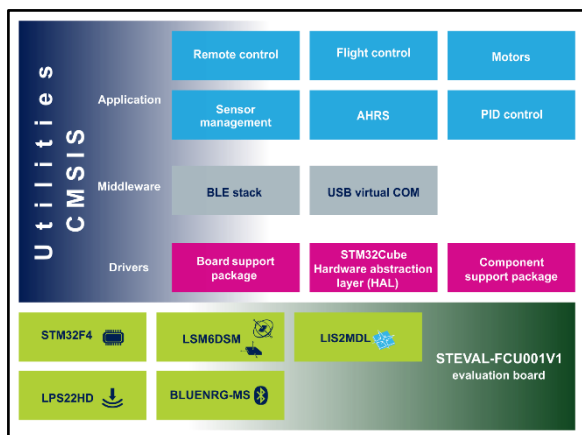


Reference design firmware for mini drones

Data brief



Description

The STSW-FCU001 firmware has been designed for the STEVAL-FCU001V1 evaluation board to support quadcopter drone design.

It comes with six main applications: a remote control interface to interpret data command from remote control; sensor management to retrieve sensor data; an attitude heading reference system (AHRS) to elaborate sensor data in roll pitch yaw angles (quaternions); flight control merging the AHRS output and information coming from the remote control to define the flight strategy; PID control to give commands to the four quadcopter motors.

Features

- Implementation of flight controller units based on the STEVAL-FCU001V1 evaluation board
- Open source code available on Github
- High performance stabilization for quadcopters in aerial movements
- Full support for the STEVAL-FCU001V1 on-board gyroscope and accelerometer
- Barometer support for holding altitude available
- Magnetometer support for direction detection available
- Embedded routine to accept commands from the most common remote controls

Revision history

Table 1: Document revision history

Date	Version	Changes
27-Nov-2017	1	First release.

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