Overview schematic of the Phantom 3 Professional

Flight_Controller_board
- PADS_CENTER
- FLAT_IMU
- flight_controller_board.sch

IMU_board
- FLAT_FC
- imu_board.sch

GPS_board
- RIB_CENTER
- gps_board.sch

LED0
- CTRL
- LED.sch

ESC_Center_board

ESC0
- POWER
- MOTOR
- CONTROL
- esc.sch

ESC1
- POWER
- MOTOR
- CONTROL
- esc.sch

M1
M2

LED1
- CTRL
- LED.sch

Center
- PADS_FC
- RIBBON_USB
- M1_LED
- CTL_ESC0
- CTL_ESC1
- M2_LED
- RIBBON_CAMERA
- RIBBON_OFDM
- RIBBON_GPS
- RIBBON_BATT
- PWR_BATT
- M3_LED
- CTL_ESC2
- CTL_ESC3
- M4_LED
- RIBBON_API
- RIBBON_COMPASS
- center.sch

LED2
- CTRL
- LED.sch

ESC2
- POWER
- MOTOR
- CONTROL
- esc.sch

ESC3
- POWER
- MOTOR
- CONTROL
- esc.sch

M3
M4

LED3
- CTRL
- LED.sch

Gimbal_Top_board

Camera Encoder
- RIBBON_CENTER
- RIBBON_OFDM
- FLAT_CAMERA
- camera_encoder.sch

Gimbal Control
- RIBBON_CENTER
- FLAT_CAMERA
- gimbal_control.sch

Driver Yaw
- FLAT_MOTOR
- FLAT_TOP
- gimbal_arm_driver.sch

VPS_board

VPS Sonar
- RIBBON_CENTER
- vps_sonar.sch

VPS Camera
- RIBBON_CENTER
- vps_camera.sch

Compass board
- RIBBON_CENTER
- compass_board.sch

OFDM_board
- RIB_CENTER
- RIB_OFDM
- ANTENNA1
- ANTENNA2
- ANTENNA3
- ANTENNA4
- ofdm_board.sch

AE1
AE2
AE3
AE4

Motor_Servo
- PWM
- M_yaw

Motor_Servo
- PWM
- M_roll

Motor_Servo
- PWM
- M_pitch

Driver Roll board
- FLAT_MOTOR
- FLAT_TOP
- gimbal_arm_driver.sch

Driver Pitch board
- FLAT_MOTOR
- FLAT_TOP
- gimbal_arm_driver.sch

Camera Sensor board
- FLAT_TOP
- camera_sensor_board.sch

High-level electric schematic of the drone, with all connections between boards marked.
This schematic does not aim to be electrically correct, it is conceptual.

DJI / by enthusiasts

Sheet: /
File: phantom_3_pro_overview.sch

Title: Overview schematic of the Phantom 3 Professional

Size: User	Date:	Rev:
KiCad E.D.A. kicad 4.0.6		Id: 1/23

PADS_CENTER

VDD
GND

MS5607
altitude
pressure sensor

8 7 6 5
1 2 3 4

VDD
GND

STM32F427
ARM Cortex—M4
w/ DSP and FPU

VDD
GND

FLAT_IMU

Micro_SD_Card

1	DAT2
2	DAT3/CD
3	CMD
4	VDD
5	CLK
6	VSS
7	DAT0
8	DAT1

SHIELD 9

GND

This schematic does not aim to be electrically correct, it is conceptual.

Sheet: /Flight_Controller_board/
File: flight_controller_board.sch
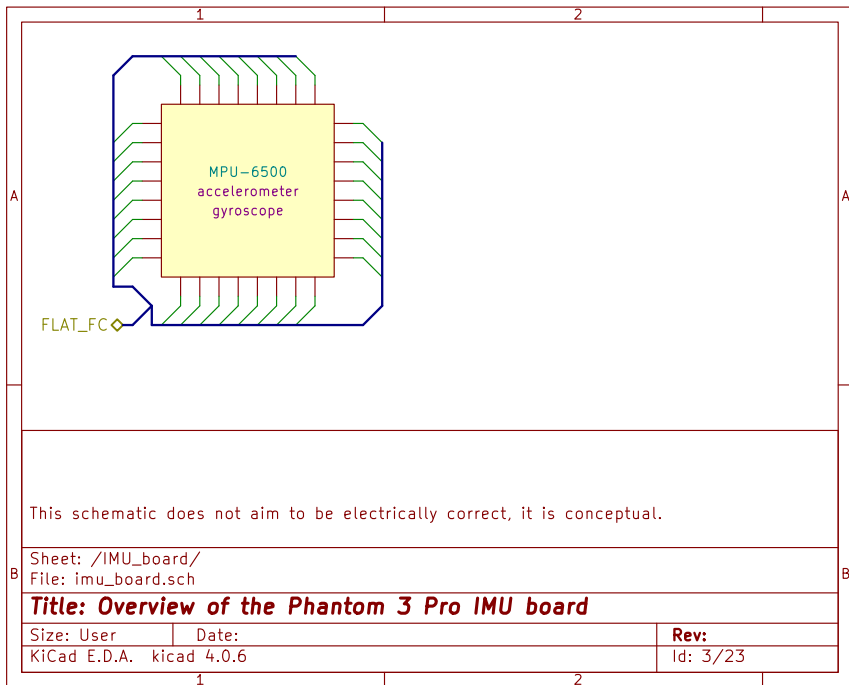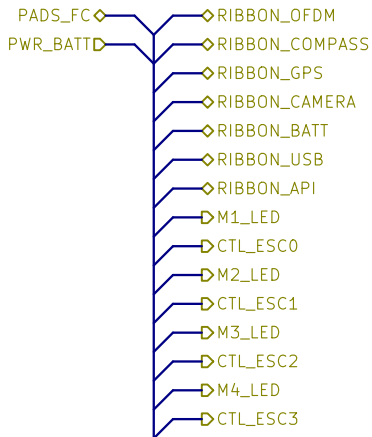
Title: Overview of the Phantom 3 Pro FC board

| Size: User | Date: | | Rev: |
| KiCad E.D.A. kicad 4.0.6 | | | Id: 2/23 |

MPU-6500
accelerometer
gyroscope

FLAT_FC

This schematic does not aim to be electrically correct, it is conceptual.

Sheet: /IMU_board/
File: imu_board.sch

Title: Overview of the Phantom 3 Pro IMU board

| Size: User | Date: | Rev: |
| KiCad E.D.A. kicad 4.0.6 | | Id: 3/23 |

PADS_FC

PWR_BATT

RIBBON_OFDM

RIBBON_COMPASS

RIBBON_GPS

RIBBON_CAMERA

RIBBON_BATT

RIBBON_USB

RIBBON_API

M1_LED

CTL_ESC0

M2_LED

CTL_ESC1

M3_LED

CTL_ESC2

M4_LED

CTL_ESC3

This schematic does not aim to be electrically correct, it is conceptual.

Sheet: /Center/
File: center.sch

Title: Overview of the Phantom 3 Pro Center part of MB

| Size: User | Date: | | Rev: |
| KiCad E.D.A. kicad 4.0.6 | | | Id: 4/23 |

RIB_CENTER

Pin	Label		Label	Pin

NEO-M8N-0
u-blox GNSS receiver

13 GND
14 LNA_EN
GND
15 RES
16 RES
17 RES
18 SDA/CS_N
19 SCL/CLK
20 TXD/MISO
21 RXD/MOSI
22 V_BCKP
23 VCC
24 GND

GND GND

VCC

+ Battery
GND

GND 12
RF_IN 11
GND 10
VCC_RF 9
RESET_N 8
VDD_USB 7
USB_DP 6
USB_DM 5
EXTINT 4
TIMEPULSE 3
D_SEL 2
SAFEBOOT_N 1

Patch_Antenna

GND

This schematic does not aim to be electrically correct, it is conceptual.

Sheet: /GPS_board/
File: gps_board.sch

Title: Overview of the Phantom 3 Pro GPS board

Size: User	Date:	Rev:
KiCad E.D.A. kicad 4.0.6		Id: 5/23

◇RIBBON_CENTER
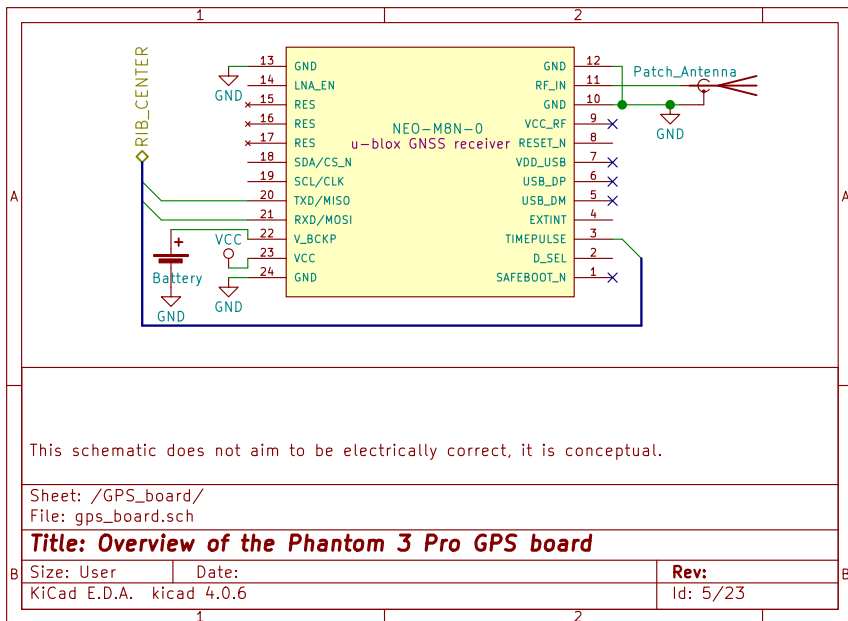
Sheet: /Compass_board/
File: compass_board.sch

Title: Overview of the Phantom 3 Pro Compass board

| Size: A4 | Date: | Rev: |
| KiCad E.D.A. kicad 4.0.6 | | Id: 6/23 |

RIBBON_CENTER

This schematic does not aim to be electrically correct, it is conceptual.

Sheet: /VPS_Sonar/
File: vps_sonar.sch

Title: Overview of the Phantom 3 Pro VPS Sonar

Size: A4 | Date: | Rev:
KiCad E.D.A. kicad 4.0.6 | Id: 7/23

◇RIBBON_CENTER

This schematic does not aim to be electrically correct, it is conceptual.

Title: Overview of the Phantom 3 Pro VPS Camera

Size: A4   Date: Rev:

KiCad E.D.A. kicad 4.0.6   Id: 8/23

CONTROL

A

TMS320F28027F
Piccolo 32-Bit uC
motor control sw

+BATT

POWER

GND

+BATT

DRV8301
3-Ph Motor Drv
PWM Ctrl w/ SPI

GND

MOTOR

+BATT   +BATT   +BATT

AON6504
N-Ch MOS

AON6504
N-Ch MOS

GND   GND   GND

DJI / by enthusiasts

Sheet: /ESC0/
File: esc.sch

Title: Overview of the Phantom 3 Pro ESC circuit

Size: User	Date:	Rev:
KiCad E.D.A. kicad 4.0.6		Id: 9/23
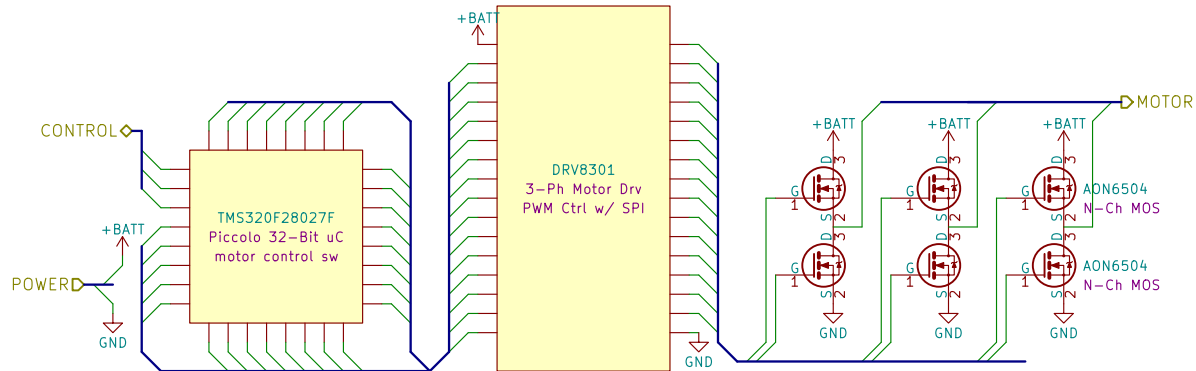
CONTROL

A

+BATT

POWER

GND

TMS320F28027F
Piccolo 32–Bit uC
motor control sw

+BATT

DRV8301
3–Ph Motor Drv
PWM Ctrl w/ SPI

GND

MOTOR

+BATT   +BATT   +BATT

G D   G D   G D
              AON6504
              N–Ch MOS

G D   G D   G D
              AON6504
              N–Ch MOS

GND   GND   GND

This schematic does not aim to be electrically correct, it is conceptual.
DJI / by enthusiasts

Sheet: /ESC1/
File: esc.sch

Title: Overview of the Phantom 3 Pro ESC circuit

| Size: User | Date: | **Rev:** |
| KiCad E.D.A. kicad 4.0.6 | | Id: 10/23 |
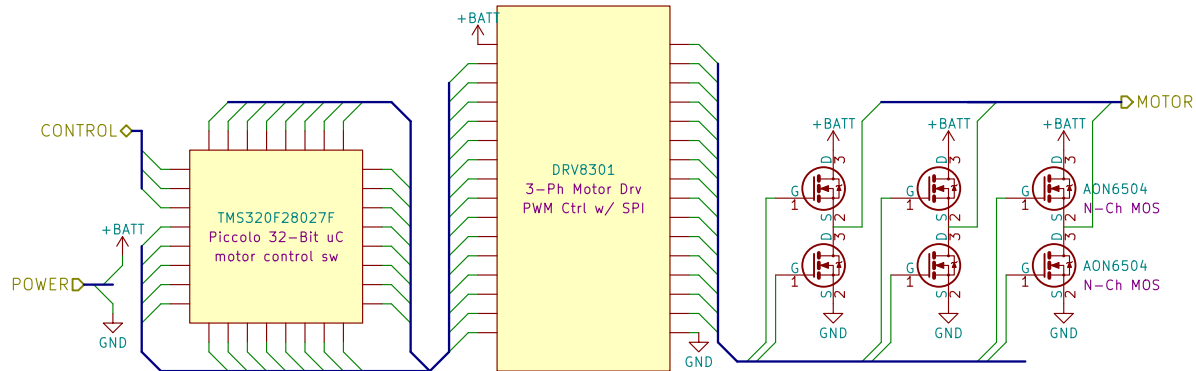
CONTROL

+BATT

POWER

GND

TMS320F28027F
Piccolo 32-Bit uC
motor control sw

+BATT

DRV8301
3-Ph Motor Drv
PWM Ctrl w/ SPI

GND

+BATT +BATT +BATT

MOTOR

AON6504
N-Ch MOS

AON6504
N-Ch MOS

GND GND GND

This schematic does not aim to be electrically correct, it is conceptual.

DJI / by enthusiasts

Sheet: /ESC2/
File: esc.sch

Title: Overview of the Phantom 3 Pro ESC circuit

Size: User   Date:

Rev:

KiCad E.D.A.   kicad 4.0.6

Id: 11/23
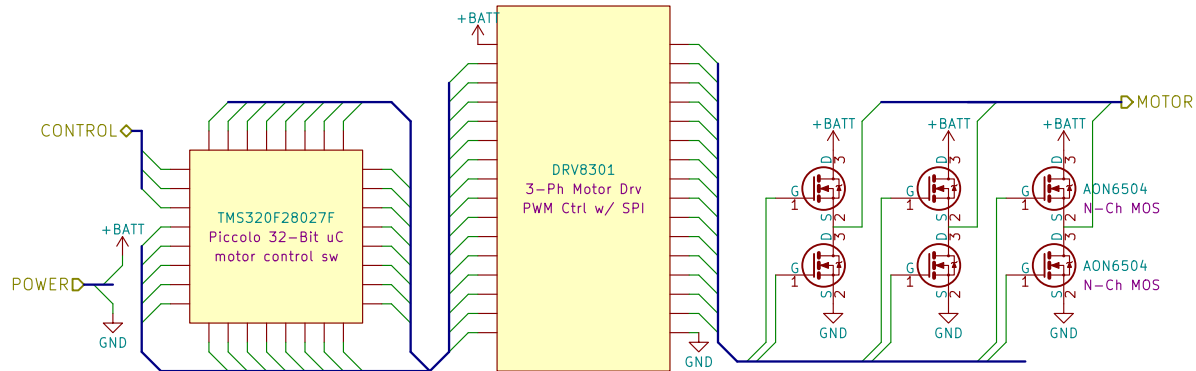
CONTROL

POWER

+BATT

GND

TMS320F28027F
Piccolo 32—Bit uC
motor control sw

+BATT

DRV8301
3—Ph Motor Drv
PWM Ctrl w/ SPI

GND

+BATT

+BATT

+BATT

AON6504
N—Ch MOS

AON6504
N—Ch MOS

GND

GND

GND

MOTOR

This schematic does not aim to be electrically correct, it is conceptual.

DJI / by enthusiasts

Sheet: /ESC3/
File: esc.sch

Title: Overview of the Phantom 3 Pro ESC circuit

Size: User   Date:

KiCad E.D.A.   kicad 4.0.6

Rev:

Id: 12/23

CTRL

D1

LED_RGB_5050
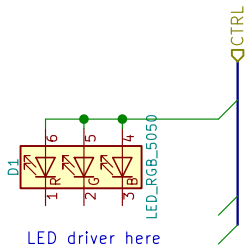
6 5 4

1 R 2 G 3 B

LED driver here
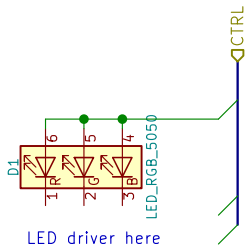
This schematic does not aim to be electrically correct, it is conceptual.

Sheet: /LED0/
File: LED.sch

Title: Overview of the Phantom 3 Pro LED board

| Size: User | Date: | **Rev:** |
| KiCad E.D.A. kicad 4.0.6 | | Id: 13/23 |

CTRL

LED_RGB_5050

D1

6 5 4

1 R 2 G 3 B

LED driver here
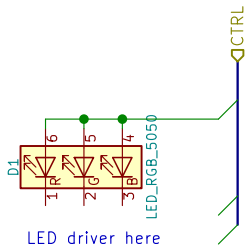
This schematic does not aim to be electrically correct, it is conceptual.

Sheet: /LED1/
File: LED.sch

Title: Overview of the Phantom 3 Pro LED board

Size: User	Date:	**Rev:**
KiCad E.D.A. kicad 4.0.6		Id: 14/23

CTRL

D1

LED_RGB_5050

6
5
4

R
G
B

1
2
3

LED driver here

This schematic does not aim to be electrically correct, it is conceptual.

CTRL

D1
LED_RGB_5050

6 5 4
R G B
1 2 3

LED driver here

This schematic does not aim to be electrically correct, it is conceptual.

Sheet: /LED3/
File: LED.sch

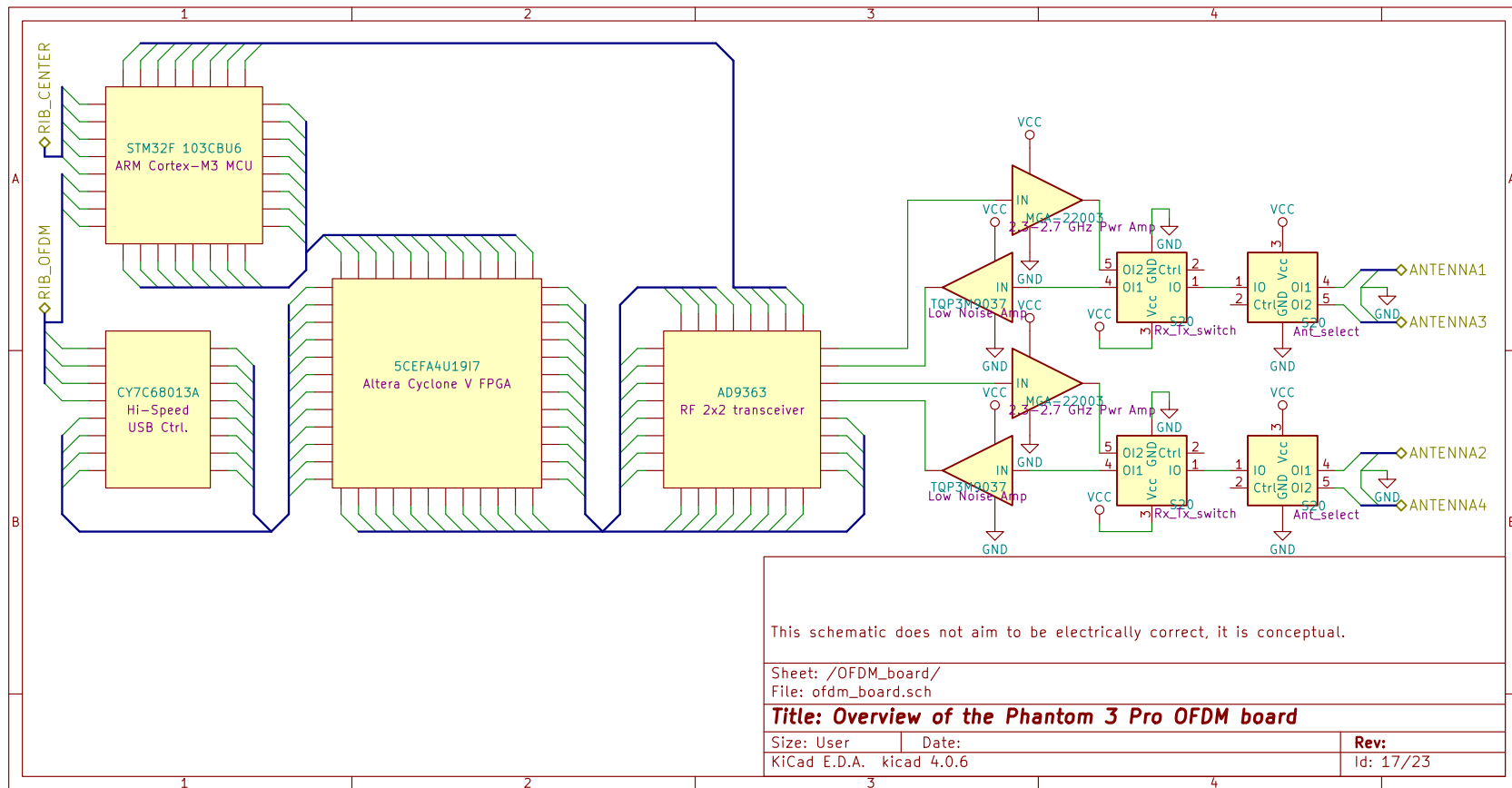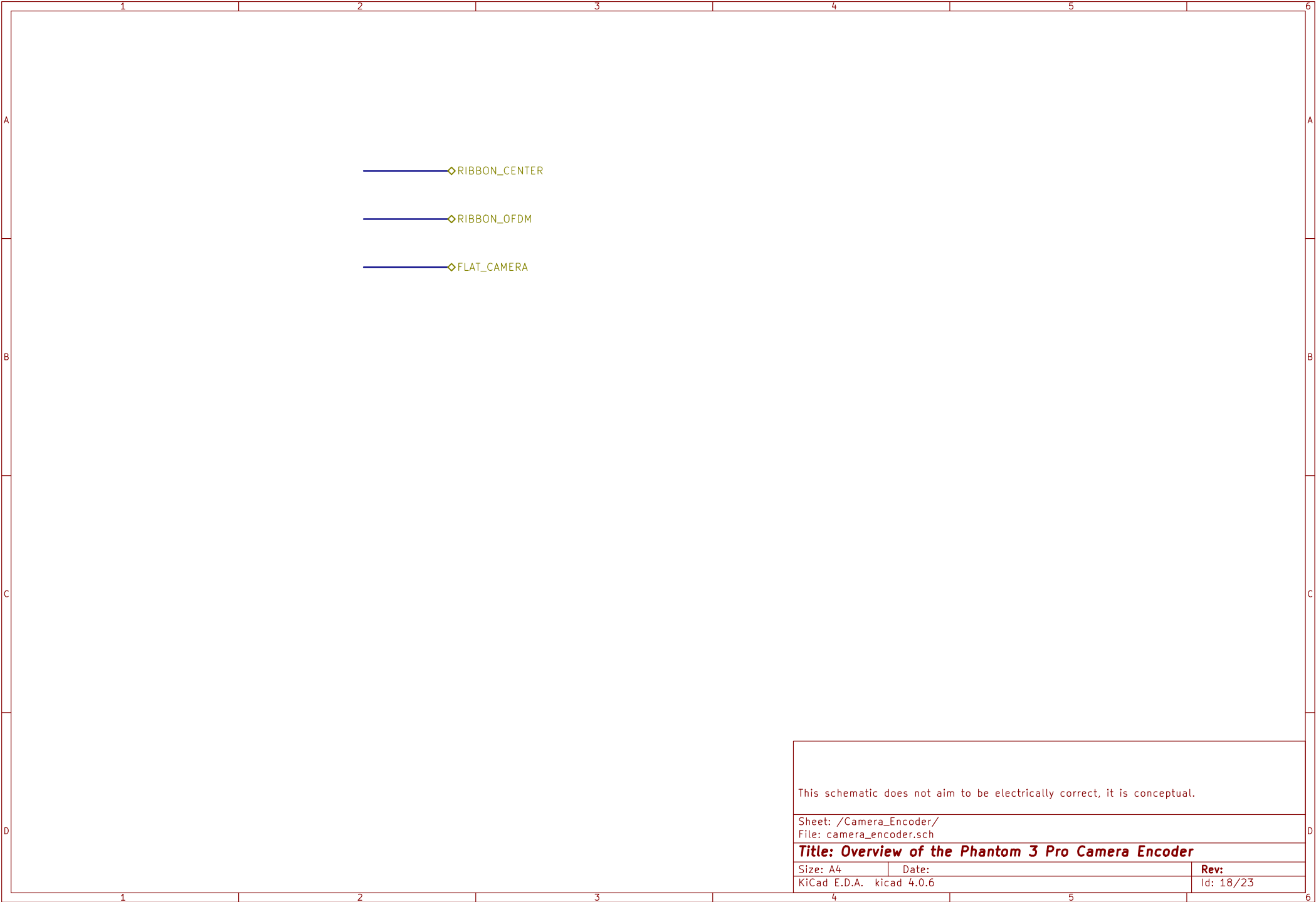**Title: Overview of the Phantom 3 Pro LED board**

Size: User   Date:

Rev:

KiCad E.D.A.   kicad 4.0.6

Id: 16/23

RIB_CENTER

RIB_OFDM

STM32F 103CBU6
ARM Cortex-M3 MCU

CY7C68013A
Hi-Speed
USB Ctrl.

5CEFA4U19I7
Altera Cyclone V FPGA

AD9363
RF 2x2 transceiver

VCC

IN
MGA-22003
2.3~2.7 GHz Pwr Amp

GND

VCC

IN
TQP3M9037
Low Noise Amp

GND

VCC

IN
MGA-22003
2.3~2.7 GHz Pwr Amp

GND

VCC

IN
TQP3M9037
Low Noise Amp

GND

5 OI2 GND Ctrl 2
4 OI1 Vcc IO   1
VCC   3   S20
       Rx_Tx_switch

5 OI2 GND Ctrl 2
4 OI1 Vcc IO   1
VCC   3   S20
       Rx_Tx_switch

VCC

3
IO   Vcc OI1 4
Ctrl GND OI2 5
         S20
    Ant_select

GND

VCC

3
IO   Vcc OI1 4
Ctrl GND OI2 5
         S20
    Ant_select

GND

ANTENNA1

GND
ANTENNA3

ANTENNA2

GND
ANTENNA4

This schematic does not aim to be electrically correct, it is conceptual.

Sheet: /OFDM_board/
File: ofdm_board.sch

Title: Overview of the Phantom 3 Pro OFDM board

Size: User	Date:	**Rev:**
KiCad E.D.A. kicad 4.0.6		Id: 17/23

RIBBON_CENTER

RIBBON_OFDM

FLAT_CAMERA

This schematic does not aim to be electrically correct, it is conceptual.

Sheet: /Camera_Encoder/
File: camera_encoder.sch

Title: Overview of the Phantom 3 Pro Camera Encoder

Size: A4	Date:		Rev:
KiCad E.D.A. kicad 4.0.6			Id: 18/23

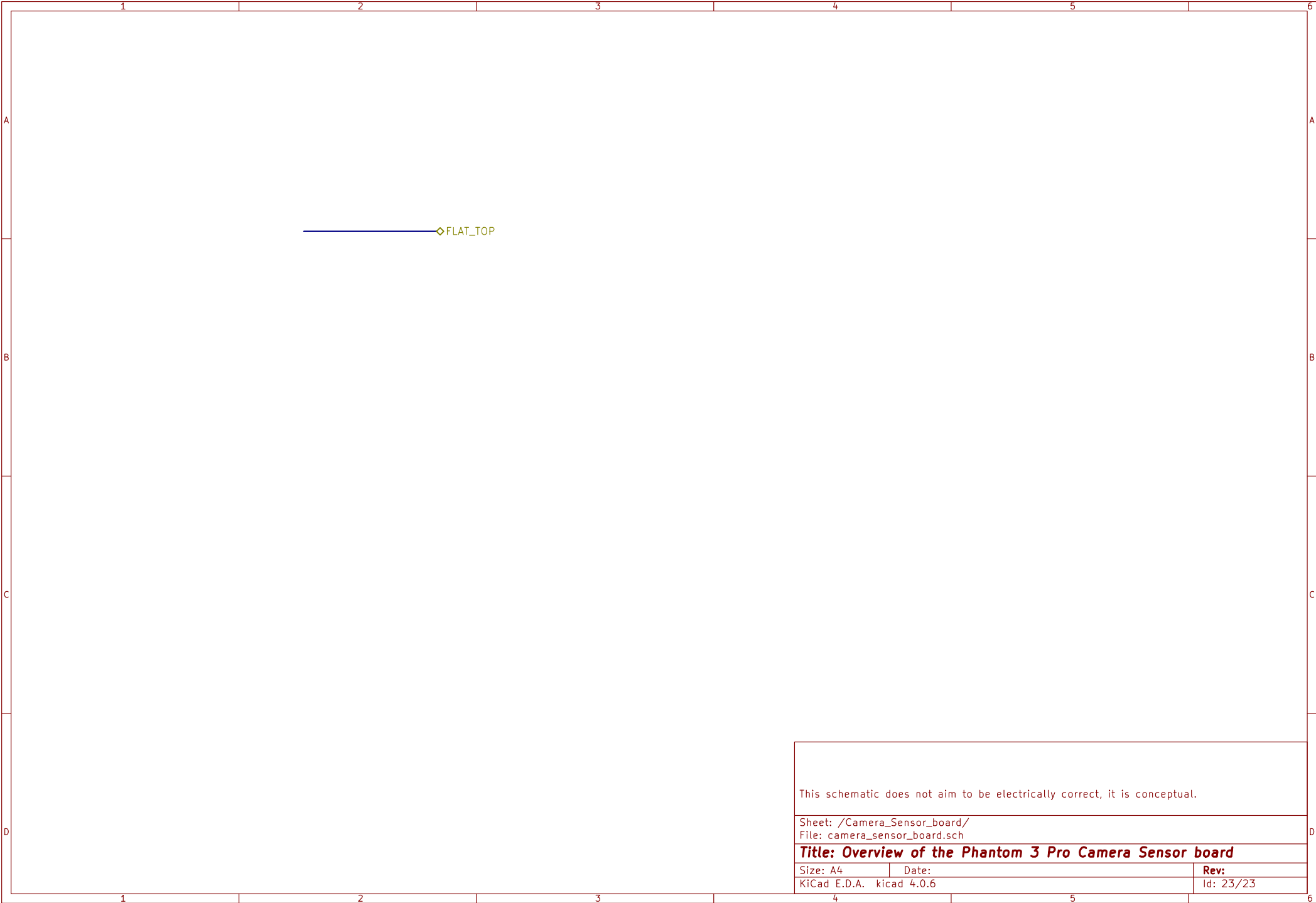RIBBON_CENTER

FLAT_CAMERA

FLAT_TOP

FLAT_MOTOR

This schematic does not aim to be electrically correct, it is conceptual.

Sheet: /Driver_Pitch_board/
File: gimbal_arm_driver.sch

Title: Overview of the Phantom 3 Pro Gimbal Arm Driver

Size: A4 | Date: | Rev:
KiCad E.D.A. kicad 4.0.6 | Id: 20/23
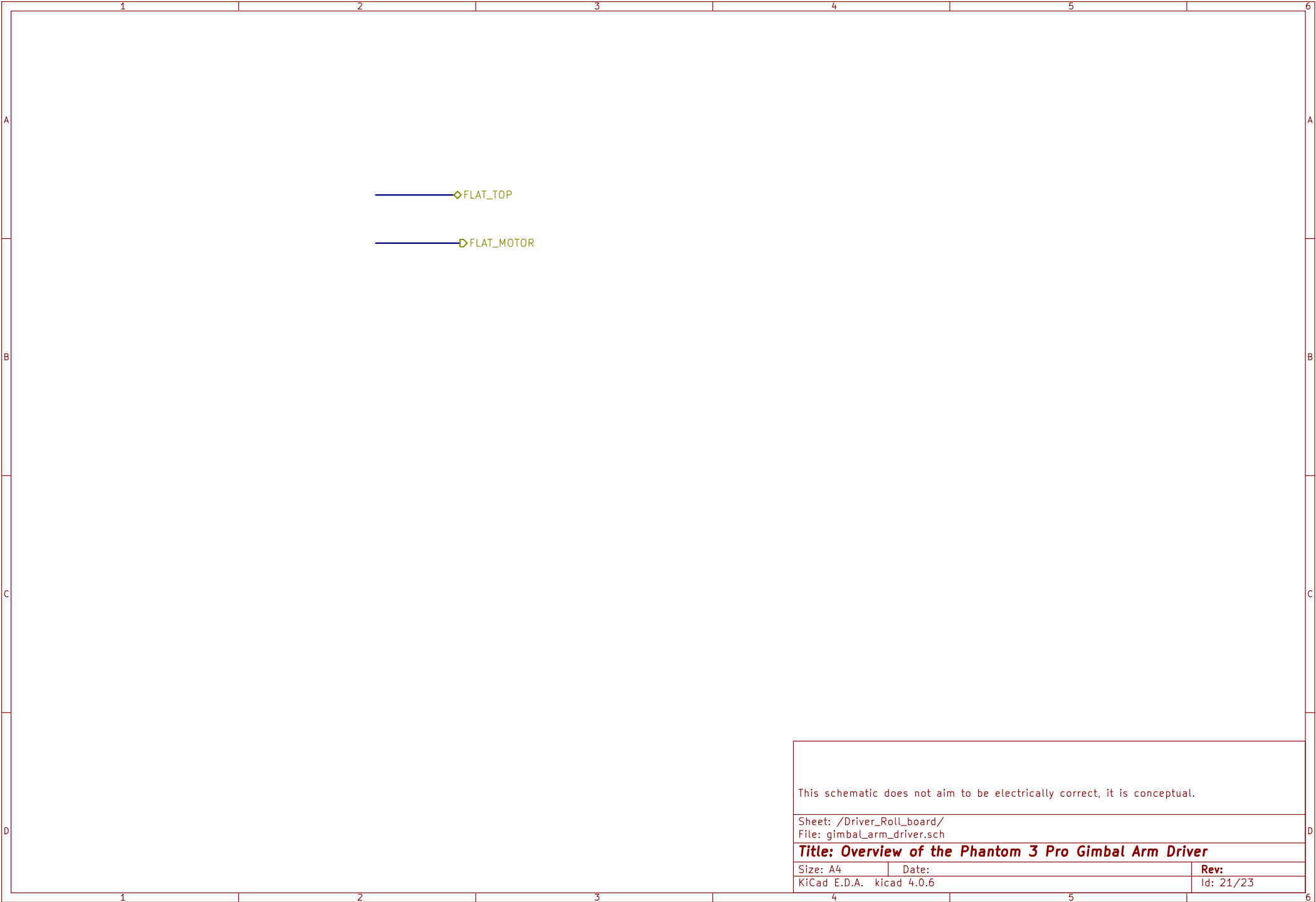
FLAT_TOP

FLAT_MOTOR

This schematic does not aim to be electrically correct, it is conceptual.

Title: Overview of the Phantom 3 Pro Gimbal Arm Driver

| Size: A4 | Date: | Rev: |
| KiCad E.D.A. kicad 4.0.6 | | Id: 21/23 |

FLAT_TOP

FLAT_MOTOR

This schematic does not aim to be electrically correct, it is conceptual.

Sheet: /Driver_Yaw/
File: gimbal_arm_driver.sch

Title: Overview of the Phantom 3 Pro Gimbal Arm Driver

Size: A4	Date:		Rev:
KiCad E.D.A. kicad 4.0.6			Id: 22/23

◇FLAT_TOP

Sheet: /Camera_Sensor_board/
File: camera_sensor_board.sch

Title: Overview of the Phantom 3 Pro Camera Sensor board

Size: A4 | Date: | **Rev:**
KiCad E.D.A. kicad 4.0.6 | | Id: 23/23