit, 2.15GHz Qualcomm® Adreno™ 530 GPU Qualcomm® Hexagon™ 680 DSP
Memory/Storage	4GB LPDDR4 RAM, 32GB UFS Flash storage, microSD card slot for removable storage
Wireless	Pre-certified module (QCA6174A): Wi-Fi 802.11a/b/g/n/ac 2.4/5.0 GHz 2x2 MU-MIMO + Bluetooth 4.2 2x Wi-Fi/BT antennas included
Location Technology	On-board Qualcomm integrated GNSS solution (WGR7640) (not recommended for flight applications) Support for third-party external GNSS module with high performance antenna and shielding— Ublox MAX-M8Q-0-00
Sensors	IMU (2x InvenSense MPU9250): Gyroscope, Accelerometer, Compass + Barometric pressure sensor (Bosch BMP280)
LEDs	Discrete Red and Green LEDs for on-board status
Cameras (incl.)	1x High resolution camera: 13MP IMX214 sensor in KLT Module, 4K at 30 fps 1x Downward facing camera: OV7251 sensor in Sunny MD102A module - B & W VGA Sensor 2x Forward stereo-vision cameras: OV7251 sensor in Sunny GP161C module - B & W VGA Sensor
Power	Vin: 5.0V @ 4A, on-board Qualcomm power management solution (PM8996, PMI8996)
I/O	Several I2C and UART interfaces for peripheral expansion, additional sensors, etc. Micro-USB 3.0 interface, debug UART on expansion header Motor-control I/O — DSP sensor-core interface to Electronic Speed Control board (ESC brd available separately) Radio control I/O—dedicated interface for Spektrum radio control transceiver
Software	Linux® BSP included, compatible with Qualcomm Machine Vision and Navigator SDKs (available from Qualcomm) Compatible with Robot Operating System (ROS) Supports application development through SDK and Docker container
Operating Temp	Operating Temperature -10°C to +70°C
Form Factor	75x36mm PCA mounted in plastic housing with four cameras and Wi-Fi/BT antennas installed Mechanically compatible with third-party drone airframe



Purchasing Information

Flight Pro Dev Board	Part number: QC-820-FLIGHT-02 Store Link
Flight Pro Dev Kit	Part number: QC-820-FLIGHT-01 Store Link
Flight ESC (motor control)	Part number: QC-FLIGHT-ESC Store Link

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