NovaGlider

This schematic is part of the CanSat Belgium competition for the NovaGlider team by the Saint-Barbara College in Ghent.
This schematic has the STM32F103C8T6 at it's core. It is powered by a single-cell lipo battery that is converted by the TPS63020DSJR (3V3) and a MP28163GQ-P (5V0).

It's main features are:
1) 3x servo
2) BME280 to measure air pressure, humidity and temperature (i2c adress 0x76)
3) MPU9250 9-axis accelerometer, gyrometer and compass (i2c adress 0x68)
4) RFM69HCW 433 mHz radio module (SPI)
5) A micro-SD card
6) UART connector for a GPS module
7) 3 push buttons for general purpose input

Power

File: power.kicad_sch

MCU & peripherals

File: mcu_and_peripherals.kicad_sch

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NovaGlider

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Title: NovaGlider

Size: A4	Date: 2025-12-02	**Rev: v1.0**
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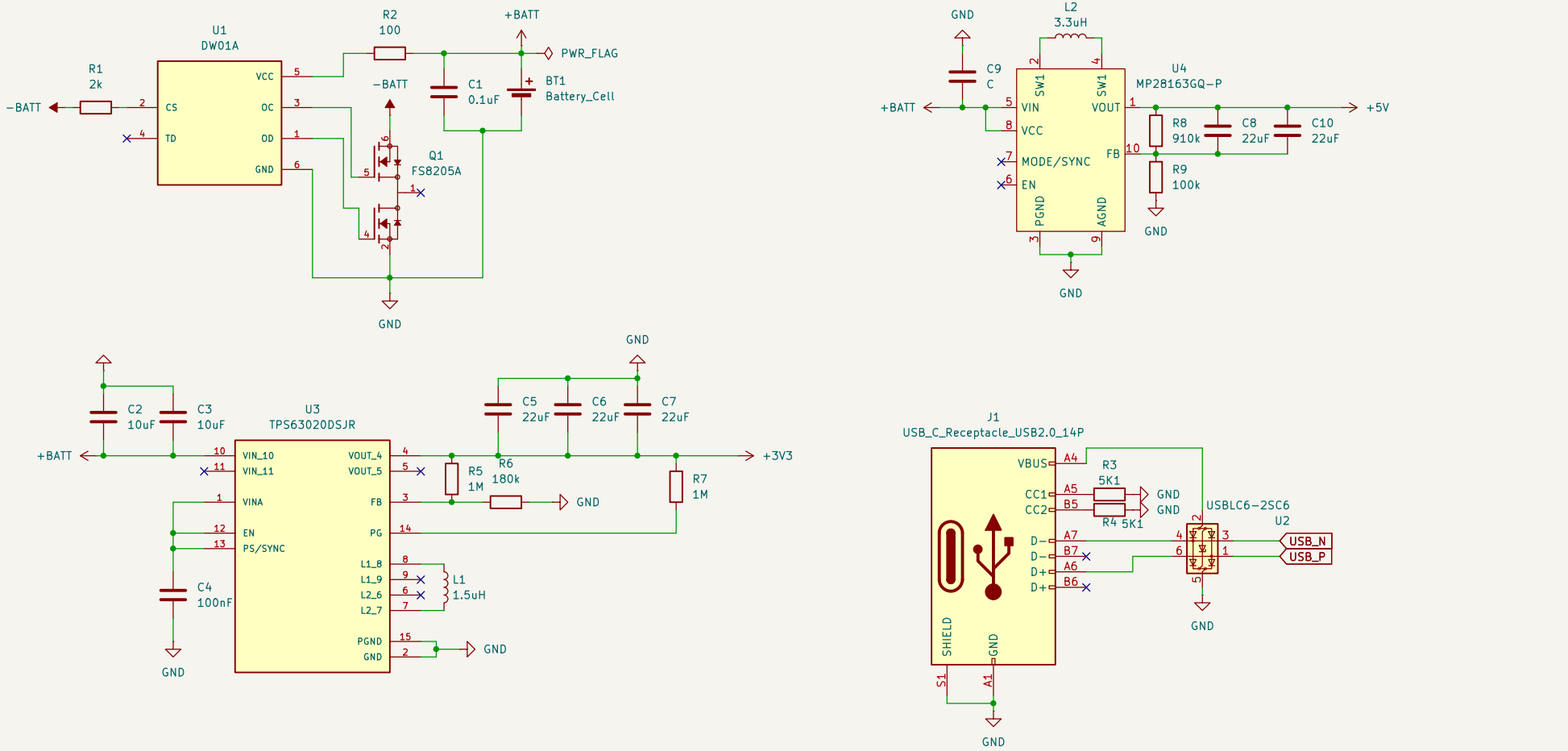

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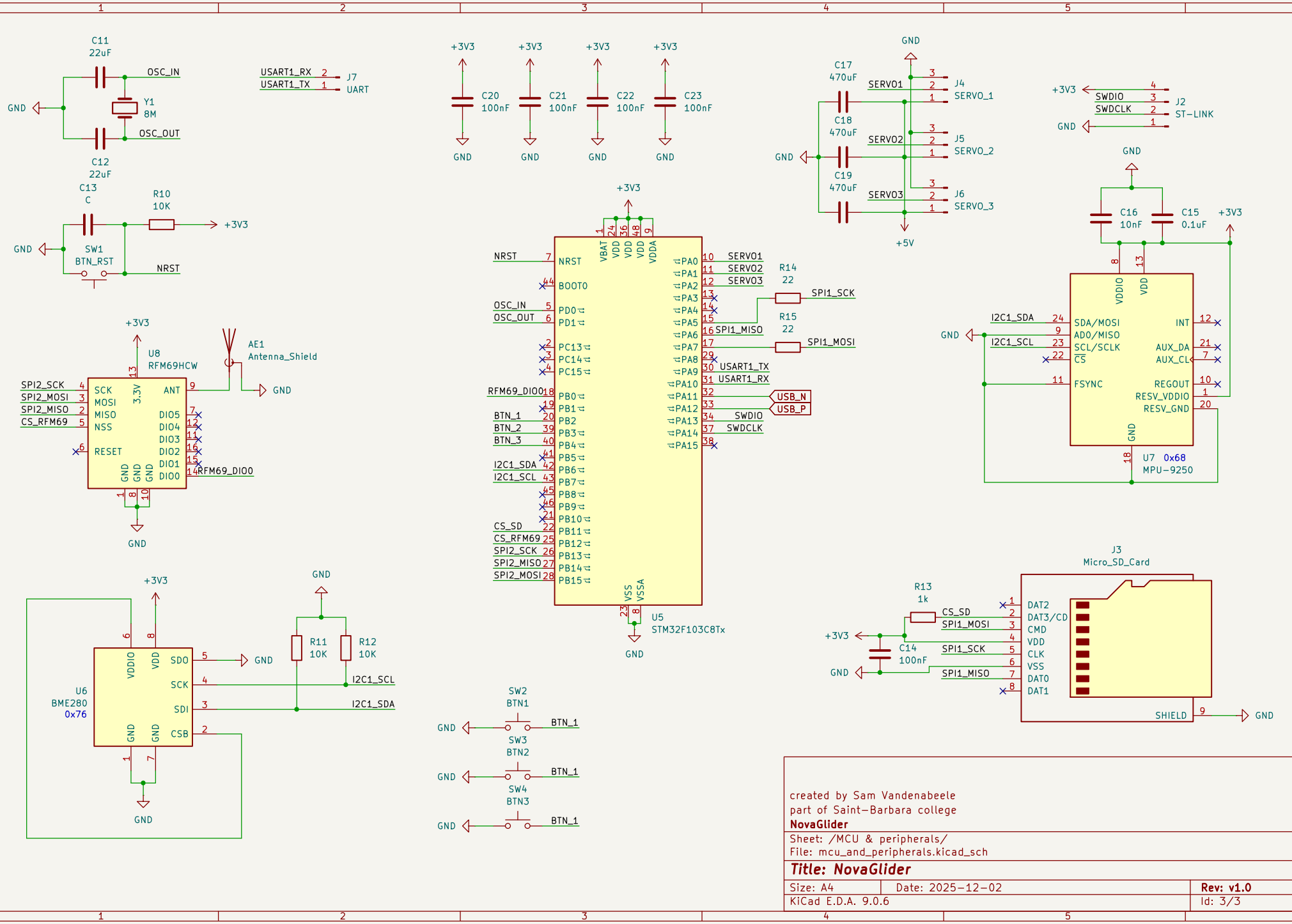
KiCad E.D.A. 9.0.6		Id: 2/3


C11
22uF
OSC_IN
GND
Y1
8M
OSC_OUT
C12
22uF
C13
C
R10
10K
+3V3
GND
SW1
BTN_RST
NRST
USART1_RX 2
USART1_TX 1
J7
UART
+3V3
C20
100nF
C21
100nF
C22
100nF
C23
100nF
GND
C17
470uF
C18
470uF
C19
470uF
SERVO1
SERVO2
SERVO3
J4
SERVO_1
J5
SERVO_2
J6
SERVO_3
+5V
+3V3
SWDIO
SWDCLK
GND
J2
ST-LINK
C16
10nF
C15
0.1uF
+3V3
U8
RFM69HCW
AE1
Antenna_Shield
SPI2_SCK
SPI2_MOSI
SPI2_MISO
CS_RFM69
RESET
ANT
DIO5
DIO4
DIO3
DIO2
DIO1
DIO0
RFM69_DIO0
3.3V
U7 0x68
MPU-9250
I2C1_SDA
I2C1_SCL
SDA/MOSI
AD0/MISO
SCL/SCLK
CS
FSYNC
INT
AUX_DA
AUX_CL
REGOUT
RESV_VDDIO
RESV_GND
VDDIO
VDD
U5
STM32F103C8Tx
NRST
BOOT0
PD0
PD1
PC13
PC14
PC15
PB0
PB1
PB2
PB3
PB4
PB5
PB6
PB7
PB8
PB9
PB10
PB11
PB12
PB13
PB14
PB15
PA0
PA1
PA2
PA3
PA4
PA5
PA6
PA7
PA8
PA9
PA10
PA11
PA12
PA13
PA14
PA15
VBAT
VDD
VDDA
VSS
VSSA
R14
22
R15
22
SPI1_SCK
SPI1_MISO
SPI1_MOSI
USART1_TX
USART1_RX
USB_N
USB_P
SWDIO
SWDCLK
BTN_1
BTN_2
BTN_3
CS_SD
U6
BME280
0x76
SDO
SCK
SDI
CSB
R11
10K
R12
10K
I2C1_SCL
I2C1_SDA
J3
Micro_SD_Card
R13
1k
C14
100nF
CS_SD
SPI1_MOSI
SPI1_SCK
SPI1_MISO
DAT2
DAT3/CD
CMD
VDD
CLK
VSS
DAT0
DAT1
SHIELD
SW2
BTN1
SW3
BTN2
SW4
BTN3
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