

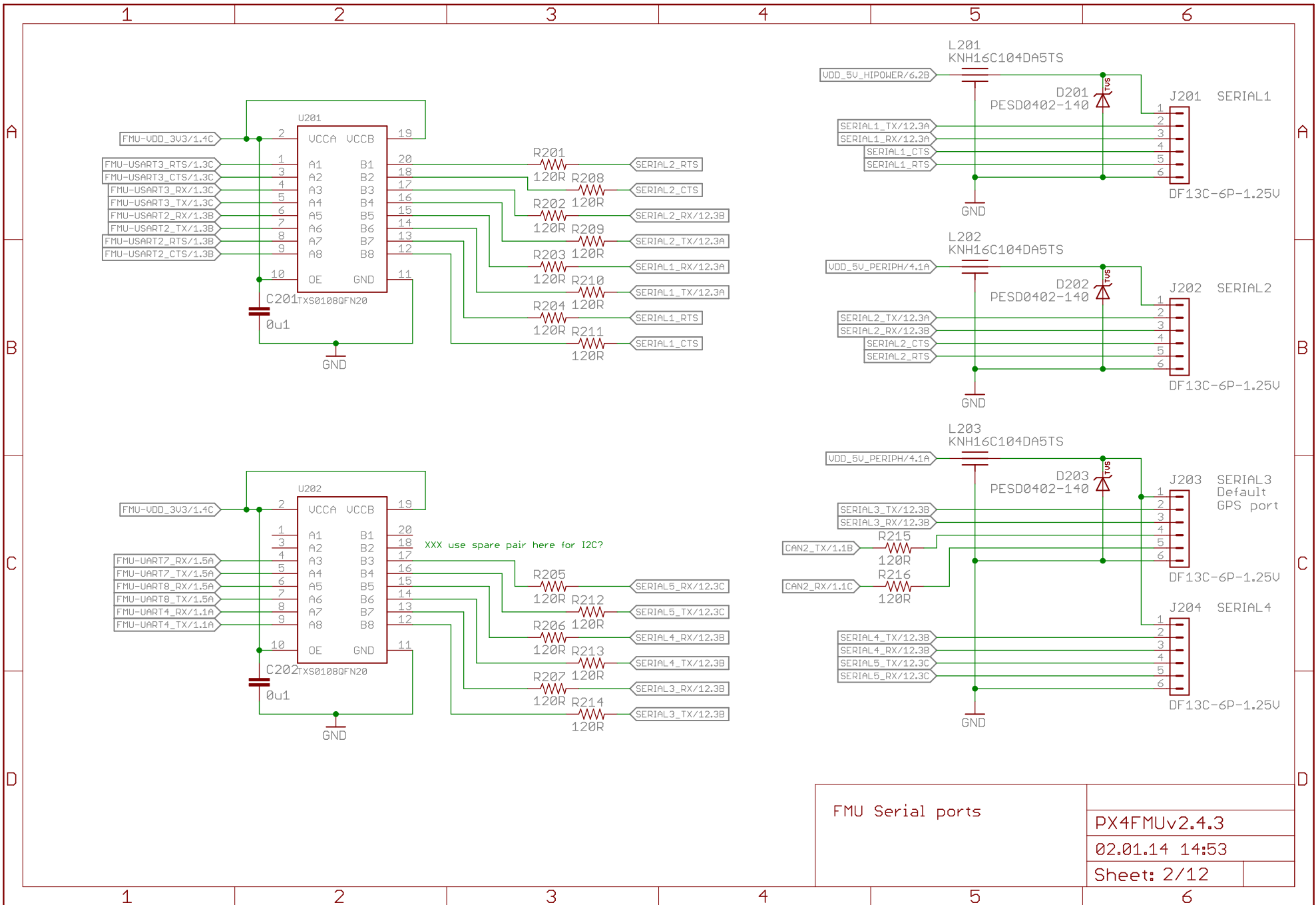
Timer allocation:
 PE9: TIM1_CH1: FMU-CH4
 PE11: TIM1_CH2: FMU-CH3
 PE13: TIM1_CH3: FMU-CH2
 PE14: TIM1_CH4: FMU-CH1
 PA15: TIM2_CH1: ALARM
 PB0: TIM3_CH3: GYRO1_DRDY
 PB1: TIM3_CH4: GYRO2_DRDY
 PB4: TIM3_CH1: ACCEL_DRDY
 PB5: TIM3_CH2: MAG_DRDY
 PD13: TIM4_CH2: FMU-CH5
 PD14: TIM4_CH3: FMU-CH6
 PD15: TIM4_CH4: spare

Note: MAG/ACCEL/GYRO_DRDY pins chosen for both timer capture and separate EXTI operator.

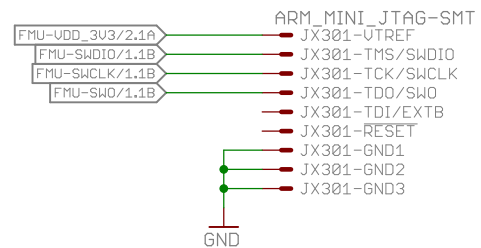
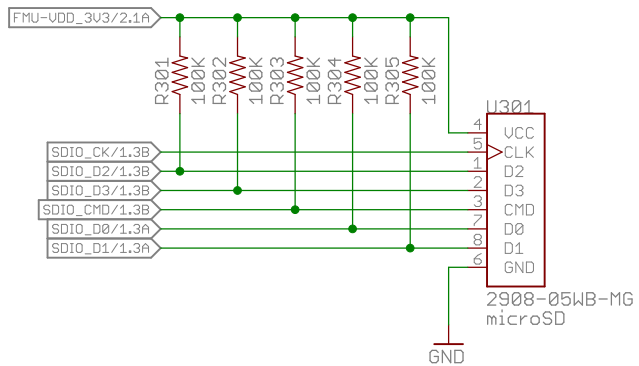
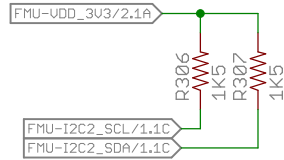
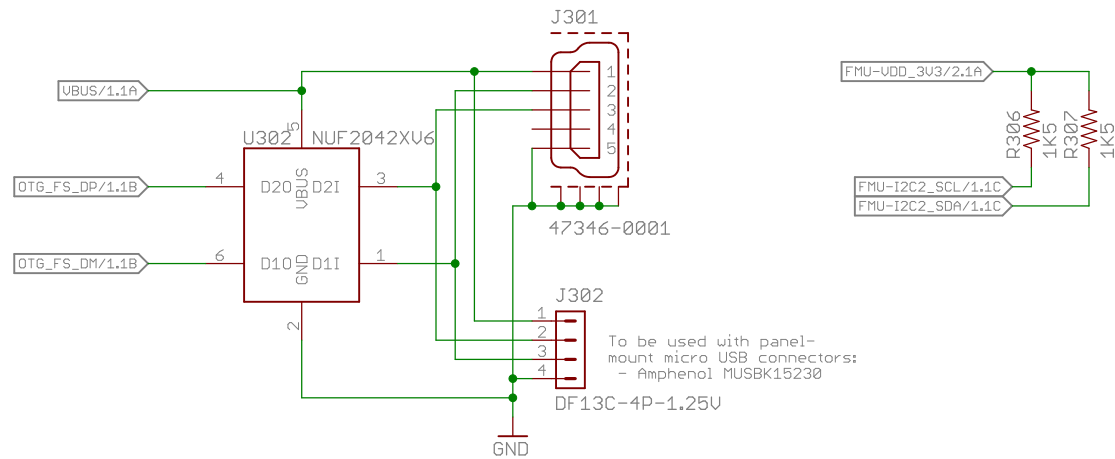
EXTI0 - TIM3_CH3 - GYRO1
 EXTI1 - <free>
 EXTI2 - <free>
 EXTI3 - <free>
 EXTI4 - TIM3_CH1 - ACCEL
 EXTI5-9 - TIM3_CH2 - MAG

ALL SHEETS SAME REVISION

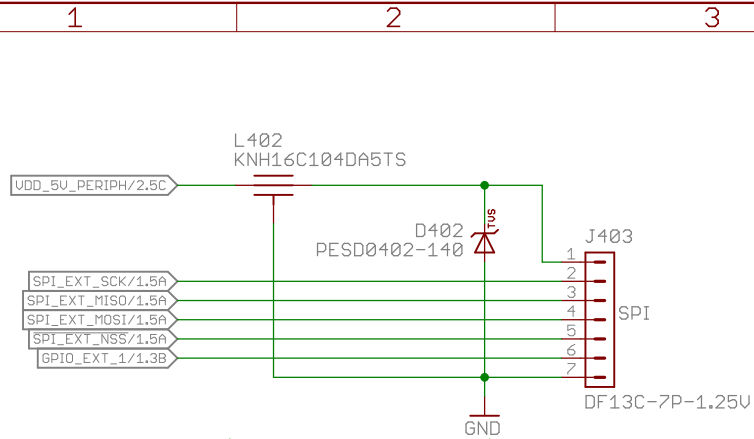
FMU SoC Ports	PX4FMUv2.4.3
FRAM	02.01.14 14:53
	Sheet: 1/12



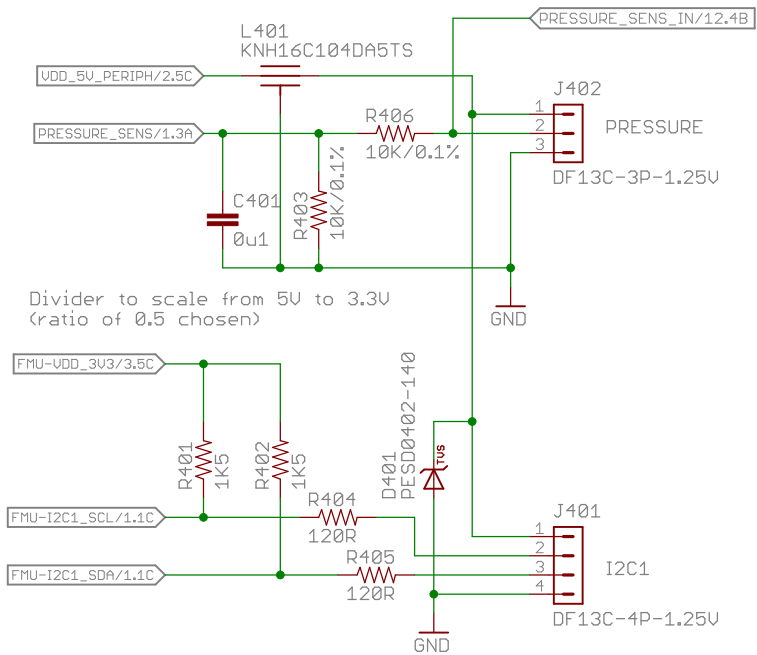
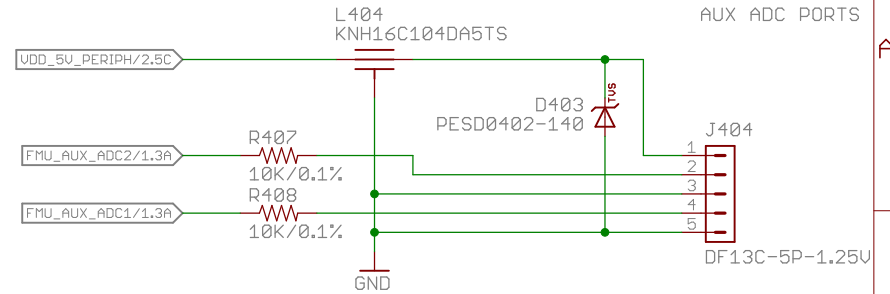
FMU Serial ports	PX4FMUv2.4.3
	02.01.14 14:53
	Sheet: 2/12



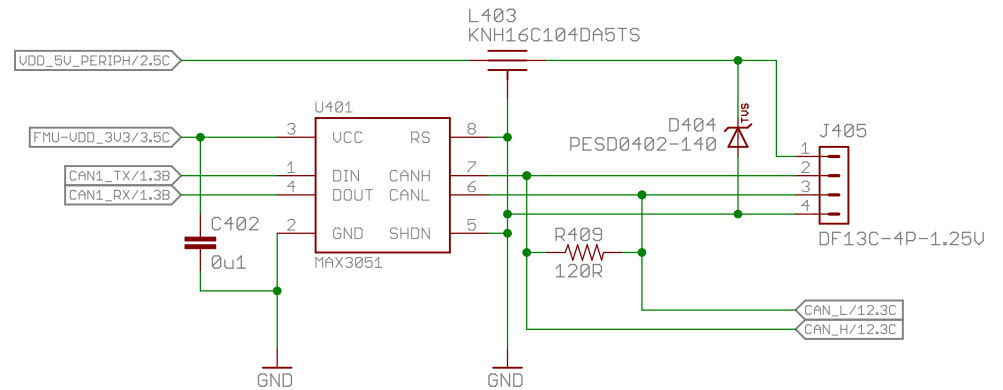
USB microSD Expansion	PX4FMUv2.4.3	
	02.01.14 14:53	
	Sheet: 3/12	



Note: SPI port is UNBUFFERED; only suitable for short connections.



Divider to scale from 5V to 3.3V
(ratio of 0.5 chosen)

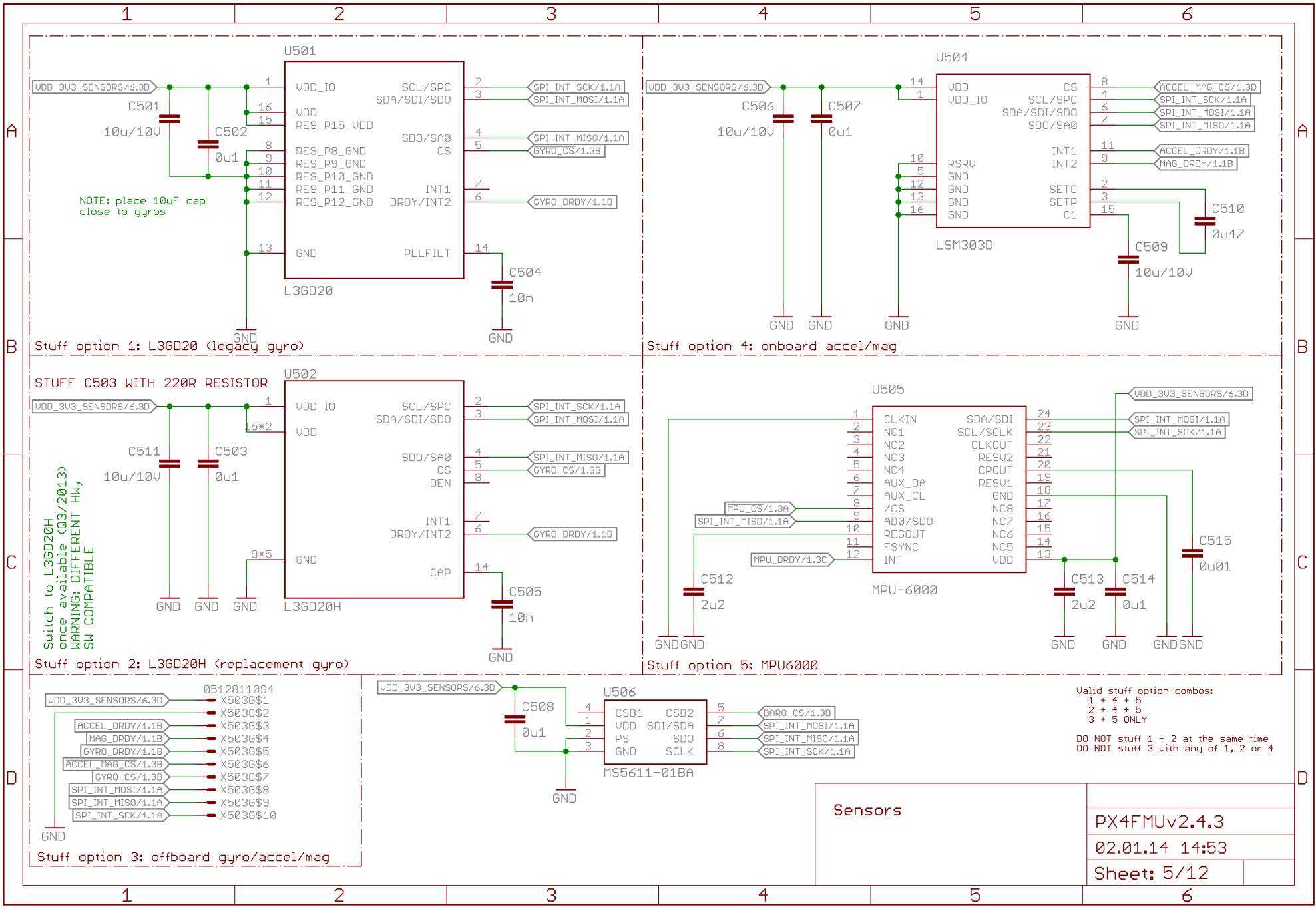


SPI
I2C
Analog pressure
CAN
Aux ADC ports

PX4FMUv2.4.3

02.01.14 14:53

Sheet: 4/12



NOTE: place 10uF cap close to gyros

STUFF C503 WITH 220R RESISTOR

Switch to L3GD20H once available (Q3/2013)
WARNING: DIFFERENT HW, SW COMPATIBLE

Valid stuff option combos:
1 + 4 + 5
2 + 4 + 5
3 + 5 ONLY

DO NOT stuff 1 + 2 at the same time
DO NOT stuff 3 with any of 1, 2 or 4

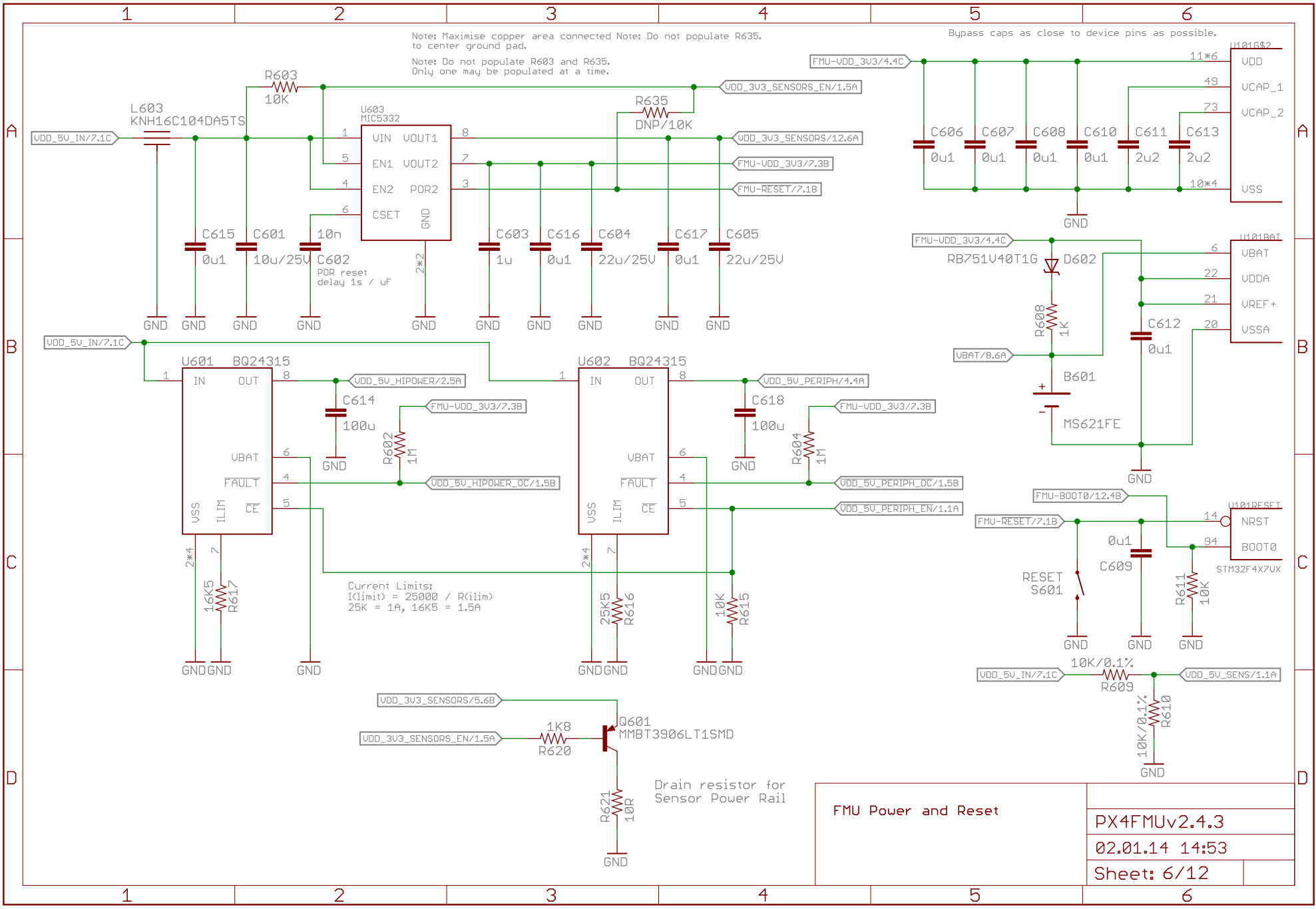
Stuff option 3: offboard gyro/accel/mag

Sensors

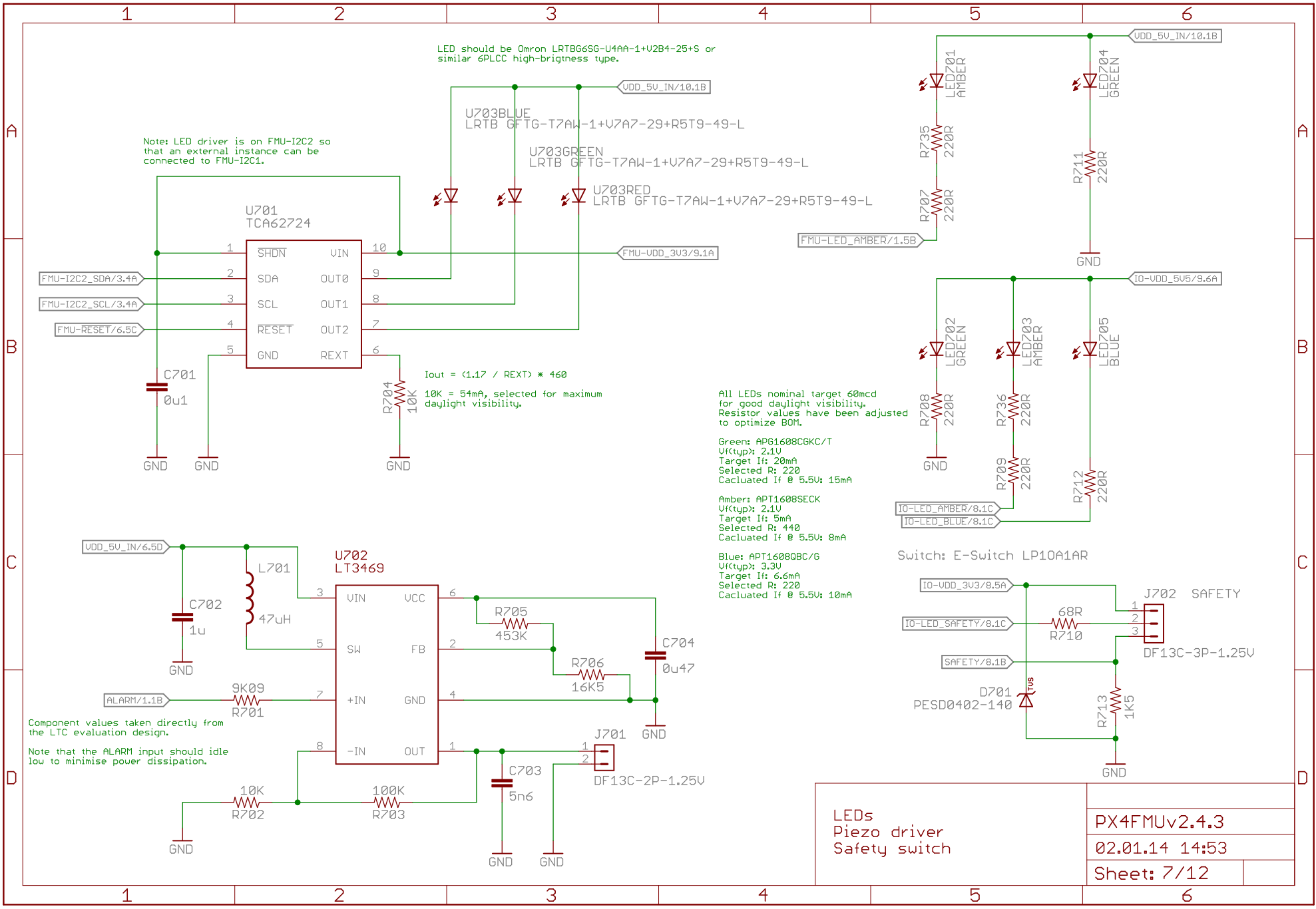
PX4FMUv2.4.3

02.01.14 14:53

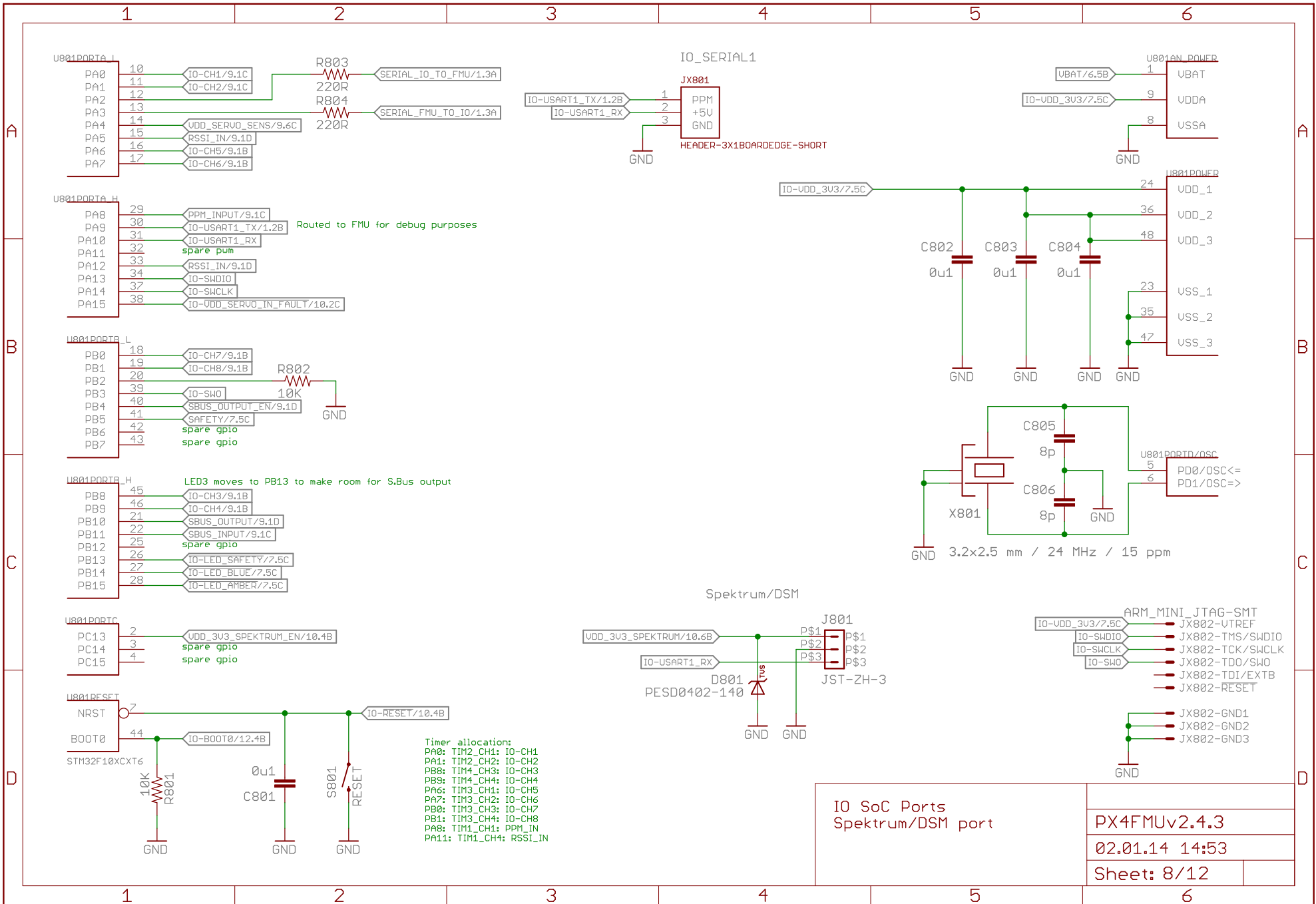
Sheet: 5/12

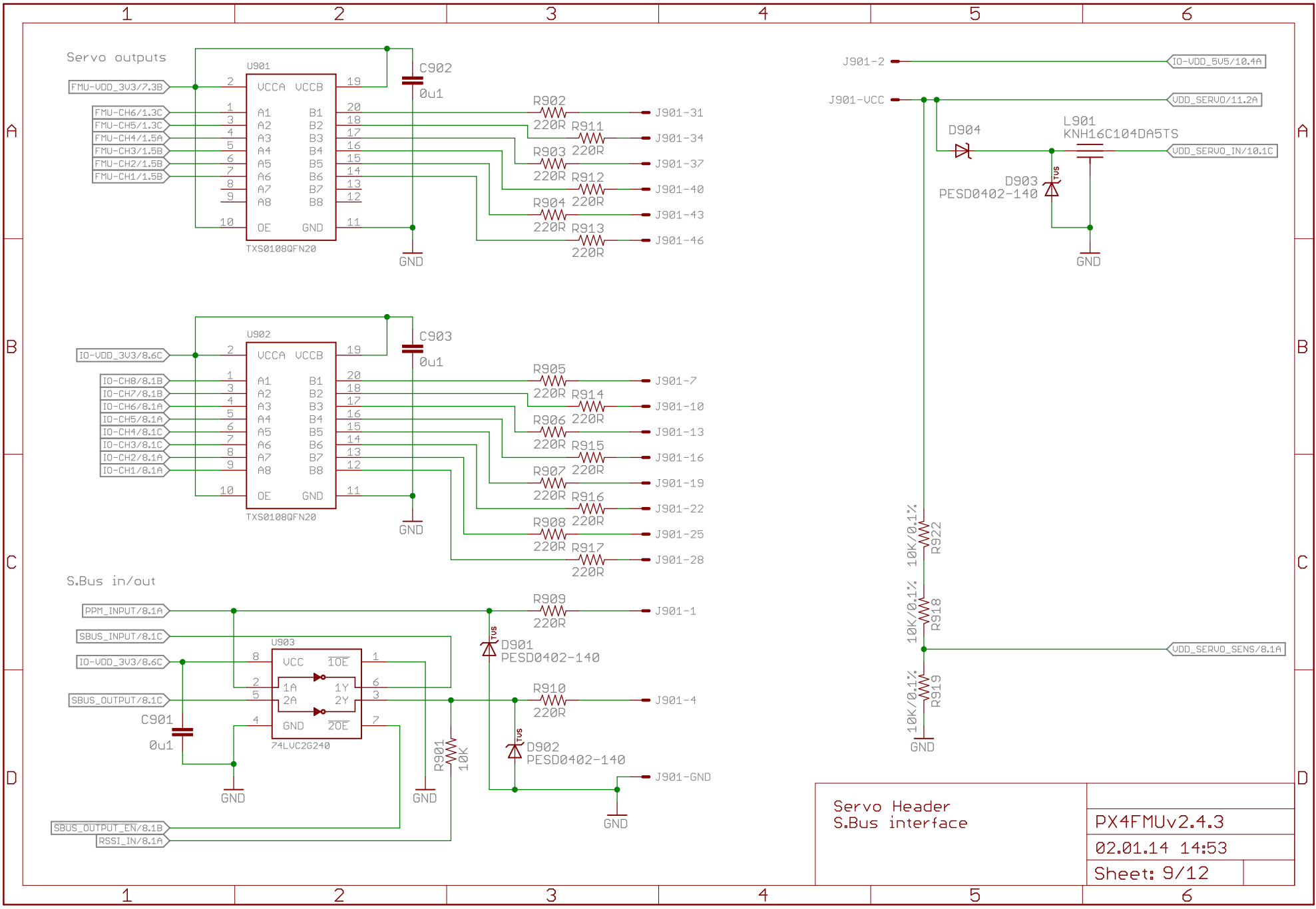


FMU Power and Reset	
PX4FMUv2.4.3	
02.01.14 14:53	
Sheet: 6/12	

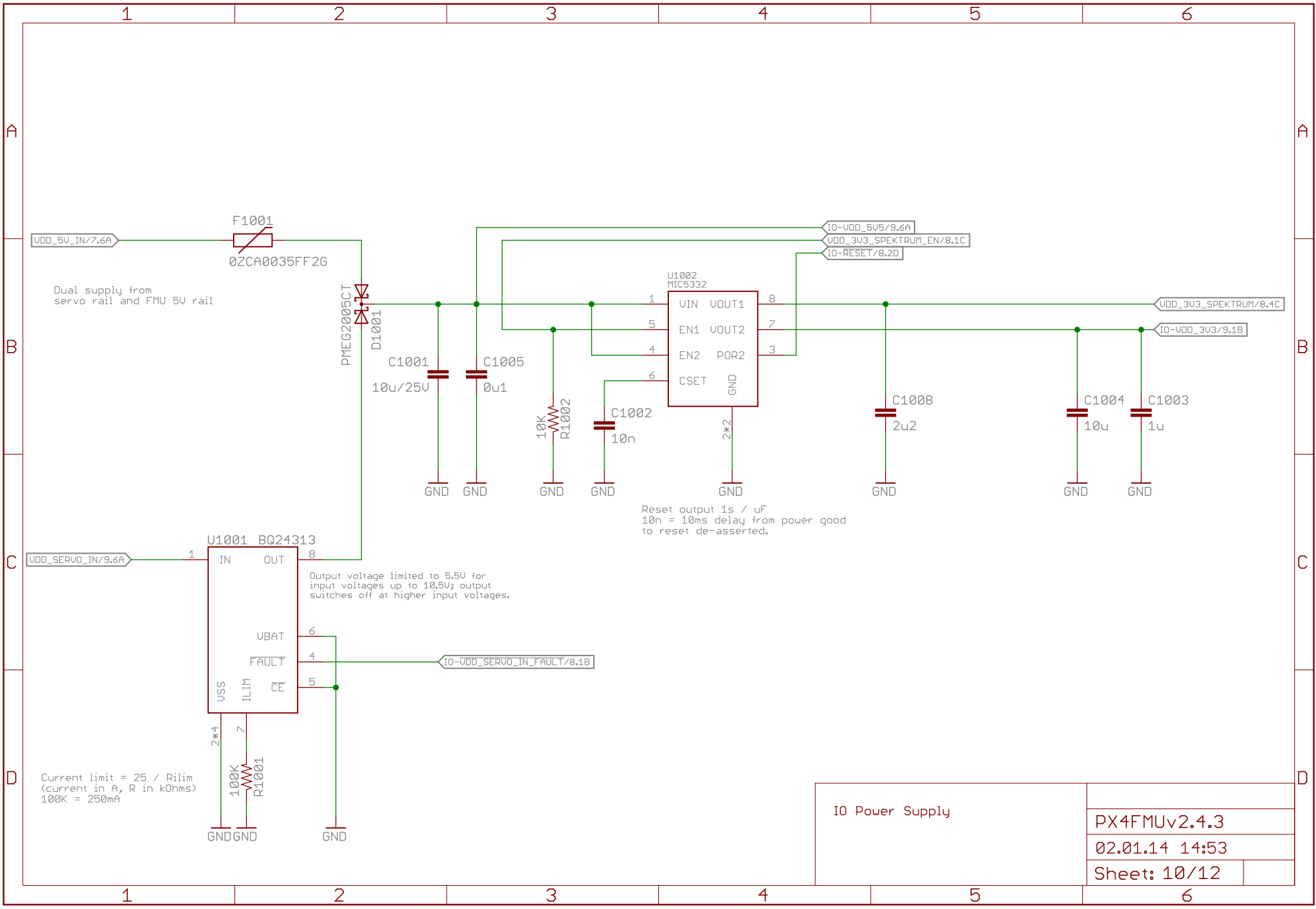


LEDs	PX4FMUv2.4.3
Piezo driver	02.01.14 14:53
Safety switch	Sheet: 7/12

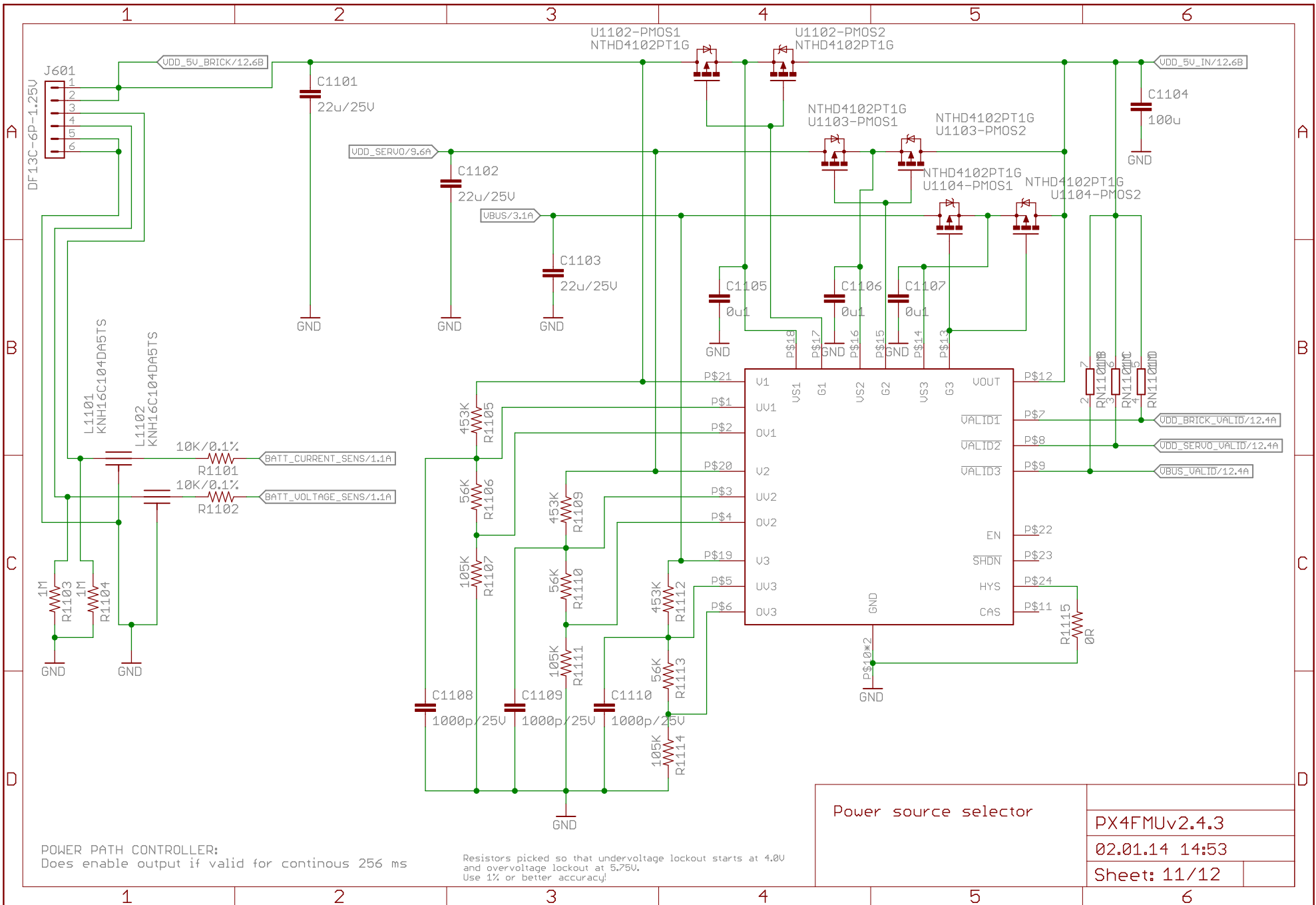




Servo Header S.Bus interface	PX4FMUv2.4.3
	02.01.14 14:53
	Sheet: 9/12



IO Power Supply	PX4FMUv2.4.3
	02.01.14 14:53
	Sheet: 10/12



POWER PATH CONTROLLER:
Does enable output if valid for continous 256 ms

Resistors picked so that undervoltage lockout starts at 4.0V and overvoltage lockout at 5.75V. Use 1% or better accuracy!

Power source selector	PX4FMUv2.4.3
	02.01.14 14:53
	Sheet: 11/12

1

2

3

4

5

6

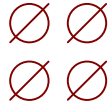
Production Testing Pads



open hardware

Parts:
Resistors: 0402 / 1% unless specified otherwise
Capacitors: 0402 to 1206, ceramic, voltage rating: 10V unless specified

Mounting holes to suit M3 fastener and Richco R908 series spacer. Use R908-5 spacers to stack with other PX4 series boards (7.95 mm).



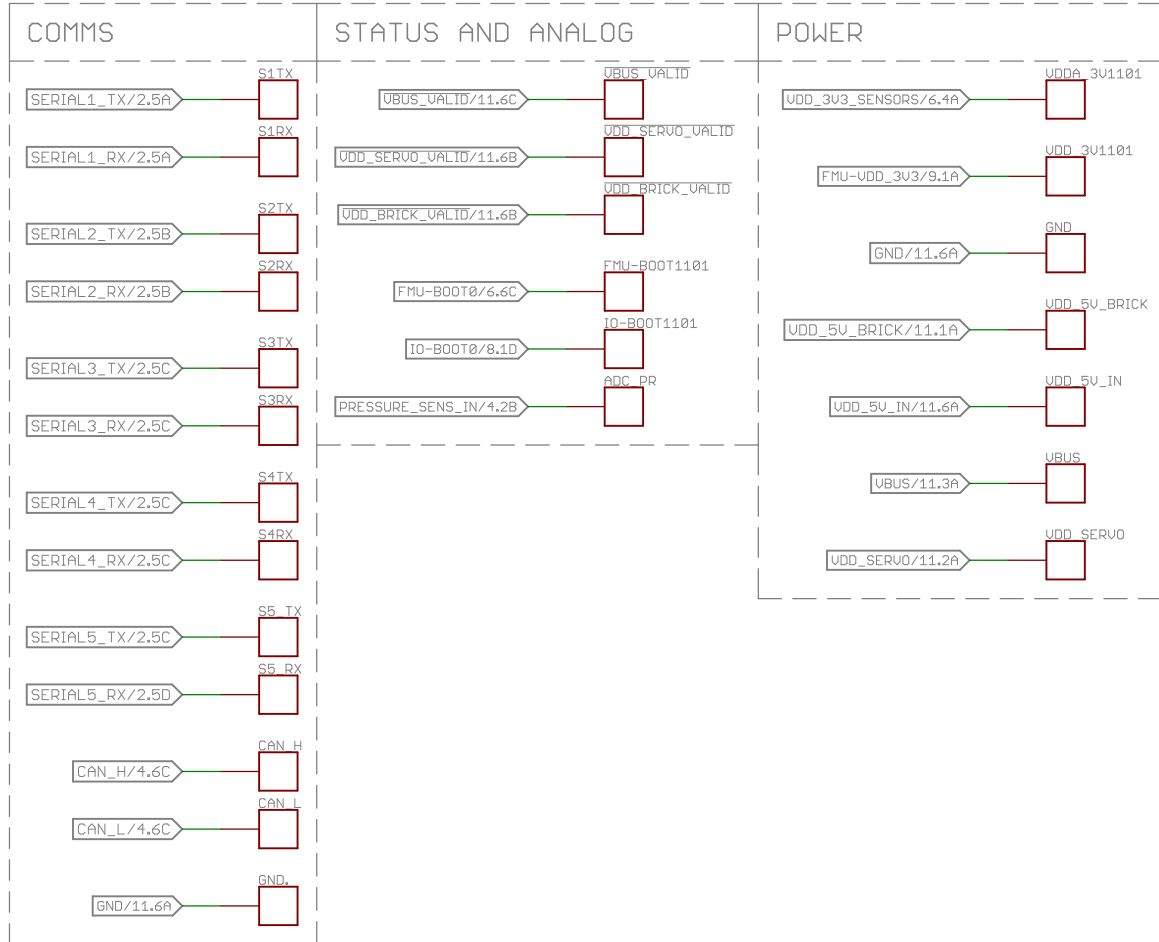
Minimum drill: 0.3 mm
Minimum trace width (use mm for traces): 0.15 mm
Minimum copper distance (all signals): 0.15 mm
Dimension / hole minimum distance: 0.2 mm
Layout grid: 4 mil, part grid: 4 mil. Dimensions / hole positions: 0.5 mm

Board: FR4 black, 1.0 mm. Solder stop on vias < 0.6 mm.

Signoff rules: Footprint checked, pinmap checked, schematic checked, cross-references to other pages checked.

Routing:
1: general/escape
2: ground
3: horizontal
4: vertical
5: power
6: general/escape

- ⊗ Fiducials for machine vision alignment.
- ⊗



Test and Fiducials		PX4FMUv2.4.3	
		02.01.14 14:53	
		Sheet: 12/12	

1

2

3

4

5

6