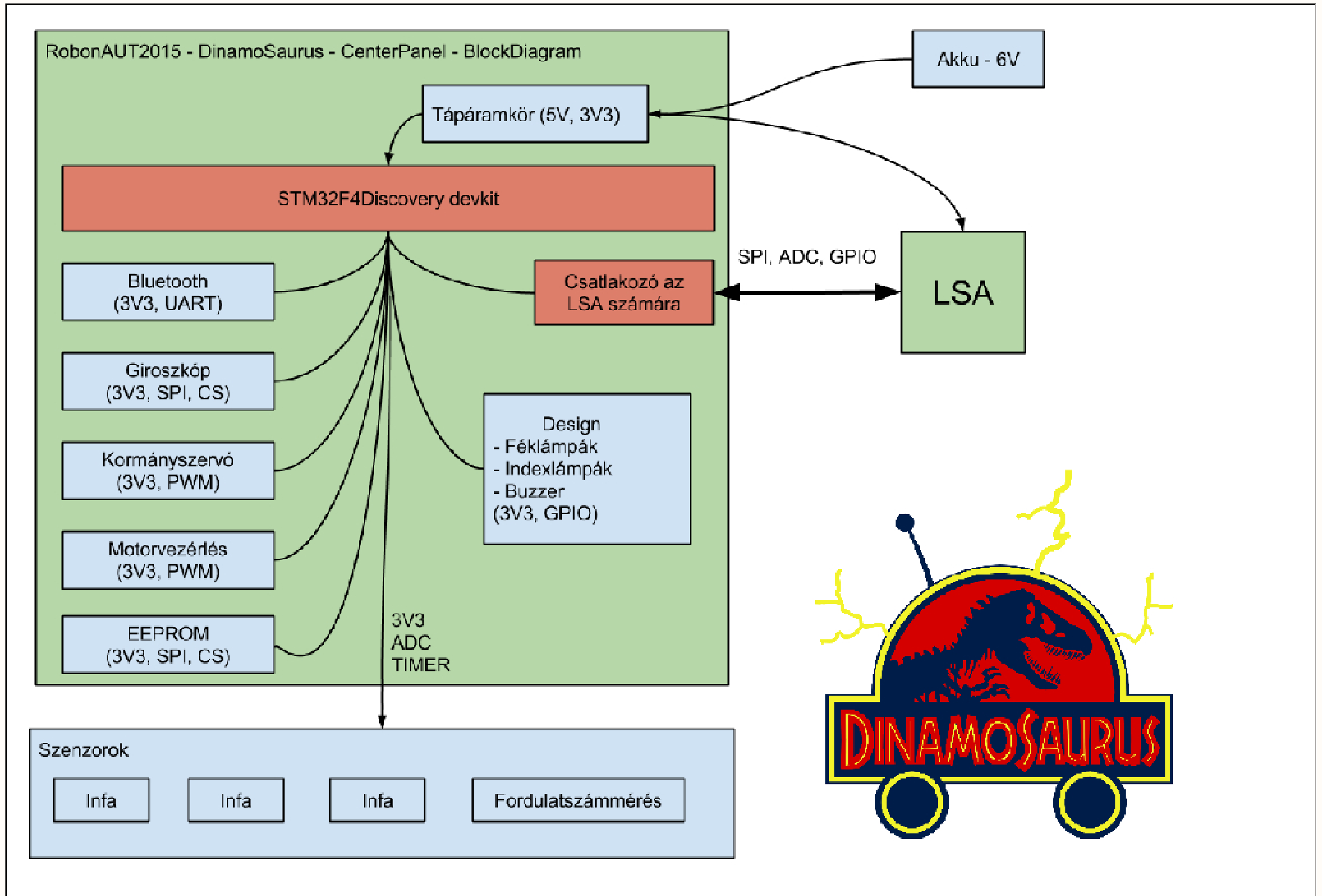


BlockDiagram



Title			Project_RobonAUT2015_CenterPanel.PrjPCB		
Size	Number		Revision		v1
A4					
Date:	2014.10.28.		Sheet of	BlockDiagram	
File:	D:\Minden\...\Sheet	BlockDiagram.Sch	Drawn By:	Vizi Gábor	

MCU

STM32F4Discovery
datasheet!

A

B

B

A

B

AD

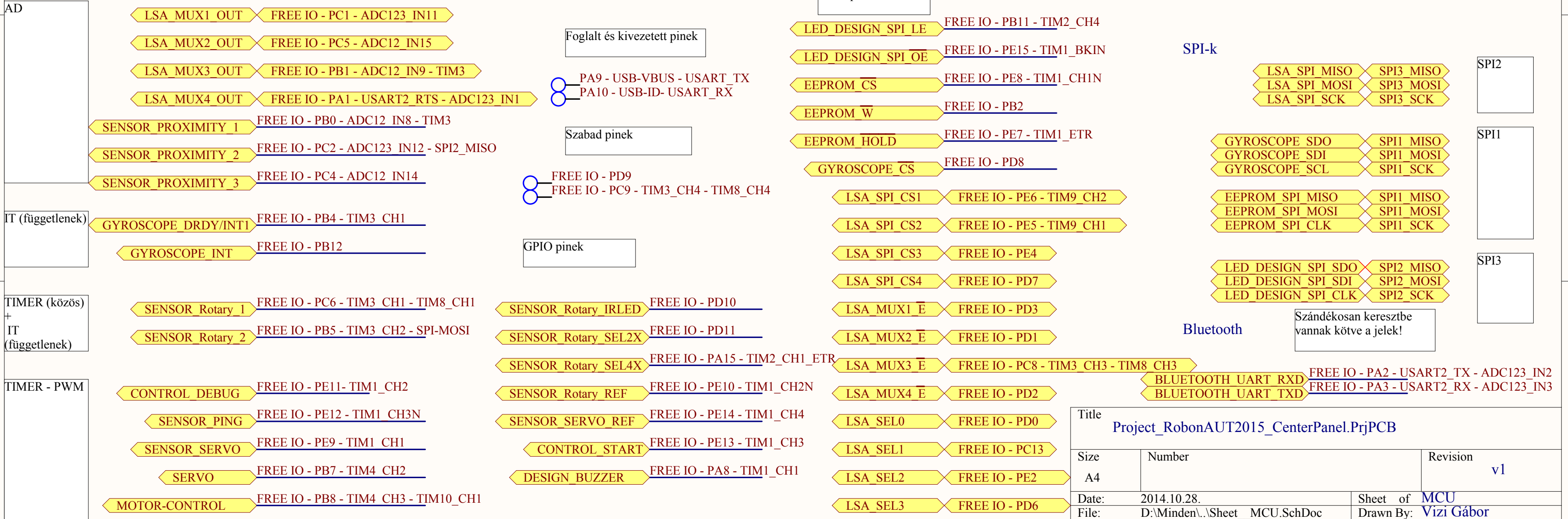
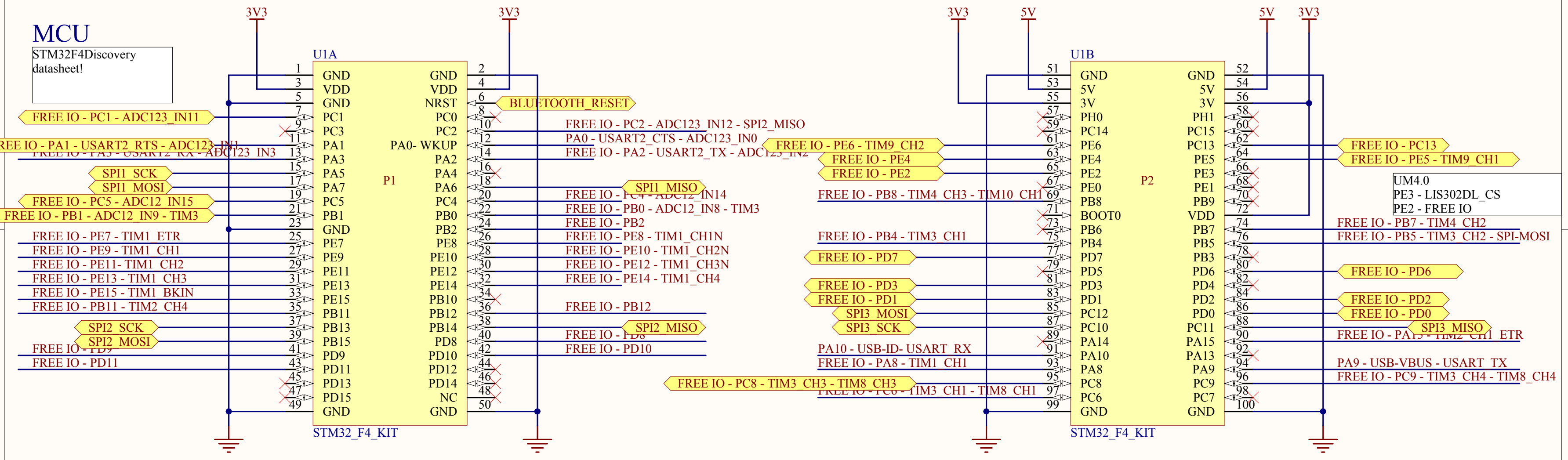
C

IT (függetlenek)

TIMER (közös)
+
IT (függetlenek)

TIMER - PWM

D



Title Project_RobonAUT2015_CenterPanel.PrjPCB		
Size A4	Number	Revision v1
Date: 2014.10.28.	Sheet of MCU	Drawn By: Vizi Gábor
File: D:\Minden\...\Sheet_MCU.SchDoc		

Bluetooth

ST SPBT2632C2A.AT2
Bluetooth modul

GPIO-k bekötése

RESET: jumperrel: közös reset vagy GPIO pinről vezérelve

BOOT: kivezetve

LPO: oszillátor bemenet nem kell illesztenünk, viszont kivezetjük a biztonság kedvéért

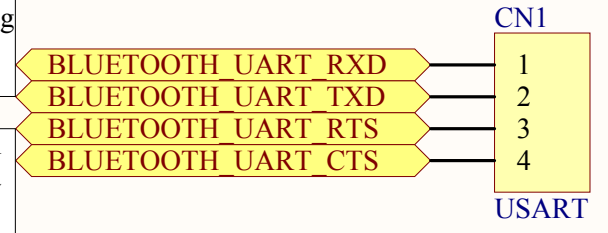
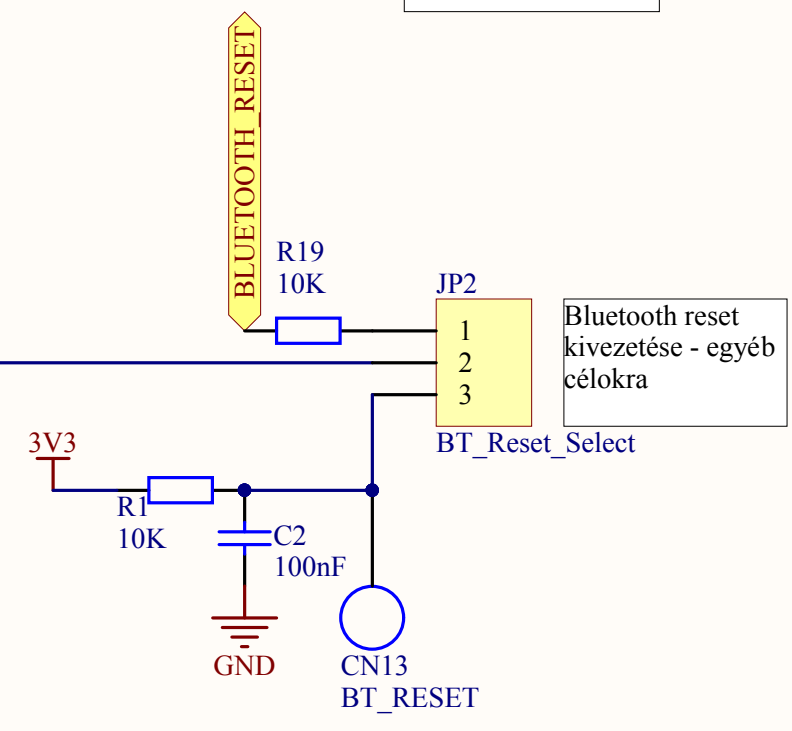
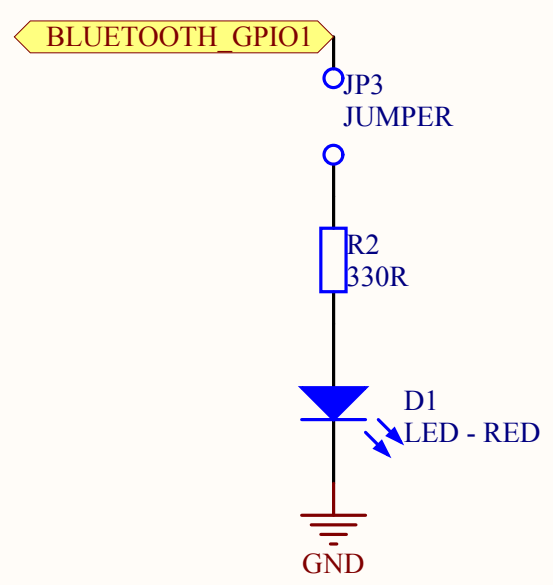
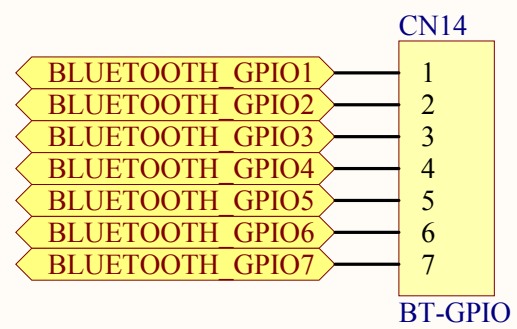
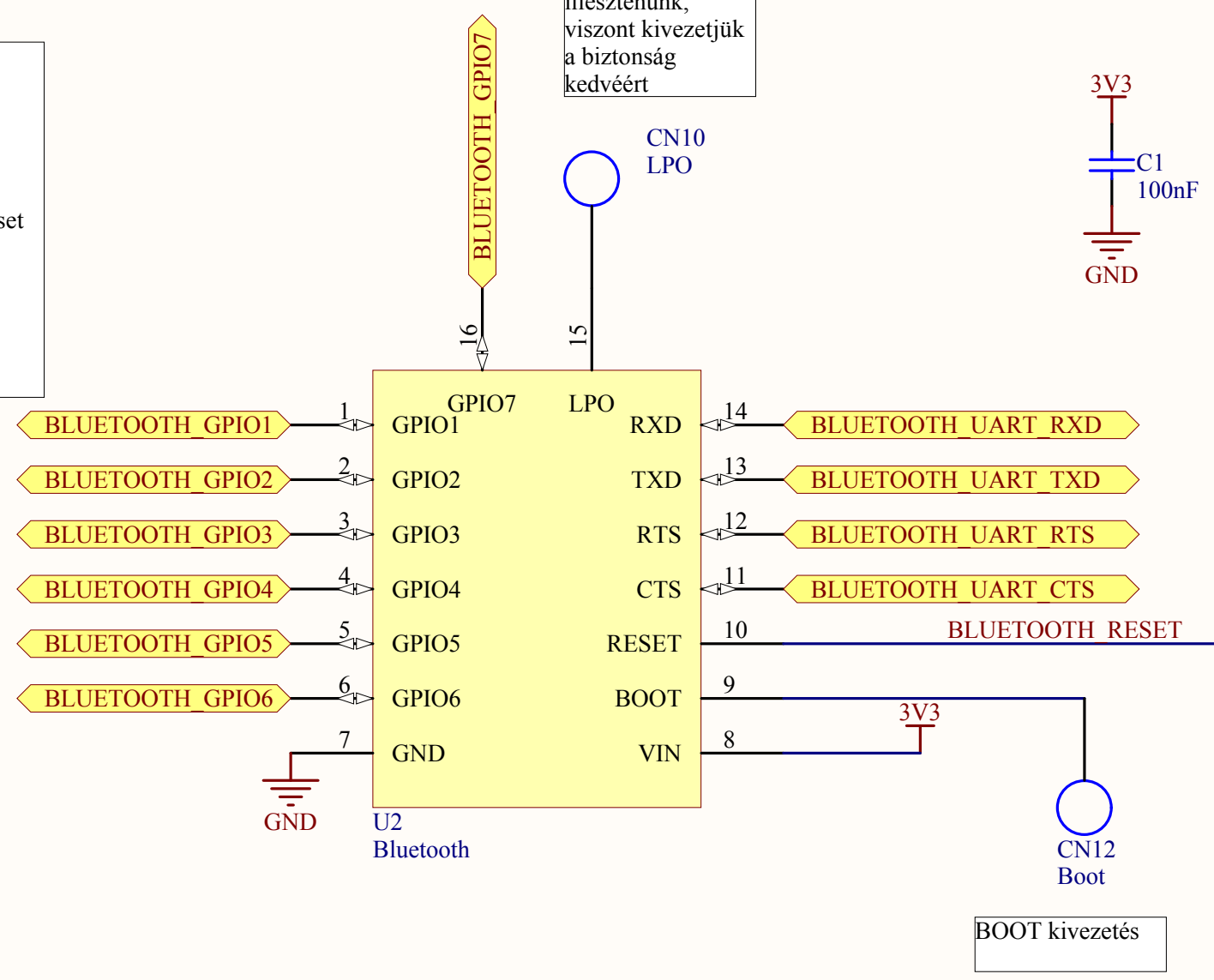
Bekötve!
Kivezelve a biztonság kedvéért.

Nincs bekötve! (nem fontos, és nincs hova bekötöni)
Kivezelve a biztonság kedvéért.

USART2:
USART2_CTS-en a user button van.

USART1:
USB VBUS + ID, gond a led, lassíthat?
+ CTS, RTS nincs kivizetve!

Bluetooth GPIO-k debug célokra kivezelve (opc.)



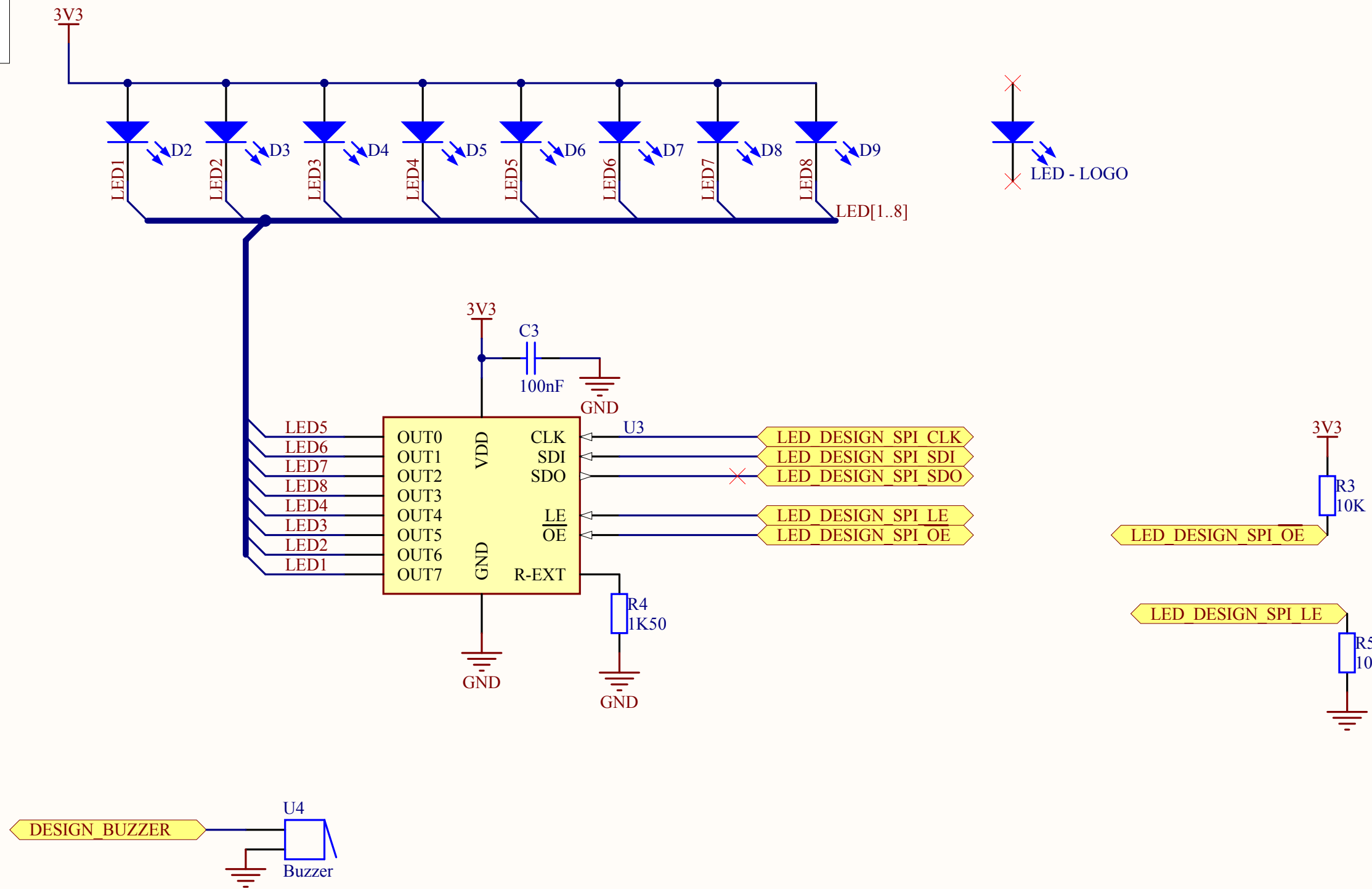
Title Project_RobonAUT2015_CenterPanel.PrjPCB		
Size A4	Number	Revision v1
Date: 2014.10.28.	Sheet of Bluetooth	Drawn By: Vizi Gábor
File: D:\Minden\...\Sheet Bluetooth.SchDoc		

CarDesign

Autódíszek:

- LED-ek 2 tükörosos kivezetéssel (jumper)
- buzzer

LED - pl. féklámpa
Szín kiválasztása!
Ellenállás méretezése!

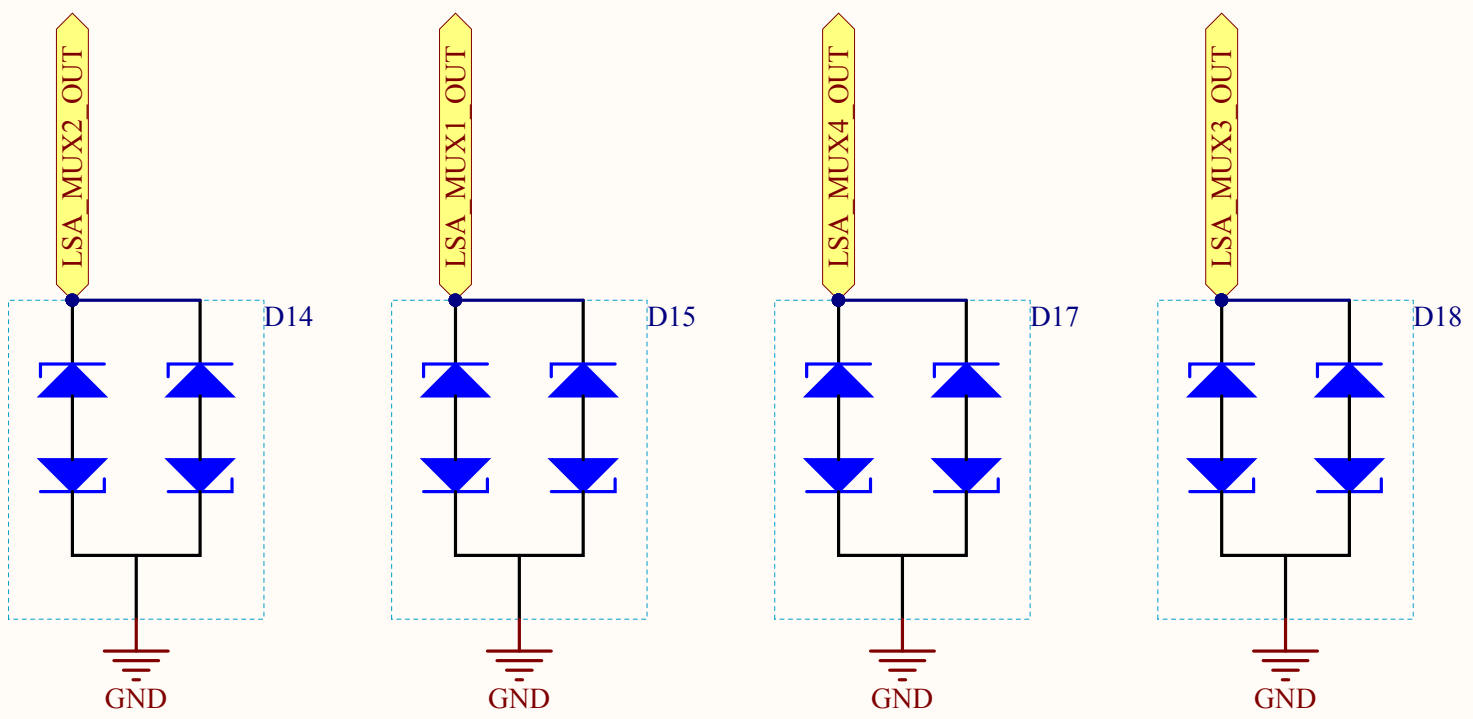
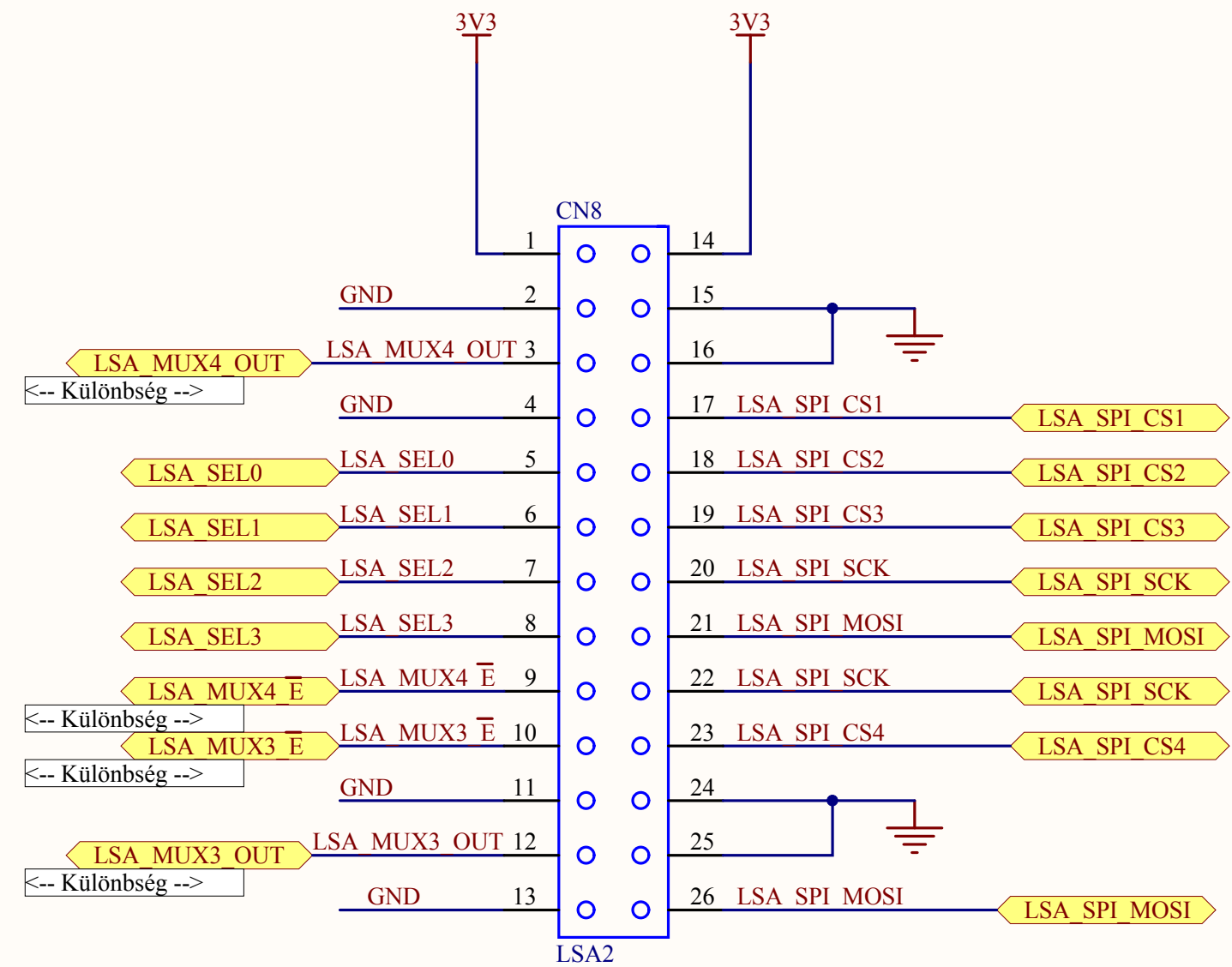
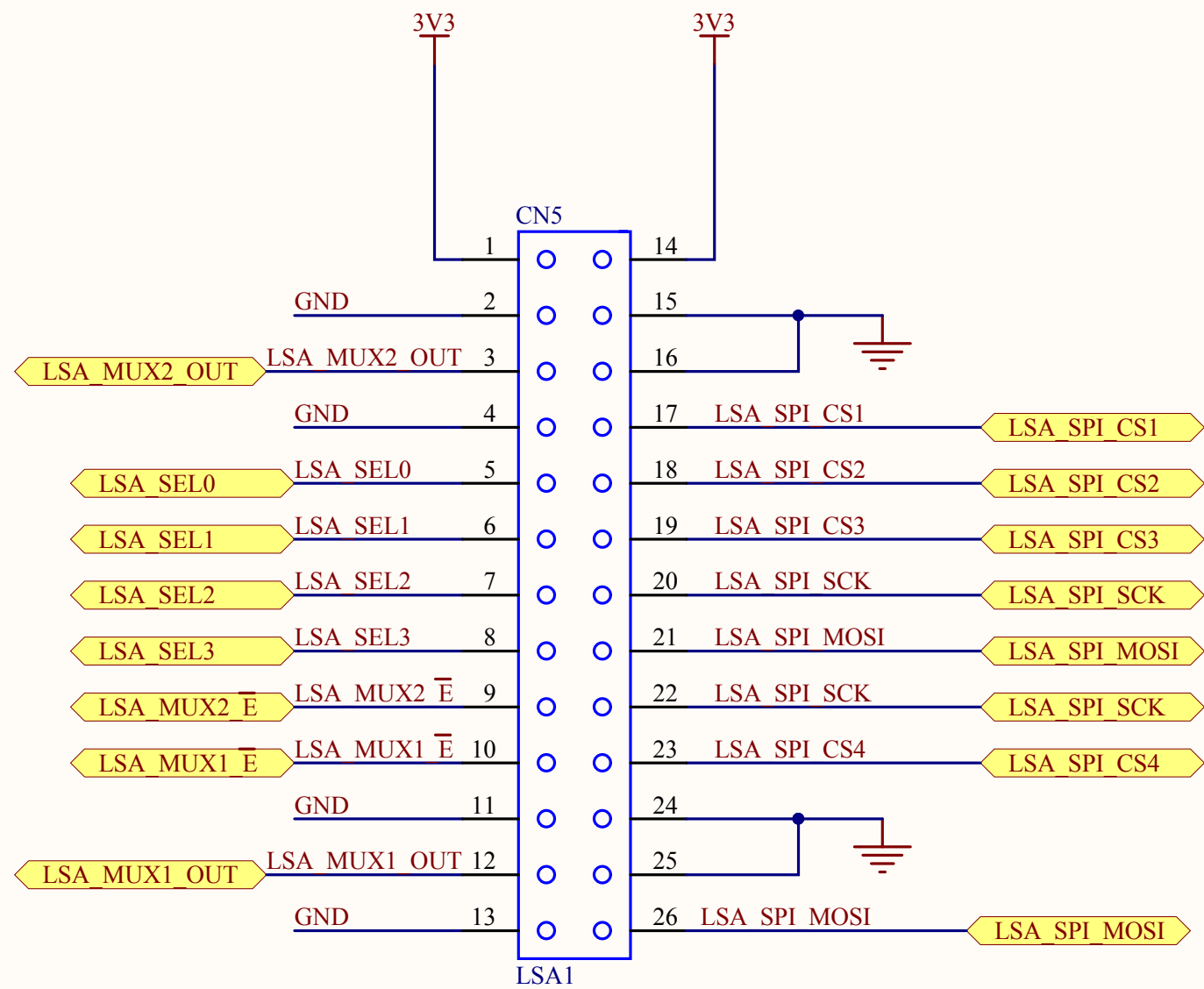


Title		
Project_RobonAUT2015_CenterPanel.PrjPCB		
Size	Number	Revision
A4		v1
Date:	2014.10.28.	Sheet of CarDesign
File:	D:\Minden\...\Sheet_CarDesign.SchDoc	Drawn By: Vizi Gábor

CommunicationWithLSA

LSA számára szükséges jelek:

- Supply
- GND
- SPI-ok az LSA számára
- CSk a LSA shiftregiszterek és multiplexerek számára
- kimenet: analóg kimenetek



OPTOLED_CONTROL: optokapu LED-meghajtó vonalai
 0: CLK
 1: SDI
 2: LE
 3: /OE

LED_CONTROL: debug LED-meghajtó vonalai
 0: CLK
 1: SDI
 2: LE
 3: /OE

MUX1_/E: 01-16 optokapu MUX engedélyező jel
 MUX2_/E: 17-24 optokapu MUX engedélyező jel

MUX1_OUT: MUX1 analóg kimenet
 MUX2_OUT: MUX2 analóg kimenet

S0-S3: közösített MUX kiválasztó jelek

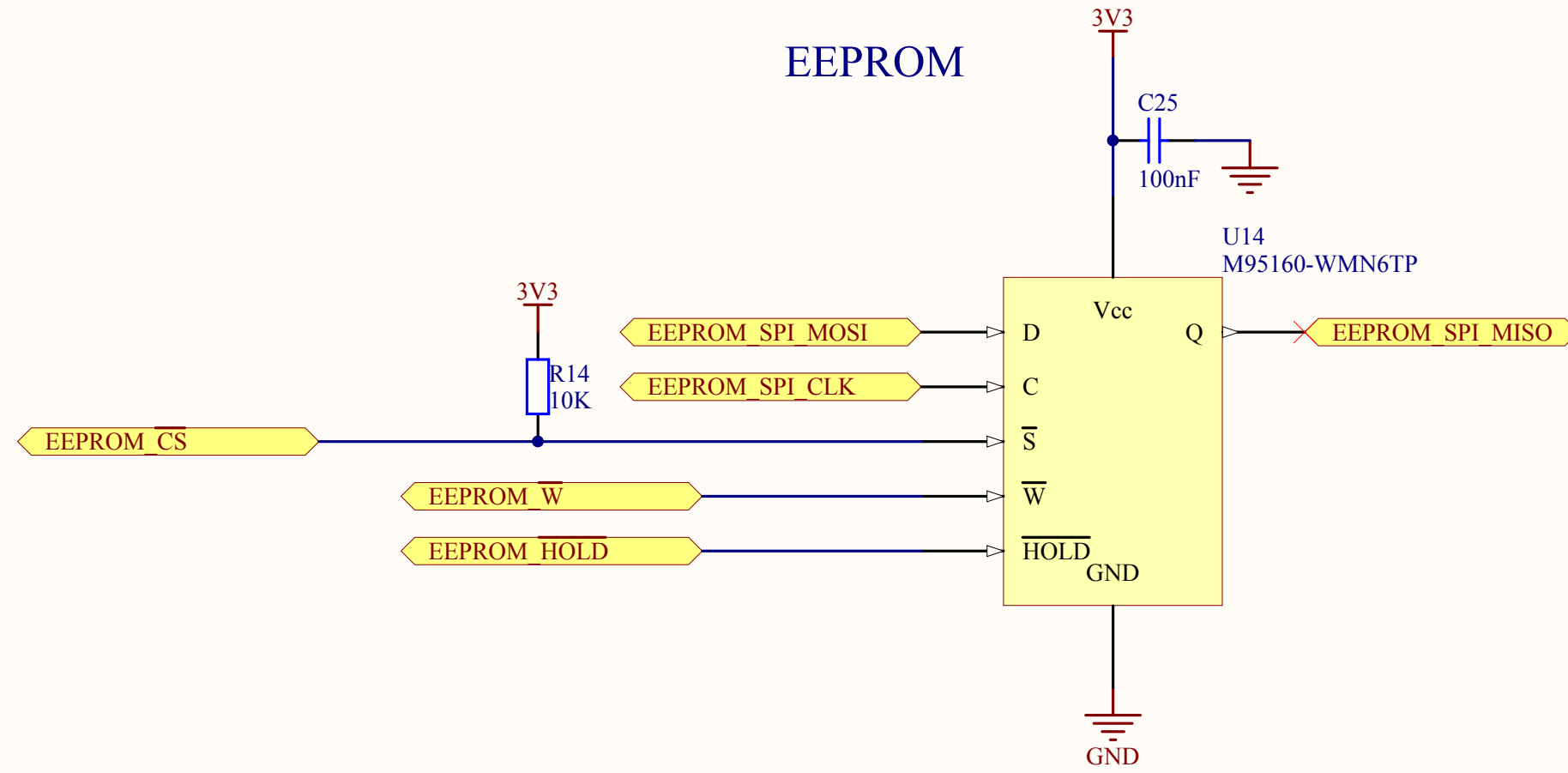


Title Project_RobonAUT2015_CenterPanel.PrjPCB		
Size A4	Number	Revision v1
Date: 2014.10.28.	Sheet of CommunicationWithLSA	
File: D:\Minden\...Sheet CommunicationWithLSA.SchDoc	Author: Vizi Gábor	

EEPROM

EEPROM

EEPROM



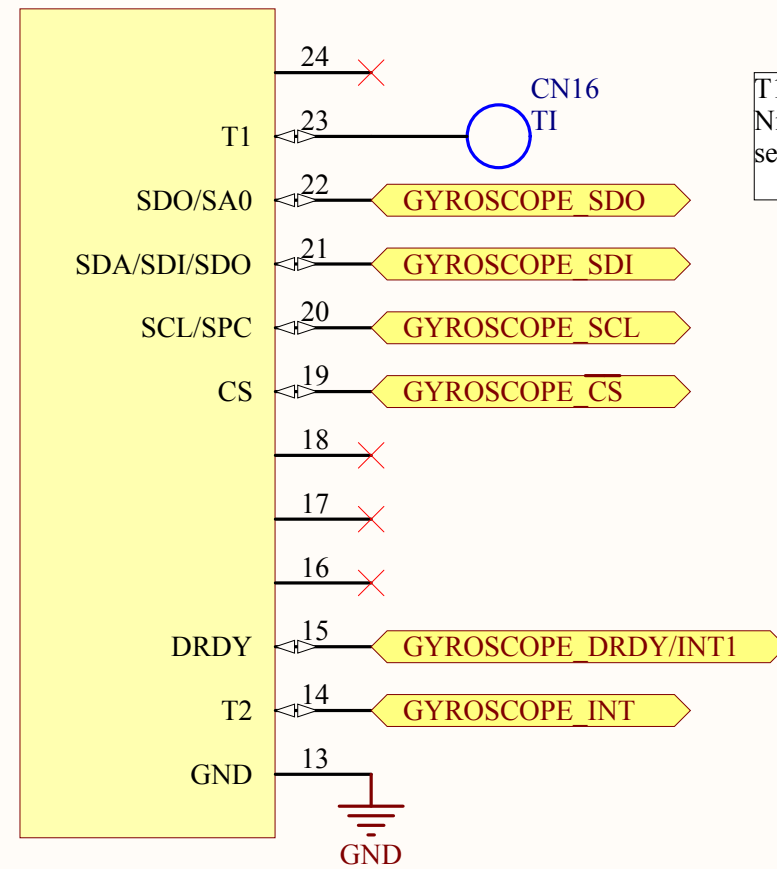
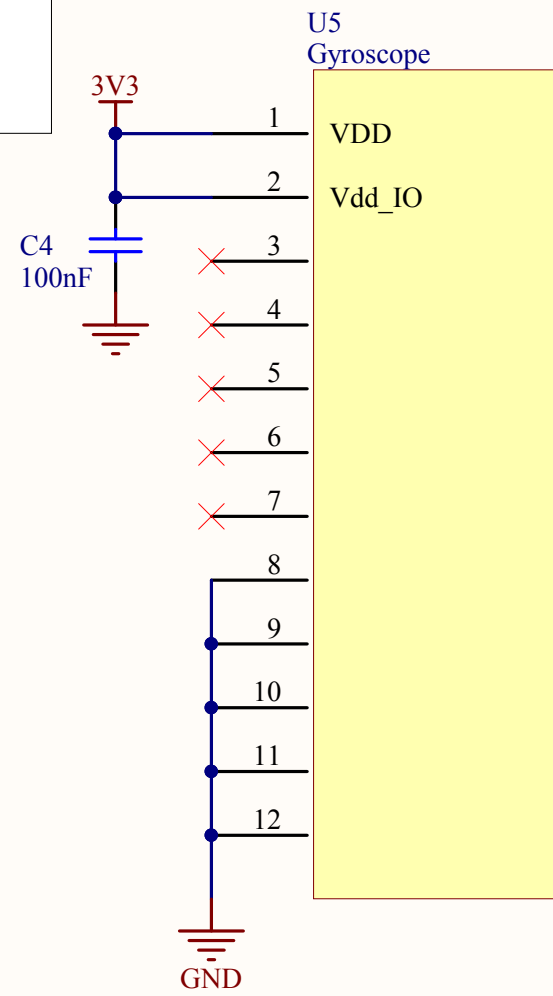
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Size	Number		Revision		v1
A4					
Date:	2014.10.28.		Sheet of	EEPROM	
File:	D:\Minden\...\Sheet EEPROM.SchDoc		Drawn By:	Vizi Gabor	

Gyroscope

ST STEVAL-MKI107V2
MEMS

Datasheet:
DM00051598_Gyroscope_ST-S
TEVAL-MKI107V2-MEMS.pdf

DM00036465_Gyroscope_L3G
D20.pdf



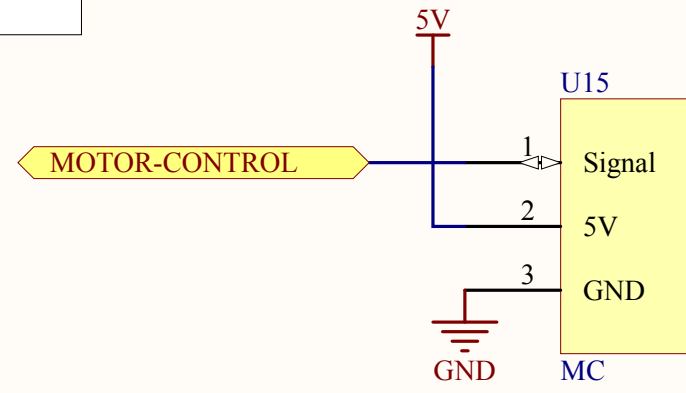
T1:
Nincs bekötve, így nem kell használni
semmire elvileg



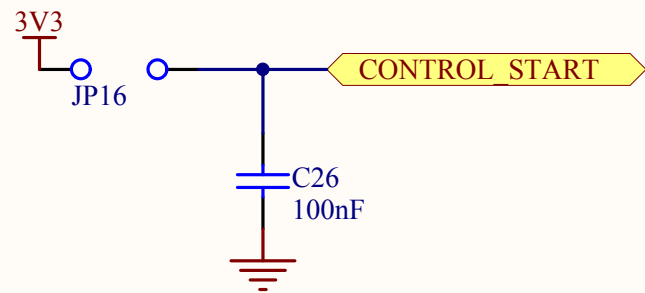
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Size A4	Number	Revision v1
Date: 2014.10.28.	Sheet of Gyroscope	Drawn By: Vizi Gábor
File: D:\Minden\...\Sheet Gyroscope.SchDoc		

Motor Control

Motorvezérlő



Távírányítóból kivehető jel



Índító jel - jumperes megoldással

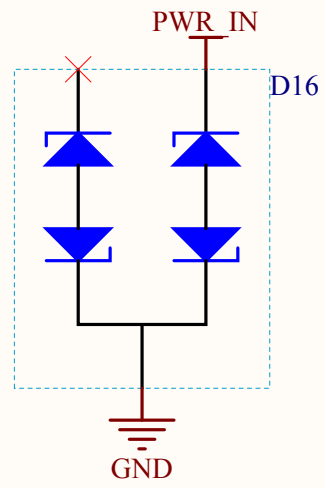
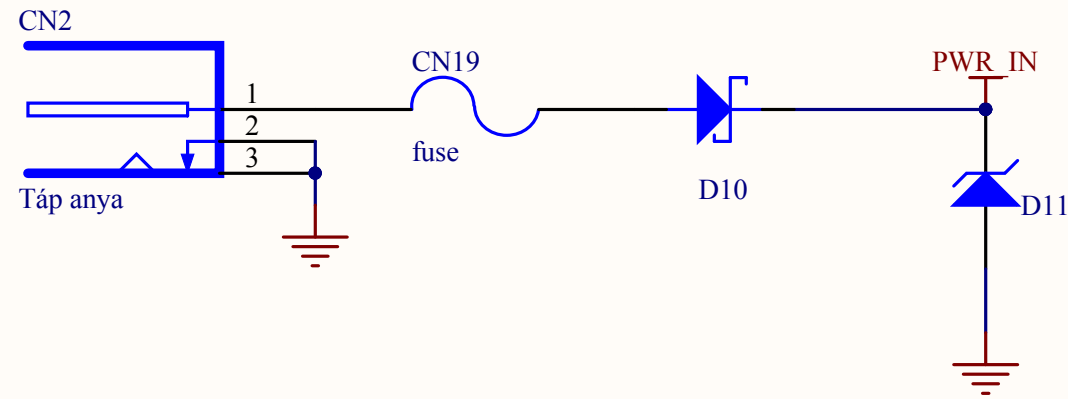
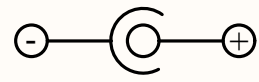
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Size	Number		Revision		v1
A4					
Date:	2014.10.28.		Sheet of	Motor Control	
File:	D:\Minden\...\Sheet MC.SchDoc		Drawn By:	Vizi Gábor	

Power

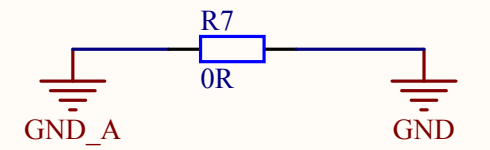
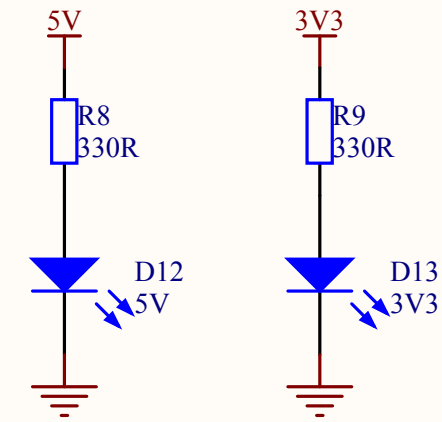
Kapcsolóüzemű tápegység

- Zener dióda a túlfeszültség ellen
- Schottky dióda bemenetre védelemnek

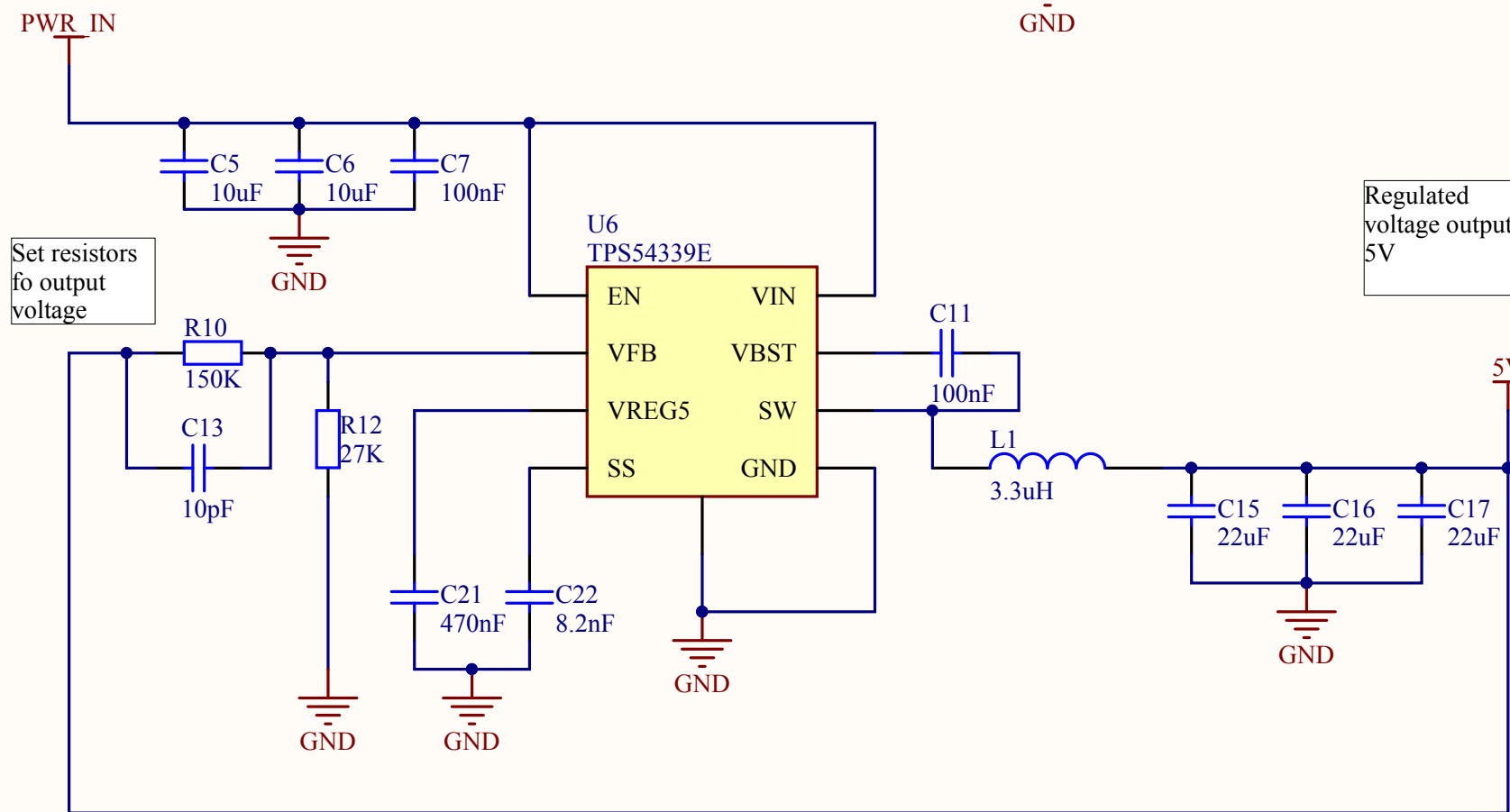
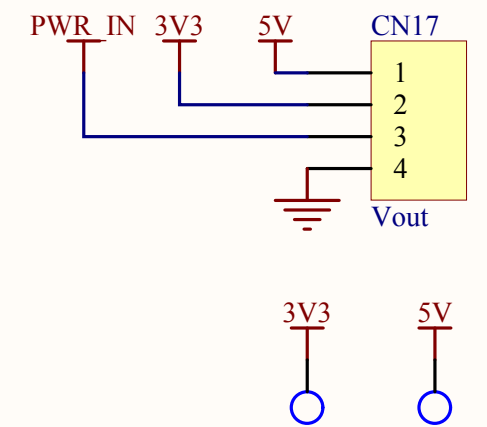
IN:
Supply source:
7.2V Battery



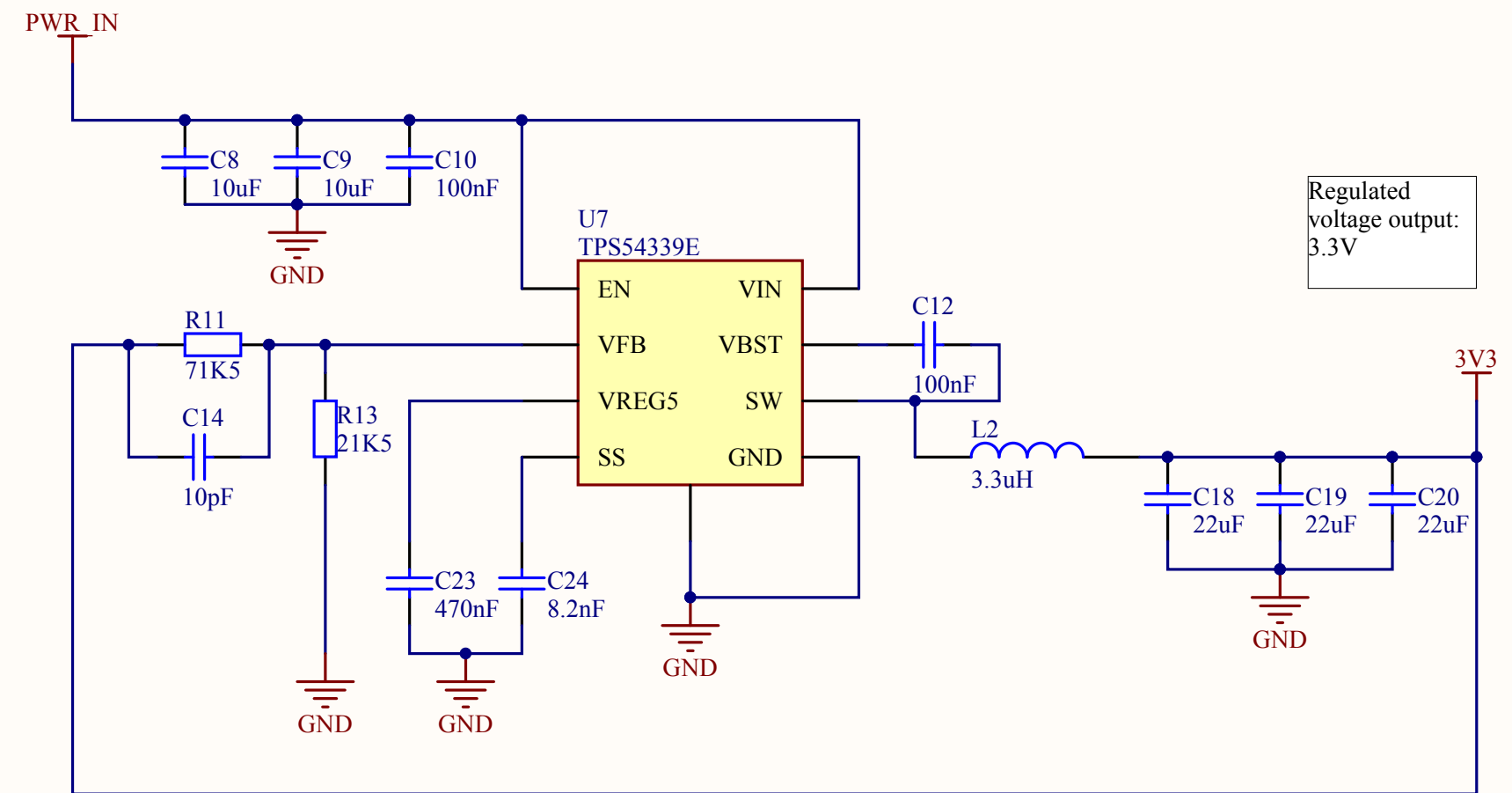
Tápjelző LED-ek.



Feszültségszintek kivezetése



Regulated voltage output:
5V

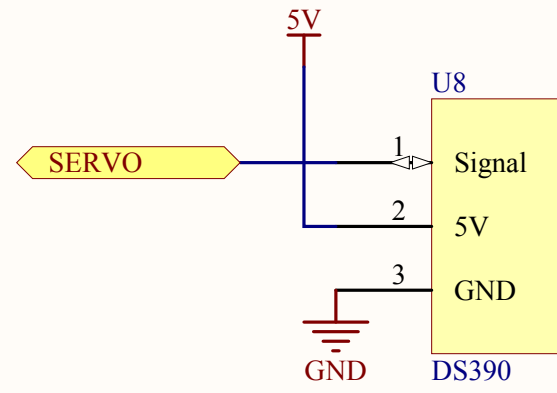


Regulated voltage output:
3.3V

Title Project_RobonAUT2015_CenterPanel.PrjPCB		
Size A4	Number	Revision v1
Date: 2014.10.28.	Sheet of Power	Drawn By: Vizi Gábor
File: D:\Minden\...\Sheet Power.SchDoc		

PowerSteering

Kormányaszervó
JR Servo DS390

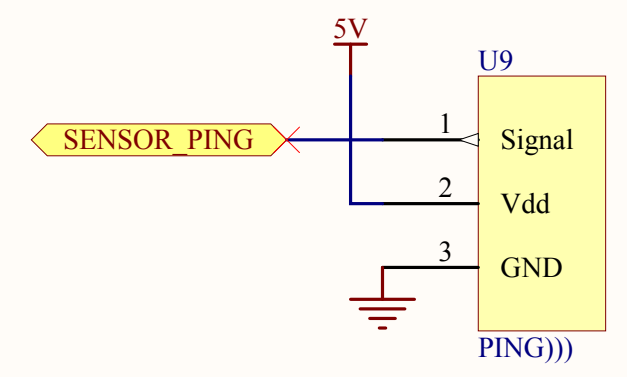
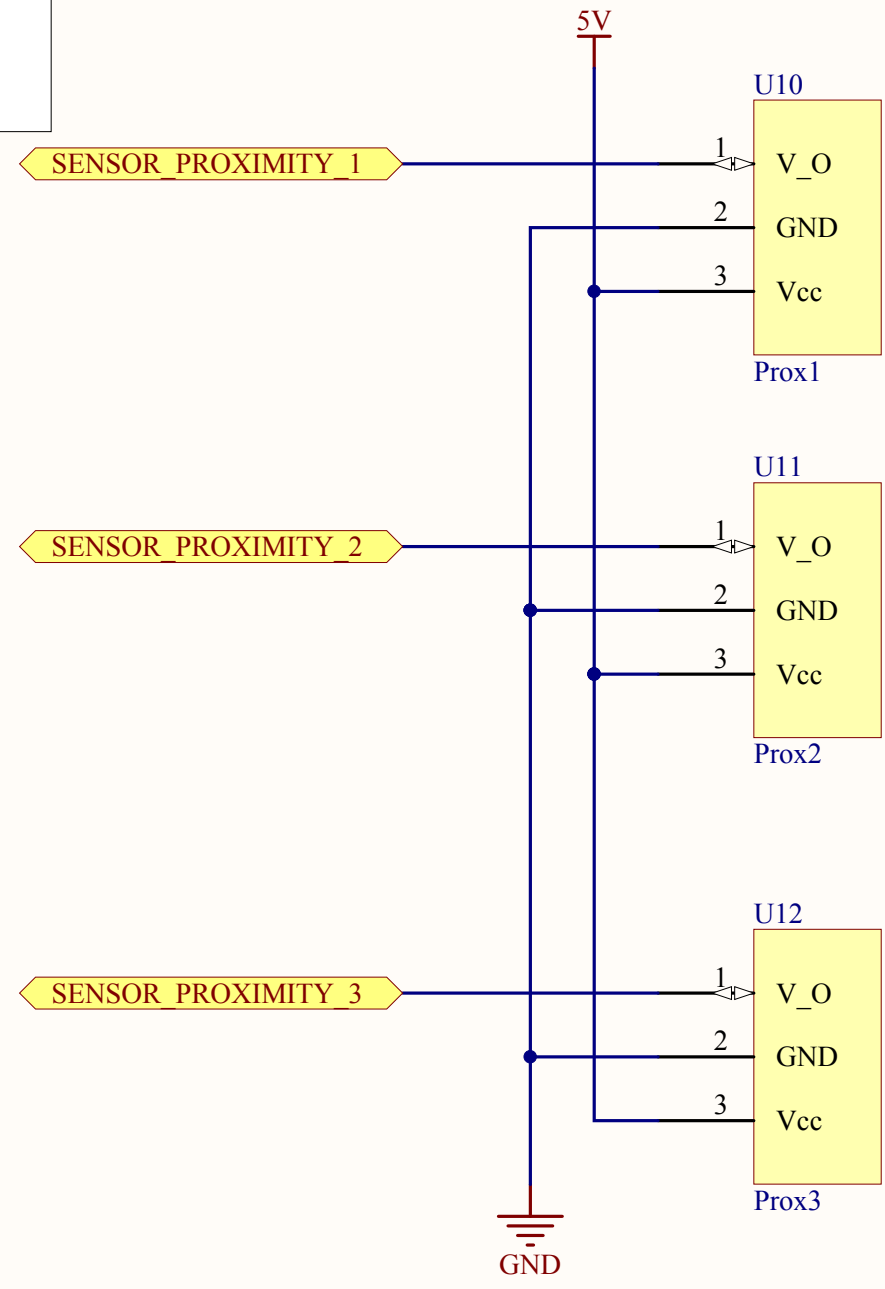


Title		
Project_RobonAUT2015_CenterPanel.PrjPCB		
Size	Number	Revision
A4		v1
Date:	2014.10.28.	Sheet of
File:	D:\Minden\..\Sheet PowerSteering.SchDoc	Drawn By: Vizi Gábor

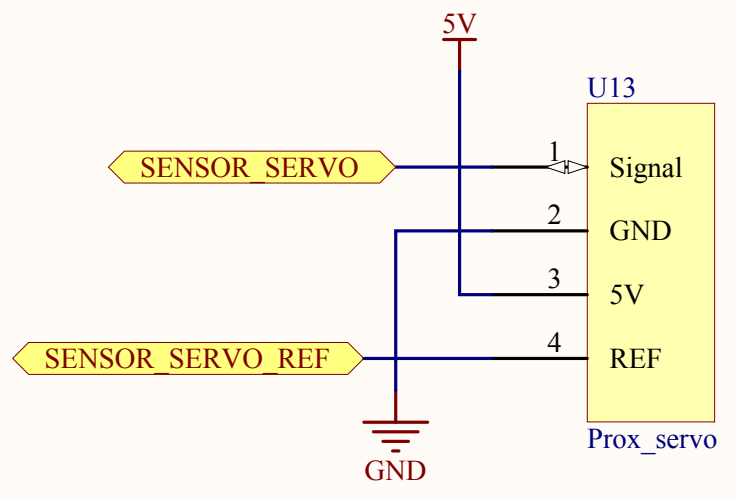
Sensors - Proximity

- 1 db SHARP GP2Y0A02YK0F infravörös analóg távolságszenzor 20–150cm-es méréstartománnyal
- 2 db SHARP GP2Y0A41SK0F infravörös analóg távolságszenzor 4–30cm-es méréstartománnyal
- Ping ultrahangos szenzor
- forogató szervó

Infra szenzorok



Ping))) ultrahangos távolságérzékelő szenzor (opcionális)

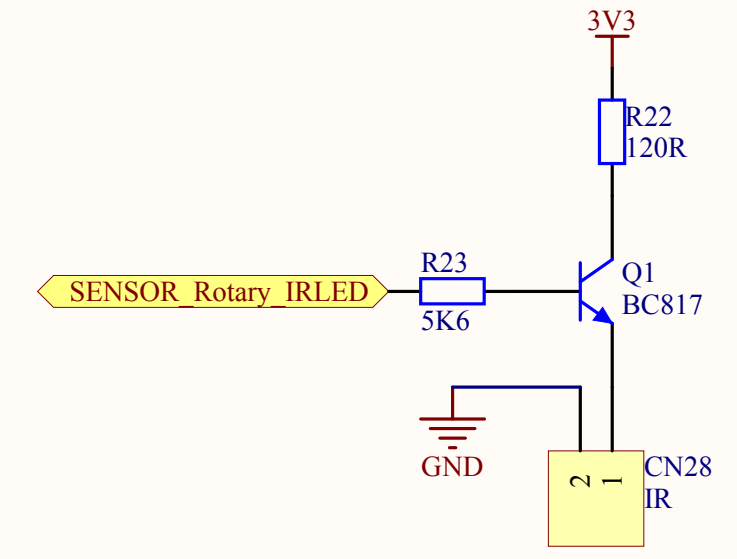
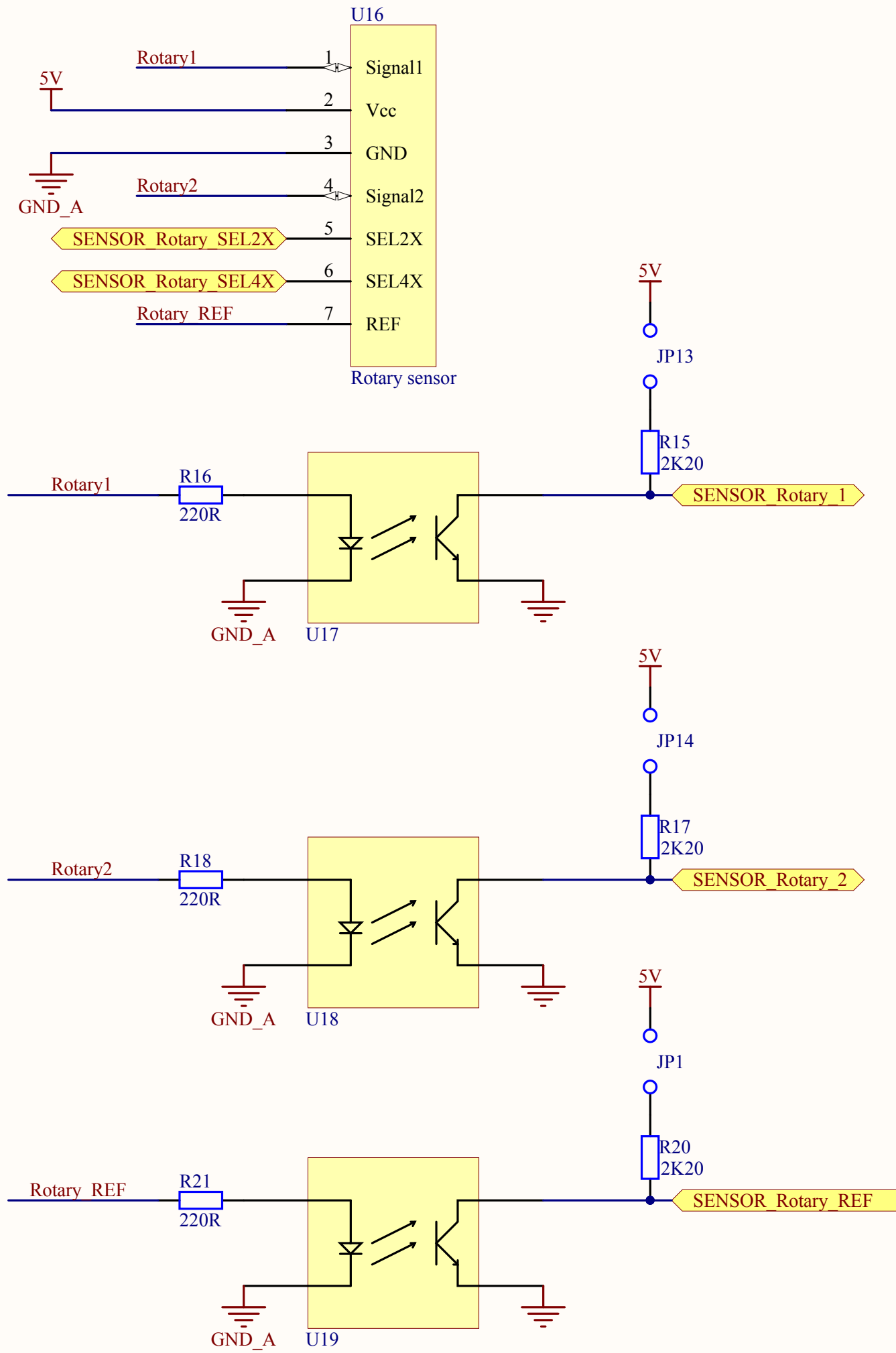


Szervó a kocsni elején levő szenzorhoz (forogatásához)

Title			
Project_RobonAUT2015_CenterPanel.PrjPCB			
Size	Number	Revision	
A4		v1	
Date:	2014.10.28.	Sheet of	Sensors - Proximity
File:	D:\Minden\...\Sheet Sensors Proximity.SchDoc	Drawn By:	Vizi Gábor

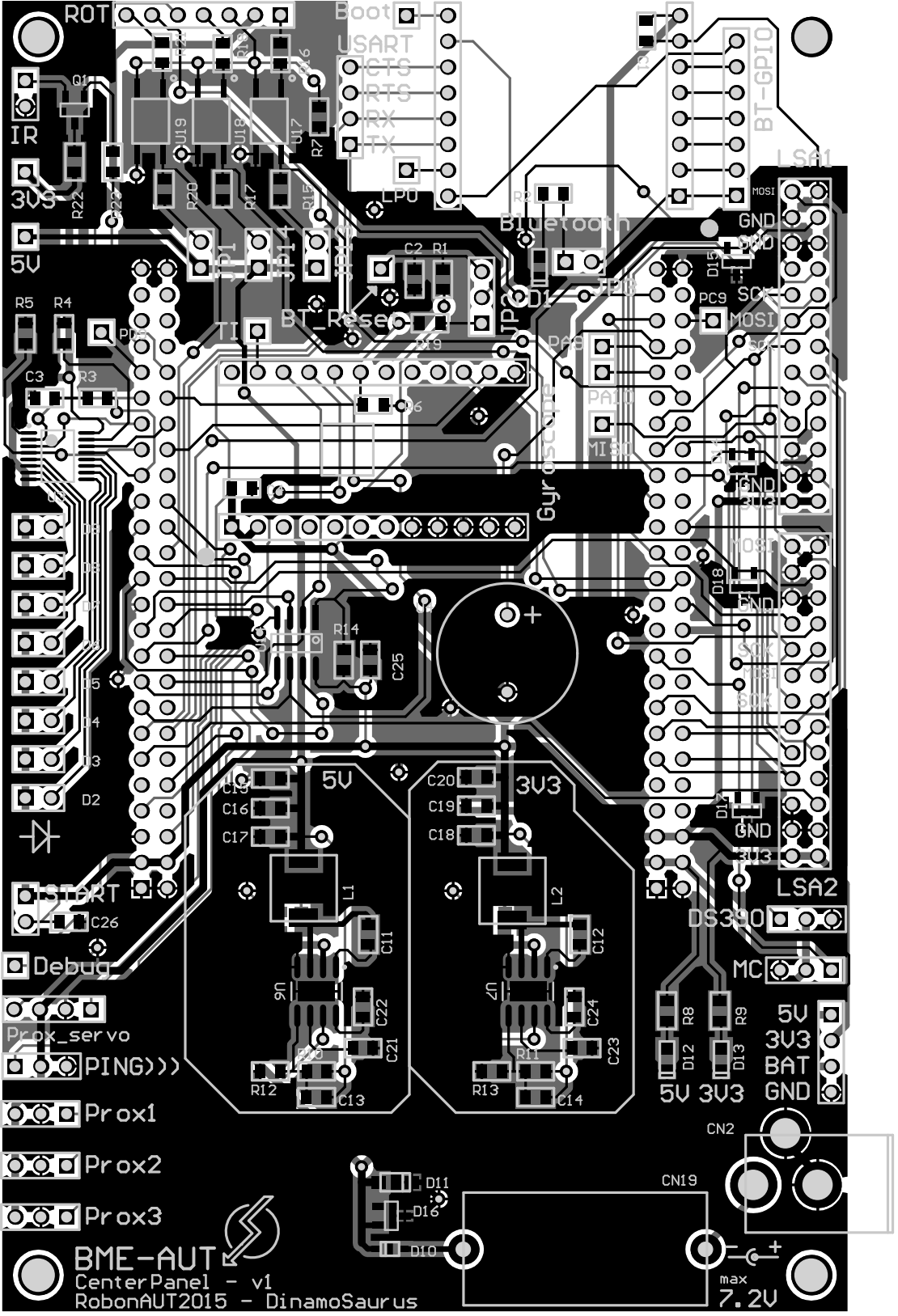
Sensors - Rotary

Fordulatszámérzékelésre



Infra LED (opc.)

Title			Project_RobonAUT2015_CenterPanel.PrjPCB		
Size	Number	Revision		v1	
A4					
Date:	2014.10.28.	Sheet of	Sensors - Rotary		
File:	D:\Minden\...\Sheet Sensors Rotary.SchDoc	Drawn By:	Vizi Gábor		



R01

IR

3V3

5V

R5 R4

C3 R3

D2

5

4

3

START

Debug

Prox_servo

PING)))

Prox1

Prox2

Prox3

BME-AUT

CenterPanel - v1

RobonAUT2015 - DinamoSaurus

Boot
USART
CTS
RTS
RX
TX

Bluetooth

BT-Reset

Gyro

BT-GPIO

MOSI

GND

PC9

MOSI

GND

DS390

GND

DS390

GND

DS390

GND

DS390

GND

DS390

GND

DS390

GND

LSA2

DS390

MC

5V

3V3

BAT

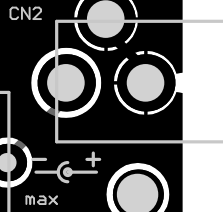
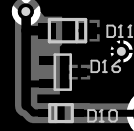
GND

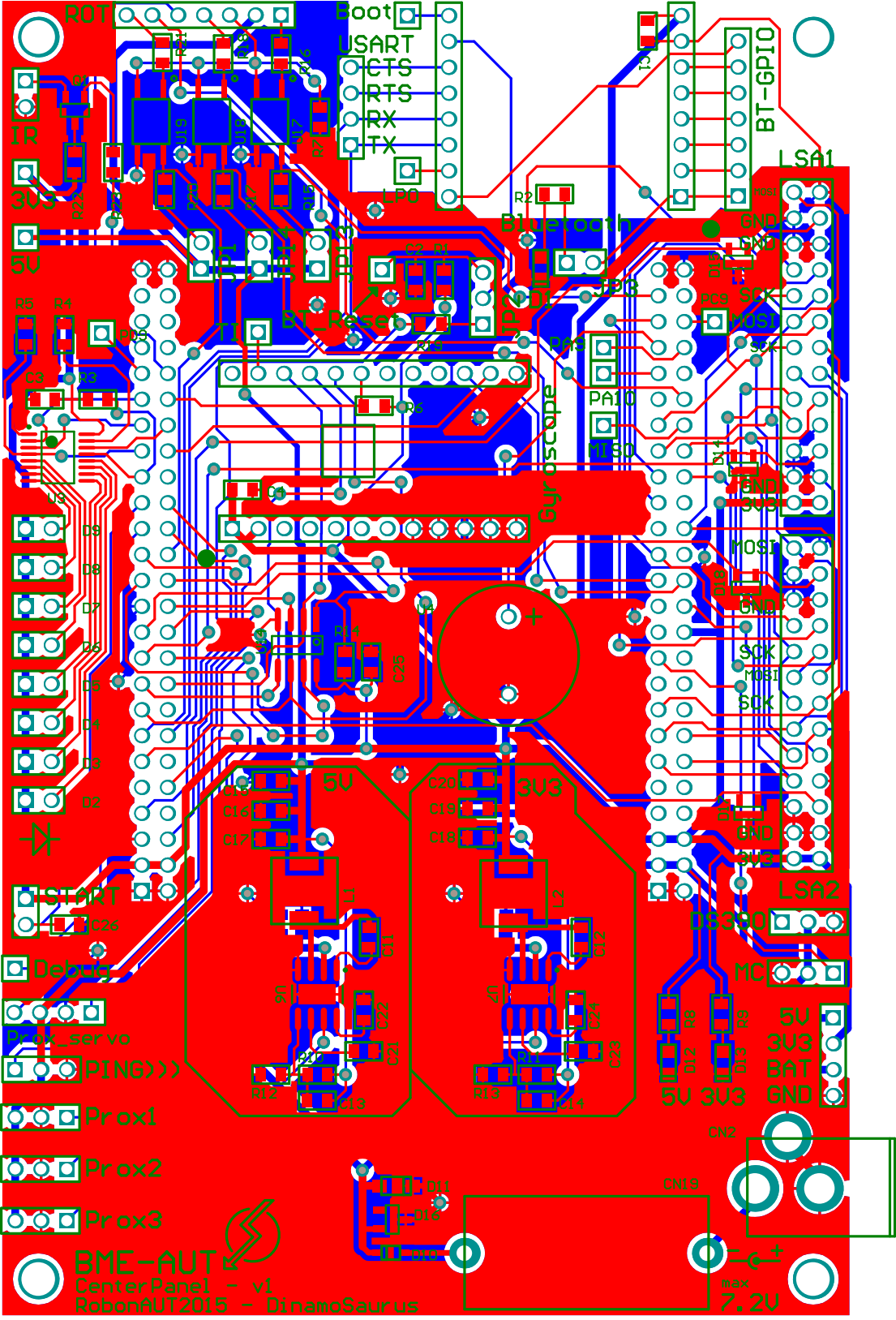
5V

3V3

GND

max 7.2V





BME-AUT
Center Panel - v1
RobonAUT2015 - DinamoSaurus

max
7.2V

