


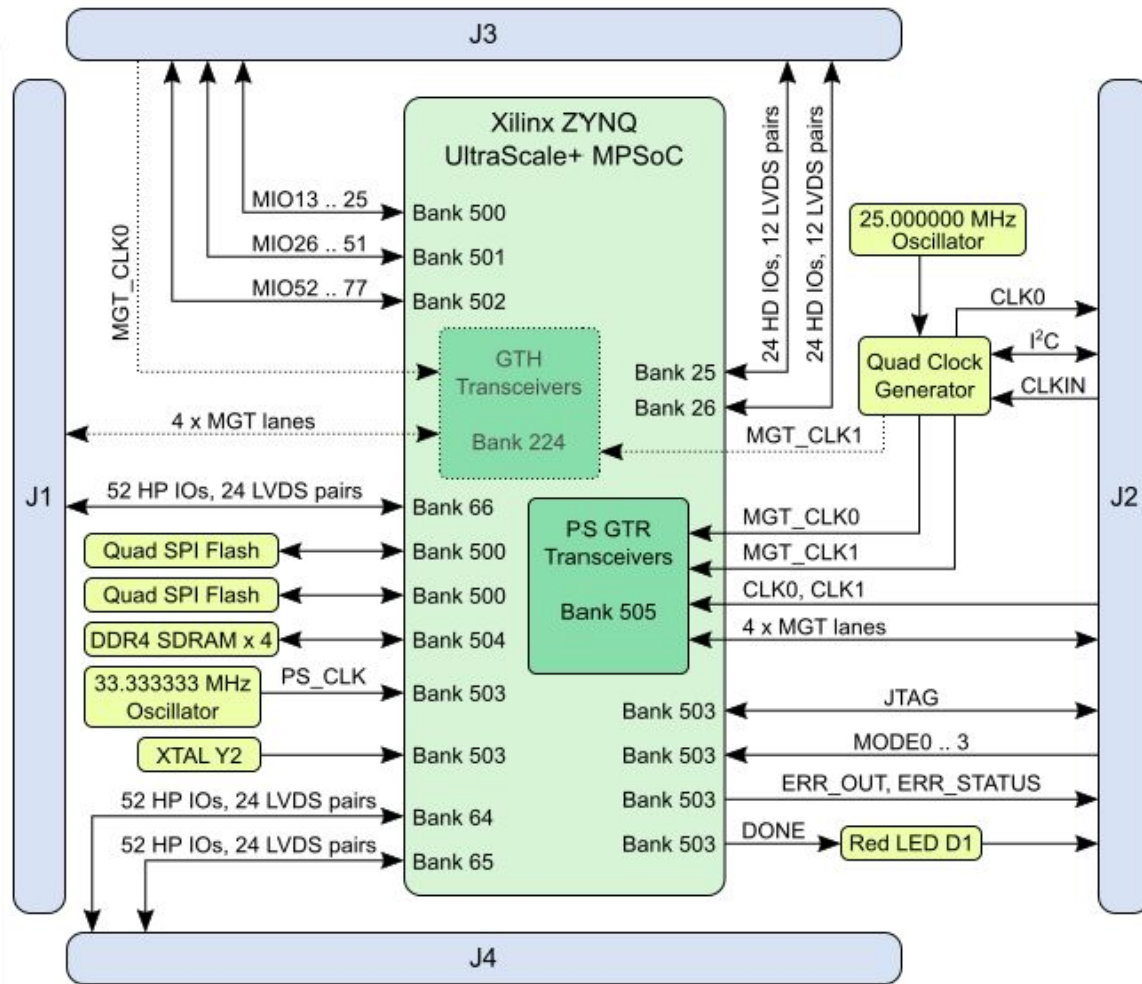
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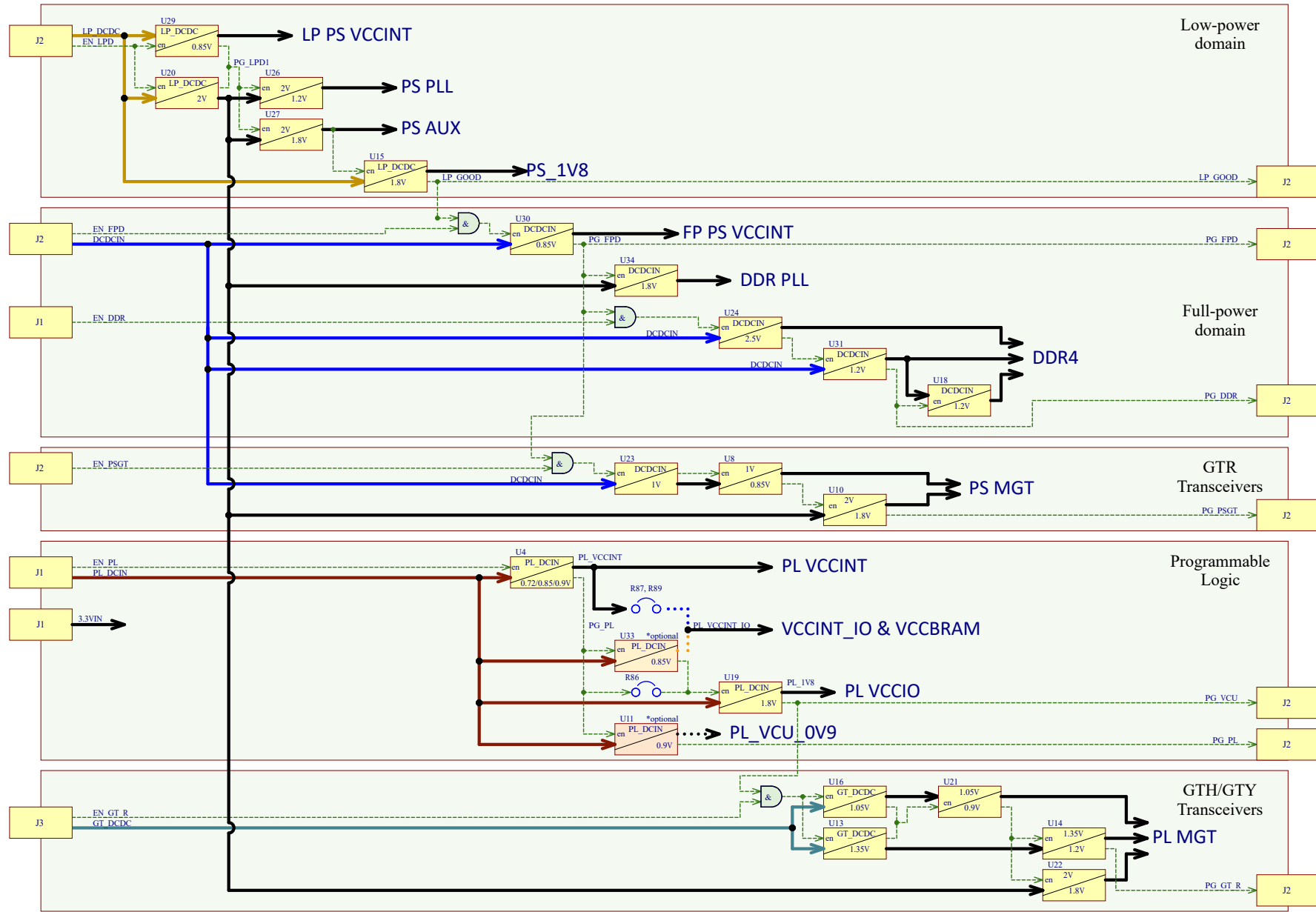
Schematics and other handouts serve for informational purposes only!

	Title: TE0813		Rev. 01
	A4	Number: TE0813 3AE11-A	
	Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 1 of 30
	Filename: Legal Notices Modules.SchDoc		

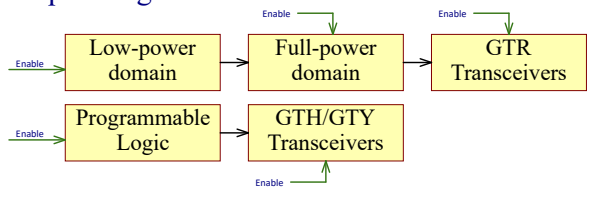
TE0813-01



		Title: Module TE0813 - System Overview	
		A4	Number: TE0813 3AE11-A
Date: 2021-08-16		Copyright: 2015 Trenz Electronic GmbH	
Filename: TE0813-Overview.SchDoc		Page 2 of 30	



Power-on sequencing:



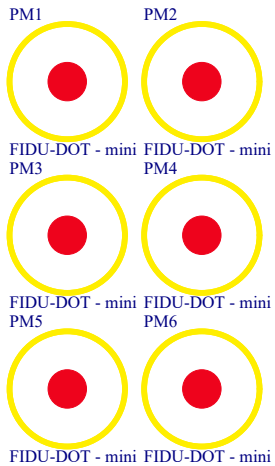
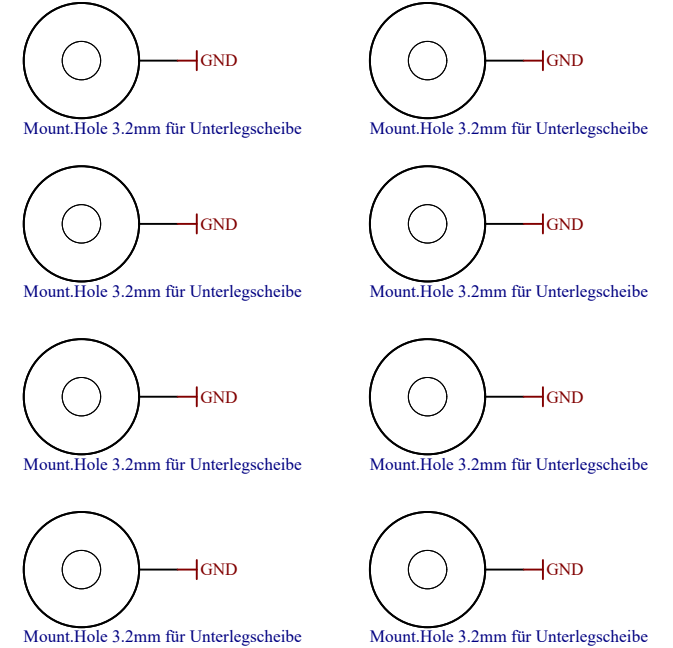
- EN_GT_R Net name
- Power bus
- Control signal
- Power bus in FPGA speedgrade -1/-2/-3 assembly variants
- Power bus in FPGA speedgrade -1L/-2L assembly variants (low power)
- Optional power converter
- Optional power converter
- Logic AND gate



Title: TE0813 - Power Diagram		
A3	Number: TE0813 3AE11-A	Rev. 01
Datum: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page 3 of 30
Filename: Power_Diagram.SchDoc		

U_J1 J1.SchDoc	U_B_PS_GT B_PS_GT.SchDoc	U_LN Legal Notices Modules.SchDoc
U_J2 J2.SchDoc	U_PS_DDR PS_DDR.SchDoc	U_ZU_POWER ZU_POWER.SchDoc
U_J3 J3.SchDoc	U_B_MIO B_MIO.SchDoc	U_ZU_PS_POWER ZU_PS_POWER.SchDoc
U_J4 J4.SchDoc	U_B_HD B_HD.SchDoc	U_POWER POWER.SchDoc
U_DDR4-TERM DDR4-TERM.SchDoc	U_Clock Clock.SchDoc	U_POWER_1 POWER_1.SchDoc
U_B64 B64.SchDoc	U_CONFIG CONFIG.SchDoc	U_POWER_2 POWER_2.SchDoc
U_B65 B65.SchDoc	U_DDR4-RAM DDR4-RAM.SchDoc	U_POWER_4 POWER_3.SchDoc
U_B66 B66.SchDoc	U_DDR4-RAM_2 DDR4-RAM_2.SchDoc	U_REV_CH Revision Changes.SchDoc
U_B_GT B_GT.SchDoc	U_DDR4-RAM_3 DDR4-RAM_3.SchDoc	U_OVERVIEW TE0813-Overview.SchDoc
U_PD Power_Diagram.SchDoc	U_DDR4-RAM_4 DDR4-RAM_4.SchDoc	

Special notes:



MECH1

TE Address Overlay

LOGO ADDRESS


LOGO1

TE Logo PRINT Layer

LOGO PRINT

Serial
Serial
Serialnumber 6,3 x 6.3mm

Assembly variant	3AE11-A
Created by	ED
Modified by	ED
Modified at	2021-07-07
SVN Revision	12304 [Locally Modified]

	Title: TE0813		
	A4	Number: TE0813 3AE11-A	Rev. 01
	Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 4 of 30
	Filename: TE0813.SchDoc		

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A

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D

JM1A

JM1B

ADM6-60-01.5-L-4-2

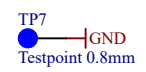
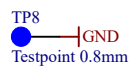
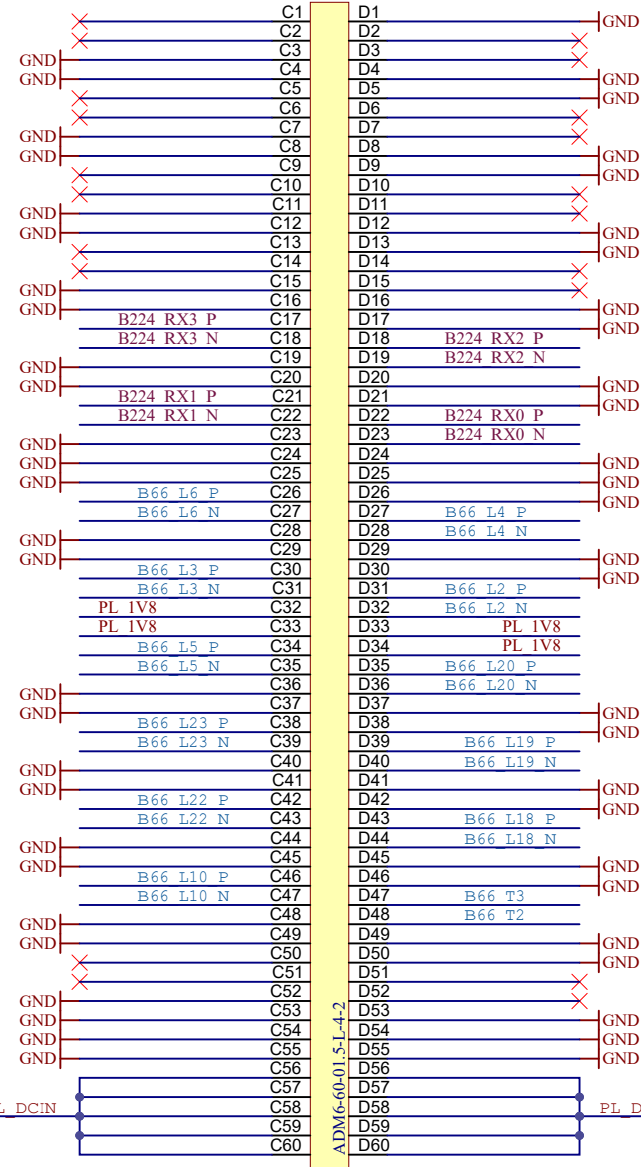
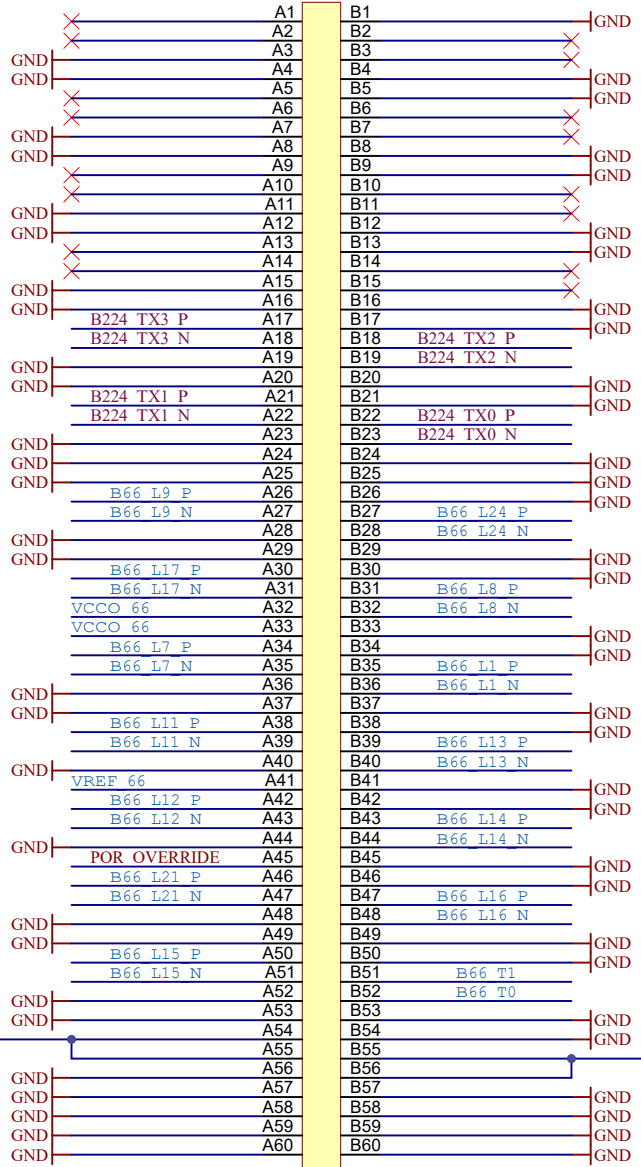
ADM6-60-01.5-L-4-2

3.3VIN

3.3VIN

PL_DCIN

PL_DCIN



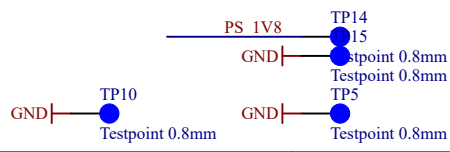
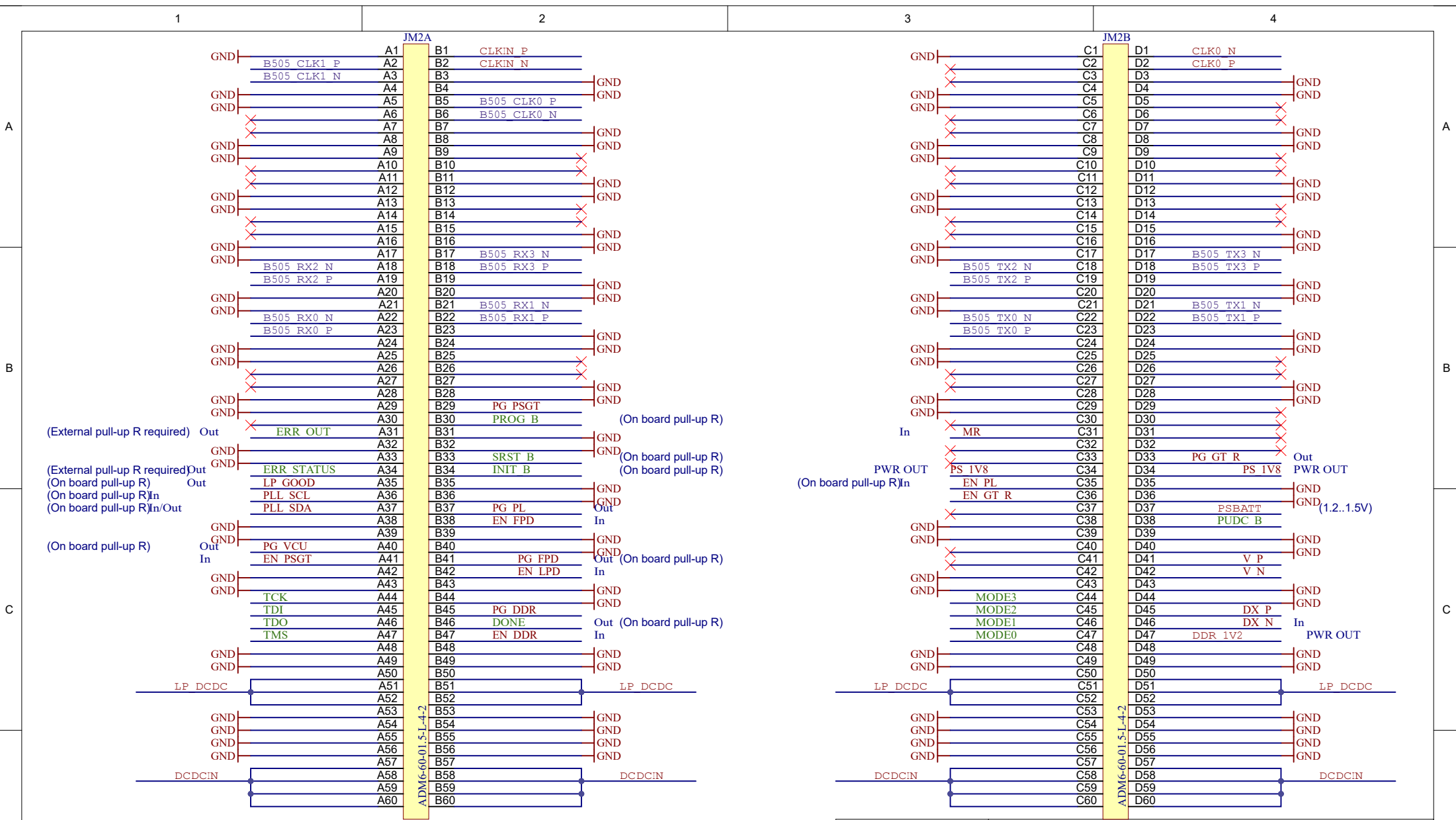
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A4	Number: TE0813 3AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 5 of 30
Filename: J1.SchDoc		

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Title: **TE0813 - Connector J2**

A4	Number: TE0813 3AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	
Page 6 of 30		

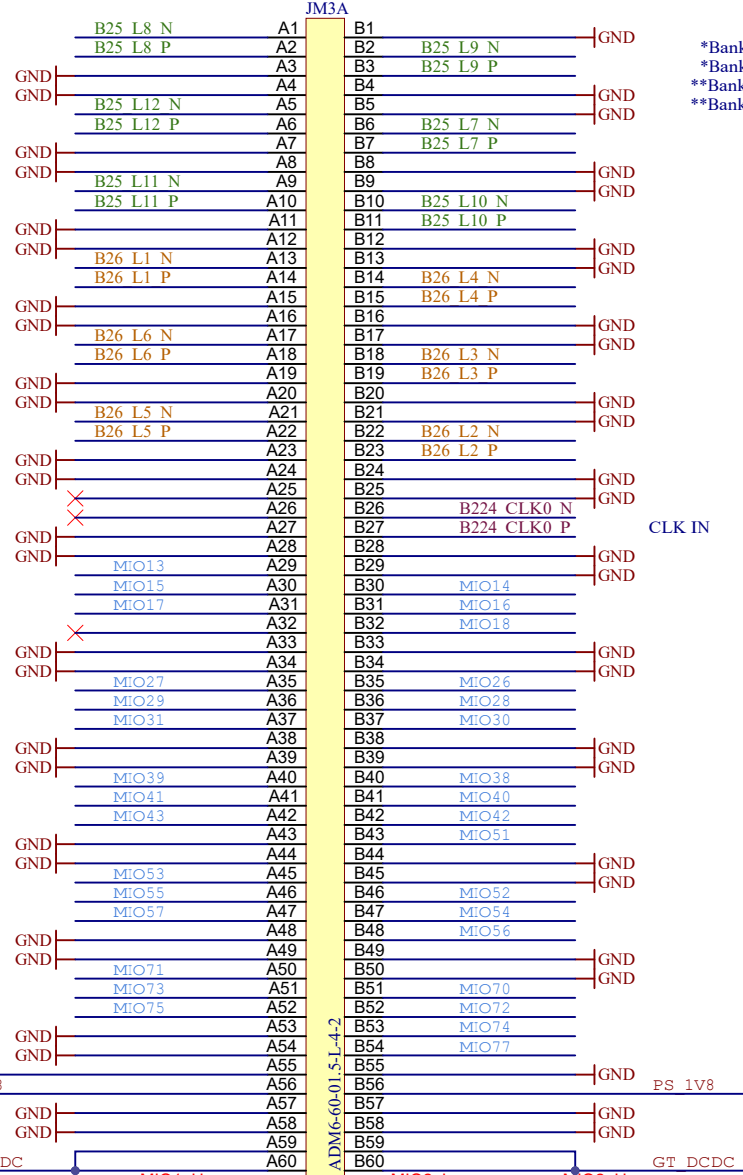
Filename: **J2.SchDoc**

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*Bank 25 for XCZU2/3
 *Bank 45 for XCZU4/6
 **Bank 26 for XCZU2/3
 **Bank 46 for XCZU4/5

CLK IN

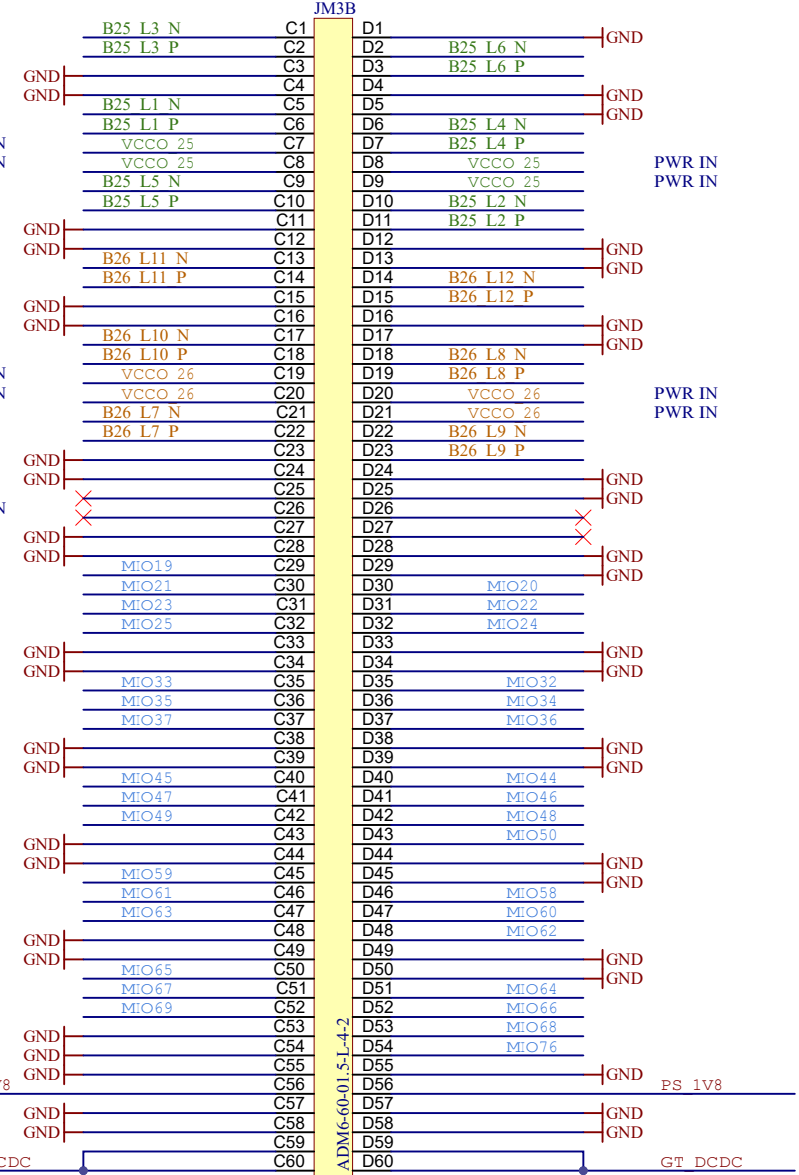
PWR IN
PWR IN

PWR IN
PWR IN

CLK IN

PS 1V8

GT DCDC



PWR IN
PWR IN

PWR IN
PWR IN

GND
GND

GND
GND

PS 1V8

GT DCDC

MIO1_L	MIO1_H	MIO2_L	MIO2_H	MIO0_H	
MIO26	MIO32	MIO38	MIO45	MIO13	MIO19
MIO27	MIO33	MIO39	MIO46	MIO14	MIO20
MIO28	MIO34	MIO40	MIO47	MIO15	MIO21
MIO29	MIO35	MIO41	MIO48	MIO16	MIO22
MIO30	MIO36	MIO42	MIO49	MIO17	MIO23
MIO31	MIO37	MIO43	MIO50	MIO18	MIO24
		MIO44	MIO51		MIO25
		MIO52	MIO58		
		MIO53	MIO59		
		MIO54	MIO60		
		MIO55	MIO61		
		MIO56	MIO62		
		MIO57	MIO63		
		MIO64	MIO71		
		MIO65	MIO72		
		MIO66	MIO73		
		MIO67	MIO74		
		MIO68	MIO75		
		MIO69	MIO76		
		MIO70	MIO77		



Title: TE0813 - Connector J3		
A4	Number: TE0813 3AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 7 of 30
Filename: J3.SchDoc		

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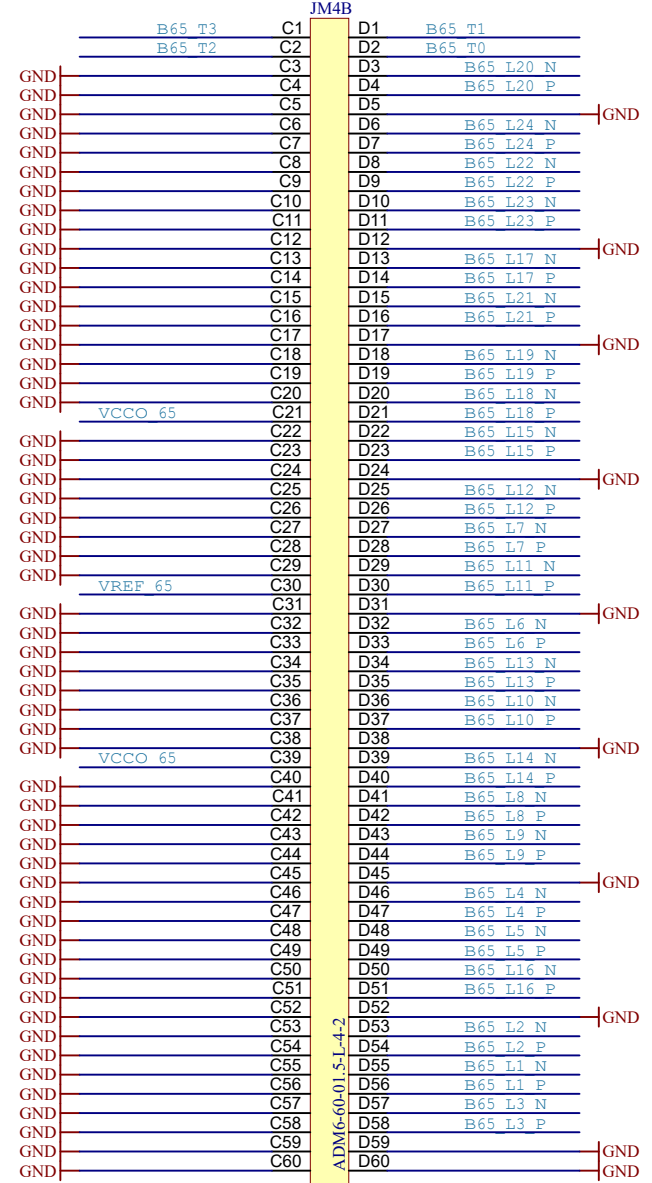
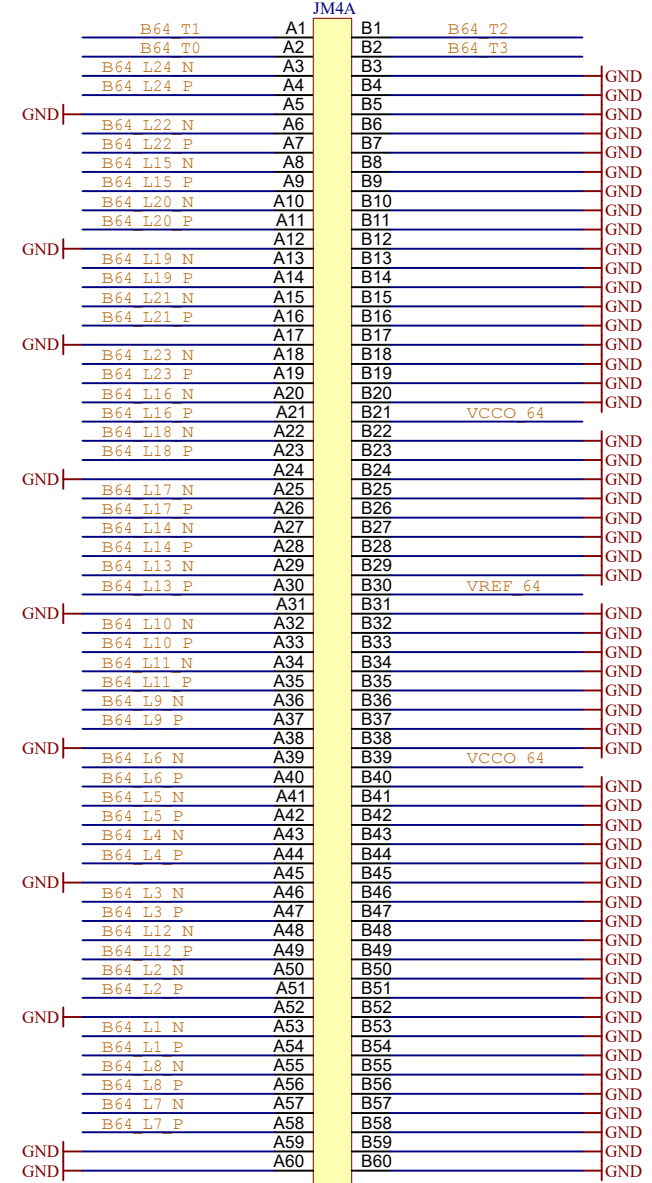
B

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C

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D



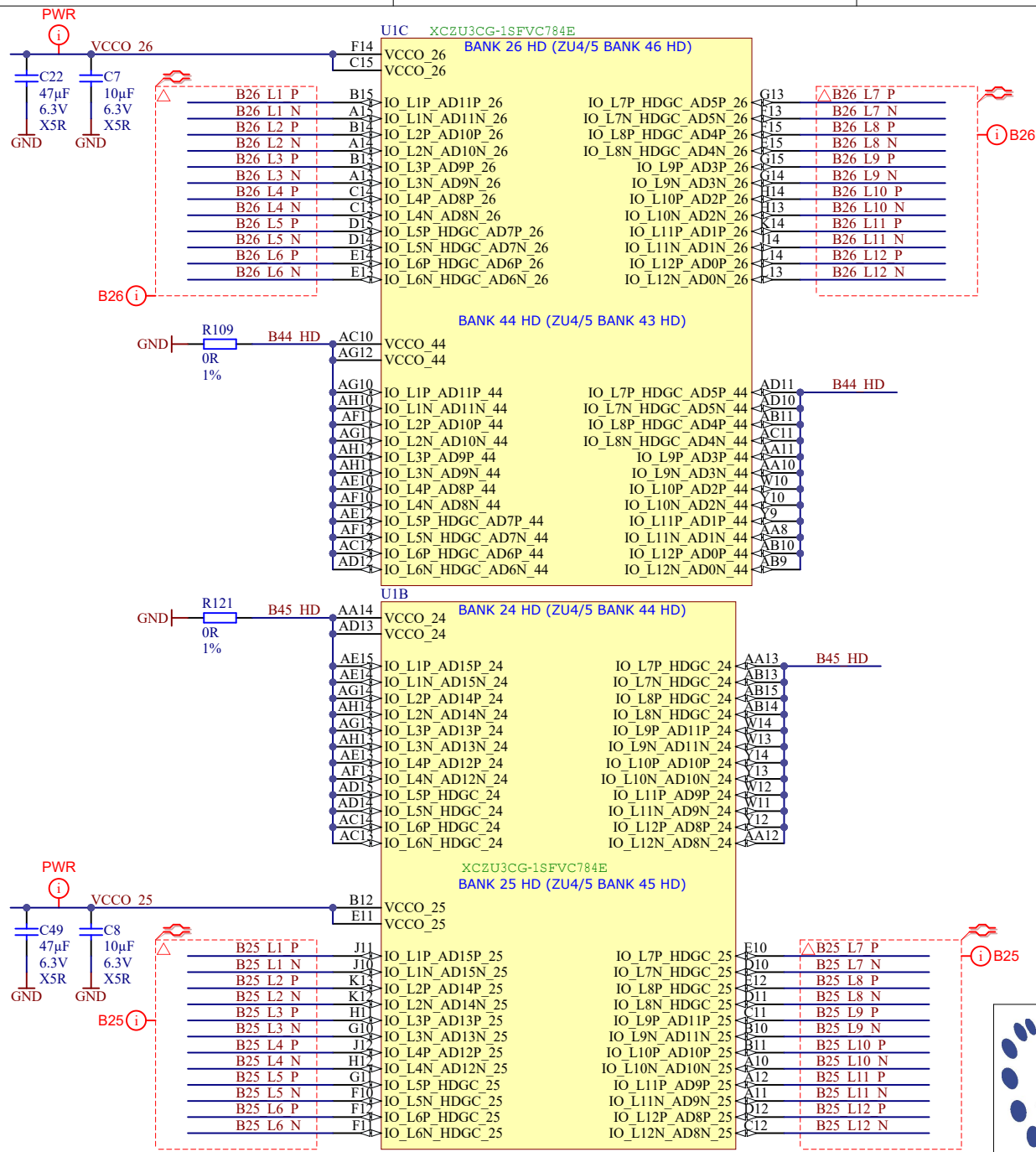
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A4	Number: TE0813 3AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 8 of 30
Filename: J4.SchDoc		

1

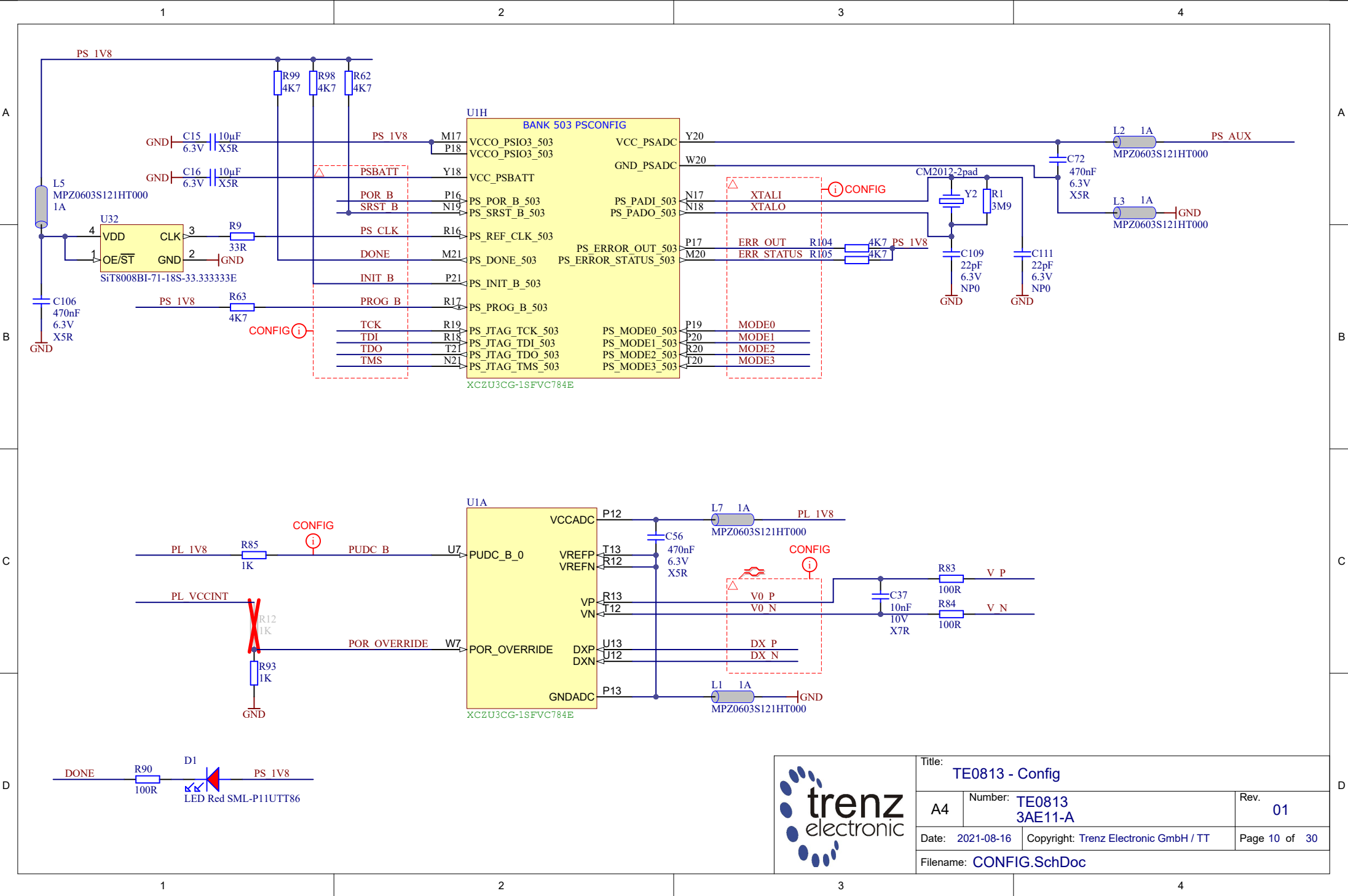
2

3

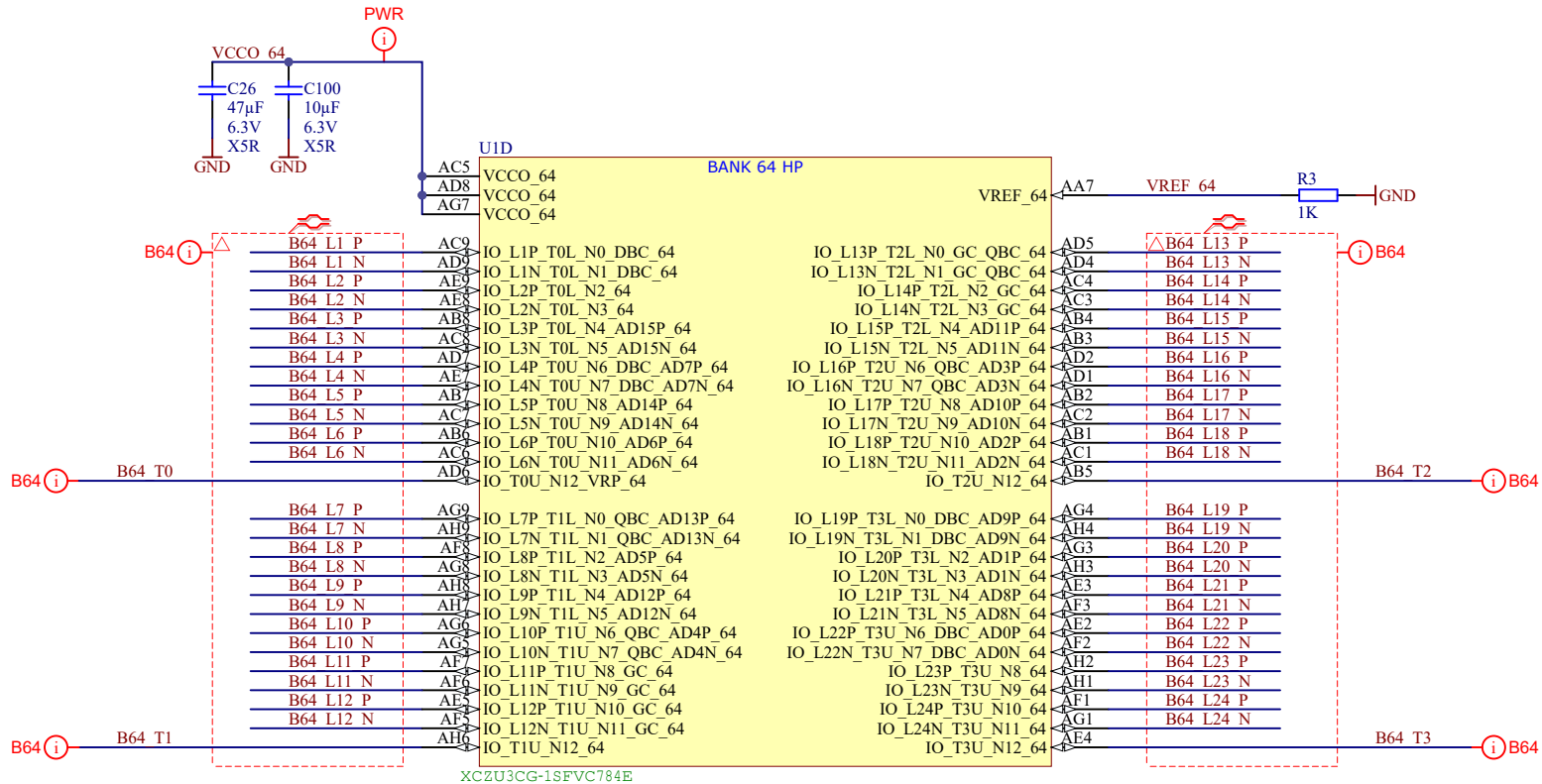
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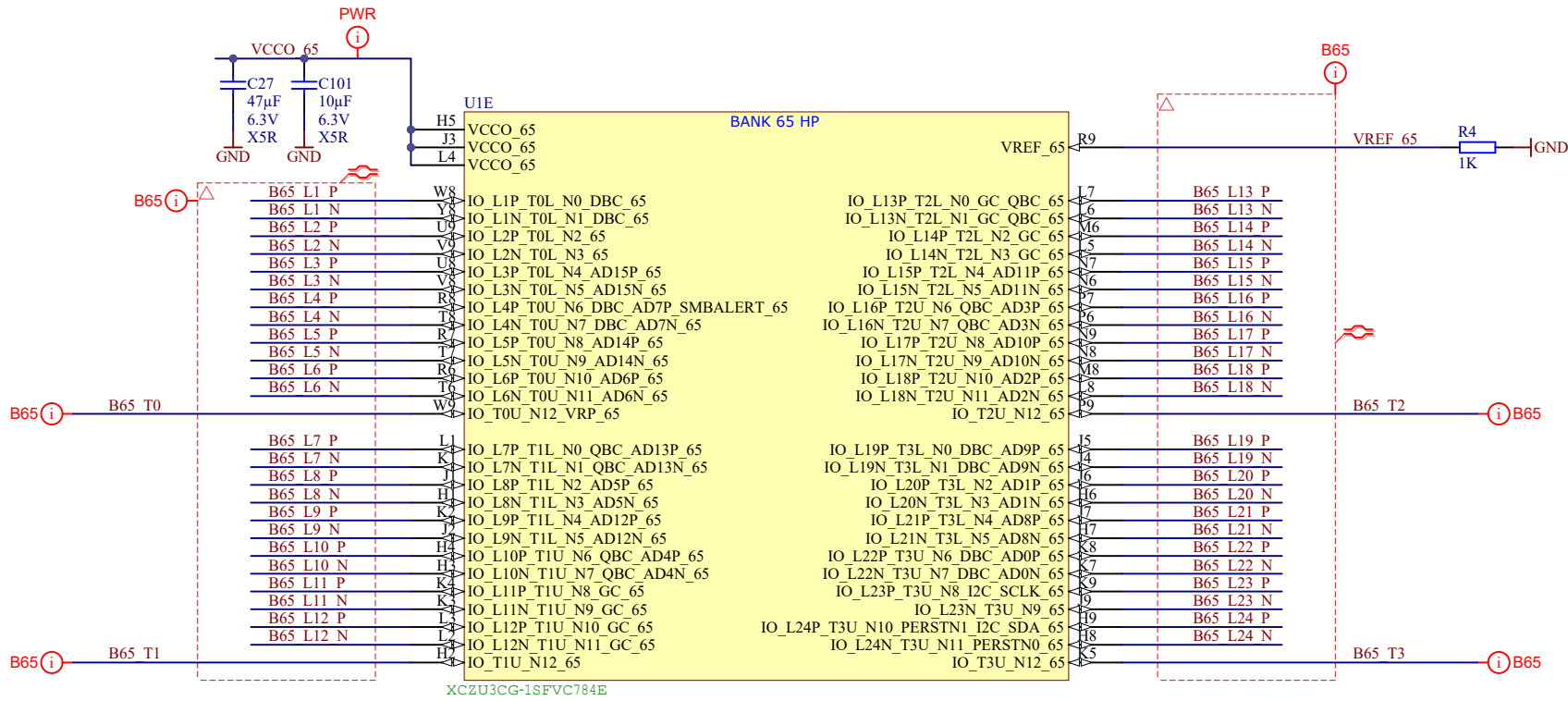
Title: TE0813 - HD Banks		
A4	Number: TE0813 3AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 9 of 30
Filename: B_HD.SchDoc		



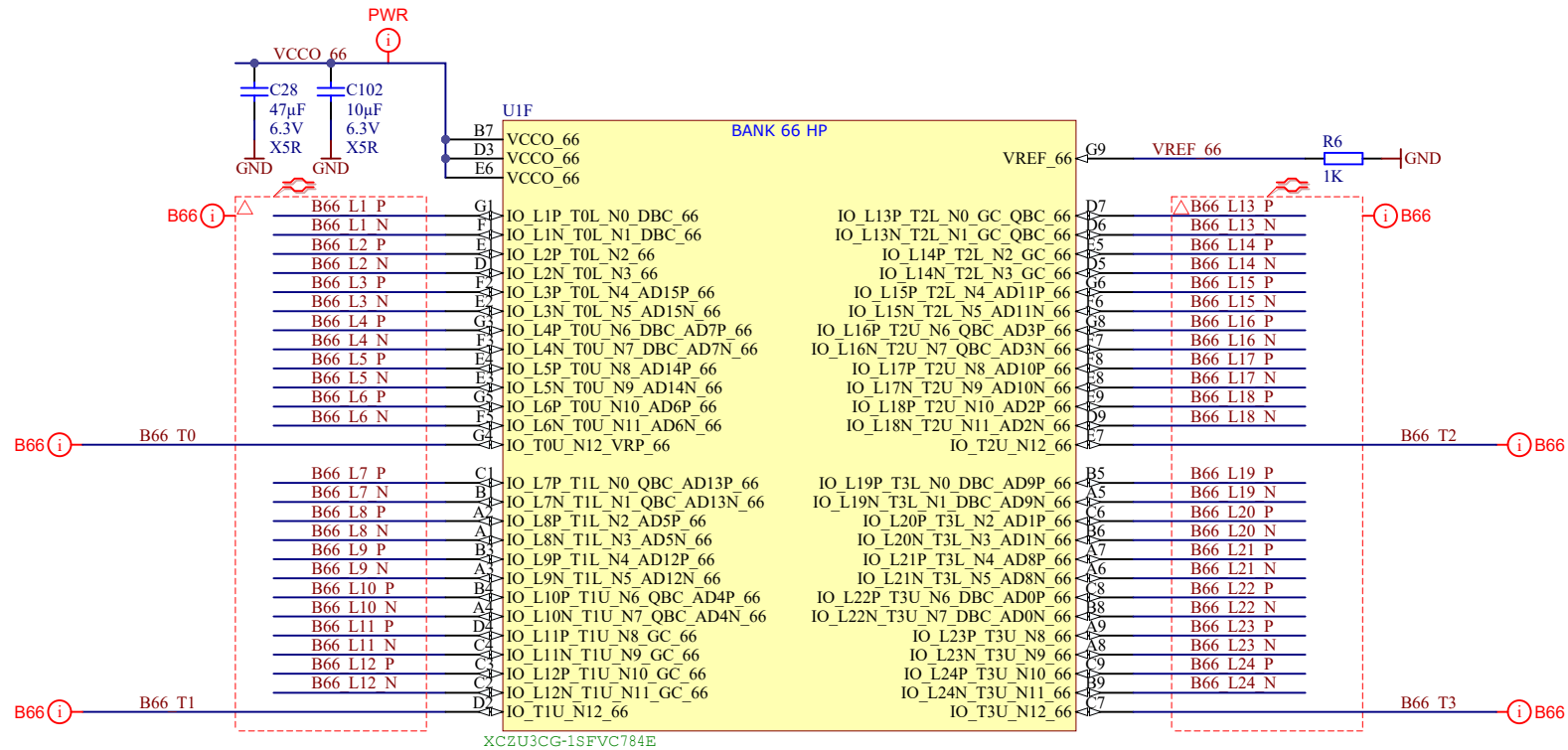

Title: TE0813 - Config		
A4	Number: TE0813 3AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 10 of 30
Filename: CONFIG.SchDoc		



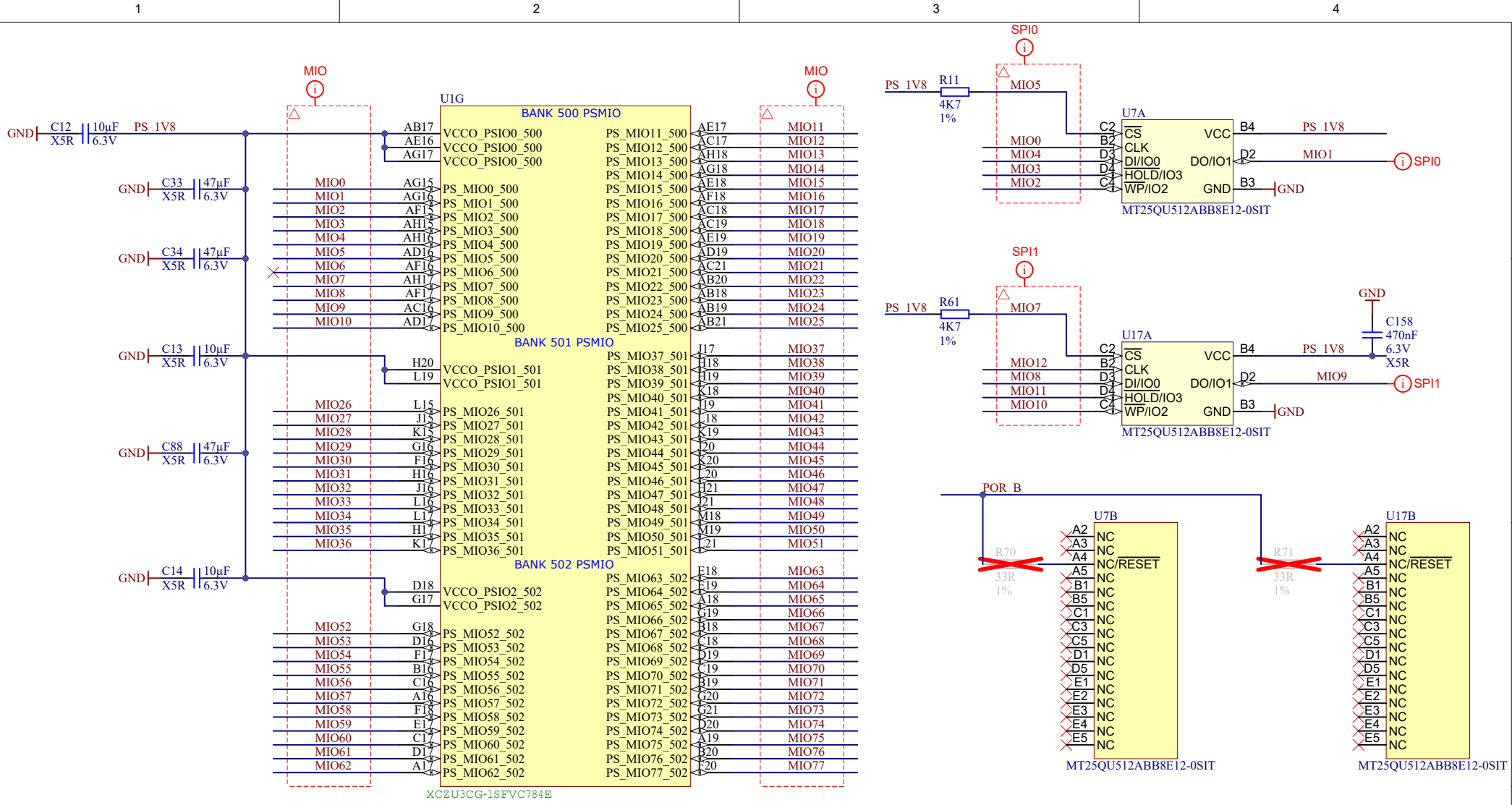
Title: TE0813 - B64		
A4	Number: TE0813 3AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 11 of 30
Filename: B64.SchDoc		



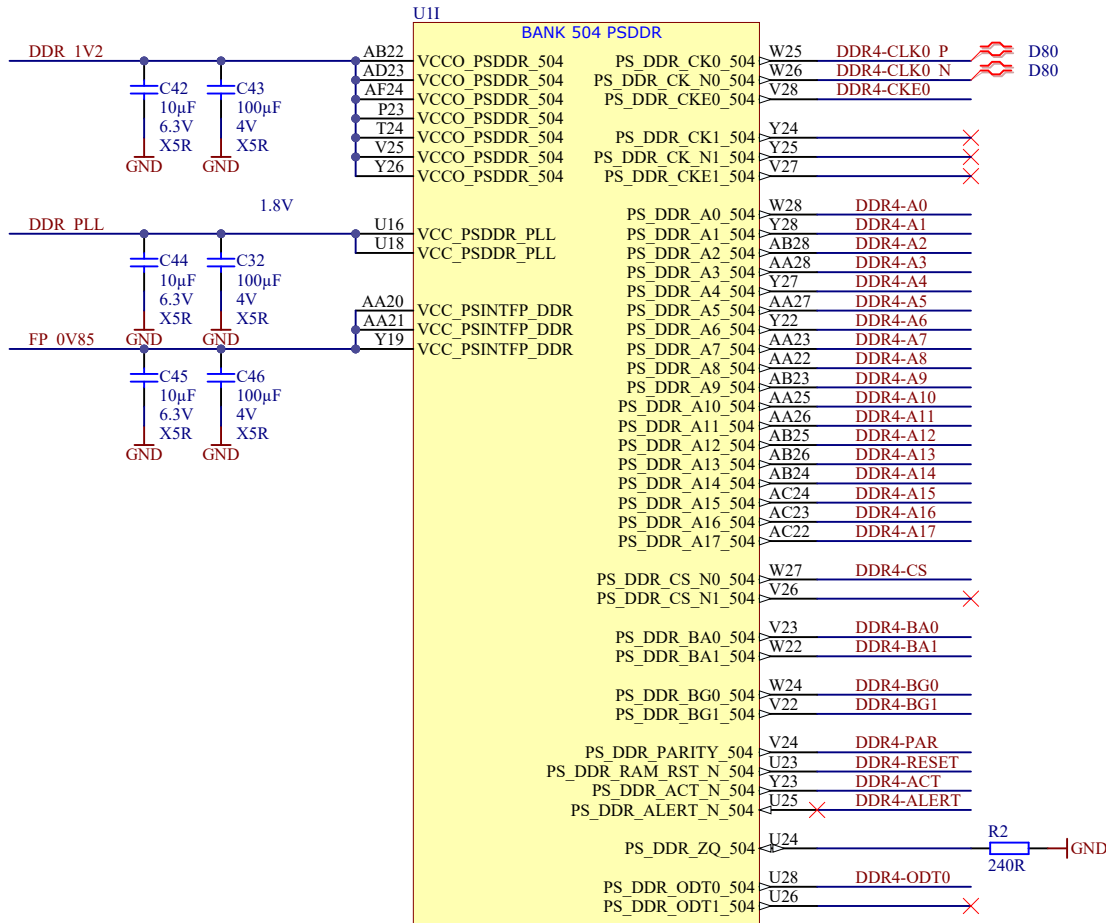
Title: TE0813 - B65		
A4	Number: TE0813 3AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 12 of 30
Filename: B65.SchDoc		

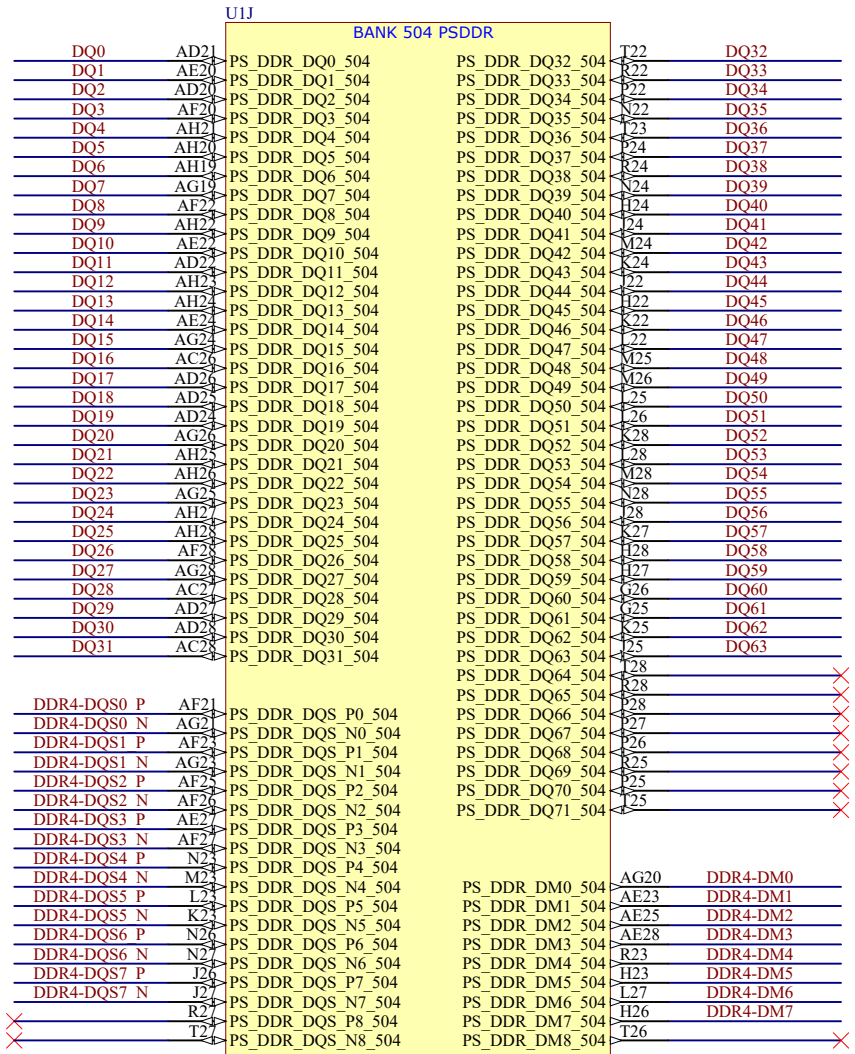
Title: TE0813 - B66		
A4	Number: TE0813 3AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 13 of 30
Filename: B66.SchDoc		



		Title: TE0813 - MIO Banks	
		A4	Number: TE0813 3AE11-A
Date: 2021-08-16		Copyright: Trenz Electronic GmbH / TT	
Date: 2021-08-16		Page 14 of 30	
Filename: B_MIO.SchDoc			



XCZU3CG-1SFVC784E



XCZU3CG-1SFVC784E



Title: TE0813 - PS_DDR		
A4	Number: TE0813 3AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 15 of 30
Filename: PS_DDR.SchDoc		

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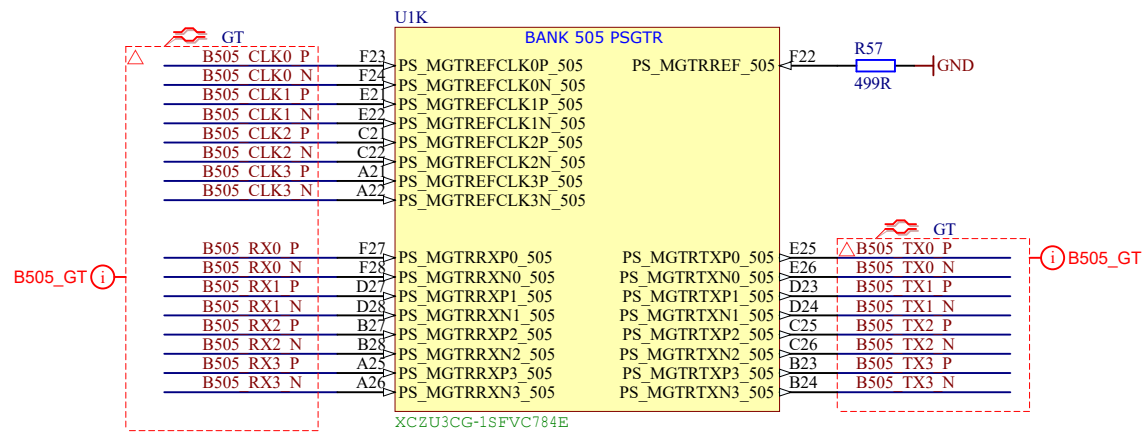
B


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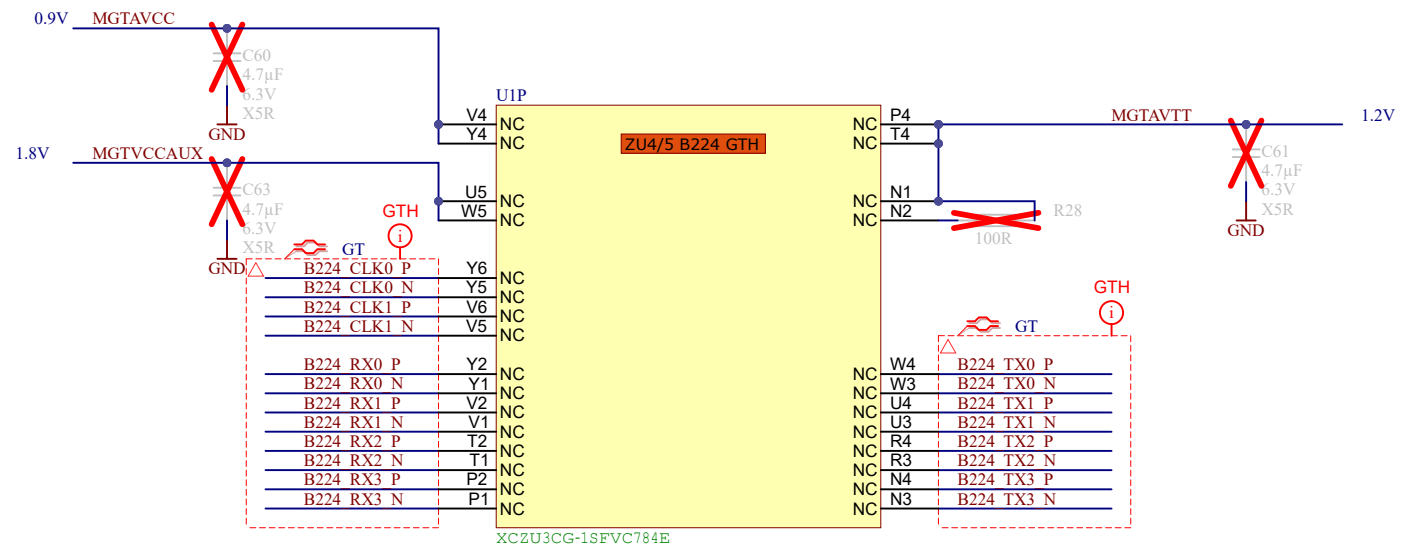
	Title: TE0813 - PS_GT		
	A4	Number: TE0813 3AE11-A	Rev. 01
	Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 16 of 30
	Filename: B_PS_GT.SchDoc		

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	Title: TE0813 - B224GTH		
	A4	Number: TE0813 3AE11-A	Rev. 01
	Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	
	Filename: B_GT.SchDoc		Page 17 of 30

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A

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B

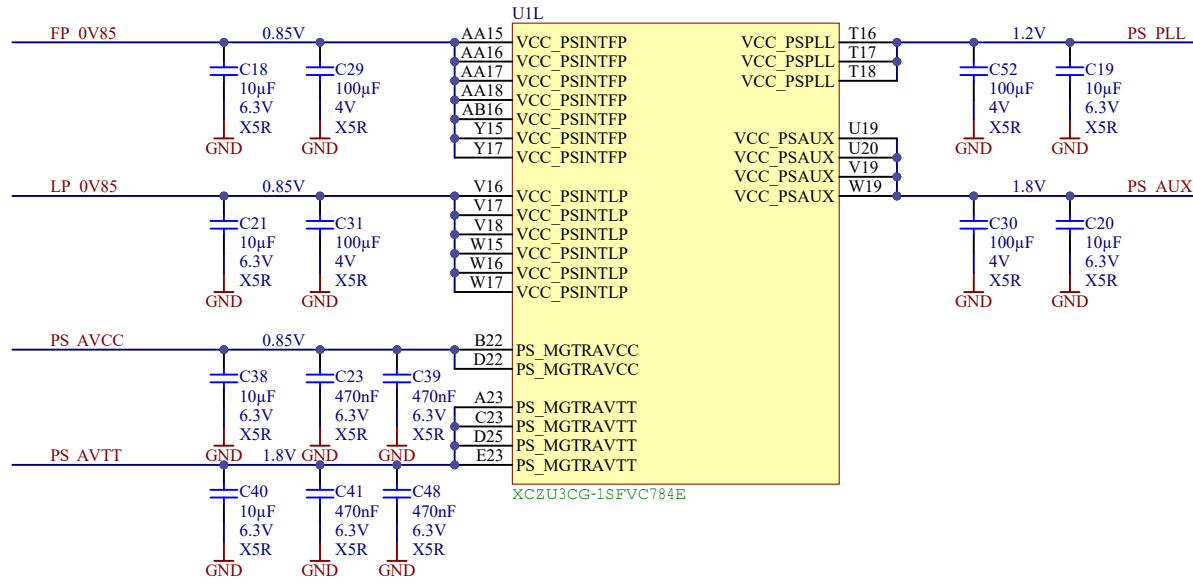
B


C

C

D

D



	Title: TE0813 - ZU_PS_POWER		
	A4	Number: TE0813 3AE11-A	Rev. 01
	Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 18 of 30
	Filename: ZU_PS_POWER.SchDoc		

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A

A

B

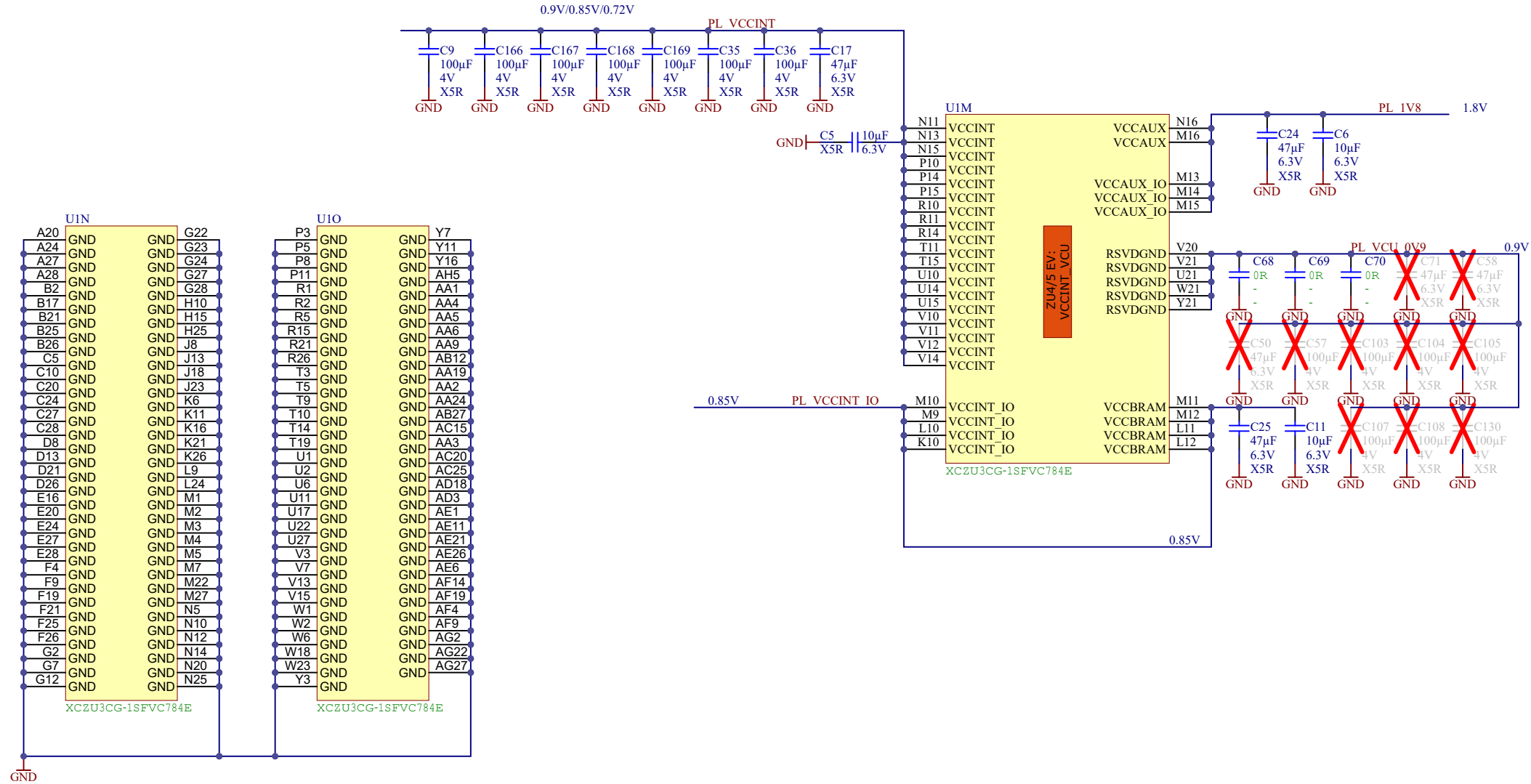
B

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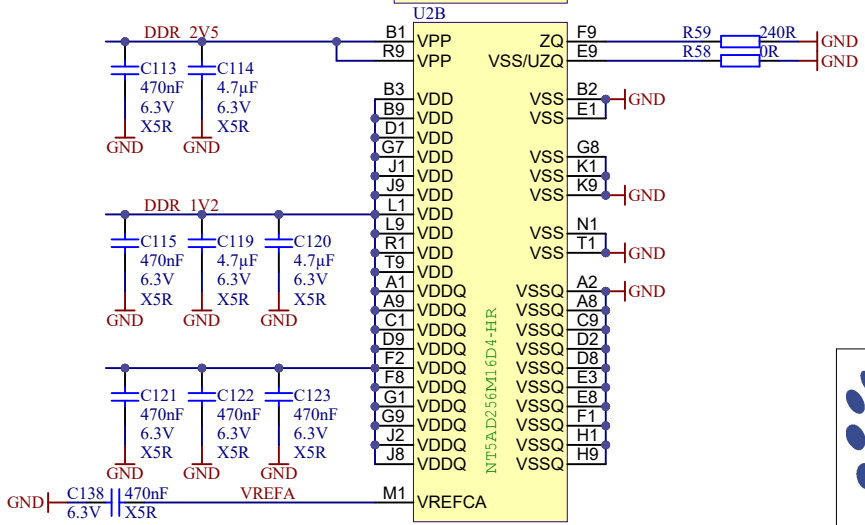
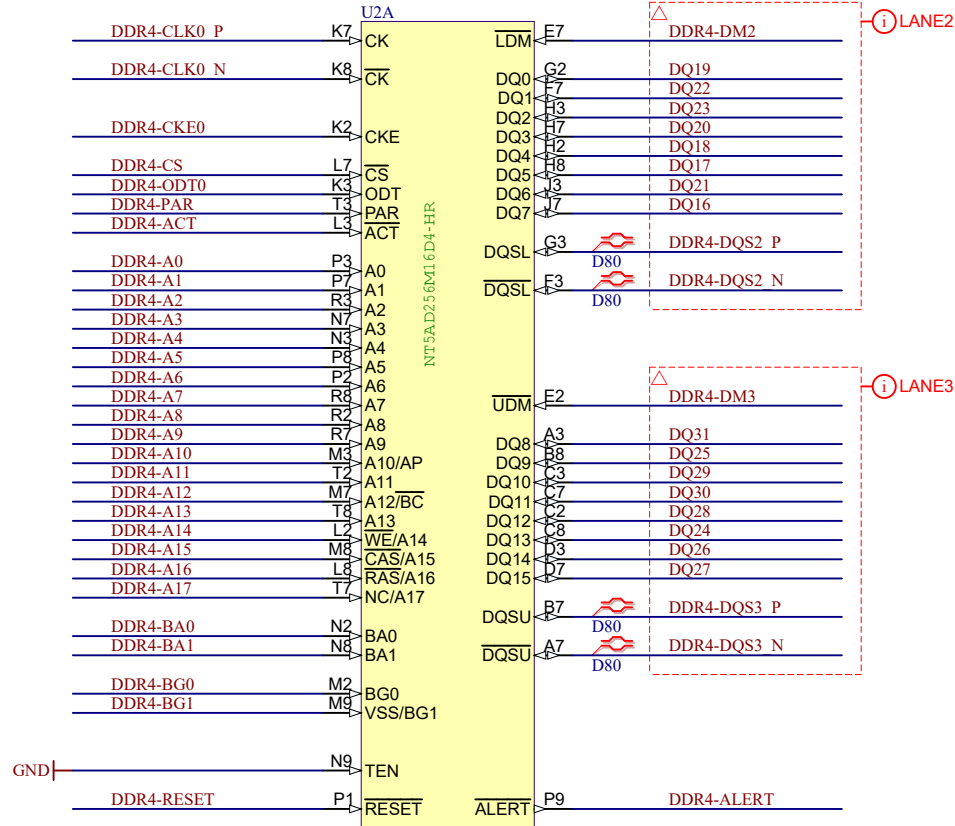
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	A4	Number: TE0813 3AE11-A	Rev. 01
	Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 19 of 30
	Filename: ZU_POWER.SchDoc		

1

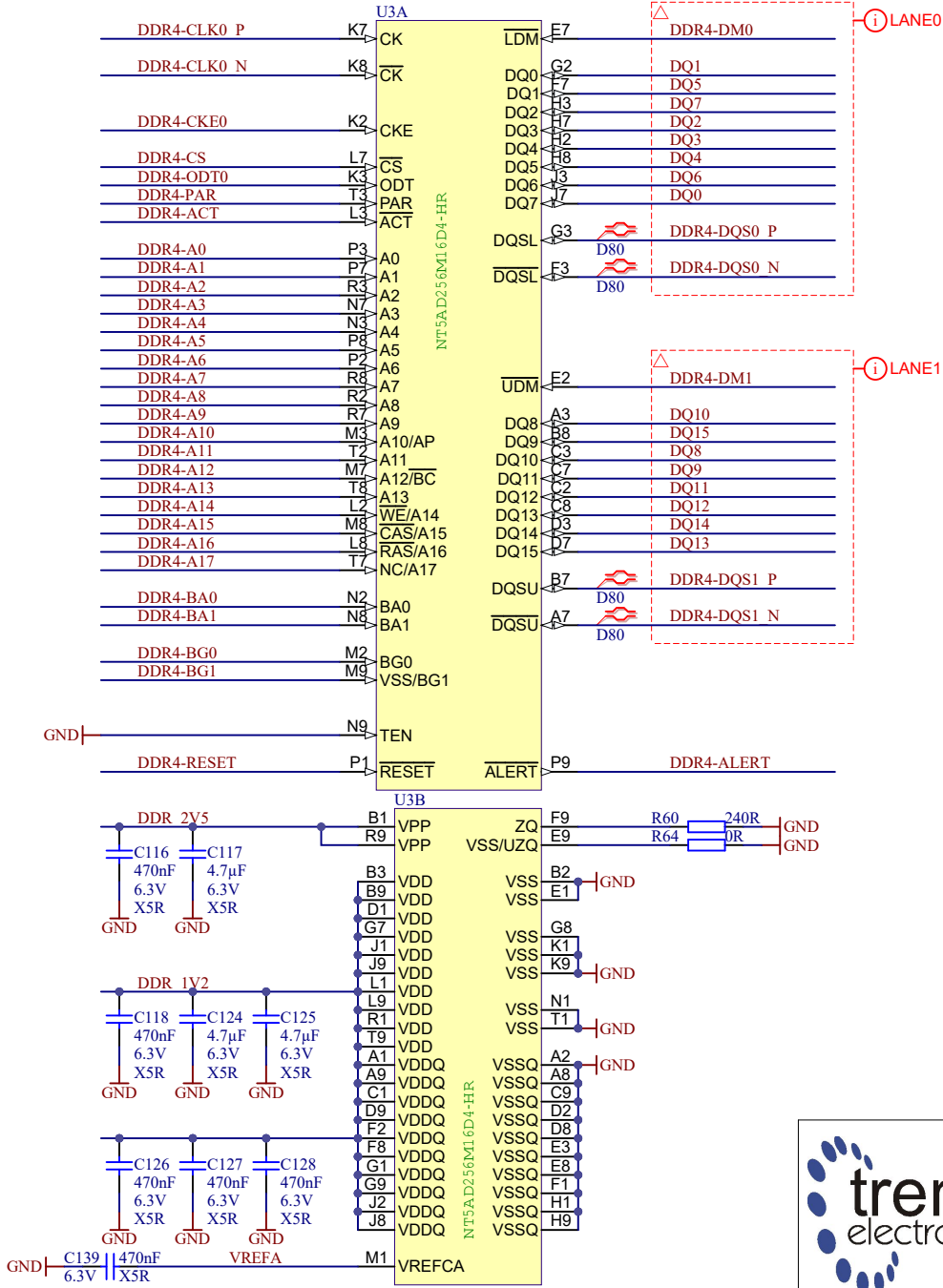
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3

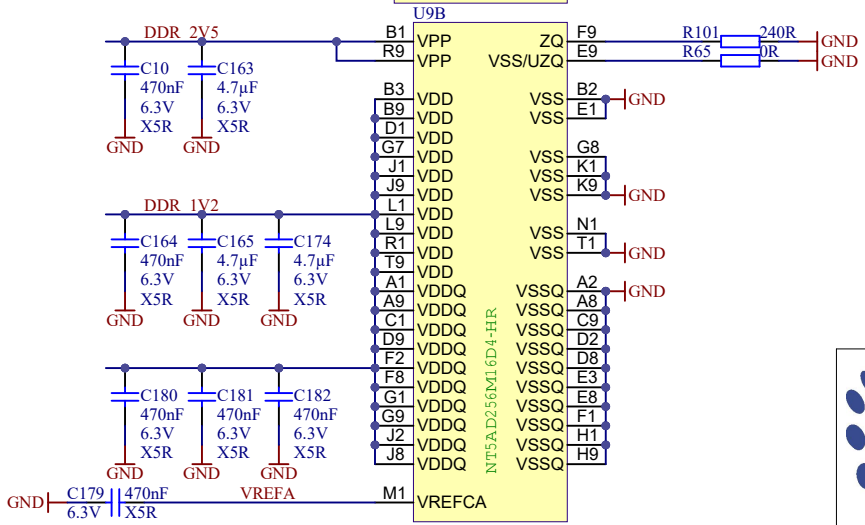
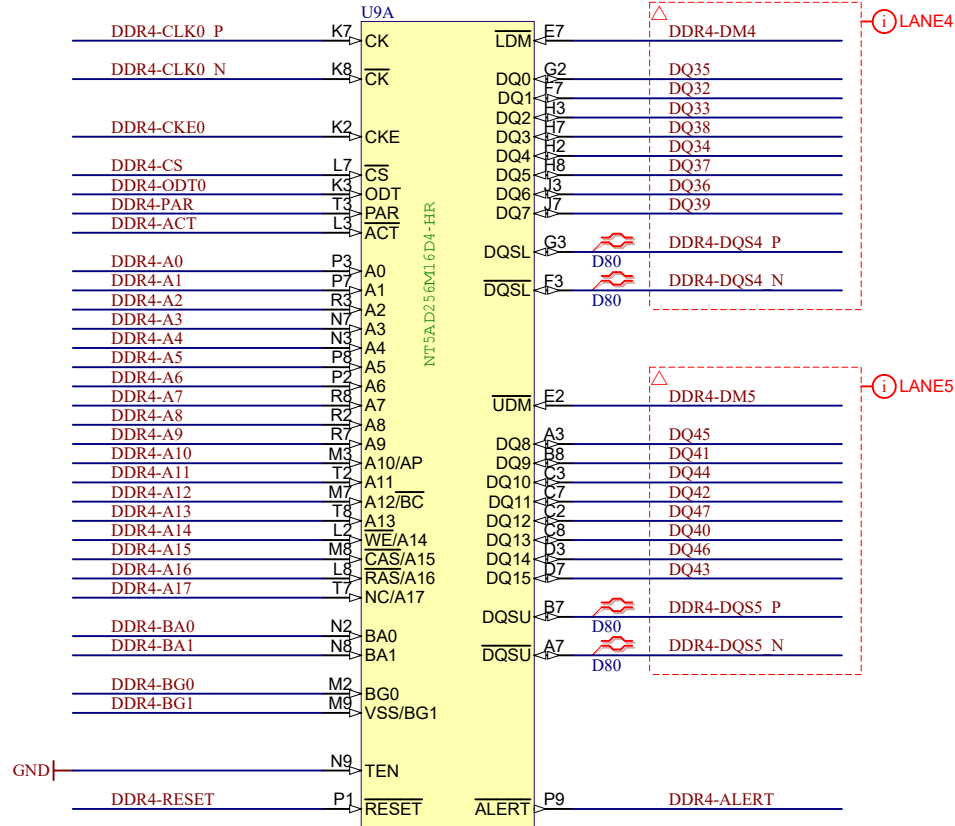
4



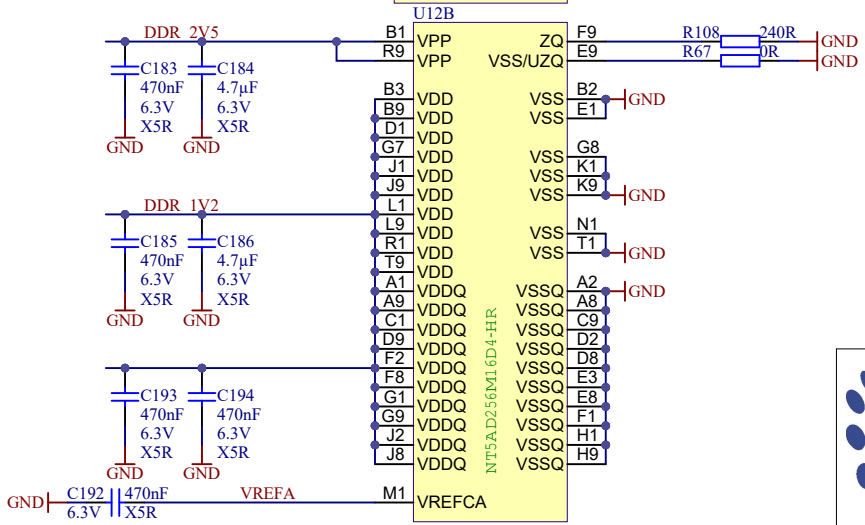
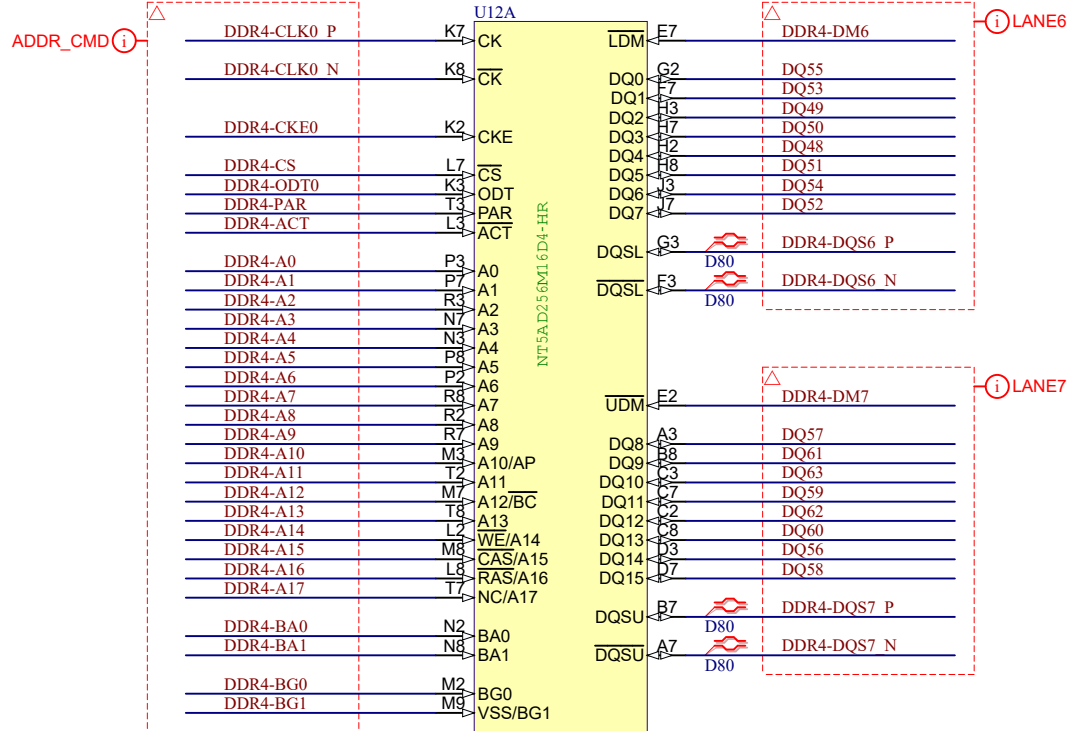
Title: TE0813 - DDR4_1_RAM		
A4	Number: TE0813 3AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 20 of 30
Filename: DDR4-RAM.SchDoc		



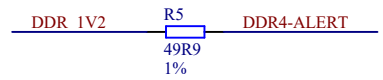
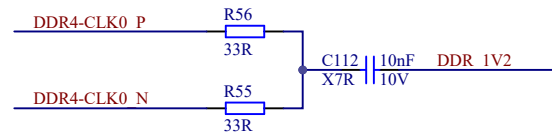
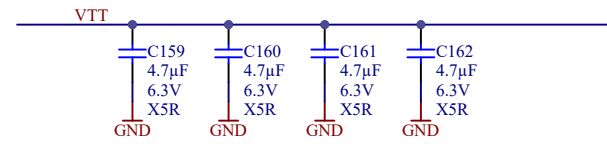
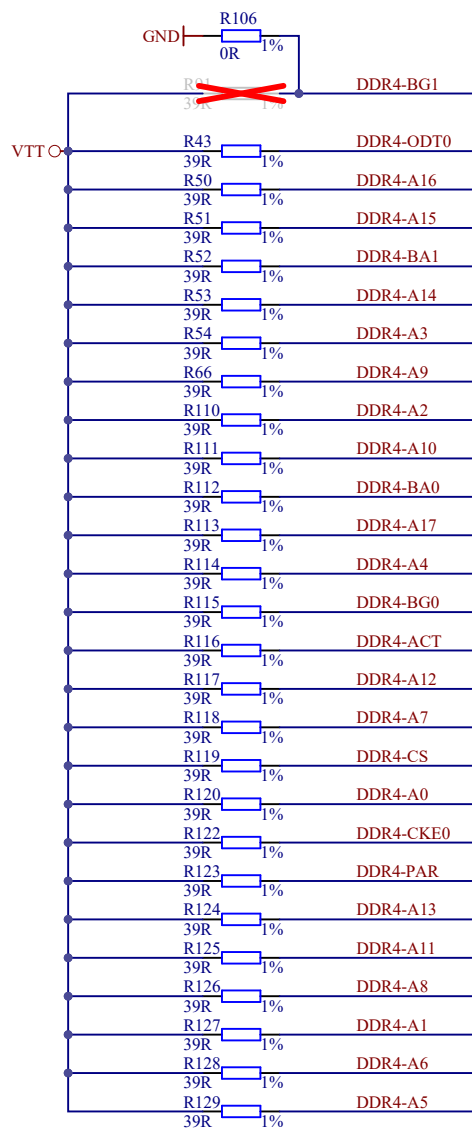
Title: TE0813 - DDR4_2_RAM		
A4	Number: TE0813 3AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 21 of 30
Filename: DDR4-RAM_2.SchDoc		



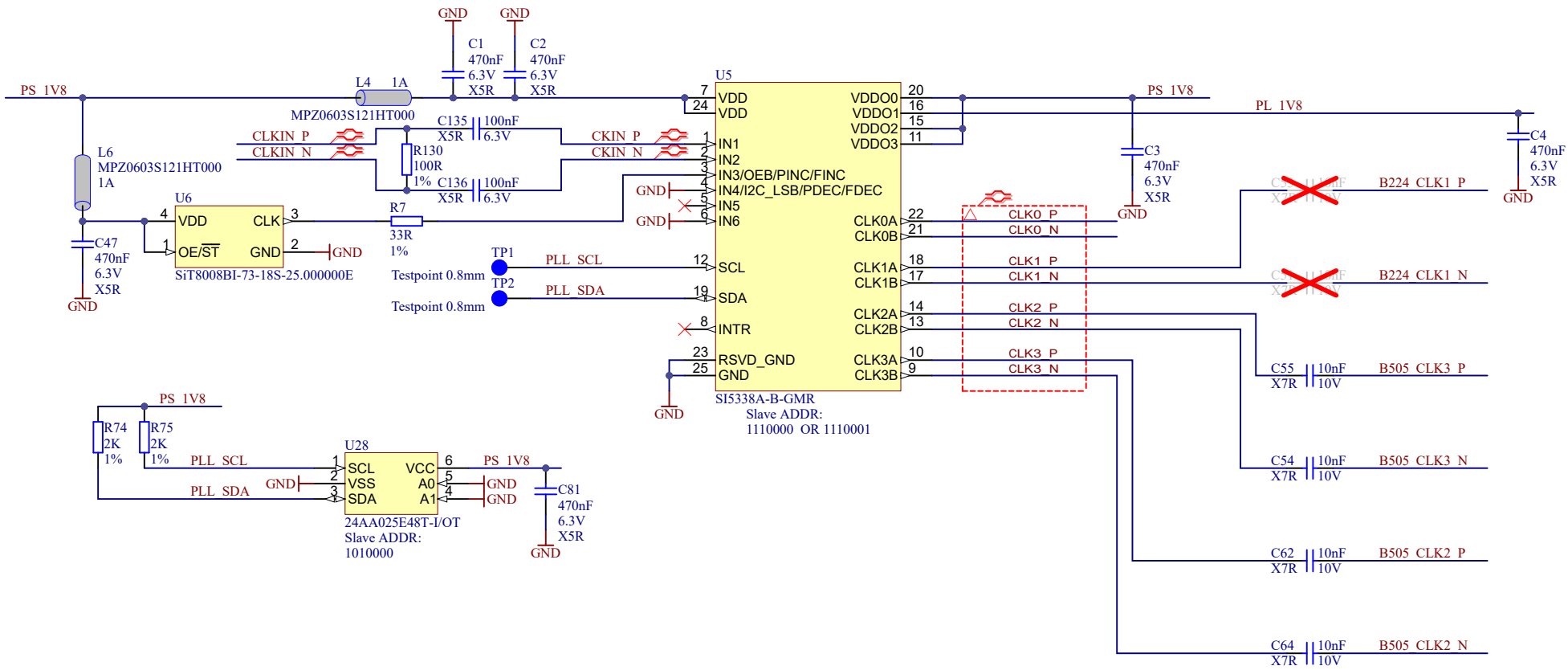
Title: TE0813 - DDR4_3_RAM		
A4	Number: TE0813 3AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 22 of 30
Filename: DDR4-RAM_3.SchDoc		




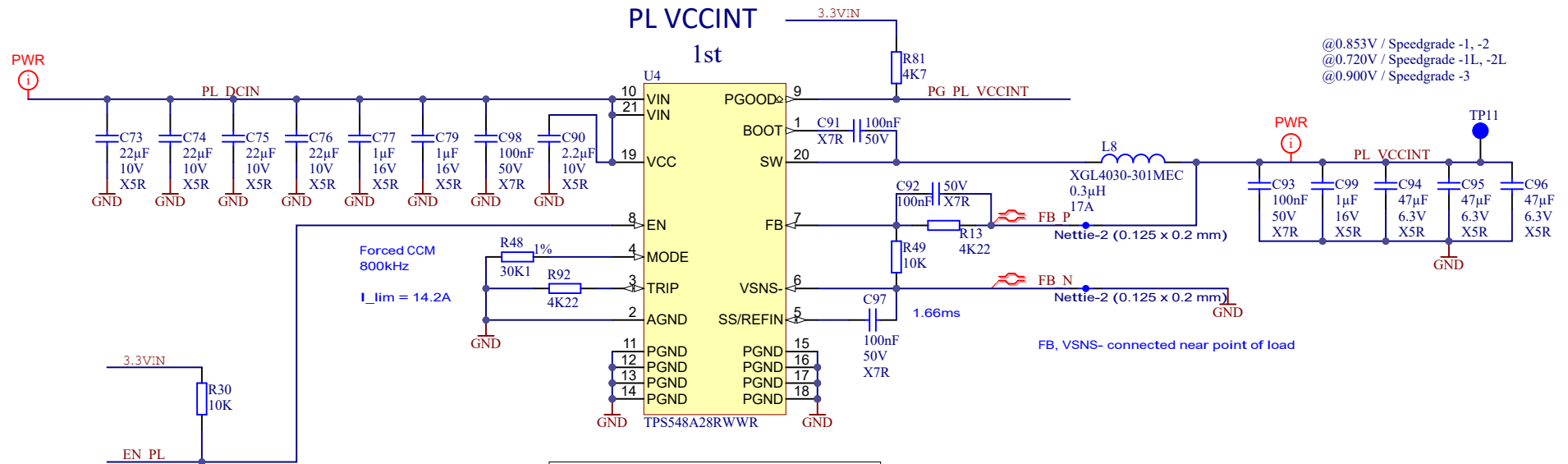
Title: TE0813 - DDR4_4_RAM		
A4	Number: TE0813 3AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 23 of 30
Filename: DDR4-RAM_4.SchDoc		



Title: TE0813 - DDR4_TERM		
A4	Number: TE0813 3AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 24 of 30
Filename: DDR4-TERM.SchDoc		



		Title: TE0813 - CLOCK	
		A4	Number: TE0813 3AE11-A
Date: 2021-08-16		Copyright: Trenz Electronic GmbH / TT	
Filename: Clock.SchDoc		Page 25 of 30	



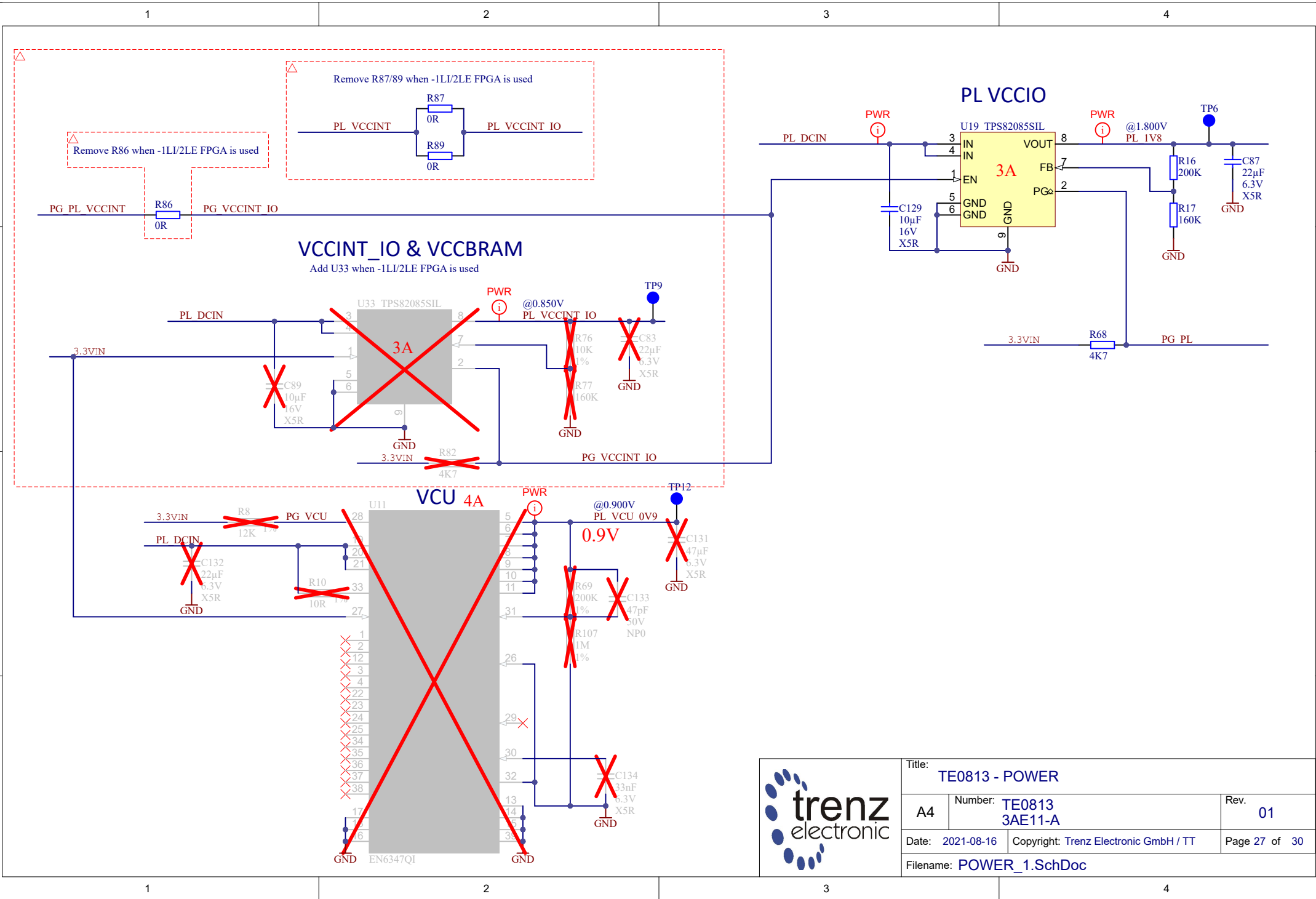
@0.853V / Speedgrade -1, -2
 @0.720V / Speedgrade -1L, -2L
 @0.900V / Speedgrade -3

FPGA Speed grade:

-1L1 / -2LE	R13 - 2K, R49 - 10K	PL_VCCINT = 0.720V
-1 / -2	R13 - 4K22, R49 - 10K	PL_VCCINT = 0.853V
-3E	R13 - 10K, R49 - 20K	PL_VCCINT = 0.900V

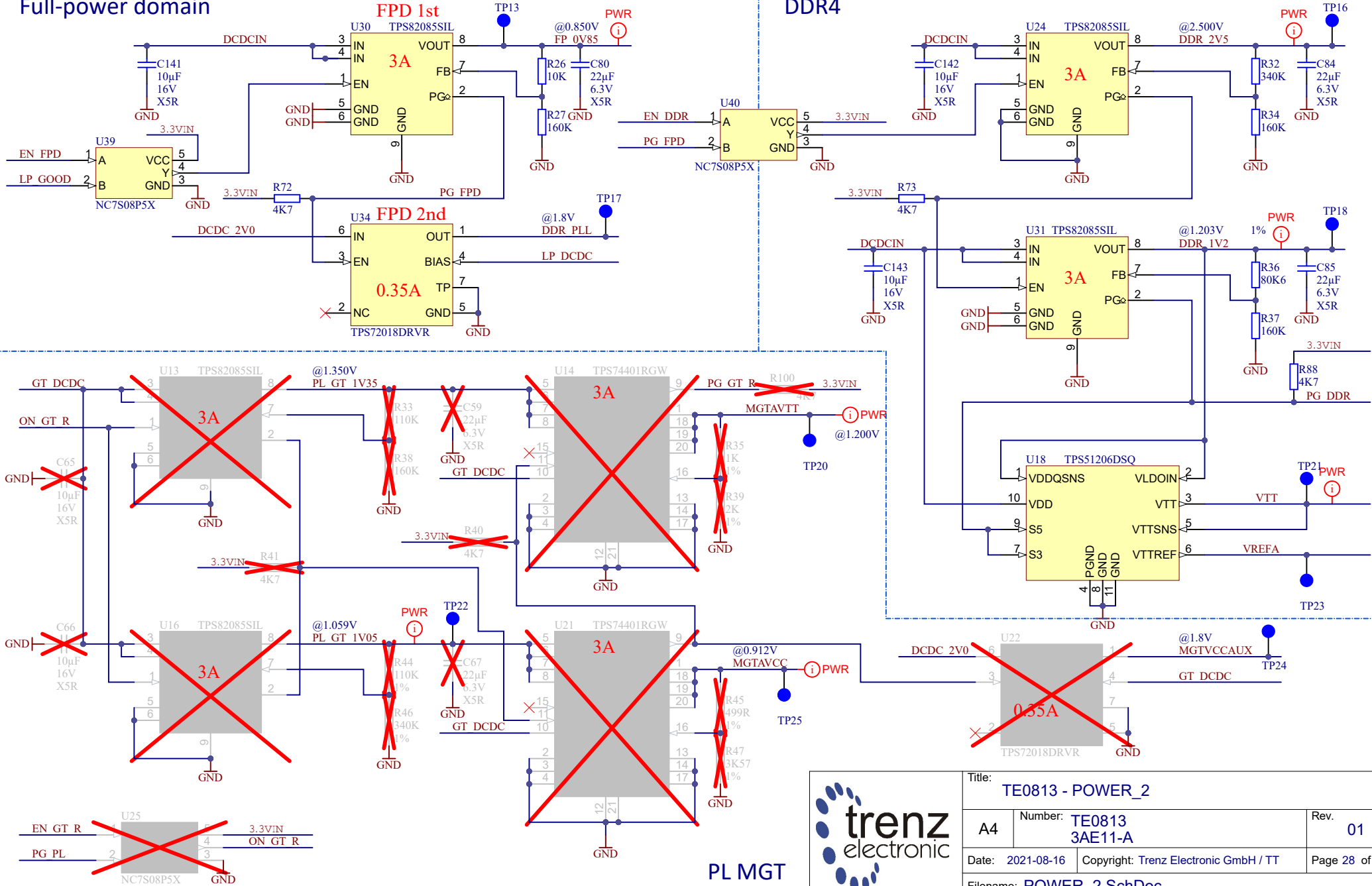
U4 pin compatible with
 -- TPS548B28 (20A)
 -- TPS54JA20 (12A)

	Title: TE0813 - POWER		
	A4	Number: TE0813 3AE11-A	Rev. 01
	Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 26 of 30
	Filename: POWER.SchDoc		



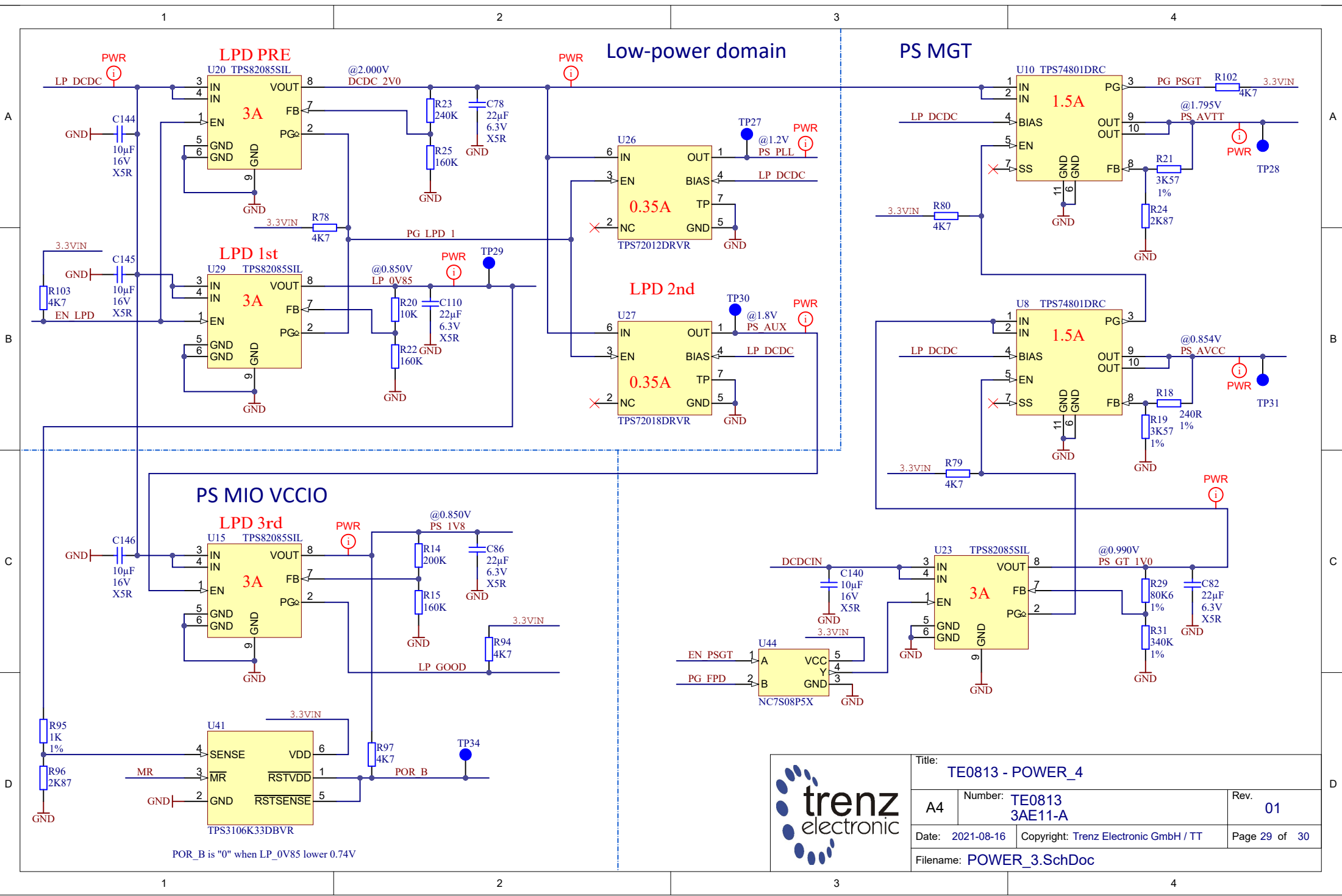
Full-power domain

DDR4



Title: TE0813 - POWER_2		
A4	Number: TE0813 3AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	
Filename: POWER_2.SchDoc		Page 28 of 30

PL MGT



POR_B is "0" when LP_0V85 lower 0.74V



Title: TE0813 - POWER_4		
A4	Number: TE0813 3AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 29 of 30
Filename: POWER_3.SchDoc		

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REV	DATE	Description	
-01	2021-05	Initial revision	VT

	Title: TE0813 - Revision History		
	A4	Number: TE0813 3AE11-A	Rev. 01
	Date: 2021-07-26	Copyright: Trenz Electronic GmbH	Page 30 of 30
	Filename: Revision Changes.SchDoc		

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