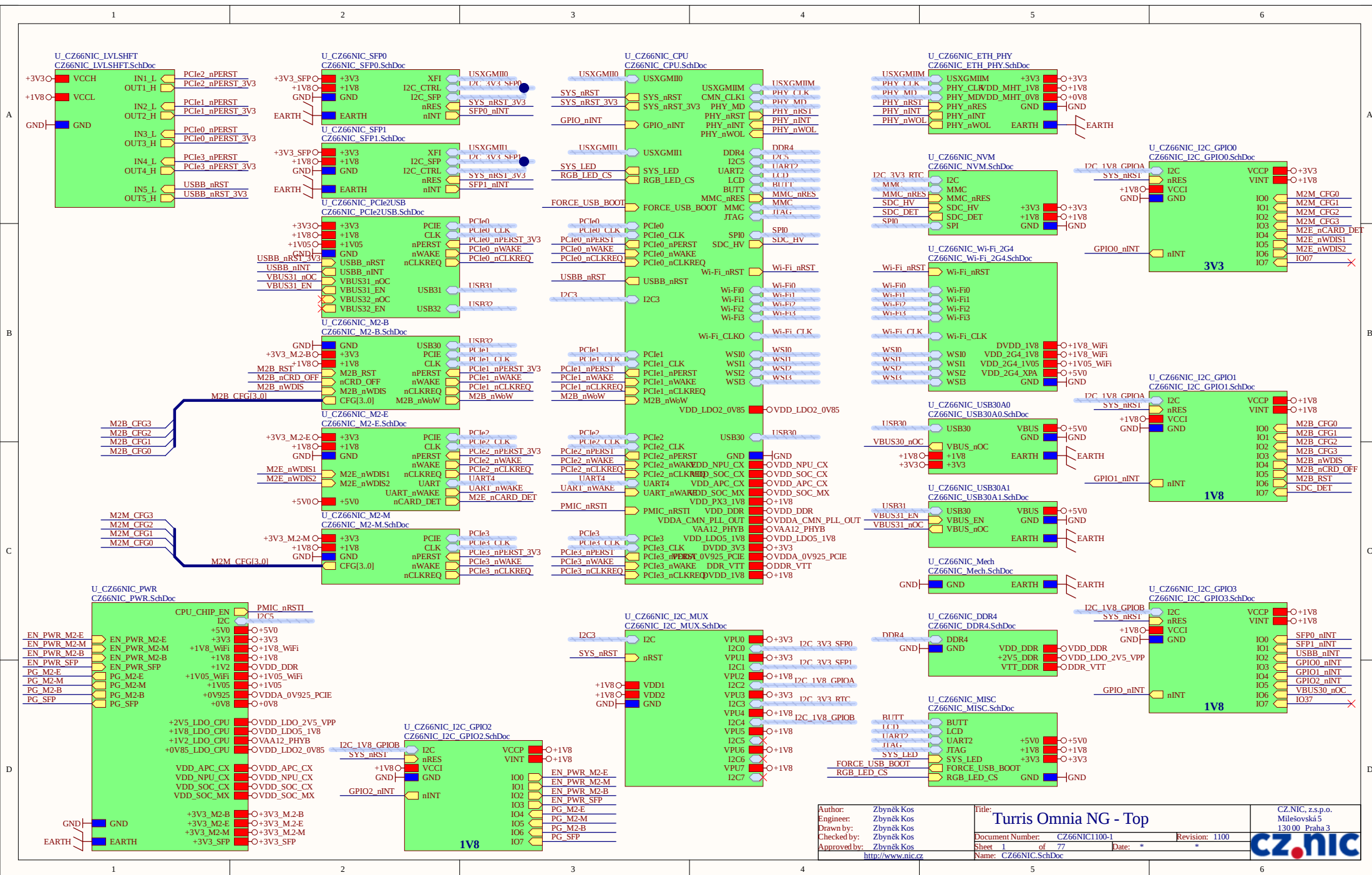
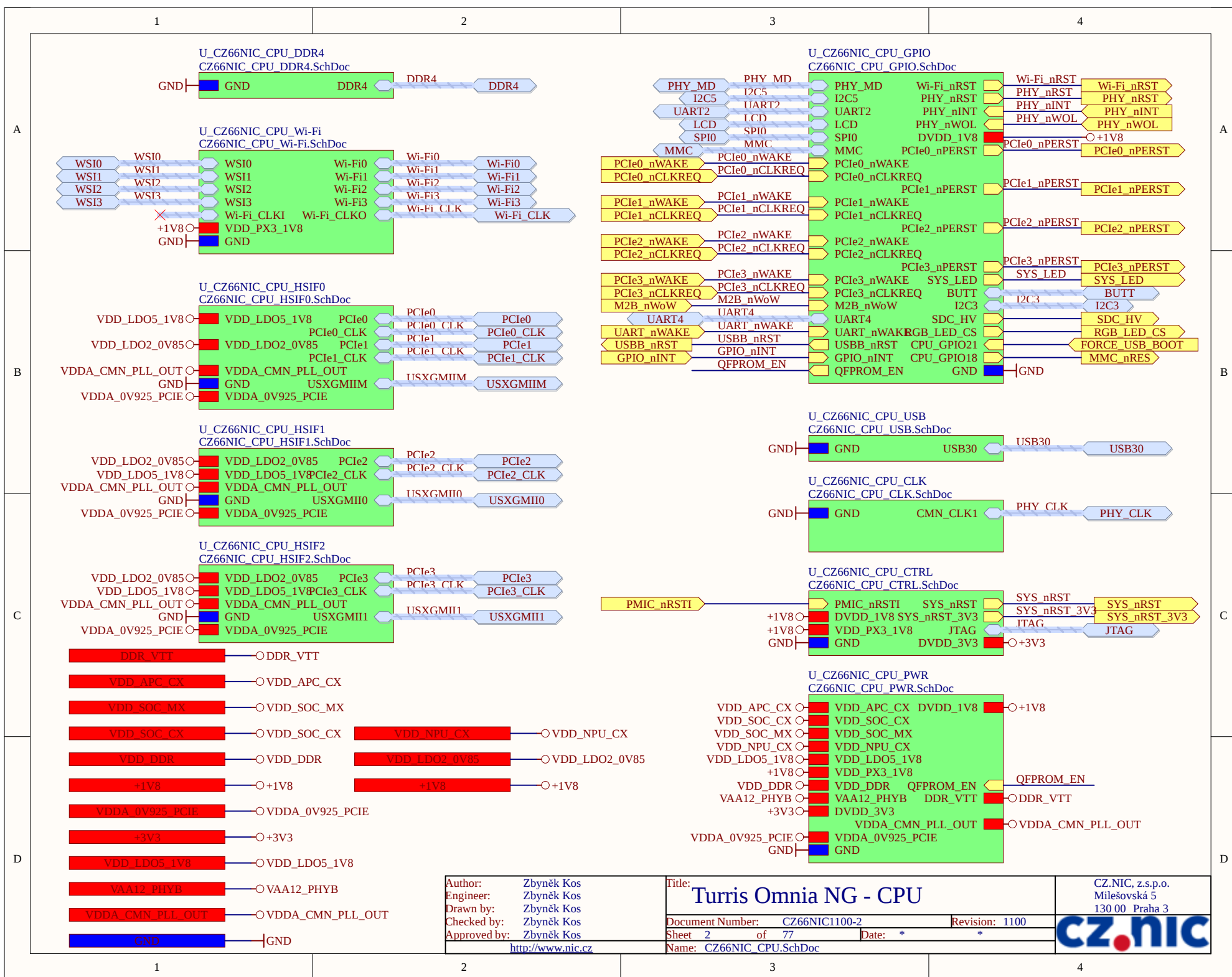
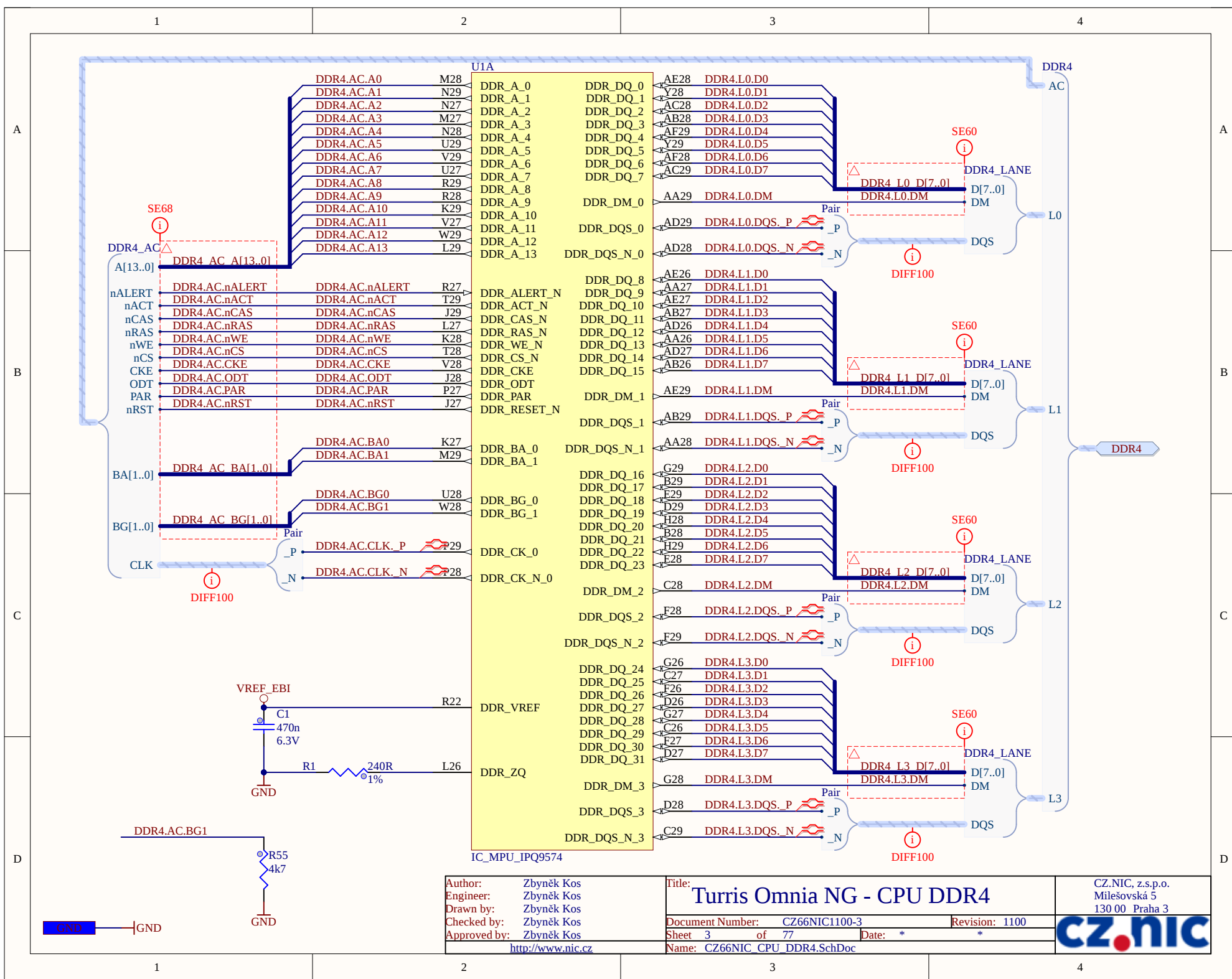
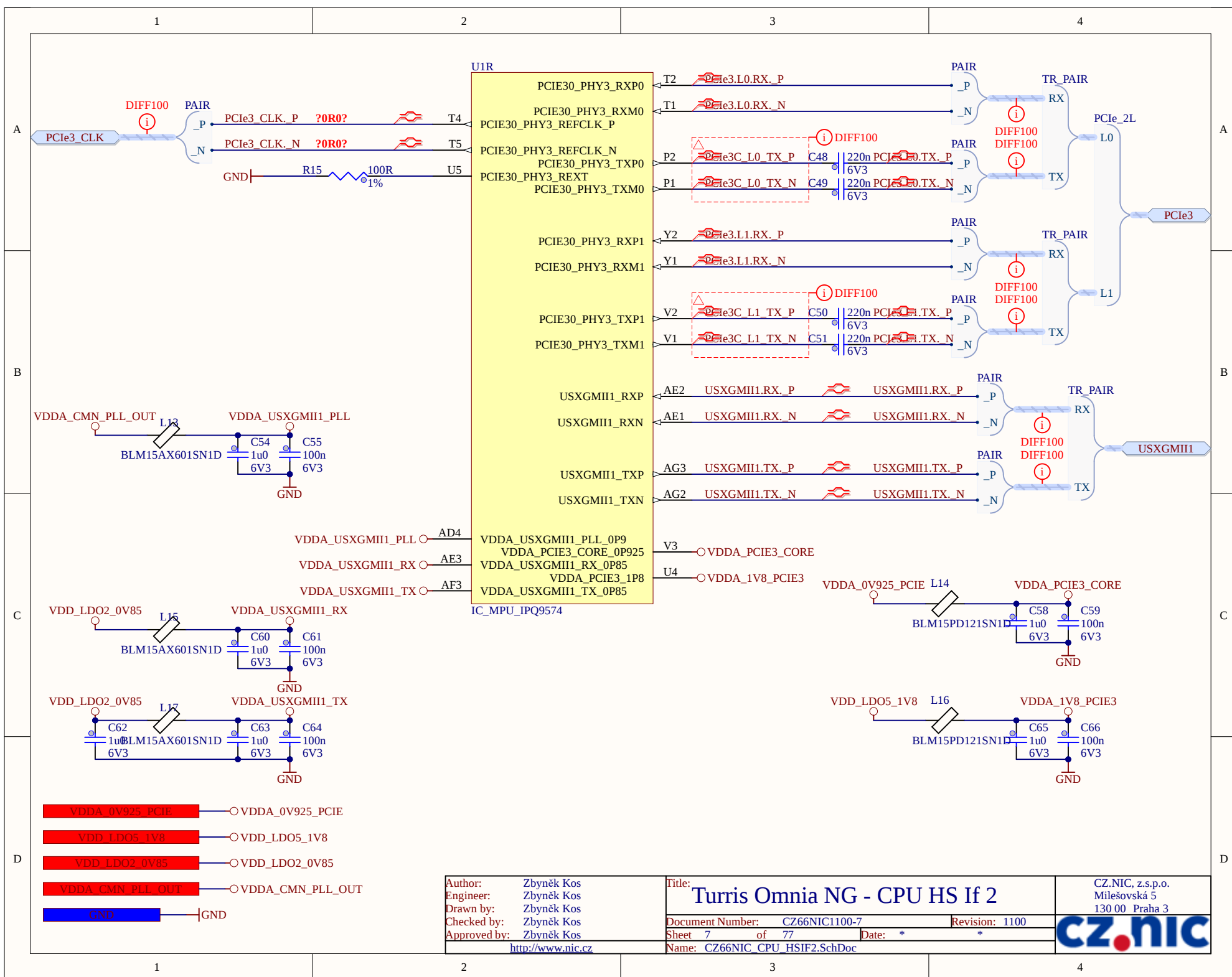


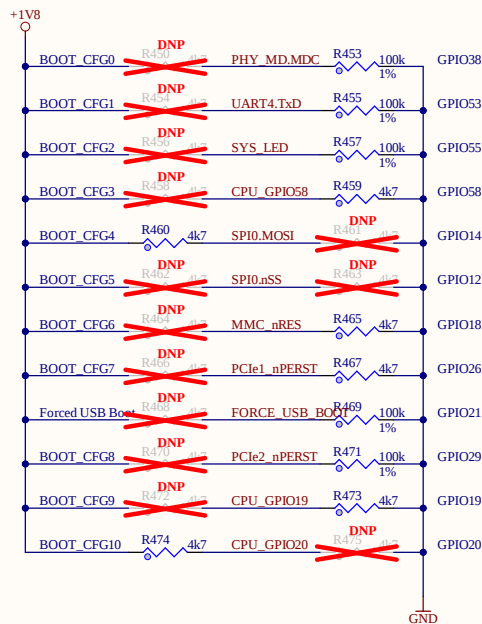




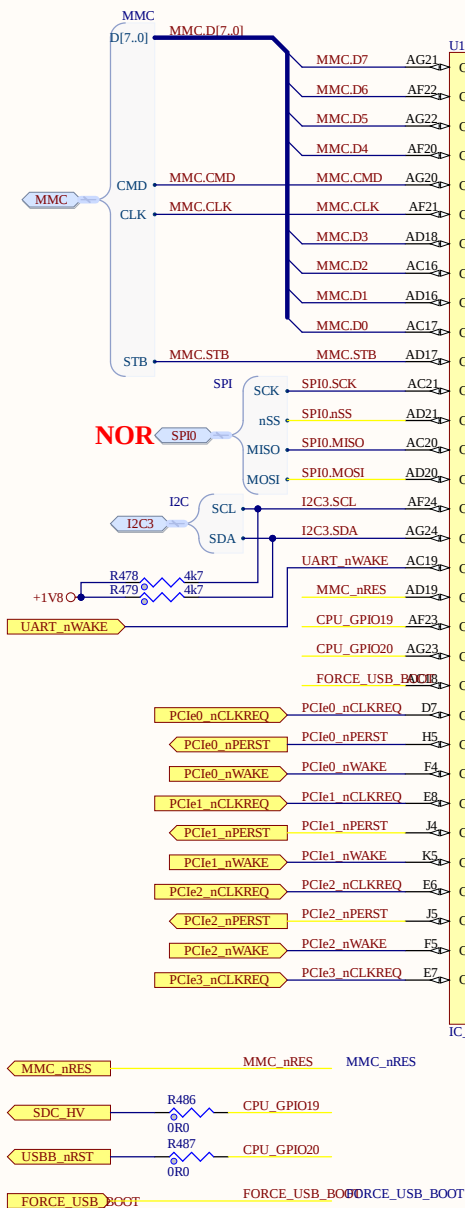




Boot CFG

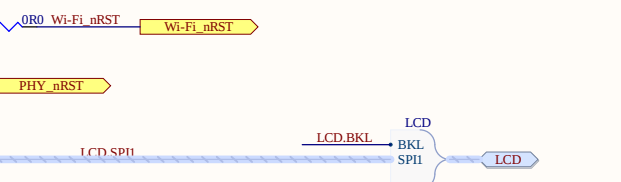
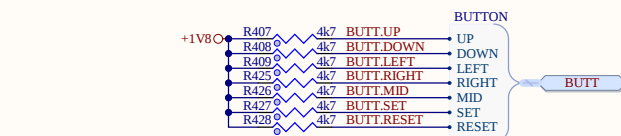
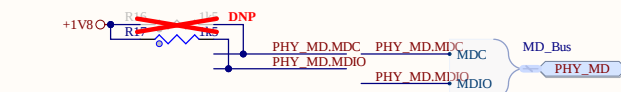


Resistors???



GPIO #	TLMM Boot Configure Name	Description	Default value
38	Boot_Config[0]	Auth enable: 0: no auth (Default) 1: auth is required	pull down
53	Boot_Config[1]	Fast boot (boot interface select): 0: SPI-NOR (Default) 1: eMMC 2: QSPI(4bit) 3: USB2.0	pull down
55	Boot_Config[2]	Hash in fuse (SW use only) 0: PK hash is stored in boot ROM (Default) 1: PK hash is stored in OTP	pull down
58	Boot_Config[3]	Boot from ROM: 0: boot from code ram 1: boot from rom (Default)	pull up
14	Boot_Config[4]	Boot ROM boot speed: 00: Uniphy CMN Clock - 24Mhz (Default) 01: GPLLO- 200Mhz 10: GPLLO- 400Mhz 11: GPLLO- 800Mhz	pull down
18	Boot_Config[6]	PK Hash source index: (no use from Hawkeye) 0: From QC efuse (Default) 1: From OEM efuse	pull down
26	boot_config[7]	0: Not force boot from USB (Default) 1: force boot from USB	pull down
21	forced_usb_boot	watchdog_enable 0: watchdog enable (Default) 1: watchdog disable	pull down
29	boot_config[8]	Use Serial Num: 0: Use Serial Num (Default) 1: Use OEM ID	pull down
19	boot_config[9]	Board Type 0: AL01 (DDR3) (Default) 1: AL02 (DDR4)	pull up
20	boot_config[10]		

Console

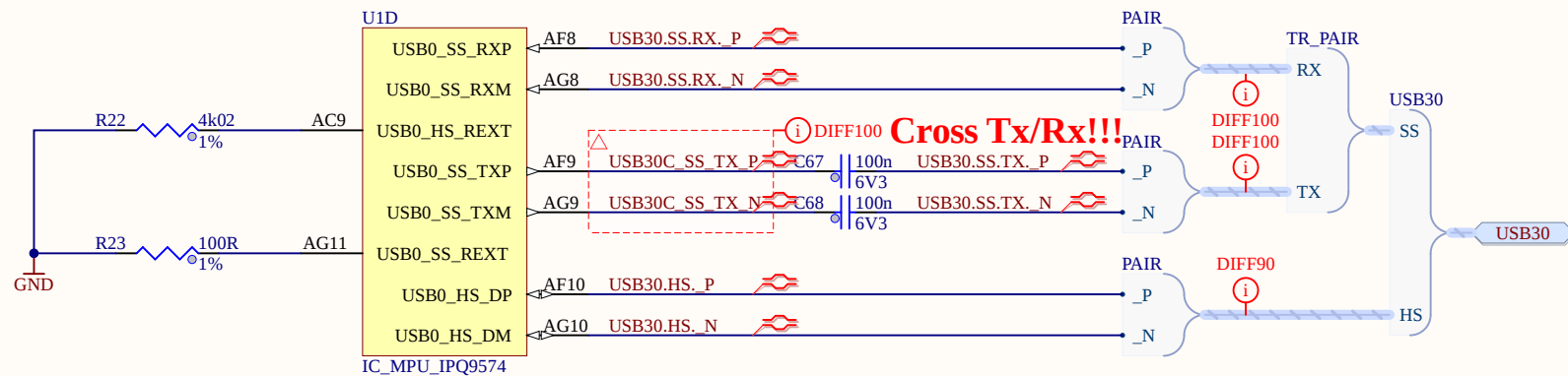


Display



Author:	Zbyněk Kos	Title:	Turris Omnia NG - CPU GPIOs	CZ.NIC, z.s.p.o. Milešovská 5 130 00 - Praha 3
Engineer:	Zbyněk Kos	Document Number:	CZ66NIC1100-8	Revision: 1100
Drawn by:	Zbyněk Kos	Sheet 8 of 77	Date: *	
Checked by:	Zbyněk Kos	Name:	CZ66NIC_CPU_GPIO_SchDoc	
Approved by:	Zbyněk Kos			
	http://www.nic.cz			





GND

Author: Zbyněk Kos
 Engineer: Zbyněk Kos
 Drawn by: Zbyněk Kos
 Checked by: Zbyněk Kos
 Approved by: Zbyněk Kos

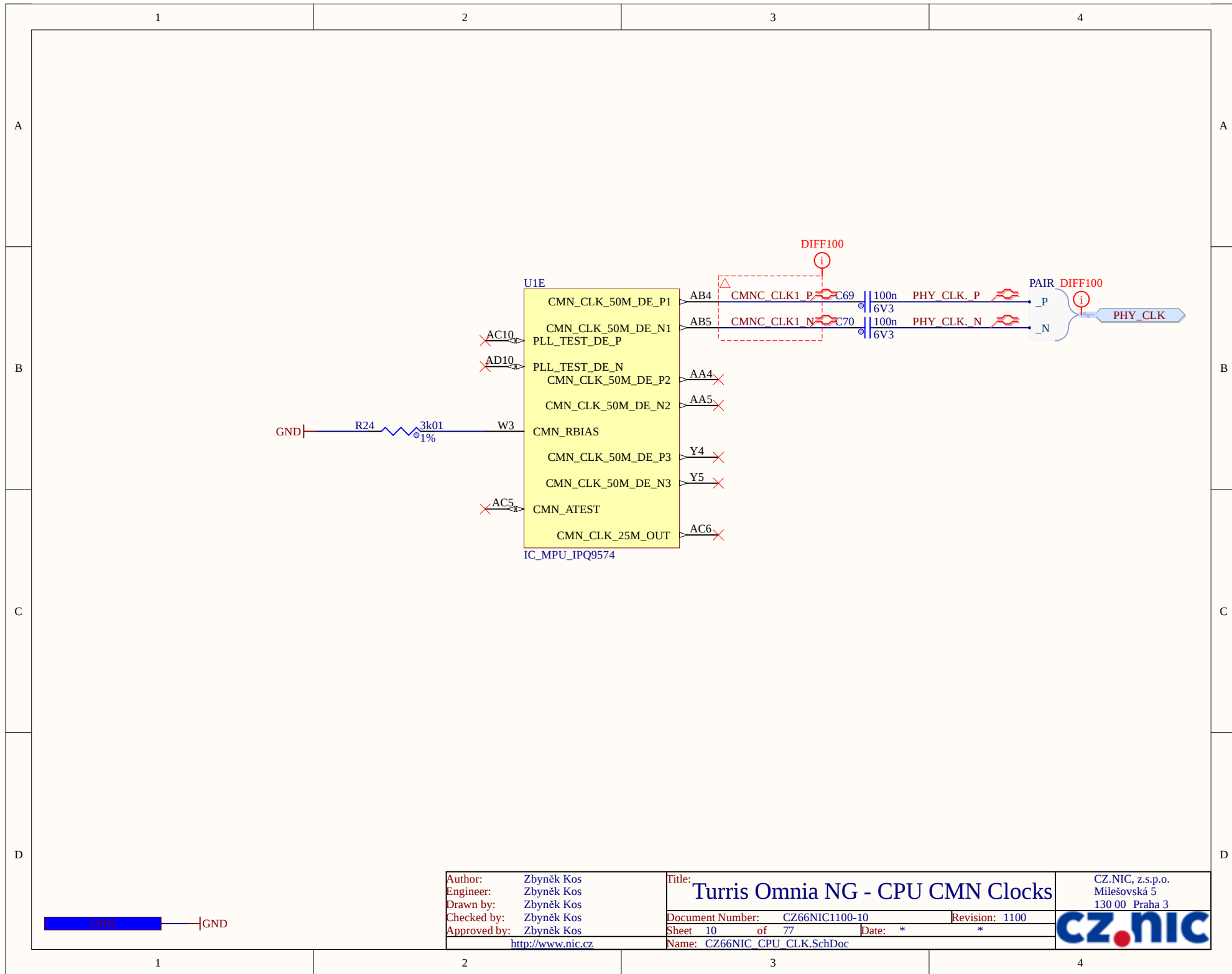
<http://www.nic.cz>

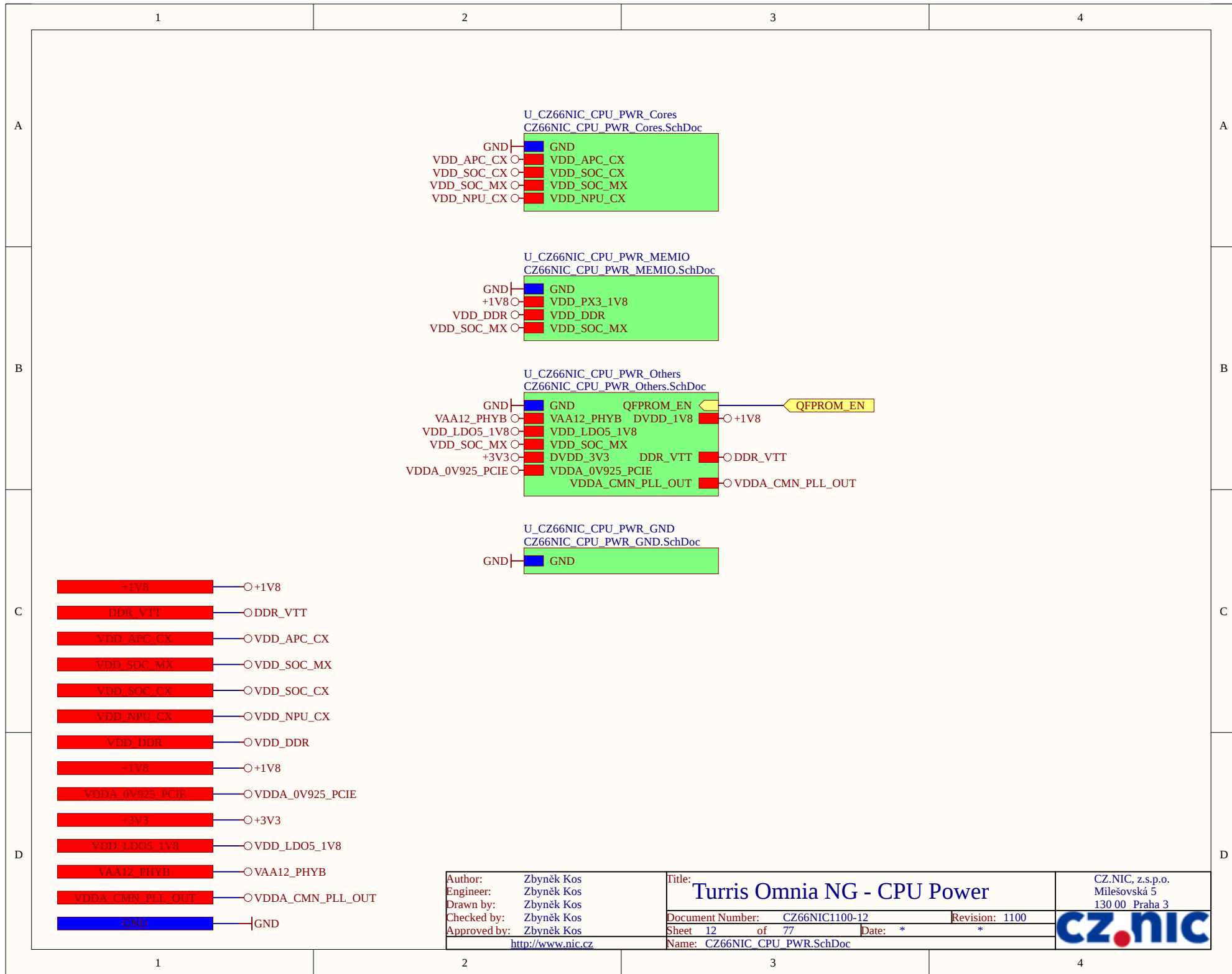
Title: **Turris Omnia NG - CPU USB**

Document Number: CZ66NIC1100-9 Revision: 1100
 Sheet 9 of 77 Date: * *
 Name: CZ66NIC_CPU_USB.SchDoc

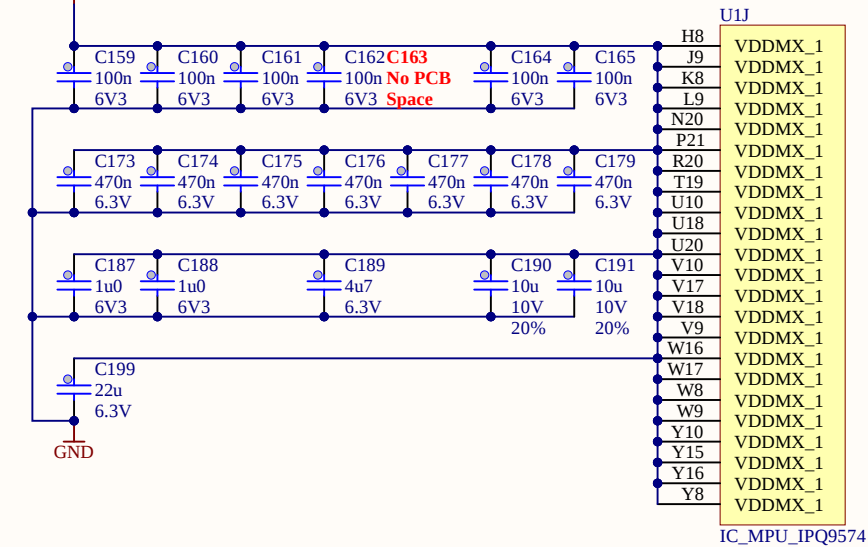
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 130 00 Praha 3



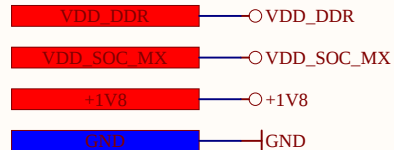
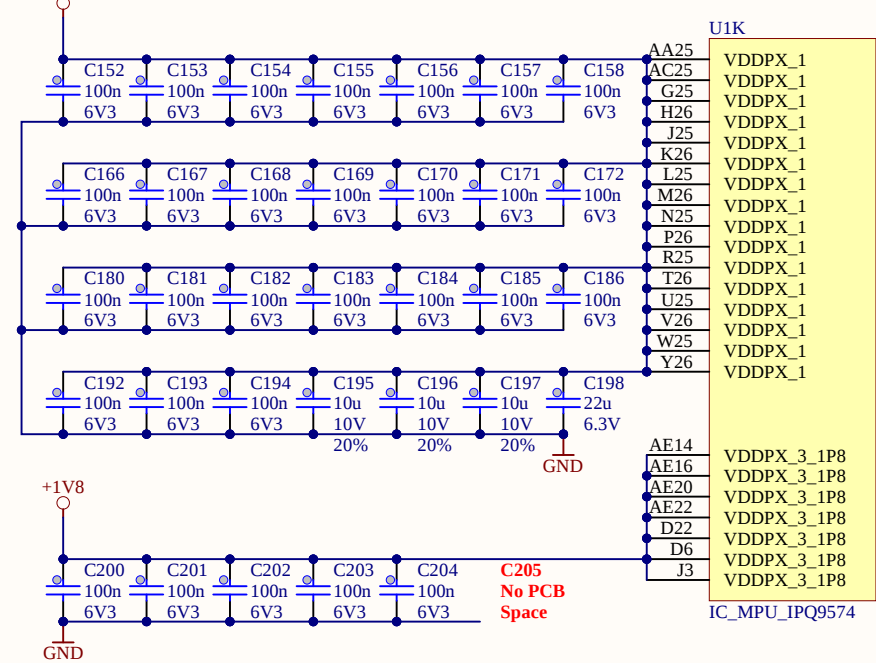




VDD_SOC_MX Combined with part I



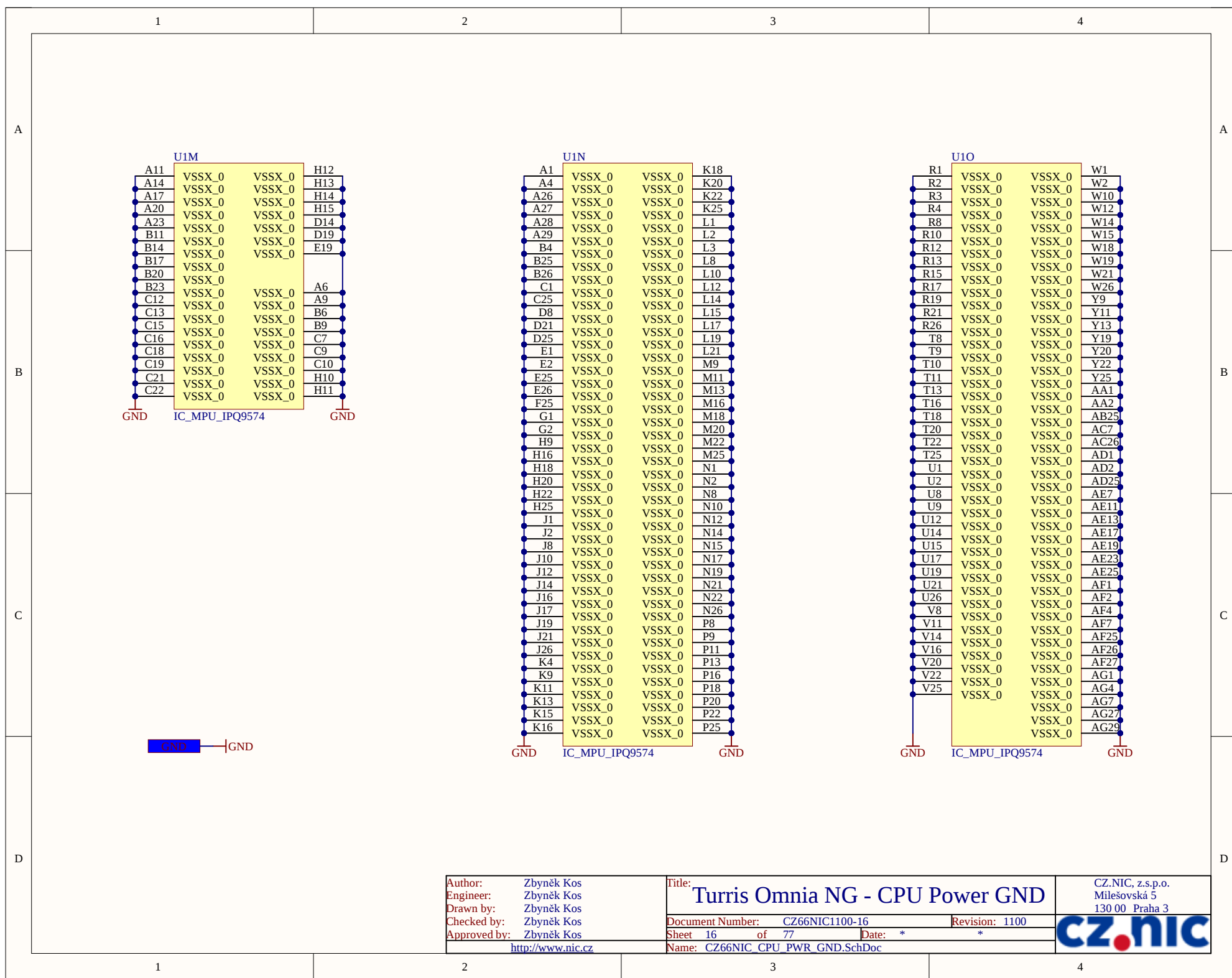
VDD_DDR



Author: Zbyněk Kos
Engineer: Zbyněk Kos
Drawn by: Zbyněk Kos
Checked by: Zbyněk Kos
Approved by: Zbyněk Kos
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Title: Turris Omnia NG - CPU Mem & I/Os
Document Number: CZ66NIC1100-14
Sheet 14 of 77
Date: * *
Name: CZ66NIC_CPU_PWR_MEMIO.SchDoc

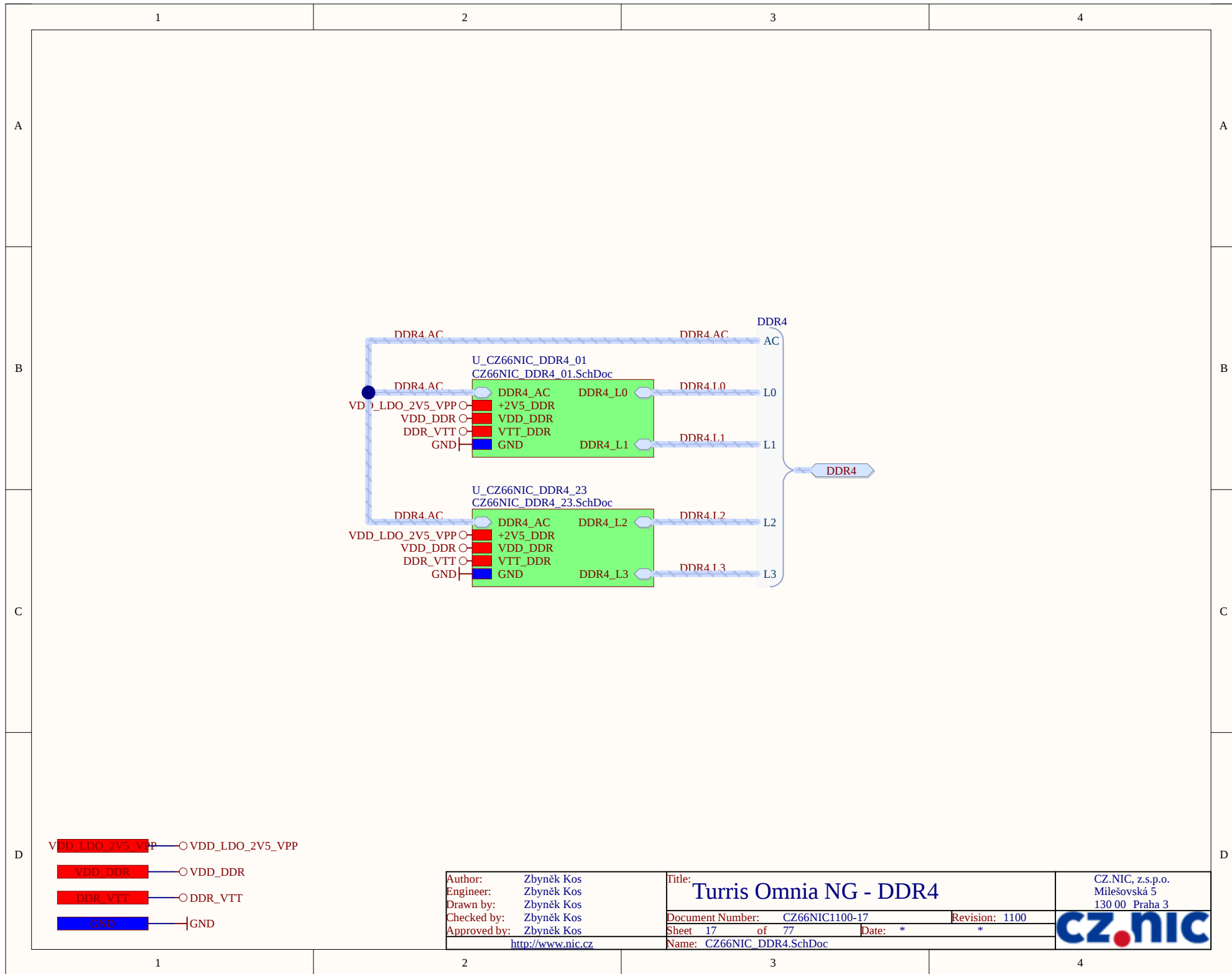
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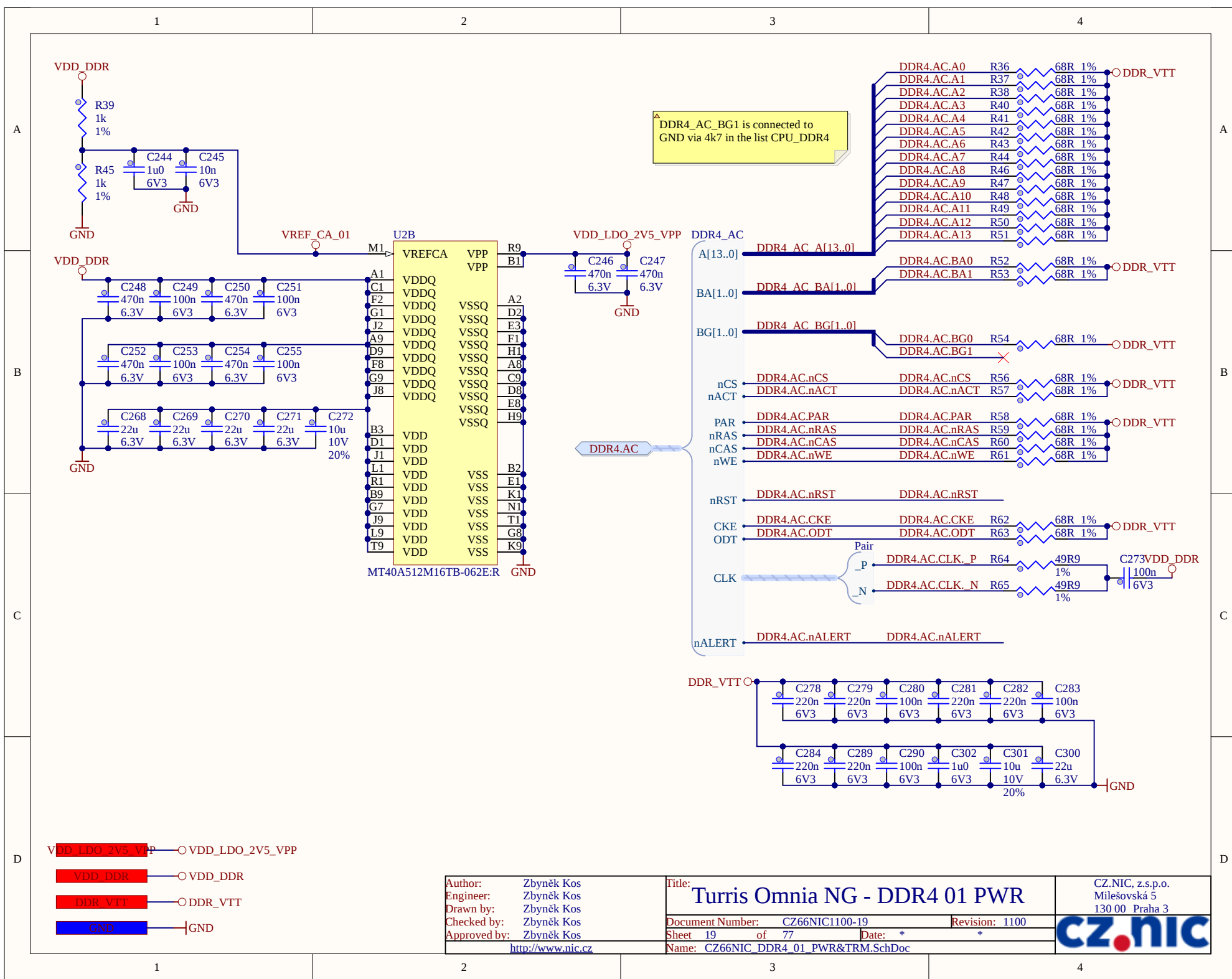


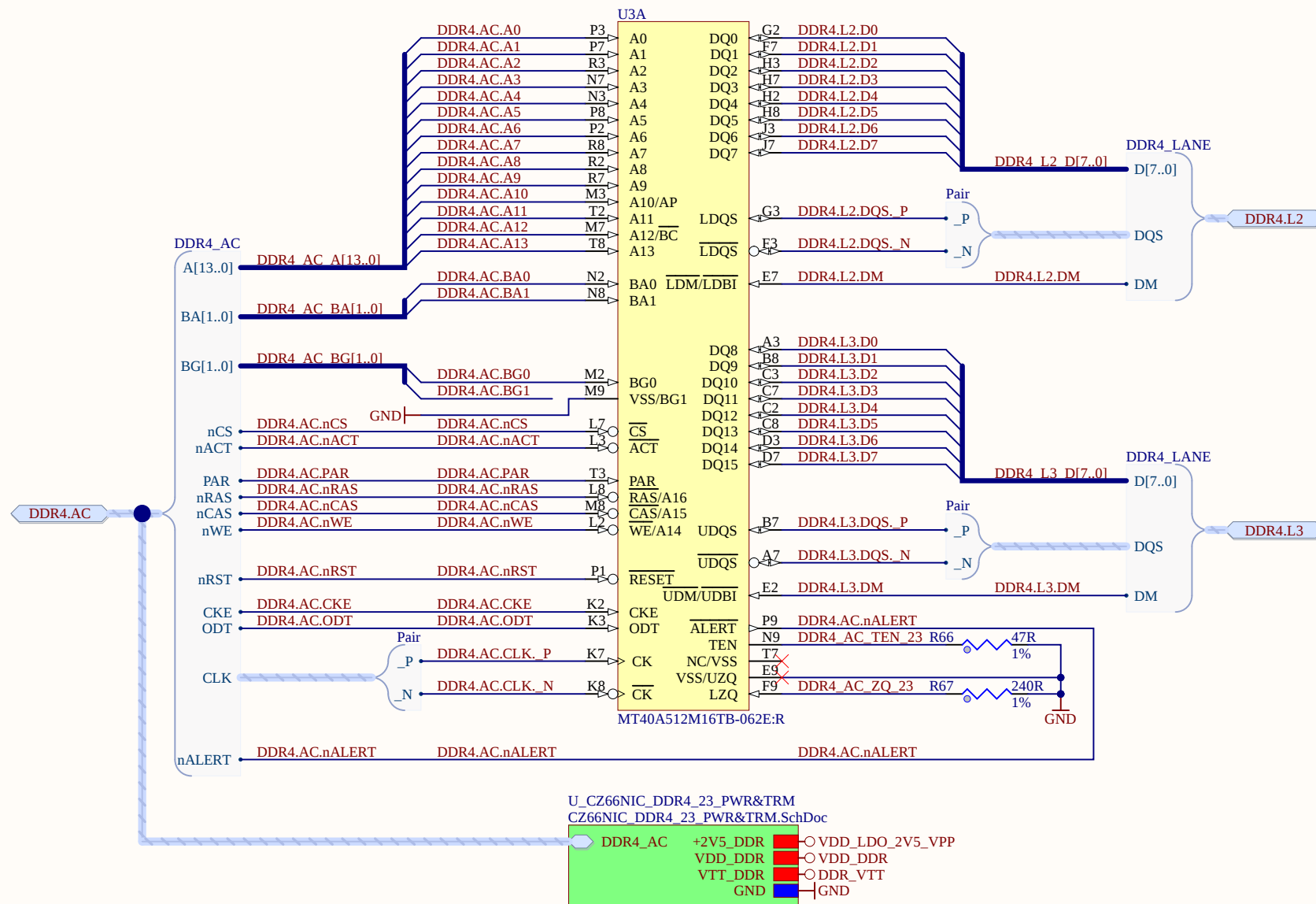
Author: Zbyněk Kos
Engineer: Zbyněk Kos
Drawn by: Zbyněk Kos
Checked by: Zbyněk Kos
Approved by: Zbyněk Kos
<http://www.nic.cz>

Title: **Turris Omnia NG - CPU Power GND**
Document Number: CZ66NIC1100-16 Revision: 1100
Sheet 16 of 77 Date: * *
Name: CZ66NIC_CPU_PWR_GND.SchDoc

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VDD_LDO_2V5_VPP VDD_LDO_2V5_VPP

VDD_DDR VDD_DDR

DDR_VTT DDR_VTT

GND GND

Author: Zbyněk Kos
Engineer: Zbyněk Kos
Drawn by: Zbyněk Kos
Checked by: Zbyněk Kos
Approved by: Zbyněk Kos
<http://www.nic.cz>

Title: Turris Omnia NG - DDR4 23

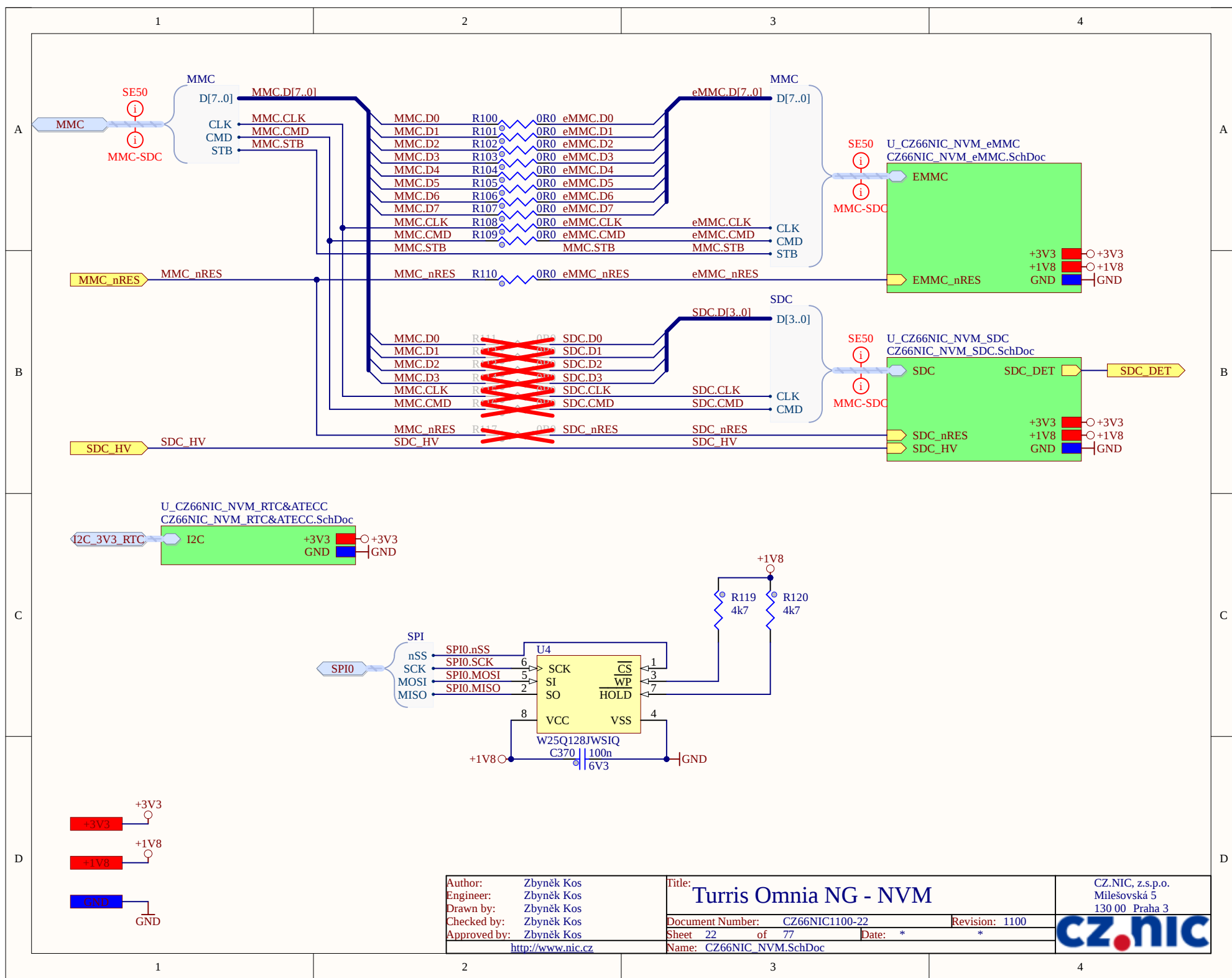
Document Number: CZ66NIC1100-20 Revision: 1100

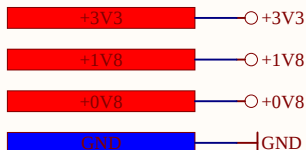
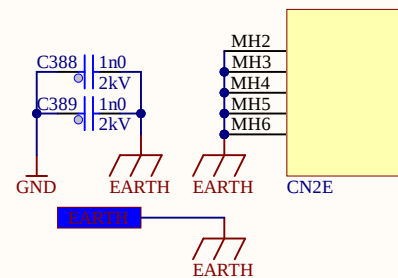
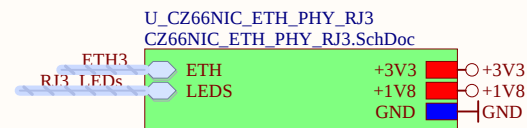
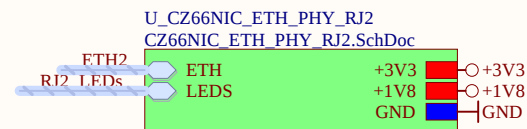
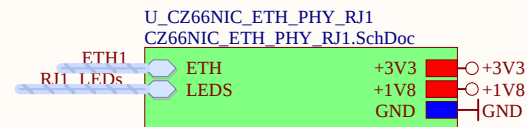
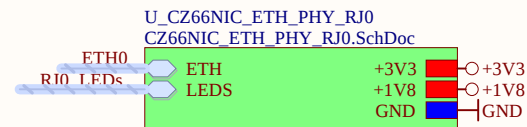
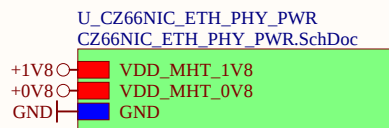
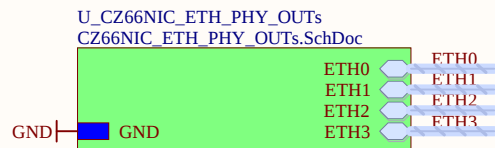
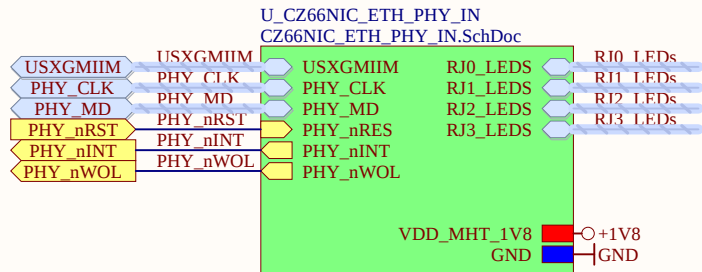
Sheet 20 of 77 Date: * *

Name: CZ66NIC_DDR4_23.SchDoc

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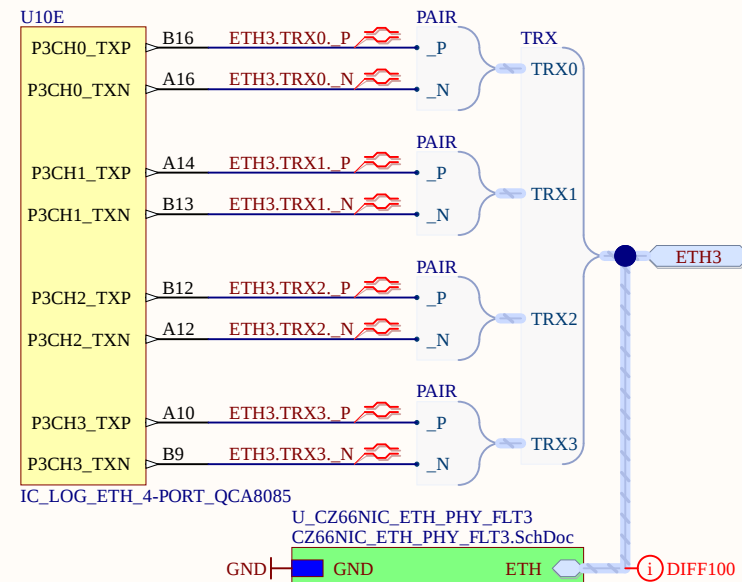
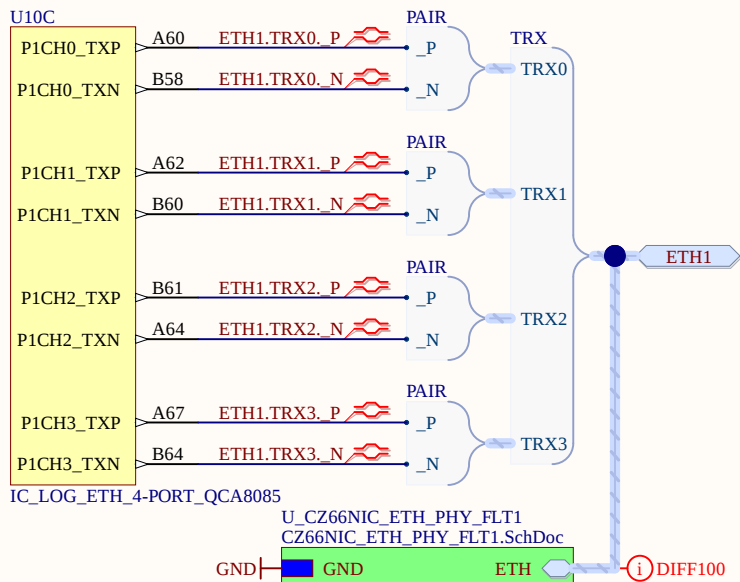
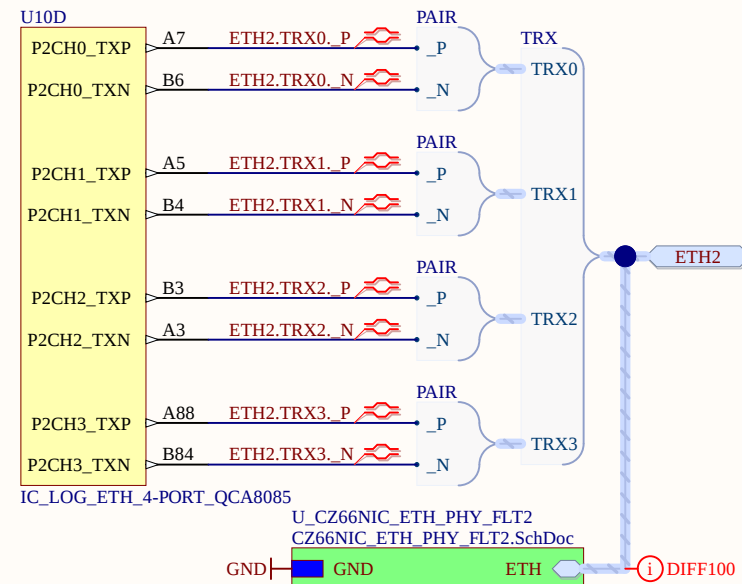
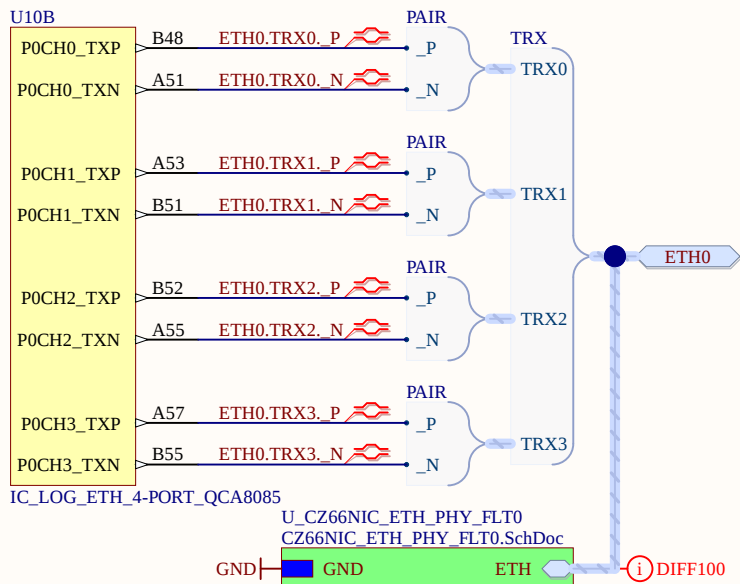
Author: Zbyněk Kos
Engineer: Zbyněk Kos
Drawn by: Zbyněk Kos
Checked by: Zbyněk Kos
Approved by: Zbyněk Kos
<http://www.nic.cz>

Title: **Turris Omnia NG - ETH PHY**
Document Number: CZ66NIC1100-26
Sheet 26 of 77
Name: CZ66NIC_ETH_PHY.SchDoc

Revision: 1100
Date: * *

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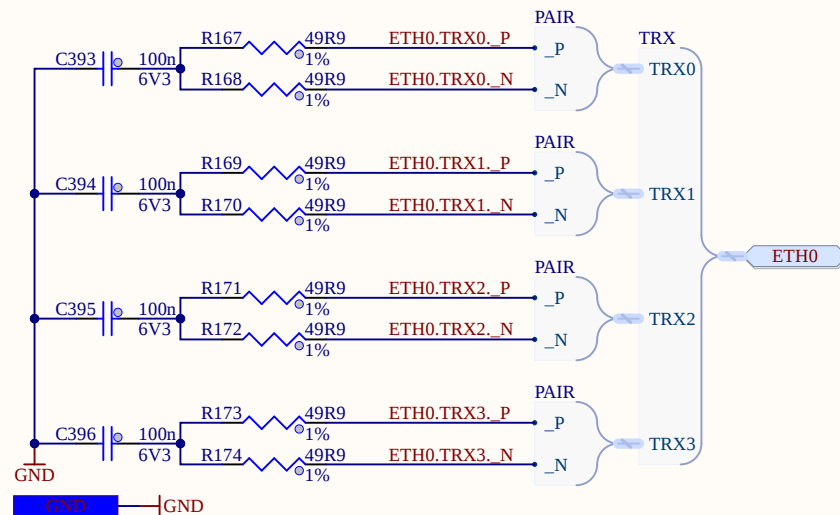
GND GND

Author: Zbyněk Kos
Engineer: Zbyněk Kos
Drawn by: Zbyněk Kos
Checked by: Zbyněk Kos
Approved by: Zbyněk Kos
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Title: **Turris Omnia NG - ETH PHY Outs**
Document Number: CZ66NIC1100-28
Sheet 28 of 77
Name: CZ66NIC_ETH_PHY_OUTS.SchDoc

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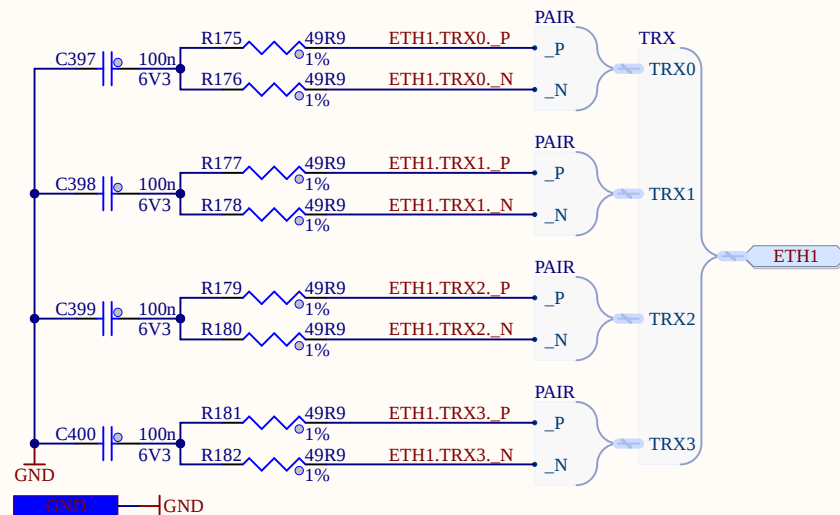


Author: Zbyněk Kos
 Engineer: Zbyněk Kos
 Drawn by: Zbyněk Kos
 Checked by: Zbyněk Kos
 Approved by: Zbyněk Kos
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Title: **Turris Omnia NG - ETH PHY Filter 0**
 Document Number: CZ66NIC1100-29 Revision: 1100
 Sheet 29 of 77 Date: * *
 Name: CZ66NIC_ETH_PHY_FLT0.SchDoc

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Author: Zbyněk Kos
 Engineer: Zbyněk Kos
 Drawn by: Zbyněk Kos
 Checked by: Zbyněk Kos
 Approved by: Zbyněk Kos

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Title: **Turris Omnia NG - ETH PHY Filter 1**

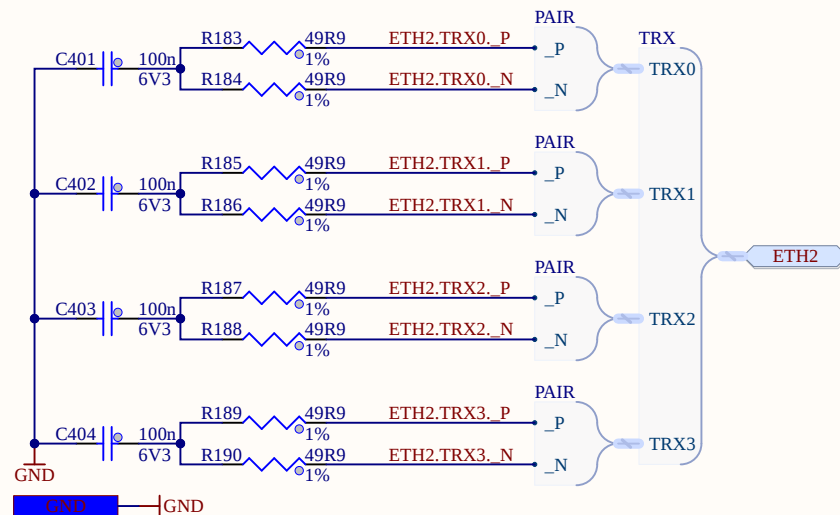
Document Number: CZ66NIC1100-30 Revision: 1100

Sheet 30 of 77 Date: * *

Name: CZ66NIC_ETH_PHY_FLT1.SchDoc

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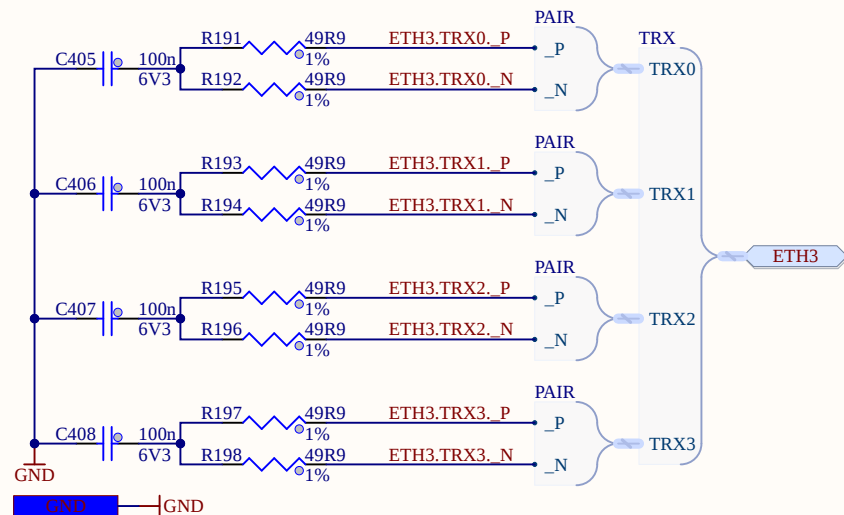


Author: Zbyněk Kos
 Engineer: Zbyněk Kos
 Drawn by: Zbyněk Kos
 Checked by: Zbyněk Kos
 Approved by: Zbyněk Kos
<http://www.nic.cz>

Title: **Turris Omnia NG - ETH PHY Filter 2**
 Document Number: CZ66NIC1100-31 Revision: 1100
 Sheet 31 of 77 Date: * *
 Name: CZ66NIC_ETH_PHY_FLT2.SchDoc

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Author: Zbyněk Kos
 Engineer: Zbyněk Kos
 Drawn by: Zbyněk Kos
 Checked by: Zbyněk Kos
 Approved by: Zbyněk Kos

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Title: **Turris Omnia NG - ETH PHY Filter 3**

Document Number: CZ66NIC1100-32 Revision: 1100

Sheet 32 of 77 Date: * *

Name: CZ66NIC_ETH_PHY_FLT3.SchDoc

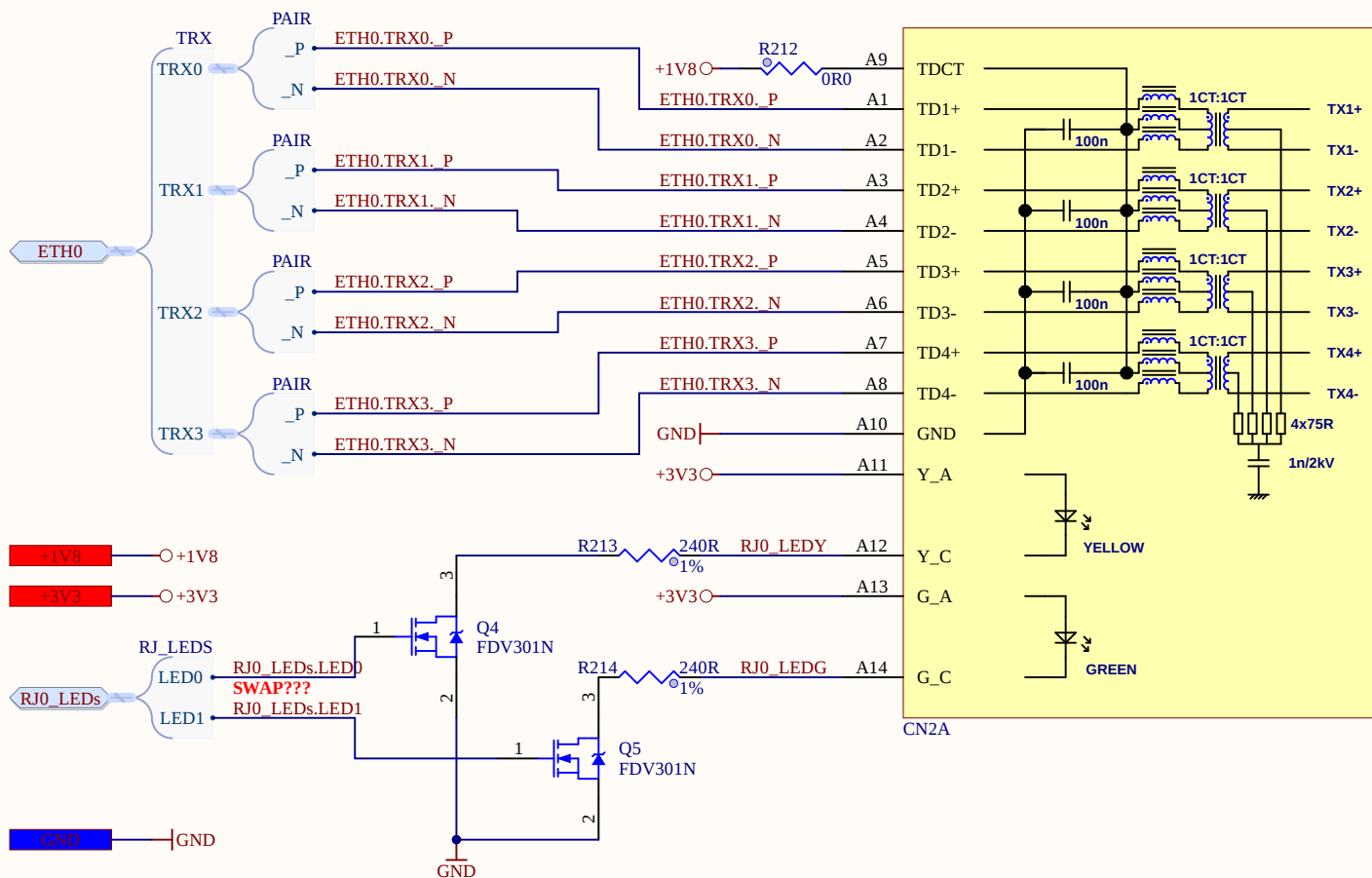
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Document Number:	CZ66NIC1100-33	Revision:	1100
Sheet	33	of	77
Date:	*		*
Name:	CZ66NIC_ETH_PHY_PWR.SchDoc		

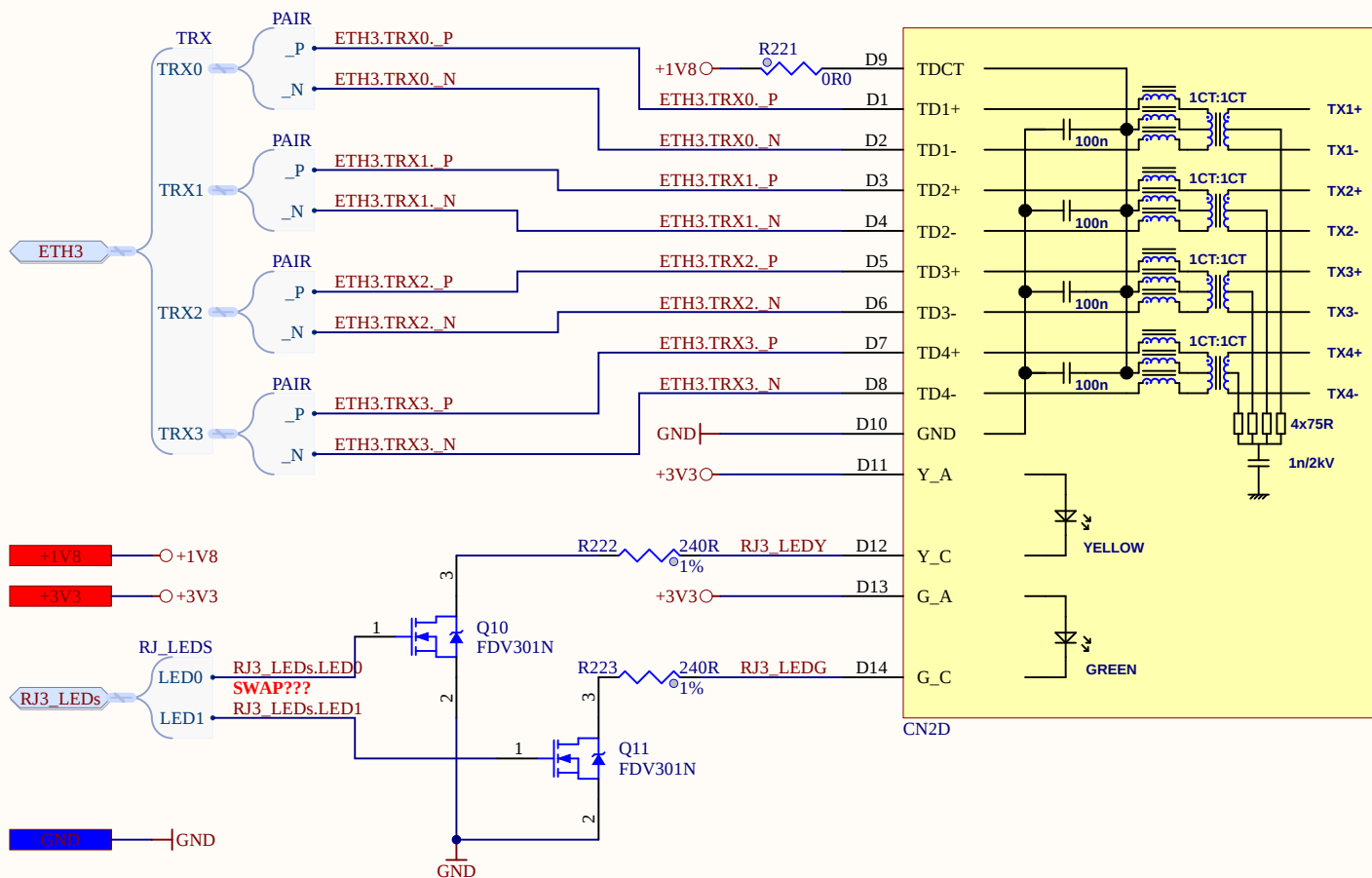




Author: Zbyněk Kos
 Engineer: Zbyněk Kos
 Drawn by: Zbyněk Kos
 Checked by: Zbyněk Kos
 Approved by: Zbyněk Kos
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Title: **Turris Omnia NG - ETH PHY**
 Document Number: CZ66NIC1100-34
 Sheet 34 of 77
 Name: CZ66NIC_ETH_PHY_RJ0.SchDoc

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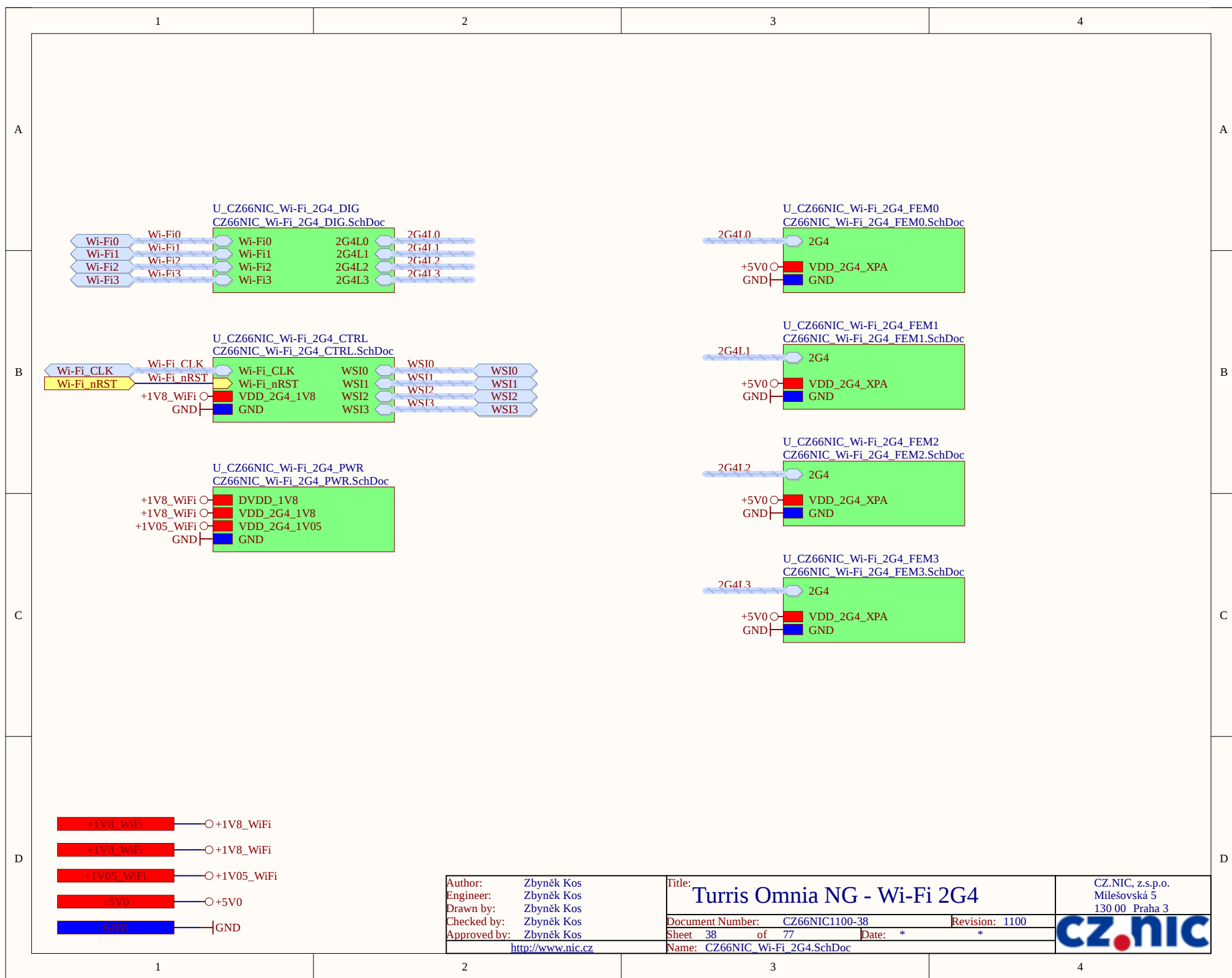


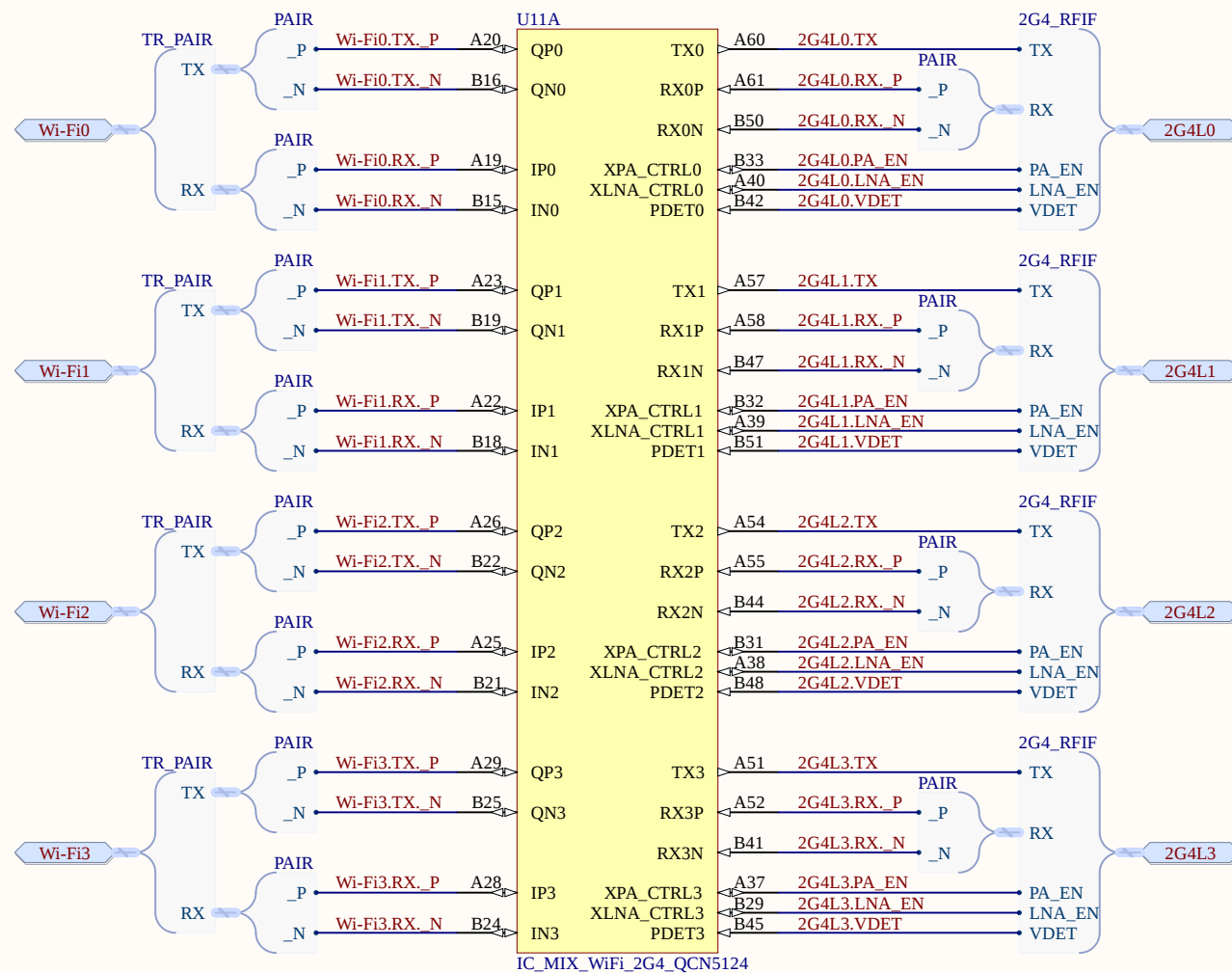
Author: Zbyněk Kos
 Engineer: Zbyněk Kos
 Drawn by: Zbyněk Kos
 Checked by: Zbyněk Kos
 Approved by: Zbyněk Kos
<http://www.nic.cz>

Title: **Turris Omnia NG - ETH PHY**
 Document Number: CZ66NIC1100-37
 Sheet 37 of 77
 Name: CZ66NIC_ETH_PHY_RJ3.SchDoc

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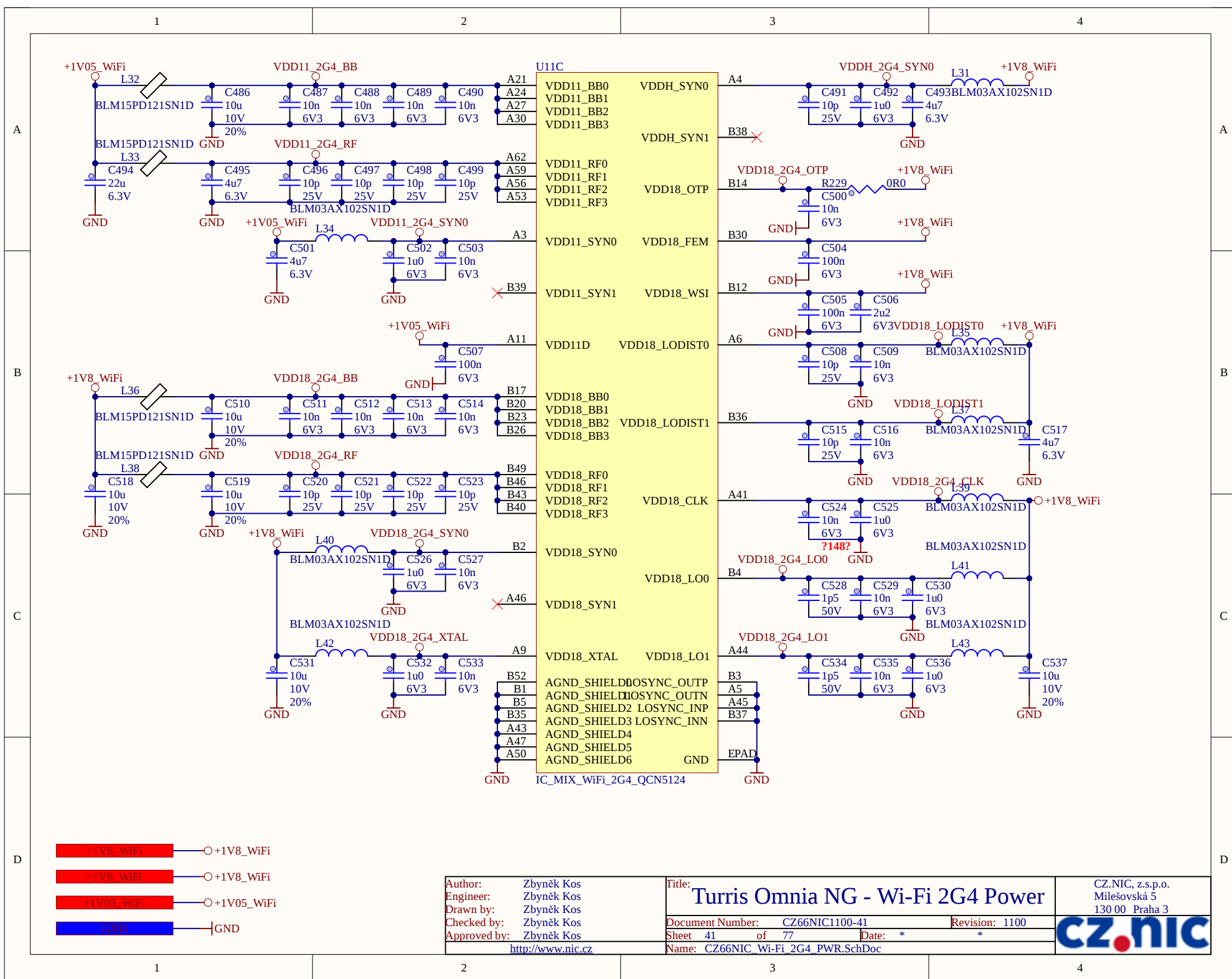


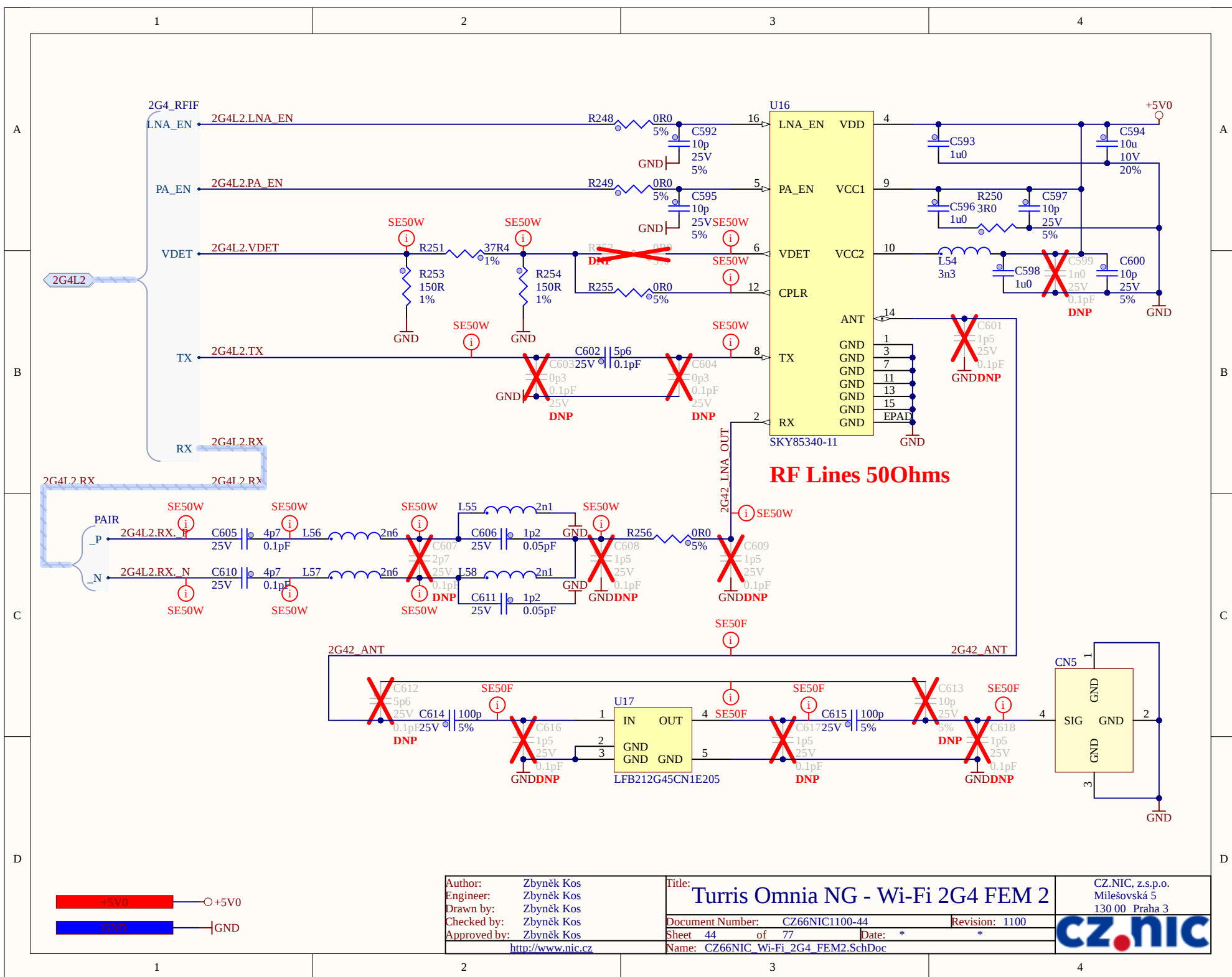
Author: Zbyněk Kos
 Engineer: Zbyněk Kos
 Drawn by: Zbyněk Kos
 Checked by: Zbyněk Kos
 Approved by: Zbyněk Kos
<http://www.nic.cz>

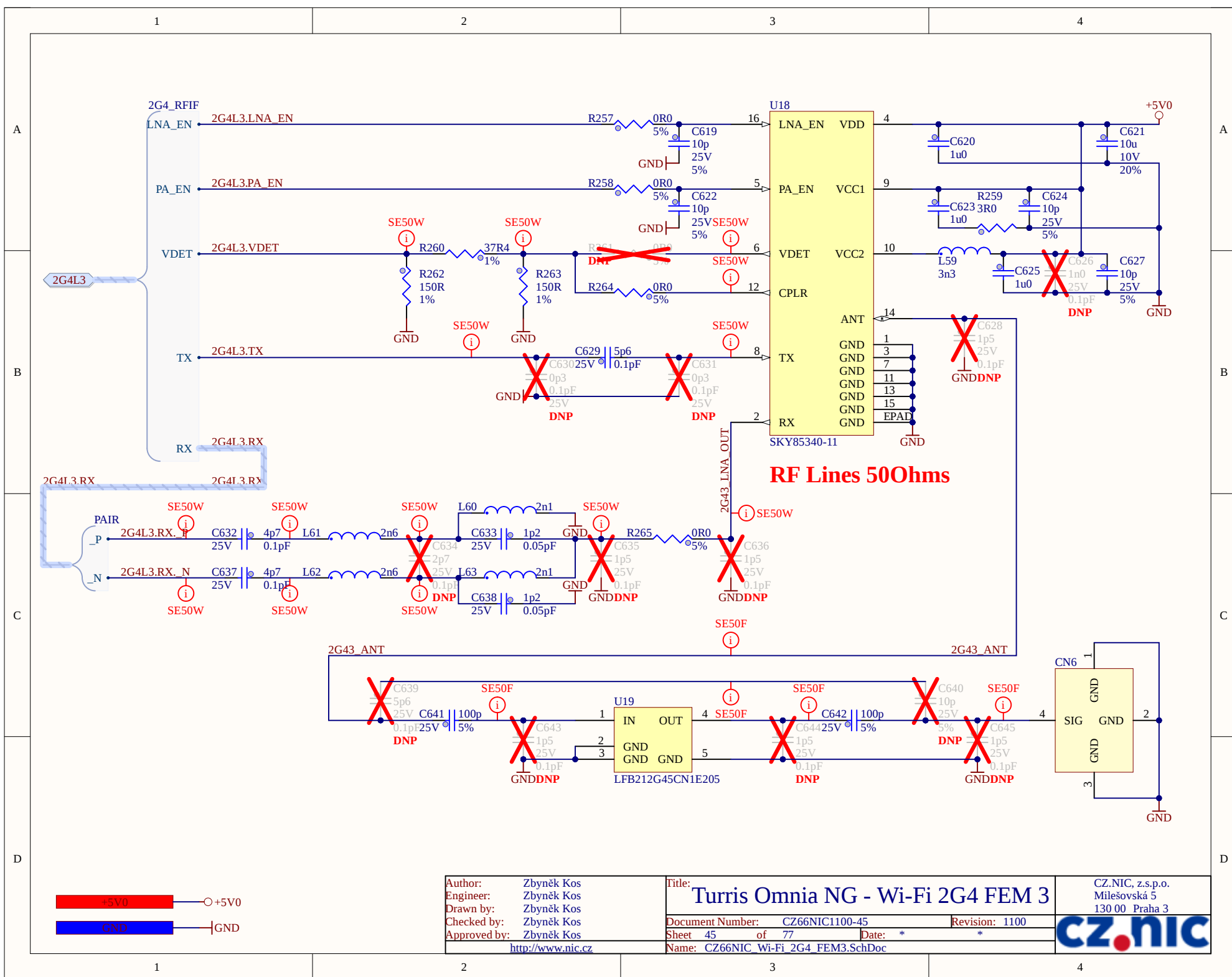
Title: **Turris Omnia NG - Wi-Fi 2G4 Digital**
 Document Number: CZ66NIC1100-39
 Sheet 39 of 77
 Date: * *
 Name: CZ66NIC_Wi-Fi_2G4_DIG.SchDoc

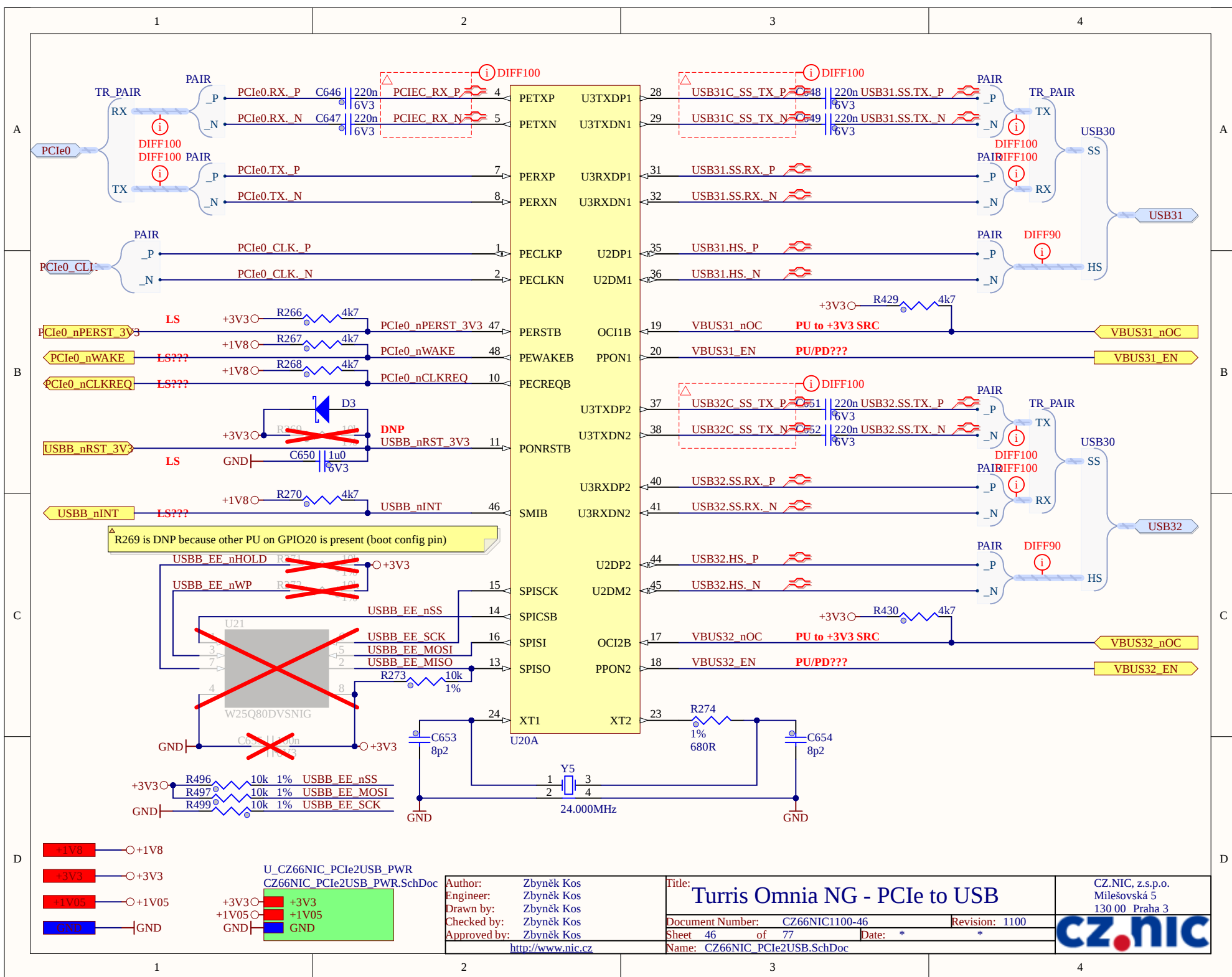
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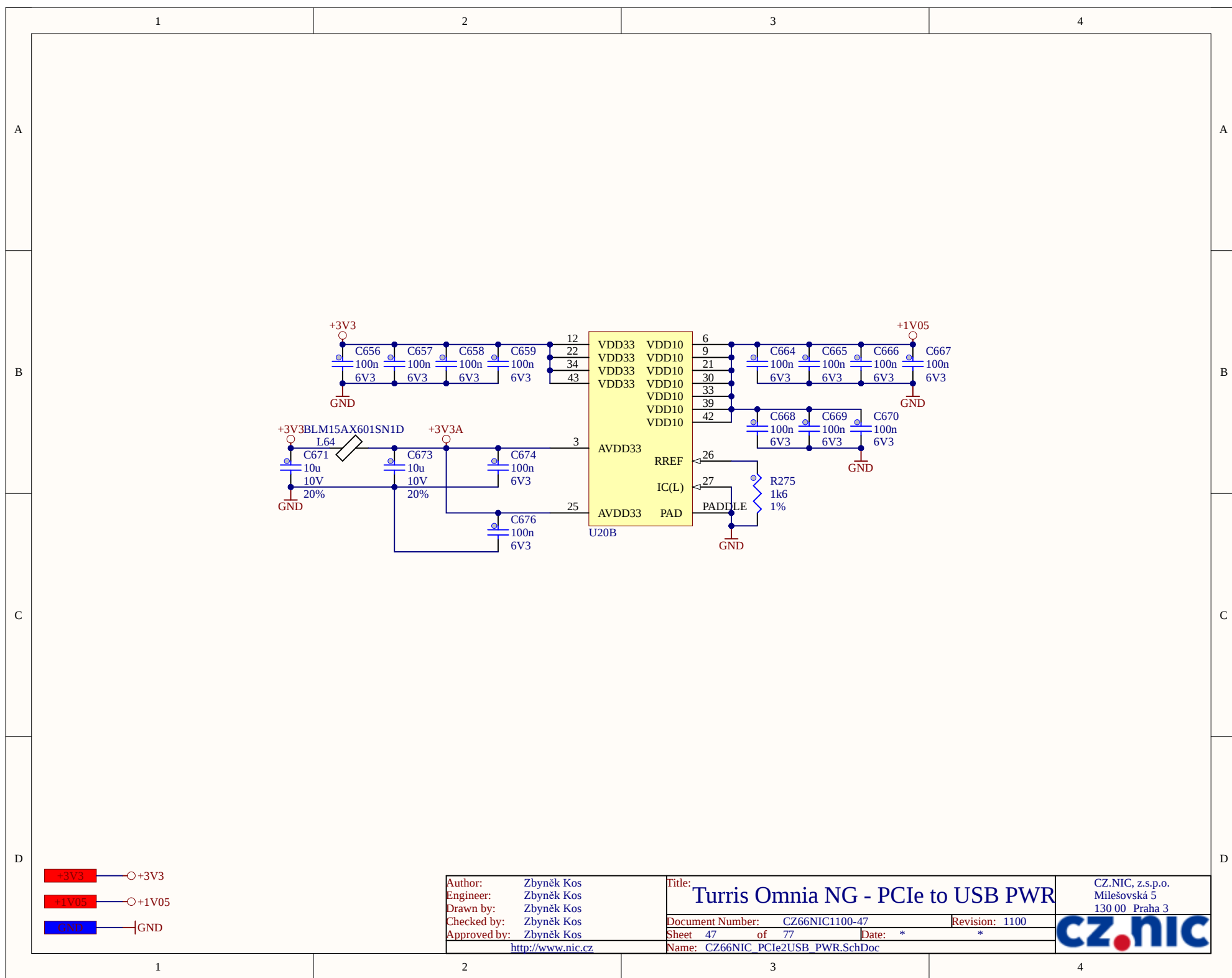


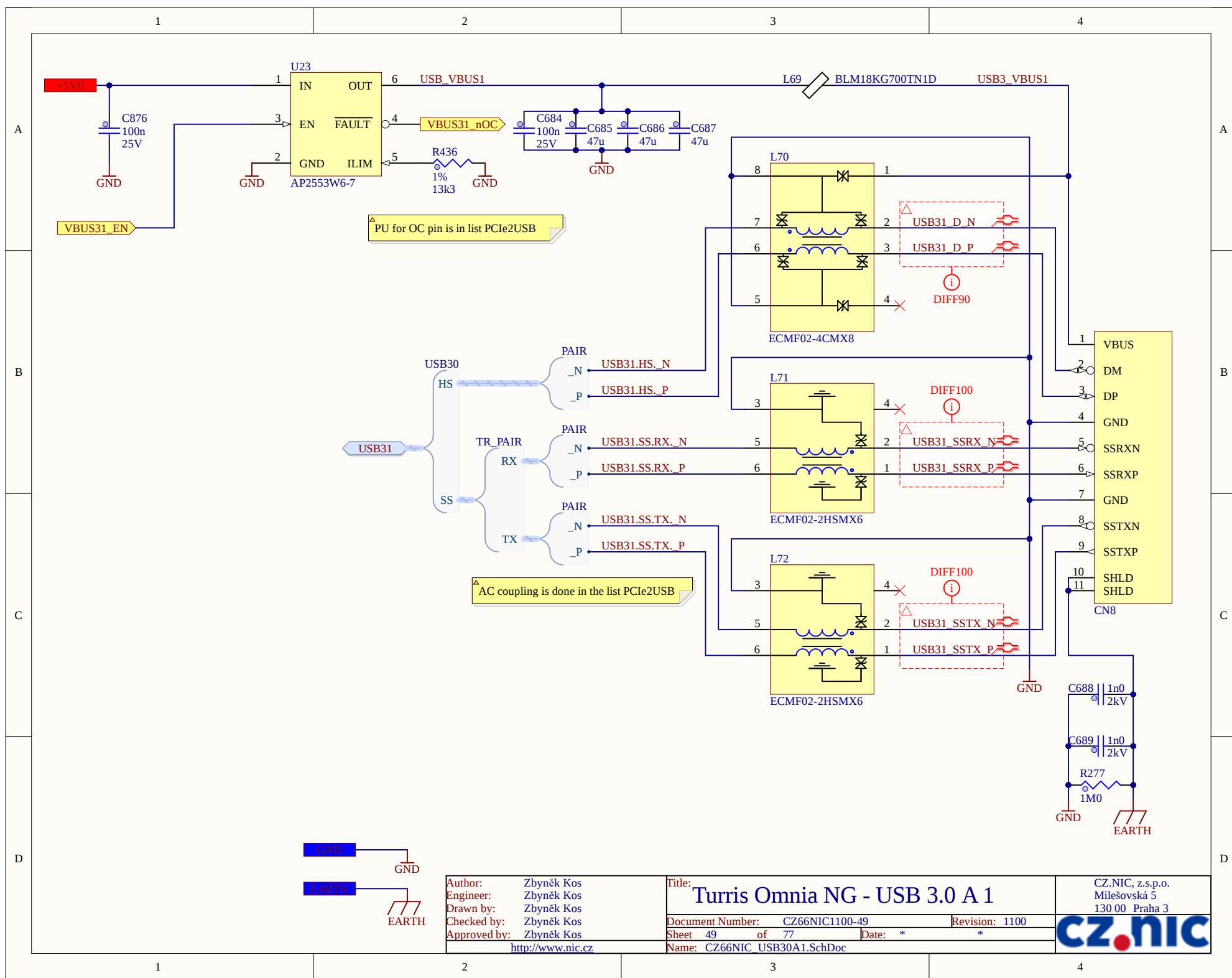


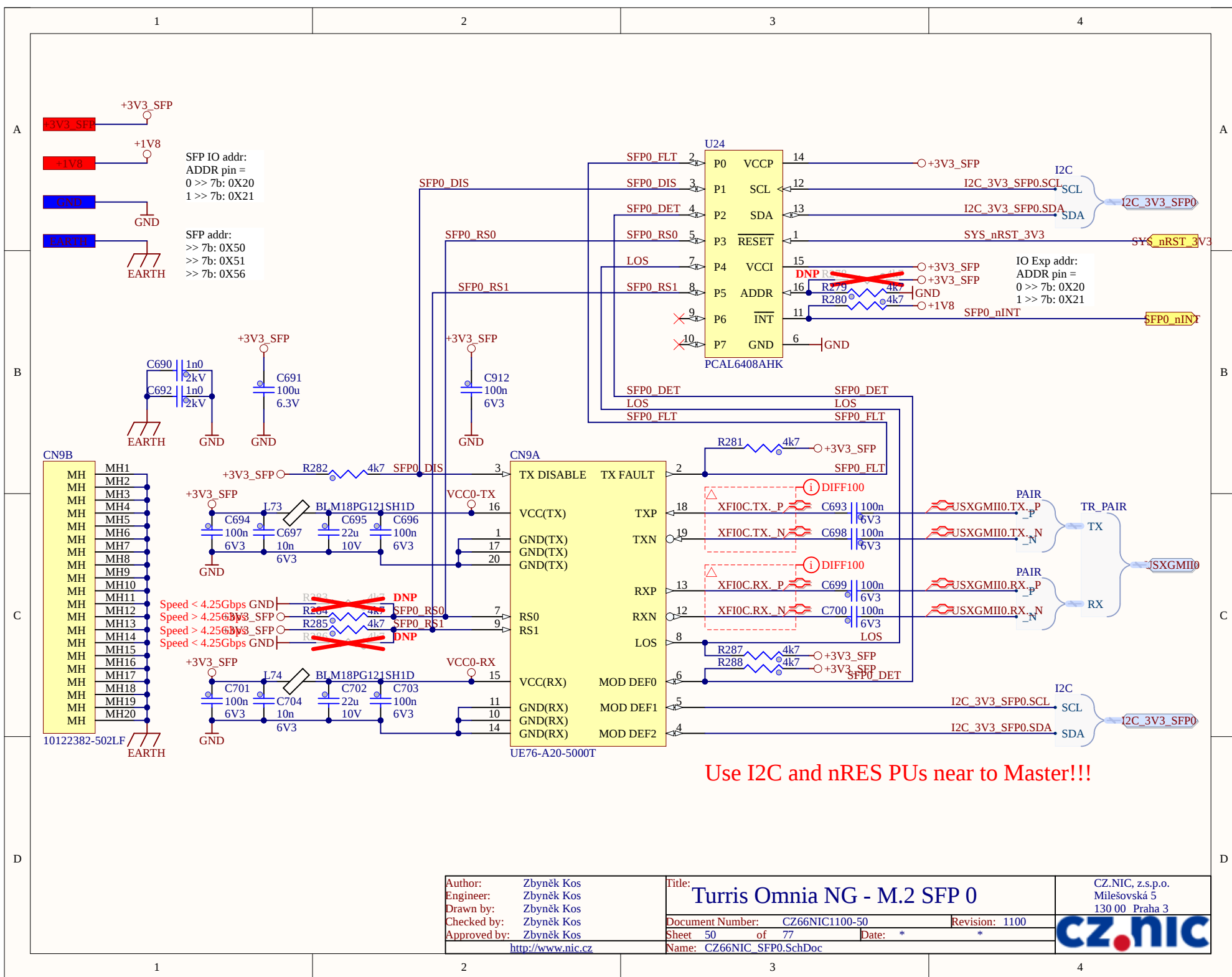


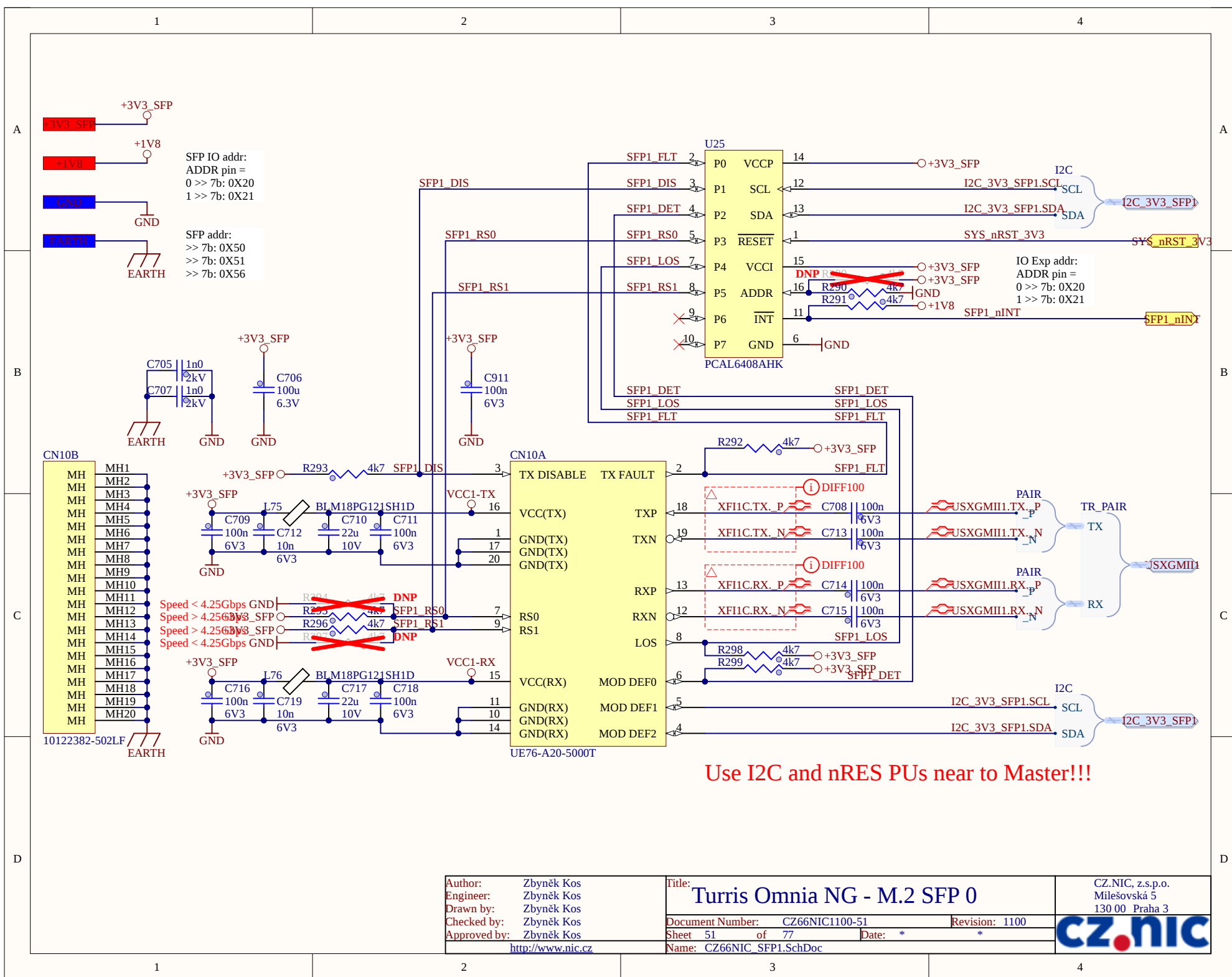




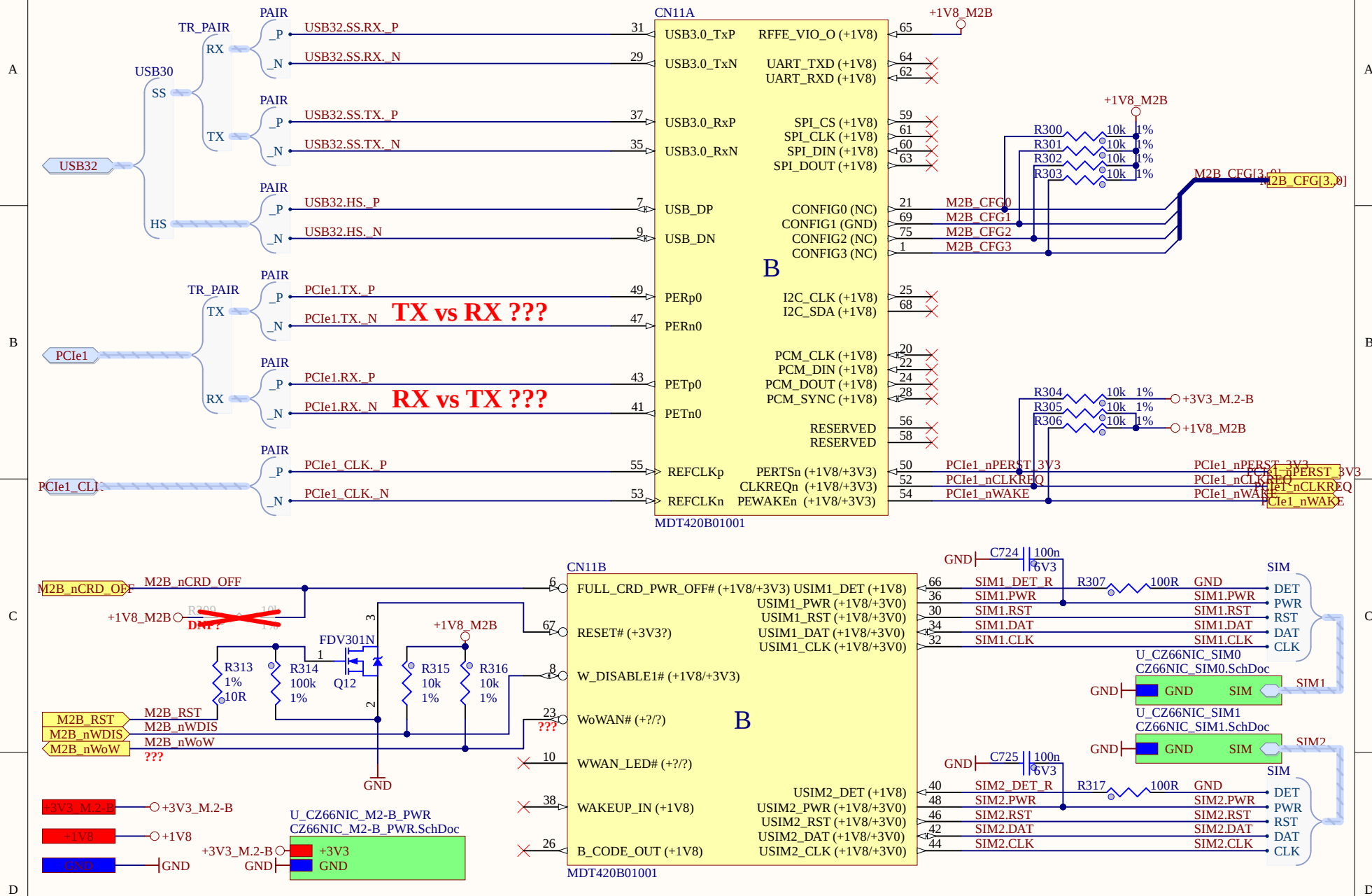








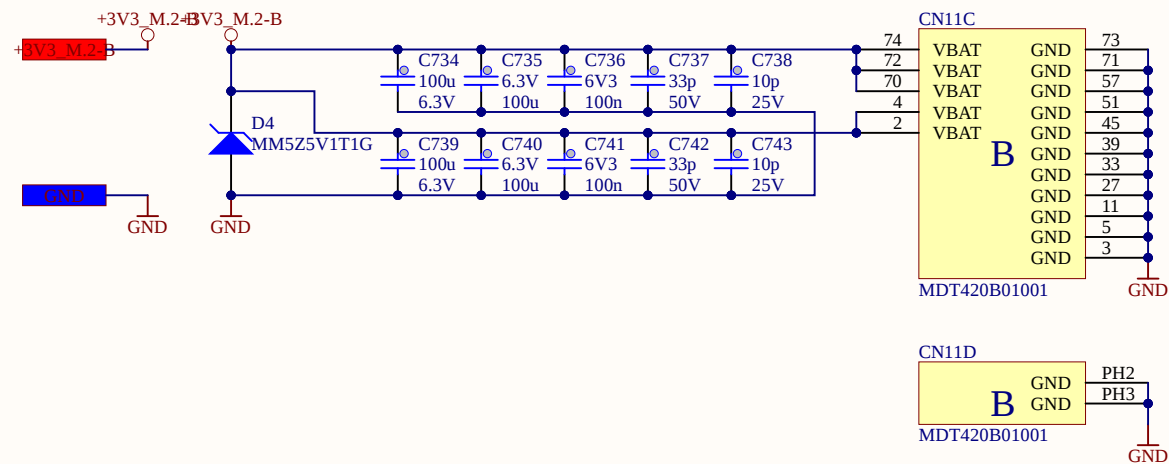
RM500UEAAA-D10-SNADA Modem!!!



Author: Zbyněk Kos
 Engineer: Zbyněk Kos
 Drawn by: Zbyněk Kos
 Checked by: Zbyněk Kos
 Approved by: Zbyněk Kos
<http://www.nic.cz>

Title: Turris Omnia NG - M.2 B Key
 Document Number: CZ66NIC1100-52
 Sheet 52 of 77
 Name: CZ66NIC M2-B.SchDoc

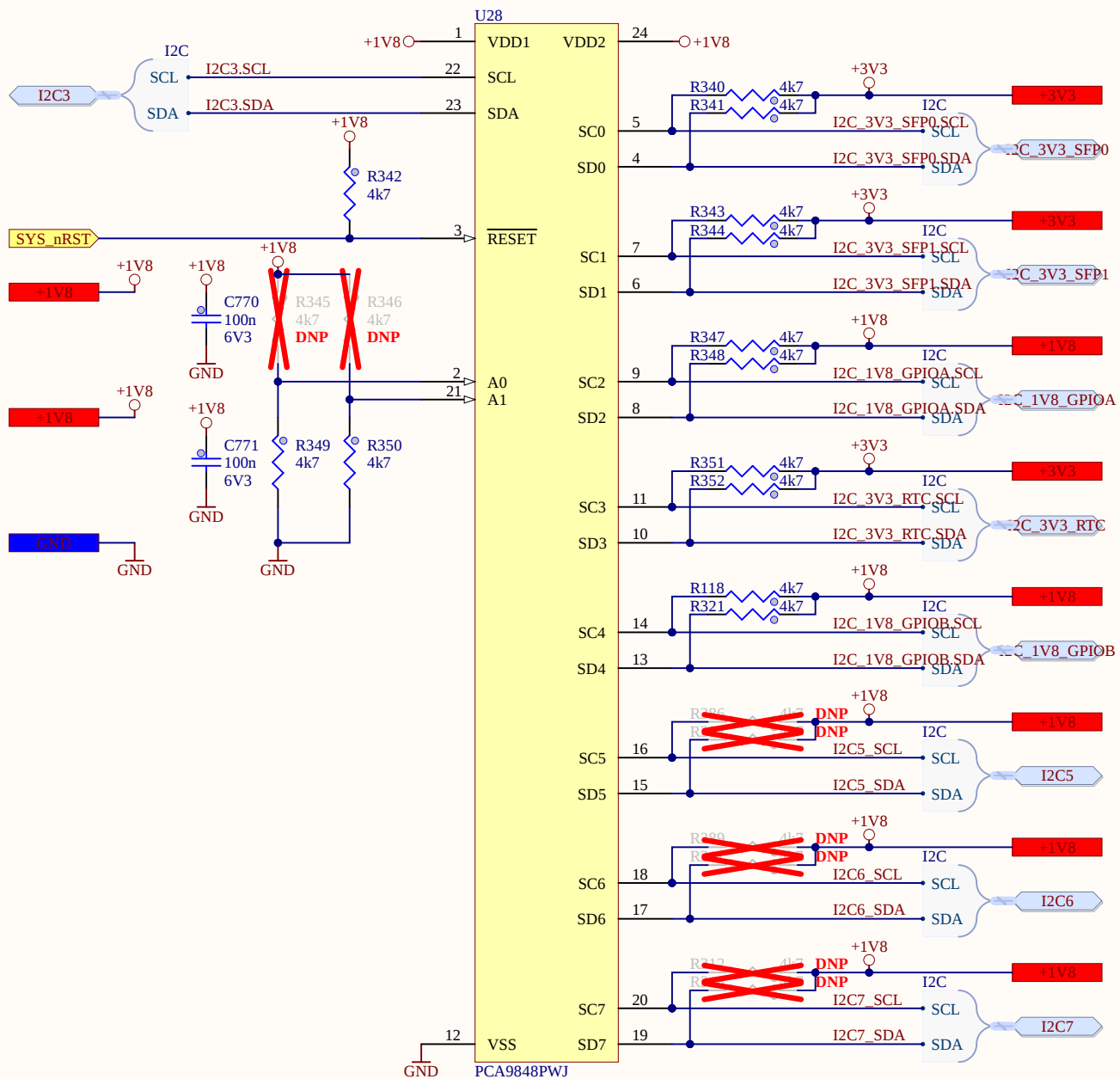
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Author: Zbyněk Kos
 Engineer: Zbyněk Kos
 Drawn by: Zbyněk Kos
 Checked by: Zbyněk Kos
 Approved by: Zbyněk Kos
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Title: **Turris Omnia NG - M.2 B Key PWR**
 Document Number: CZ66NIC1100-55
 Sheet 55 of 77
 Name: CZ66NIC_M2-B_PWR.SchDoc
 Revision: 1100
 Date: * *

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Author: Zbyněk Kos
 Engineer: Zbyněk Kos
 Drawn by: Zbyněk Kos
 Checked by: Zbyněk Kos
 Approved by: Zbyněk Kos

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Title: Turris Omnia NG - RTC&ATECC

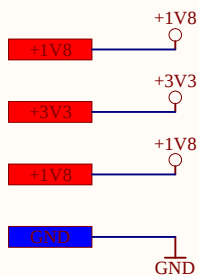
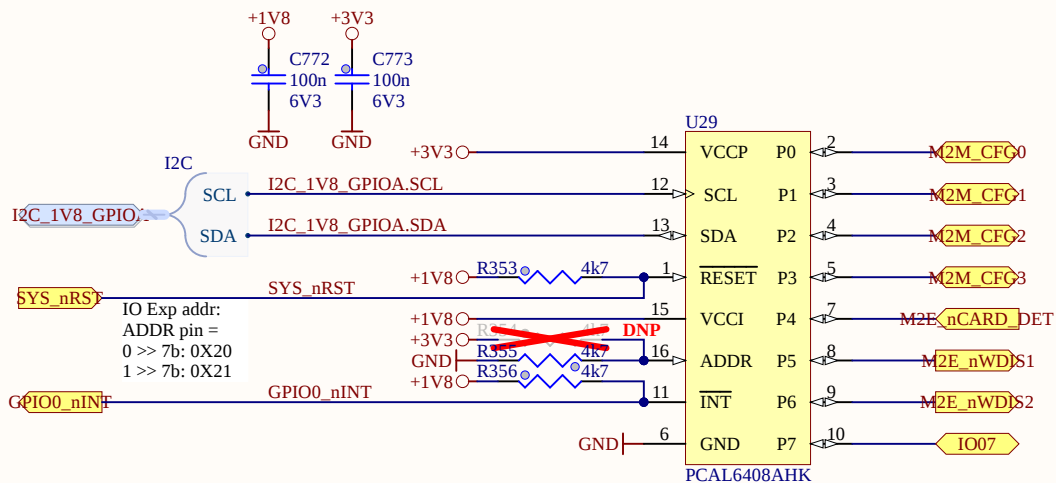
Document Number: CZ66NIC1100-58 Revision: 1100

Sheet 58 of 77 Date: * *

Name: CZ66NIC I2C_MUX.SchDoc

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Author: Zbyněk Kos
Engineer: Zbyněk Kos
Drawn by: Zbyněk Kos
Checked by: Zbyněk Kos
Approved by: Zbyněk Kos
<http://www.nic.cz>

Title: **Turris Omnia NG - I2C GPIO**

Document Number: CZ66NIC1100-59

Revision: 1100

Sheet 59 of 77

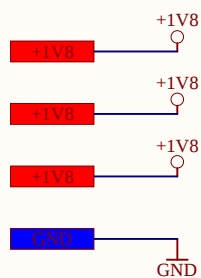
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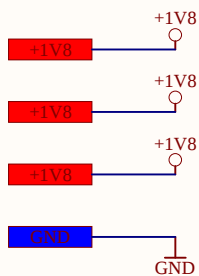
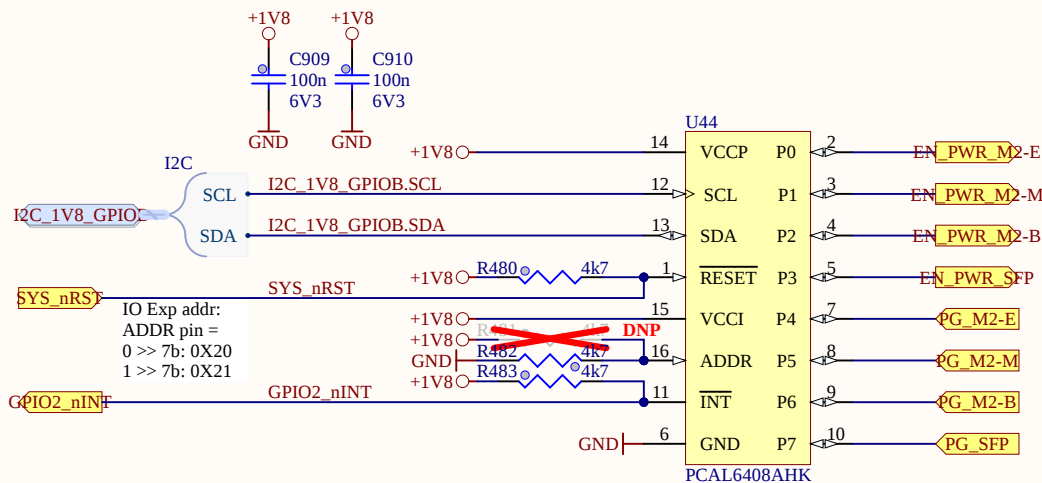
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Name: CZ66NIC I2C GPIO0.SchDoc

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Author: Zbyněk Kos
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Title: **Turris Omnia NG - I2C GPIO**

Document Number: CZ66NIC1100-61

Revision: 1100

Sheet 61 of 77

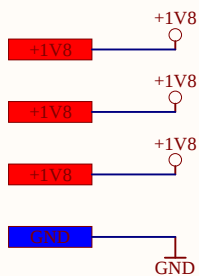
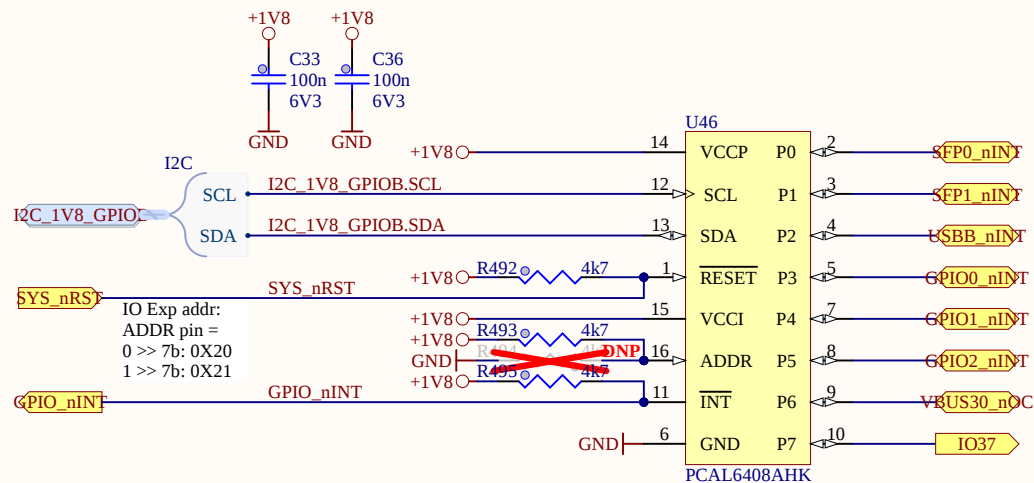
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Name: CZ66NIC I2C_GPIO2.SchDoc

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Title: **Turris Omnia NG - I2C GPIO**

Document Number: CZ66NIC1100-62 Revision: 1100
Sheet 62 of 77 Date: * *
Name: CZ66NIC I2C_GPIO3.SchDoc

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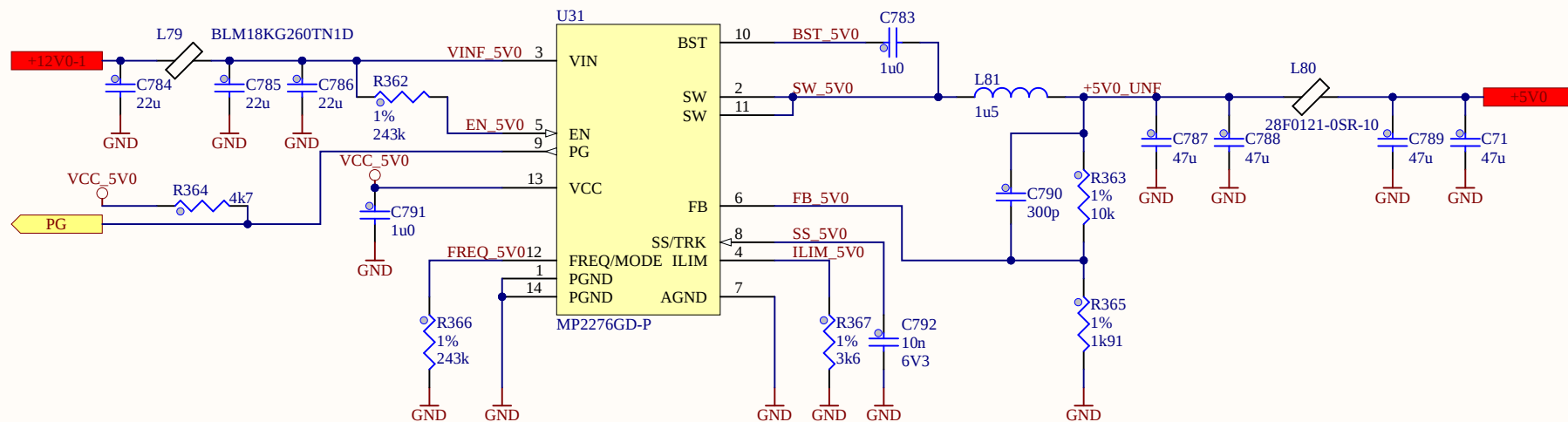


Table 1: FREQ/MODE Selection

MODE	Light-Load Mode	Switching Frequency
AGND	Forced CCM	1100kHz
30.1k Ω ($\pm 20\%$) to AGND	Forced CCM	2000kHz
60.4k Ω ($\pm 20\%$) to AGND	Forced CCM	600kHz
121k Ω ($\pm 20\%$) to AGND	Pulse Skip	600kHz
243k Ω ($\pm 20\%$) to AGND	Pulse Skip	2000kHz
VCC	Pulse Skip	1100kHz

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Title: **Turris Omnia NG - REG 5V0**

Document Number: CZ66NIC1100-64 Revision: 1100
 Sheet 64 of 77 Date: * *
 Name: CZ66NIC_PWR_REG_5V0.SchDoc

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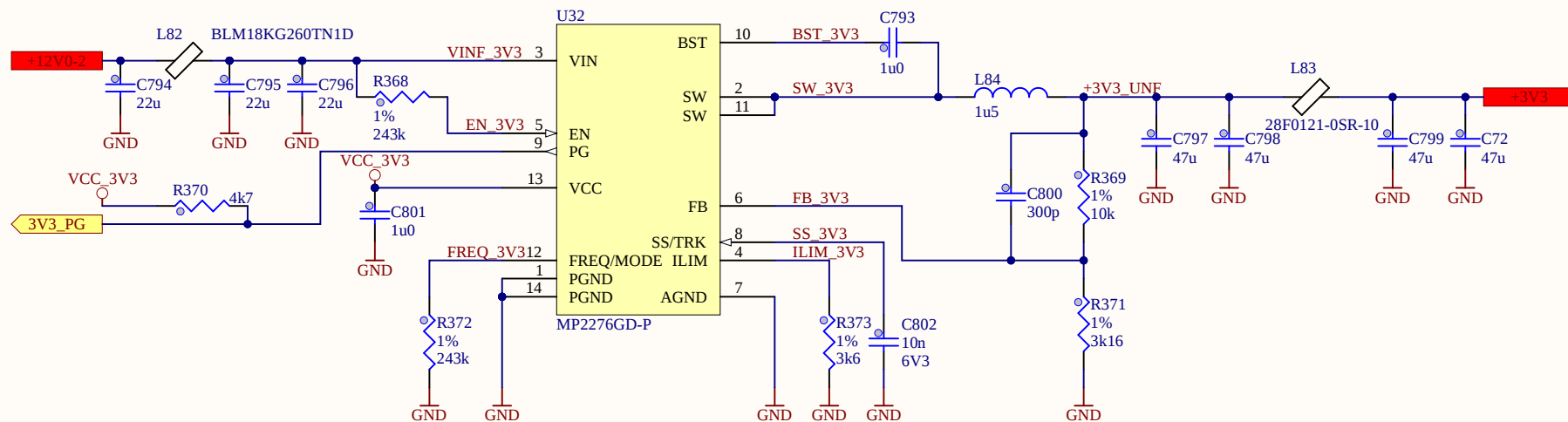


Table 1: FREQ/MODE Selection

MODE	Light-Load Mode	Switching Frequency
AGND	Forced CCM	1100kHz
30.1k Ω ($\pm 20\%$) to AGND	Forced CCM	2000kHz
60.4k Ω ($\pm 20\%$) to AGND	Forced CCM	600kHz
121k Ω ($\pm 20\%$) to AGND	Pulse Skip	600kHz
243k Ω ($\pm 20\%$) to AGND	Pulse Skip	2000kHz
VCC	Pulse Skip	1100kHz

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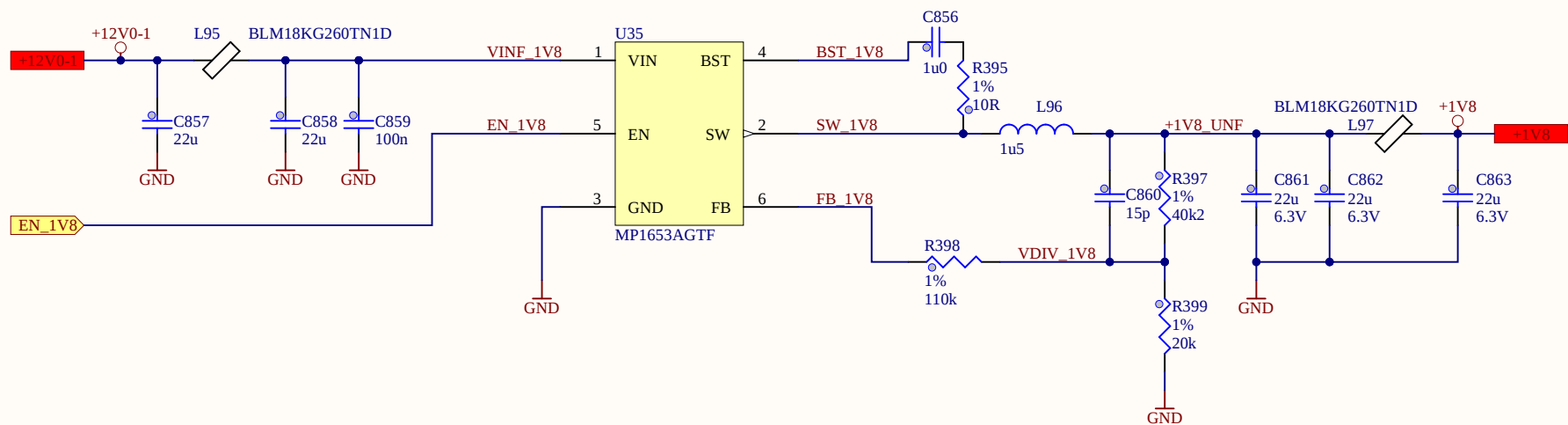
Title: Turris Omnia NG - REG 3V3

Document Number: CZ66NIC1100-65 Revision: 1100
 Sheet 65 of 77 Date: * *
 Name: CZ66NIC_PWR_REG_3V3.SchDoc

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Title: **Turris Omnia NG - REG 1V8**

Document Number: CZ66NIC1100-68

Revision: 1100

Sheet 68 of 77

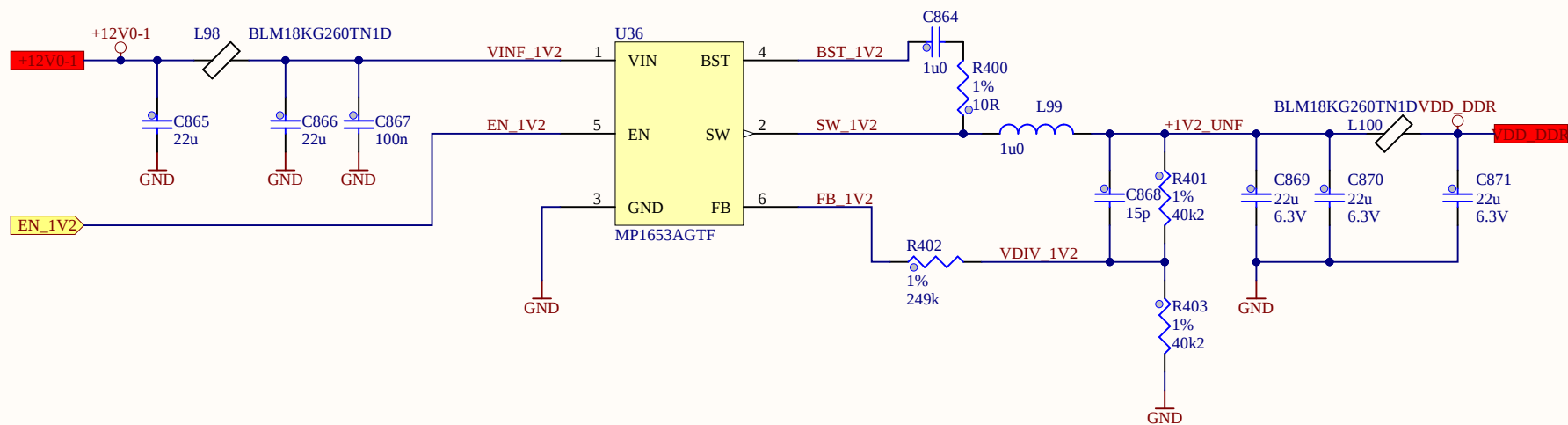
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Name: CZ66NIC_PWR_REG_1V8.SchDoc

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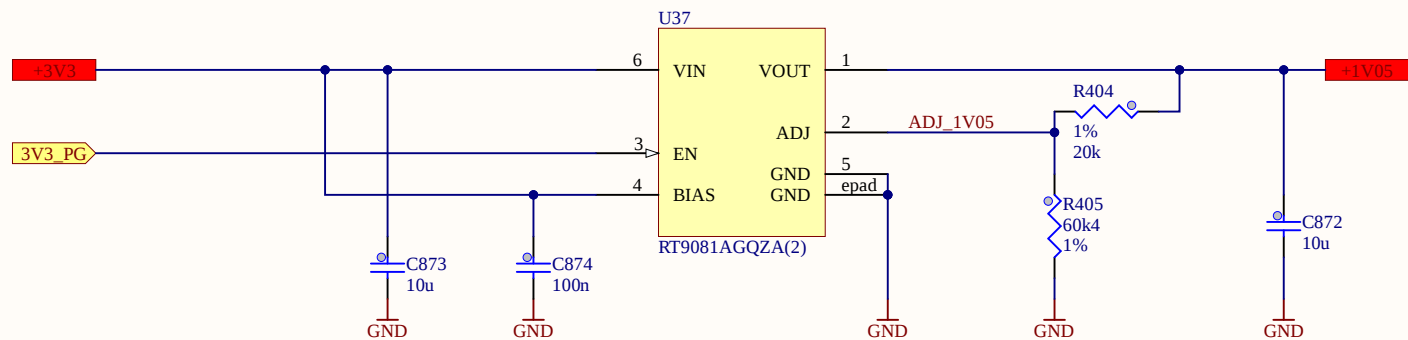
Author: Jiří Kovanda
 Engineer: Jiří Kovanda
 Drawn by: Jiří Kovanda
 Checked by: Zbyněk Kos
 Approved by: Zbyněk Kos
<http://www.nic.cz>

Title: **Turris Omnia NG - REG 0V8**

Document Number: CZ66NIC1100-69 Revision: 1100
 Sheet 69 of 77 Date: * *
 Name: CZ66NIC_PWR_REG_1V2.SchDoc

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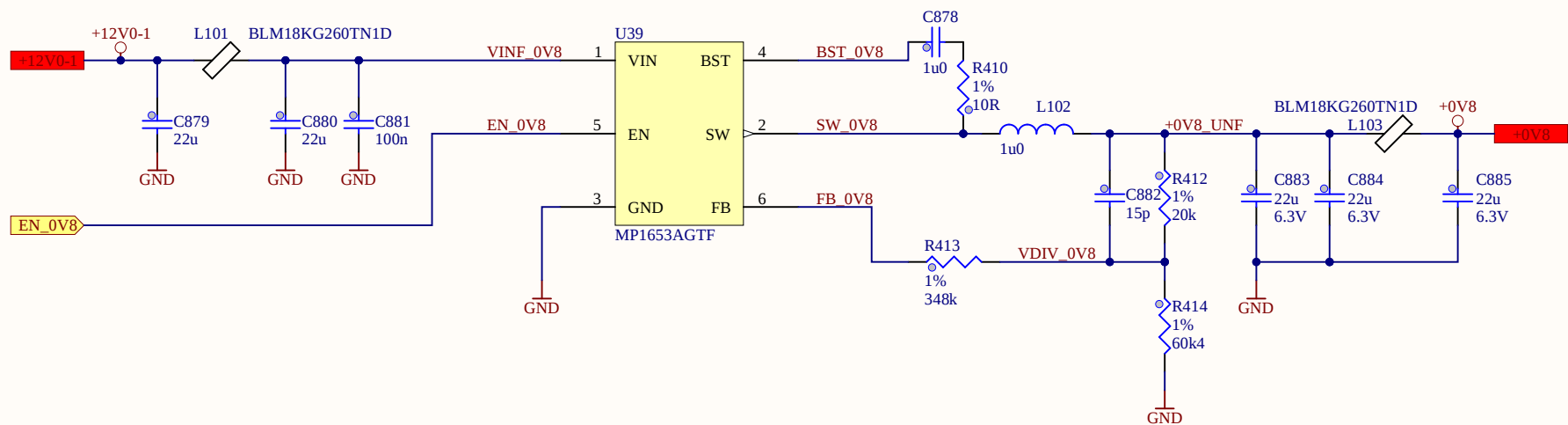
Author: Jiří Kovanda
 Engineer: Jiří Kovanda
 Drawn by: Jiří Kovanda
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 Approved by: Zbyněk Kos
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Title: **Turris Omnia NG - REG 0V8**

Document Number: CZ66NIC1100-70 Revision: 1100
 Sheet 70 of 77 Date: * *
 Name: CZ66NIC_PWR_REG_1V05.SchDoc

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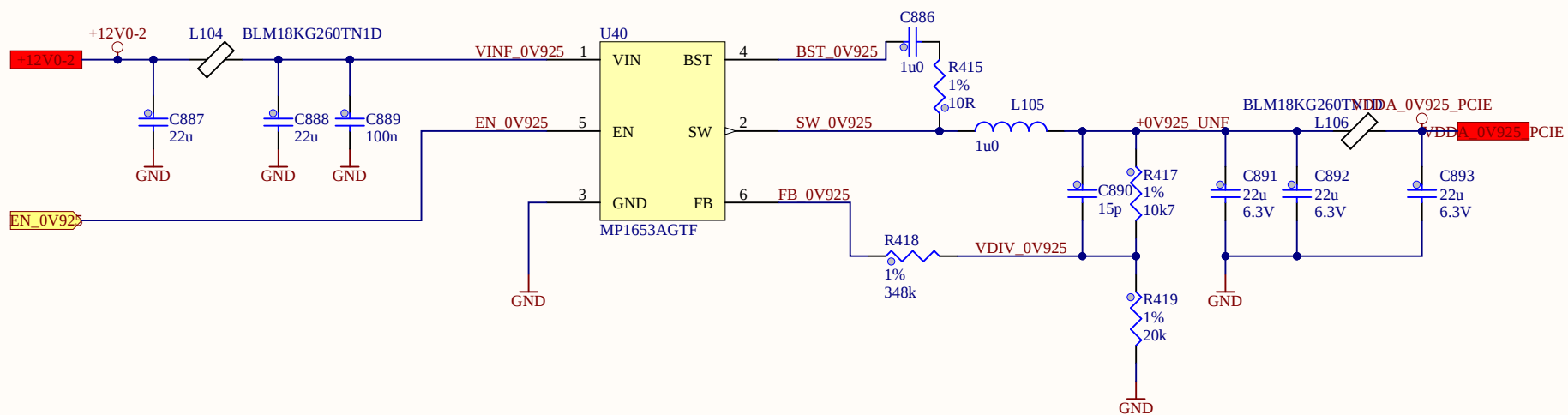
Author: Jiří Kovanda
 Engineer: Jiří Kovanda
 Drawn by: Jiří Kovanda
 Checked by: Zbyněk Kos
 Approved by: Zbyněk Kos
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Title: **Turris Omnia NG - REG 0V8**

Document Number: CZ66NIC1100-71
 Sheet 71 of 77
 Name: CZ66NIC_PWR_REG_0V8.SchDoc

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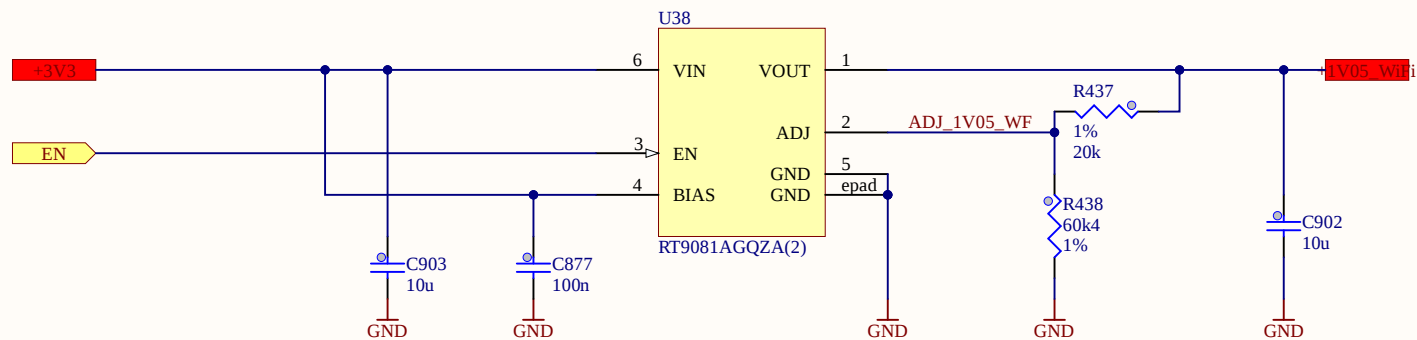
Author: Jiří Kovanda
 Engineer: Jiří Kovanda
 Drawn by: Jiří Kovanda
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 Approved by: Zbyněk Kos
<http://www.nic.cz>

Title: Turris Omnia NG - REG 0V925

Document Number: CZ66NIC1100-72 Revision: 1100
 Sheet 72 of 77 Date: * *
 Name: CZ66NIC_PWR_REG_0V925.SchDoc

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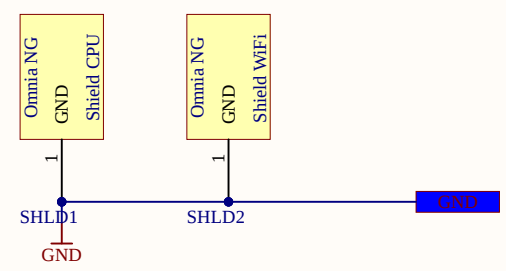
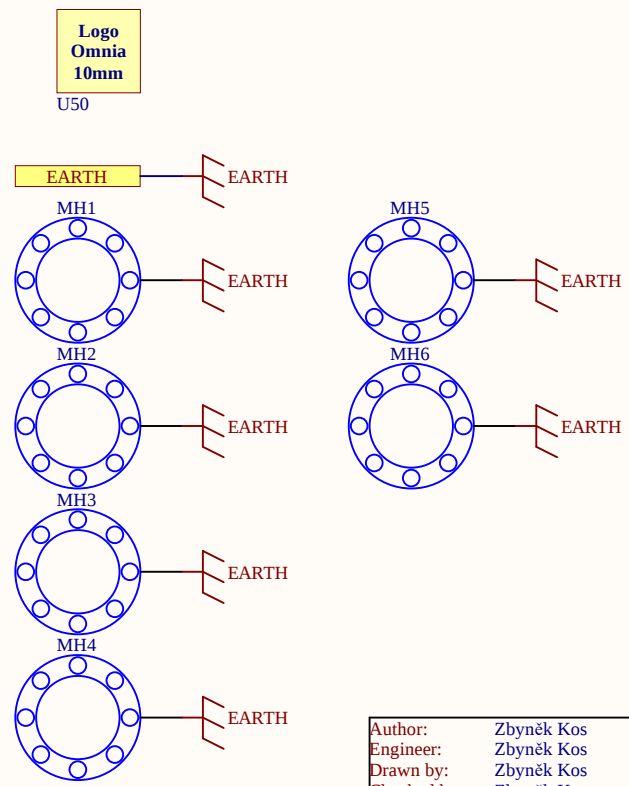
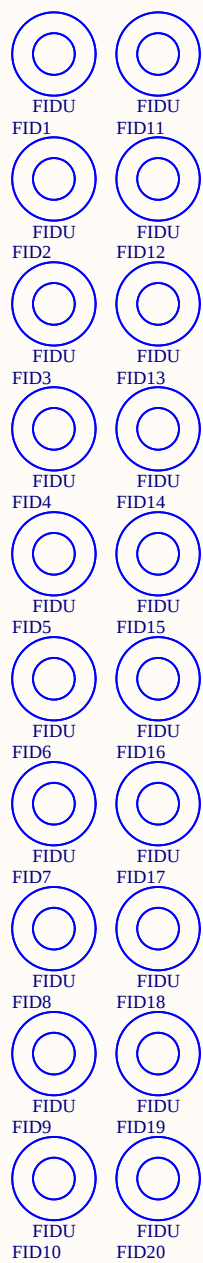
Author: Jiří Kovanda
 Engineer: Jiří Kovanda
 Drawn by: Jiří Kovanda
 Checked by: Zbyněk Kos
 Approved by: Zbyněk Kos
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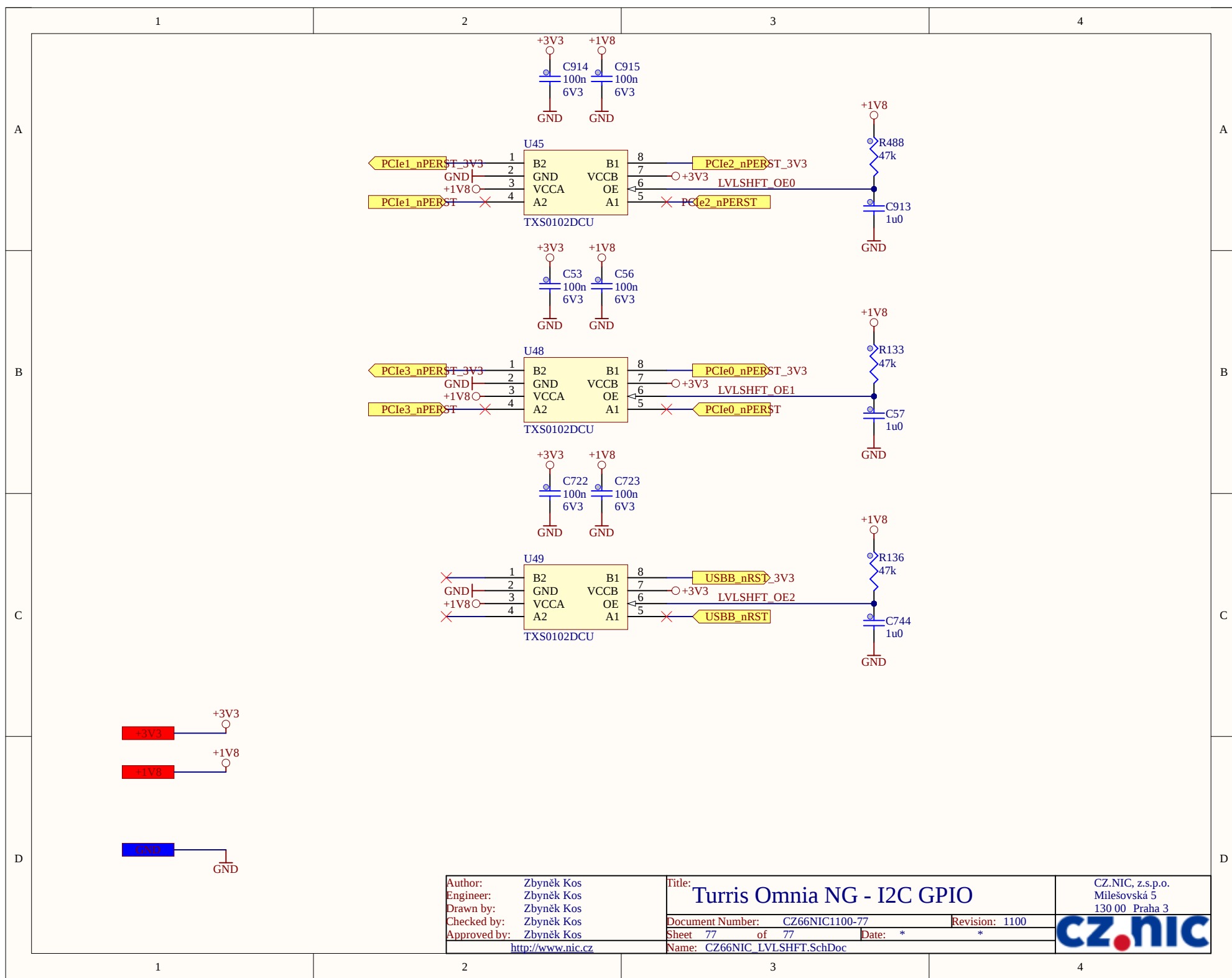
Title: **Turris Omnia NG - REG 0V8**

Document Number: CZ66NIC1100-74 Revision: 1100
 Sheet 74 of 77 Date: * *
 Name: CZ66NIC_PWR_REG_1V05_Wifi.SchDoc

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Title: **Turris Omnia NG - I2C GPIO**

Document Number: CZ66NIC1100-77 Revision: 1100
 Sheet 77 of 77 Date: * *
 Name: CZ66NIC_LVLSHFT.SchDoc

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