

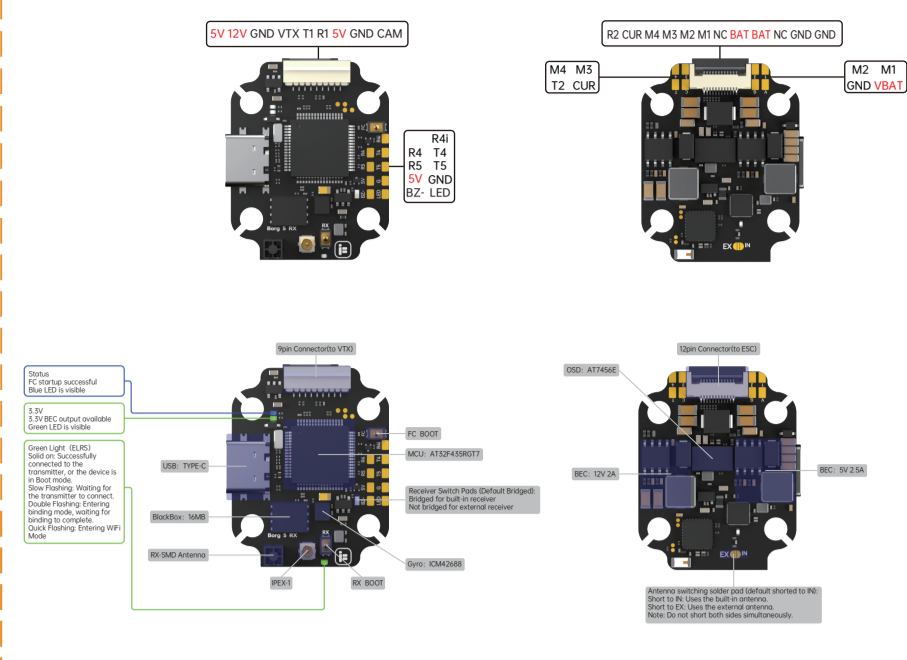
# iFlight Borg 5S RX FC Wiring diagram

## Parameters:

**FC Specifications:**  
 Input voltage: 4-8S, Support LiHV battery  
 Dimensions: 34\*27mm<sup>1</sup>  
 Mount pattern: 20\*20<sup>4</sup>  
 Weight: 6.8g<sup>1</sup>  
 MCU: AT32F435RG77  
 Receiver: Built-in ELRS 2.4GHz  
 Gyro: ICM42688  
 Baro: N/A  
 OSD: AT17456E  
 Blackbox: 1MB  
 Motor outputs: 4  
 I2C: Not supported  
 BEC: 5V 2.5A , 12V 2A (12V with VTX switch)  
 LED Strip: Supported  
 Beeper: Yes  
 VTX protocol: Support DJI MSP/Smartaudio/IRC/Tramp/HZZero  
 UARTS: 4  
 Uart: \*UART (UART1, UART2, UART4, UART5)  
 UART1: VTX HD / Analog  
 UART2: ESC Telemet  
 UART4: Built-in ELRS receiver/SBUS input  
 UART5: GPS or other sensors that require a serial port  
 VTX\_ON/OFF Mode Command:  
 resource PINIO 1 C14  
 set pinio\_config = 1,1,1  
 set pinio\_box = 40,41,255,255  
 set box\_user\_1\_name = VTX\_ON/OFF  
 aux 0 40 8 900 2100 0 0  
 save

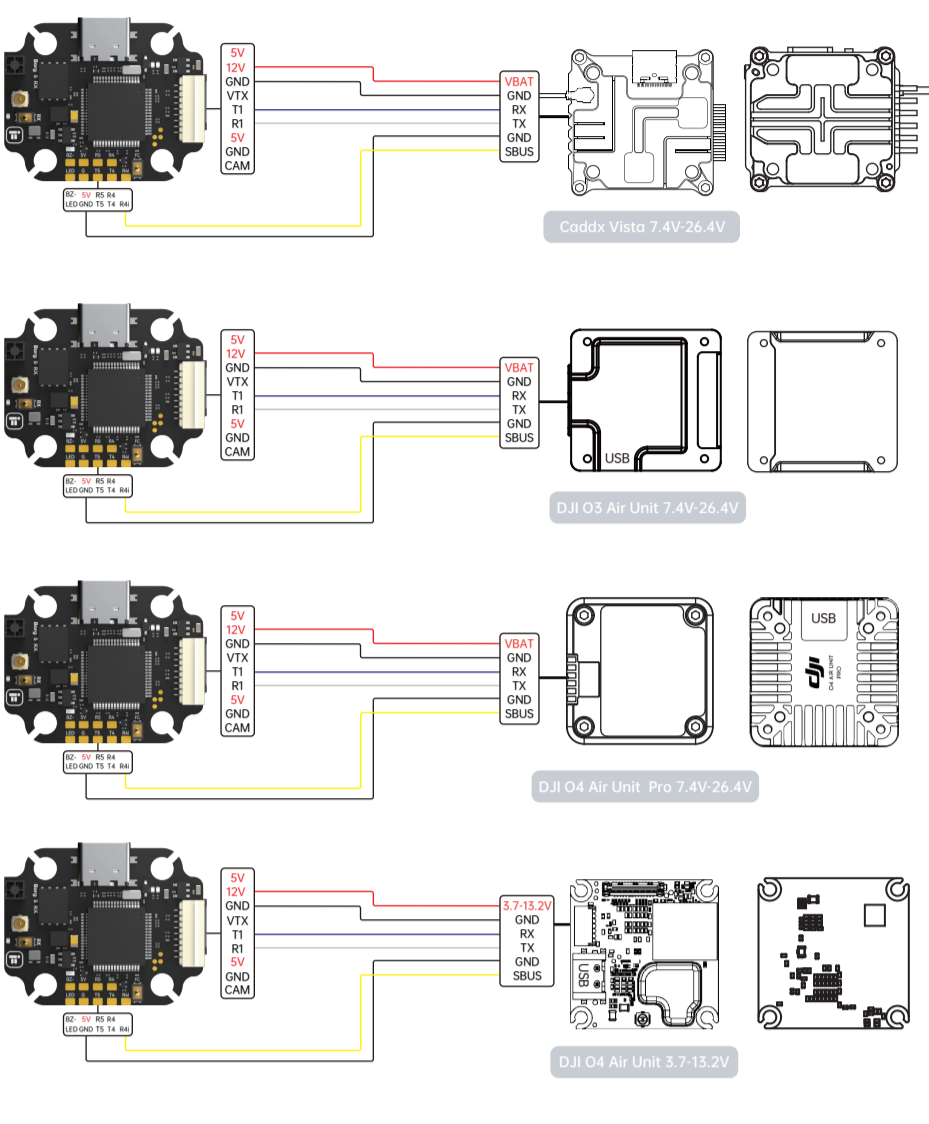
**Receiver Specification**  
 MCU: ESP8285  
 RF: SX1281  
 Receiver Type: 2.4GHz  
 Telemetry power: 17mW (12.5dBm)  
 LNA: N/A  
 Firmware: iFlight 2.4GHz Nano RX  
 Lua Script: iFlight 2.4GHz Nano  
 TCXO: Yes

**Firmware:**  
 Betaflight: iFLIGHT\_BUTZ\_F435  
 Receiver Firmware: FLIGHT 2.4GHz Nano RX



## DJI Digital Transmitters: SUBS Protocol

Firmware Target: iFLIGHT\_BUTZ\_F435



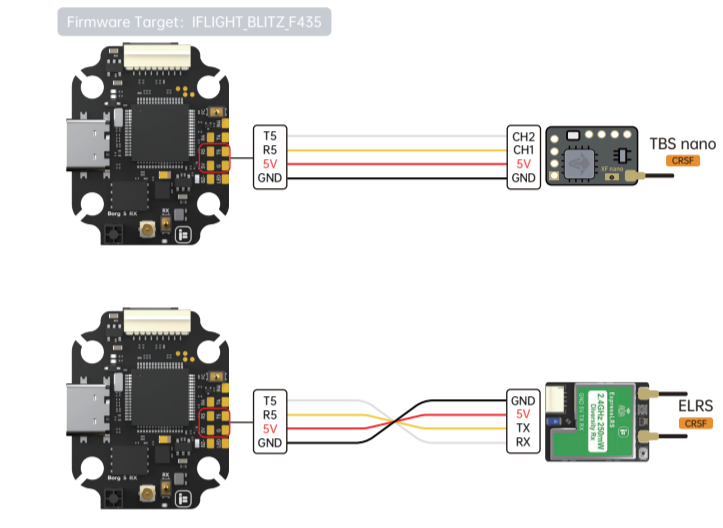
Receiver	Configuration/SP	Serial Rx	Telemetry Output	Sensor Input	Peripherals
USV VCP	115200	Off	Disabled	AUTO	Disabled
UART1	115200	Off	Disabled	AUTO	Disabled
UART2	115200	Off	Disabled	AUTO	Disabled
UART3	115200	Off	Disabled	AUTO	Disabled
UART4	115200	On	Disabled	AUTO	Disabled
UART5	115200	Off	Disabled	AUTO	Disabled
UART6	115200	Off	Disabled	AUTO	Disabled

Receiver Configuration: Serial (via UART), Receiver Mode, Telemetry: TELEMETRY

- To enable the air unit OSD under Betaflight 4.4 version, you need to select VTX (MSP+Displayport) in the peripheral port where the air unit signal is connected to the port interface.
- note: DJI FPV Remote Controller2 is for DJI O3 Air Unit, DJI FPV Remote Controller is for DJI Air Unit and Vista
- Please check your protocols, otherwise your DJI radio won't input signals!
- DJI Goggle protocol and Betaflight protocol has to match! For lower signal latency use the SBUS BAUD FAST protocol on both ends.
- For Betaflight Copy Paste"set sbus\_baud\_fast=on" into your Betaflight Configurator CLI then hit enter. Use "save" and hit enter to save the changes. Default: sbus\_baud\_fast=off, Goggle protocol set to NORMAL

## Others Receivers(TBS/ELRS): CRSF Protocol

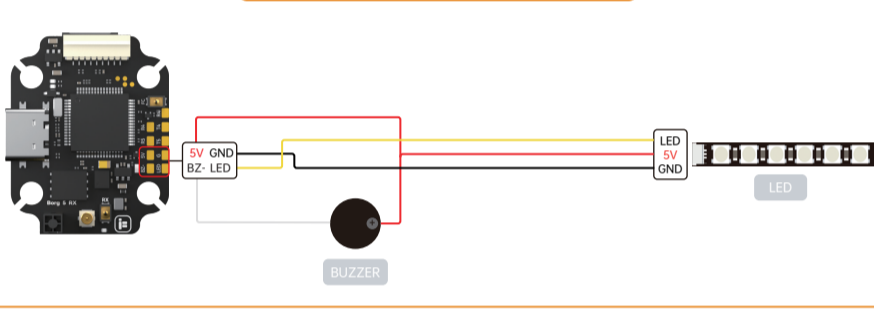
Firmware Target: iFLIGHT\_BUTZ\_F435



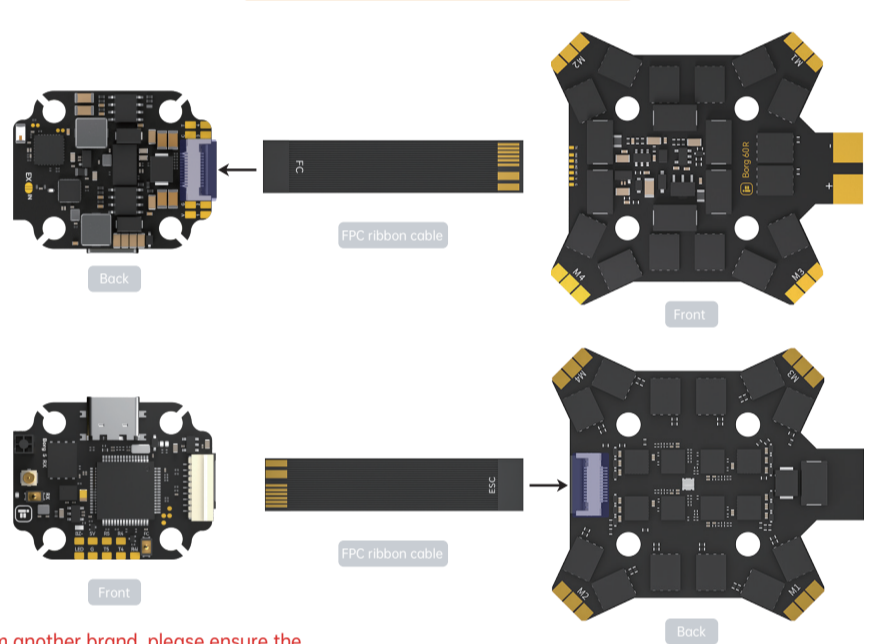
Receiver	Configuration/SP	Serial Rx	Telemetry Output	Sensor Input	Peripherals
USV VCP	115200	Off	Disabled	AUTO	Disabled
UART1	115200	Off	Disabled	AUTO	Disabled
UART2	115200	Off	Disabled	AUTO	Disabled
UART3	115200	Off	Disabled	AUTO	Disabled
UART4	115200	On	Disabled	AUTO	Disabled
UART5	115200	Off	Disabled	AUTO	Disabled
UART6	115200	Off	Disabled	AUTO	Disabled

Receiver Configuration: Serial (via UART), Receiver Mode, Telemetry: TELEMETRY

## LED/BUZZER

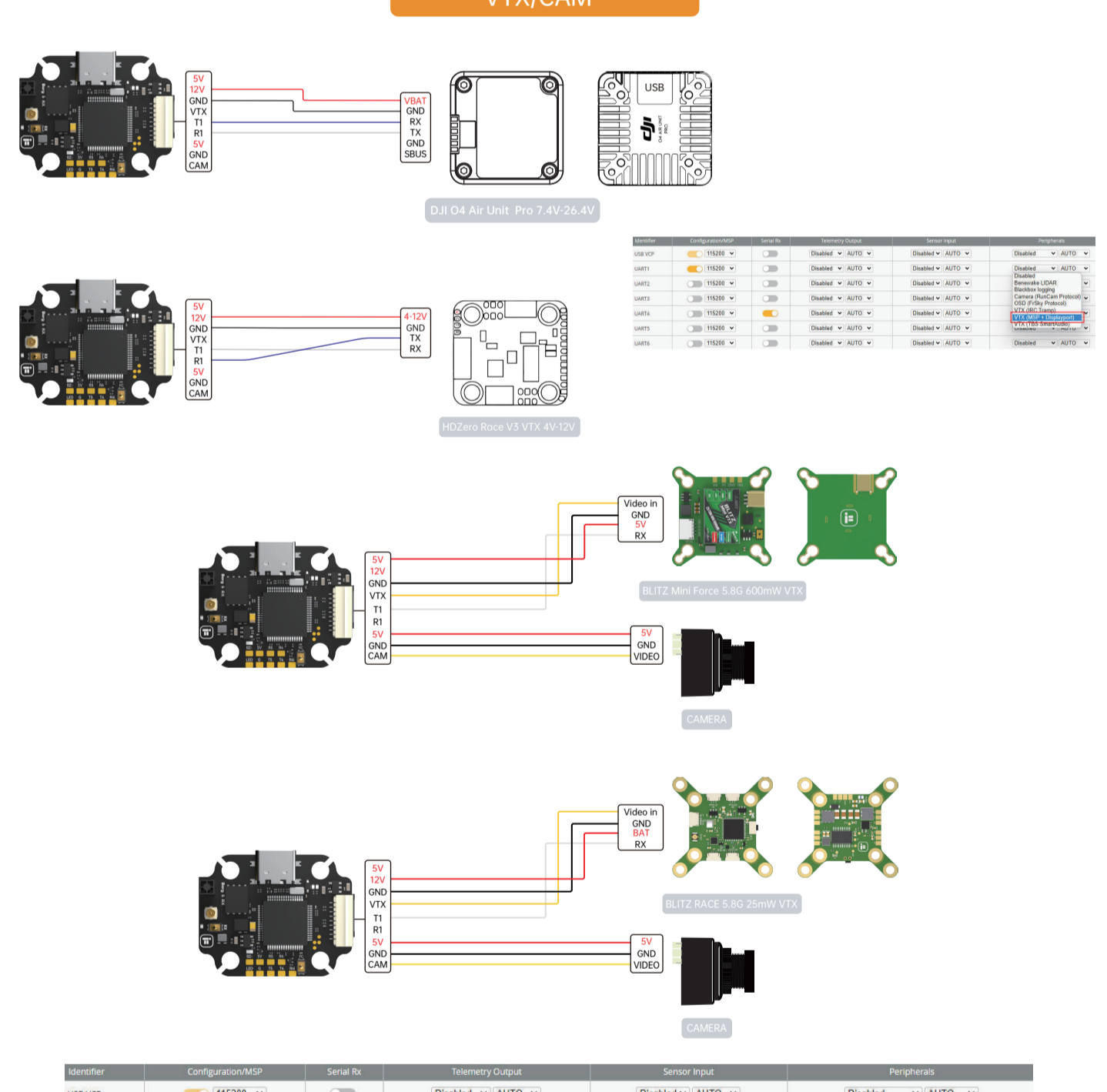


## ESC



Note: If using an ESC from another brand, please ensure the wiring is connected correctly.

## VTX/CAM



Identifier	Configuration/MSP	Serial Rx	Telemetry Output	Sensor Input	Peripherals
USV VCP	115200	Off	Disabled	AUTO	Disabled
UART1	115200	Off	Disabled	AUTO	Disabled
UART2	115200	Off	Disabled	AUTO	Disabled
UART3	115200	Off	Disabled	AUTO	Disabled
UART4	115200	On	Disabled	AUTO	VTX (IRC Trans), Disabled, Renewable LIDAR, Blackbox logging, Camera (RunCam Protocol), OSD (OSD Protocol), VTX (IRC Trans), VTX (MSP+Displayport), VTX (TBS SmartAudio), VTX (TBS SmartAudio)
UART5	115200	Off	Disabled	AUTO	Disabled
UART6	115200	Off	Disabled	AUTO	Disabled

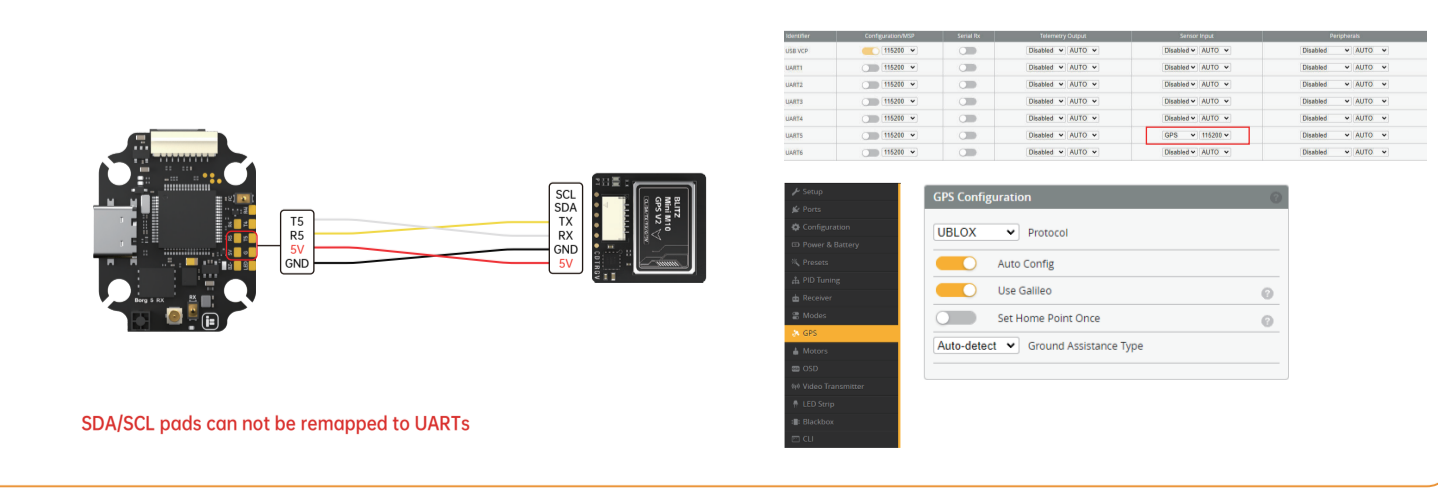
VTX\_ON/OFF configuration sliders for AUX 9, AUX 9, and AUX 9. VTX\_ON/OFF Mode On (yellow icon), VTX\_ON/OFF Mode Off (gray icon).

To control VTX on/off, please drag the range to 1600-2000. If the icon is yellow, it is on, and if it is gray, it is off.

⚠ Reflashing firmware or restoring the default factory settings requires manually entering the following commands in Betaflight CLI to re-enable VTX switch control:

```
resource PINIO 1 C14
set pinio_config = 1,1,1
set pinio_box = 40,41,255,255
set box_user_1_name = VTX_ON/OFF
aux 0 40 8 900 2100 0 0
save
```

## GPS



Receiver	Configuration/SP	Serial Rx	Telemetry Output	Sensor Input	Peripherals
USV VCP	115200	Off	Disabled	AUTO	Disabled
UART1	115200	Off	Disabled	AUTO	Disabled
UART2	115200	Off	Disabled	AUTO	Disabled
UART3	115200	Off	Disabled	AUTO	Disabled
UART4	115200	Off	Disabled	AUTO	Disabled
UART5	115200	Off	Disabled	AUTO	Disabled
UART6	115200	Off	Disabled	AUTO	Disabled

SDA/SCL pads can not be remapped to UARTS

## Dimensions/Mounting pattern

