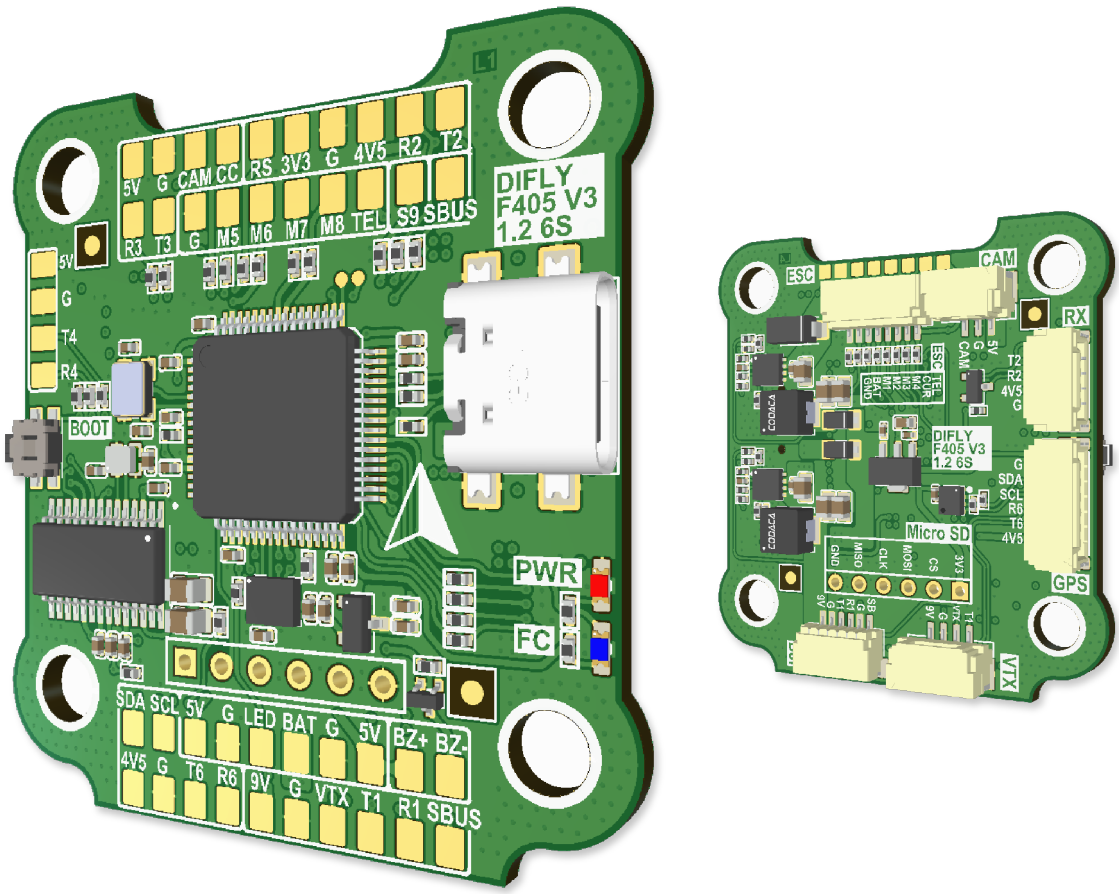


DIFLY

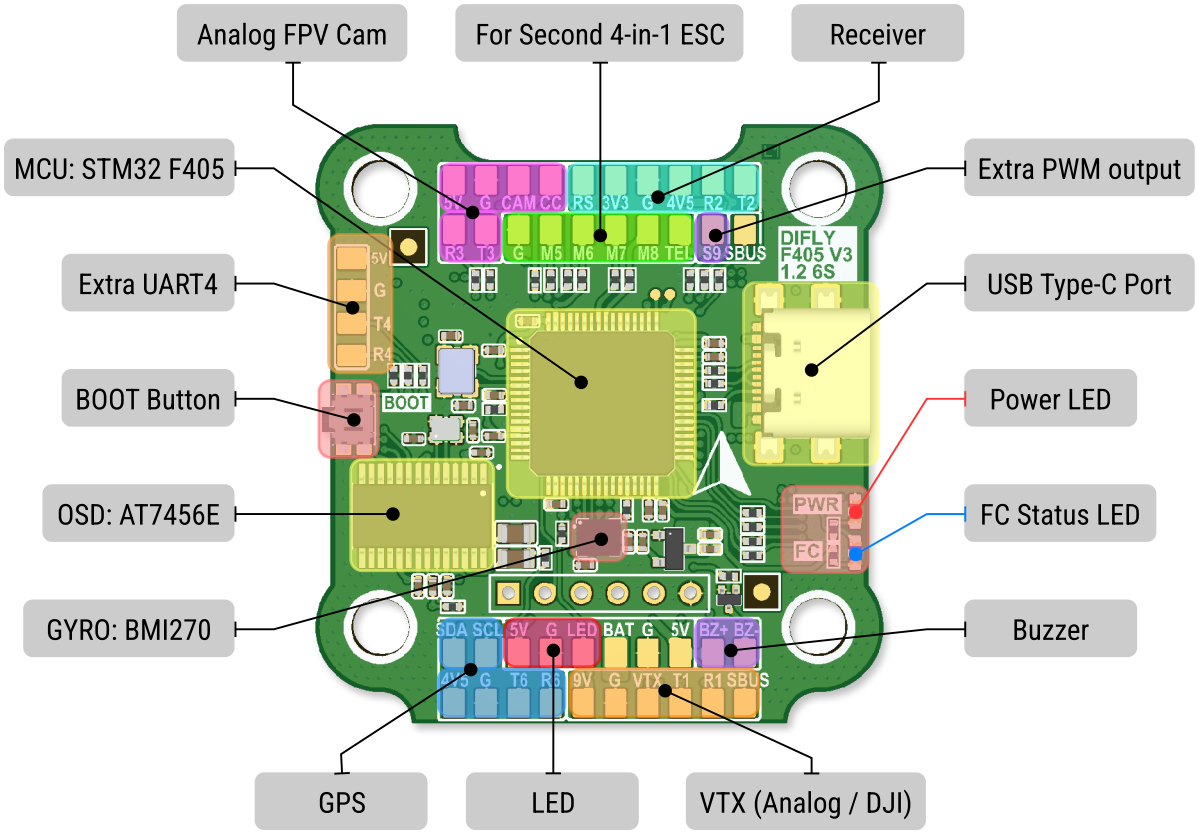
FLIGHT CONTROLLER F405 V3 1.2 6S
USER MANUAL

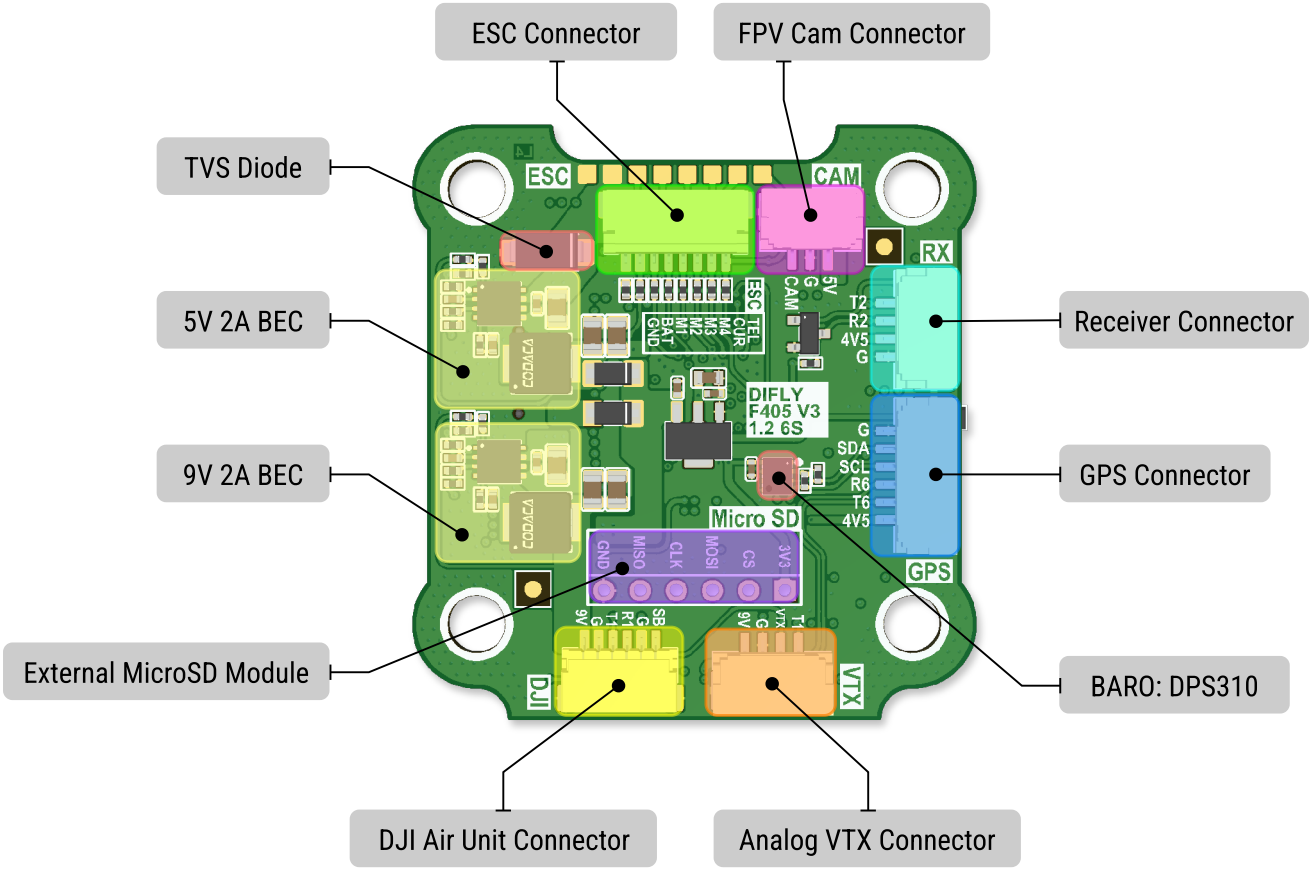
Nov. 2025 V1.0

SPECIFICATIONS

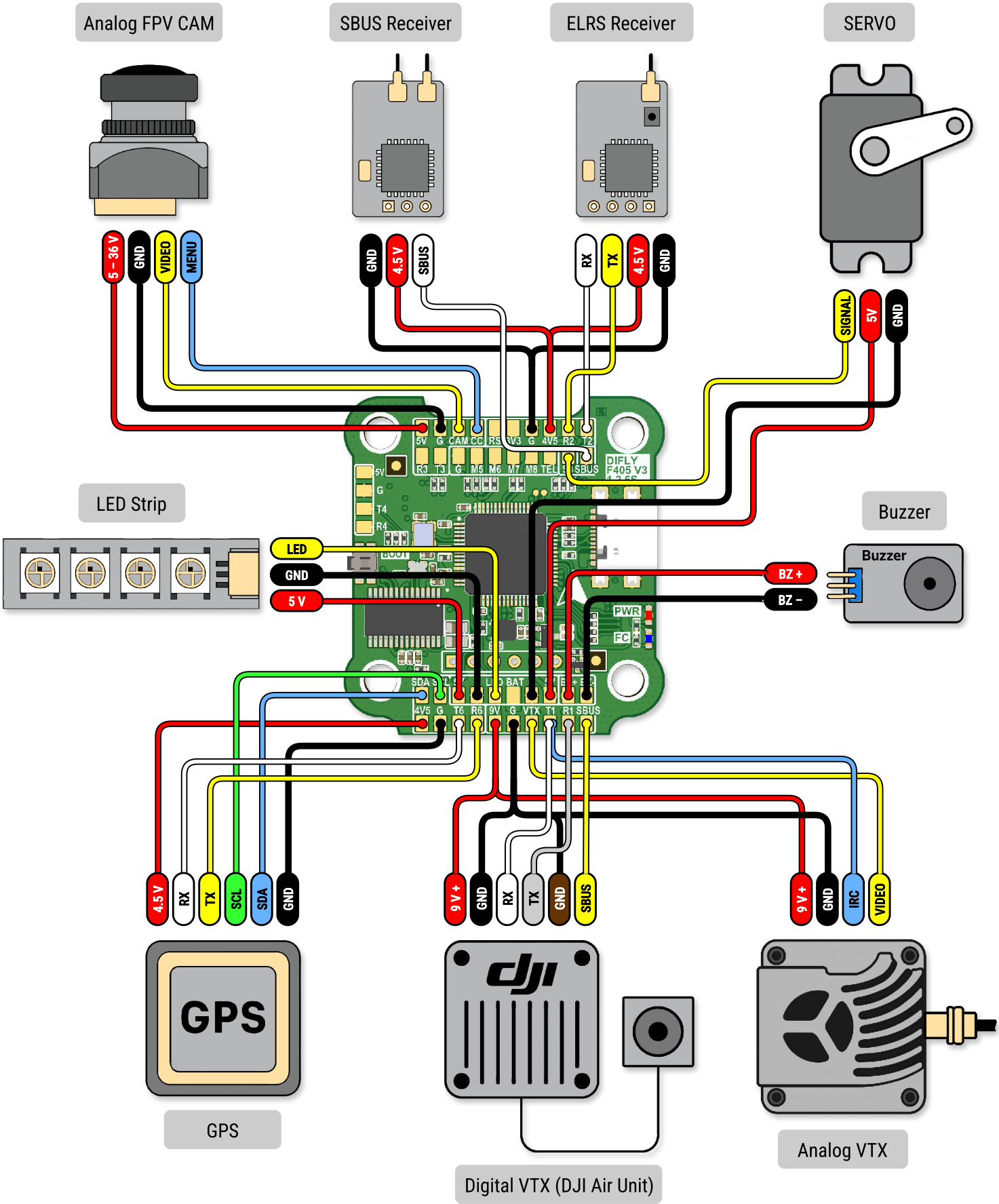
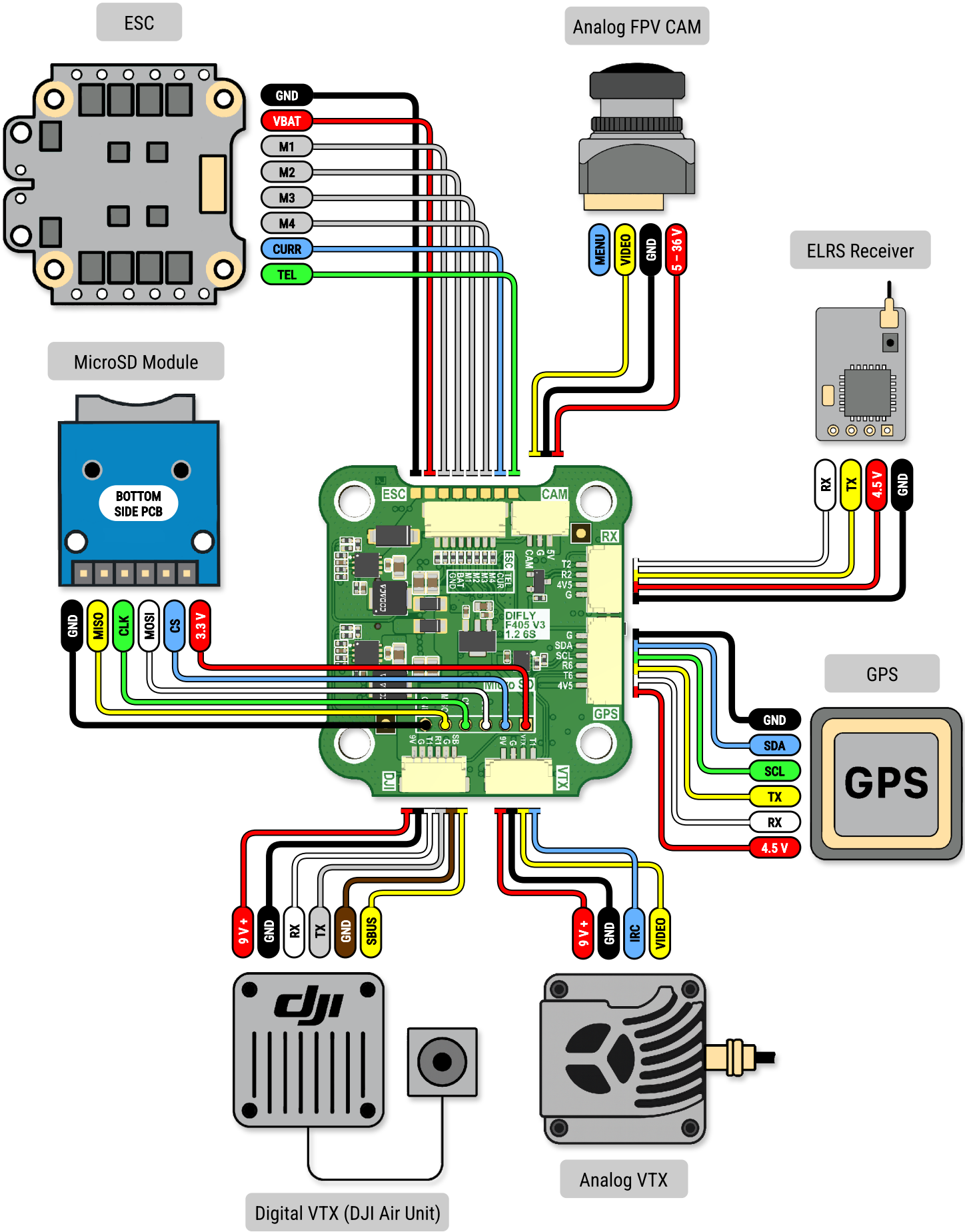
Product Name	Flight Controller DIFLY F405 V3 1.2 6S
MCU	STM32F405. Frequency: 168 MHz.
IMU (Gyro)	BMI270
Barometer	DPS310
OSD Chip	AT7456E
USB Port Type	Type-C
Power Input	3 – 6S LiPo. Through GND and BAT pins from the 8-pin ESC connector or 8-pads on the bottom side.
9V Output	3 groups of 9V output, one +9V pad on front side and two included in a connectors on bottom side. The total current load is 2A.
5V Output	6 groups of 5V output, four +5V pads and 1 BZ+ pad (used for Buzzer) on front side, and one included in a connector on bottom side. The total current load is 2A.
4.5V Output	Supported. Designed for receiver and GPS module even when the FC is powered through the USB port. Up to 1A current load.
3.3V Output	Supported. Designed for 3.3V-input receivers and external MicroSD module. Up to 500mA current load.
Current Sensor Input	Supported. For BLS50A RE 6S ESC, please set scale = 125 and Offset = 0.
ESC Signal	M1 - M4 on bottom side and M5-M8 on front side.
ESC Telemetry	UART5
UART	6 sets (UART1, UART2, UART3, UART4, UART5, UART6)
I2C	Supported. SDA and SCL pads on front side. Used for magnetometer, sonar, etc.
BetaFlight Camera Control Pad	Supported. Named as CC on the front side.
RSSI Input	Supported. Named as RS on the front side.
Betaflight LED Pad	Supported. 5V, G and LED pads on bottom of the front side. Used for WS2812 LED controlled by Betaflight firmware.
Buzzer	BZ+ and BZ- pad used for 5V Buzzer
Blackbox	Supported. Using an external MicroSD Card Reader via a 6-pin header (SPI interface). Please use ≤4GB SDSC/SDHC microSD card and should be formatted to FAT16/FAT32 format. Don't use SDXC cards. Note: Betaflight can only recognize 4GB max
BOOT Button	Supported. Press and hold BOOT button and power the FC on at the same time will force the FC to enter DFU mode, this is for firmware flashing when the FC gets bricked.
Supported Flight Controller Firmware	BetaFlight (Default), EMUFlight, INAV, ArduPilot
Firmware Target Name	SPEEDYBEEF405V3
Mounting	30.5 x 30.5mm (4mm hole diameter)
Dimension	41.6(L) x 39.4(W) x 7.8(H)mm
Weight	9.6g

LAYOUT


Analog FPV Cam
For Second 4-in-1 ESC
Receiver
MCU: STM32 F405
Extra PWM output
Extra UART4
USB Type-C Port
BOOT Button
Power LED
OSD: AT7456E
FC Status LED
GYRO: BMI270
Buzzer
GPS
LED
VTX (Analog / DJI)
DIFLY F405 V3 1.2 6S
BOOT
PWR
FC


ESC Connector
FPV Cam Connector
TVS Diode
5V 2A BEC
Receiver Connector
9V 2A BEC
GPS Connector
External MicroSD Module
BARO: DPS310
DJI Air Unit Connector
Analog VTX Connector
ESC
CAM
RX
GPS
DJI
VTX
Micro SD
DIFLY F405 V3 1.2 6S

PERIPHERAL CONNECTION (Top Side)



PERIPHERAL CONNECTION (Bottom Side)