# CL_RACINGF7 V1.0

## The Flight Controller for RACERS

Main Features

1. MCU: STM32F722RET6 216MHz

2. 6-Axis ICM20602 32K

3. Build in Beta flight OSD

4. Up to 8S(36V) direct battery power

5. Build in Voltage monitoring resistor

6. Build in 5V/1.5A BEC and 3.3V/250mA for system

7. Led strip share 5V with 5V/1.5A BEC

8. 6 UARTS: UART1 UART2, UART3, UART4, UART5 UART6

9. Build in Camera Control pin with necessary resistor and capacitor near camera connection

10. Buzzer pads for external buzzer
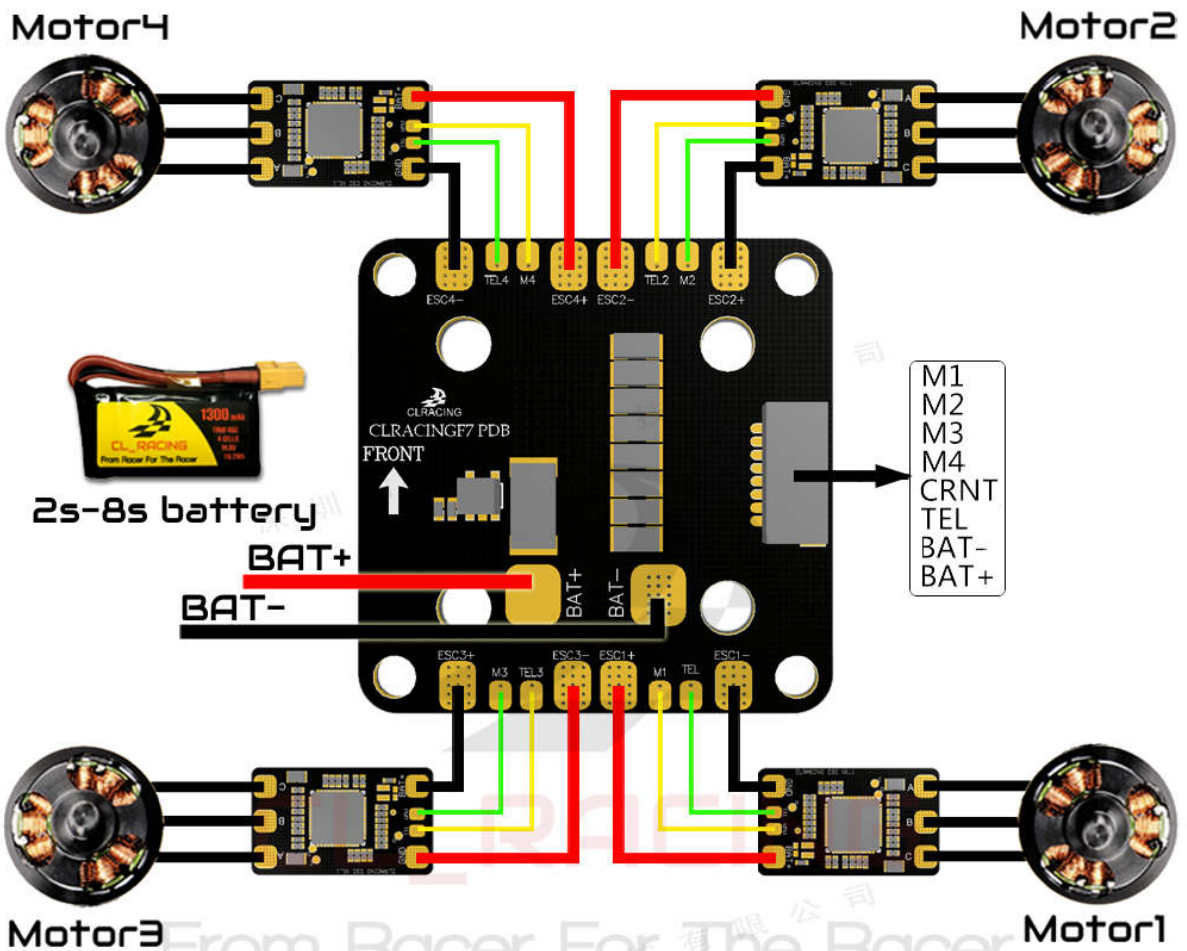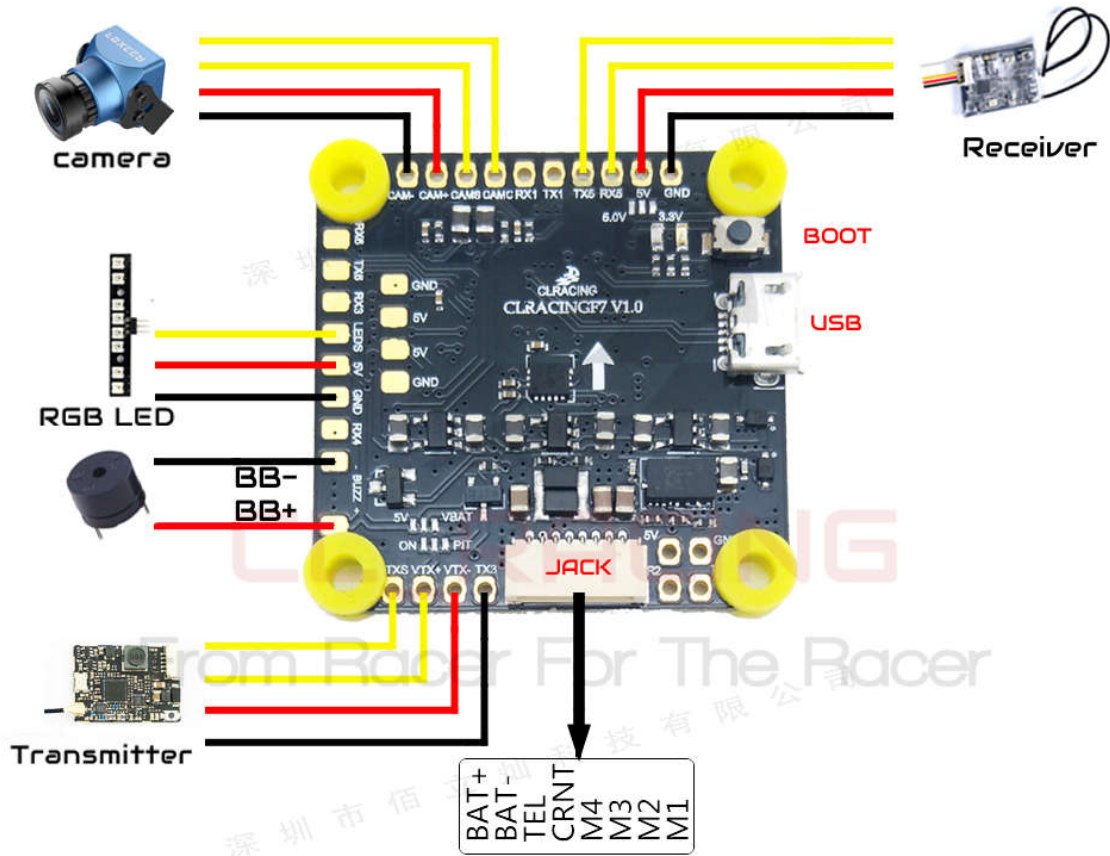
11. VBAT Polarity protection
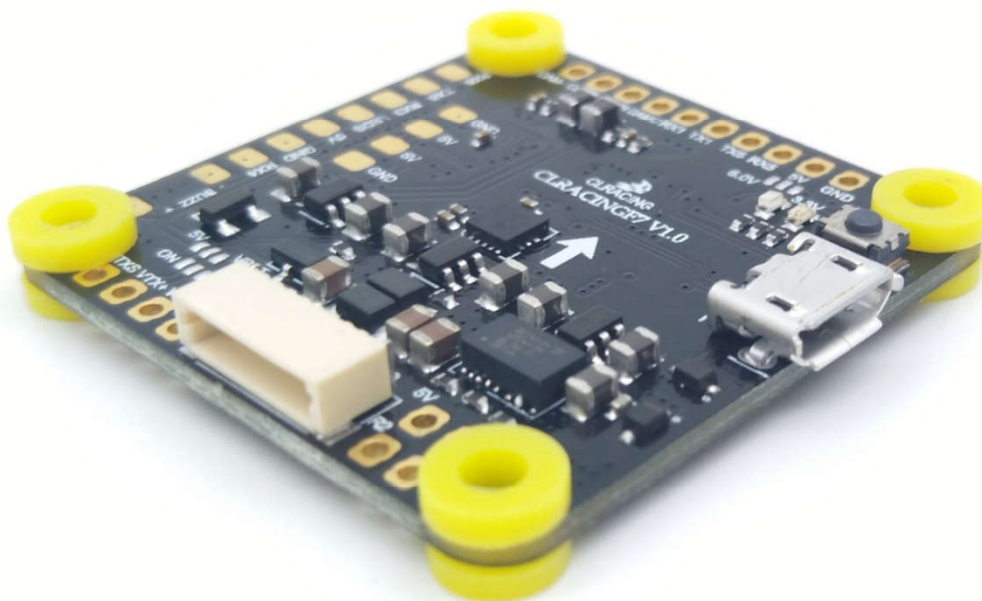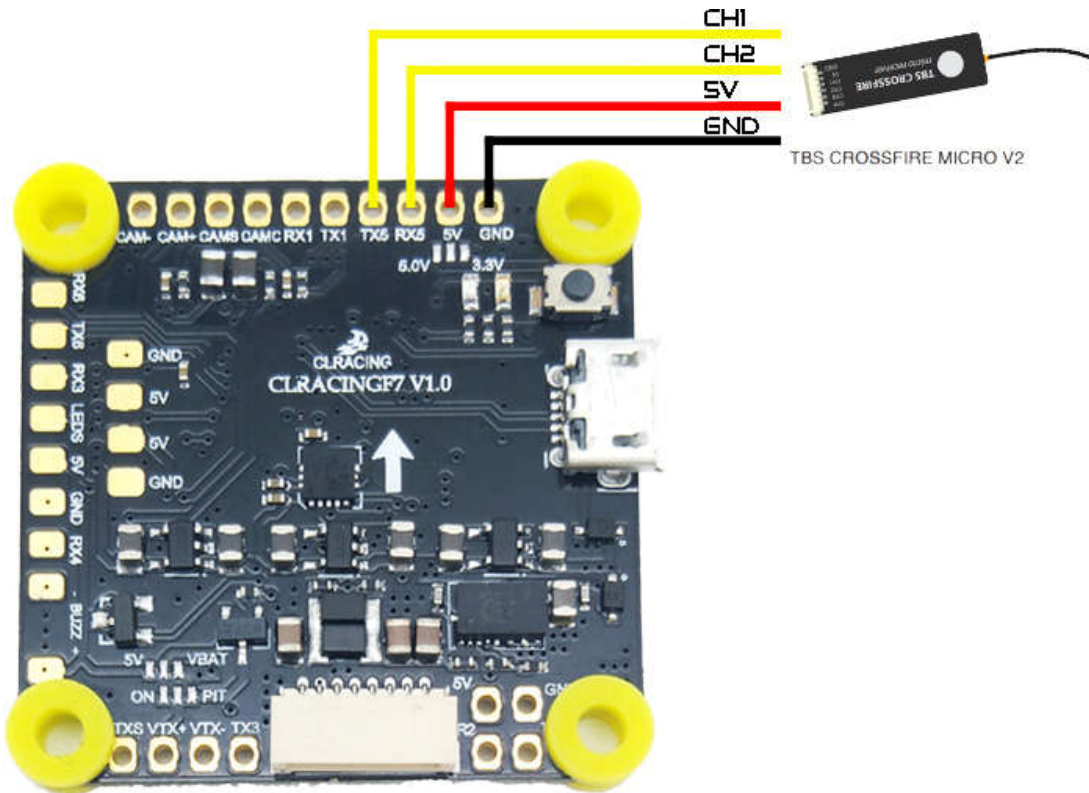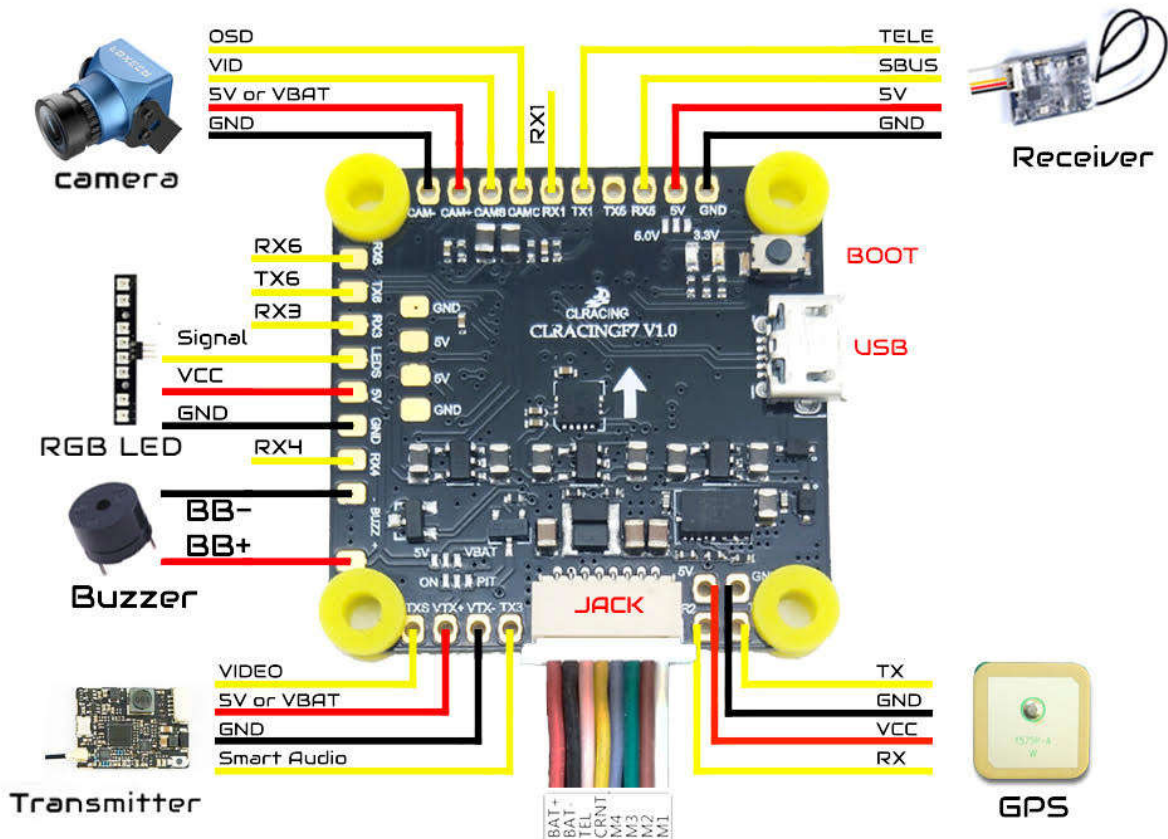
General Overview

1. F7 FC+4IN1 ESC
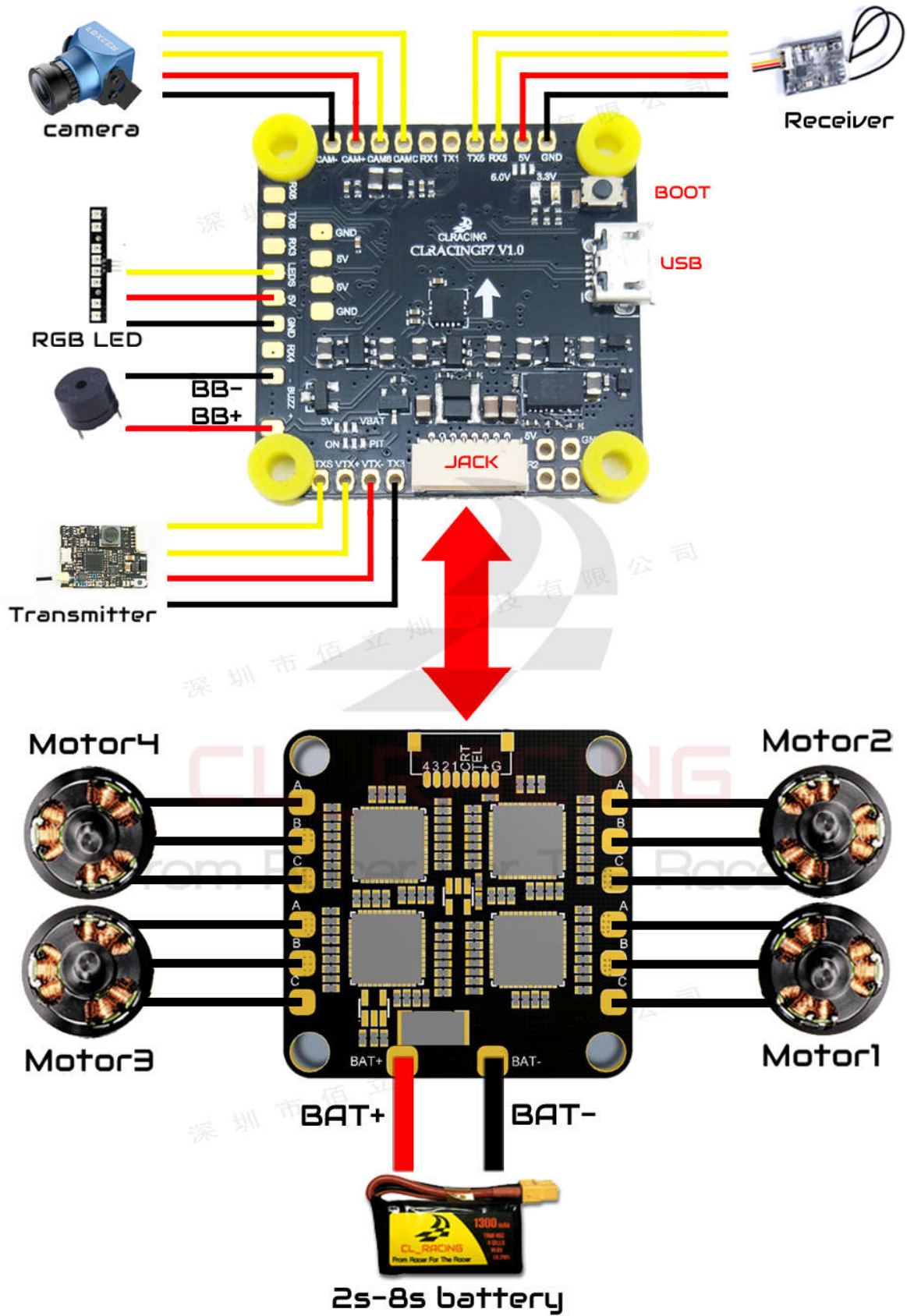
2. F7 FC+PDB

3. TBS X-fire set up

Use UART5 as Serial-RX

4. GPS

| Pad Name	function	Pad Name	function
VCC	POWER VBAT+	TX1	UART1 TX
GND	GROUND VBAT-	RX1	UART1 RX
CAMC	CAMERA OSD PIN	TX2	UART2 TX
CAMS	CAMERA SIGNAL	RX2	UART2 RX
VTXS	VTX SIGNAL	TX3	UART3 TX
VTX+	VBAT+ or 5V	RX3	UART3 RX
VTX-	VBAT-	TX4	UART4 TX
Sbus	SBUS RECEIVER	RX4	UART4 RX
LED_S	RGB LED SIGNAL	TX5	UART5 TX
BB+	BEEPER +	RX5	UART5 RX
BB-	BEEPER -	TX6	UART6 TX
ON	VTX POWER CONSTANT ON	RX6	UART6 RX
PIT	VTX POWER CONTROLABLE FROM RADIO	5V	5V OUTPUT FROM FC
CRT	CURRENT SENSOR INPUT		

BETAFLIGHT SETUP

1. Sbus
Choose UART 5 AS Serial RX, Solder your sbus signal to RX5 pad
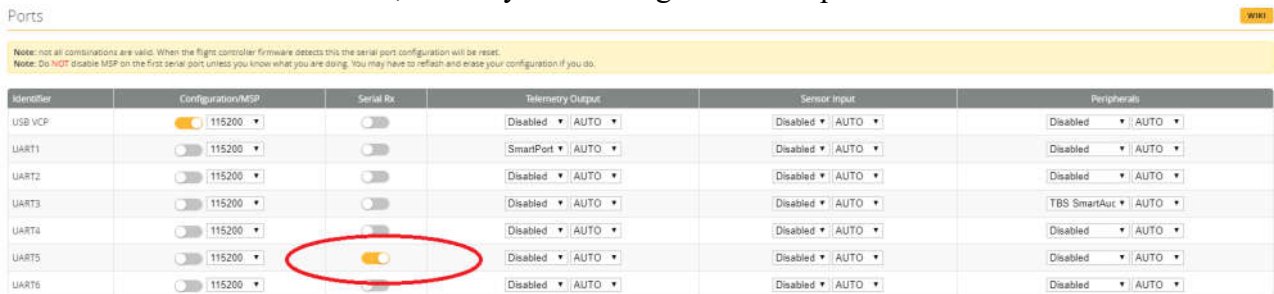
Then in the configuration tab Choose
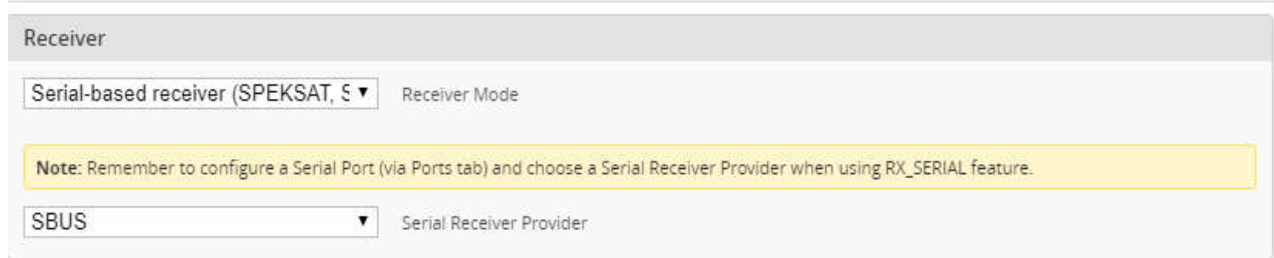
2. RX Voltage selection Jumper
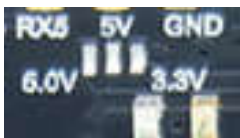
Solder on the left will output 5v , Solder the jumper on the right will output 3.3V

3. Smart port telemetery

Choose UART2 AS Smart port on the telemetery output, then go to CLI

Identifier	Configuration/MSP	Serial Rx	Telemetry Output	Sensor Input	Peripherals
USB VCP	115200 ▾		Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾
UART1	115200 ▾		SmartPort ▾ AUTO ▾	Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾
UART2	115200 ▾		Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾
UART3	115200 ▾		Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾	TBS SmartAuc ▾ AUTO ▾
UART4	115200 ▾		Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾
UART5	115200 ▾		Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾
UART6	115200 ▾		Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾

4. Use True Pit mode for Team racing

First Solder Jumper pad on PIT side

Then go to CLI Copy the following command to the CLI
resource PINIO 1 A14
set pinio_box = 39,0,0,0
save
wait for the FC reboot then go to "mode tab"set VTX PIT MODE on a AUX switch you preffer

CAUTION: when using PIT mode, FC power up will not power your VTX until you turn on the switch on your radio you assigned to the VTX PIT mode