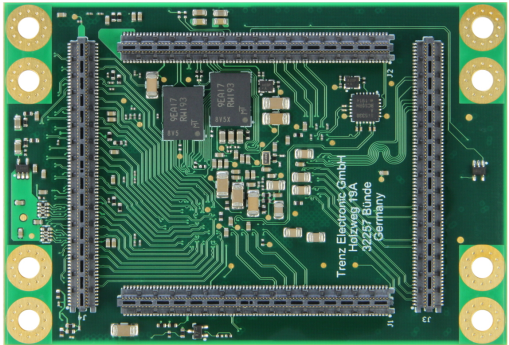
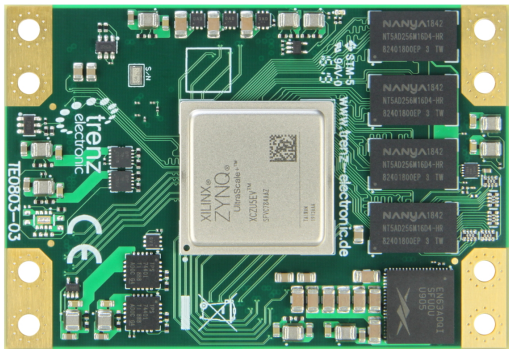


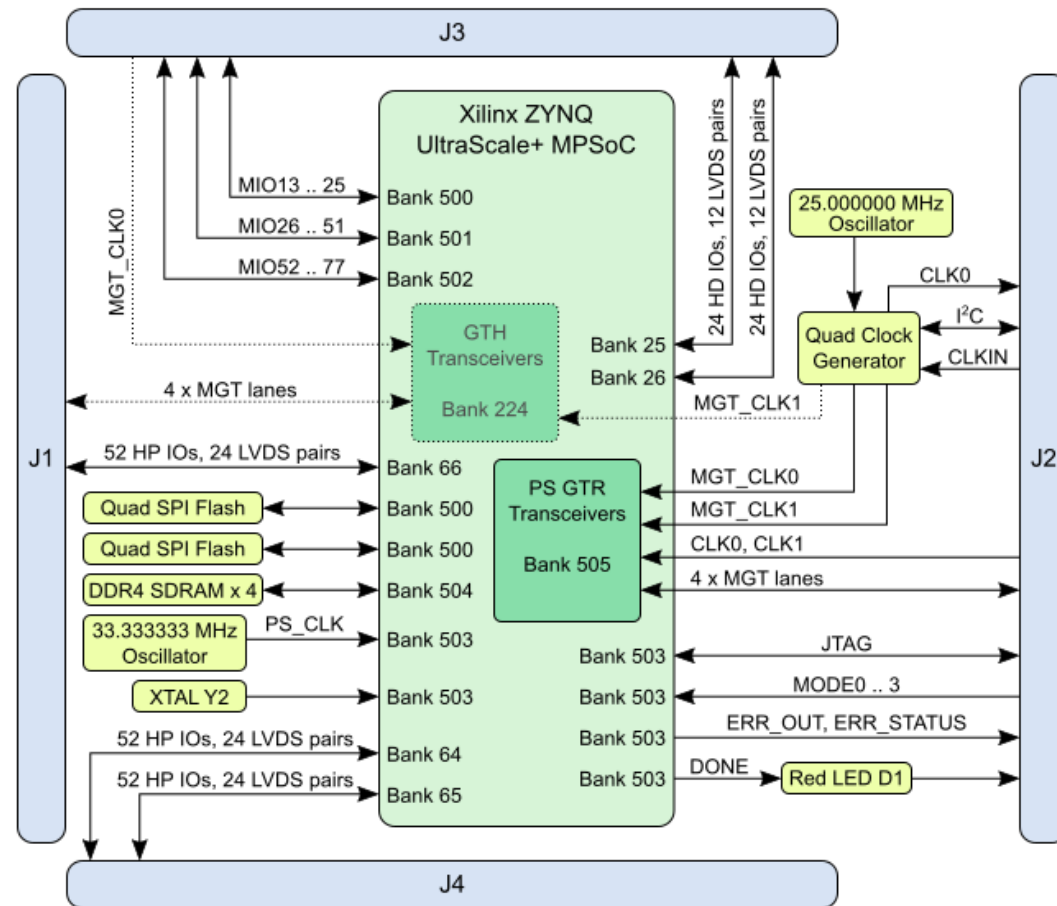


Regarding the usage of our schematics and alike documentation for Trenz module TE0803.

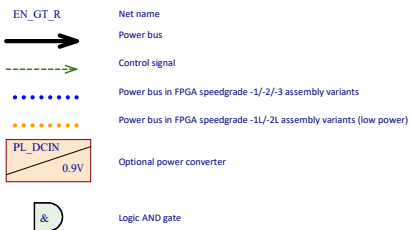
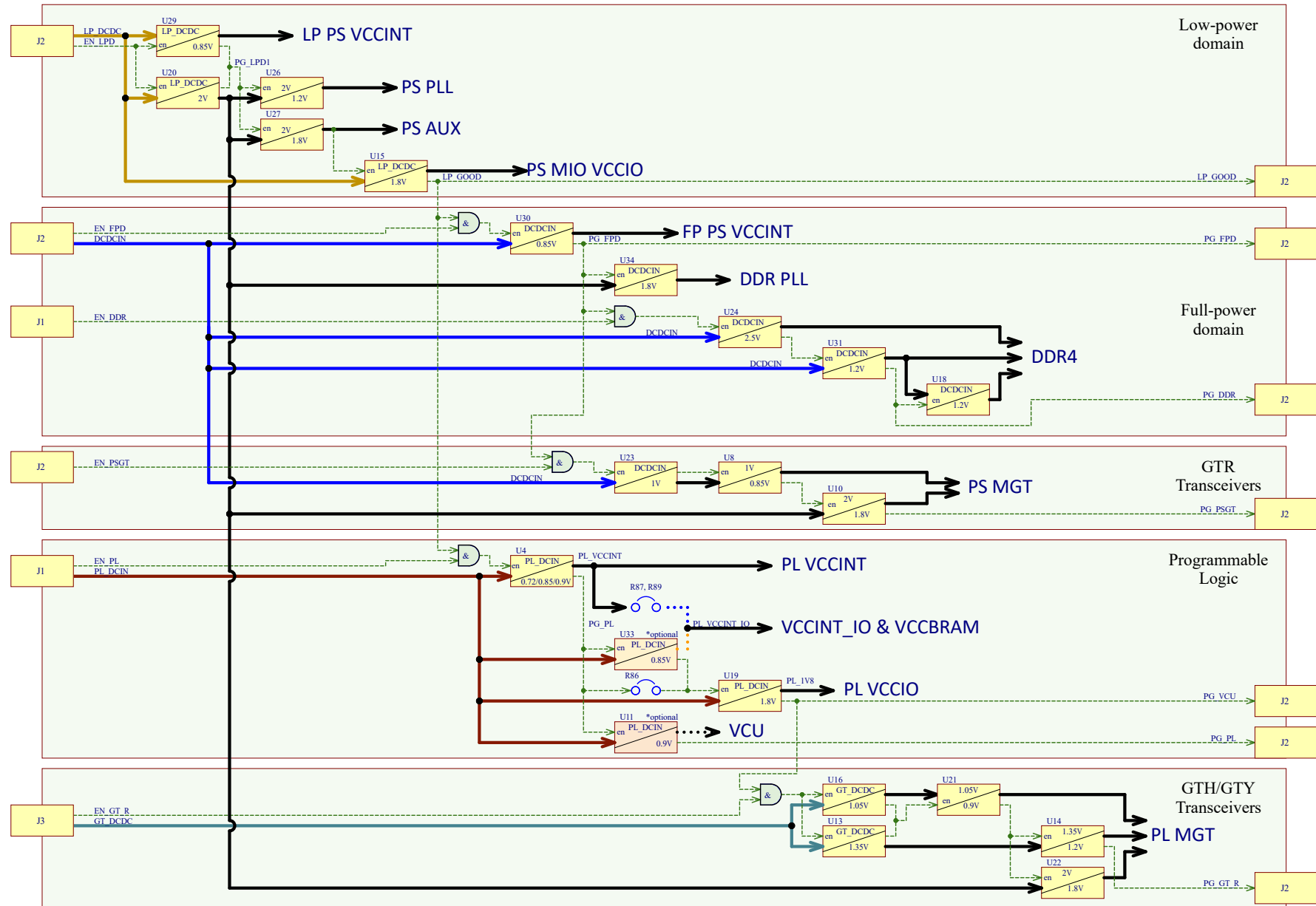
Project is protected under copyright and we strongly and strictly prohibit the reverse engineering or recreation, even if the design is just adapted or modified. TE0803 is protected under such right and in case of plagiarism we will have to do anything necessary in order to protect our assets.

Schematics and other handouts serve for informational purposes only!

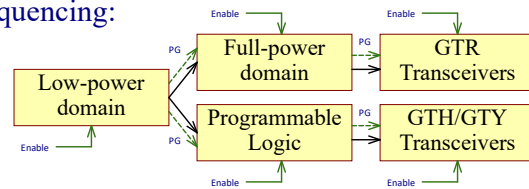
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	A4	Number: TE0803 5DI81-AZ	Rev. 04
	Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page 1 of 30
	Filename: Legal Notices Modules.SchDoc		



	Title: TE0803 - System Overview		
	A4	Number: TE0803 5DI81-AZ	Rev. 04
	Date: 2021-01-19	Copyright: 2015 Trenz Electronic GmbH	Page 2 of 30
	Filename: TE0803-Overview.SchDoc		

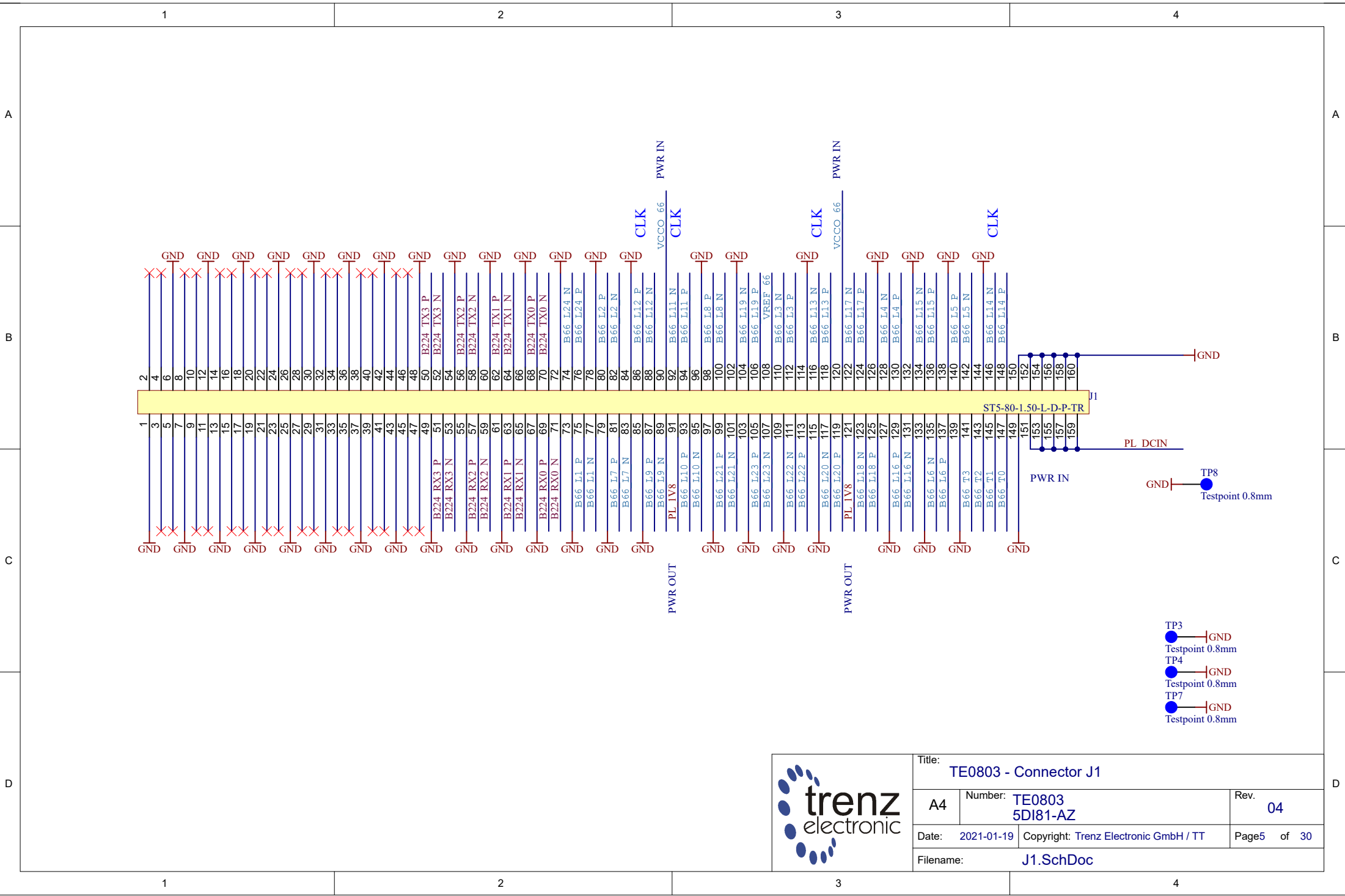


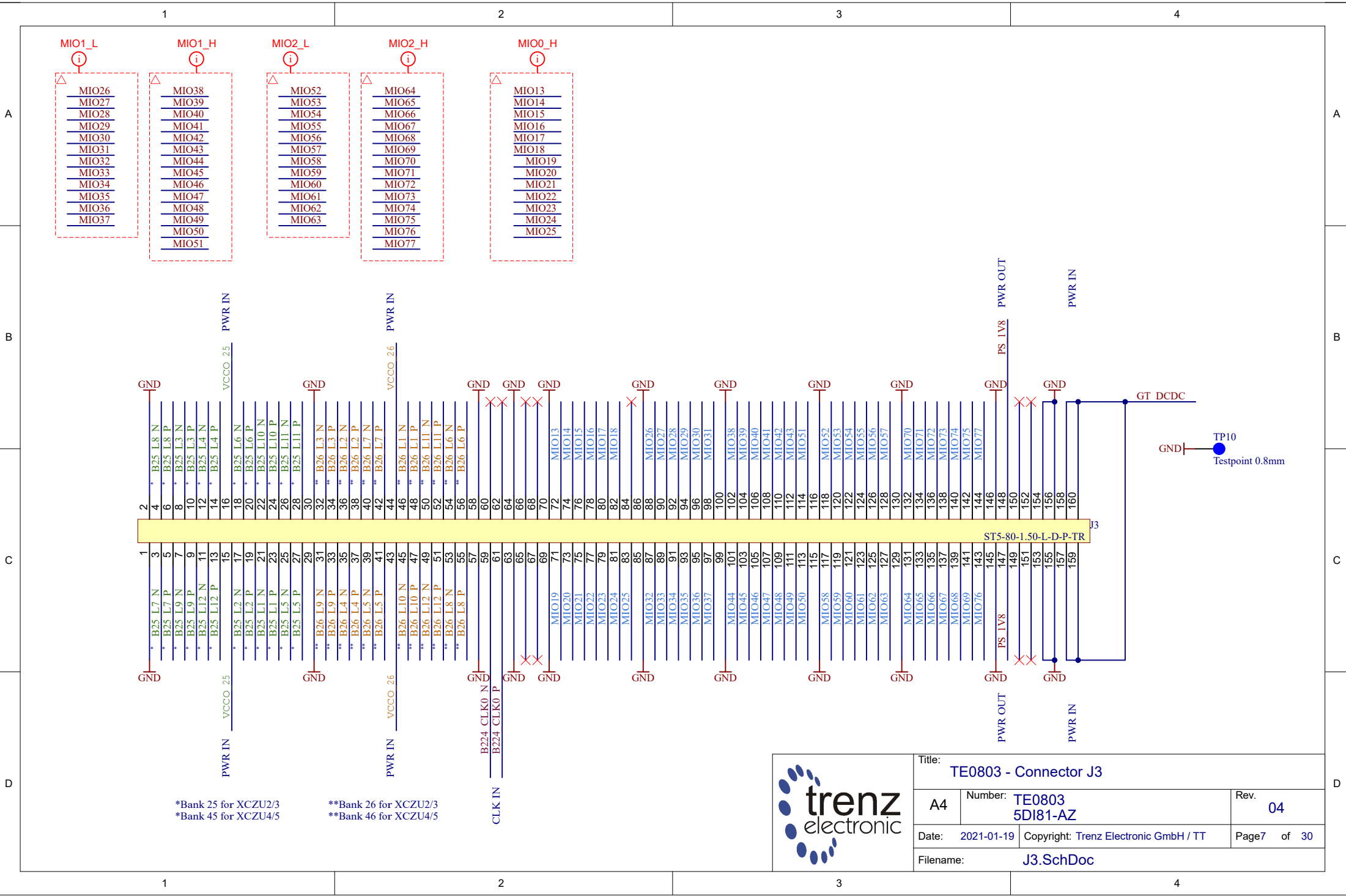
Power-on sequencing:



Title: TE0803 - Power Diagram		
A3	Number: TE0803 5DI81-AZ	Rev. 04
Datum: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page 3 of 30
Filename: Power_Diagram.SchDoc		

1	2	3	4
U_J1 J1.SchDoc U_J2 J2.SchDoc U_J3 J3.SchDoc U_J4 J4.SchDoc U_DDR4-TERM DDR4-TERM.SchDoc U_B64 B64.SchDoc U_B65 B65.SchDoc U_B66 B66.SchDoc U_B_GT B_GT.SchDoc U_PD Power_Diagram.SchDoc	U_B_PS_GT B_PS_GT.SchDoc U_PS_DDR PS_DDR.SchDoc U_B_MIO B_MIO.SchDoc U_B_HD B_HD.SchDoc U_Clock Clock.SchDoc U_CONFIG CONFIG.SchDoc U_DDR4-RAM DDR4-RAM.SchDoc U_DDR4-RAM_2 DDR4-RAM_2.SchDoc U_DDR4-RAM_3 DDR4-RAM_3.SchDoc U_DDR4-RAM_4 DDR4-RAM_4.SchDoc	U_LN Legal Notices Modules.SchDoc U_ZU_POWER ZU_POWER.SchDoc U_ZU_PS_POWER ZU_PS_POWER.SchDoc U_POWER POWER.SchDoc U_POWER_1 POWER_1.SchDoc U_POWER_2 POWER_2.SchDoc U_POWER_4 POWER_4.SchDoc U_REV_CH Revision Changes.SchDoc U_OVERVIEW TE0803-Overview.SchDoc	Special notes: GND Mount.Hole 3.2mm für Unterlegscheibe GND Mount.Hole 3.2mm für Unterlegscheibe GND Mount.Hole 3.2mm für Unterlegscheibe GND Mount.Hole 3.2mm für Unterlegscheibe GND Mount.Hole 3.2mm für Unterlegscheibe GND Mount.Hole 3.2mm für Unterlegscheibe
PM1 PM2 FIDU-DOT - mini PM3 FIDU-DOT - mini PM4 FIDU-DOT - mini PM5 FIDU-DOT - mini PM6 FIDU-DOT - mini FIDU-DOT - mini	MECH1 TE Address Overlay LOGO ADDRESS LOGO1 TE Logo PRINT Layer LOGO PRINT Serial1 Serialnumber 6,3 x 6.3mm Serial2 Serial Serialnumber 6,3 x 6.3mm AD only	trenz electronic	Assembly variant 5DI81-AZ Created by VT Modified by VT Modified at 2022-12-14 SVN Revision 15880 Title: TE0803 A4 Number: TE0803 5DI81-AZ Rev. 04 Date: 2021-01-19 Copyright: Trenz Electronic GmbH / TT Page4 of 30 Filename: TE0803.SchDoc
1	2	3	4





*Bank 25 for XCZU2/3
*Bank 45 for XCZU4/5

**Bank 26 for XCZU2/3
**Bank 46 for XCZU4/5



Title: TE0803 - Connector J3		
A4	Number: TE0803 5DI81-AZ	Rev. 04
Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page7 of 30
Filename: J3.SchDoc		

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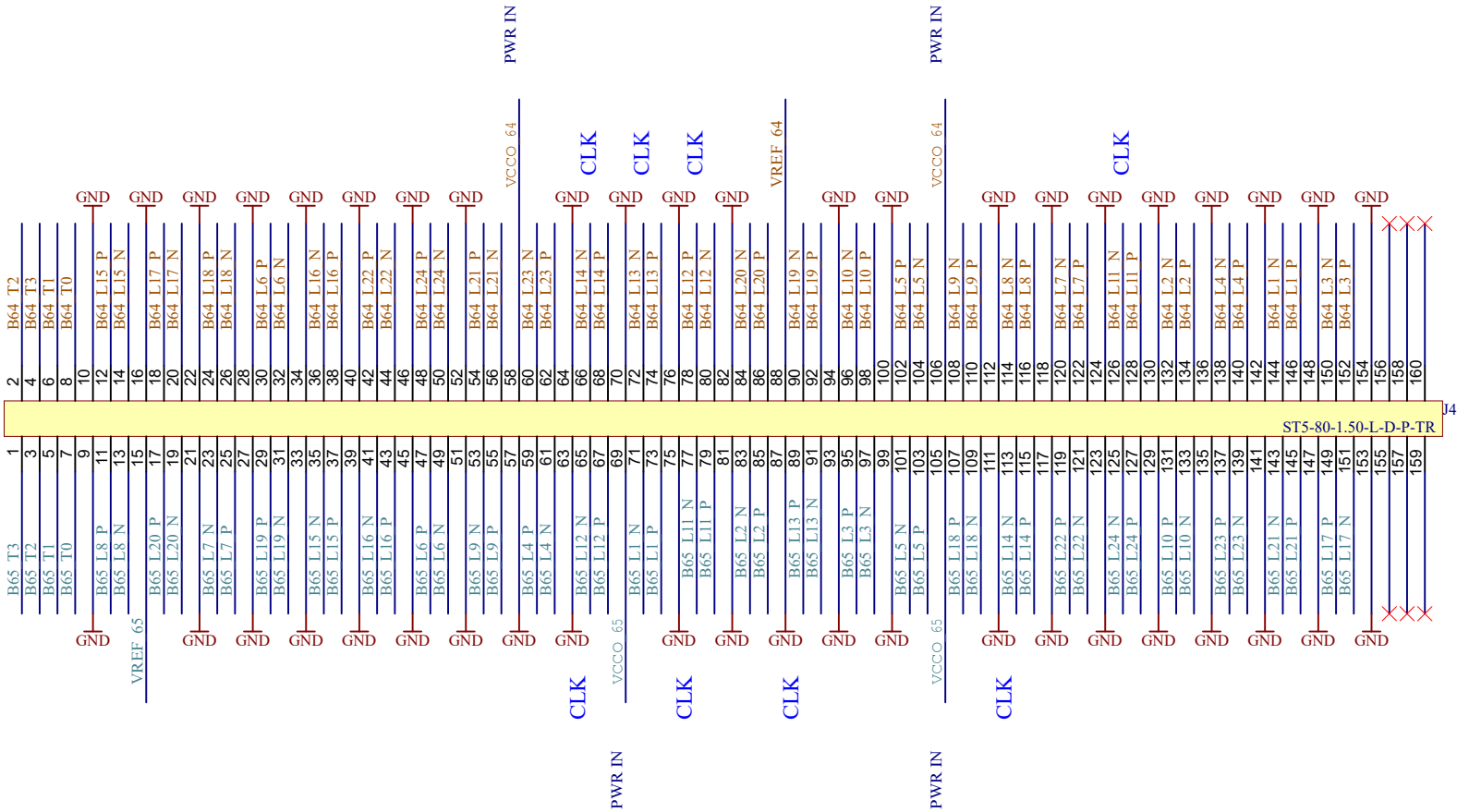
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		Title: TE0803 - Connector J4	
		A4	Rev. 04
Date:	2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page8 of 30
Filename:		J4.SchDoc	

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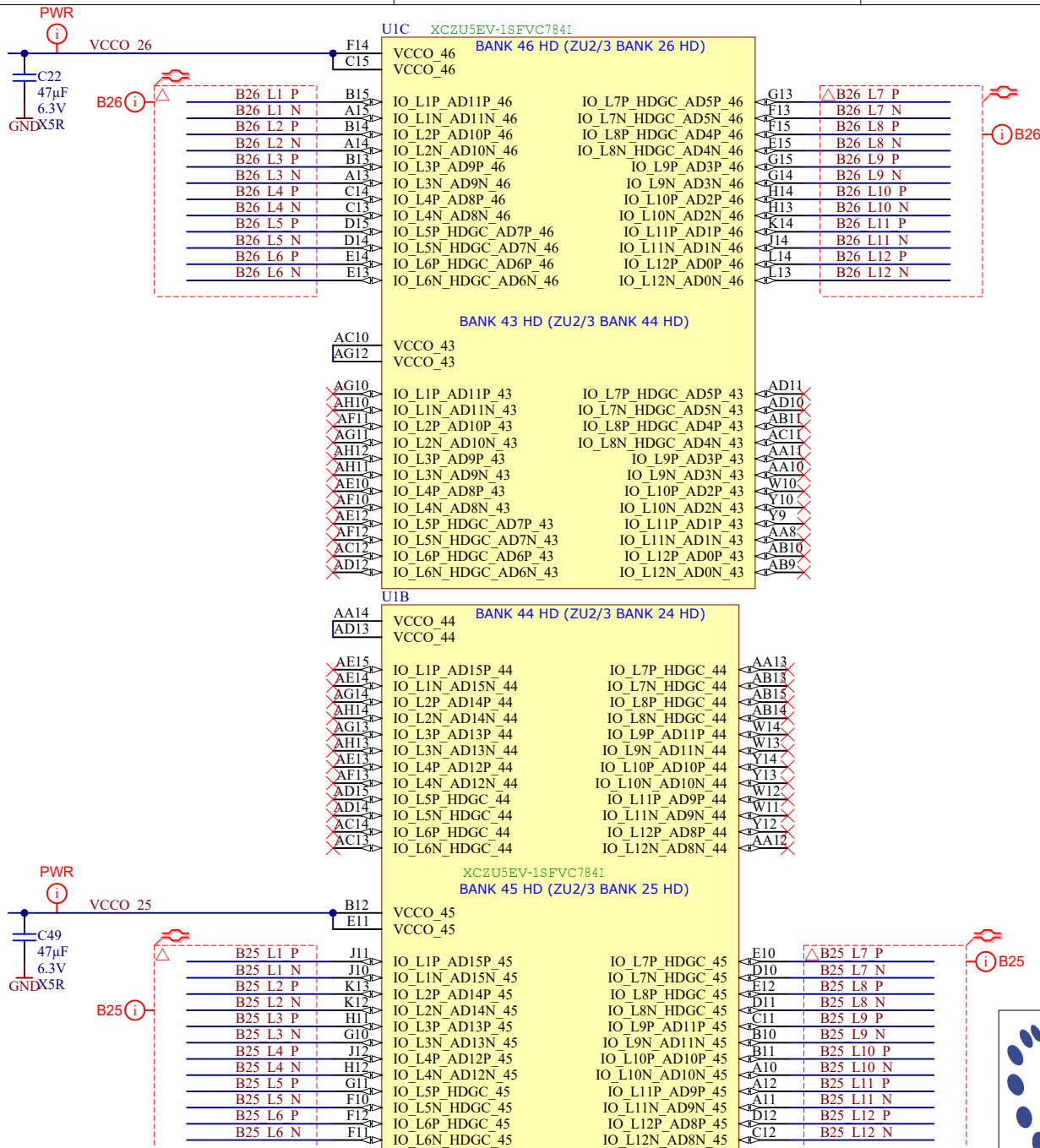
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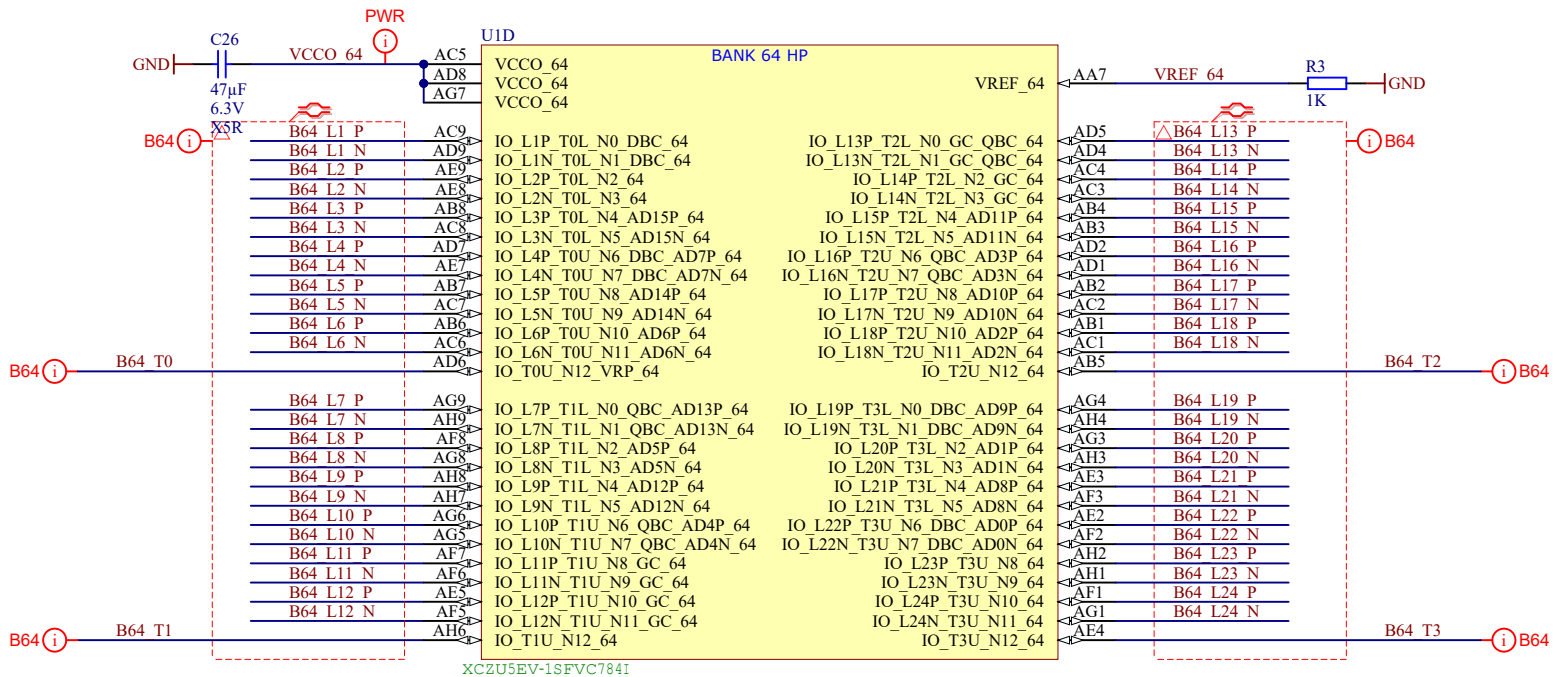
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Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	
Filename: B_HD.SchDoc		Page9 of 30

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	Title: TE0803 - B64		
	A4	Number: TE0803 5DI81-AZ	Rev. 04
	Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page11 of 30
	Filename: B64.SchDoc		

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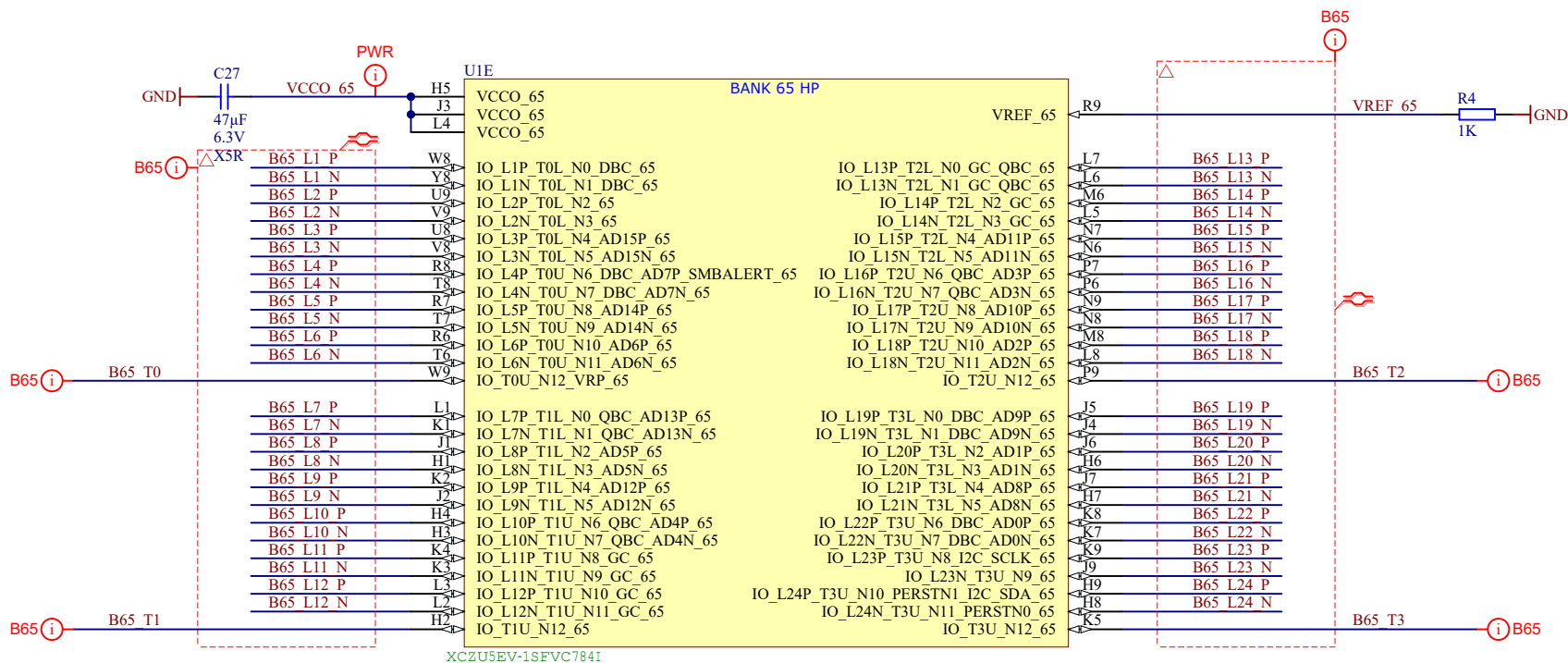
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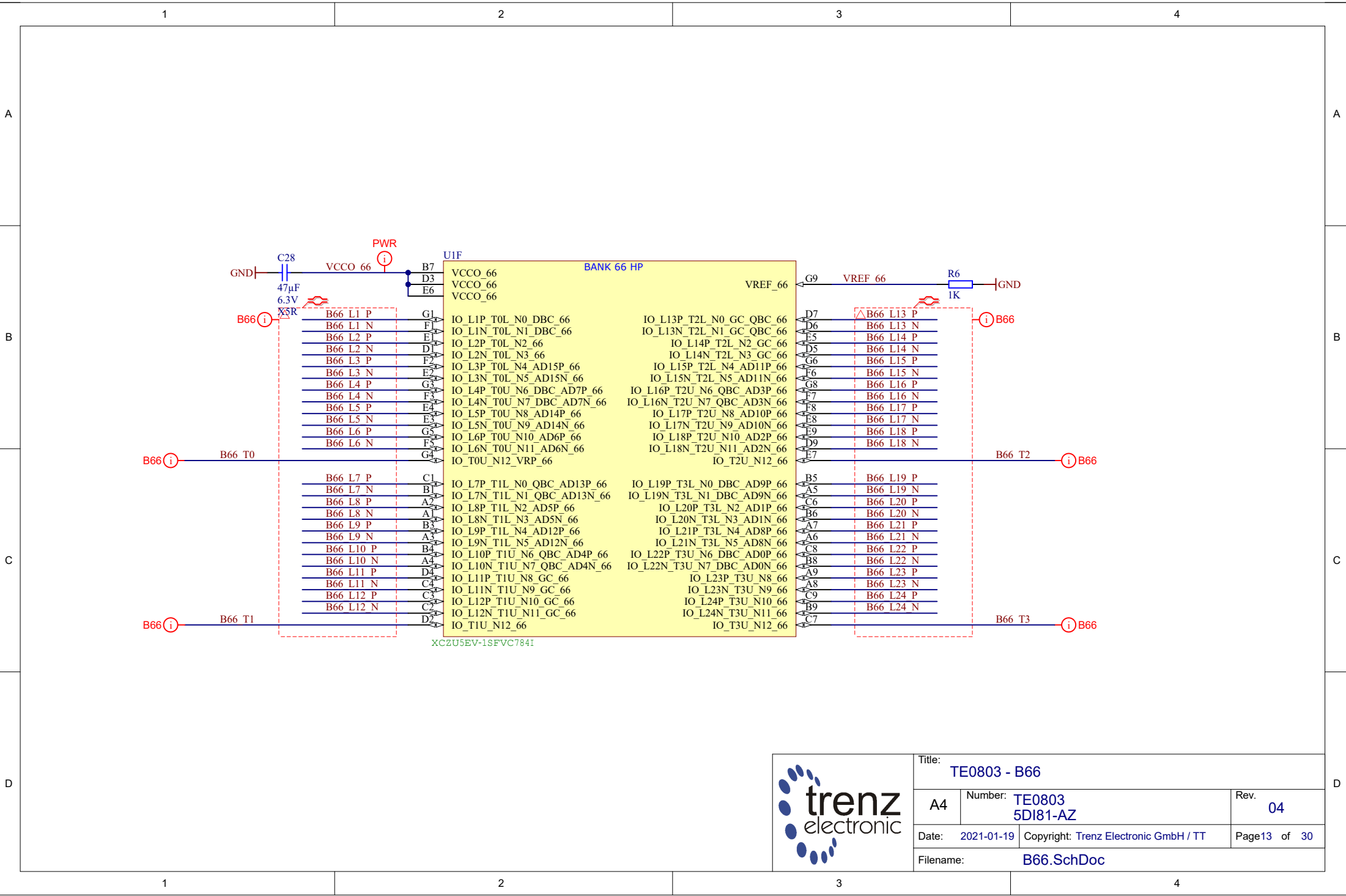
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A4	Number: TE0803 5DI81-AZ	Rev. 04	
Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT		Page 12 of 30
Filename: B65.SchDoc			

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Title:TE0803 - B66

A4

Number:TE08035DI81-AZ

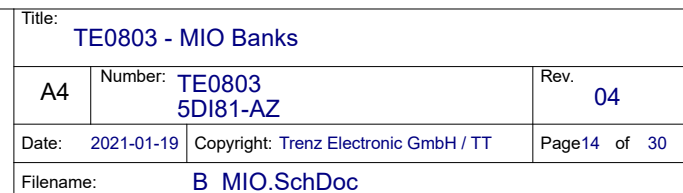
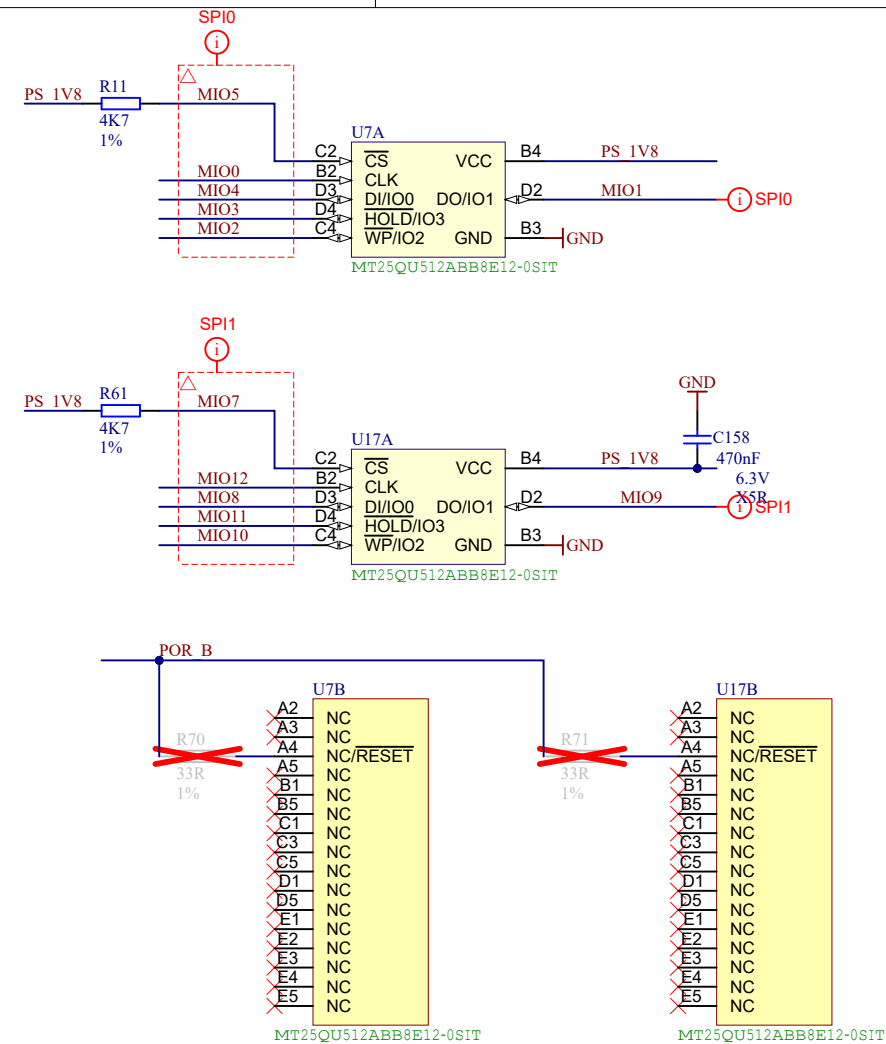
Rev.04

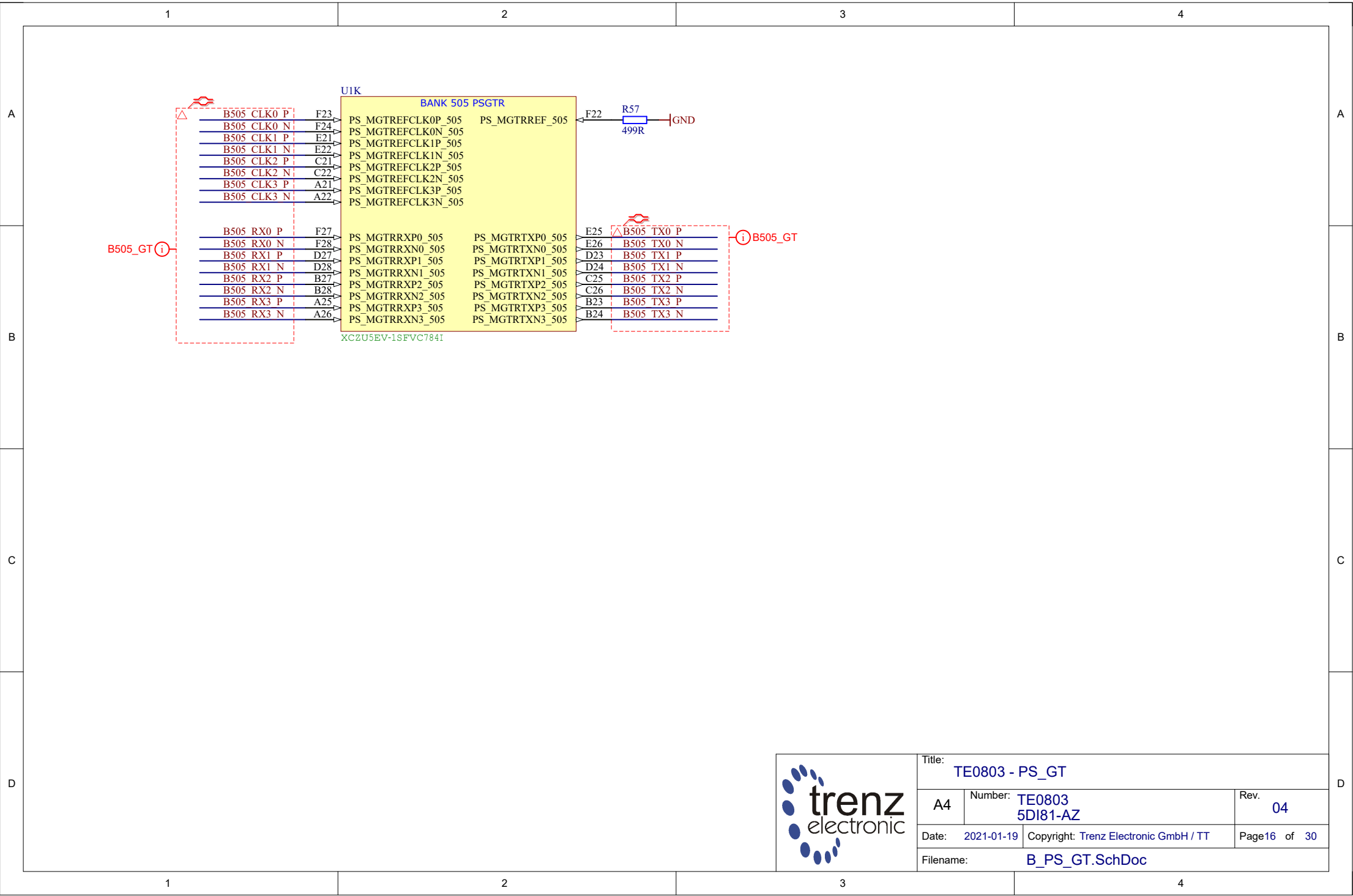
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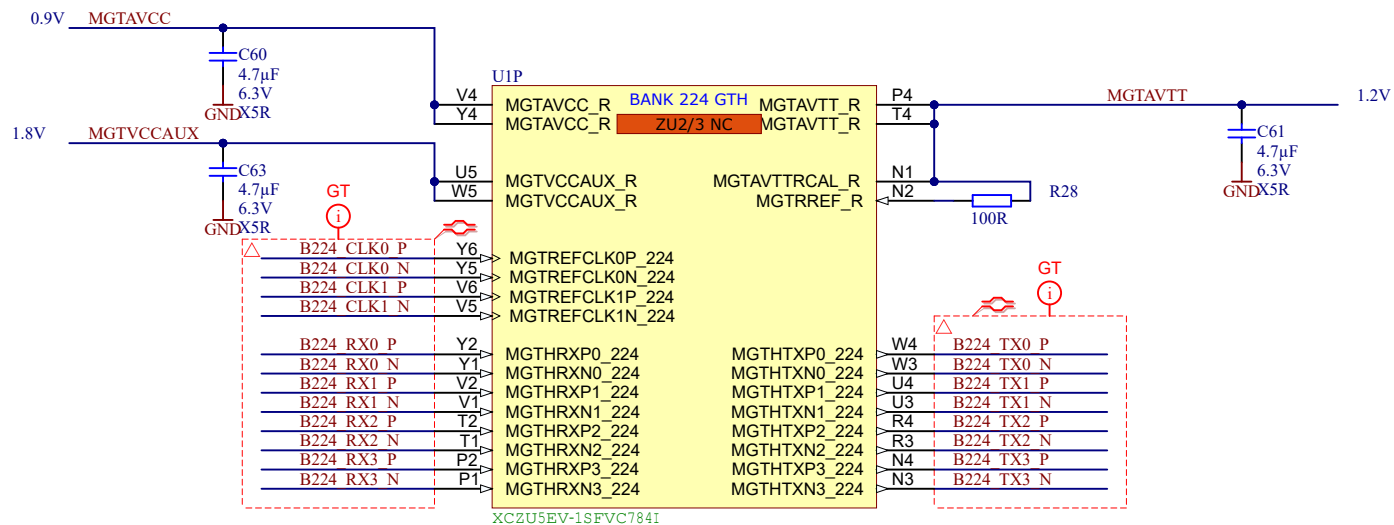
Copyright: Trenz Electronic GmbH / TT

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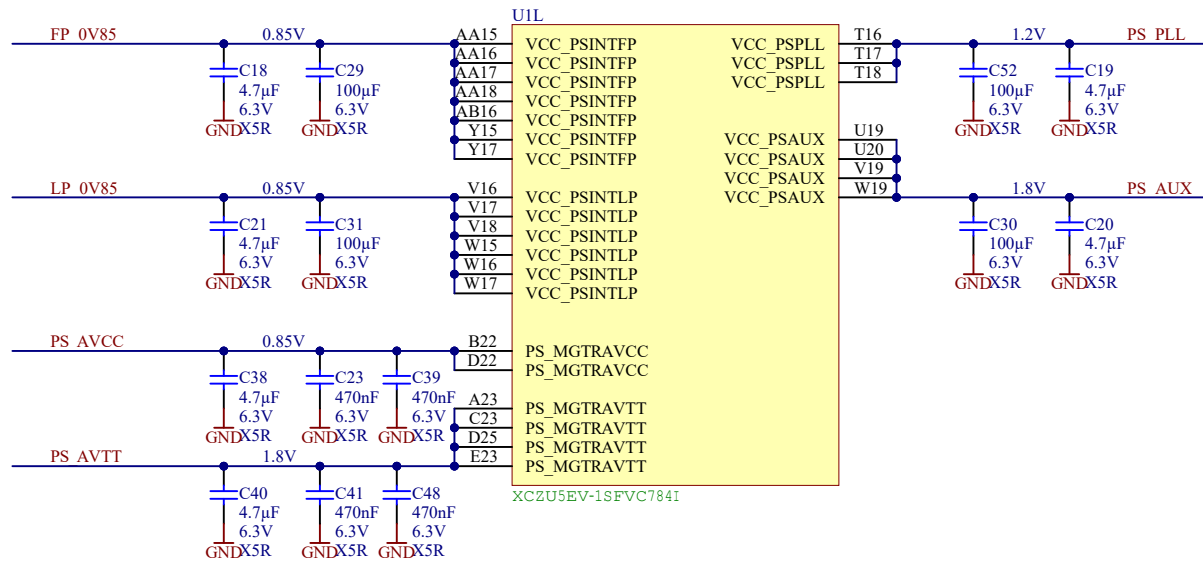
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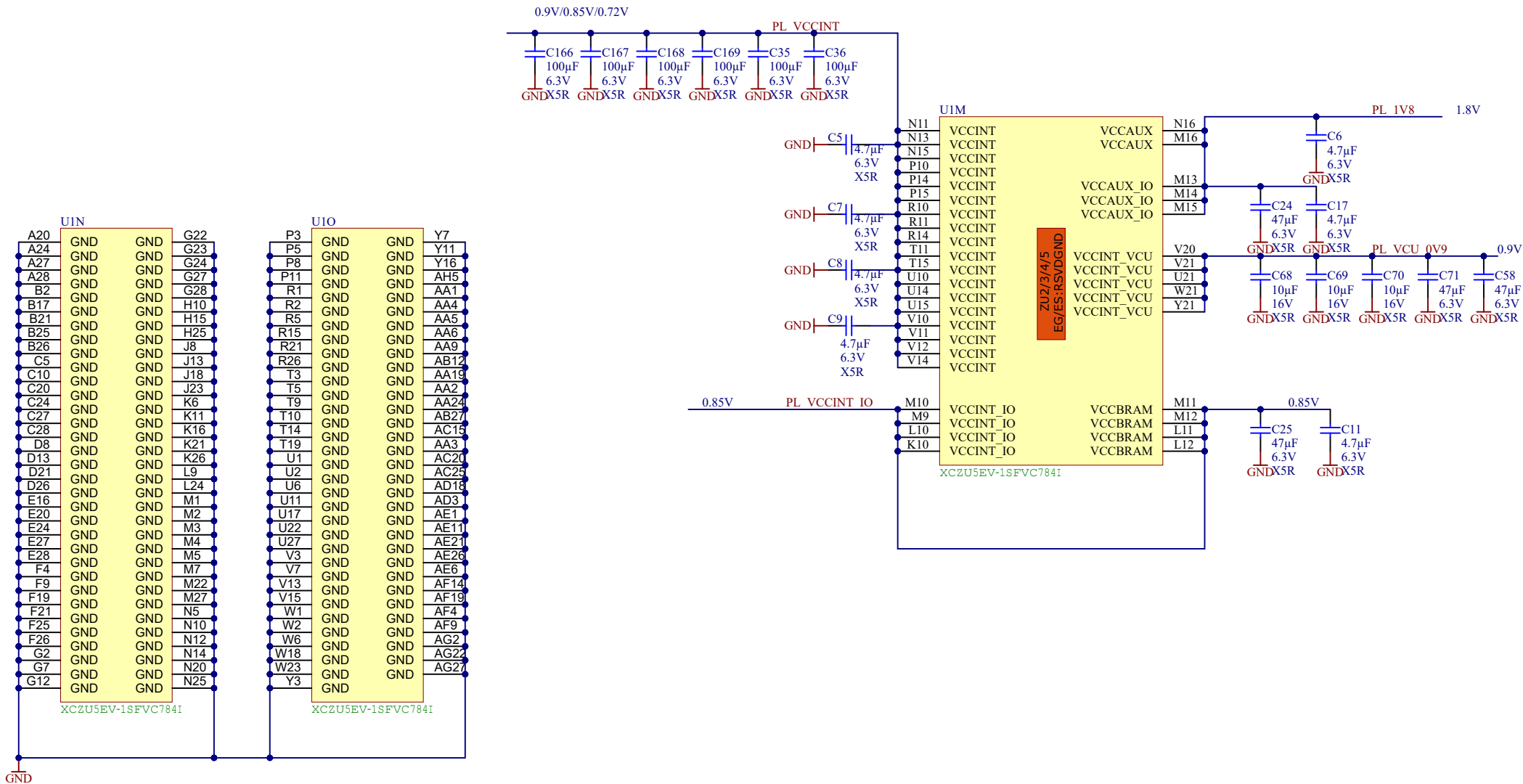




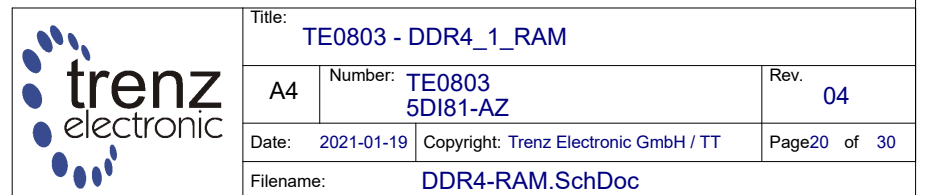
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		A4	Rev. 04
Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT		Page 17 of 30
Filename: B_GT.SchDoc			



	Title: TE0803 - ZU_PS_POWER		
	A4	Number: TE0803 5DI81-AZ	Rev. 04
	Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page 18 of 30
	Filename: ZU_PS_POWER.SchDoc		



		Title: TE0803 - ZU_POWER	
		A4	Number: TE0803 5DI81-AZ
Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT		Rev. 04
Filename: ZU_POWER.SchDoc		Page 19 of 30	



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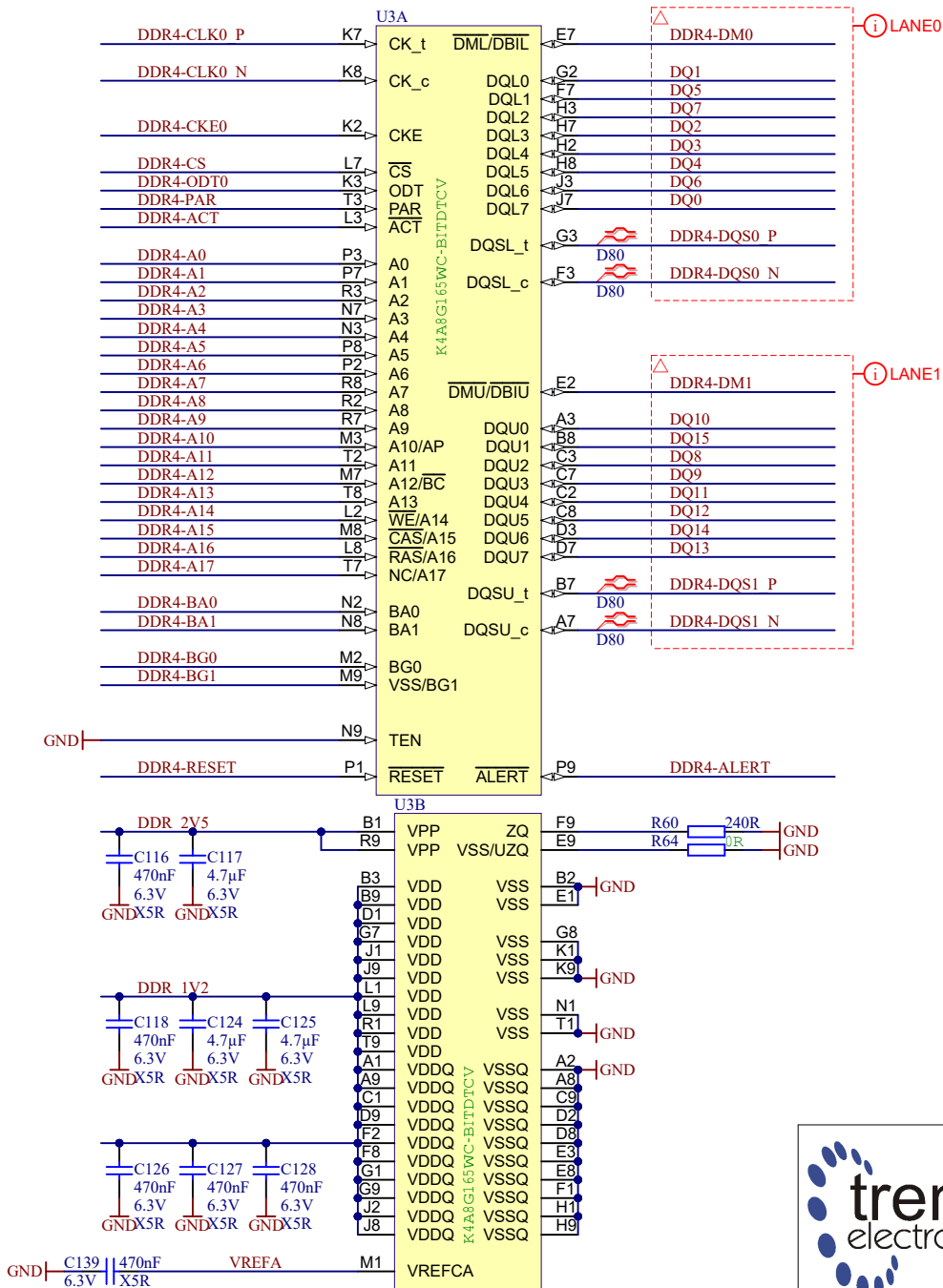
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Title: TE0803 - DDR4_2_RAM		
A4	Number: TE0803 5DI81-AZ	Rev. 04
Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	
Filename: DDR4-RAM_2.SchDoc		Page21 of 30

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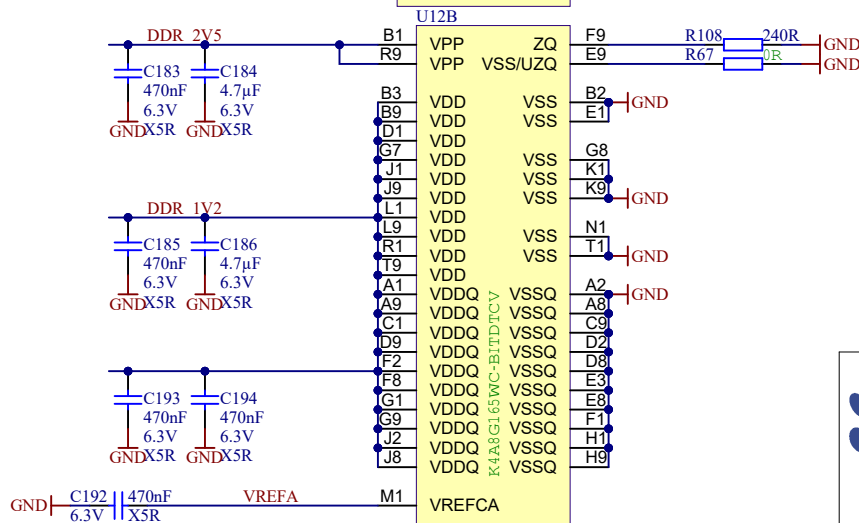
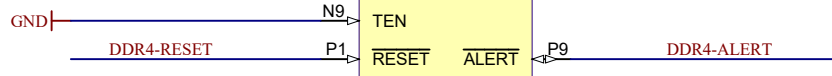
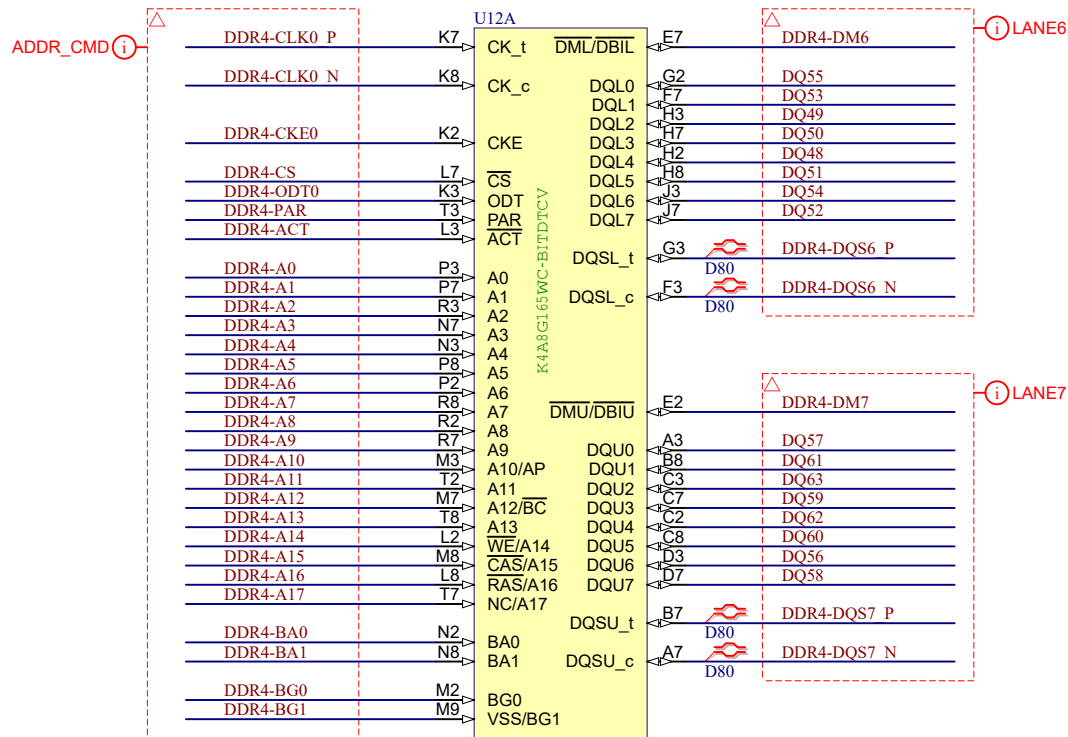
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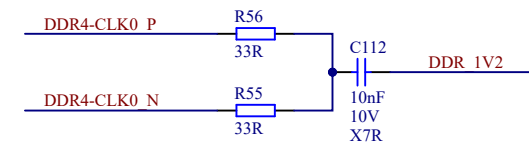
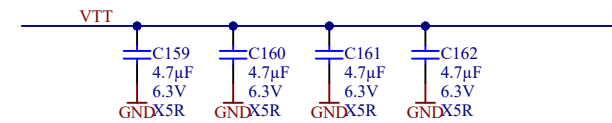
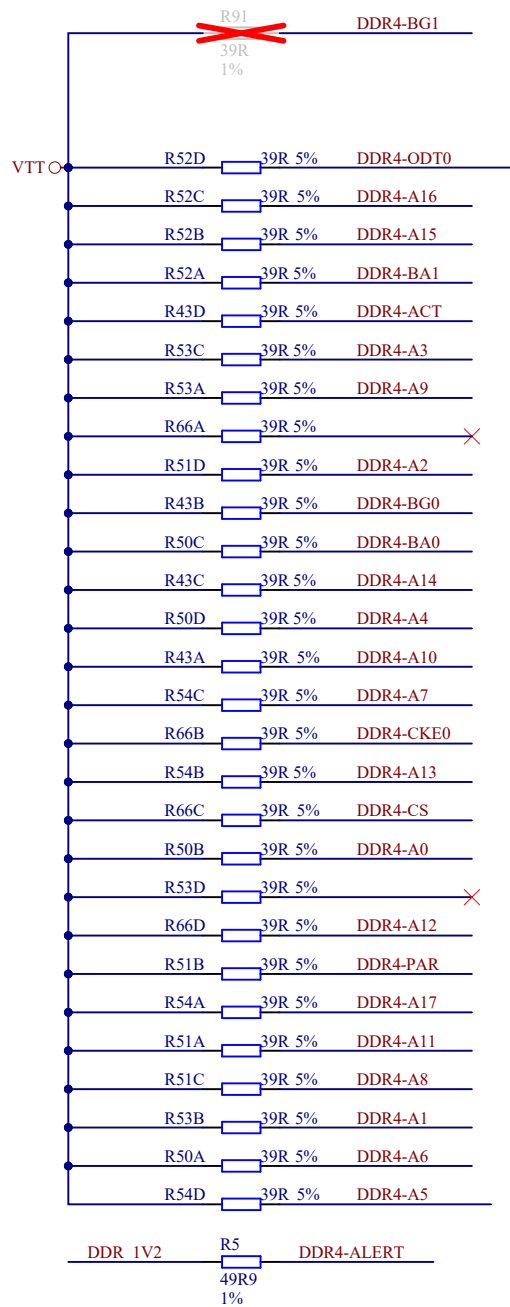
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Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page23 of 30
Filename: DDR4-RAM_4.SchDoc		

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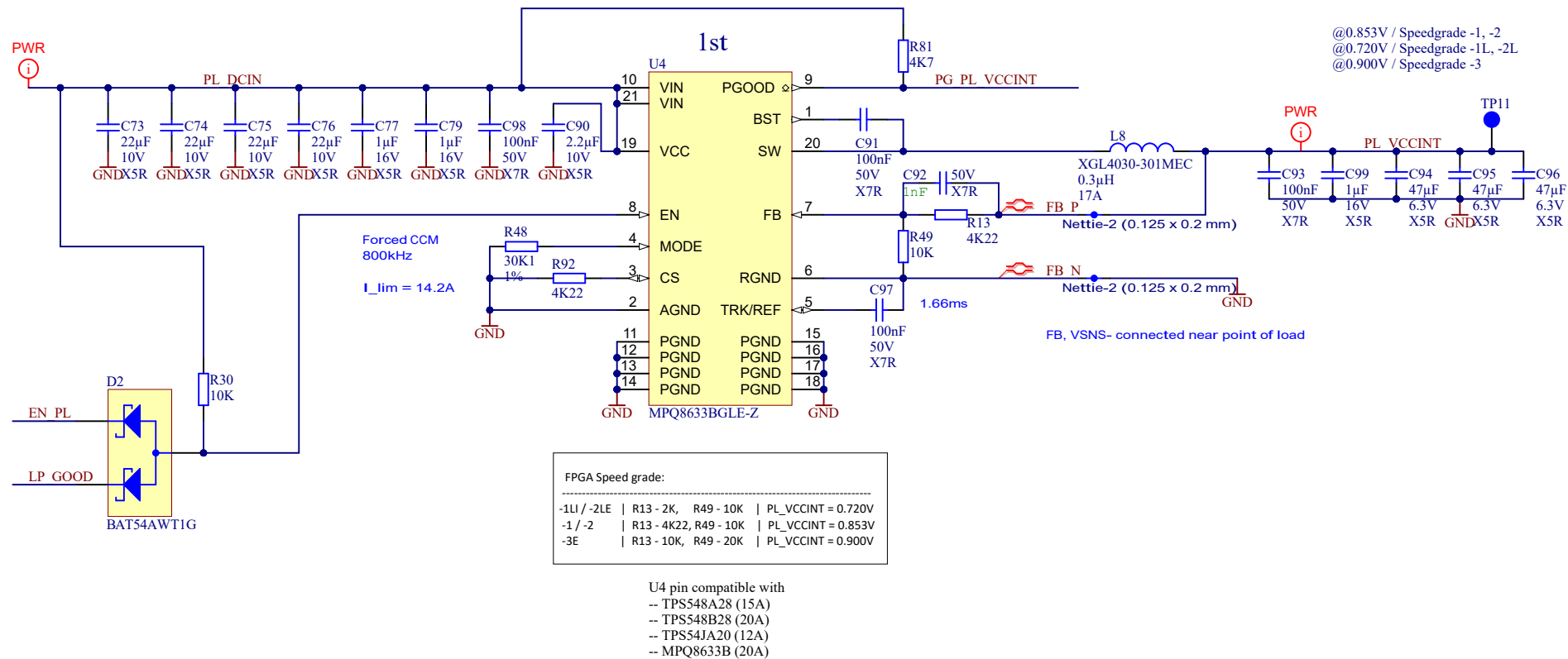
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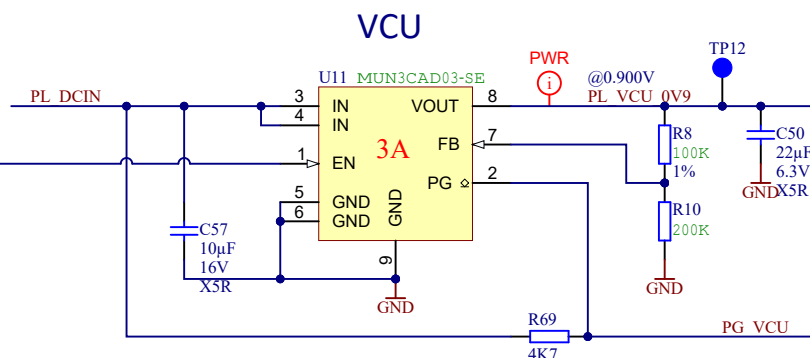
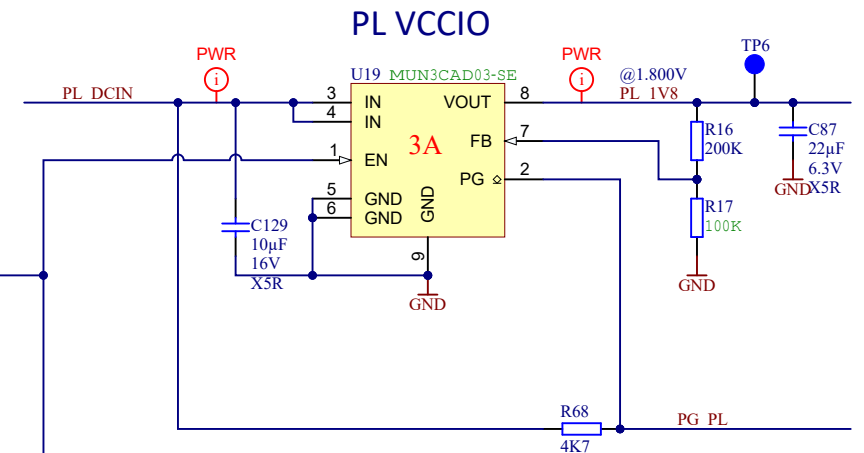


Title: TE0803 - DDR4_TERM		
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Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page 24 of 30
Filename: DDR4-TERM.SchDoc		



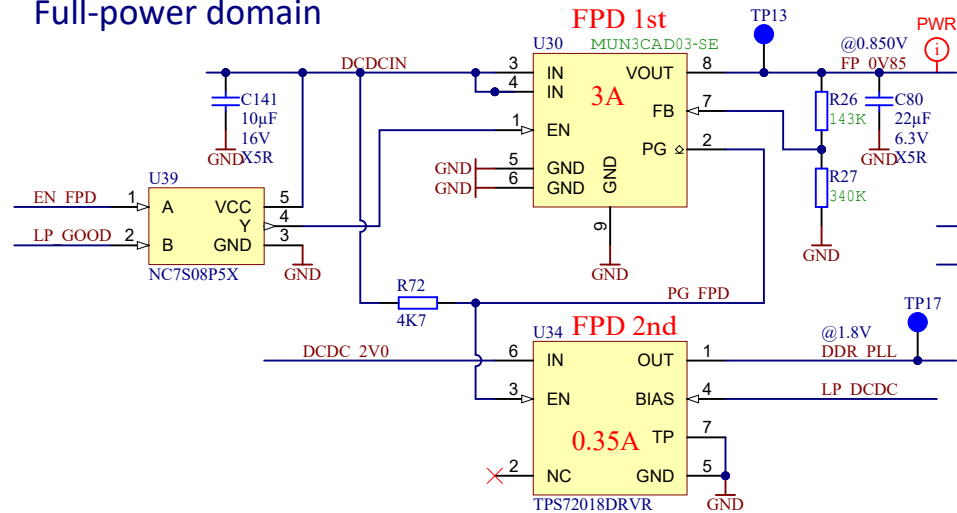
U4 can be either TPS548A28RWW or MPQ8633BGL-E-Z which is up to Trenz Electronic GmbH.

		Title: TE0803 - POWER	
		A4	Number: TE0803 5DI81-AZ
Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page26	of 30
Filename: POWER.SchDoc		Rev. 04	

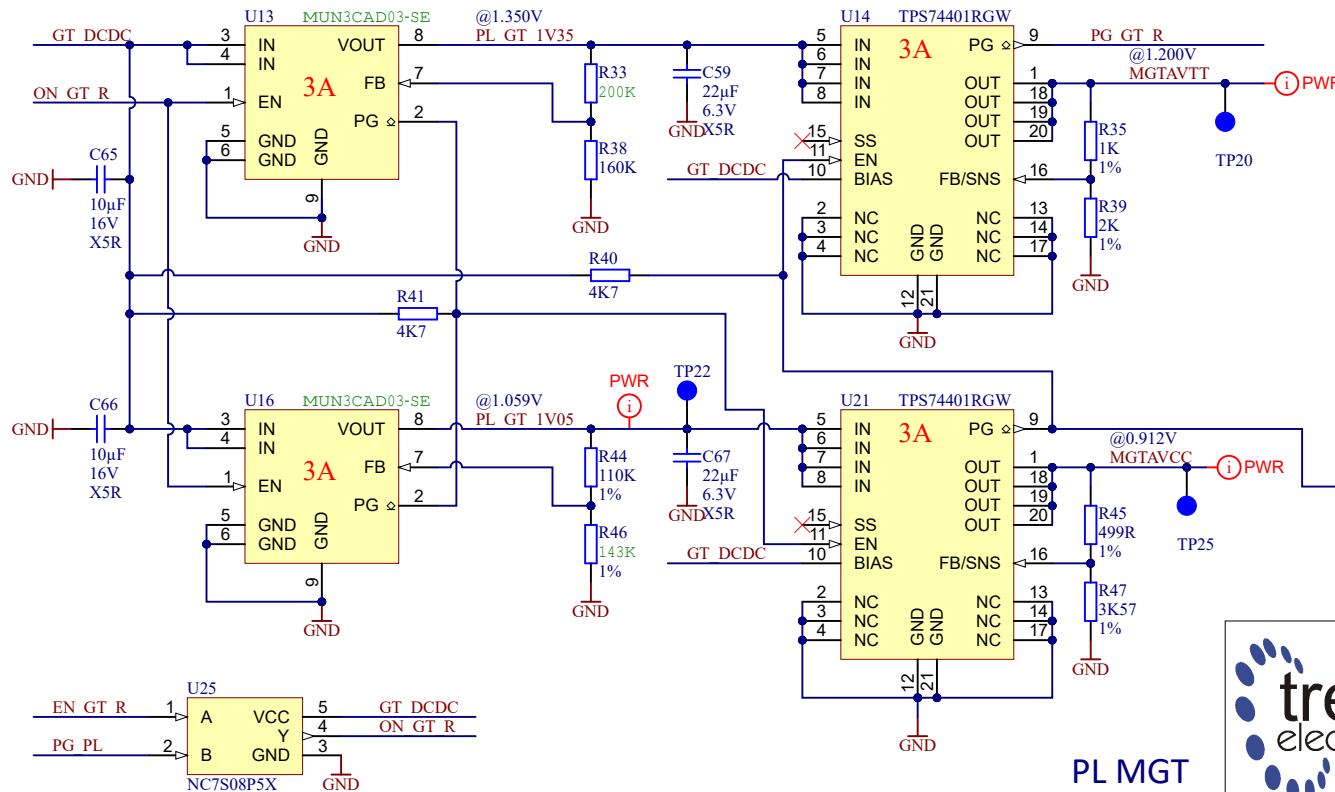
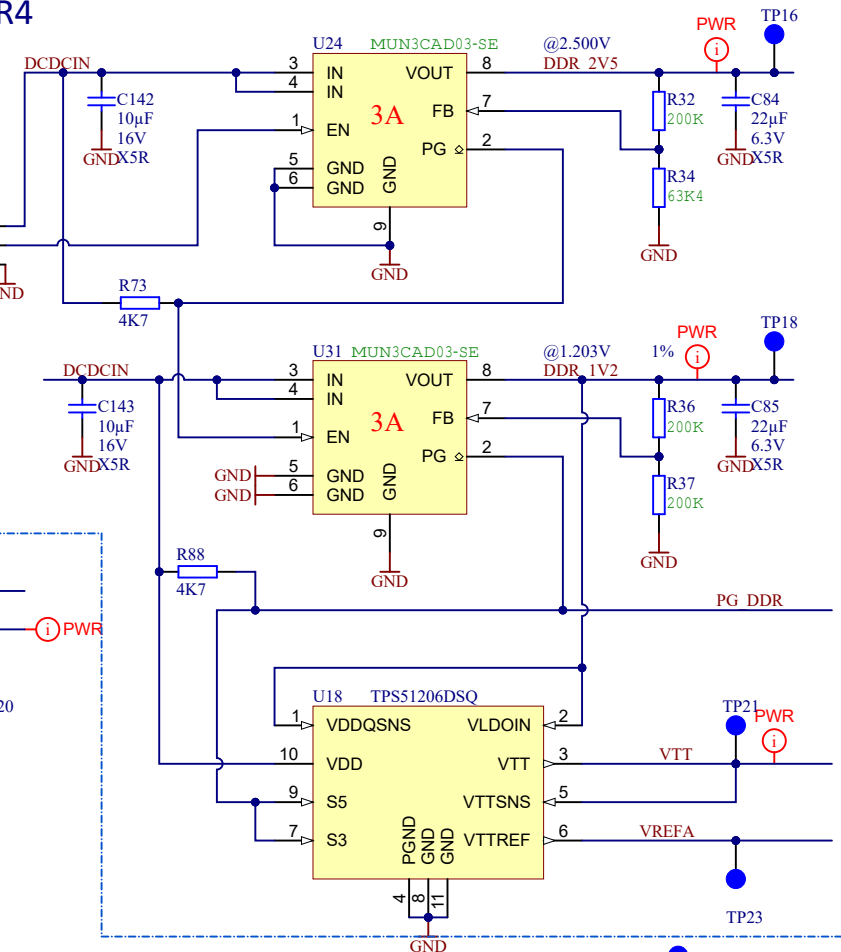


Title: TE0803 - POWER			
A4	Number: TE0803 5DI81-AZ	Rev. 04	
Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT		Page 27 of 30
Filename: POWER_1.SchDoc			

Full-power domain



DDR4



Title: TE0803 - POWER_2		
A4	Number: TE0803 5DI81-AZ	Rev. 04
Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	
Filename: POWER_2.SchDoc	Page 28 of 30	

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REV	DATE	Description	
-01		Initial revision	VT
-01a	20.11.2017	1. VCU voltage set to 0.9V, R20 changed to 40K , PL_VCU_1V0 renamed to PL_VCU_0V9.	VT
-02	20.06.2018	1. Added LDO to DDR_PLL 2. All differential pairs wath length matched with tollerance 0.1mm (excluding package delays) 3. Added MAC EEPROM U28 4. VPS_MGTRAVCC set to 0.85V 5. Added pull-up resistors R68,R69	VT
-03	21.02.2019	1. Added support of DDP DDR4 2. Added support of Low power FPGA (-L1/L2). 3. Revised testpoints 4. Revised J1-J4 connectors net label style	VY
-04	15.12.2020	1. Revised PL_VCCINT power supply. EN63A0QI replaced by TPS548A28RWWR. PCB: revised routing and components placement; 2. Added support of wide SDRAM DDR4 packages. PCB: revised routing and components placement; 3. Added option to select POR_OVERRIDE level (R12 and R93) 4. VCCO pins if unused Bank 44 connected together. Same for unused Bank 24 (UG583 recomendation) 5. PCB: updated signal trace lengths. 6. PCB: updated silckscreen. Added company address, CE and WEEE symbols; 7. PCB: added module orientation rectangle painer 8. Changed resistors value of R29, R31, R35, R39, R44-R47 (BOM optimization) 9. Removed traceability part (Obsolete component)	VY
-04	23.02.2022	10. Changed capacitor C92 for all variants from 100 nF to 1 nF.	ED
-04	08.06.2023	11. U4 can be either TPS548A28RWWR or MPQ8633BGLE-Z which is up to Trenz Electronic GmbH.	VY
-04	23.05.2025	12. L1 - L7 ferrit beads BKP0603HS121-T (EOL) replaced by MPZ0603S121HT000 for all variants.	VG

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Title: TE0803 - Revision History		
A4	Number: TE0803 5DI81-AZ	Rev. 04
Date: 2021-01-19	Copyright: Trenz Electronic GmbH	Page 30 of 30
Drawn by: VY		Filename: Revision Changes.SchDoc

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