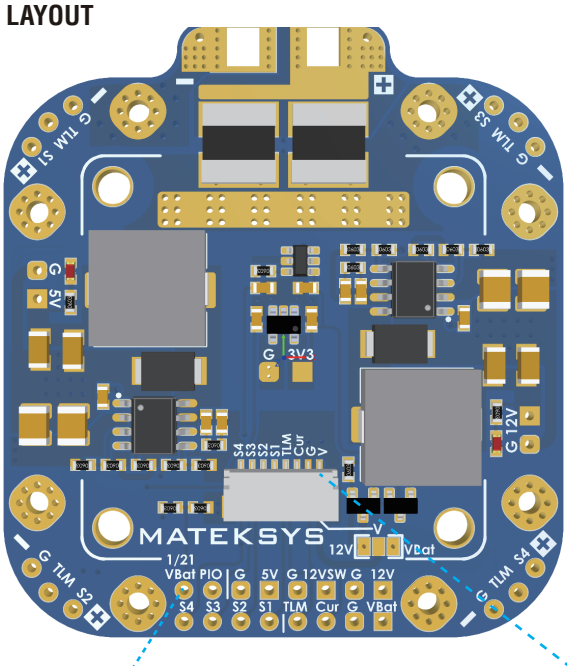
MATEKSYS PDB FCHUB-12S V2

QUICK START GUIDE

LAYOUT



+ & - : LiPO & ESC power pads
8~60V (3~12S)

PDB: 4x70A cont. 4x110A burst.
5V: BEC 5V, 5A cont. 6A burst
12V: BEC 12V, 4A cont. 5A burst
3V3: LDO3.3V 500mA cont.
G: Ground

VBat: = Input voltage

Curr: current sensor signal, 440A range (0~3.3V)
INAV / BetaFlight current scale 75
ArduPilot BATT_AMP_PERVLT 133.3

TLM: for BLheli32 ESC telemetry,
5x TLM pads are all shorted together

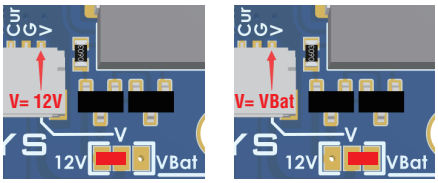
S1/S2/S3/S4: ESC signal

1/21 VBat

1K:20K voltage divider
Output = 0~2.857V when VBat = 0~ 60V

INAV voltage scale: 2100
Betaflight voltage scale: 210
ArduPilot BATT_VOLT_MULT 21.0

"V" pad on JST-SH connector



12VSW & PIO

No output on "12VSW" pad by default if PINIO is not enabled

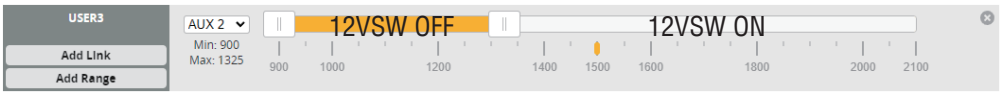
Any unused RX/TX/motor/PWM pad can be used for PINIO
e.g. connect PIO pad to "Rx3" of MATEK H743-SLIM

CLI resource to locate RX3 pin name
RX3 pad is D09
then
resource SERIAL_RX 3 none
resource PINIO 1 D09
set pinio_box = 42
save

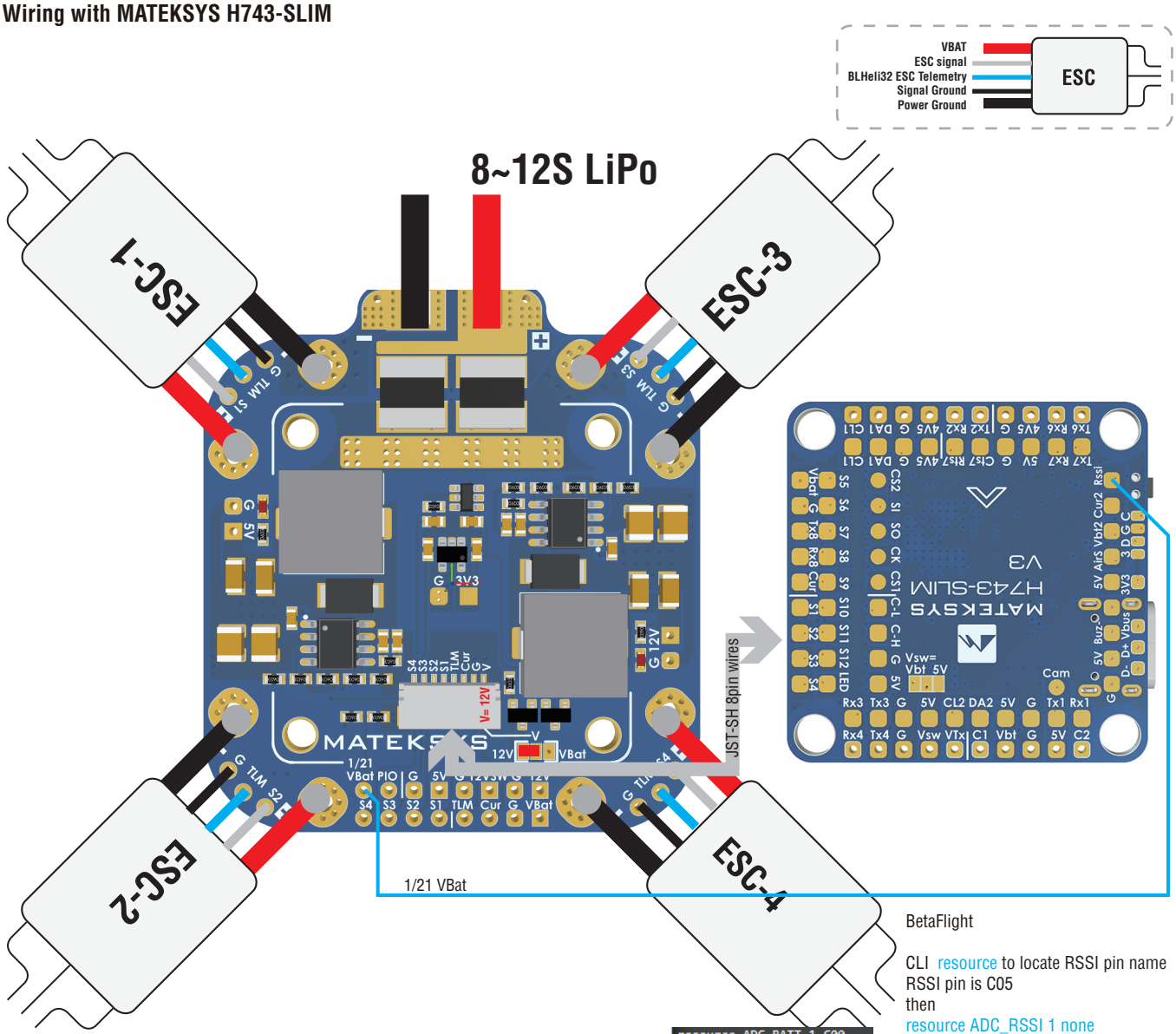
```
resource SERIAL_TX 7 E08
resource SERIAL_TX 8 E01
resource SERIAL_RX 1 A10
resource SERIAL_RX 2 D06
resource SERIAL_RX 3 D09
resource SERIAL_RX 4 B08
resource SERIAL_RX 6 C07
```

pinio_box 40 user1, 41 user2, 42 user3, 43 user4

Go to modes tab and assign an AUX channel to the USER3 mode. Click SAVE.
Flip the switch and test



Wiring with MATEKSYS H743-SLIM




```
resource ADC_BATT 1 C00
resource ADC_RSSI 1 C05
resource ADC_CURR 1 C01
resource ADC_EXT 1 C04
```

BetaFlight

CLI resource to locate RSSI pin name
RSSI pin is C05
then
resource ADC_RSSI 1 none
resource ADC_BATT 1 C05
set vbat_scale = 210
save

```
# get adc
vbat_adc_channel = 1
Allowed range: 0 - 4

rssi_adc_channel = 3
Allowed range: 0 - 4

current_adc_channel = 2
Allowed range: 0 - 4

airspeed_adc_channel = 4
Allowed range: 0 - 4
```

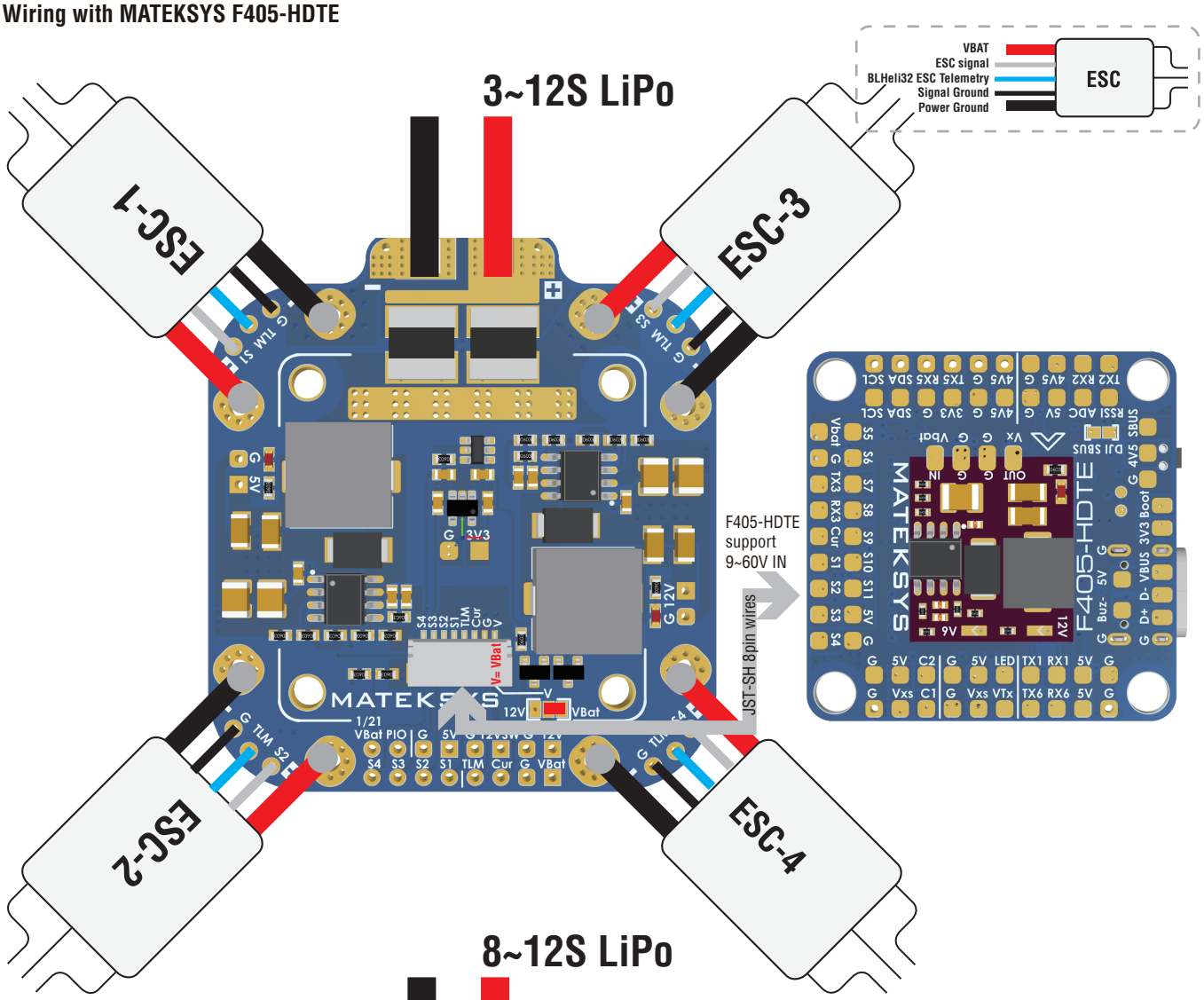
INAV

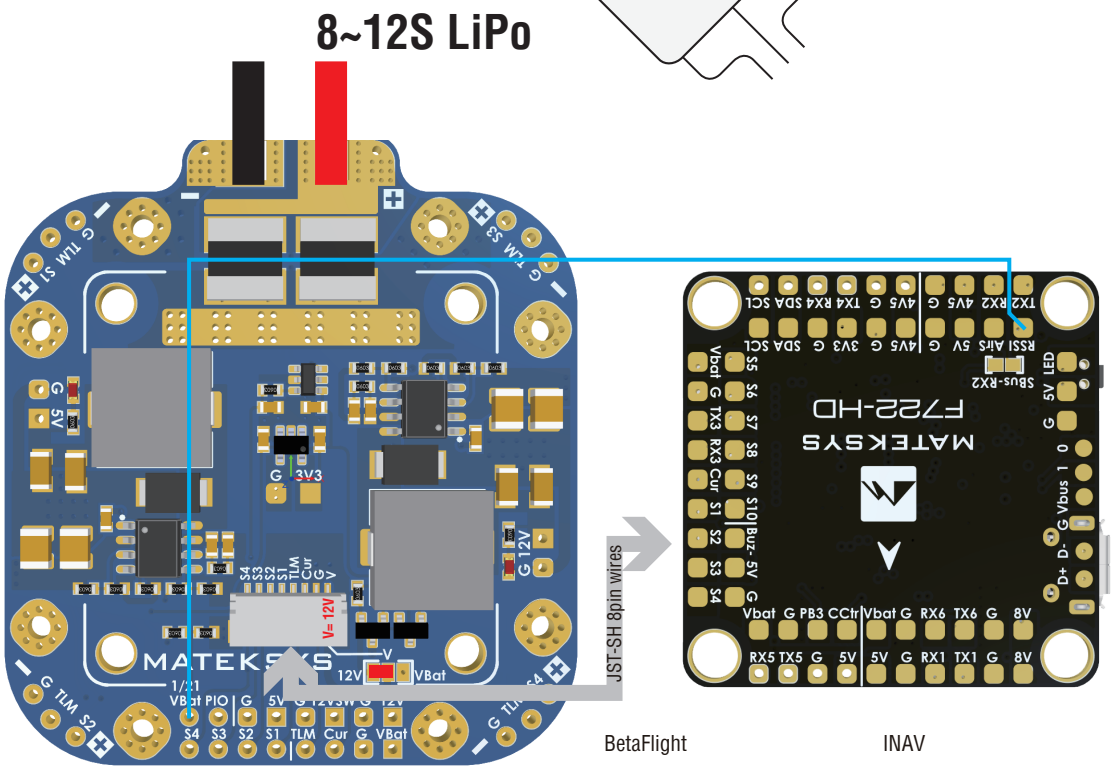
CLI get adc to locate rssi_adc_channel
rssi_adc_channel is 3 by default
then
set rssi_adc_channel = 0
set vbat_adc_channel = 3
set vbat_scale = 2100
save

ArduPilot

BATT_VOLT_PIN 8
BATT_VOLT_MULT 21.0

Wiring with MATEKSYS F405-HDTE





BetaFlight	INAV
resource ADC_RSSI 1 none	set rssi_adc_channel = 0
resource ADC_BATT 1 C00	set vbat_adc_channel = 3
set vbat_scale = 210	set vbat_scale = 2100
save	save