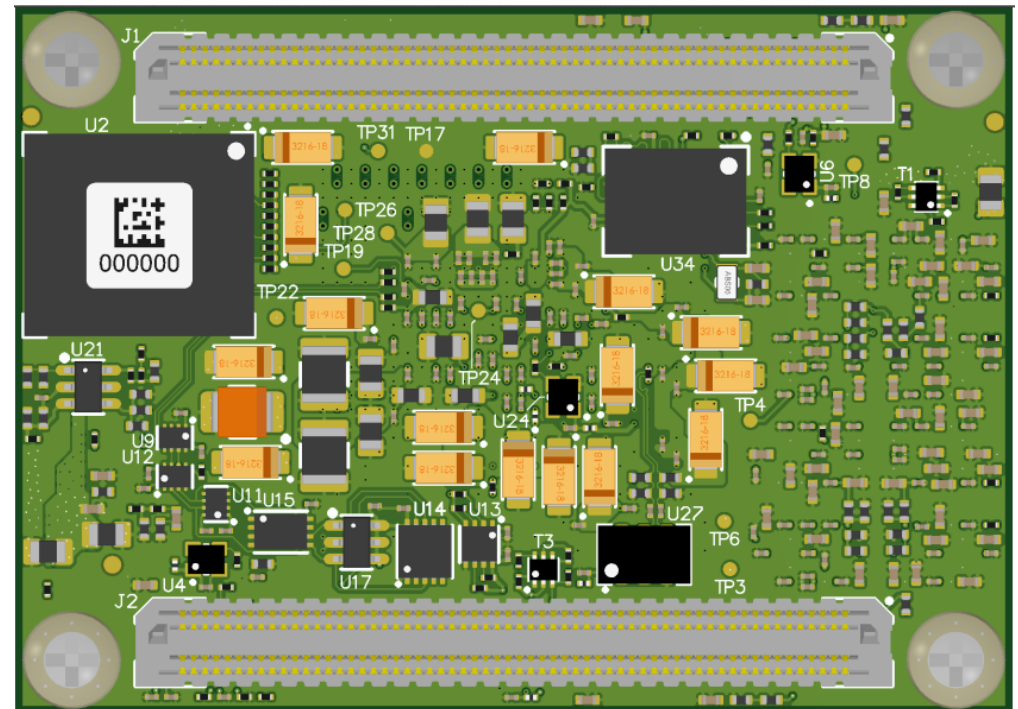
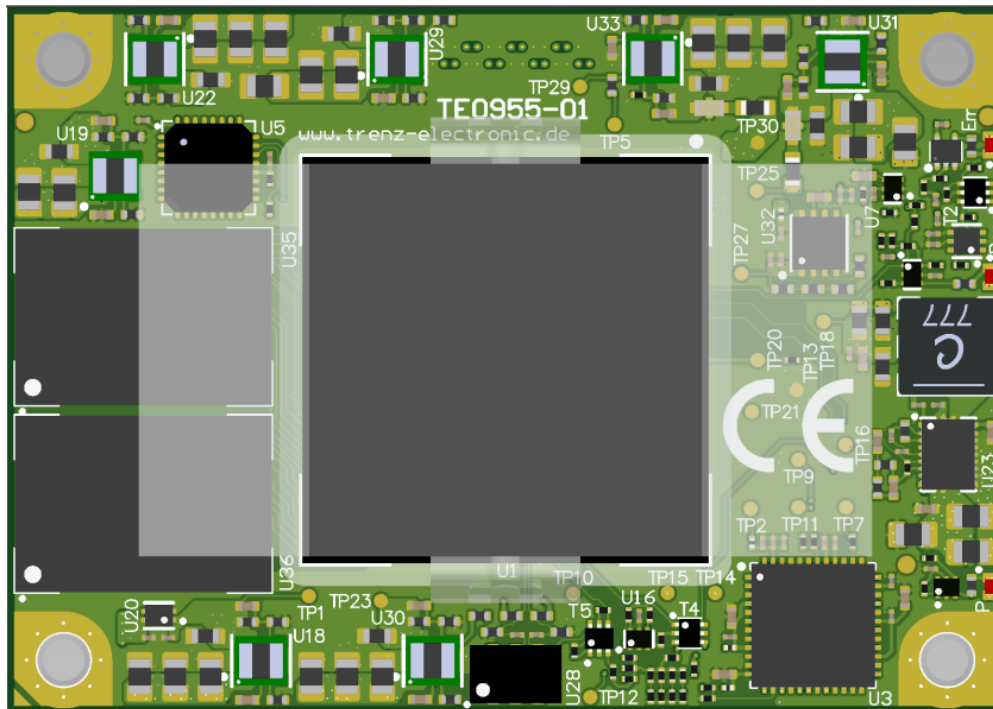




Regarding the usage of our schematics and alike documentation for Trenz module TE0955.

Project is protected under copyright and we strongly and strictly prohibit the reverse engineering or recreation, even if the design is just adapted or modified. TE0955 is protected under such right and in case of plagiarism we will have to do anything necessary in order to protect our assets.

Schematics and other handouts serve for informational purposes only!

	Title: Legal Notices		
	A4	Number: TE0955 EGBE32-A	Rev. 01
	Date: 20.02.2025	Copyright: Trenz Electronic GmbH	Page 1 of 28
	Filename: Legal Notices Modules.SchDoc		

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A

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A

B

C

D

REV	Description	
-01	Initial revision	VY

		Title: Revision Changes	
		A4	Number: TE0955 EGBE32-A
Date: 20.02.2025		Copyright: Trenz Electronic GmbH	Rev. 01
Filename: Revision_Changes.SchDoc		Page 2 of 28	

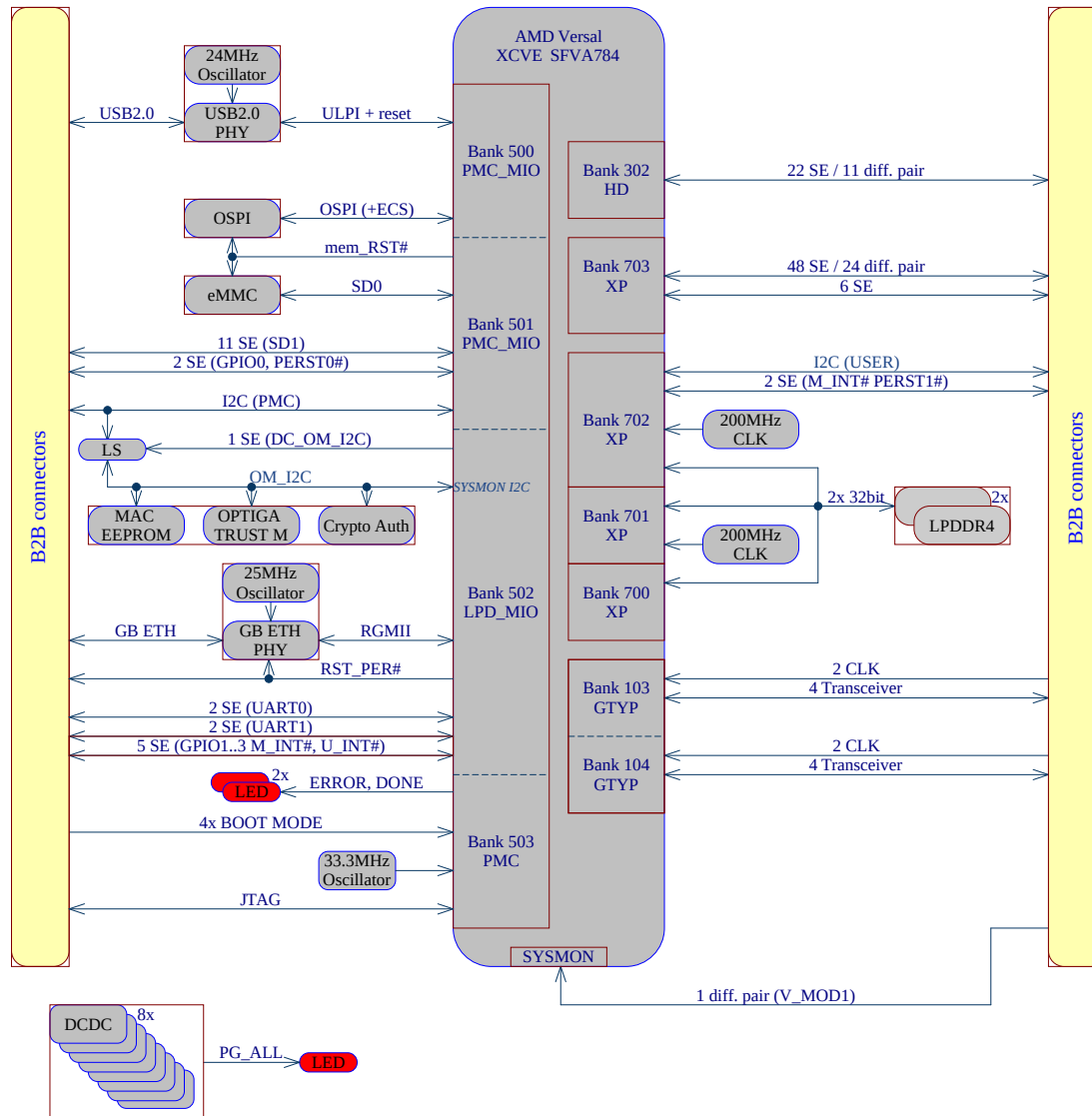
1

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Block Diagram:



Supported Voltage Ranges:

Power Rail	Direction	Range	Tolerance	Description	Note
V_MOD1	IN	5V .. 12V	+/-5%	Module main power supply	-
3V3_AO	OUT	3.3V	+/-3%	Always On rail; Periphery supply	Max additional (low ESR) capacitance: 20µF
1V8	OUT	1.8V	+/-3%	Periphery supply	PMC 500 and LPD 502; Max additional (low ESR) capacitance: 40µF
V_IO_W01	IN	1.0V .. 1.5V	+/-5%	IO supply	XPIO Bank 703
V_IO_X3	IN	1.8V .. 3.3V	+/-3%	IO supply	HD Bank 302
V_IO_CFG	IN	1.8V	+/-5%	IO CFG supply	PMC 501 and 503; 3V3 possible, but not recommended. UART signals have 1.8V voltage levels, independent from V_IO_CFG.
V_BAT	IN	1.35V	+/-10%	Supply for Versal BB RAM and RTC	If not used connect to GND

I2C Addresses:

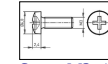
Device	Bus	Address	Note
Versal PL (or PS via EMIO)	U_I2C (PL)	-	USER I2C Bus, B2B pin J2B-D33, J2B-D34 to Baseboard
Versal PMC	M_I2C (PMC)	-	Master
-	M_I2C (PMC)	-	Module I2C Bus, B2B pin J2B-C50, J2B-C51 to Baseboard

Following devices are connected OM_I2C which is connected to M_I2C via Levelshifter (U12) and can be disconnected by PS GPIO

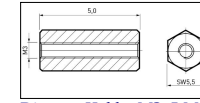
24AA025E48T-I/OT (U14)	OM_I2C	1010011 53H	EEPROM for MAC with user area
SL532AIA010MHUSON10XTMA2 (U11)	OM_I2C	0110000 30H	Crypto Authentication
ATECC608B-MAHCZ-S (U12)	OM_I2C	110000 60H	ORTIGA TRUST M Cryptographic Co-Processor
Versal SYSMON	OM_I2C	software defined	I2C address see reference design; via Levelshifter (U11)

	Title: Overview		
	A4	Number: TE0955 EGBE32-A	Rev. 01
	Date: 25.02.2025	Copyright: Trenz Electronic GmbH	Page 3 of 28
	Filename: Overview.SchDoc		

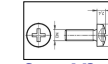
Special notes:



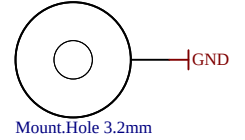
Screw M3x4



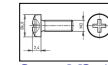
Distance Holder M3x5 Male/Male



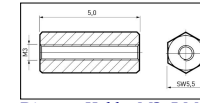
Screw M3x4



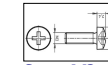
Mount.Hole 3.2mm



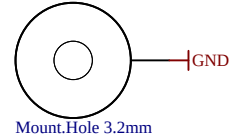
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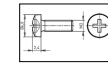
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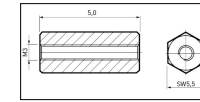
Screw M3x4



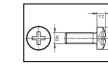
Mount.Hole 3.2mm



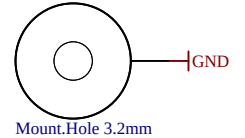
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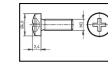
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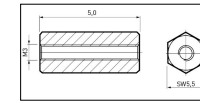
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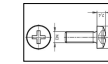
Mount.Hole 3.2mm



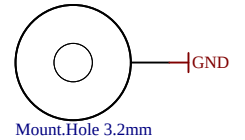
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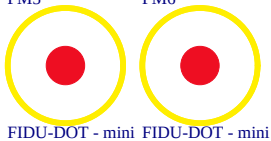
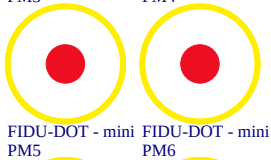
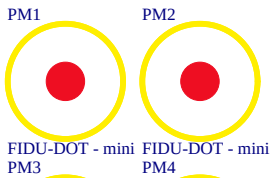
Distance Holder M3x5 Male/Male



Screw M3x4



Mount.Hole 3.2mm



Serial1
Serial
Serialnumber 6,3 x 6.3mm
LOGO1

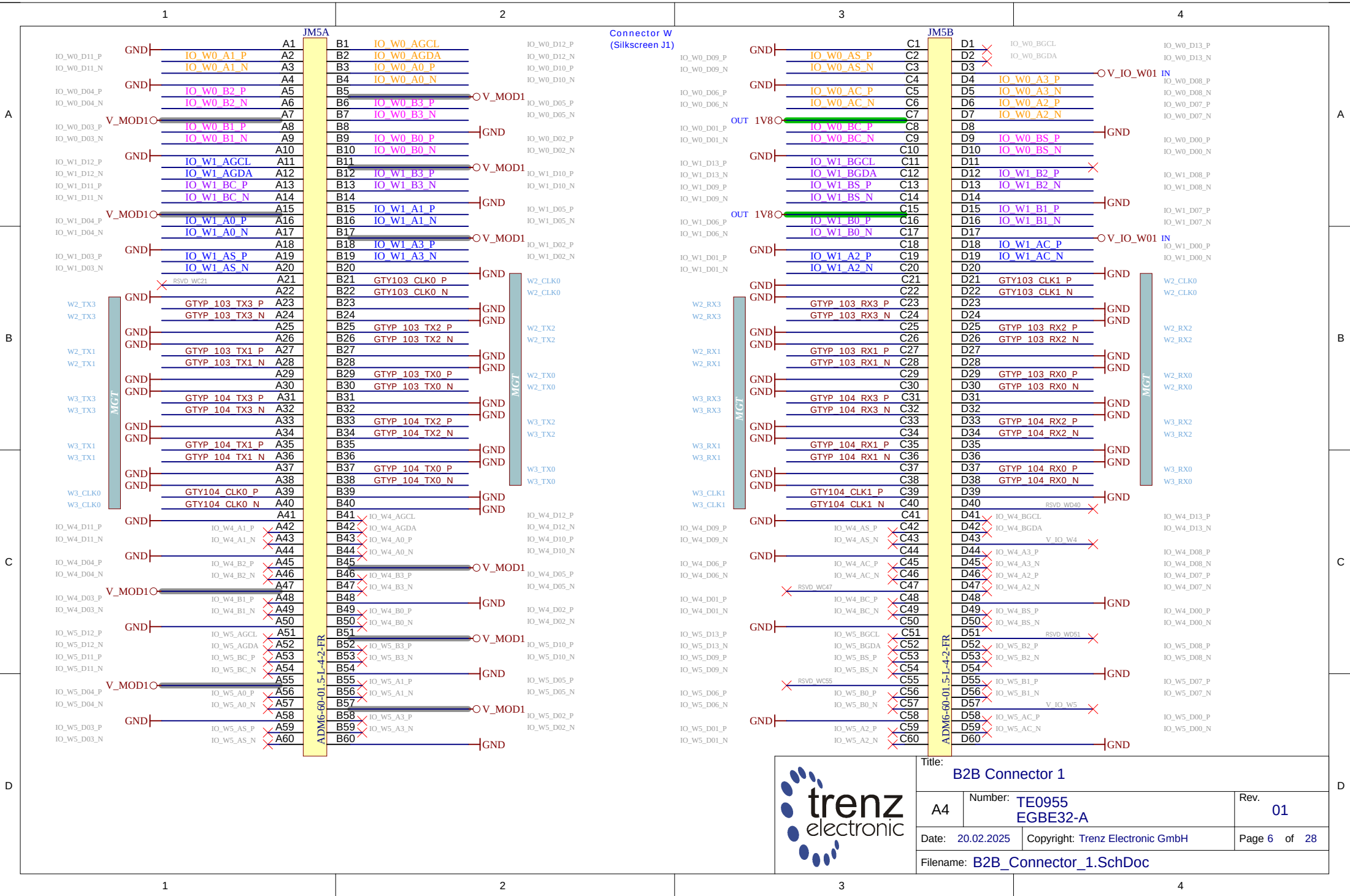
CE Logo on Top Overlay

CE-TOPOVERLAY



Title: TE0955		
A4	Number: TE0955 EGBE32-A	Rev. 01
Date: 20.02.2025	Copyright: Trenz Electronic GmbH	Page 5 of 28
Filename: TE0955.SchDoc		

Assembly variant EGBE32-A
Created by MR
Modified by MR
Modified at 2025-02-06

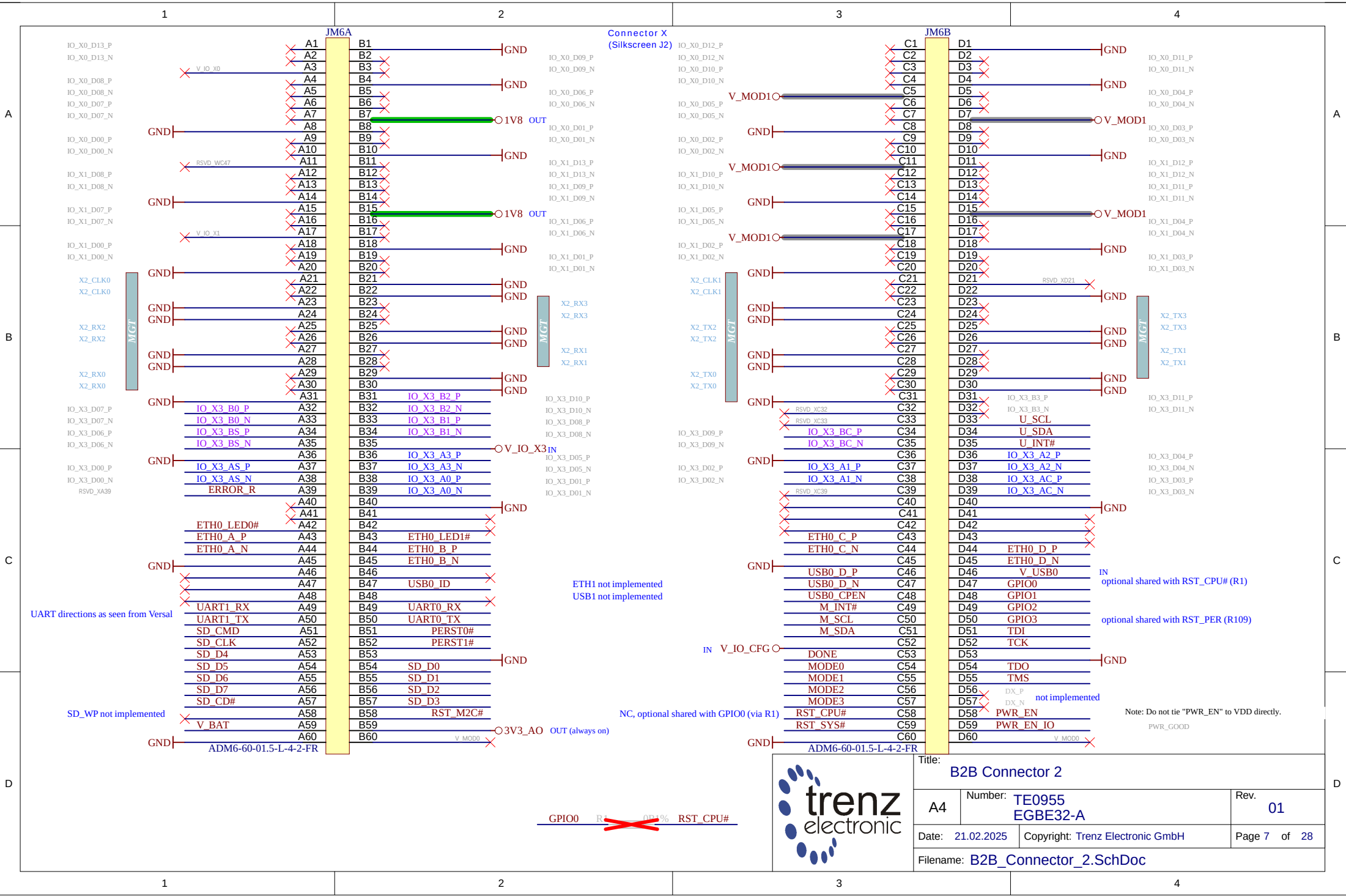


Title:

B2B Connector 1

A4	Number: TE0955 EGBE32-A	Rev. 01
Date: 20.02.2025	Copyright: Trenz Electronic GmbH	Page 6 of 28

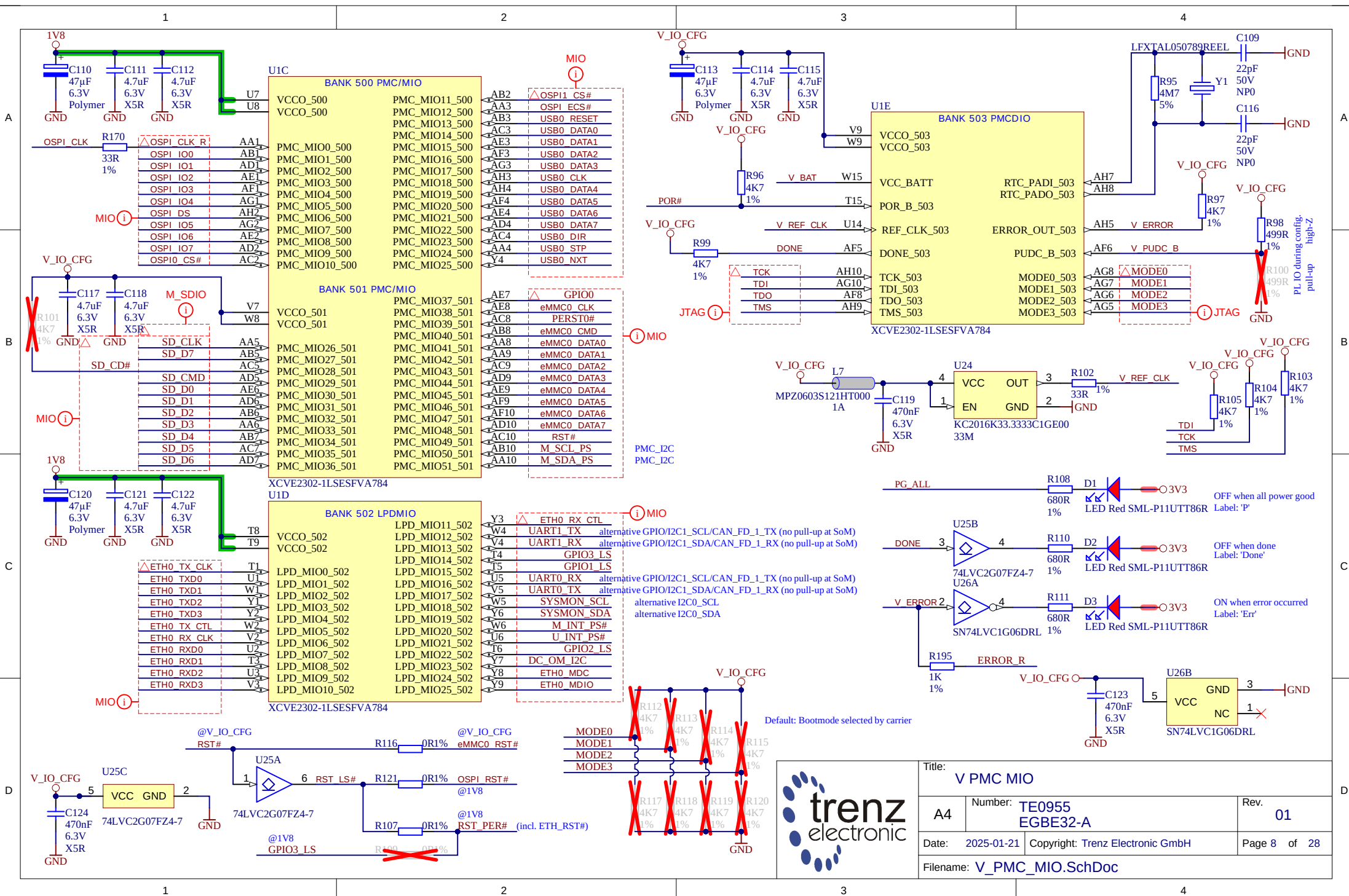
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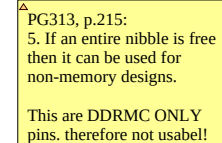




Title:
B2B Connector 2

A4	Number: TE0955 EGBE32-A	Rev. 01
Date: 21.02.2025	Copyright: Trenz Electronic GmbH	Page 7 of 28
Filename: B2B_Connector_2.SchDoc		



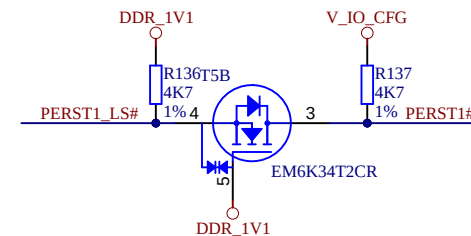
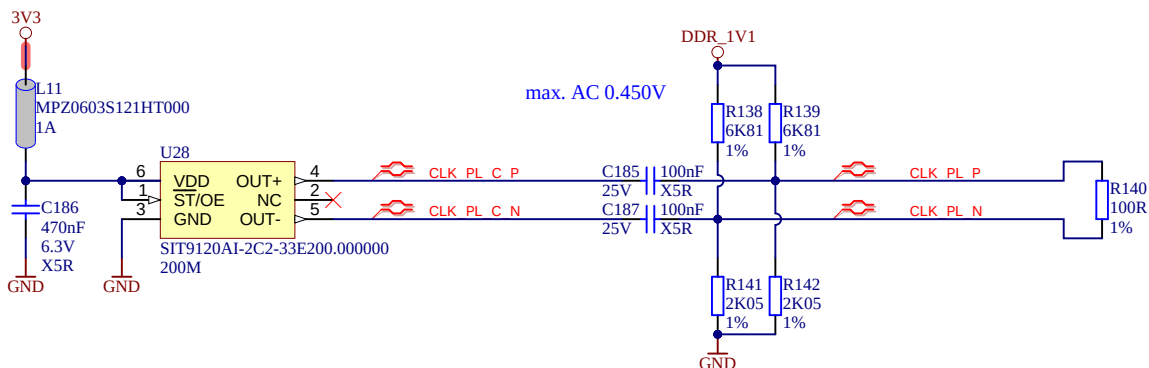
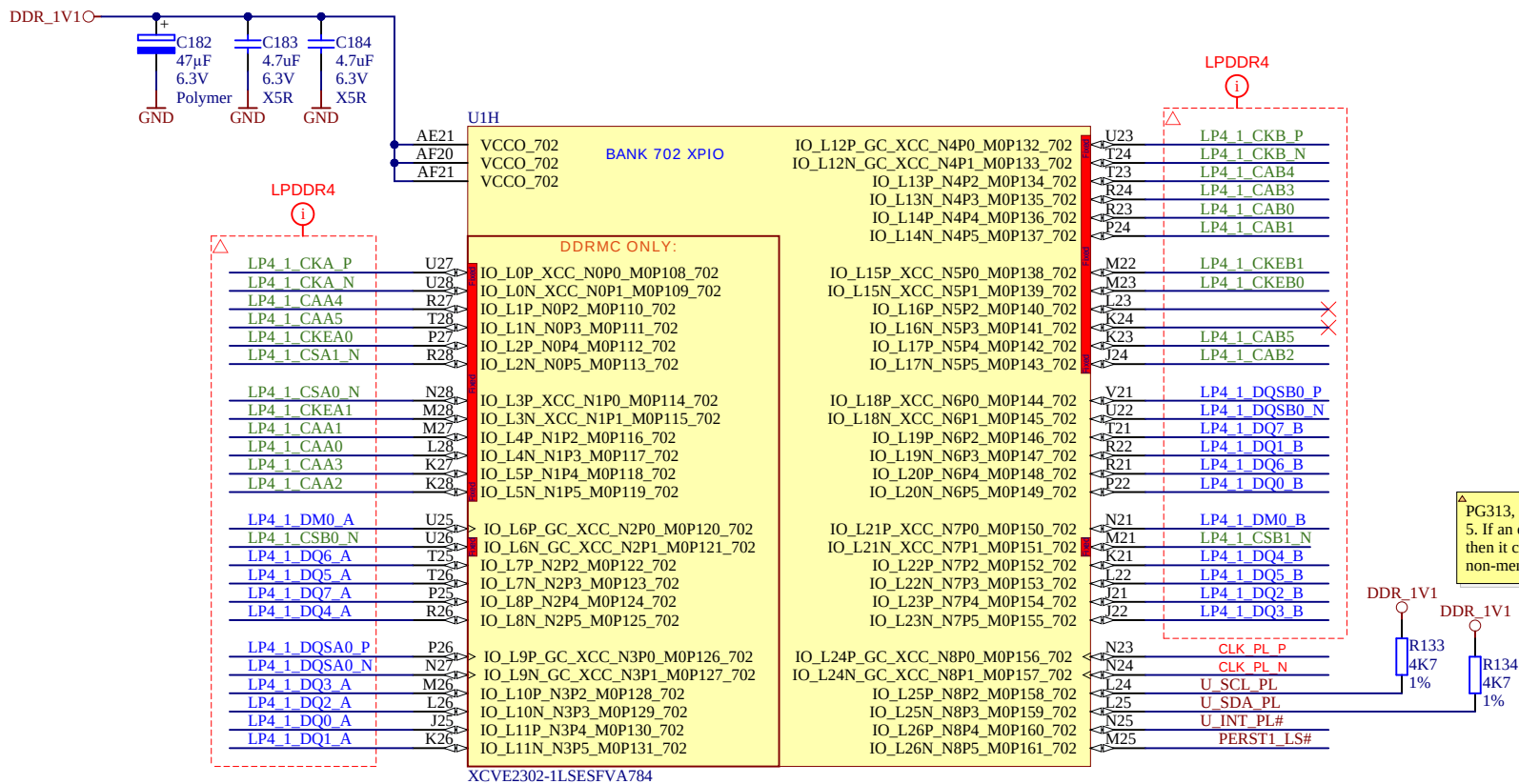


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Title: V XPIO 702			
A4	Number: TE0955 EGBE32-A		Rev. 01
Date: 2025-01-21	Copyright: Trenz Electronic GmbH		Page 11 of 28
Filename: V XPIO 702.SchDoc			

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A

A

Signals within each MIPI
interface are group length
matched <0.05mm.

B

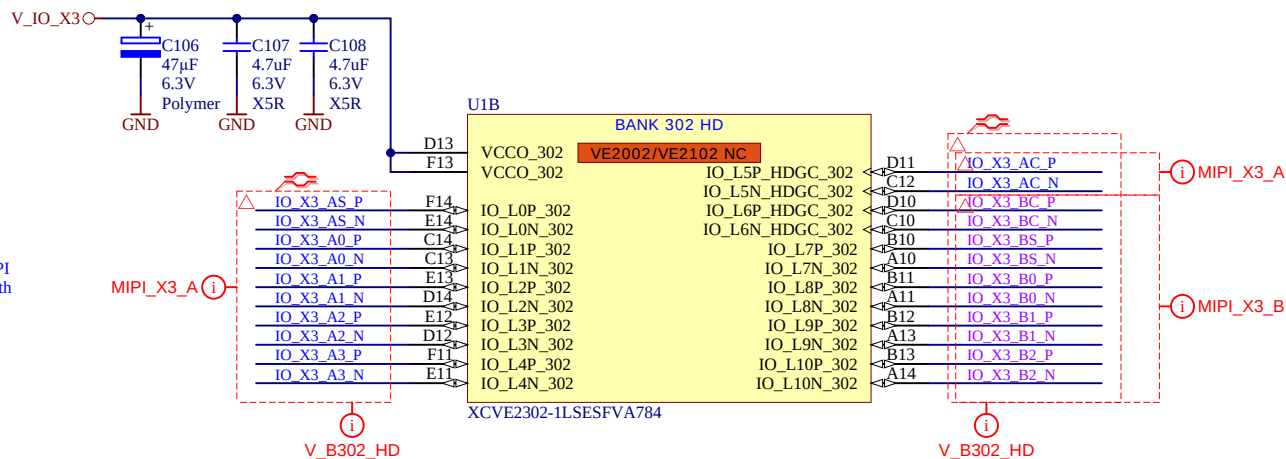
B

C

C

D

D



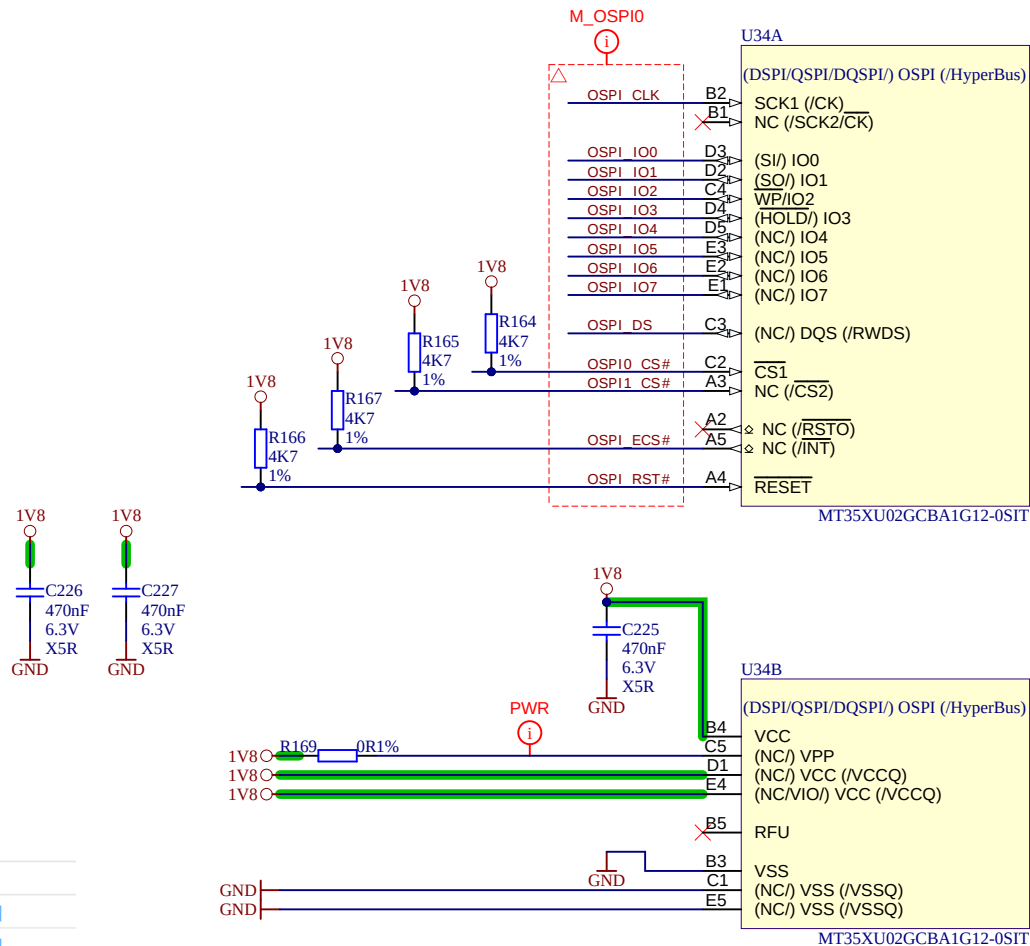
Title: V HD		
A4	Number: TE0955 EGBE32-A	Rev. 01
Date: 20.02.2025	Copyright: Trenz Electronic GmbH	Page 13 of 28
Filename: V_HD.SchDoc		

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OSPI

PMC Bank 0

MIO 0	OSPI: ospi_clk
MIO 1	OSPI: ospi_io[0]
MIO 2	OSPI: ospi_io[1]
MIO 3	OSPI: ospi_io[2]
MIO 4	OSPI: ospi_io[3]
MIO 5	OSPI: ospi_io[4]
MIO 6	OSPI: ospi_ds
MIO 7	OSPI: ospi_io[5]
MIO 8	OSPI: ospi_io[6]
MIO 9	OSPI: ospi_io[7]
MIO 10	OSPI: ospi0_cs_b
MIO 11	OSPI: ospi1_cs_b
MIO 12	GPIO 0: gpio_0_pin[12]

for OSPI_ECS#



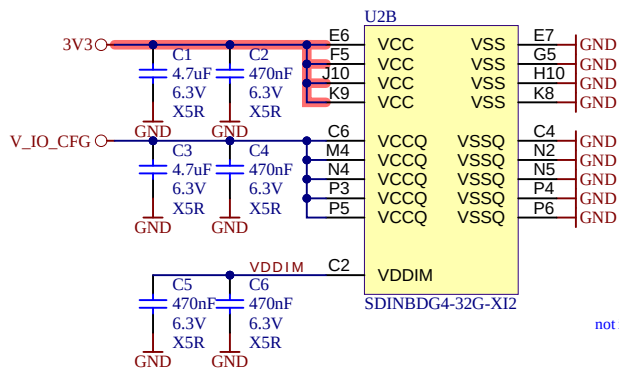
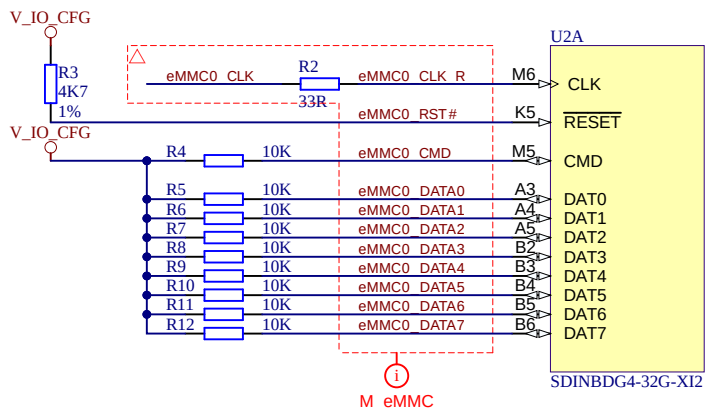
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A4	Number: TE0955 EGBE32-A	Rev. 01
Date: 2025-01-21	Copyright: Trenz Electronic GmbH	Page 17 of 28
Filename: OSPI.SchDoc		

1

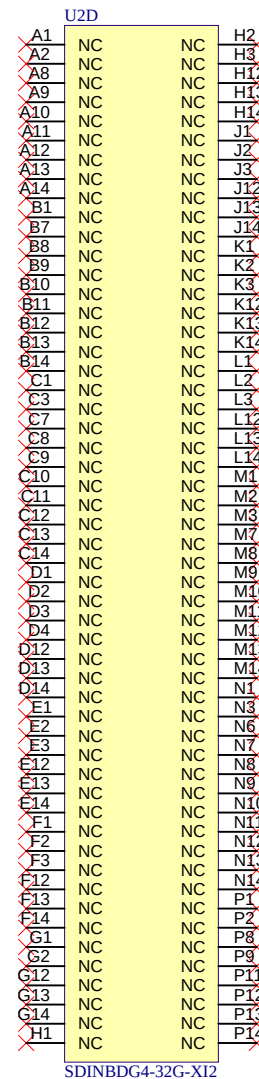
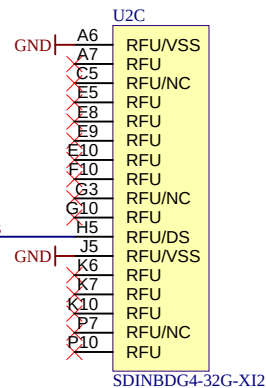
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not implemented



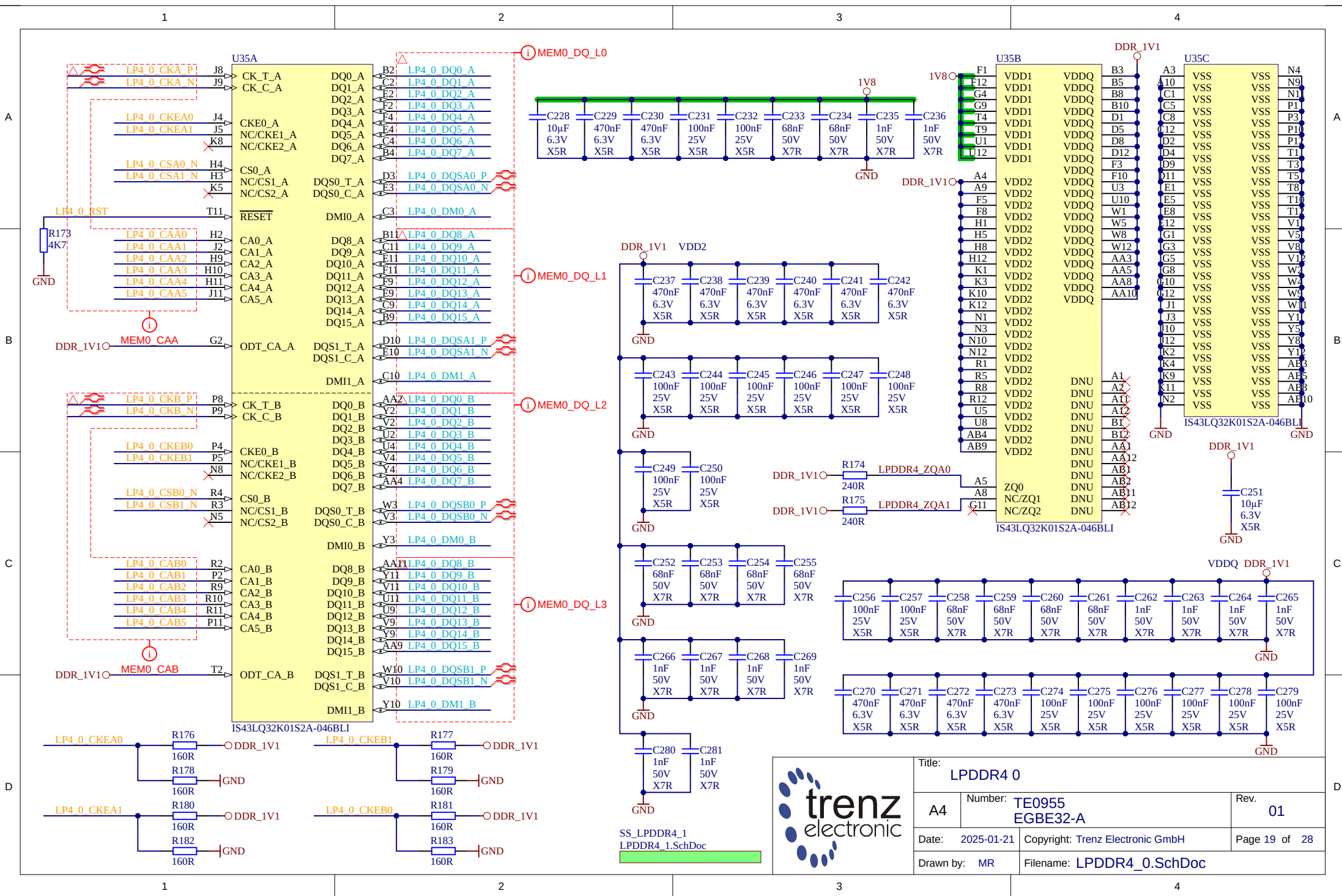
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A4	Number: TE0955 EGBE32-A	Rev. 01
Date: 20.02.2025	Copyright: Trenz Electronic GmbH	Page 18 of 28
Filename: eMMC.SchDoc		

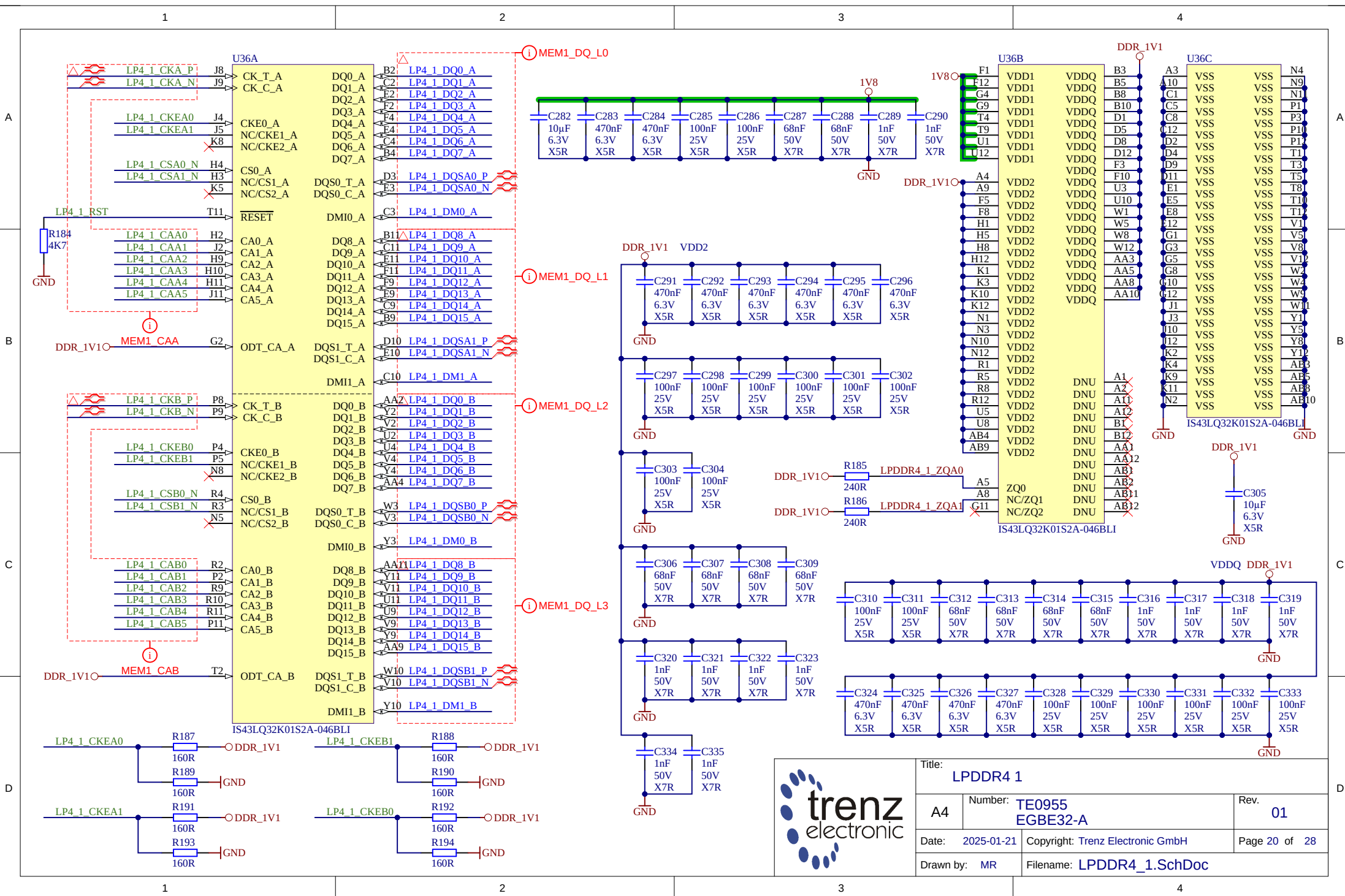
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A

A

B

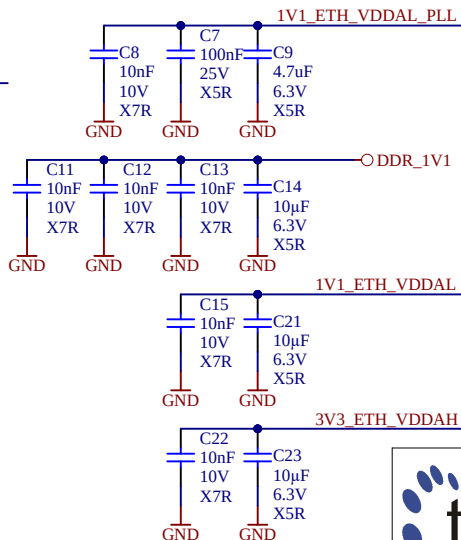
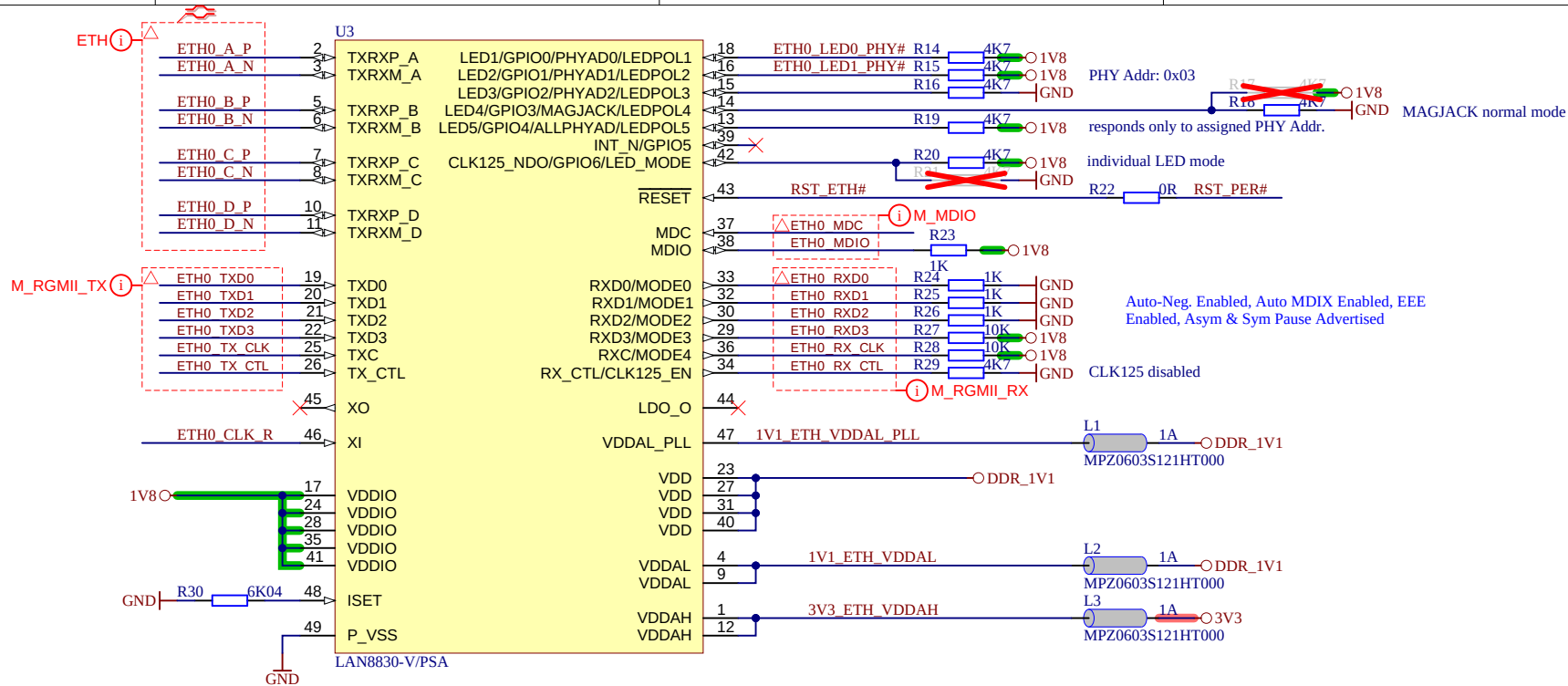
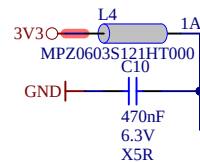
B

C

C

D

D



Title: ETHPHY		
A4	Number: TE0955 EGBE32-A	Rev. 01
Date: 20.02.2025	Copyright: Trenz Electronic GmbH	Page 22 of 28
Filename: ETHPHY.SchDoc		

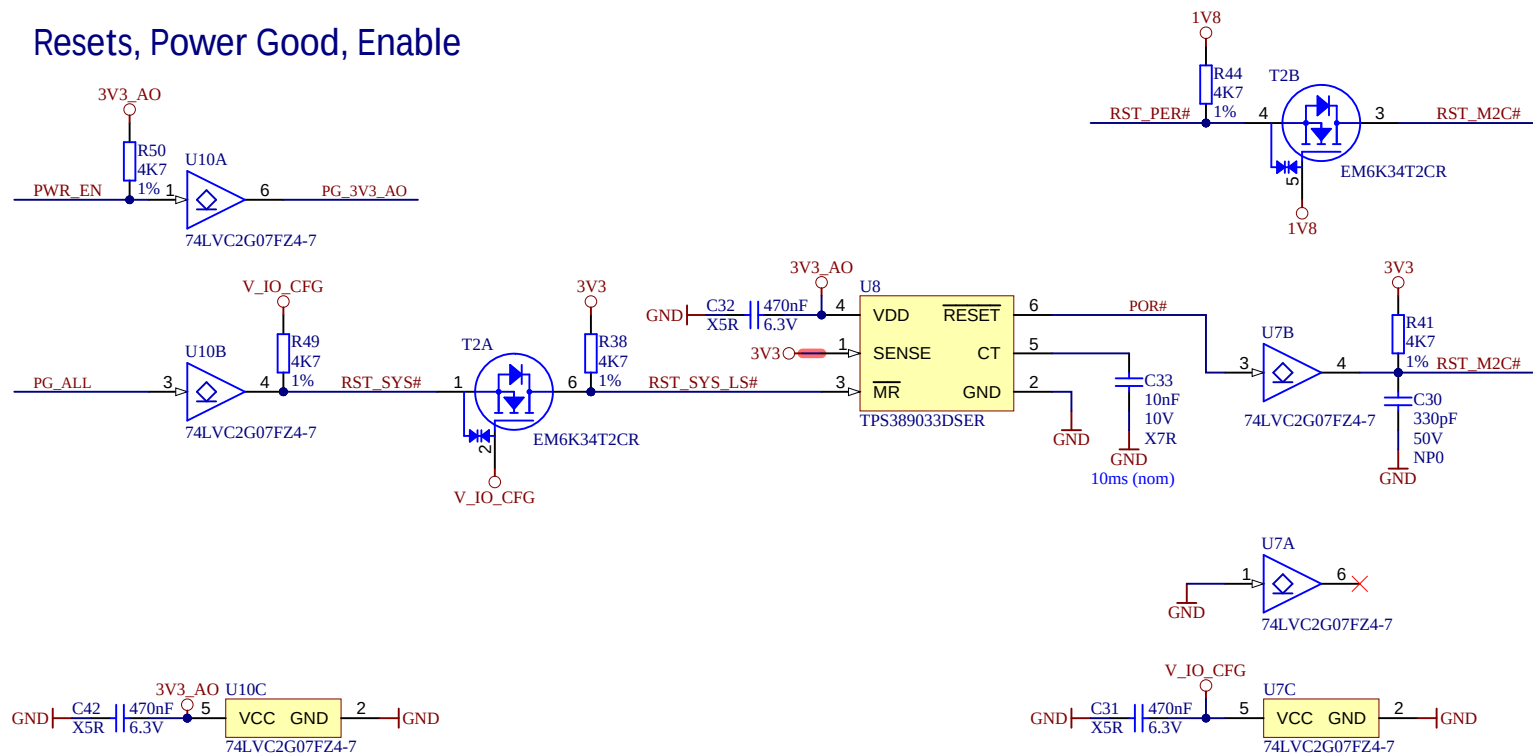
1

2

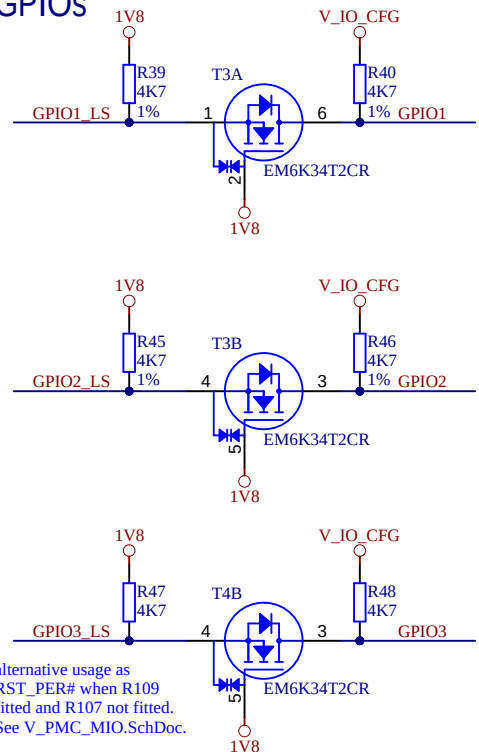
3

4

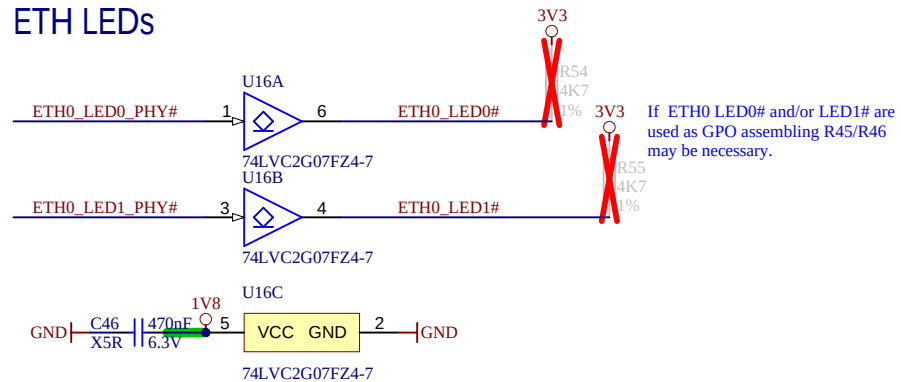
Resets, Power Good, Enable



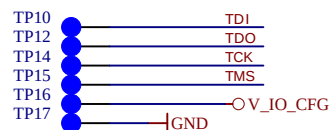
GPIOs



ETH LEDs

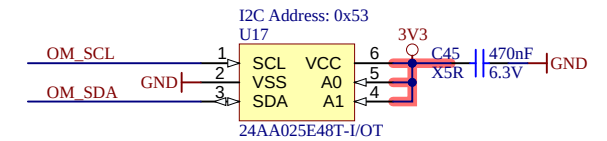
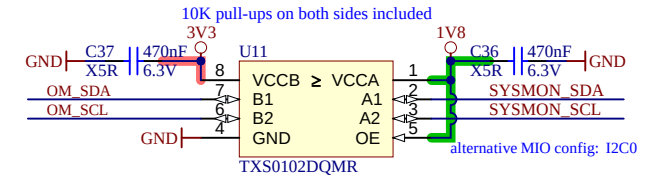
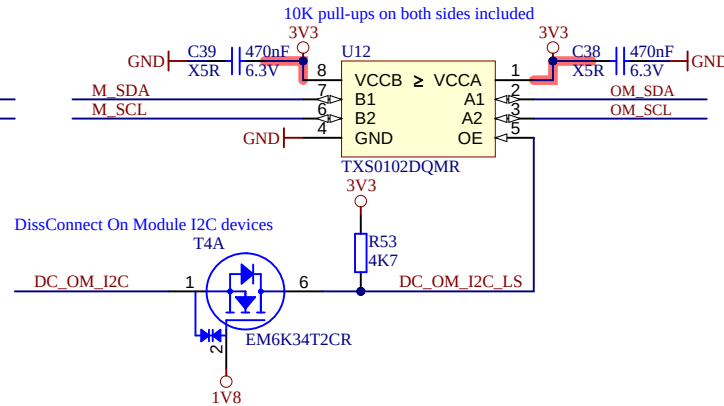
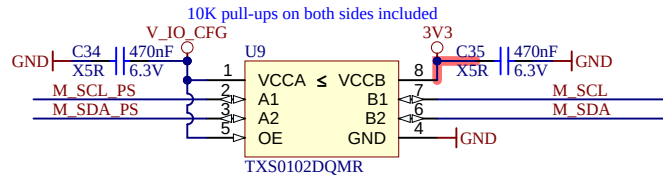
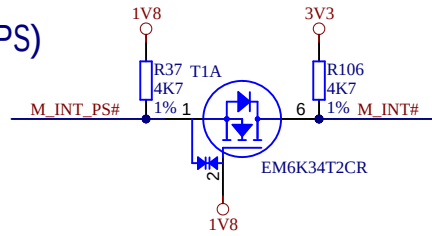


JTAG Testpoints

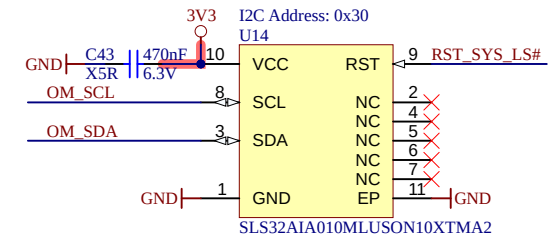
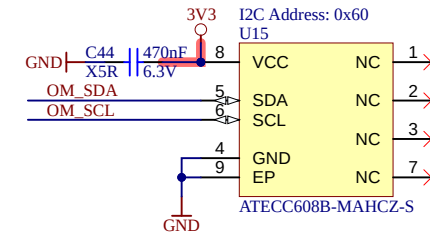
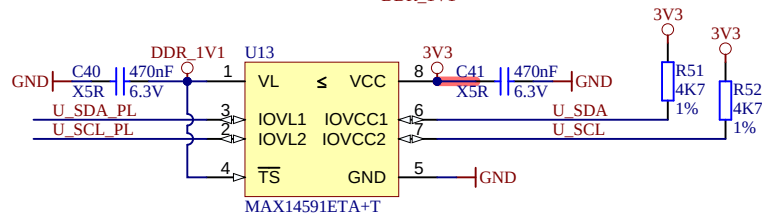
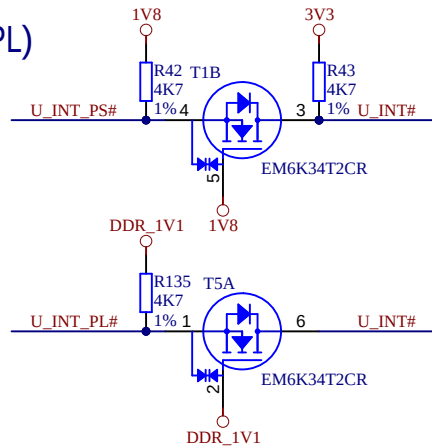


Title: MISC 0		
A4	Number: TE0955 EGBE32-A	Rev. 01
Date: 08.10.2025	Copyright: Trenz Electronic GmbH	Page 23 of 28
Filename: MISC_0.SchDoc		

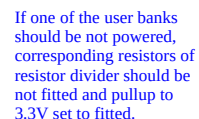
I2C (PMC/PS)



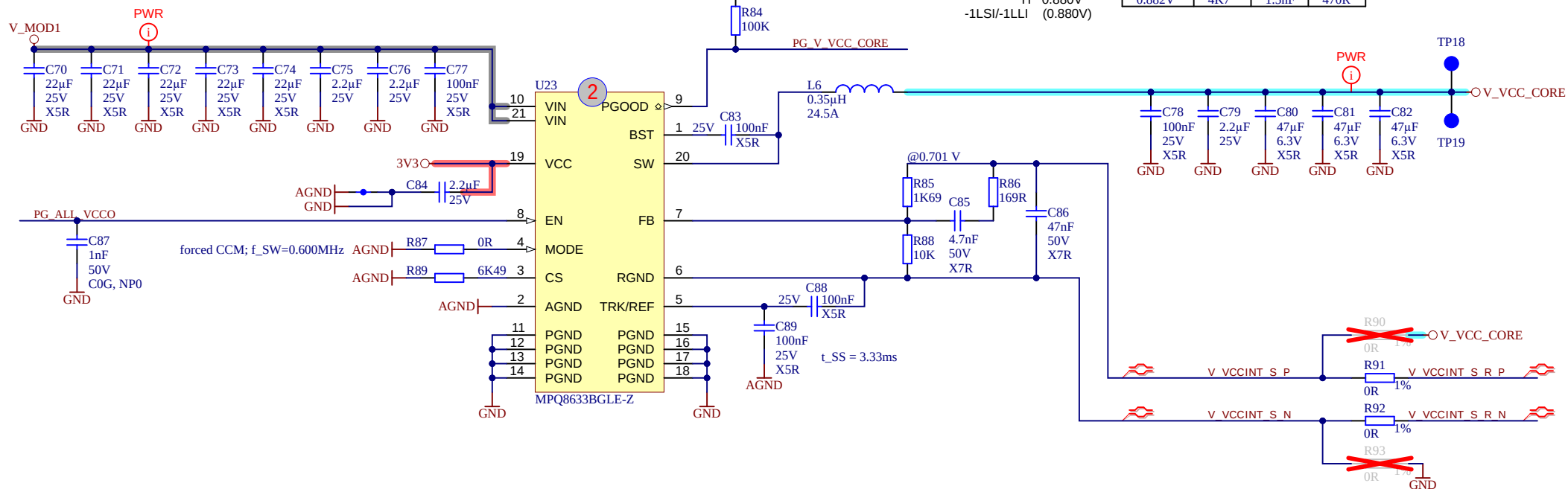
User I2C (PL)



Title: MISC 1		
A4	Number: TE0955 EGBE32-A	Rev. 01
Date: 20.02.2025	Copyright: Trenz Electronic GmbH	Page 24 of 28
Filename: MISC_1.SchDoc		

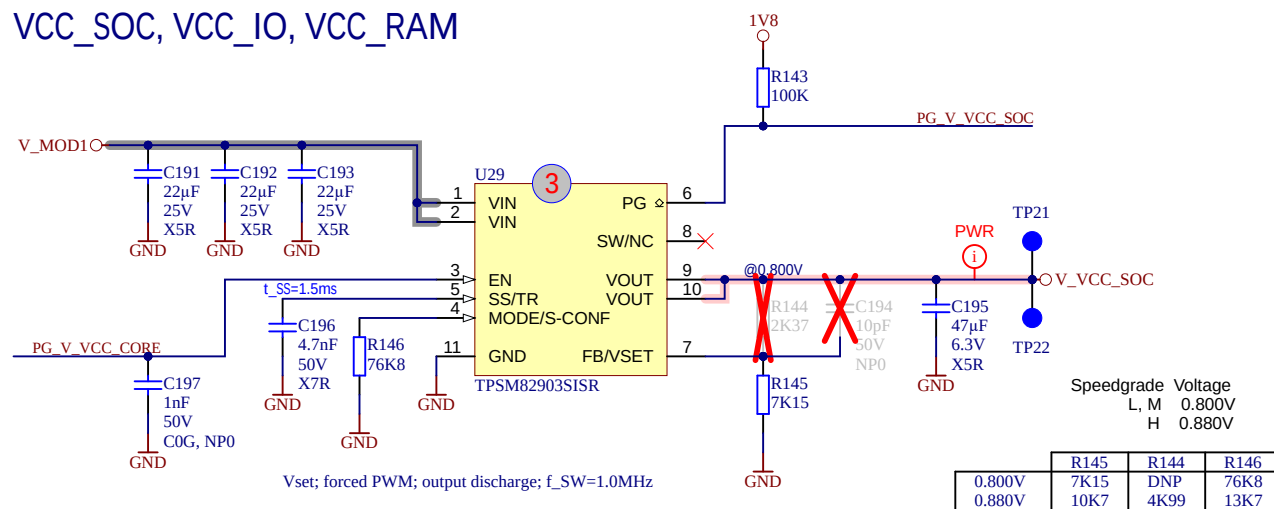


VCCINT, VCC_PSLP, VCC_PSFP, VCC_PMC

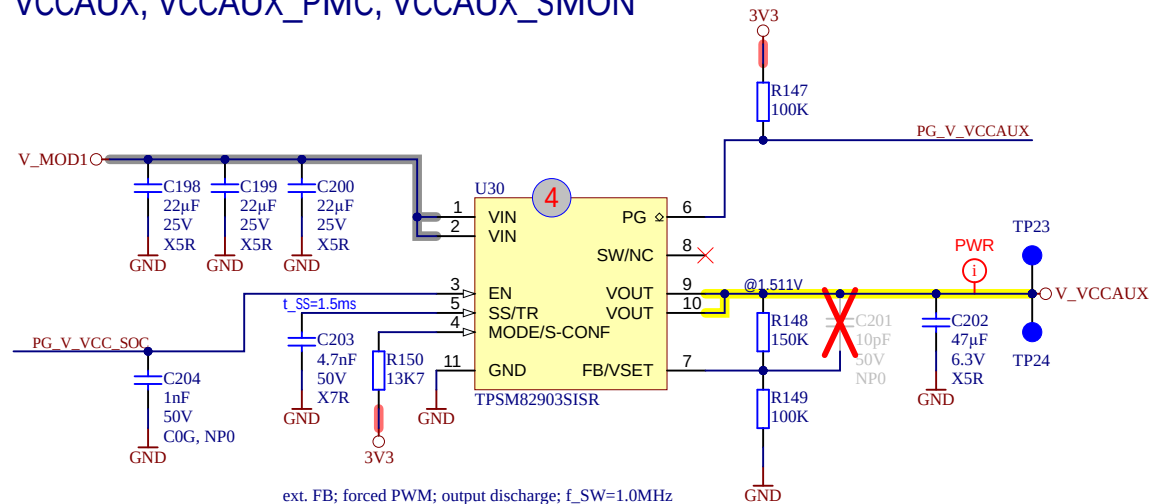


Title: Power 2		
A4	Number: TE0955 EGBE32-A	Rev. 01
Date: 20.02.2025	Copyright: Trenz Electronic GmbH	Page 26 of 28
Filename: Power 2.SchDoc		

VCC_SOC, VCC_IO, VCC_RAM

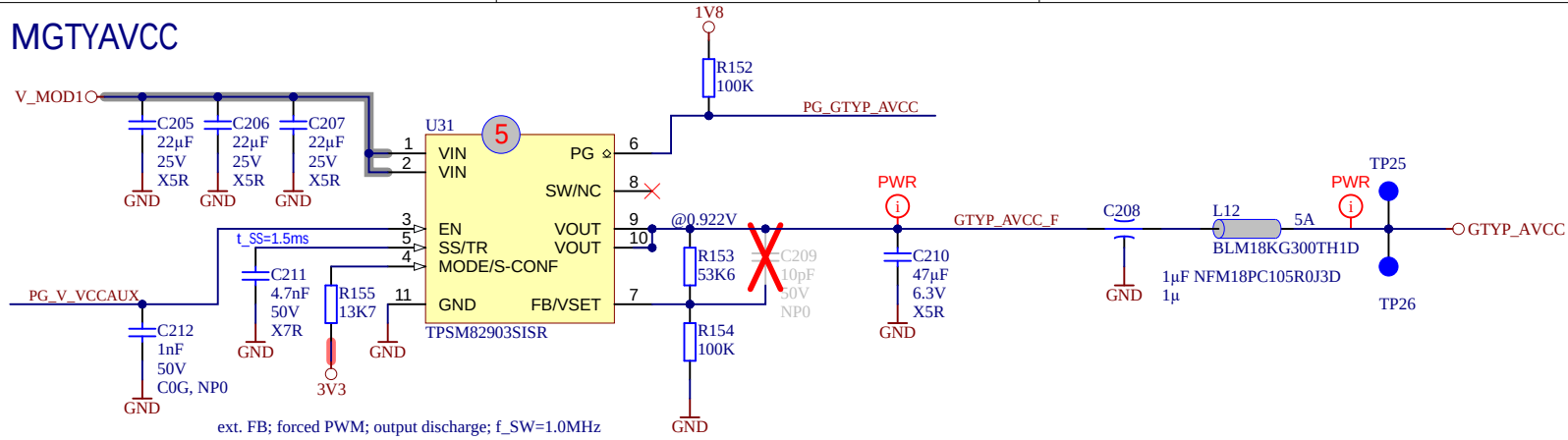


VCCAUX, VCCAUX_PMC, VCCAUX_SMON

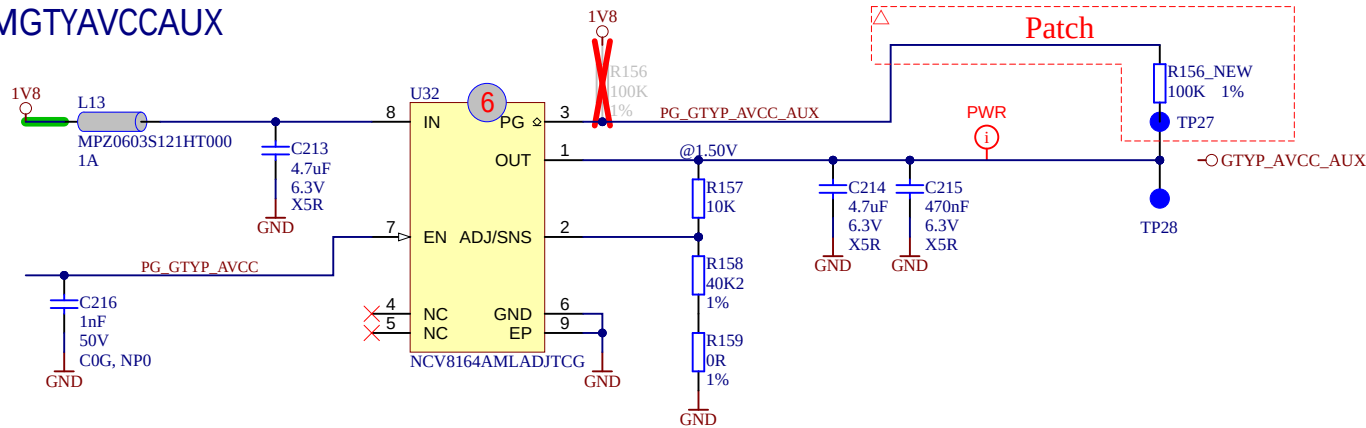


Title: Power 3		
A4	Number: TE0955 EGBE32-A	Rev. 01
Date: 2025-01-21	Copyright: Trenz Electronic GmbH	
Filename: Power_3.SchDoc		Page 27 of 28

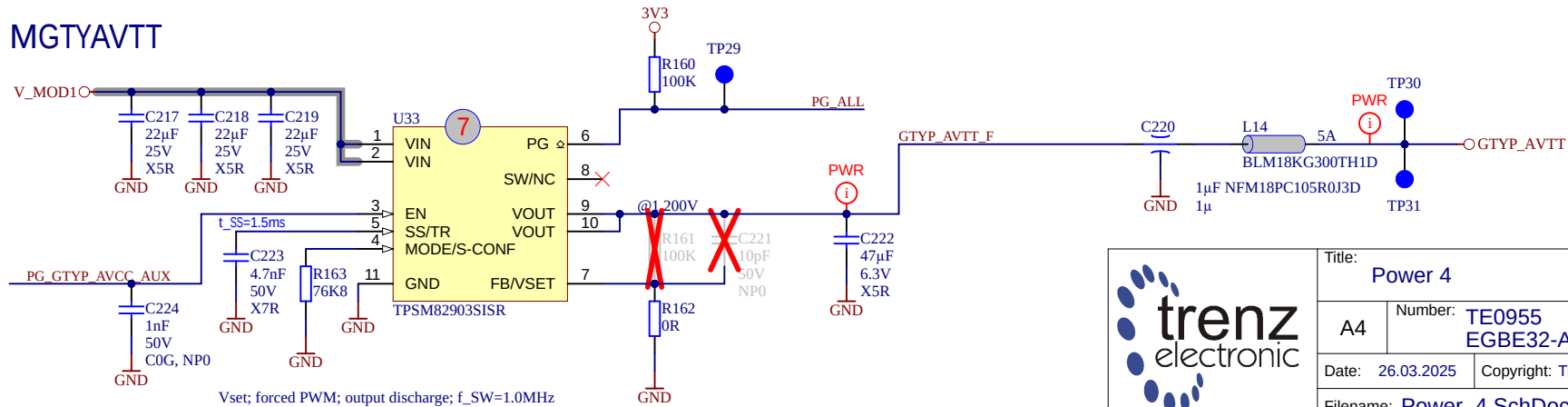
MGTYAVCC



MGTYAVCCAUX



MGTYAVTT



Title: Power 4		
A4	Number: TE0955 EGBE32-A	Rev. 01
Date: 26.03.2025	Copyright: Trenz Electronic GmbH	Page 28 of 28
Filename: Power_4.SchDoc		