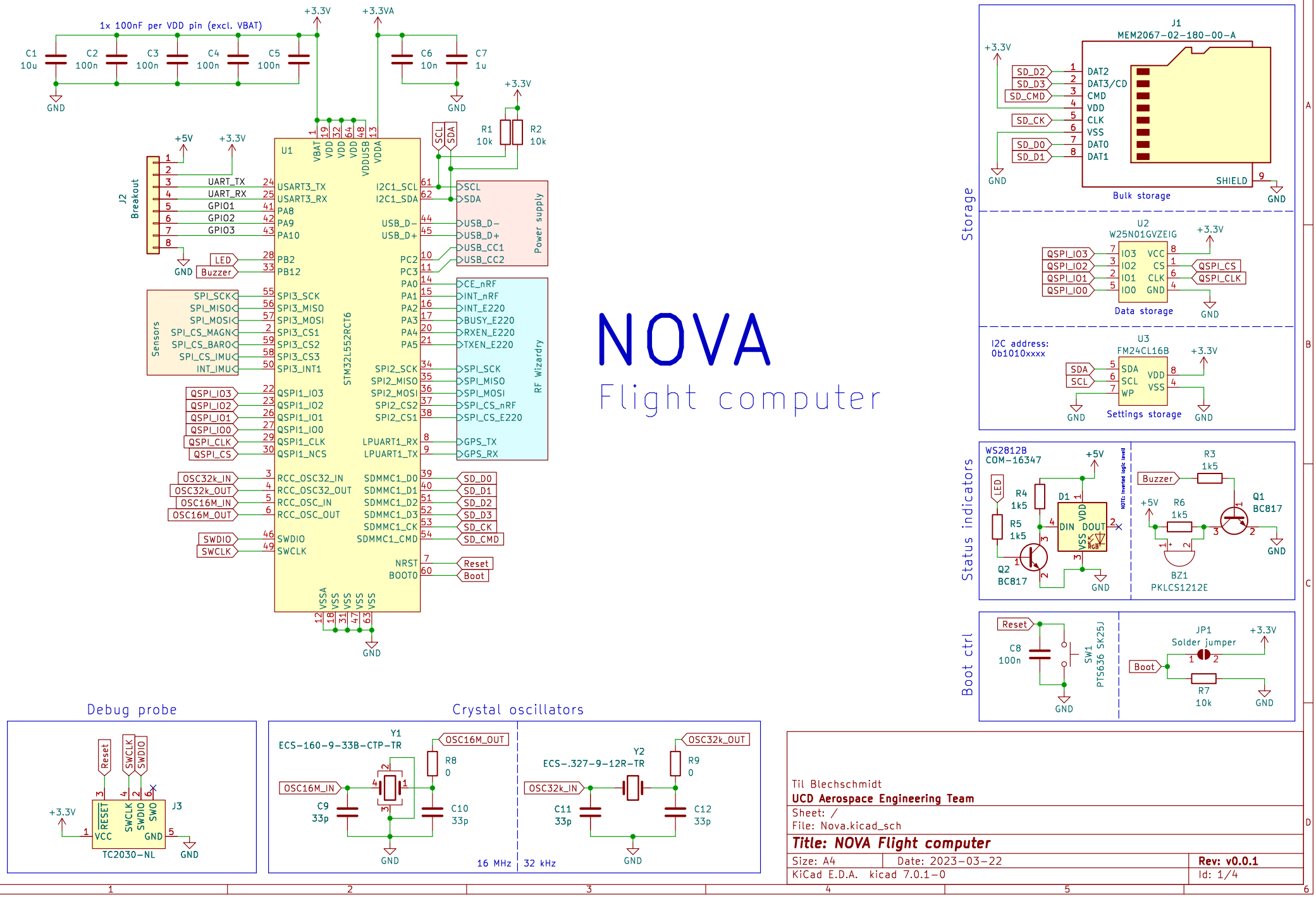
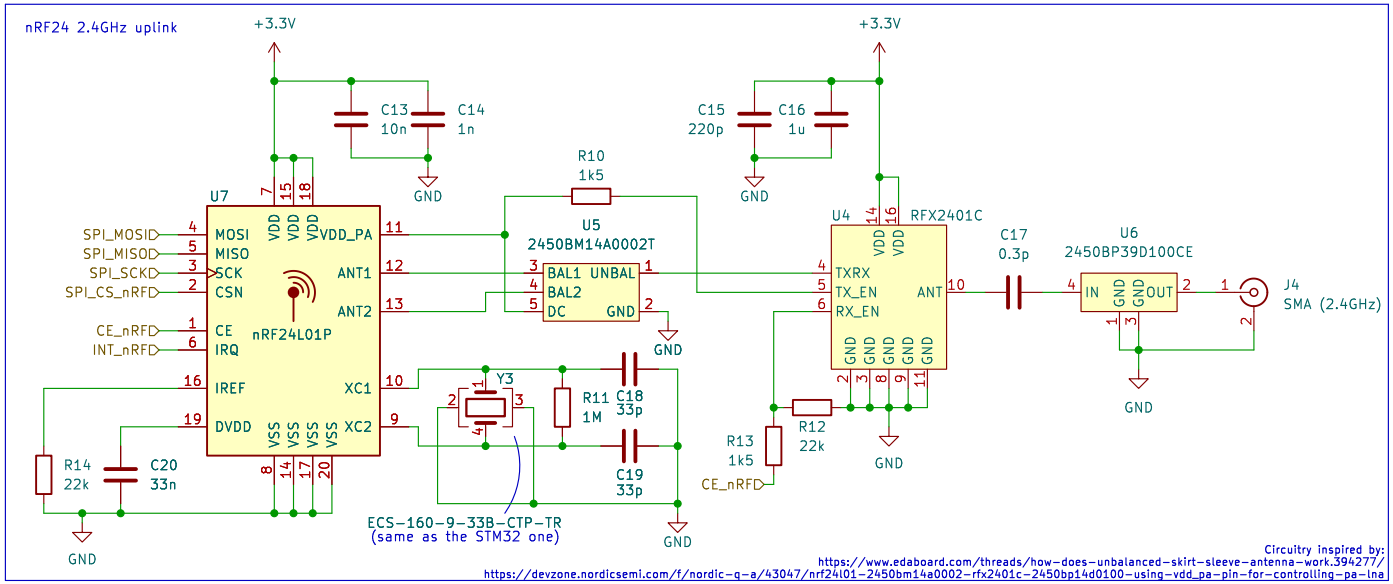

1x 100nF per VDD pin (excl. VBAT)
+3.3V
+3.3VA
C1 10u
C2 100n
C3 100n
C4 100n
C5 100n
C6 10n
C7 1u
GND
U1
STM32L552RCT6
VBAT
VDD
VDDUSB
VDDA
VSS
VSSA
J2 Breakout
UART_TX
UART_RX
GPIO1
GPIO2
GPIO3
LED
Buzzer
Sensors
SPI_SCK
SPI_MISO
SPI_MOSI
SPI_CS_MAGN
SPI_CS_BARO
SPI_CS_IMU
INT_IMU
QSPI_IO3
QSPI_IO2
QSPI_IO1
QSPI_IO0
QSPI_CLK
QSPI_CS
OSC32k_IN
OSC32k_OUT
OSC16M_IN
OSC16M_OUT
SWDIO
SWCLK
R1 10k
R2 10k
SCL
SDA
Power supply
USB_D−
USB_D+
USB_CC1
USB_CC2
RF Wizardry
CE_nRF
INT_nRF
INT_E220
BUSY_E220
RXEN_E220
TXEN_E220
GPS_TX
GPS_RX
SD_D0
SD_D1
SD_D2
SD_D3
SD_CK
SD_CMD
Reset
Boot
NRST
BOOT0
NOVA
Flight computer
Storage
J1
MEM2067-02-180-00-A
DAT2
DAT3/CD
CMD
VDD
CLK
VSS
DAT0
DAT1
SHIELD
Bulk storage
U2
W25N01GVZEIG
Data storage
U3
FM24CL16B
I2C address:
0b1010xxxx
Settings storage
Status indicators
WS2812B
COM-16347
R4 1k5
R5 1k5
Q2 BC817
D1
DIN
DOUT
R3 1k5
R6 1k5
Q1 BC817
BZ1
PKLCS1212E
Boot ctrl
C8 100n
SW1
PTS636 SK25J
JP1
Solder jumper
R7 10k
Debug probe
J3
TC2030-NL
Crystal oscillators
Y1
ECS-160-9-33B-CTP-TR
R8 0
C9 33p
C10 33p
16 MHz
Y2
ECS-.327-9-12R-TR
R9 0
C11 33p
C12 33p
32 kHz
Til Blechschmidt
UCD Aerospace Engineering Team
Sheet: /
File: Nova.kicad_sch
Title: NOVA Flight computer
Size: A4
Date: 2023-03-22
Rev: v0.0.1
KiCad E.D.A. kicad 7.0.1-0
Id: 1/4
CL = 2 * (C_load − C_stray)
C_stray ~= 3-5pF
C_load = Crystal datasheet

RF Wizardry



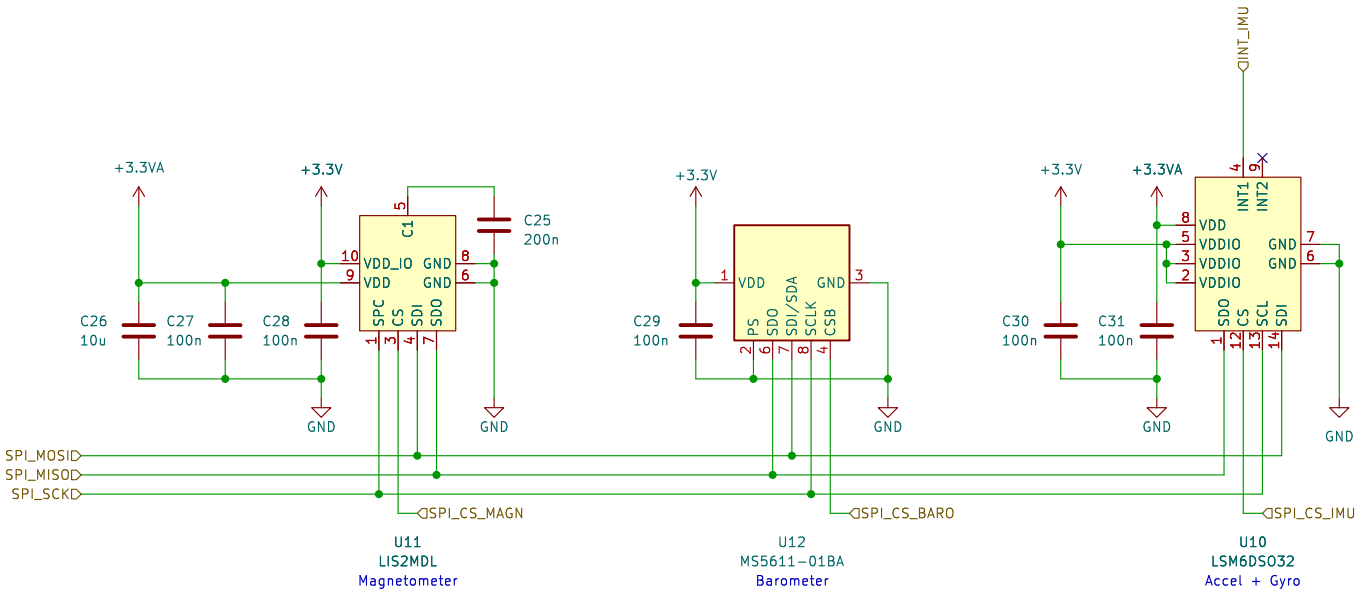
Til Blechschmidt
UCD Aerospace Engineering Team

Sheet: /RF Wizardry/
File: RF.kicad_sch

Title: NOVA Flight computer

Size: A4	Date: 2023-03-22	**Rev: v0.0.1**
KiCad E.D.A. kicad 7.0.1-0		Id: 2/4

Sensors



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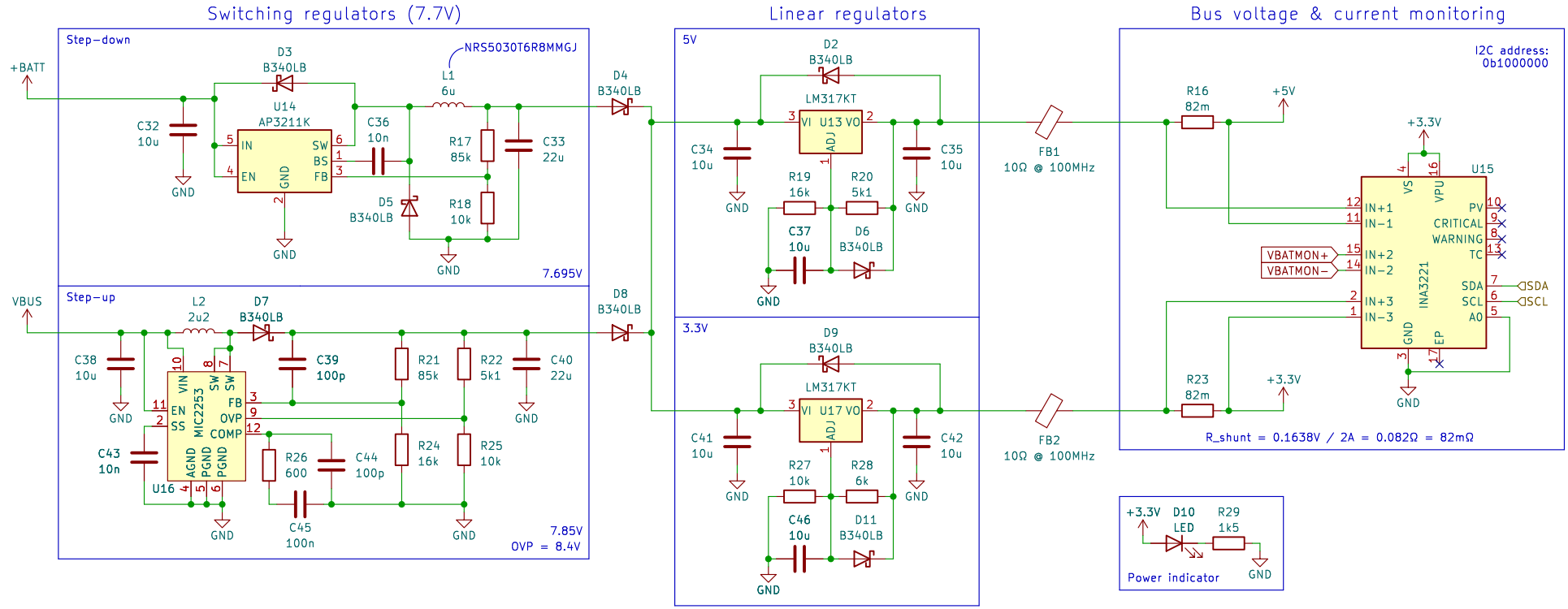
UCD Aerospace Engineering Team

Sheet: /Sensors/
File: Sensors.kicad_sch

Title: NOVA Flight computer

Size: A4	Date: 2023-03-22	**Rev: v0.0.1**
KiCad E.D.A. kicad 7.0.1-0		Id: 3/4



Power supply

Power is sourced from two different inputs: Battery & USB
Both have wildly different voltages (~12V vs. 5V) and they are outside the range where we could directly use a linear regulator.

A switching power supply is used for each source to reach 7-8V.

After that, linear regulators are used to produce the 5V and 3.3V bus voltages.
Due to the high current requirements of the RF chips, two per bus are used in parallel.

Finally, a monitoring IC is added to keep tabs on voltage and current.

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Sheet: /Power supply/
File: Power.kicad_sch

Title: NOVA Flight computer

Size: A4	Date: 2023-03-22	**Rev: v0.0.1**
KiCad E.D.A. kicad 7.0.1-0		Id: 4/4