


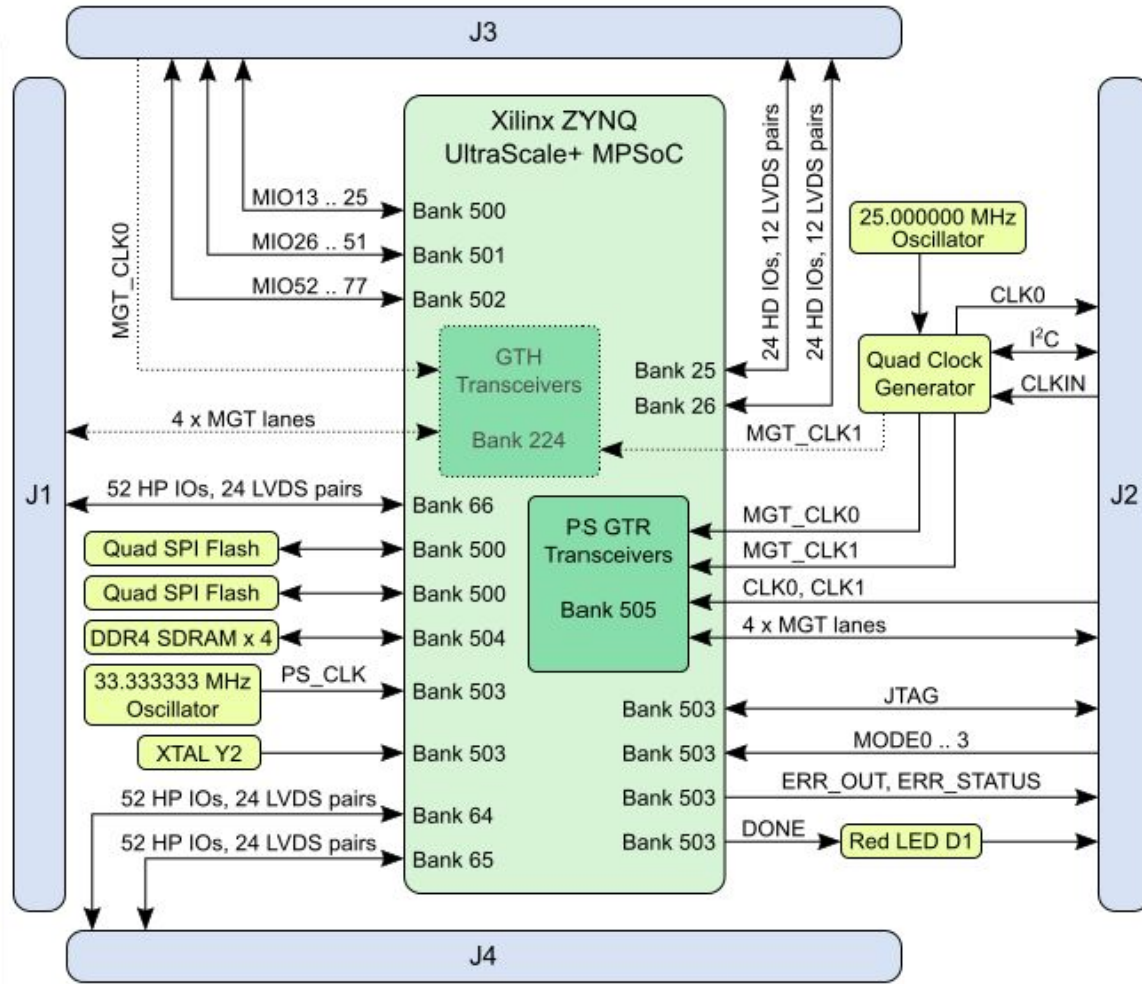
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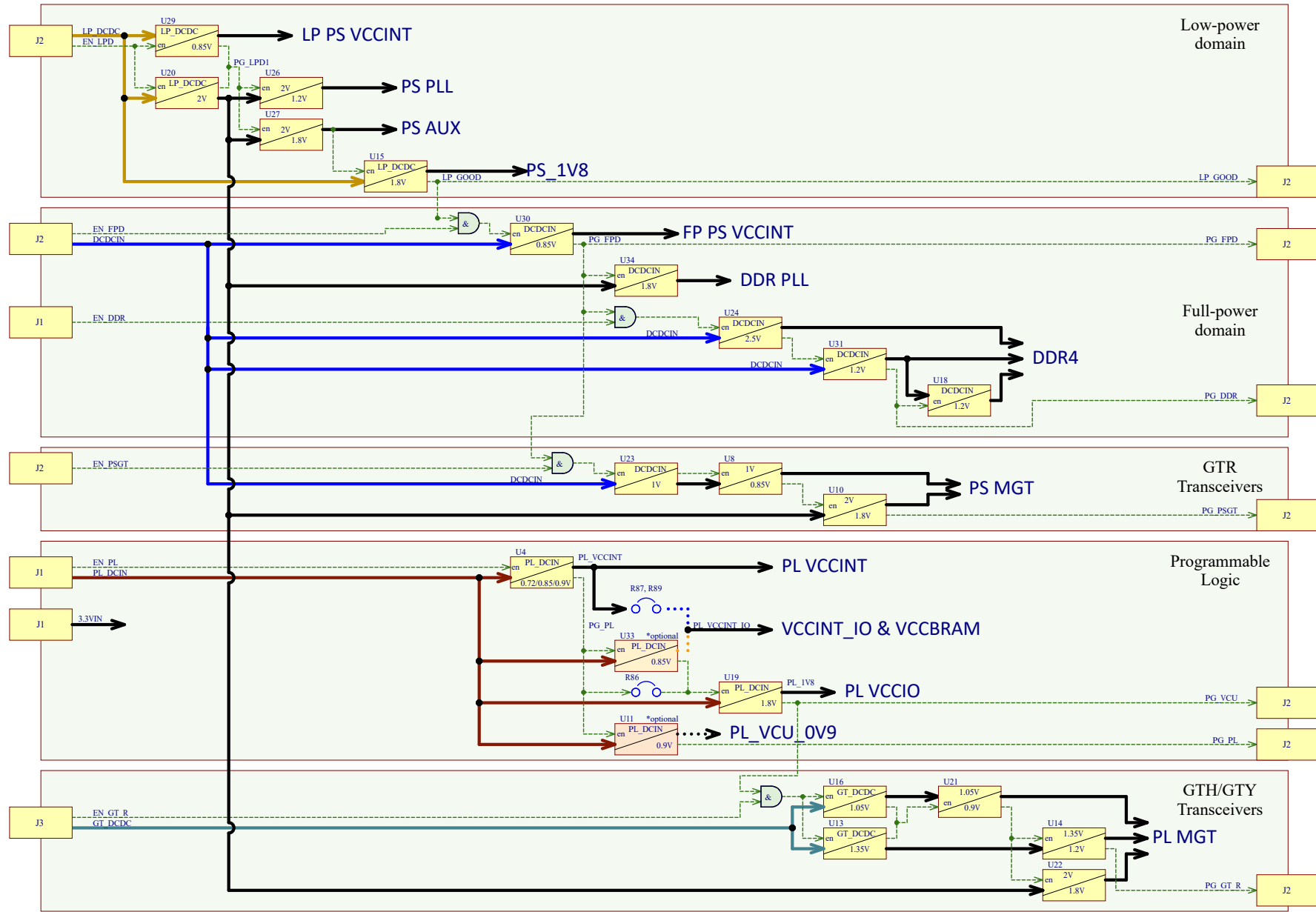
Schematics and other handouts serve for informational purposes only!

	Title: TE0813		Rev. 01
	A4	Number: TE0813 4AE11-A	
	Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 1 of 30
	Filename: Legal Notices Modules.SchDoc		

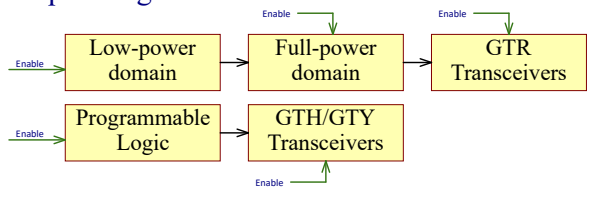
TE0813-01



		Title: Module TE0813 - System Overview	
		A4	Number: TE0813 4AE11-A
Date: 2021-08-16		Copyright: 2015 Trenz Electronic GmbH	
Filename: TE0813-Overview.SchDoc		Page 2 of 30	



Power-on sequencing:



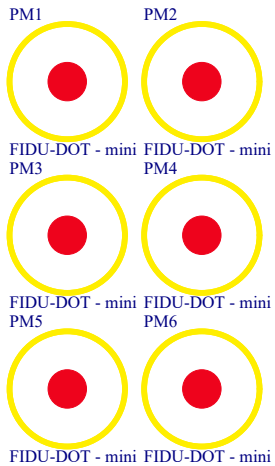
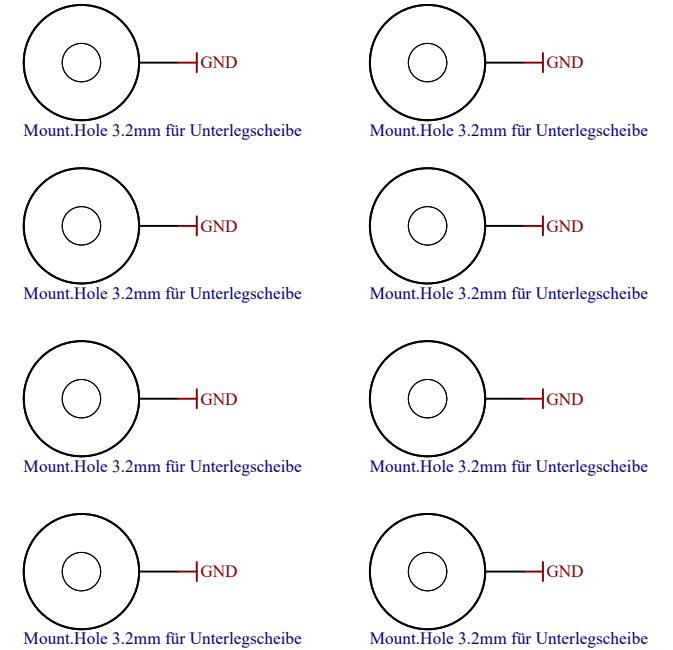
- EN_GT_R Net name
- Power bus
- Control signal
- Power bus in FPGA speedgrade -1/-2/-3 assembly variants
- Power bus in FPGA speedgrade -1L/-2L assembly variants (low power)
- Optional power converter
- Logic AND gate



Title: TE0813 - Power Diagram		
A3	Number: TE0813 4AE11-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	4AE11-A
Created by	ED
Modified by	ED
Modified at	2021-07-07
SVN Revision	12304 [Locally Modified]

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

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A

A

B

B

C

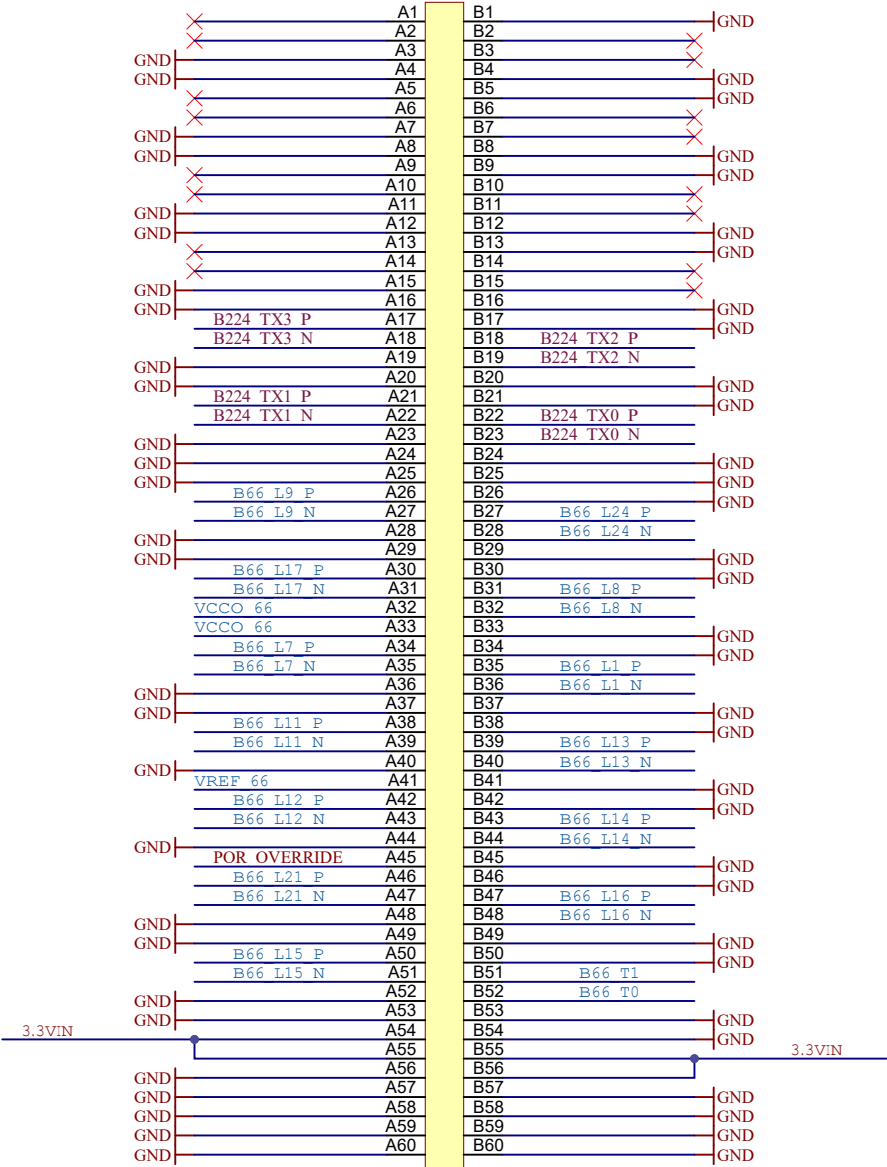
C

D

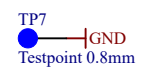
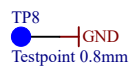
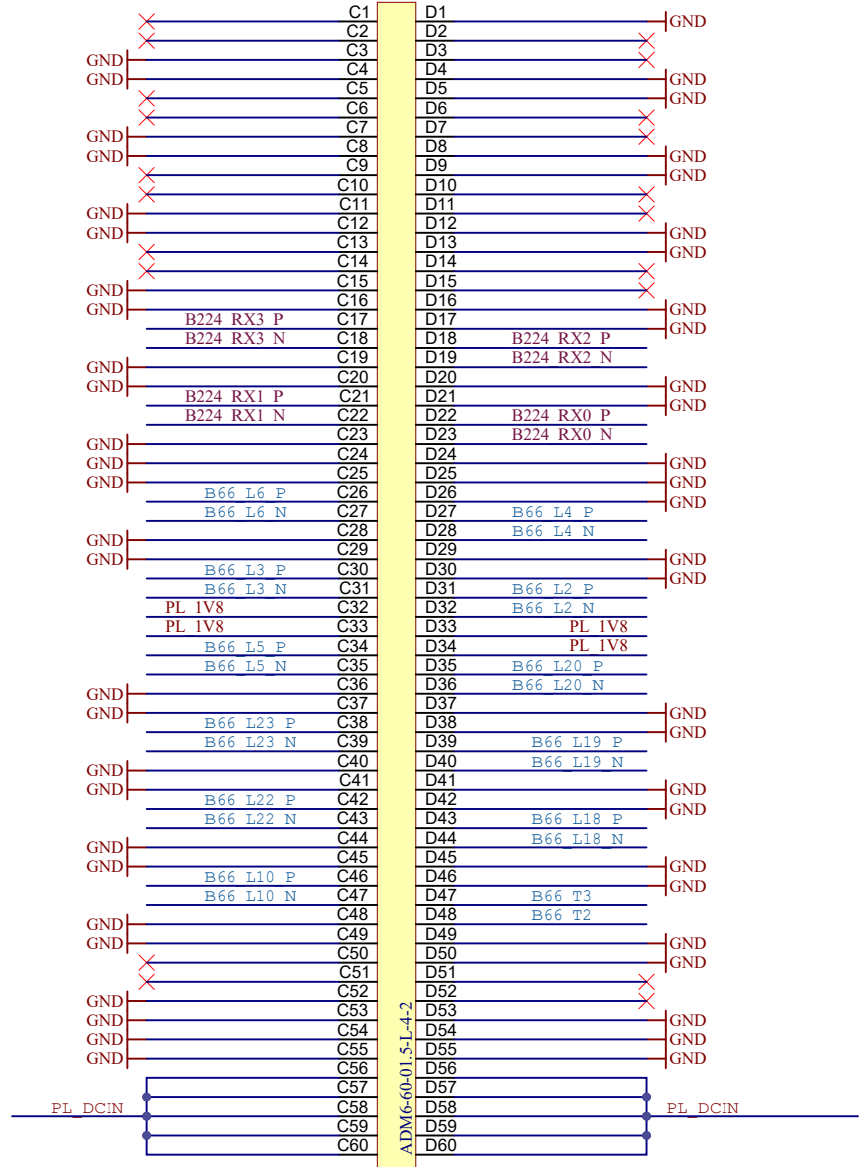
D

JM1A

JM1B



ADM6-60-01.5-L-4-2



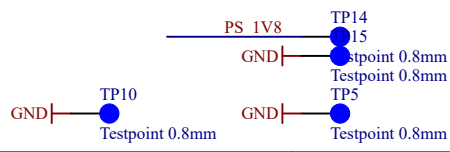
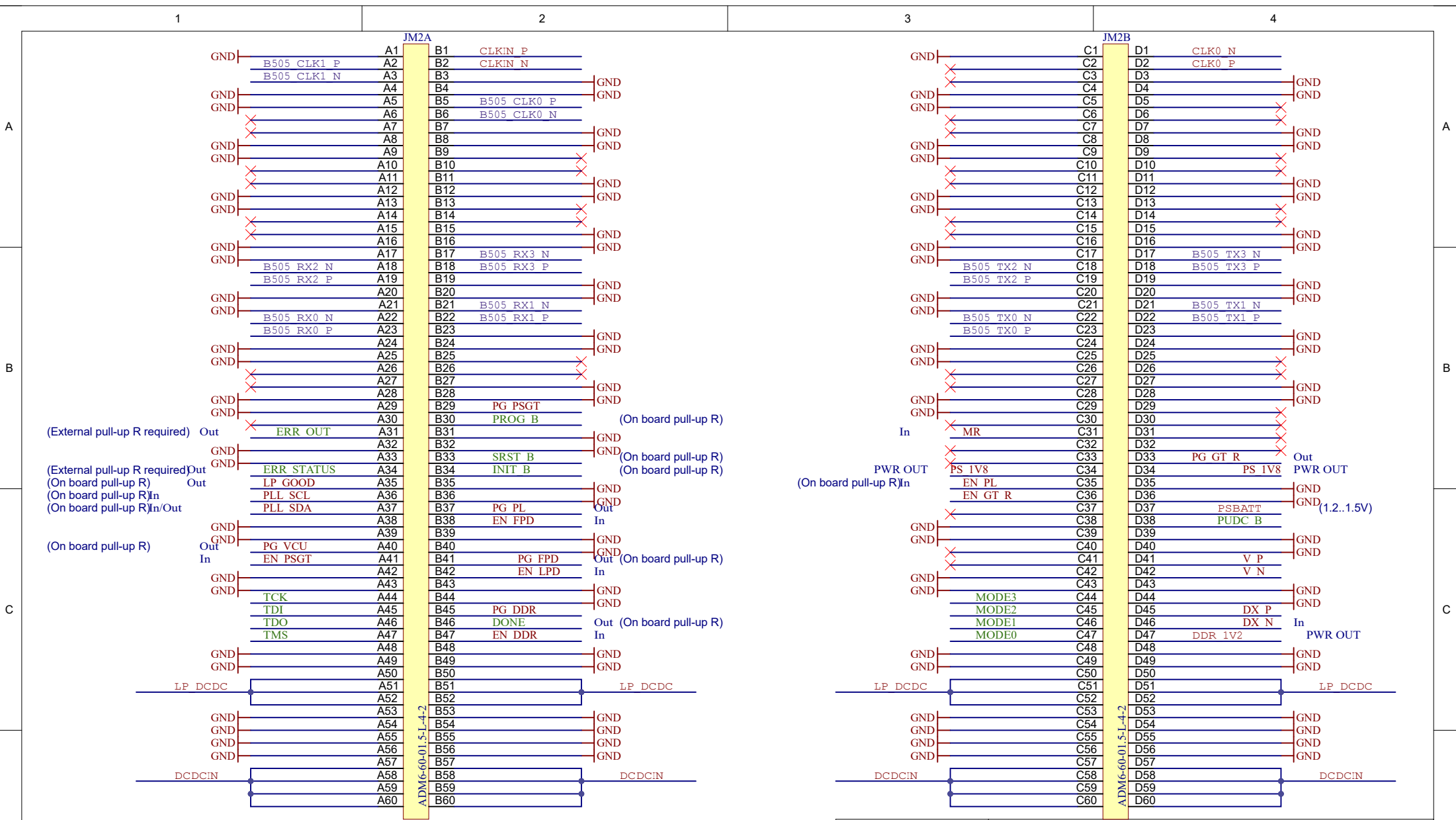
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A4	Number: TE0813 4AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 5 of 30
Filename: J1.SchDoc		

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Title: **TE0813 - Connector J2**

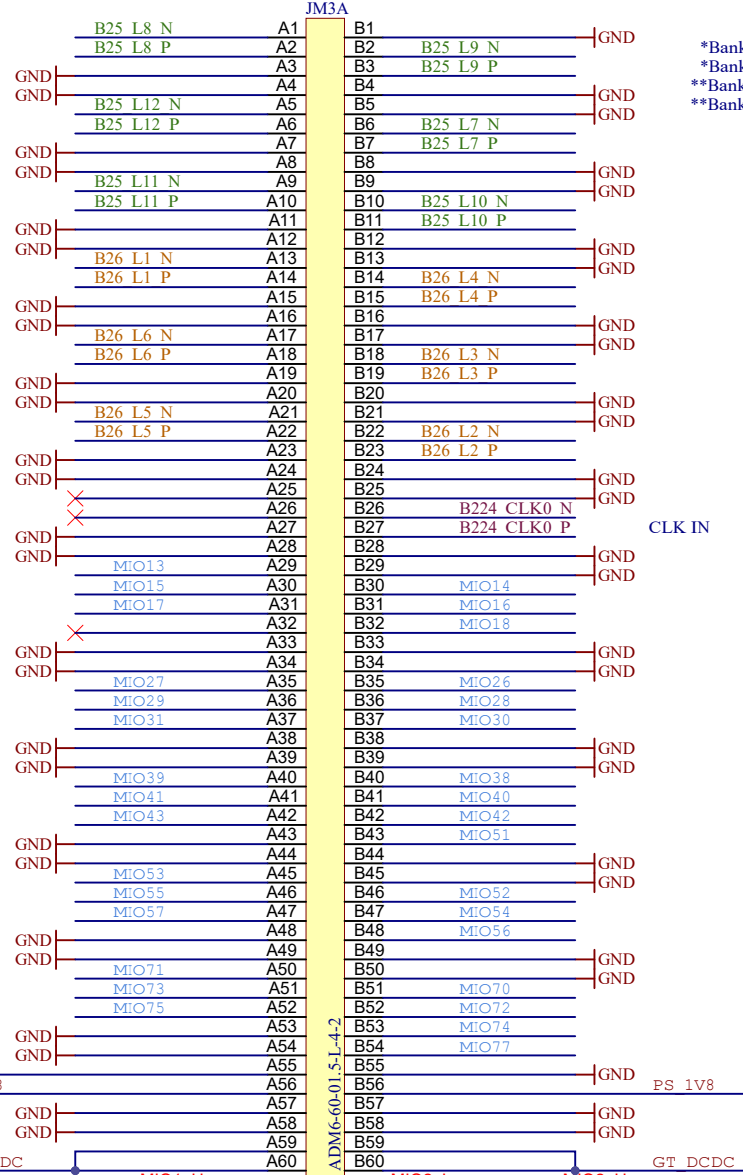
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Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 6 of 30
Filename: J2.SchDoc		

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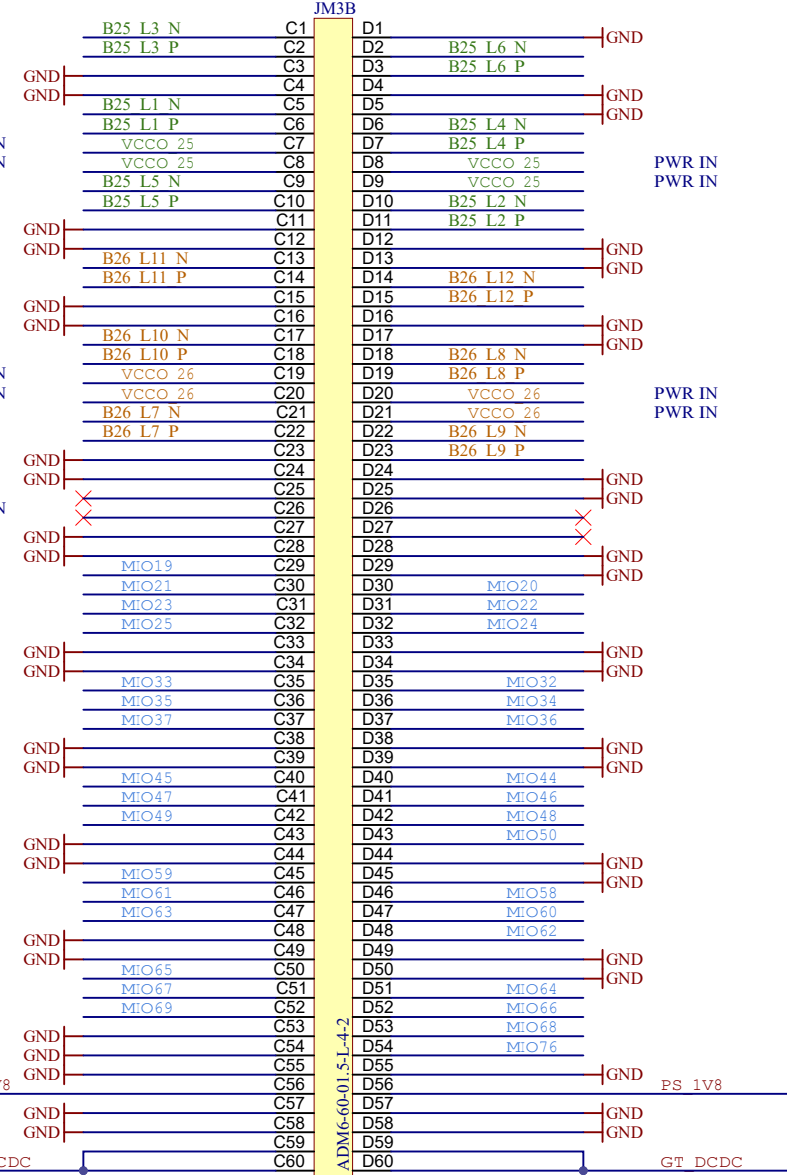


*Bank 25 for XCZU2/3
 *Bank 45 for XCZU4/6
 **Bank 26 for XCZU2/3
 **Bank 46 for XCZU4/5

CLK IN

PS 1V8

MIO2_L MIO2_H



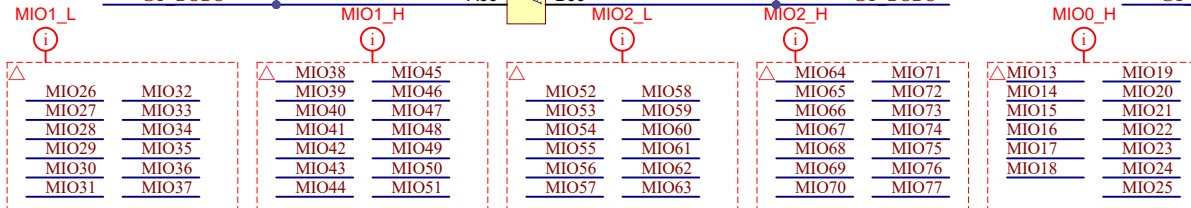
PWR IN PWR IN

PWR IN PWR IN

CLK IN

PS 1V8

MIO0_H



Title: TE0813 - Connector J3		
A4	Number: TE0813 4AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 7 of 30
Filename: J3.SchDoc		

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A

A

B

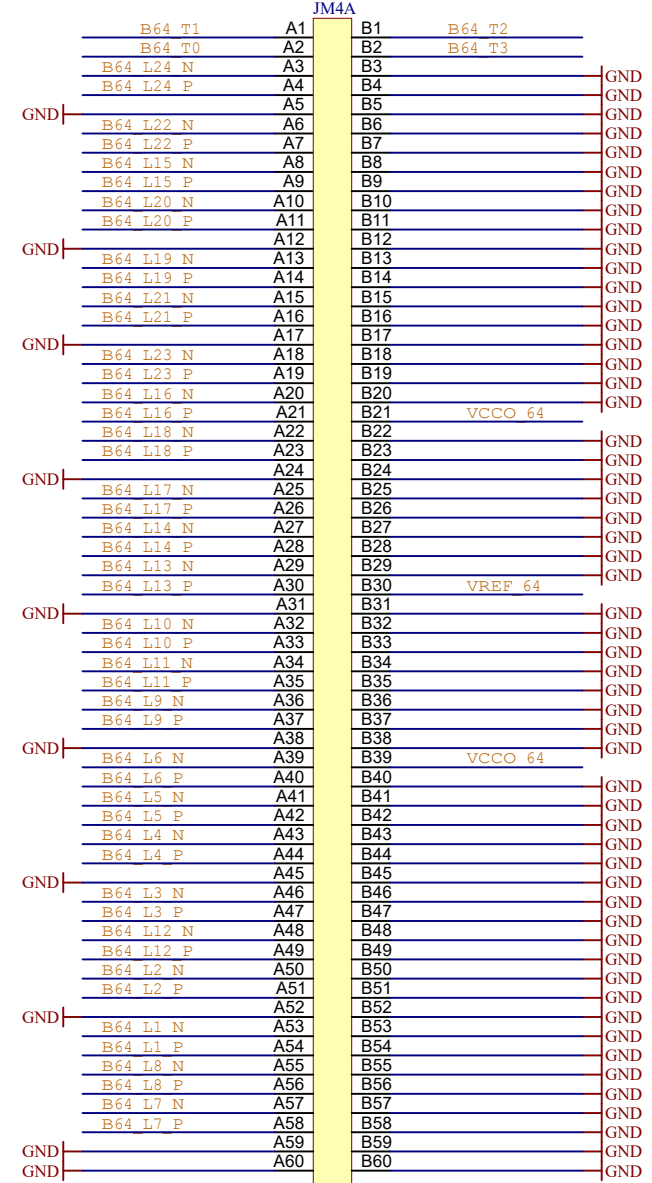
B

C

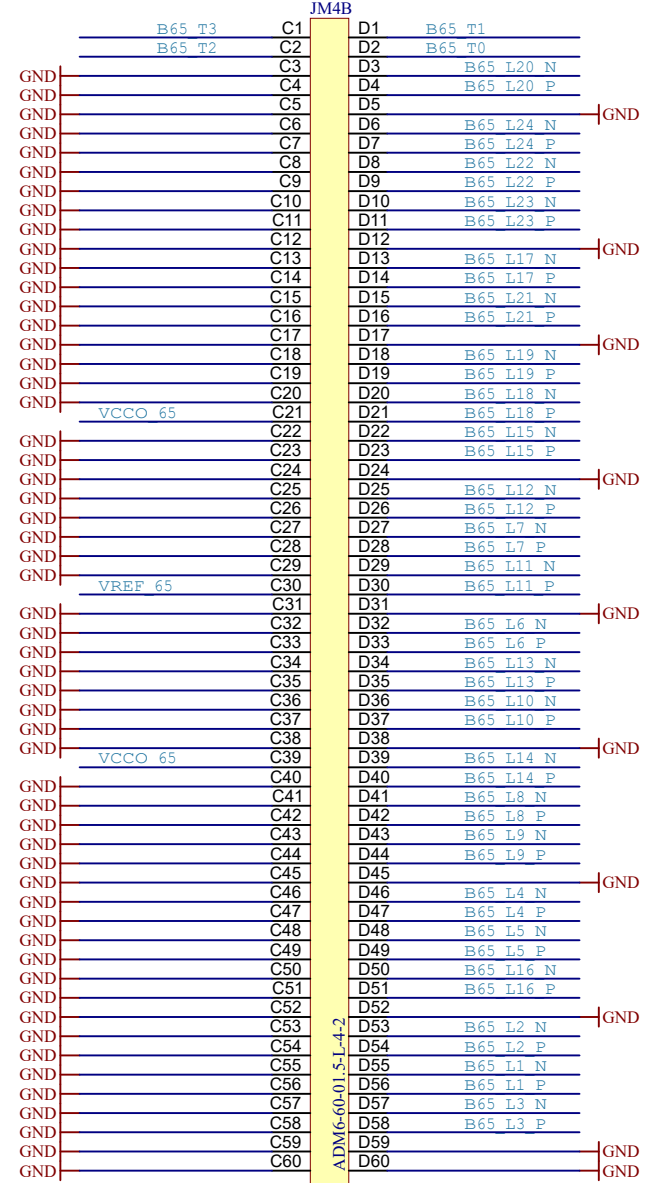
C

D

D



ADM6-60-01.5-L-4-2



ADM6-60-01.5-L-4-2



Title: TE0813 - Connector J4		
A4	Number: TE0813 4AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 8 of 30
Filename: J4.SchDoc		

1

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A

A

B

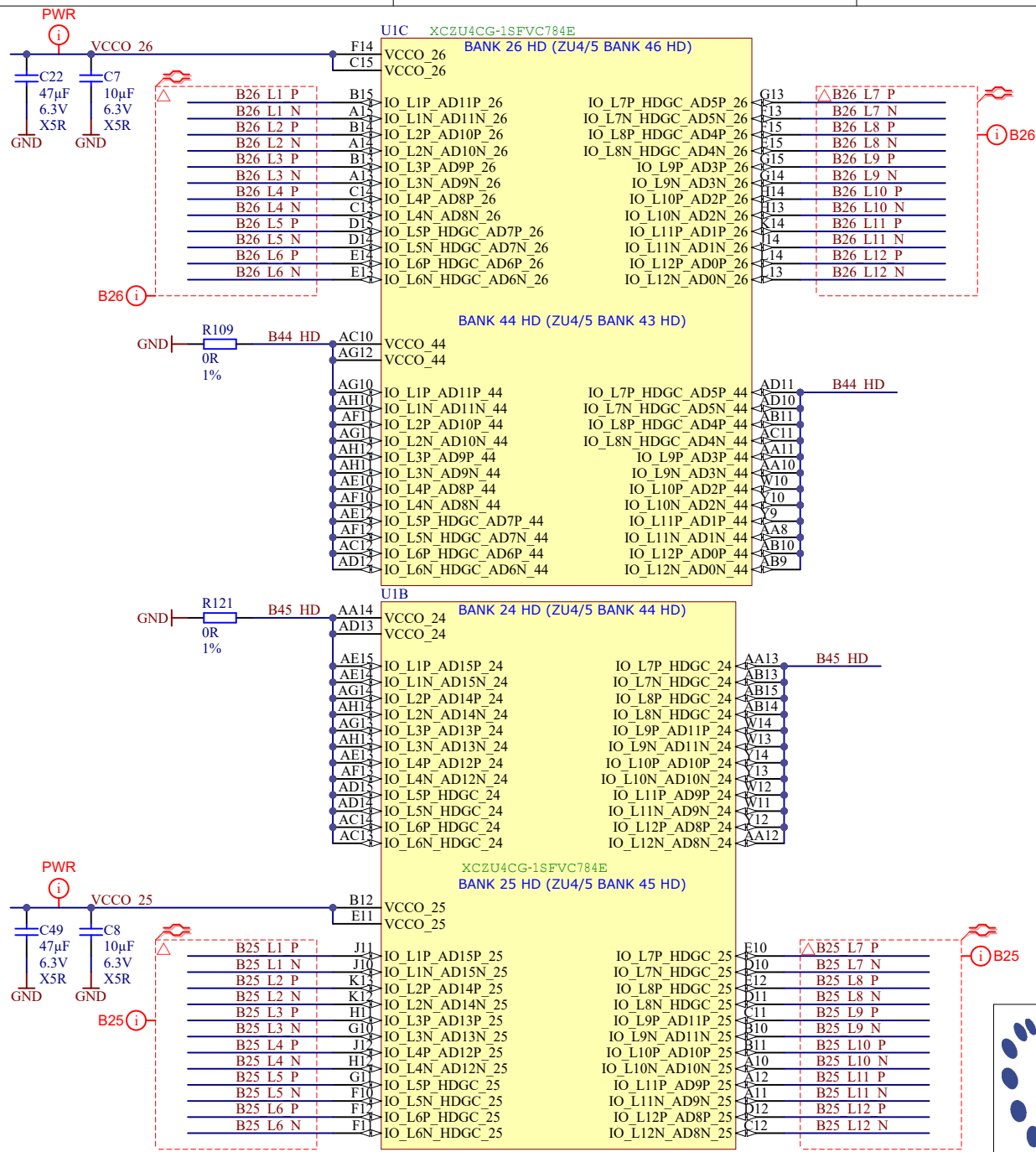
B

C

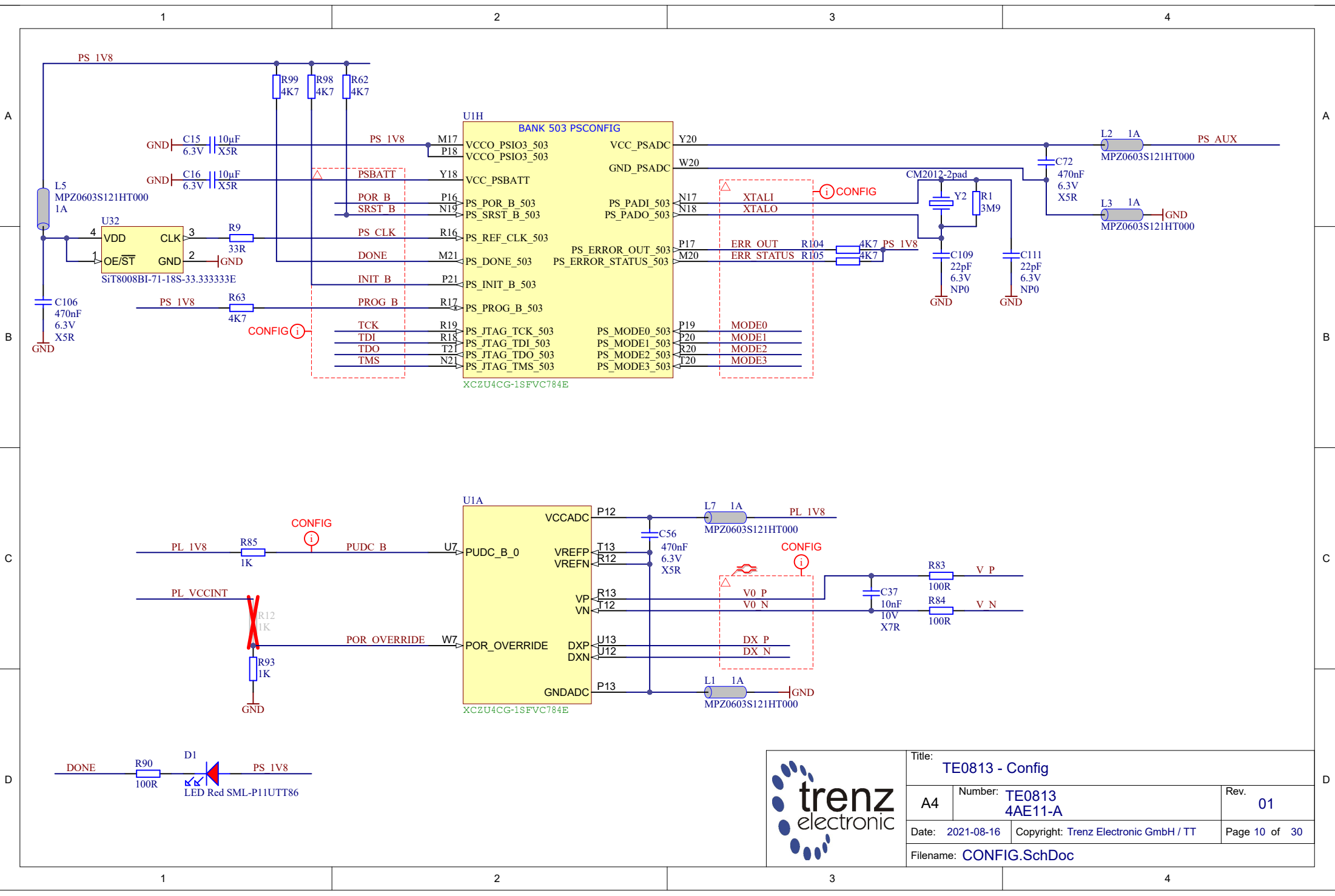
C

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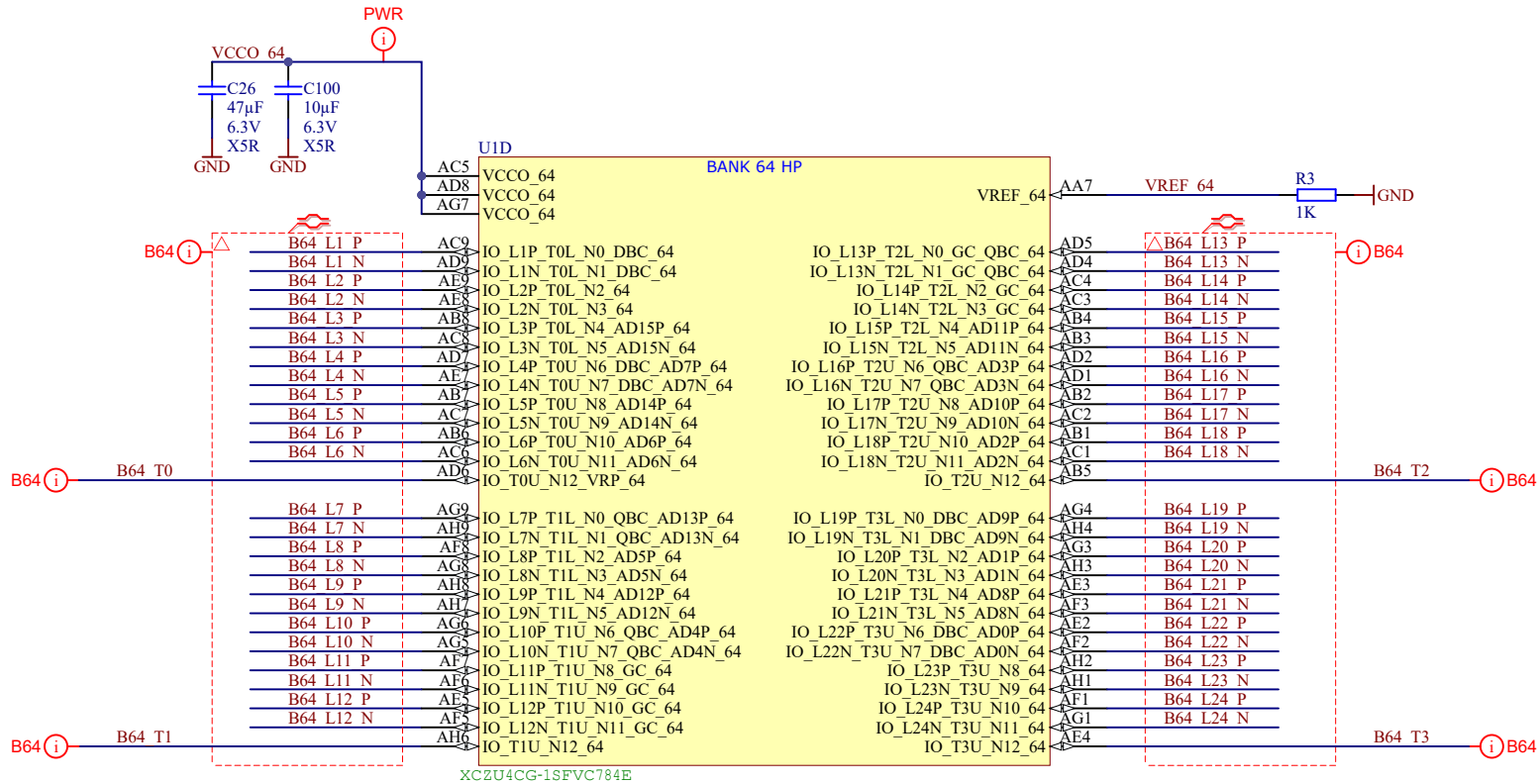
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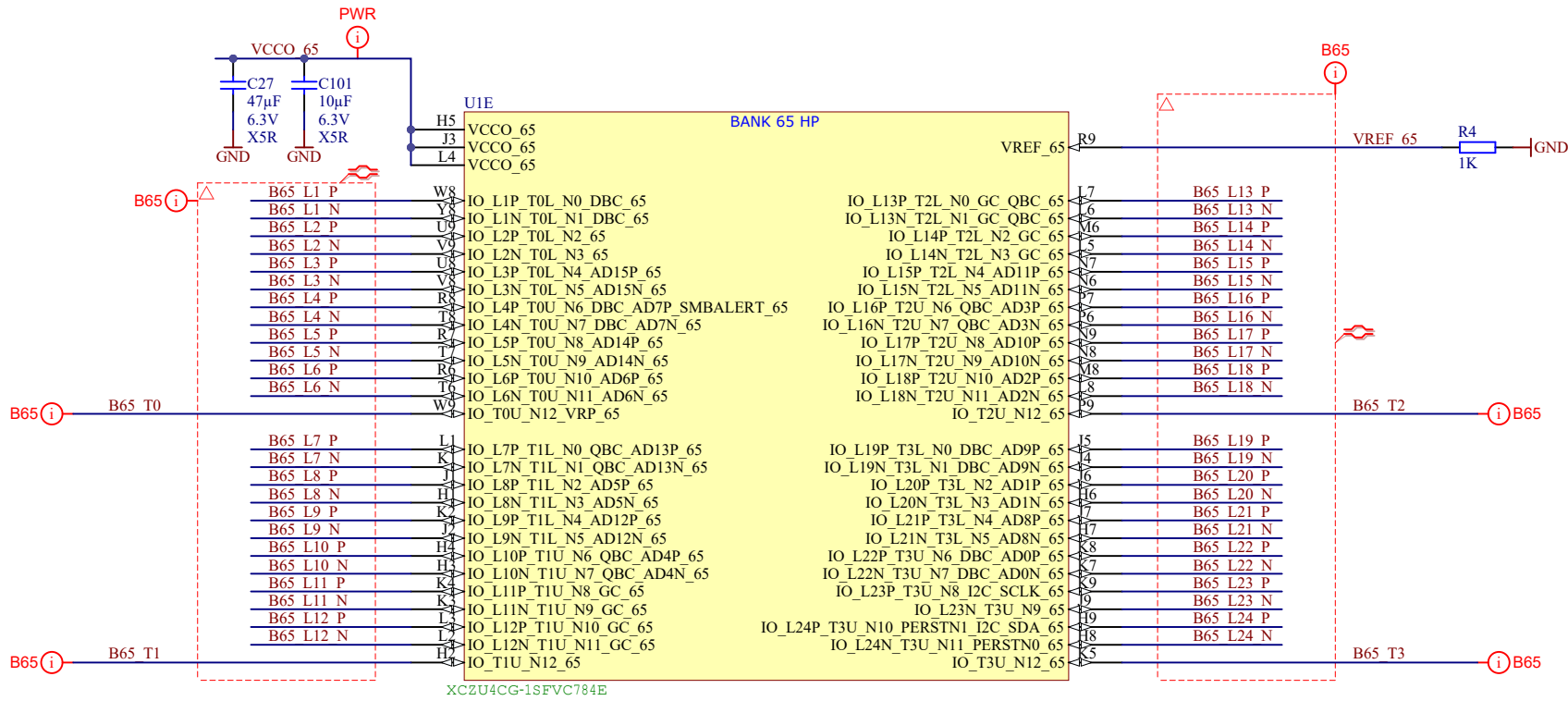
Title: TE0813 - HD Banks		
A4	Number: TE0813 4AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 9 of 30
Filename: B_HD.SchDoc		



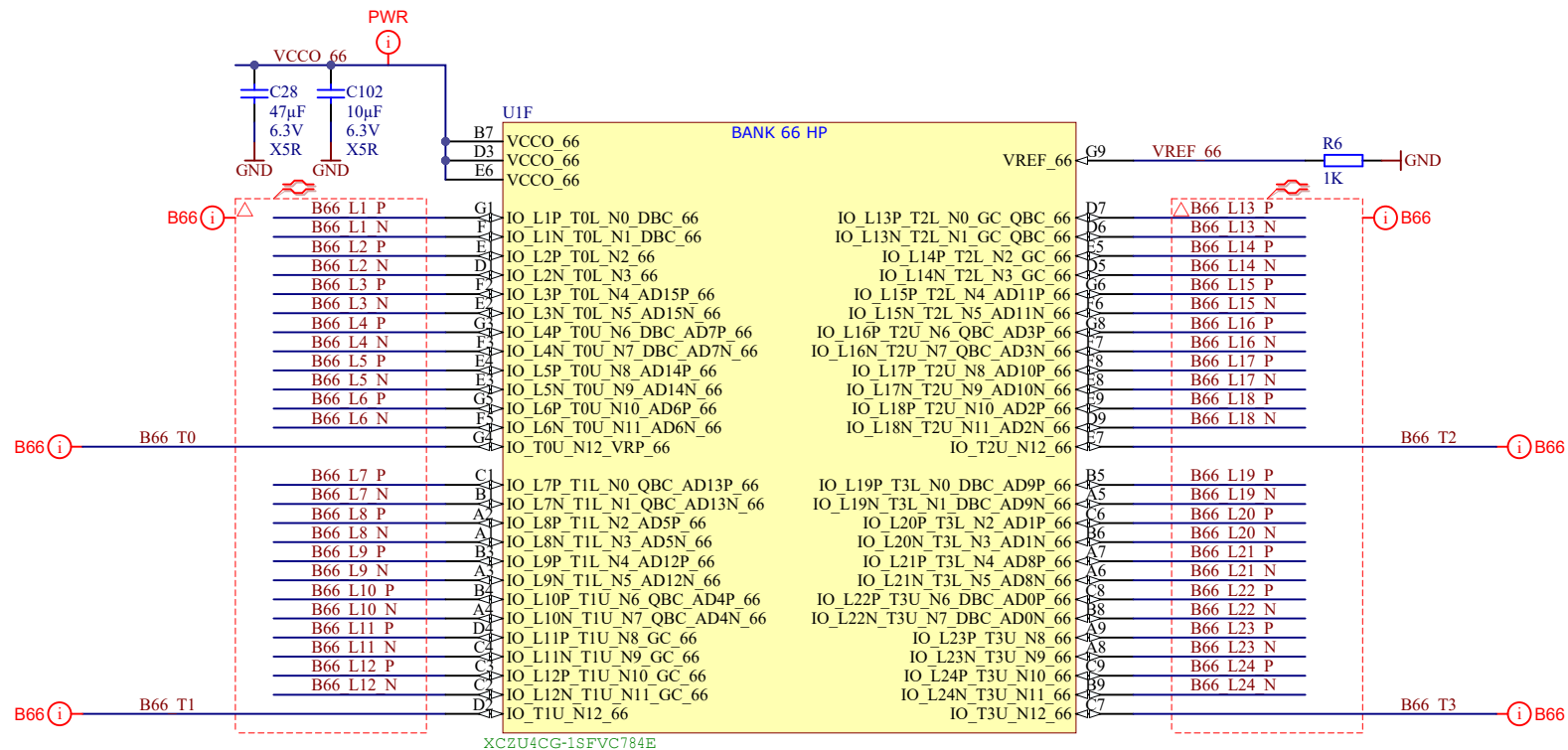

Title: TE0813 - Config		
A4	Number: TE0813 4AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 10 of 30
Filename: CONFIG.SchDoc		



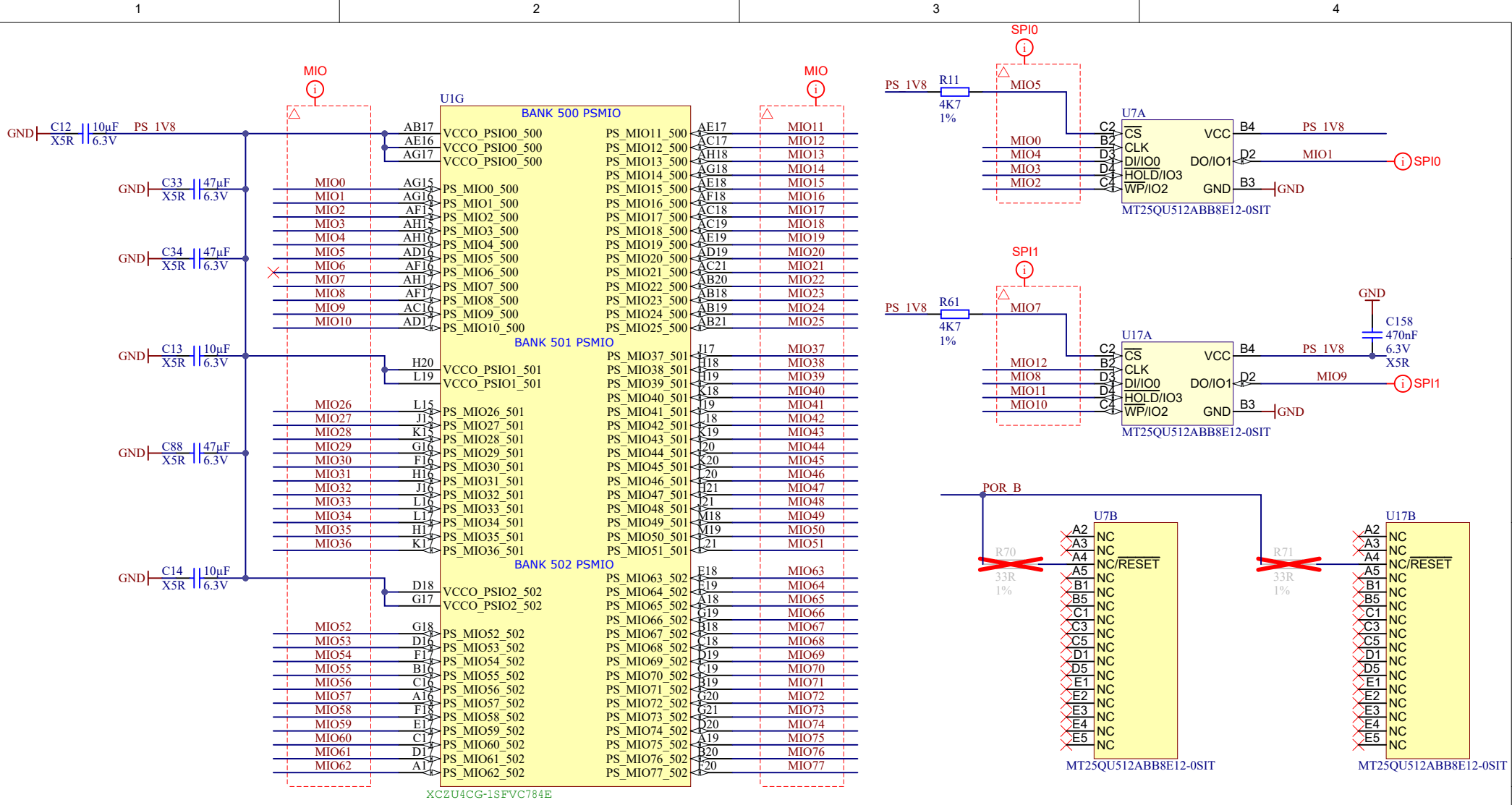
			Title: TE0813 - B64	
			A4	Number: TE0813 4AE11-A
Date: 2021-08-16		Copyright: Trenz Electronic GmbH / TT		Page 11 of 30
Filename: B64.SchDoc				



Title: TE0813 - B65		
A4	Number: TE0813 4AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 12 of 30
Filename: B65.SchDoc		

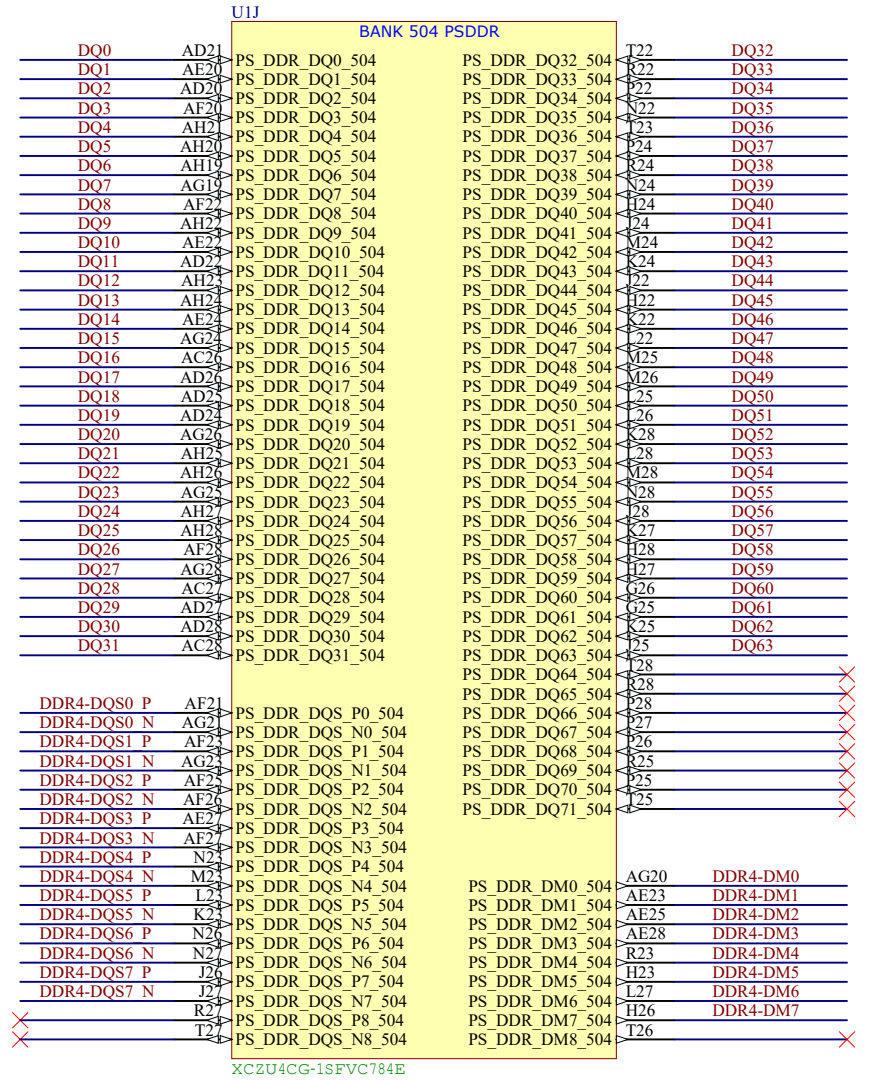
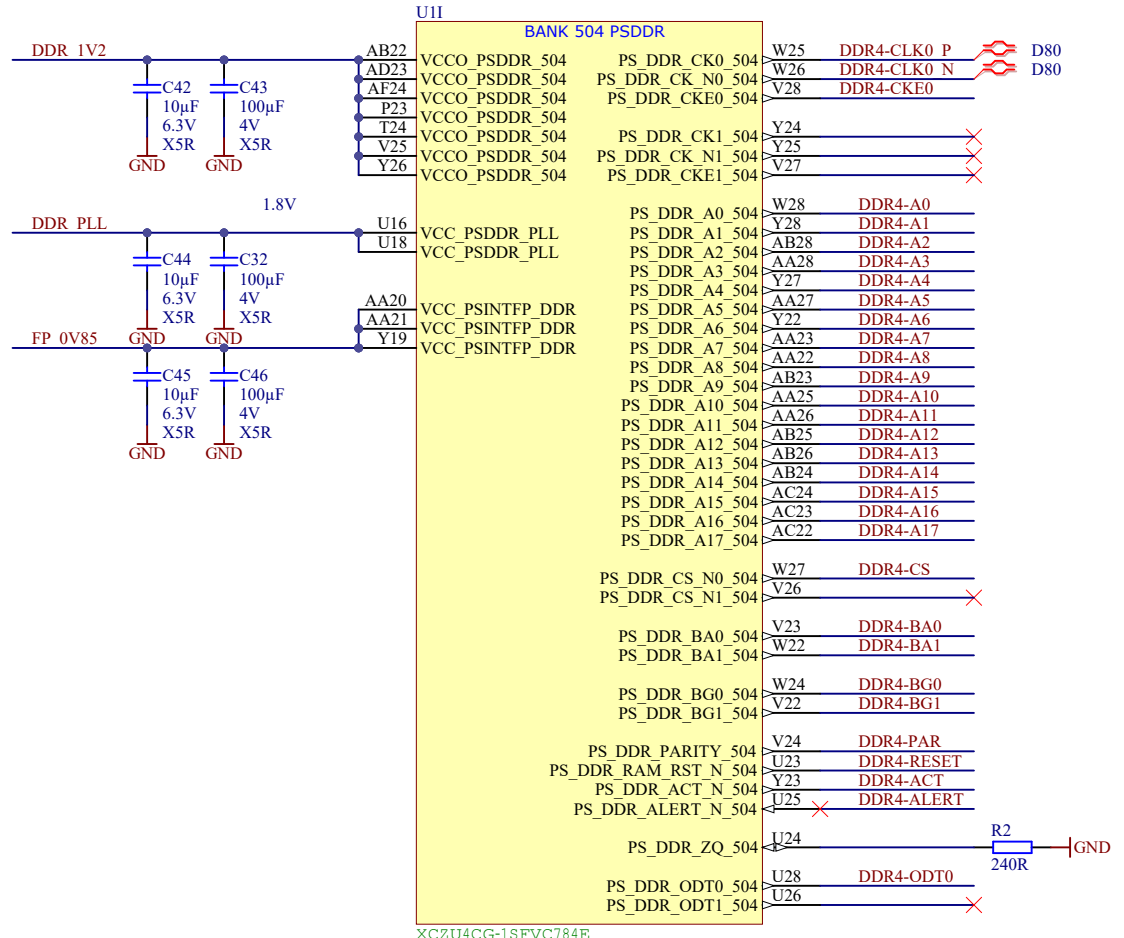



Title: TE0813 - B66		
A4	Number: TE0813 4AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 13 of 30
Filename: B66.SchDoc		



	Title: TE0813 - MIO Banks	
	A4	Number: TE0813 4AE11-A
	Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT
	Filename: B_MIO.SchDoc	

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Title: TE0813 - PS_DDR		
A4	Number: TE0813 4AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 15 of 30
Filename: PS_DDR.SchDoc		

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A

A

B

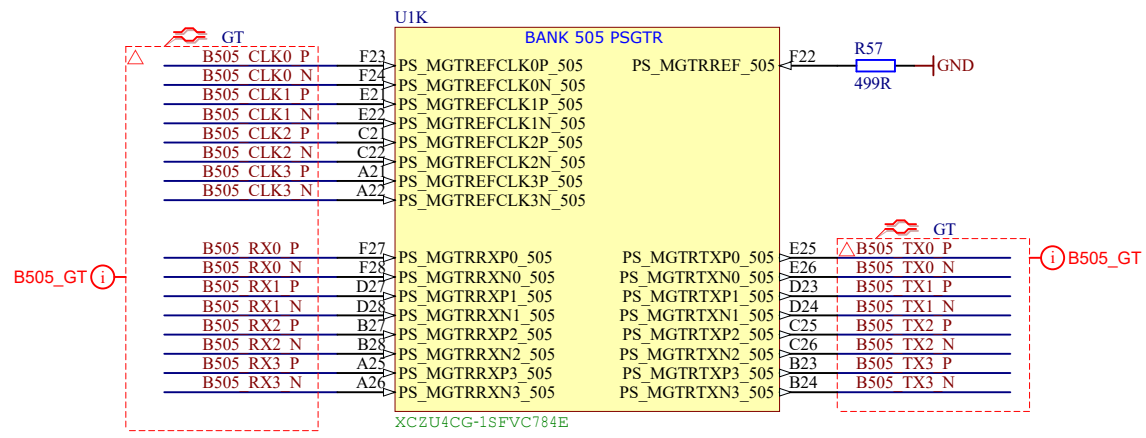
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D

D



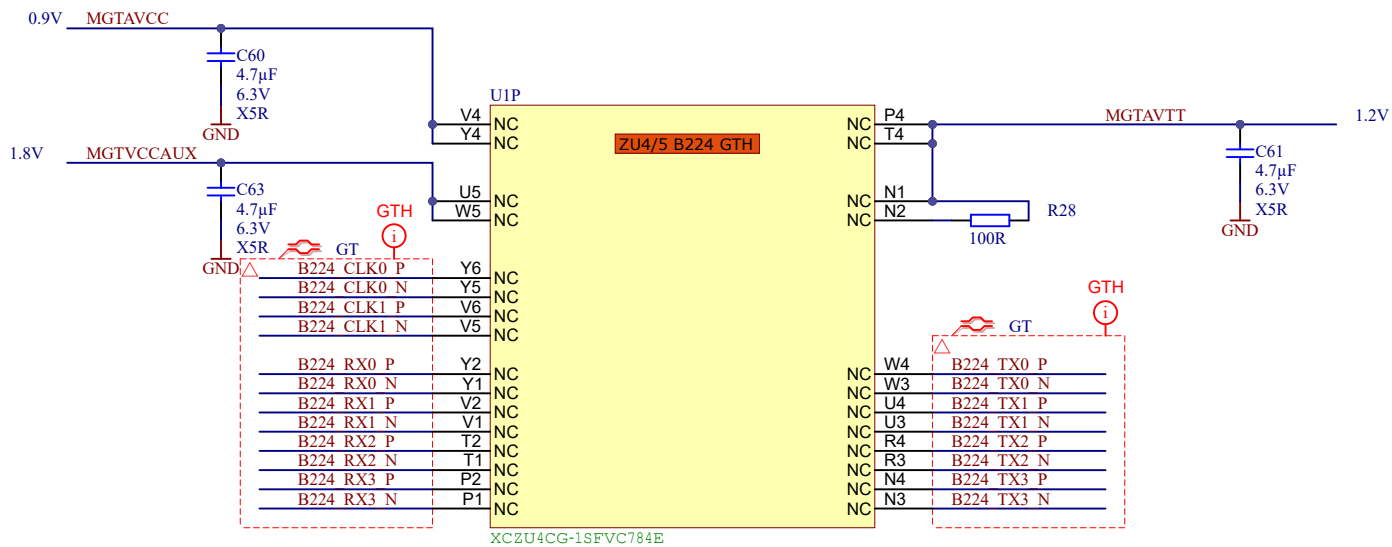
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	A4	Number: TE0813 4AE11-A	Rev. 01
	Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 16 of 30
	Filename: B_PS_GT.SchDoc		

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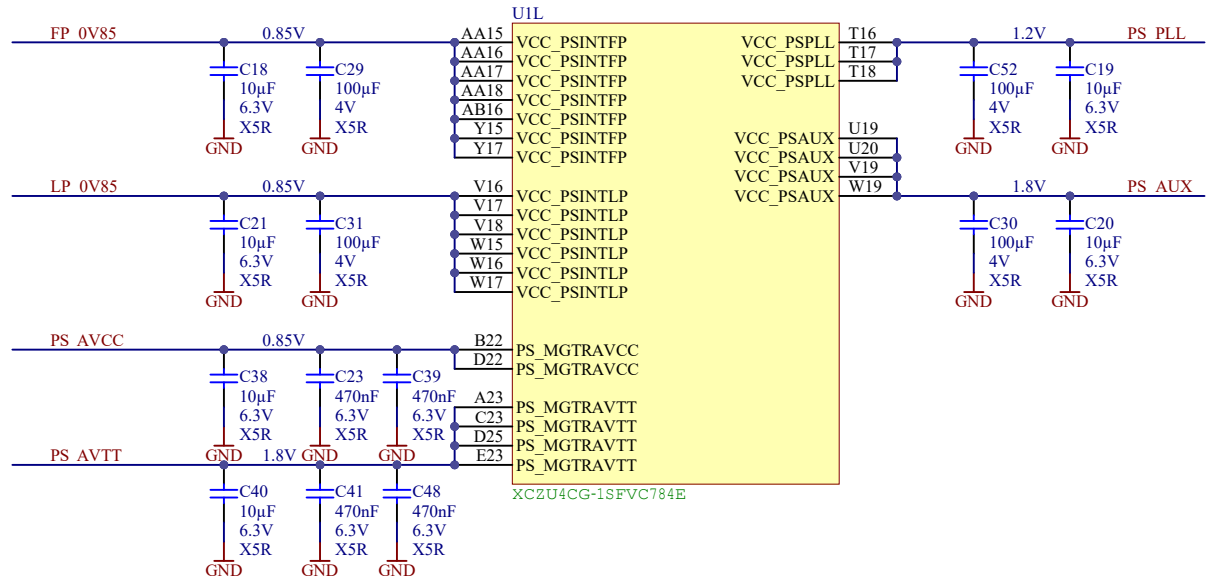
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Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 17 of 30
Filename: B_GT.SchDoc		



		Title: TE0813 - ZU_PS_POWER	
		A4	Number: TE0813 4AE11-A
Date: 2021-08-16		Copyright: Trenz Electronic GmbH / TT	
Filename: ZU_PS_POWER.SchDoc		Page 18 of 30	

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A

A

B

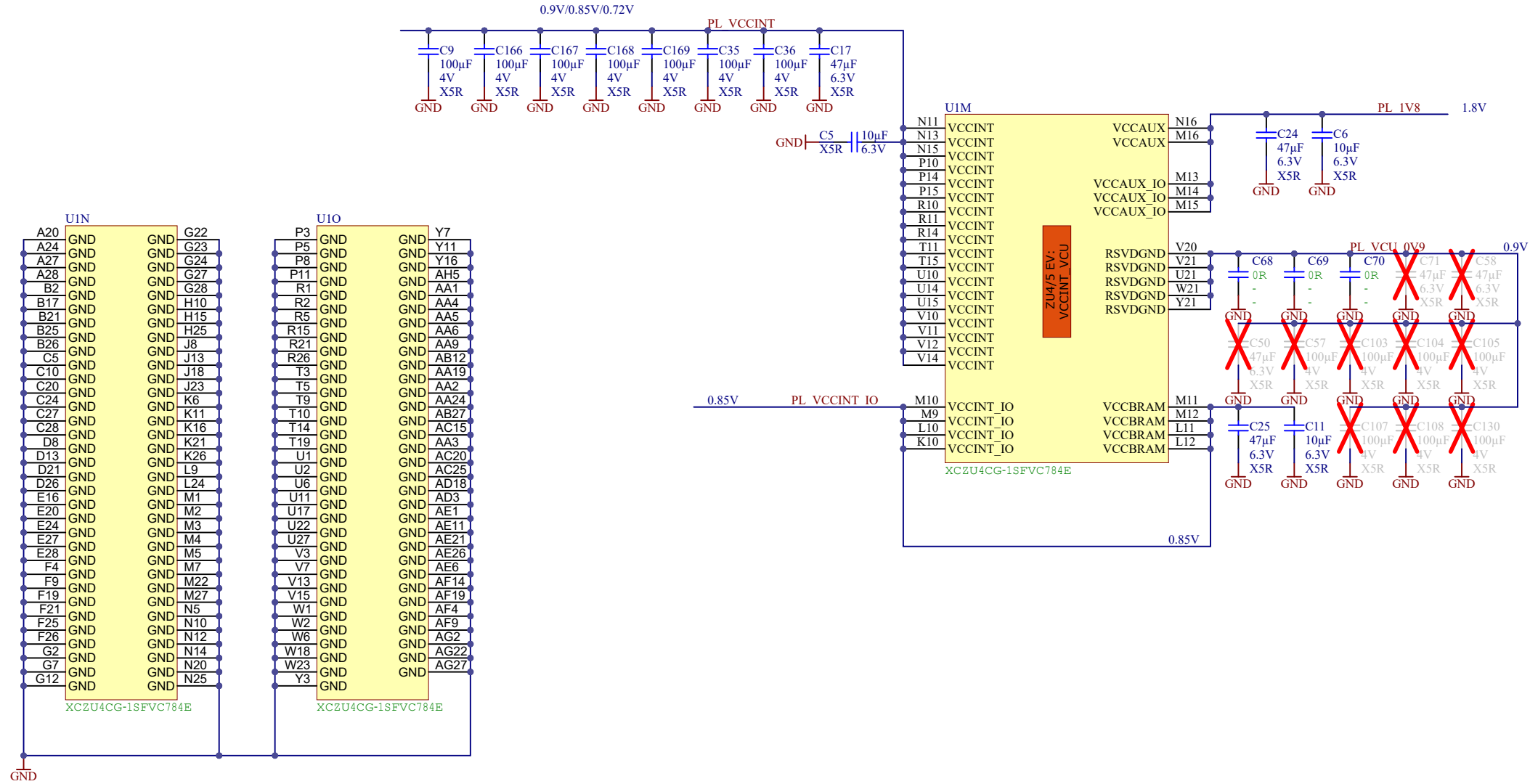
B


C

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D

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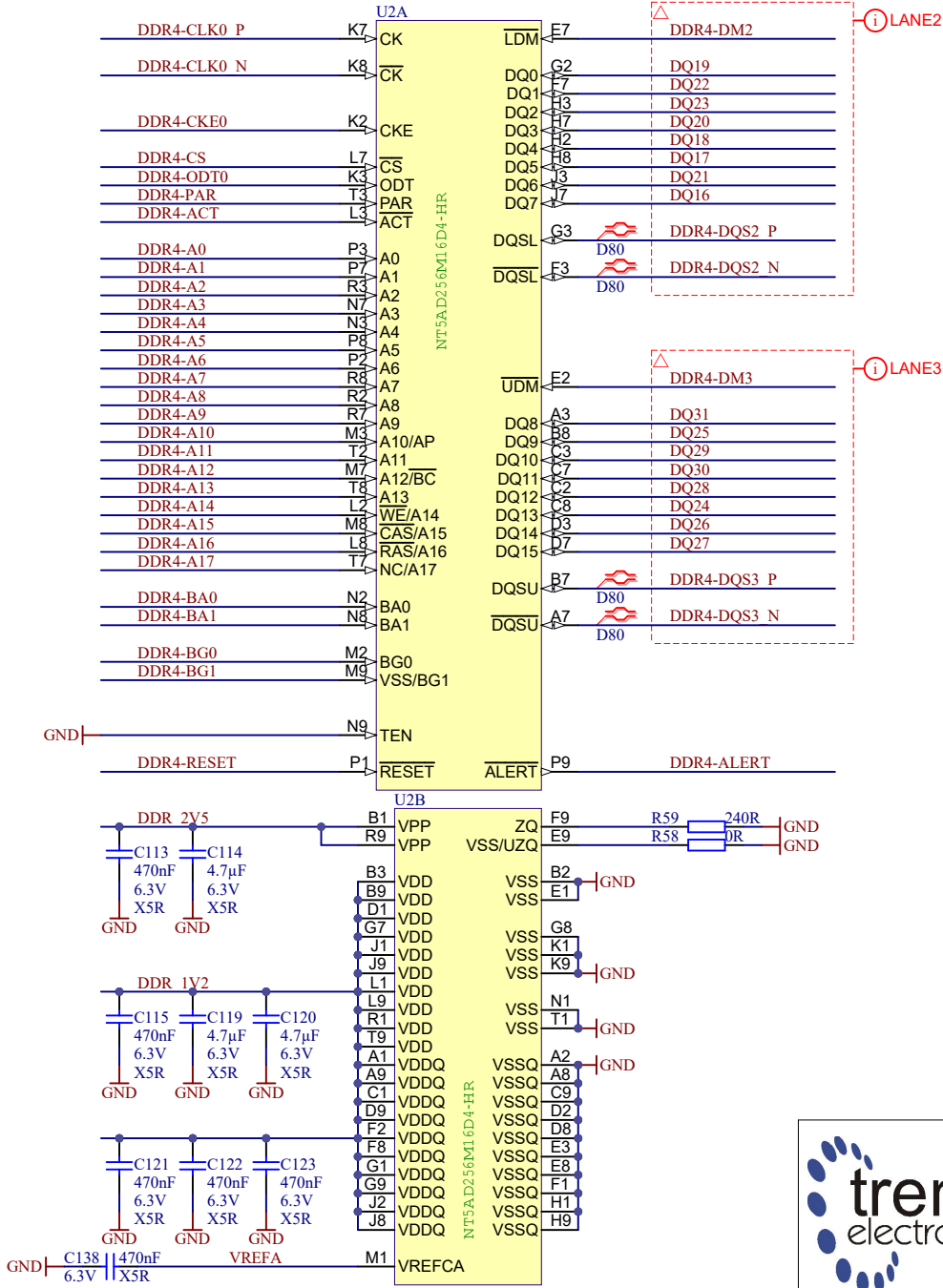
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Date: 2021-08-16		Copyright: Trenz Electronic GmbH / TT	
Date: 2021-08-16		Page 19 of 30	
Filename: ZU_POWER.SchDoc			

1

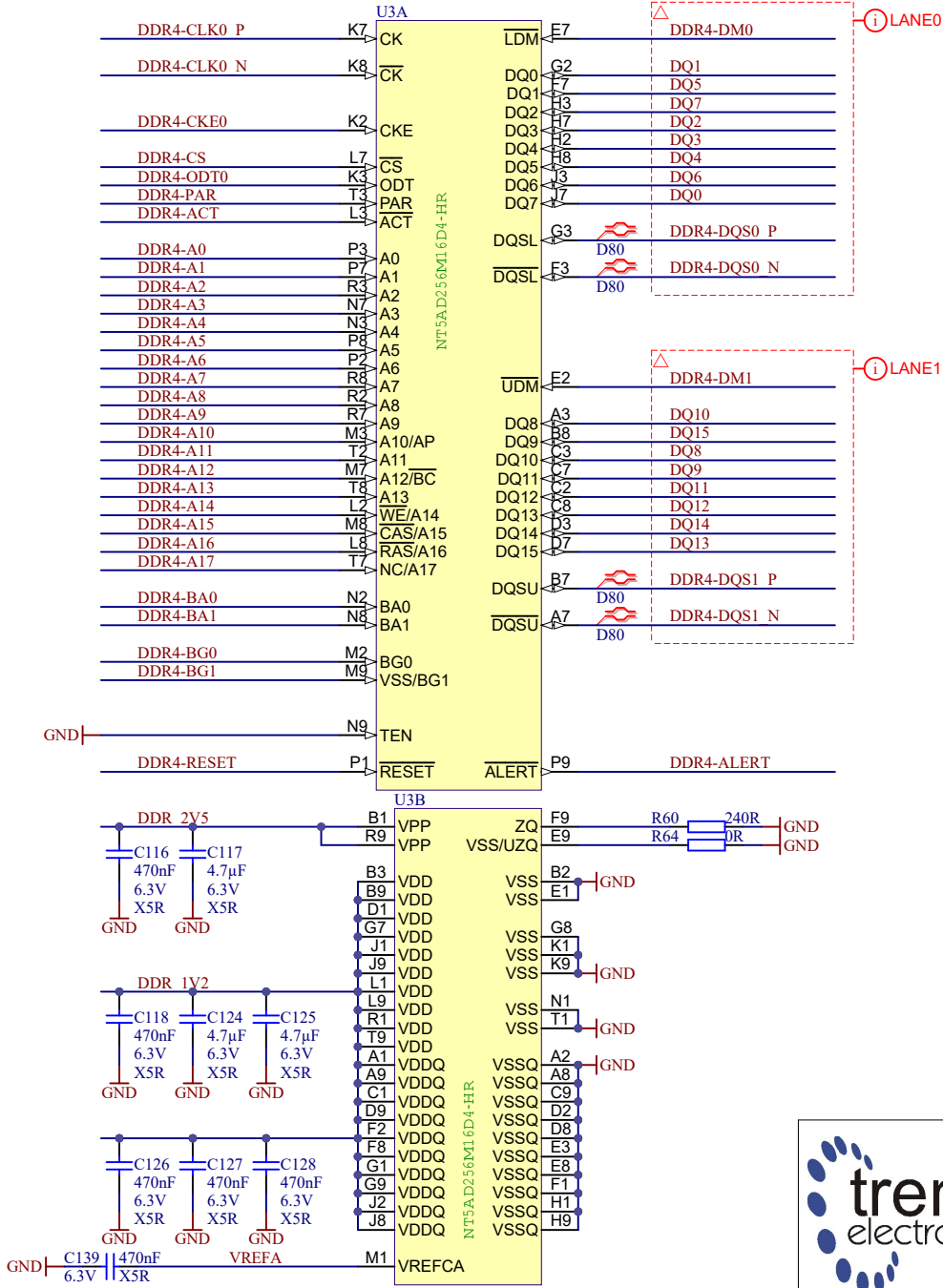
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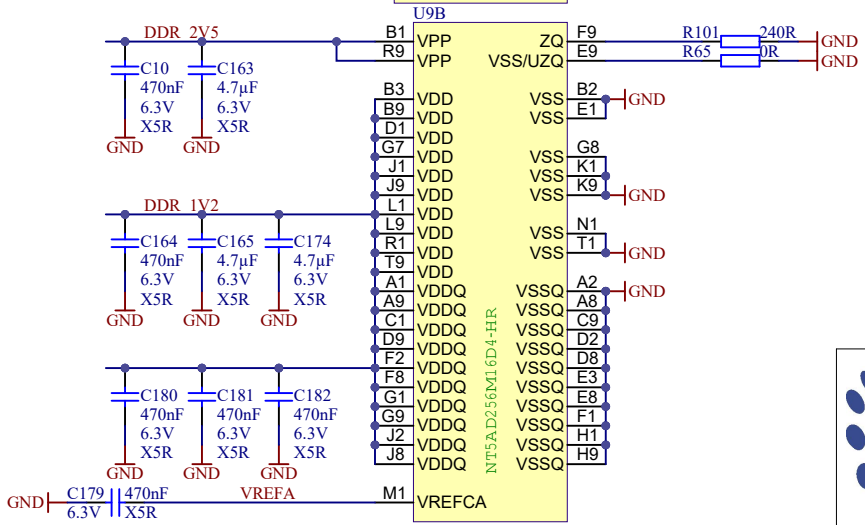
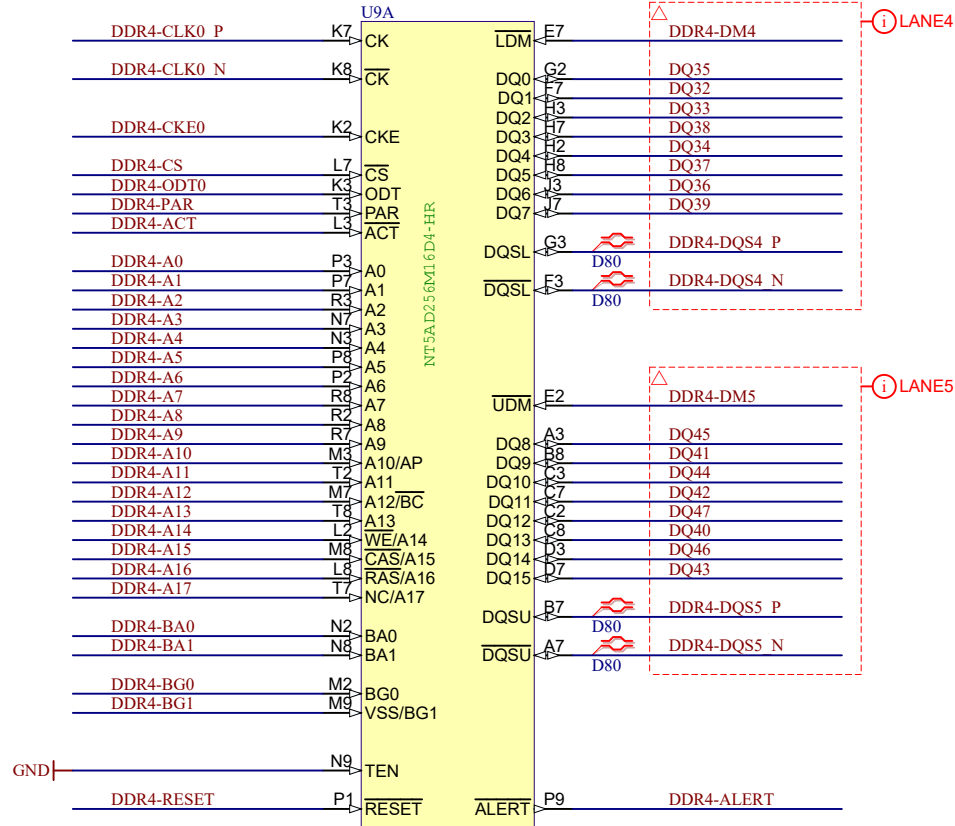
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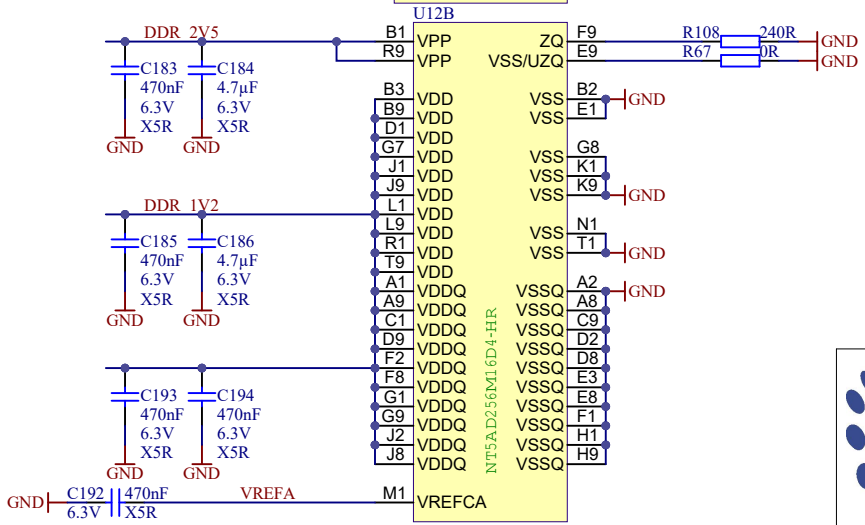
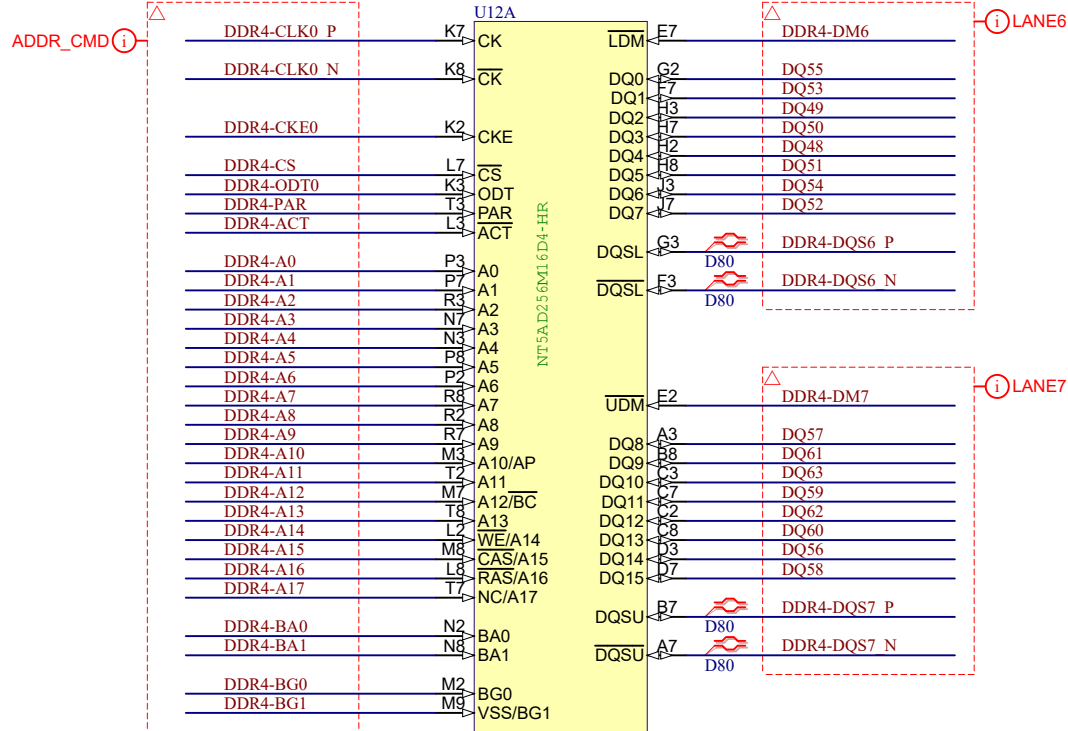
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Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 20 of 30
Filename: DDR4-RAM.SchDoc		



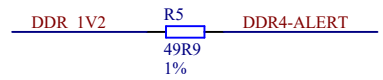
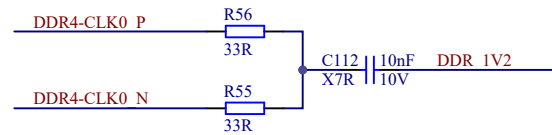
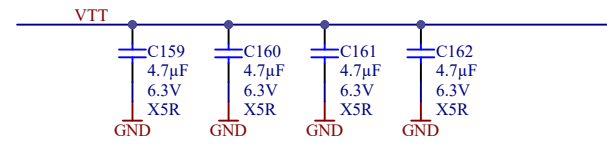
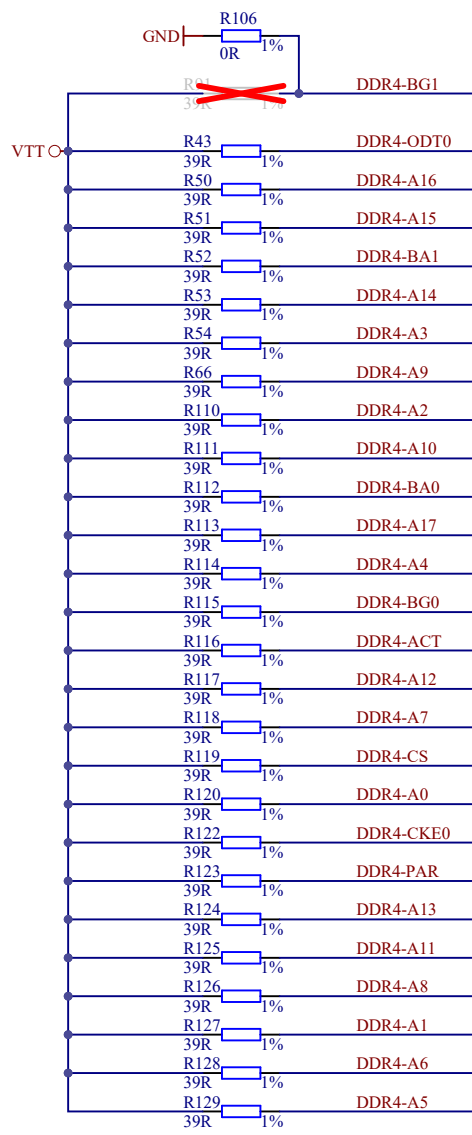
Title: TE0813 - DDR4_2_RAM		
A4	Number: TE0813 4AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 21 of 30
Filename: DDR4-RAM_2.SchDoc		



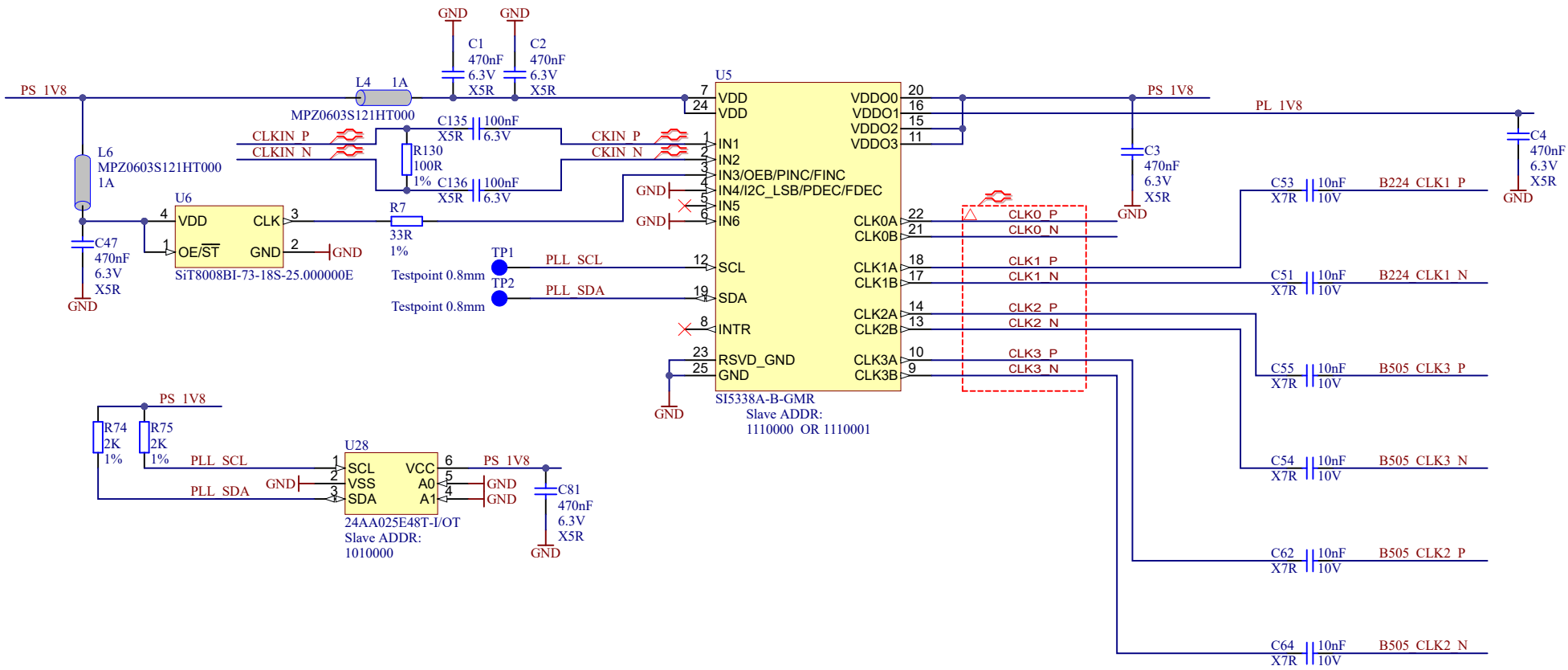
Title: TE0813 - DDR4_3_RAM		
A4	Number: TE0813 4AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 22 of 30
Filename: DDR4-RAM_3.SchDoc		




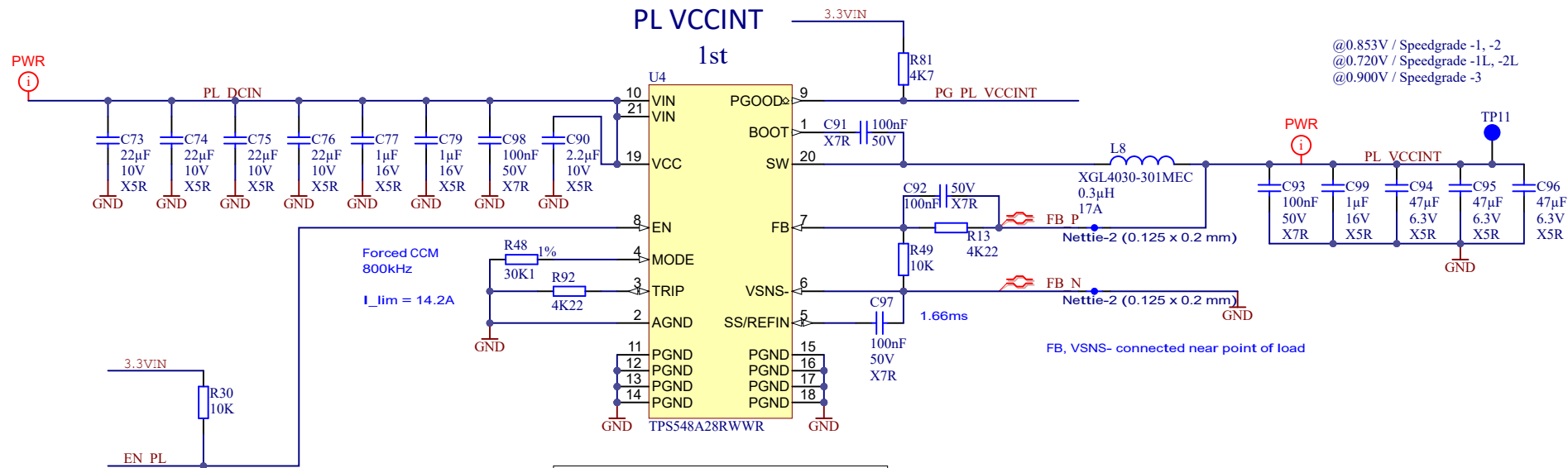
Title: TE0813 - DDR4_4_RAM		
A4	Number: TE0813 4AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 23 of 30
Filename: DDR4-RAM_4.SchDoc		



Title: TE0813 - DDR4_TERM		
A4	Number: TE0813 4AE11-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 4AE11-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 4AE11-A
	Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT
	Filename: POWER.SchDoc	
	Rev. 01	Page 26 of 30

1

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A

A

B

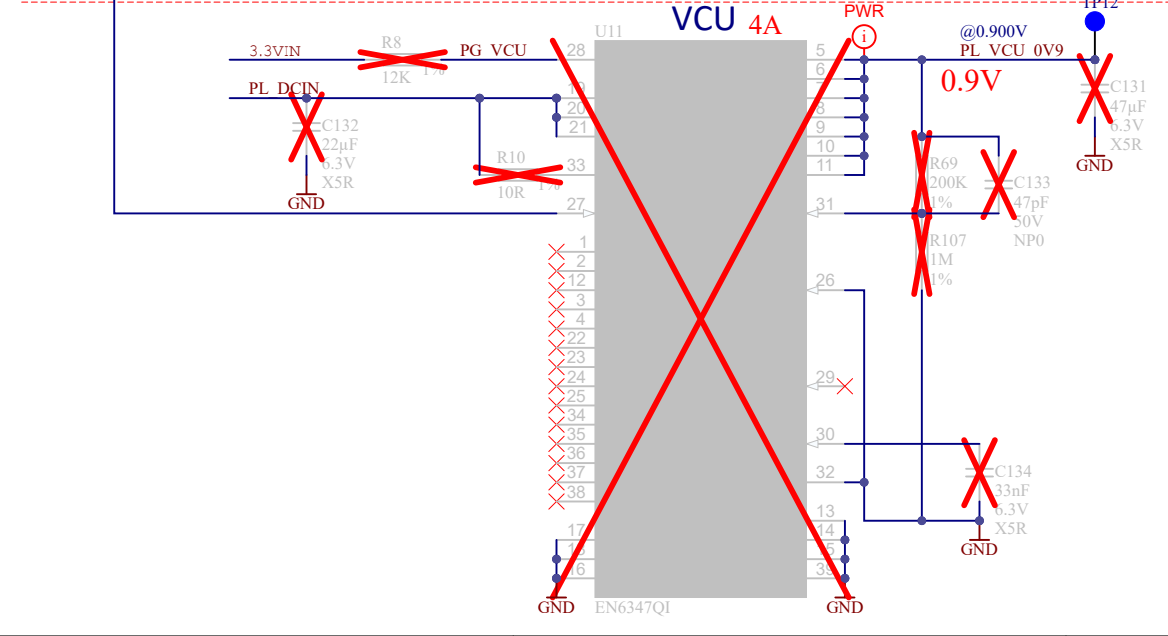
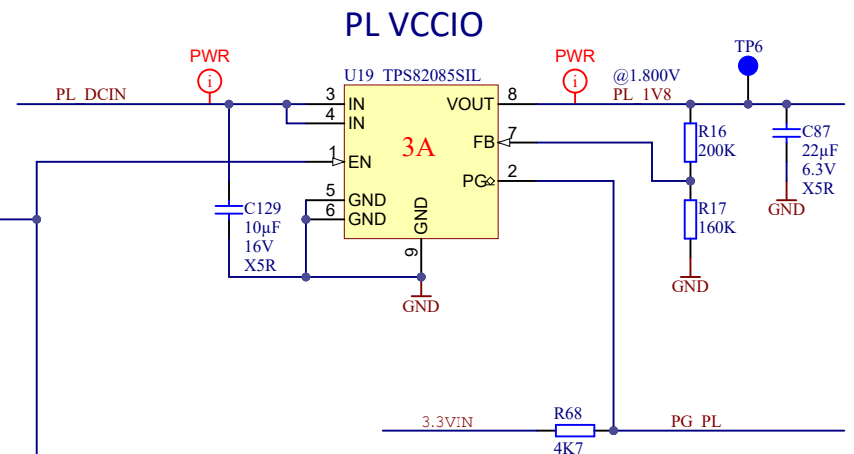
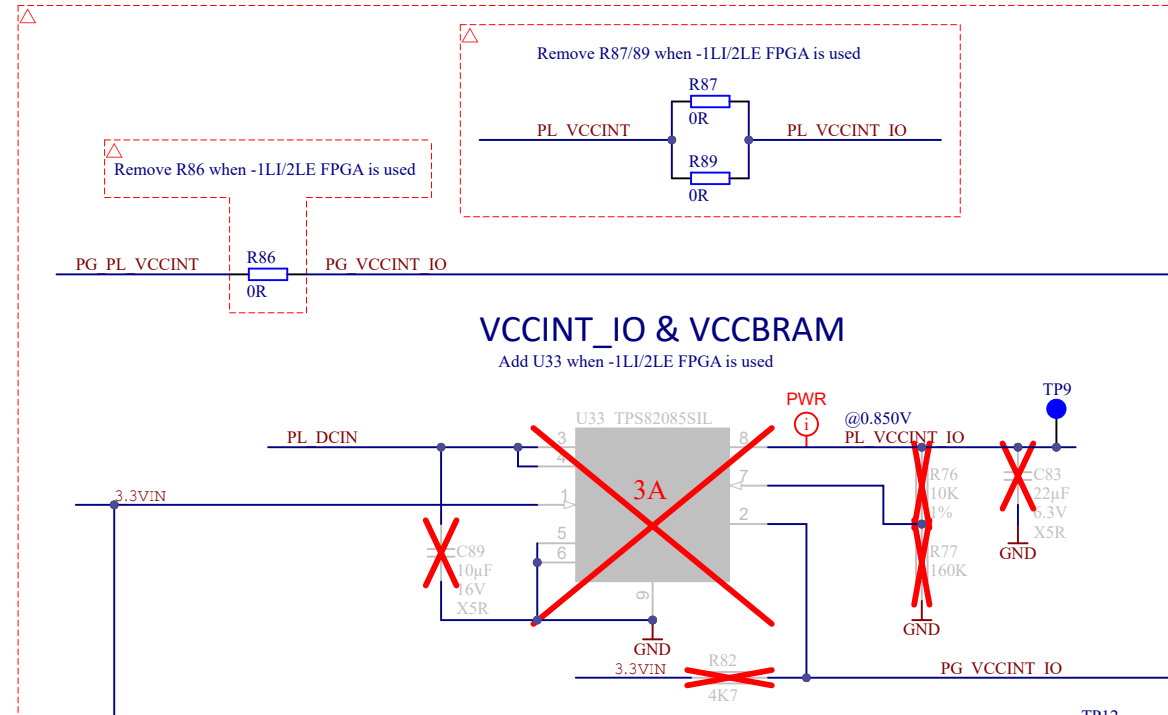
B

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Title: TE0813 - POWER		
A4	Number: TE0813 4AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 27 of 30
Filename: POWER_1.SchDoc		

1

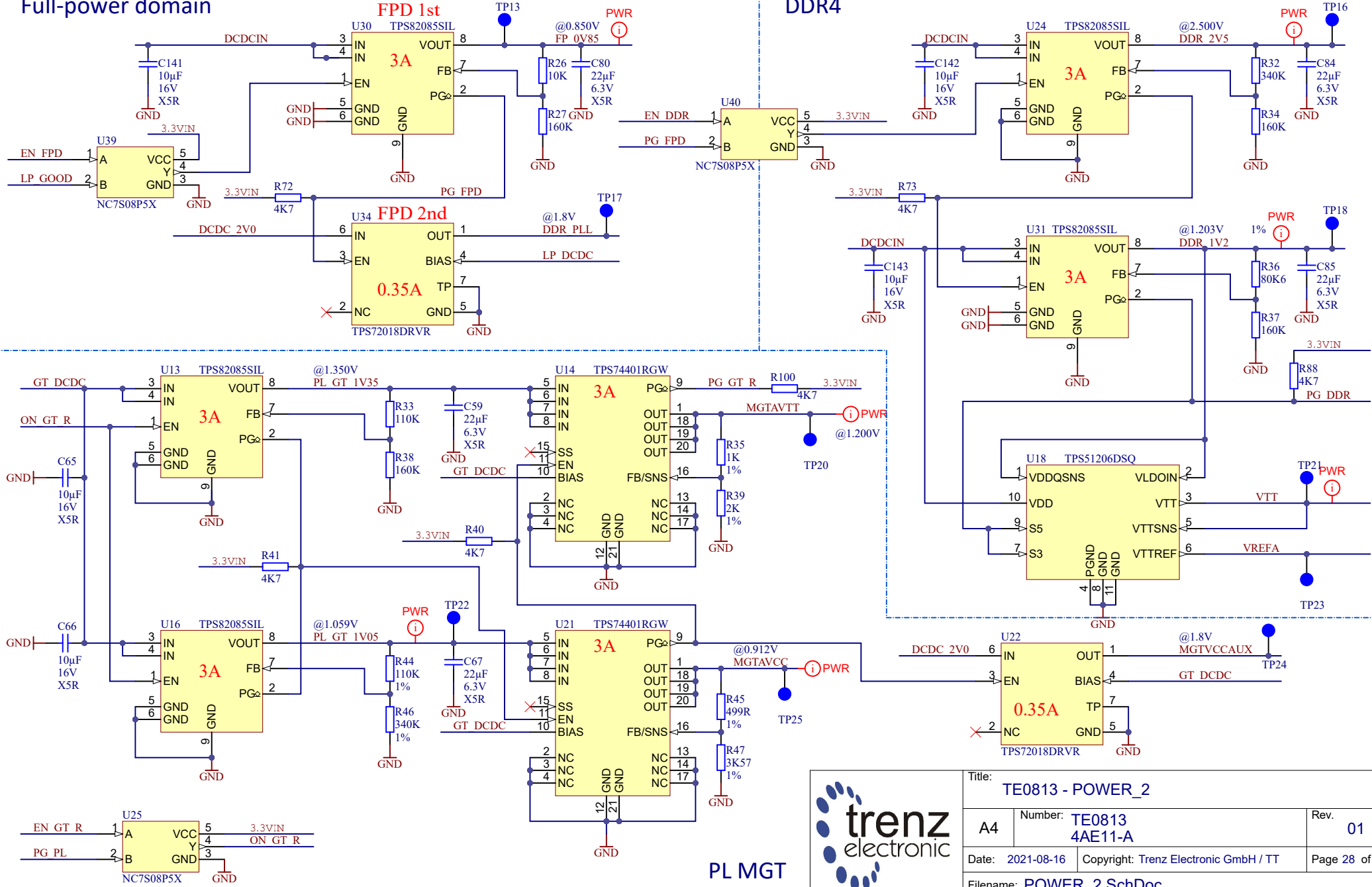
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3

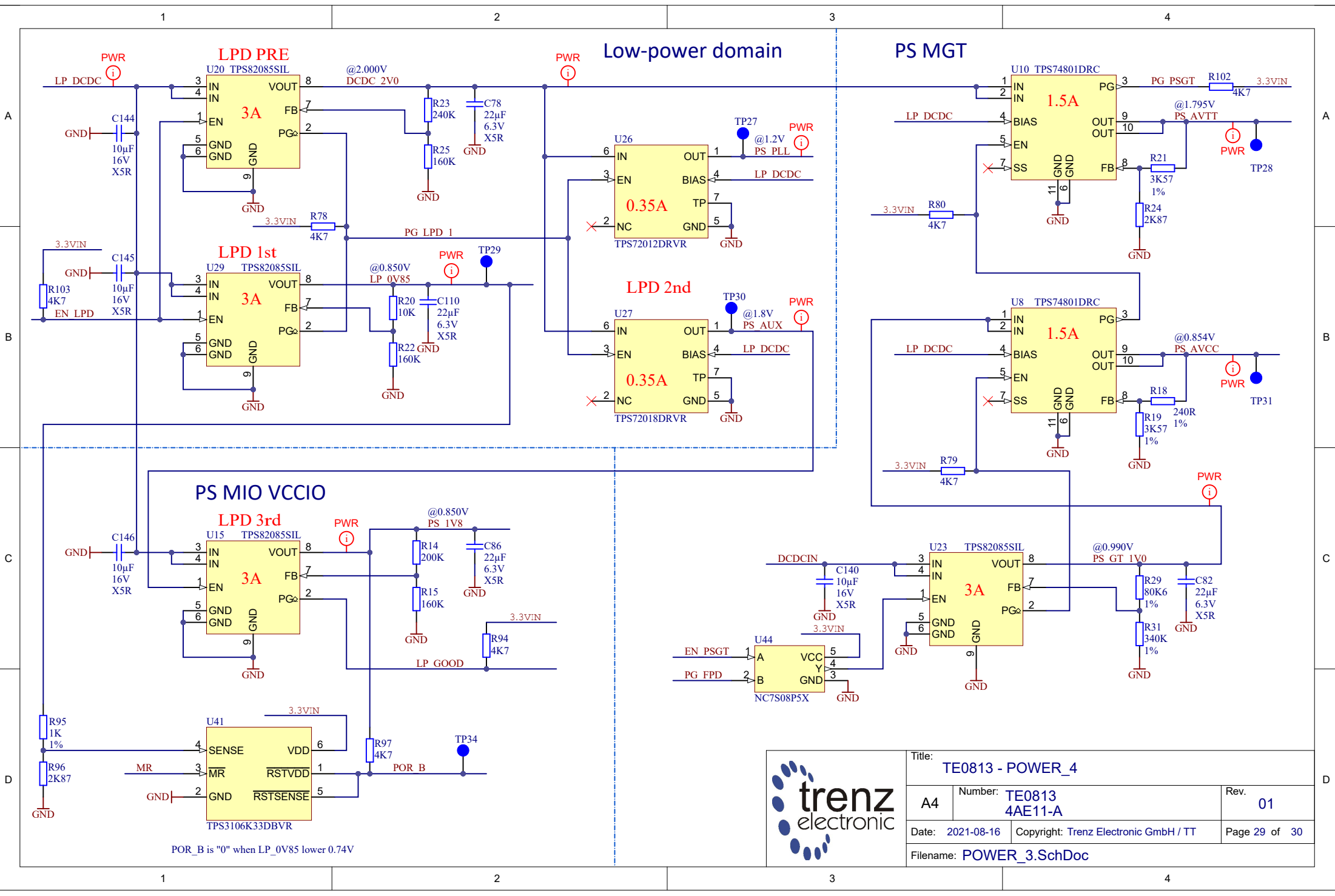
4

Full-power domain

DDR4



Title: TE0813 - POWER_2		
A4	Number: TE0813 4AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 28 of 30
Filename: POWER_2.SchDoc		



POR_B is "0" when LP_0V85 lower 0.74V



Title: TE0813 - POWER_4		
A4	Number: TE0813 4AE11-A	Rev. 01
Date: 2021-08-16	Copyright: Trenz Electronic GmbH / TT	Page 29 of 30
Filename: POWER_3.SchDoc		

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A

A

B

B


C

C

D

D

REV	DATE	Description	
-01	2021-05	Initial revision	VT

			Title: TE0813 - Revision History		
			A4	Number: TE0813 4AE11-A	Rev. 01
Date: 2021-07-26		Copyright: Trenz Electronic GmbH		Page 30 of 30	
Filename: Revision Changes.SchDoc					

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