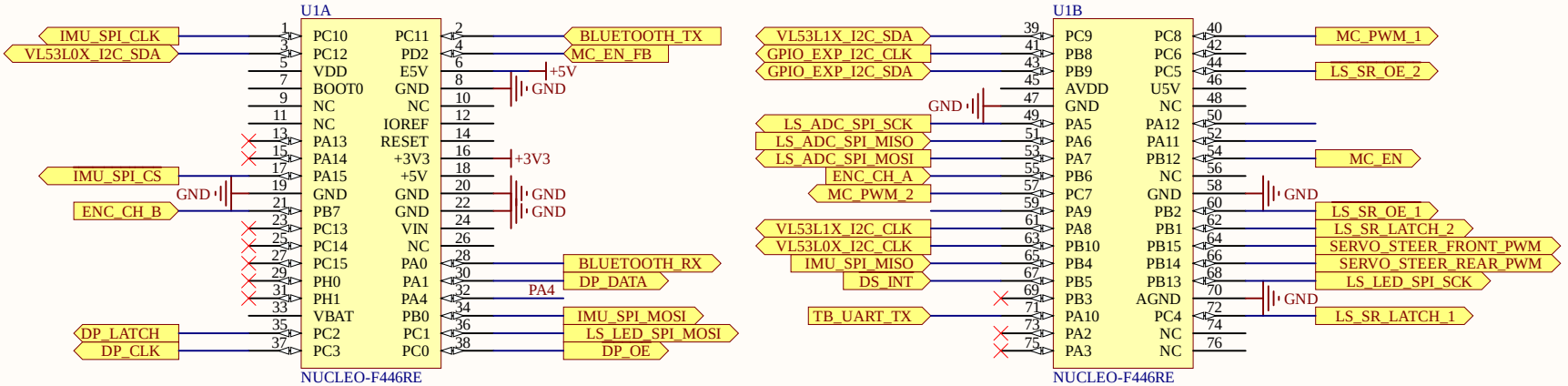
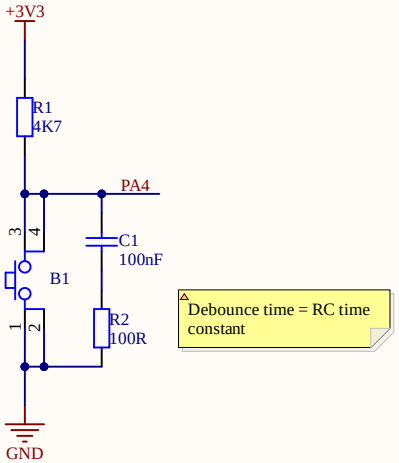
Reserved pins (do not connect anything):
PA2 - DBG UART TX
PA3 - DBG UART RX
PA5 - Green LED (?)
PA13 - SWDIO
PA14 - SWCLK
PB3 - SWO (?)
PC13 - Blue PushButton
PC14 - OSC 32.768 kHz
PC15 - OSC 32.768 kHz
PH0 - OSC 8 MHz
PH1 - OSC 8 MHz





Title **Nucleo**		
Size: A4	Number: 1	Revision: 1.0
Date: 2022 Fall		Sheet 1 of 13
File: Nucleo.SchDoc		

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Feher Daniel
G. Varga Gabor

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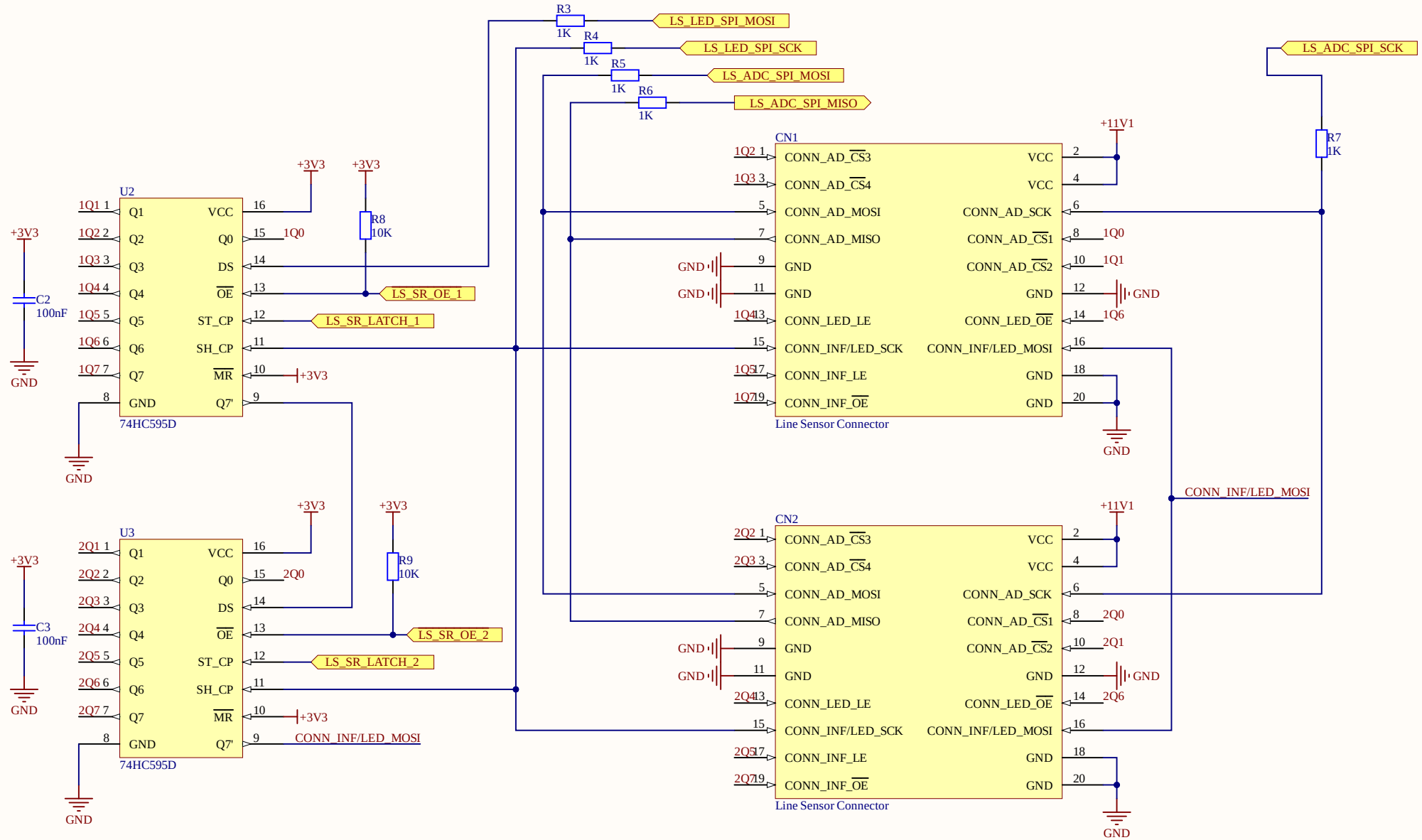
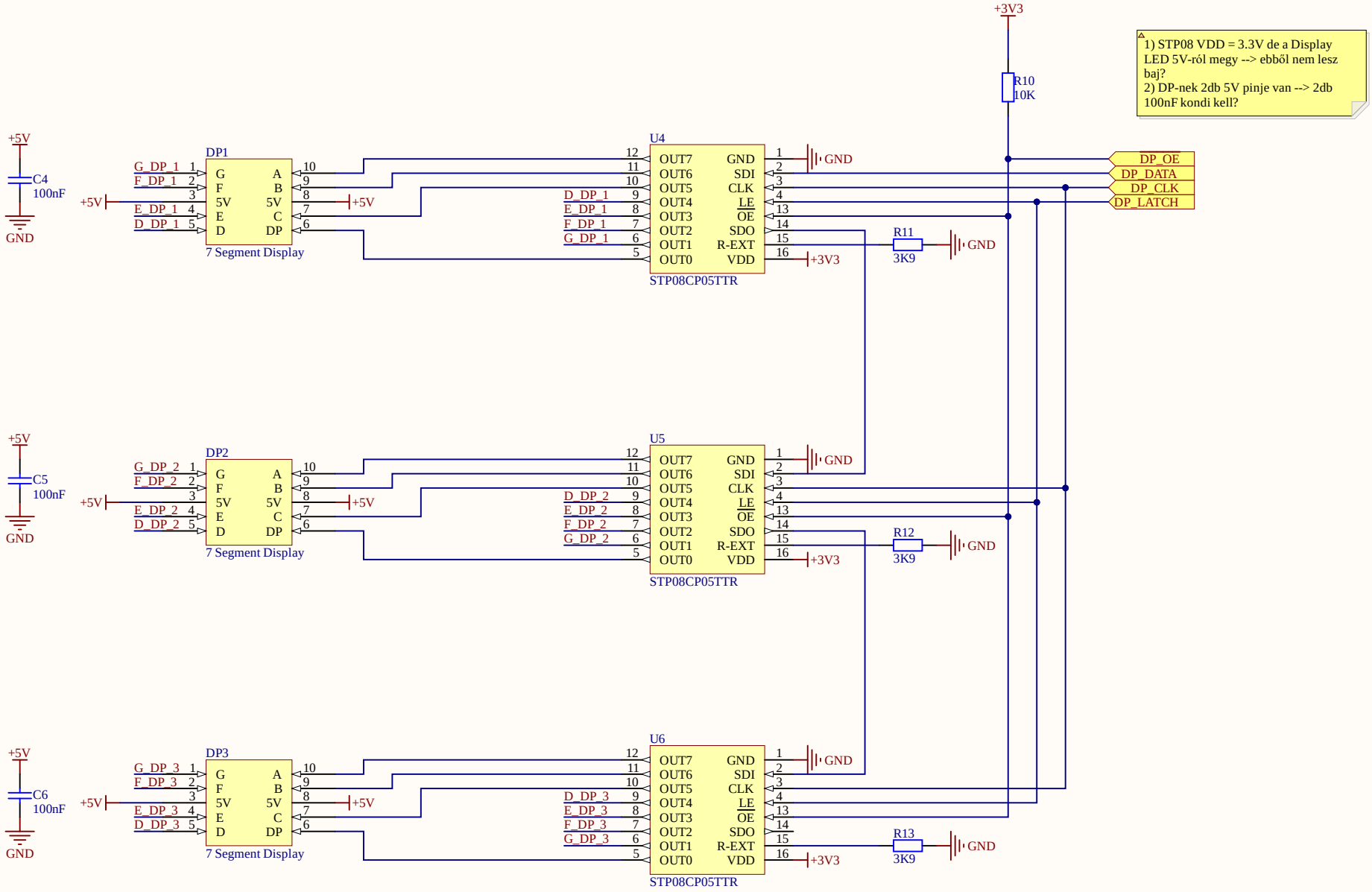
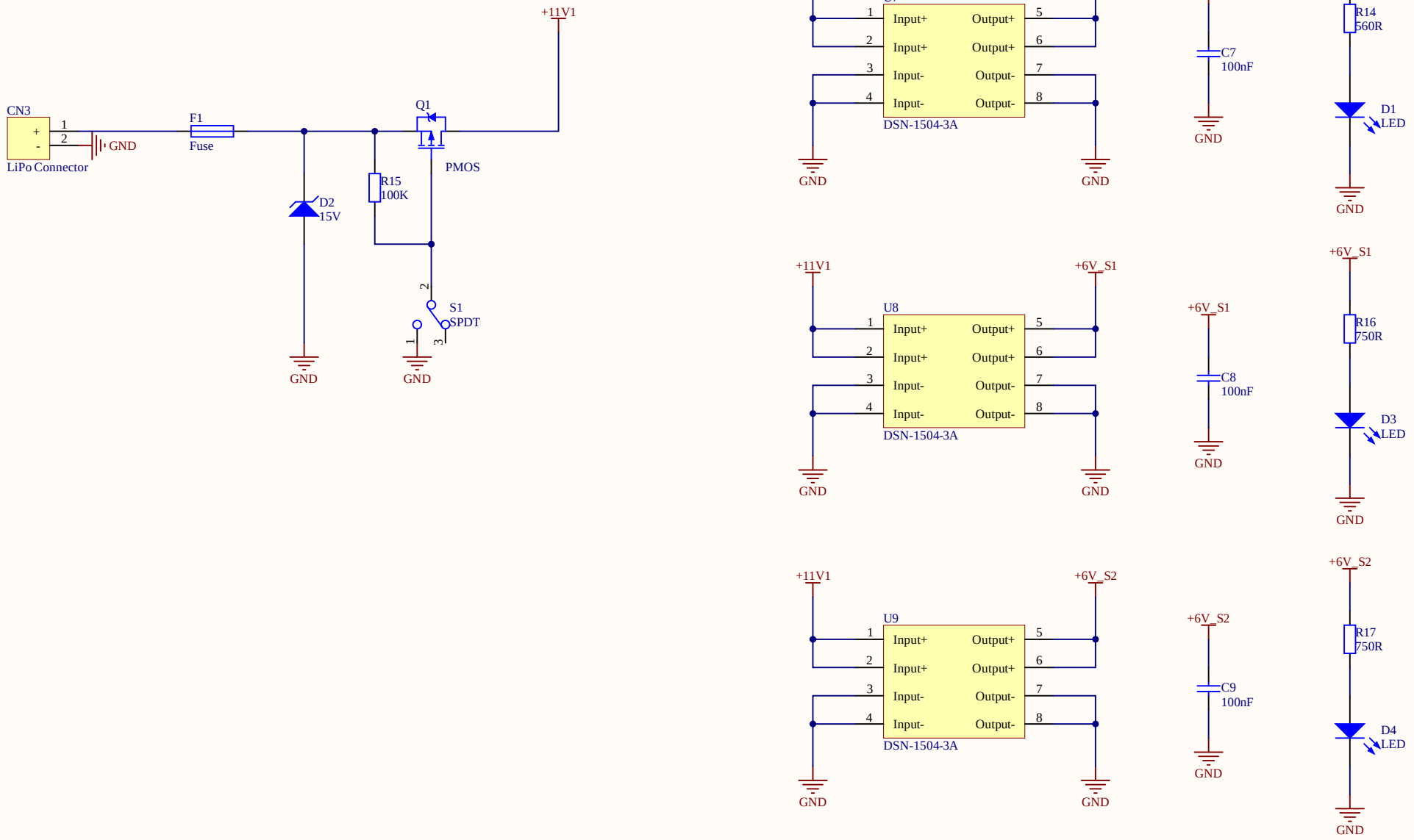
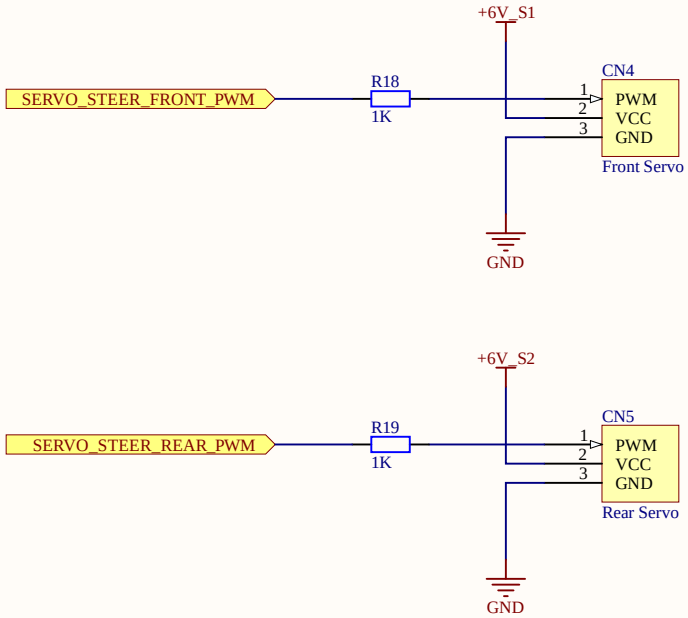

R3
1K
LS_LED_SPI_MOSI
R4
1K
LS_LED_SPI_SCK
R5
1K
LS_ADC_SPI_MOSI
R6
1K
LS_ADC_SPI_MISO
LS_ADC_SPI_SCK
R7
1K
+11V1
CN1
1Q2 1
CONN_AD_CS3
VCC
2
1Q3 3
CONN_AD_CS4
VCC
4
5
CONN_AD_MOSI
CONN_AD_SCK
6
7
CONN_AD_MISO
CONN_AD_CS1
8
1Q0
GND
9
GND
CONN_AD_CS2
10
1Q1
GND
11
GND
GND
12
GND
1Q4 13
CONN_LED_LE
CONN_LED_OE
14
1Q6
15
CONN_INF/LED_SCK
CONN_INF/LED_MOSI
16
1Q5 17
CONN_INF_LE
GND
18
1Q7 19
CONN_INF_OE
GND
20
Line Sensor Connector
GND
+3V3
+3V3
U2
1Q1 1
Q1
VCC
16
1Q2 2
Q2
Q0
15
1Q0
1Q3 3
Q3
DS
14
1Q4 4
Q4
OE
13
LS_SR_OE_1
1Q5 5
Q5
ST_CP
12
LS_SR_LATCH_1
1Q6 6
Q6
SH_CP
11
1Q7 7
Q7
MR
10
+3V3
8
GND
Q7'
9
74HC595D
R8
10K
+3V3
C2
100nF
GND
GND
CONN_INF/LED_MOSI
CN2
2Q2 1
CONN_AD_CS3
VCC
2
2Q3 3
CONN_AD_CS4
VCC
4
5
CONN_AD_MOSI
CONN_AD_SCK
6
7
CONN_AD_MISO
CONN_AD_CS1
8
2Q0
GND
9
GND
CONN_AD_CS2
10
2Q1
GND
11
GND
GND
12
GND
2Q4 13
CONN_LED_LE
CONN_LED_OE
14
2Q6
15
CONN_INF/LED_SCK
CONN_INF/LED_MOSI
16
2Q5 17
CONN_INF_LE
GND
18
2Q7 19
CONN_INF_OE
GND
20
Line Sensor Connector
GND
+3V3
+3V3
U3
2Q1 1
Q1
VCC
16
2Q2 2
Q2
Q0
15
2Q0
2Q3 3
Q3
DS
14
2Q4 4
Q4
OE
13
LS_SR_OE_2
2Q5 5
Q5
ST_CP
12
LS_SR_LATCH_2
2Q6 6
Q6
SH_CP
11
2Q7 7
Q7
MR
10
+3V3
8
GND
Q7'
9
CONN_INF/LED_MOSI
74HC595D
R9
10K
+3V3
C3
100nF
GND
GND
Title
Line Sensors
Size: A4
Number: 2
Revision: 1.0
Date: 2022 Fall
Sheet 2 of 13
File: LineSensors.SchDoc
Designed by:
LK Bulls
Bagoly Zoltan
Feher Daniel
G. Varga Gabor
RobonAUT
2023



Title **Displays**			Designed by: LK Bulls, Bagoly Zoltan, Feher Daniel, G. Varga Gabor
Size: A4	Number: 3	Revision: 1.0	RobonAUT 2023
Date: 2022 Fall		Sheet 3 of 13	
File: Displays.SchDoc			



Title **Power**			Designed by: *LK Bulls, Bagoly Zoltan, Feher Daniel, G. Varga Gabor*
Size: A4	Number: 4	Revision: 1.0	RobonAUT 2023
Date: 2022 Fall		Sheet 4 of 13	
File: Power.SchDoc			



Title **Servos**			Designed by: *LK Bulls* *Bagoly Zoltan* *Feher Daniel* *G. Varga Gabor*
Size: A4	Number: 5	Revision: 1.0	
Date: 2022 Fall		Sheet 5 of 13	
File: Servos.SchDoc			

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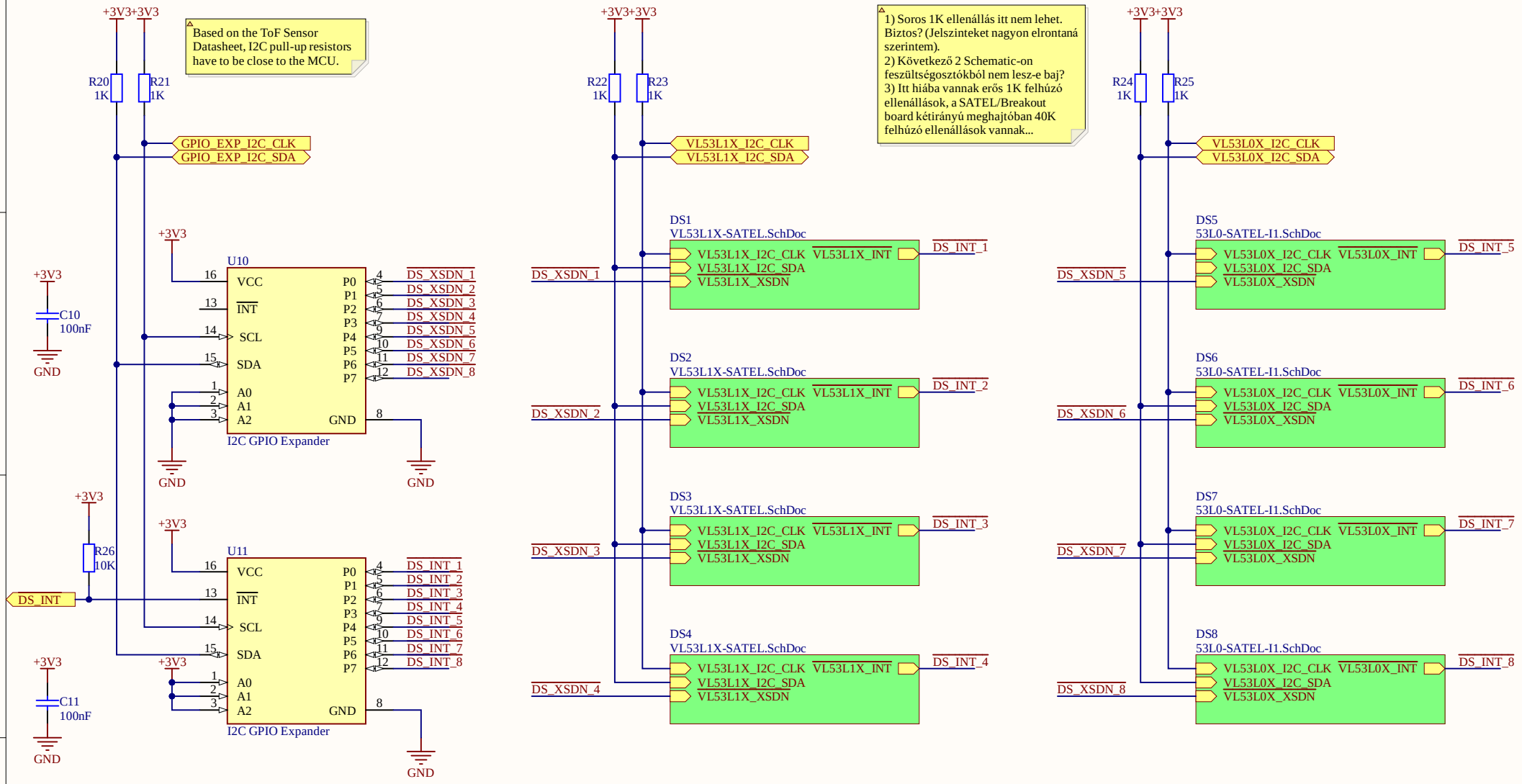

Title	***Distance Sensors***		
Size: A4	Number: 6	Revision: 1.0	
Date: 2022 Fall		Sheet 6 of 13	
File: DistanceSensors.SchDoc			

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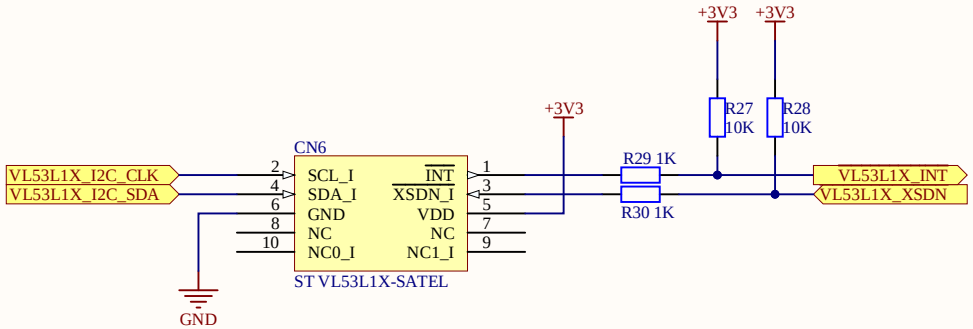

Title	***VL53L1X Satellite Board***		
Size: A4	Number: 7	Revision: 1.0	
Date: 2022 Fall		Sheet 7 of 13	
File: VL53L1X-SATEL.SchDoc			

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G. Varga Gabor

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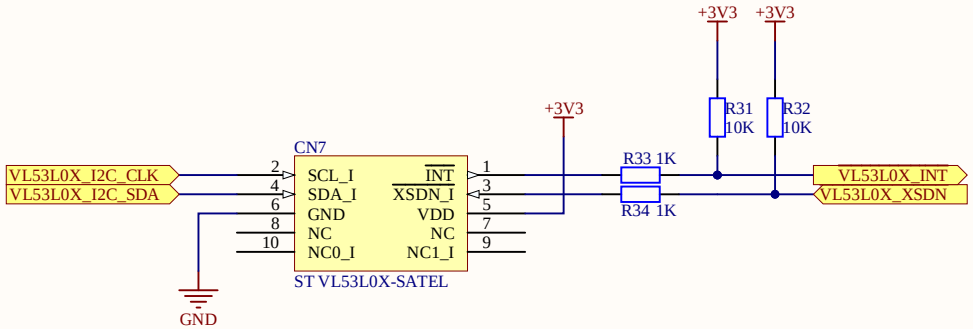

Title	***VL53L0X Satellite Board***		
Size: A4	Number: 8	Revision: 1.0	
Date: 2022 Fall		Sheet 8 of 13	
File: 53L0-SATEL-I1.SchDoc			

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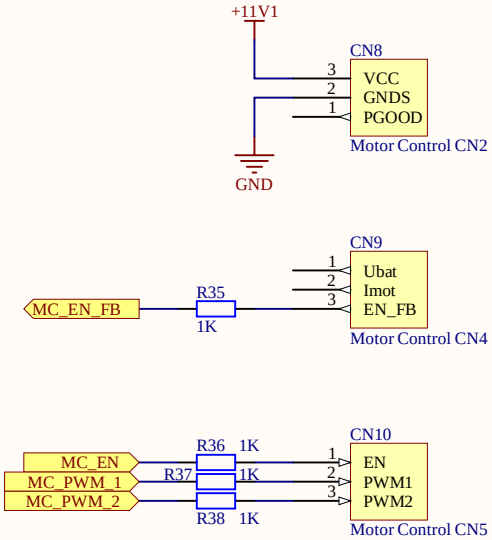

Title	***Motor Control***		
Size: A4	Number: 9	Revision: 1.0	
Date: 2022 Fall		Sheet 9 of 13	
File: MotorControl.SchDoc			

Designed by:
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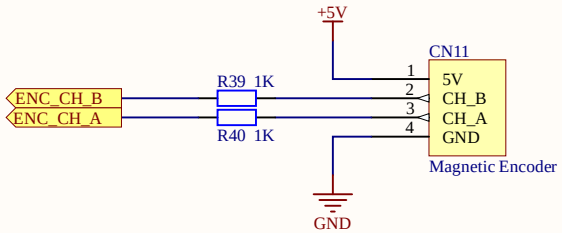

Title	***Magnetic Encoder***		
Size: A4	Number: 10	Revision: 1.0	
Date: 2022 Fall		Sheet 10 of 13	
File: Encoder.SchDoc			

Designed by:
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G. Varga Gabor

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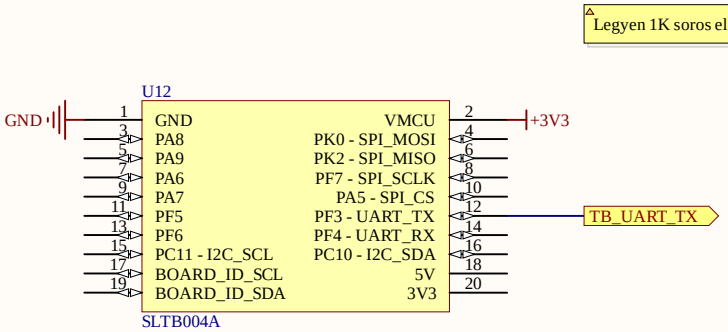

Title **Radio Communication**			Designed by: *LK Bulls* *Bagoly Zoltan* *Feher Daniel* *G. Varga Gabor*
Size: A4	Number: 11	Revision: 1.0	
Date: 2022 Fall		Sheet 11 of 13	
File: RadioCommunication.SchDoc			

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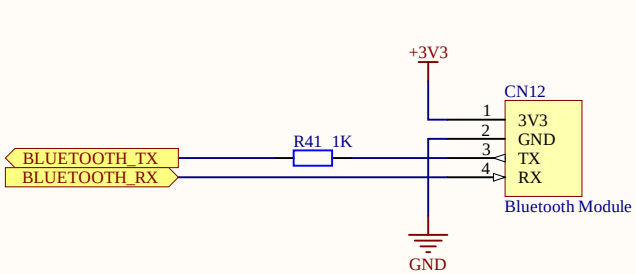

Title **Bluetooth Communication**			Designed by: *LK Bulls* *Bagoly Zoltan* *Feher Daniel* *G. Varga Gabor*
Size: A4	Number: 12	Revision: 1.0	
Date: 2022 Fall		Sheet 12 of 13	
File: Bluetooth.SchDoc			

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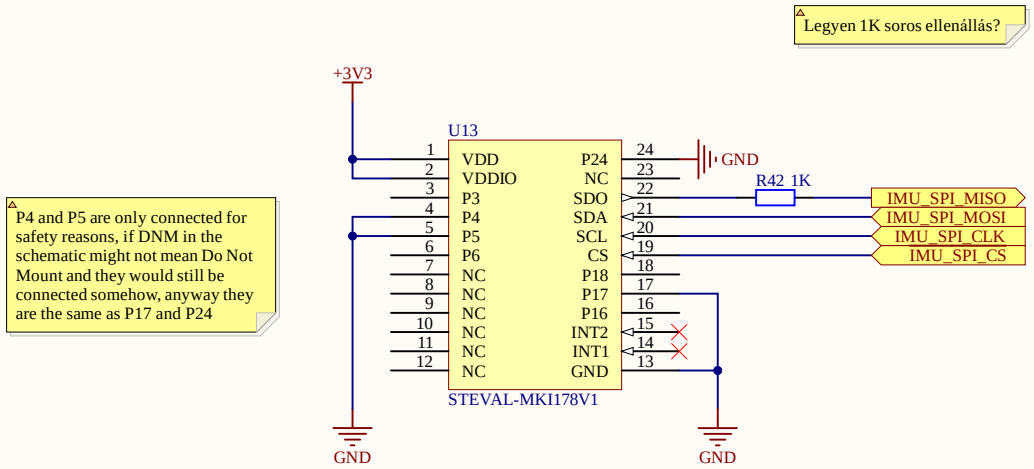

Title	***Inertial Measurement Unit***		
Size: A4	Number: 13	Revision: 1.0	
Date: 2022 Fall		Sheet 13 of 13	
File: IMU.SchDoc			

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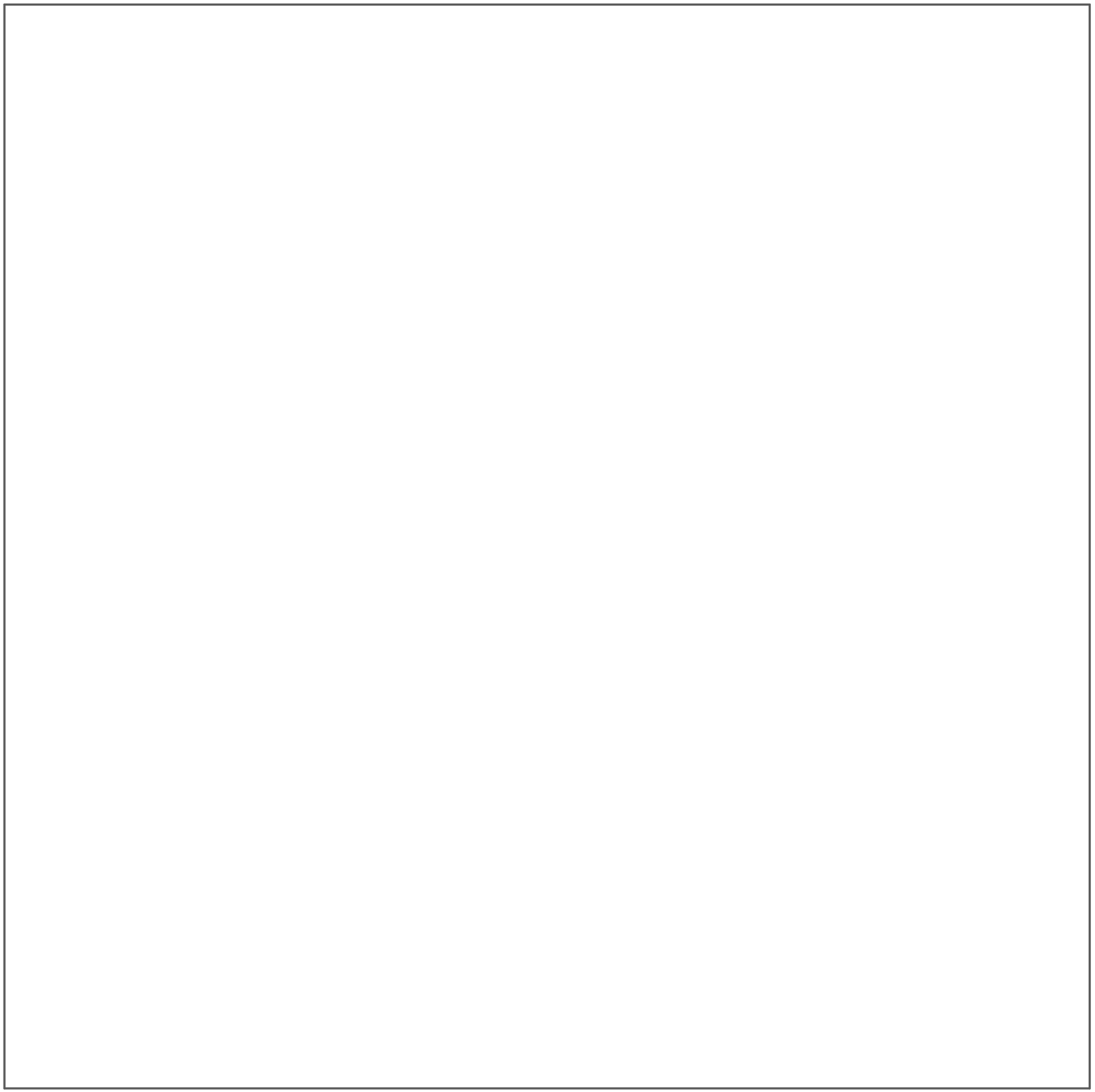

LKBulls2023_PCB.PcbDoc

Designator	Reference	Quantity	Footprint	Supplier	Name
C10, C11		2	FP_0402_CAP_050		
CN6_DS1, CN6_DS2, CN6_DS3, CN6_DS4		4		ST	
CN7_DS5, CN7_DS6, CN7_DS7, CN7_DS8		4		ST	
R20, R21, R22, R23, R24, R25, R29_DS1, R29_DS2, R29_DS3, R29_DS4, R30_DS1, R30_DS2, R30_DS3, R30_DS4, R33_DS5, R33_DS6, R33_DS7, R33_DS8, R34_DS5, R34_DS6, R34_DS7, R34_DS8		22	FP_0603_RES		
R26, R27_DS1, R27_DS2, R27_DS3, R27_DS4, R28_DS1, R28_DS2, R28_DS3, R28_DS4, R31_DS5, R31_DS6, R31_DS7, R31_DS8, R32_DS5, R32_DS6, R32_DS7, R32_DS8		17	FP_0603_RES		
U10, U11	595-TCA9534PWR	2	FP_TCA9534PWR	Mouser	TCA9534PWR 8 Bit I2C I/O Expander