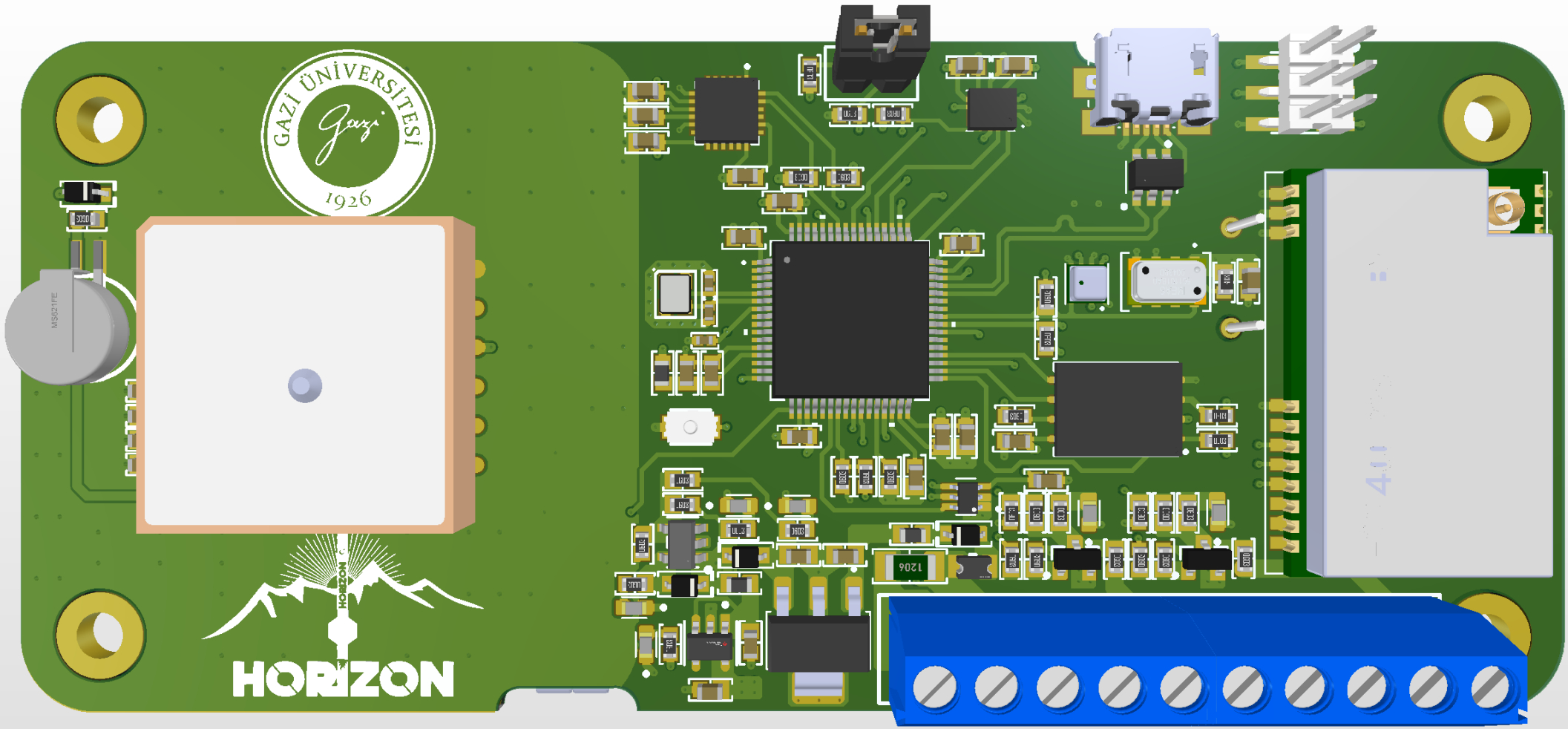
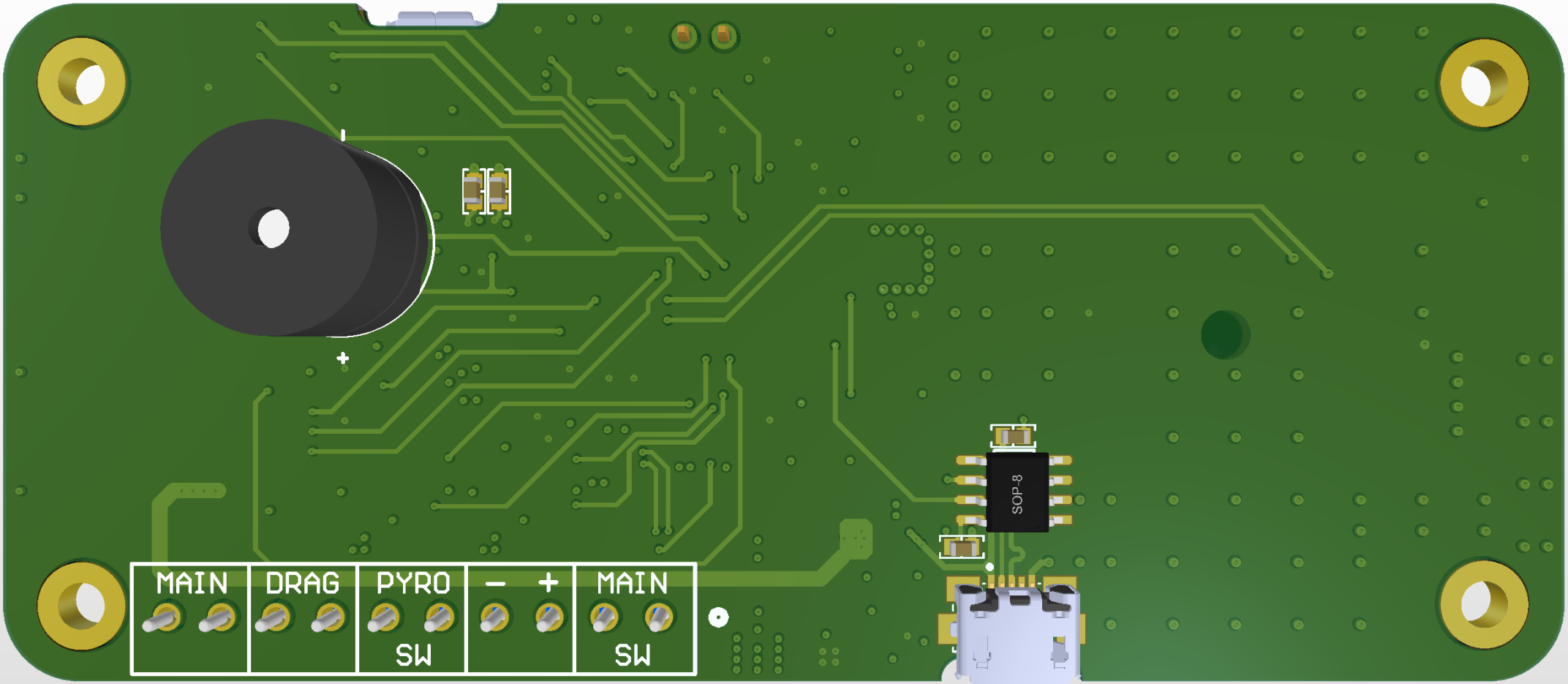
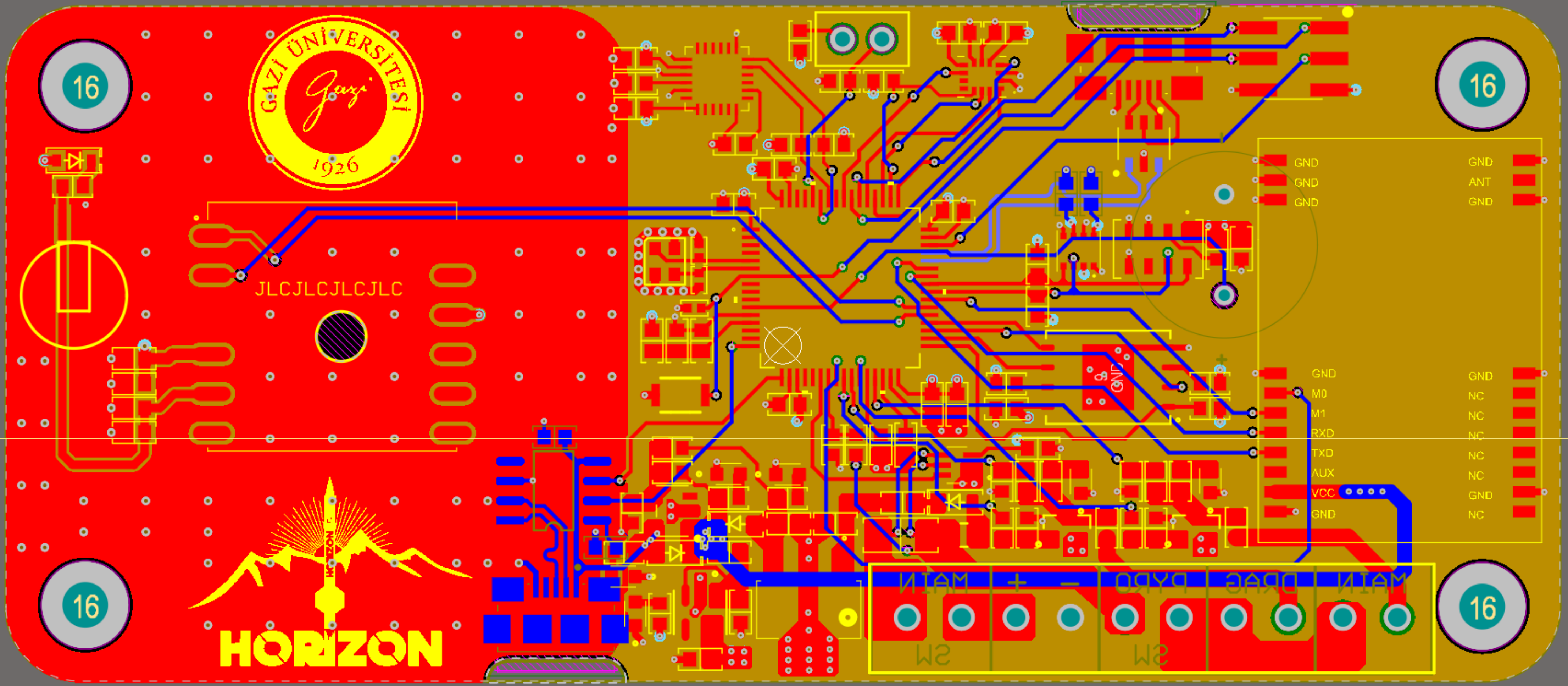
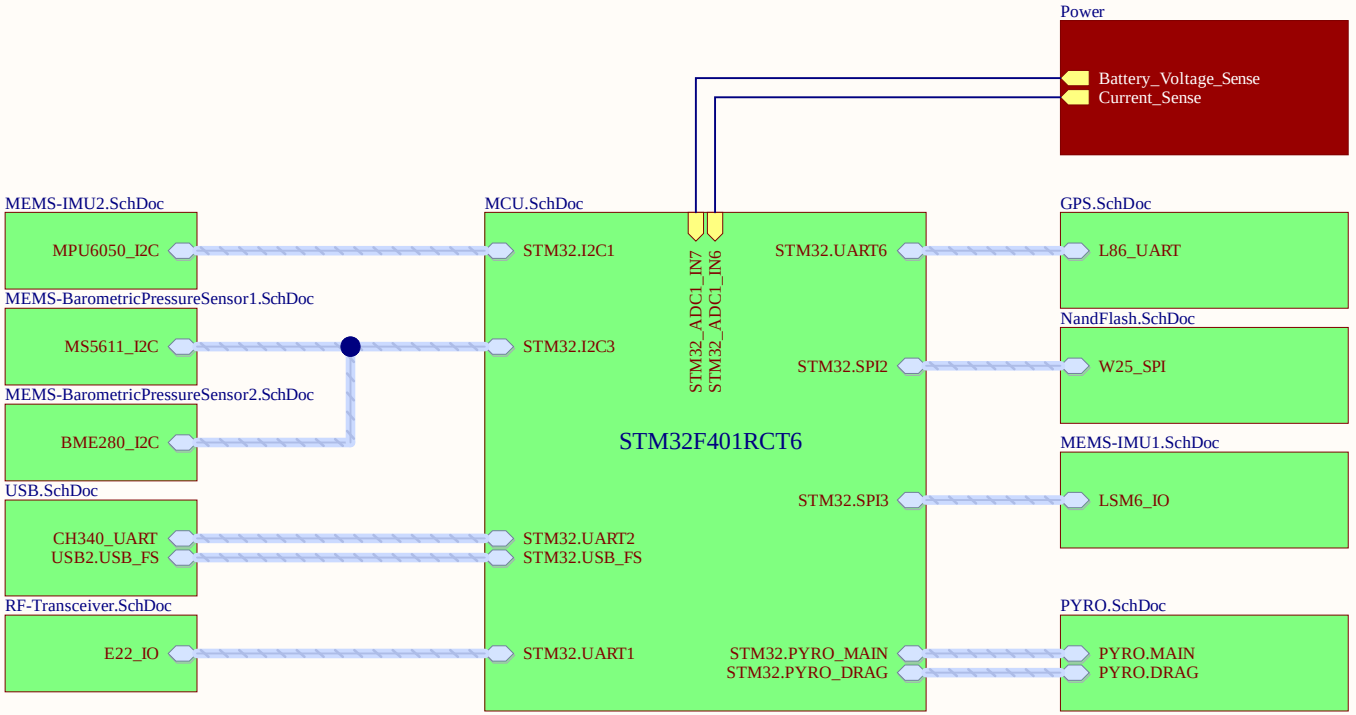

GAZİ ÜNİVERSİTESİ
Gazi
1926
HORIZON


MAIN
DRAG
PYRO
SW
–
+
MAIN
SW
SOP-8


16
16
GAZİ ÜNİVERSİTESİ
Gazi
1926
JLCJLCJLCJLC
HORIZON
16
16
GND
GND
GND
GND
ANT
GND
GND
M0
M1
RXD
TXD
AUX
VCC
GND
GND
NC
NC
NC
NC
NC
GND
NC
+
−



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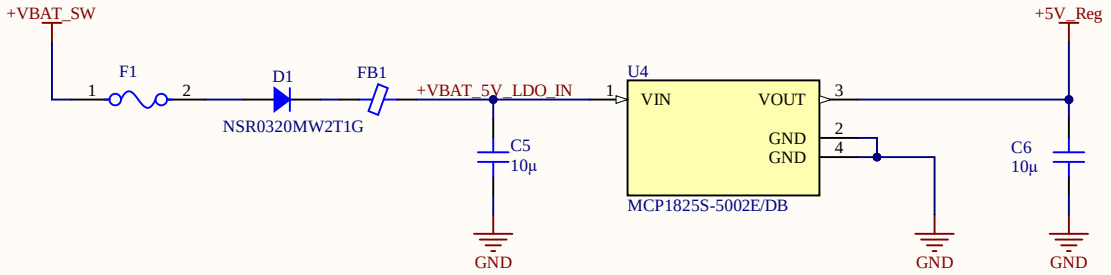
File: C:\Users\..\Block-Diagram.SchDoc		Drawn By:

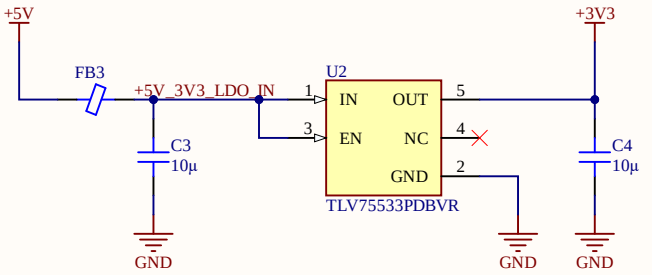
5V LDO REGULATOR

MAX CURRENT = 0.5A

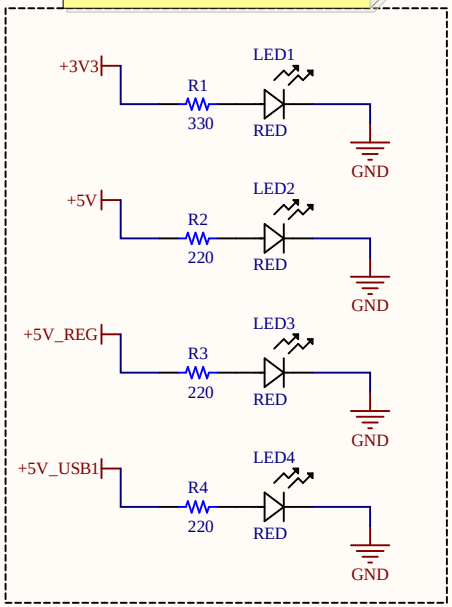


3V3 LDO REGULATOR

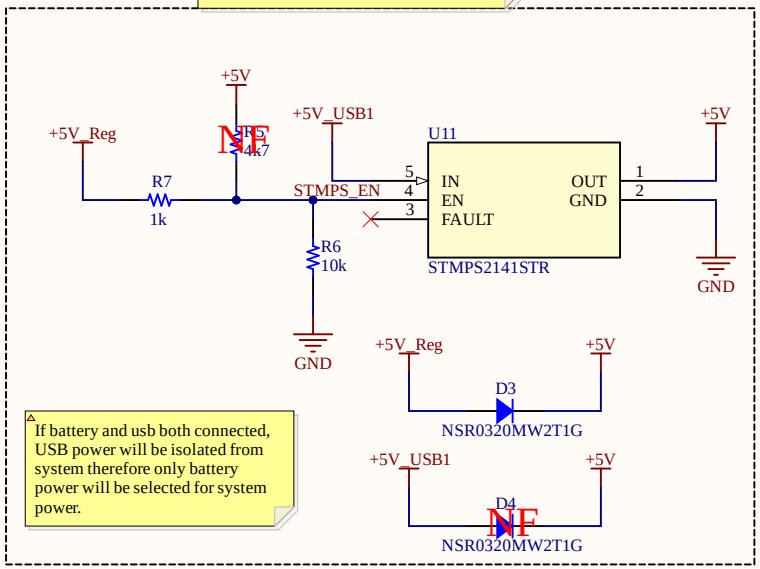
MAX CURRENT = 0.5A



Power Leds

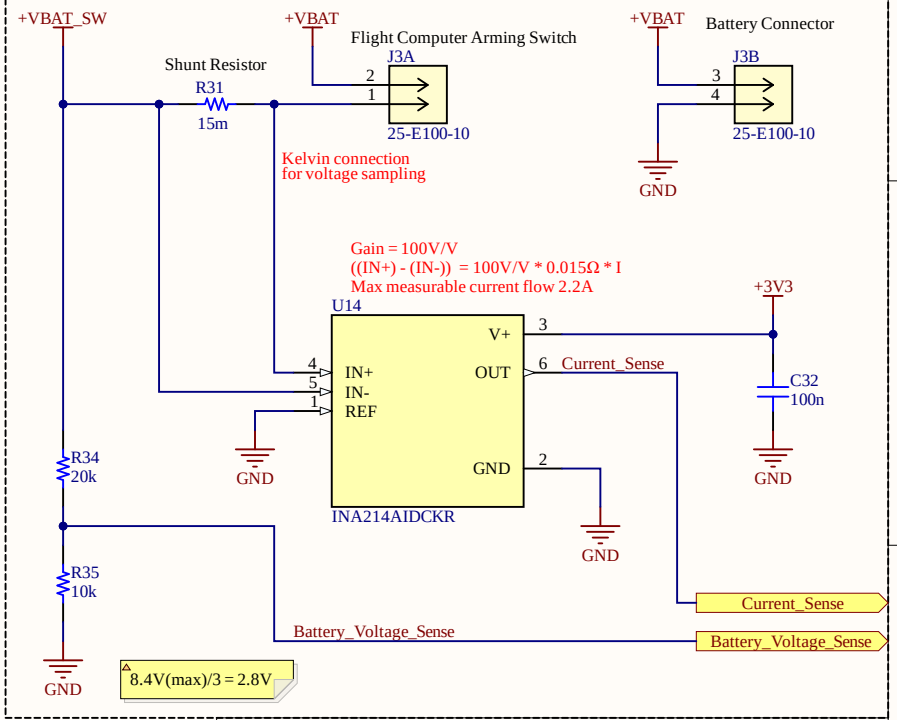


Power Path Selector



If battery and usb both connected, USB power will be isolated from system therefore only battery power will be selected for system power.

Power Connectors And Current/Voltage sensing



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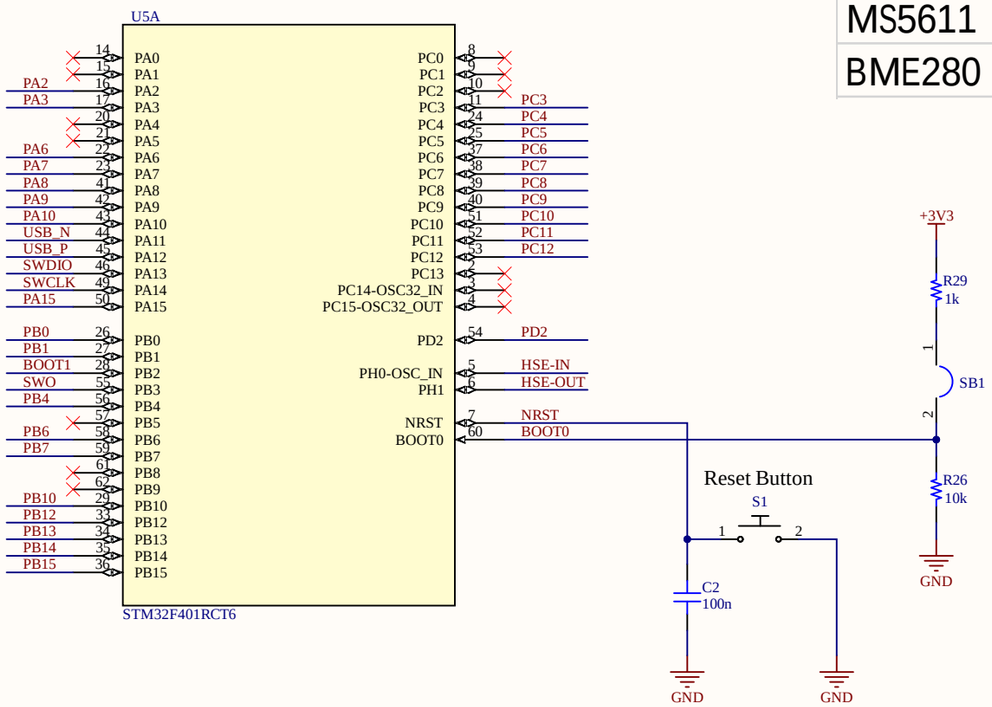
Microcontroller IO Block



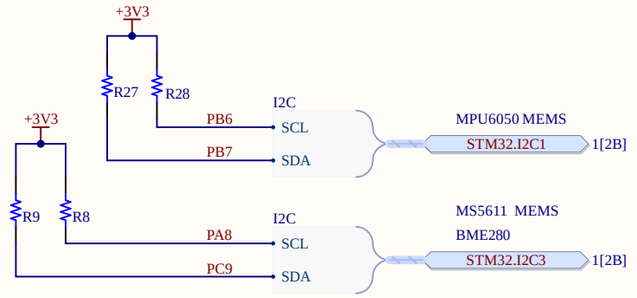
Reset Button

Device	I2C ADDRESS	
MPU6050	0xD0/D1	0b1101000R/W
MS5611	0xEE/0xEF	0b1110111R/W
BME280	0xEC/0xED	0b1110110R/W

I2C Pull-up Resistor

100 KHz	4.7k
400 KHz	2.2k

If n slave connect bus, divide res value by factor n

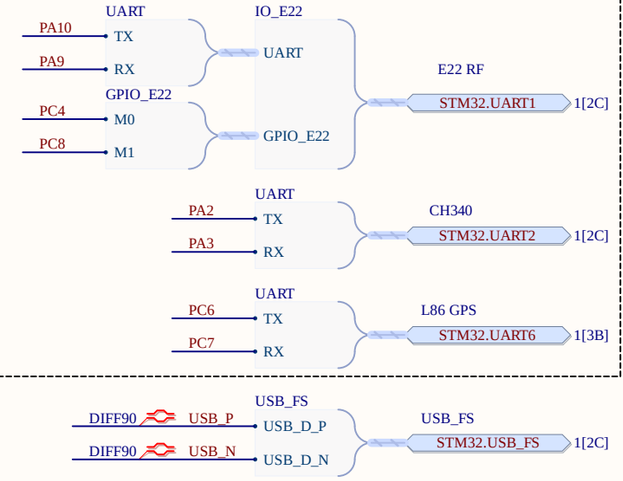


Double check UART harness

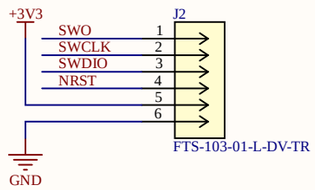
UART1.TX(PA9) --> E22.RX
UART1.RX(PA10) --> E22.TX

UART2.TX(PA2) --> CH340.RX
UART2.RX(PA3) --> CH340.TX

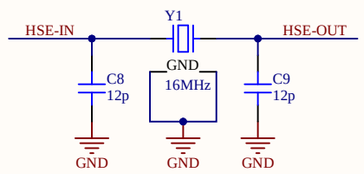
UART6.TX(PC6) --> L86.RX
UART6.RX(PC7) --> L86.TX

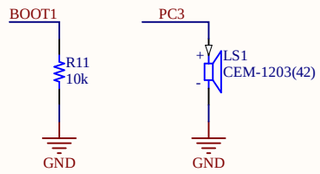


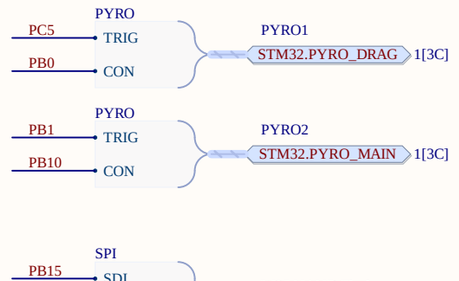
SWD Debug And Programming

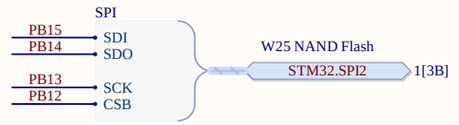


External HS Crystal

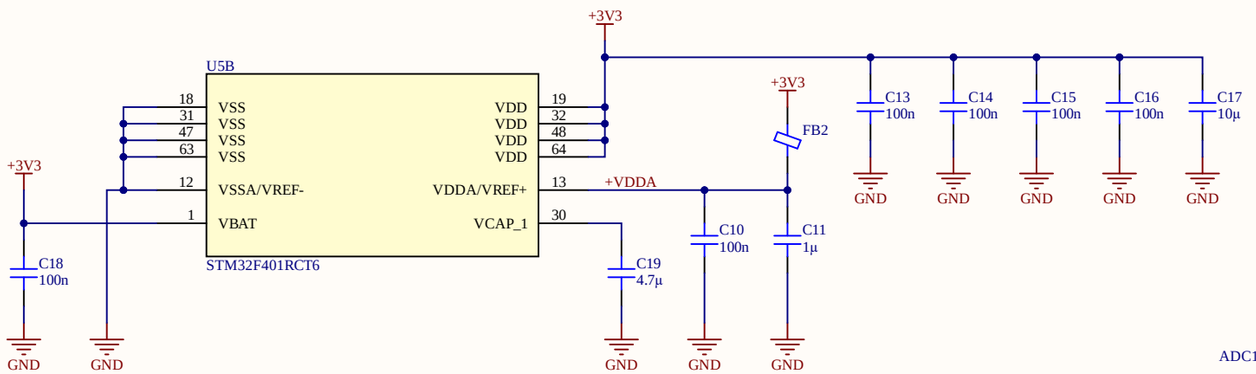


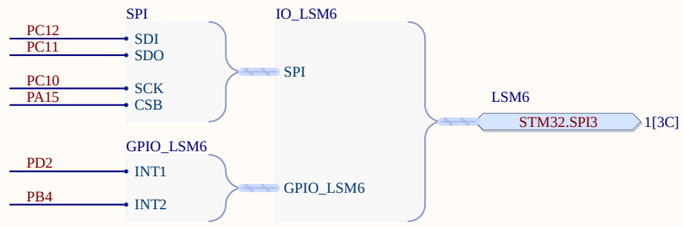


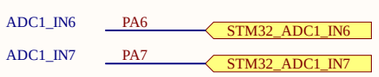




Microcontroller Power Supply Block







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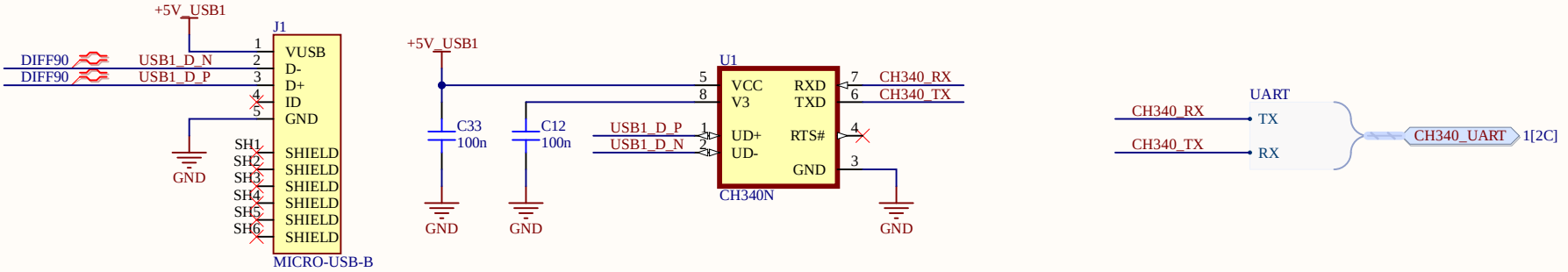
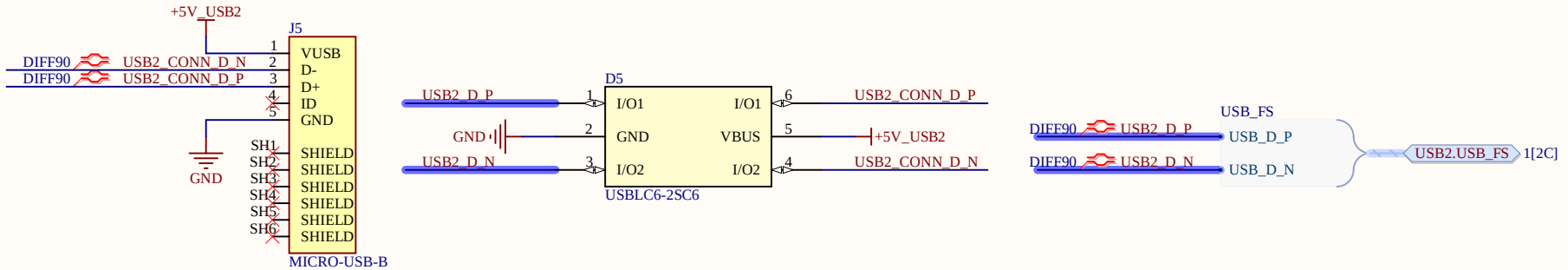
USB

USB To UART



USB FS



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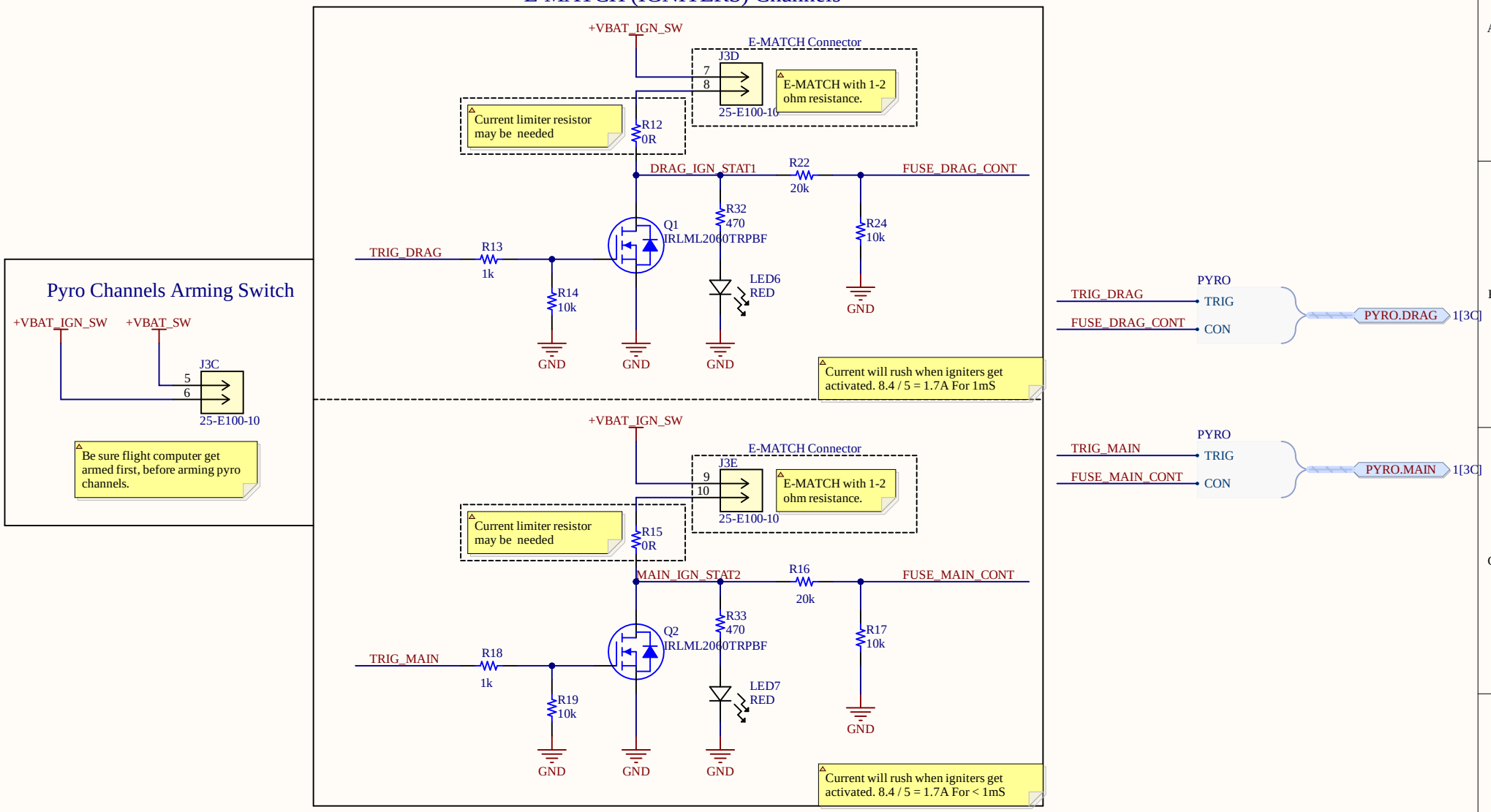
E-MATCH (IGNITERS) Channels



Pyro Channels Arming Switch

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Size: A4	Number	Revision
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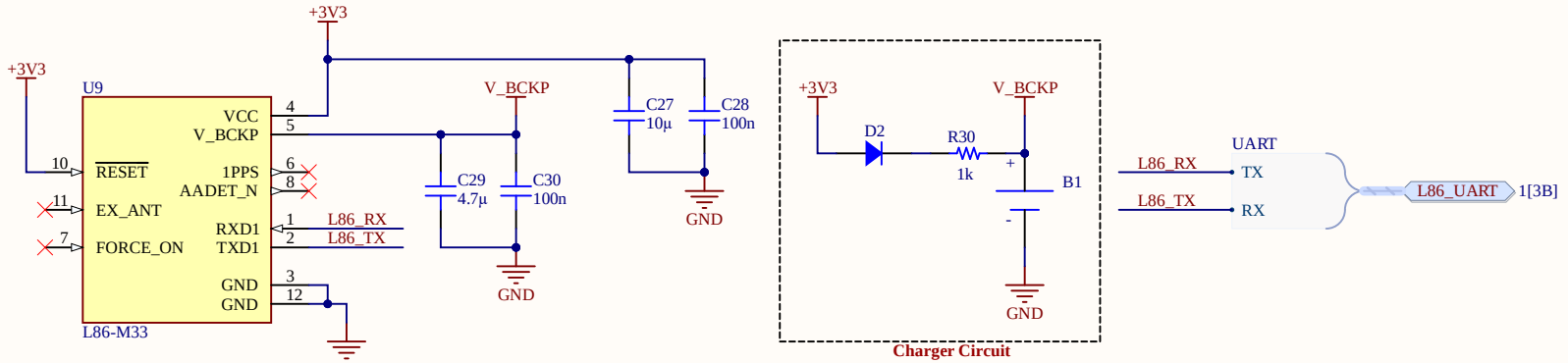
L86-M33 GPS MODULE



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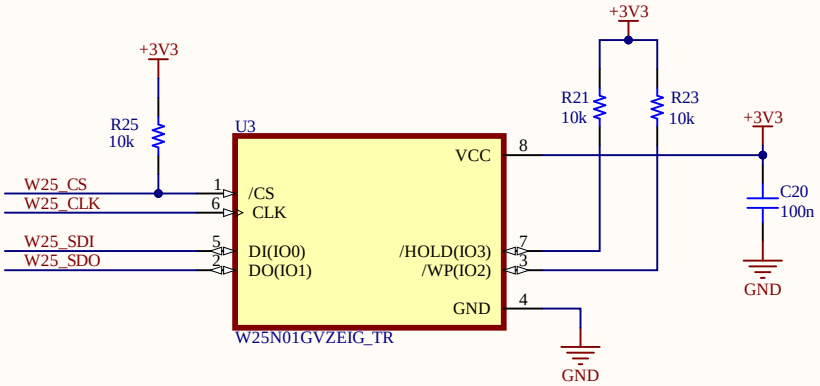
W25 NAND FLASH(128MB)



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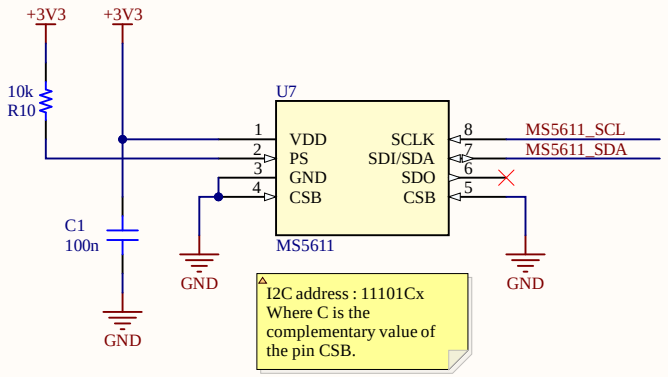
MS5611 Barometric Pressure Sensor



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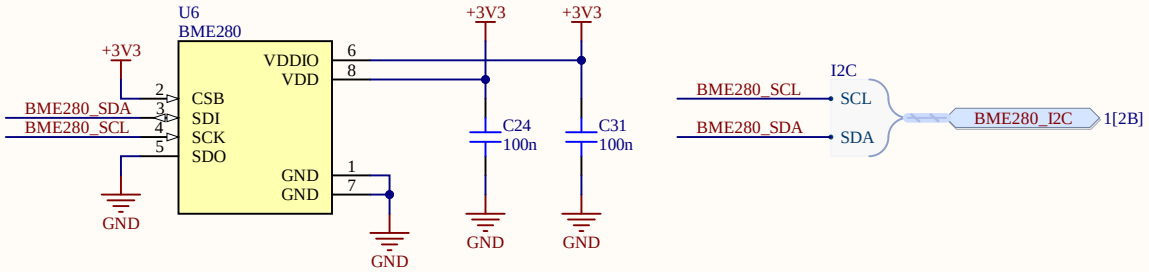
BME280 Pressure And Humidity Sensor



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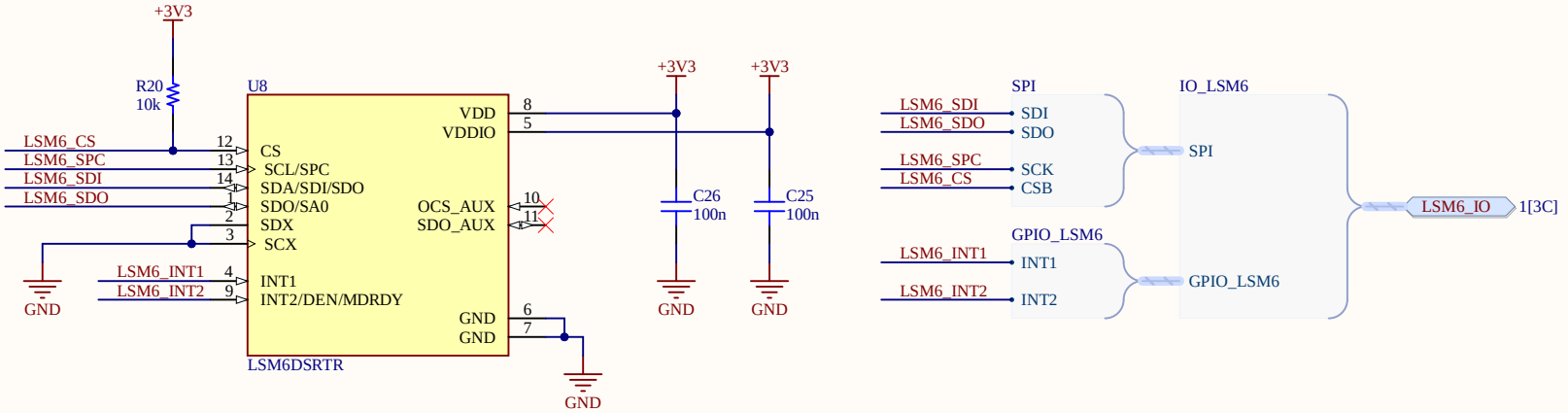
LSM6 MEMS IMU



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Size: A4	Number	Revision
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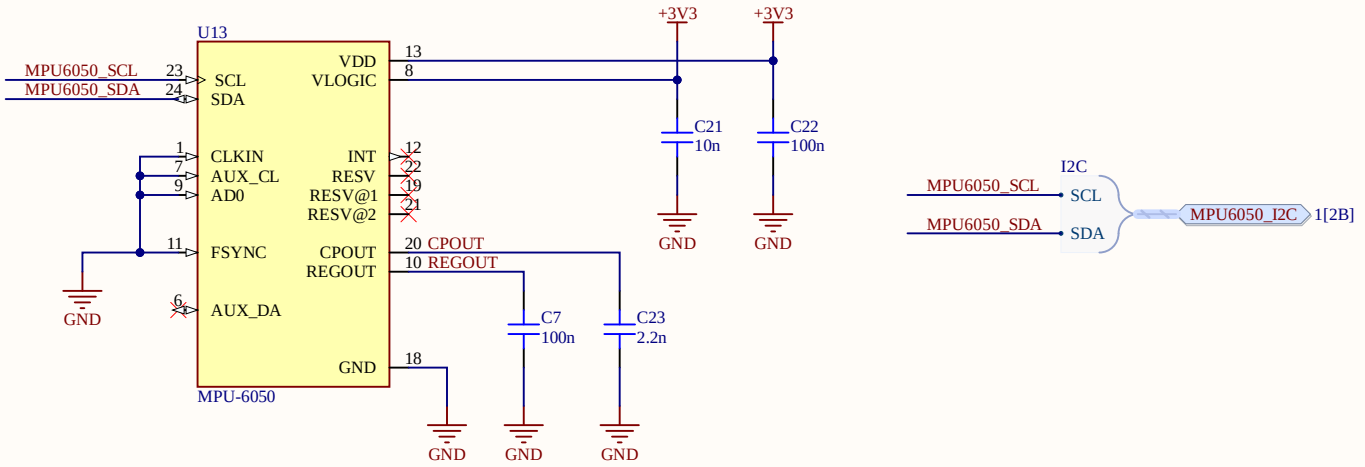
File: C:\Users\..\MEMS-IMU1.SchDoc		Drawn By:

MPU-6050 MEMS IMU



Pin Number	MPU-6000	MPU-6050	Pin Name	Pin Description
1	Y	Y	CLKIN	Optional external reference clock input. Connect to GND if unused.
6	Y	Y	AUX_DA	I^2C master serial data, for connecting to external sensors
7	Y	Y	AUX_CL	I^2C Master serial clock, for connecting to external sensors
8	Y		/CS	SPI chip select (0=SPI mode)
8		Y	VLOGIC	Digital I/O supply voltage
9	Y		AD0 / SDO	I^2C Slave Address LSB (AD0); SPI serial data output (SDO)
9		Y	AD0	I^2C Slave Address LSB (AD0)
10	Y	Y	REGOUT	Regulator filter capacitor connection
11	Y	Y	FSYNC	Frame synchronization digital input. Connect to GND if unused.
12	Y	Y	INT	Interrupt digital output (totem pole or open-drain)
13	Y	Y	VDD	Power supply voltage and Digital I/O supply voltage
18	Y	Y	GND	Power supply ground
19, 21	Y	Y	RESV	Reserved. Do not connect.
20	Y	Y	CPOUT	Charge pump capacitor connection
22	Y	Y	RESV	Reserved. Do not connect.
23	Y		SCL / SCLK	I^2C serial clock (SCL); SPI serial clock (SCLK)
23		Y	SCL	I^2C serial clock (SCL)
24	Y		SDA / SDI	I^2C serial data (SDA); SPI serial data input (SDI)
24		Y	SDA	I^2C serial data (SDA)
2, 3, 4, 5, 14, 15, 16, 17	Y	Y	NC	Not internally connected. May be used for PCB trace routing.

Title		
Size: A4	Number	Revision
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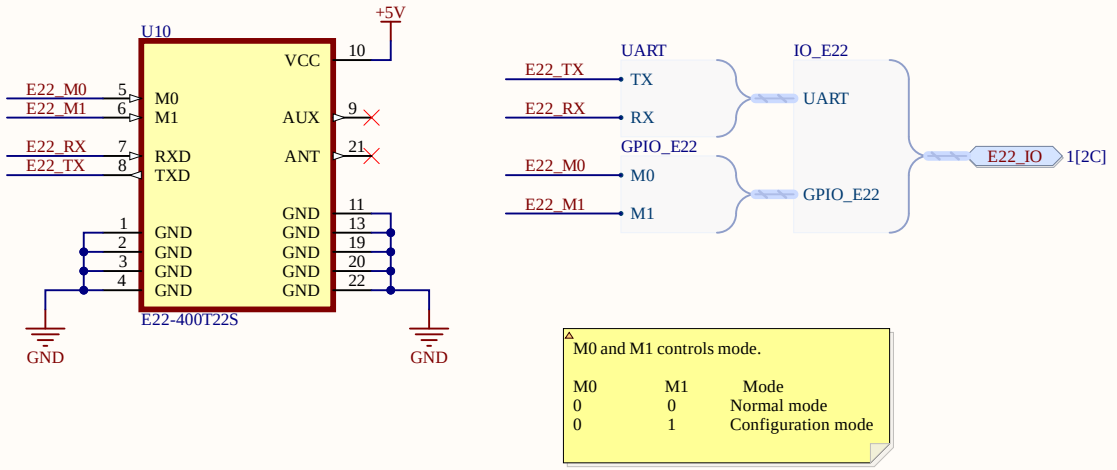
File: C:\Users\..\MEMS-IMU2.SchDoc		Drawn By:

E22 433 MHz RF Transciever



M0 and M1 controls mode.

M0	M1	Mode
0	0	Normal mode
0	1	Configuration mode

Title		
Size: A4	Number	Revision
Date: 3.07.2022		Sheet of
File: C:\Users\..\RF-Transceiver.SchDoc		Drawn By: