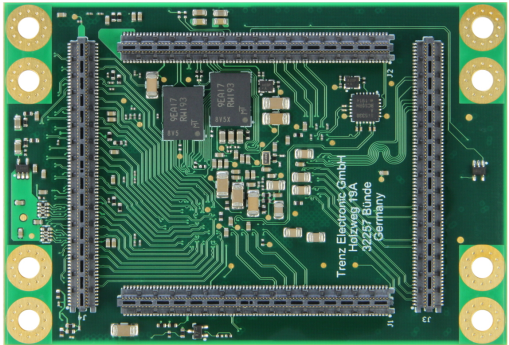
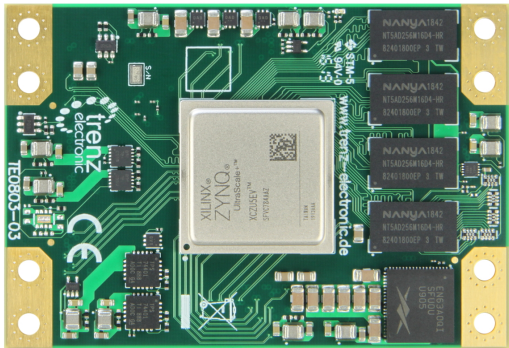


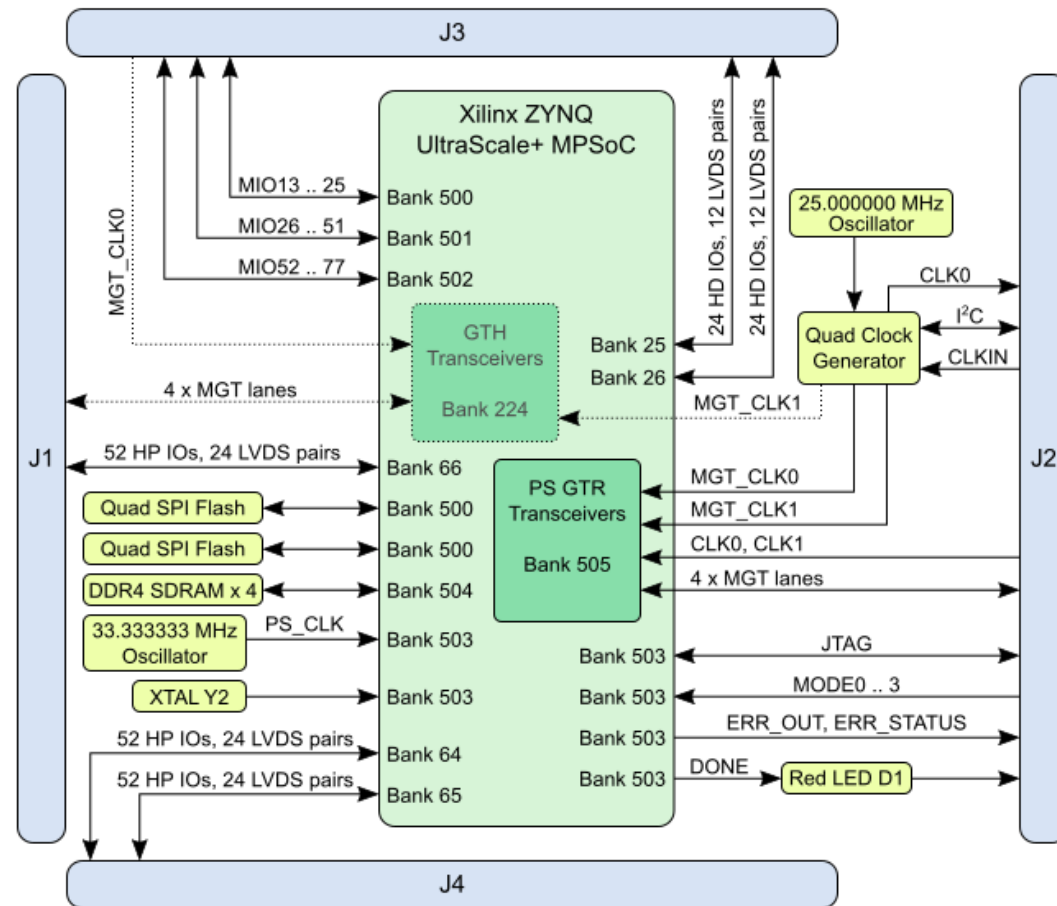


Regarding the usage of our schematics and alike documentation for Trenz module TE0803.

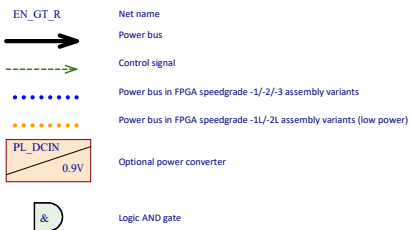
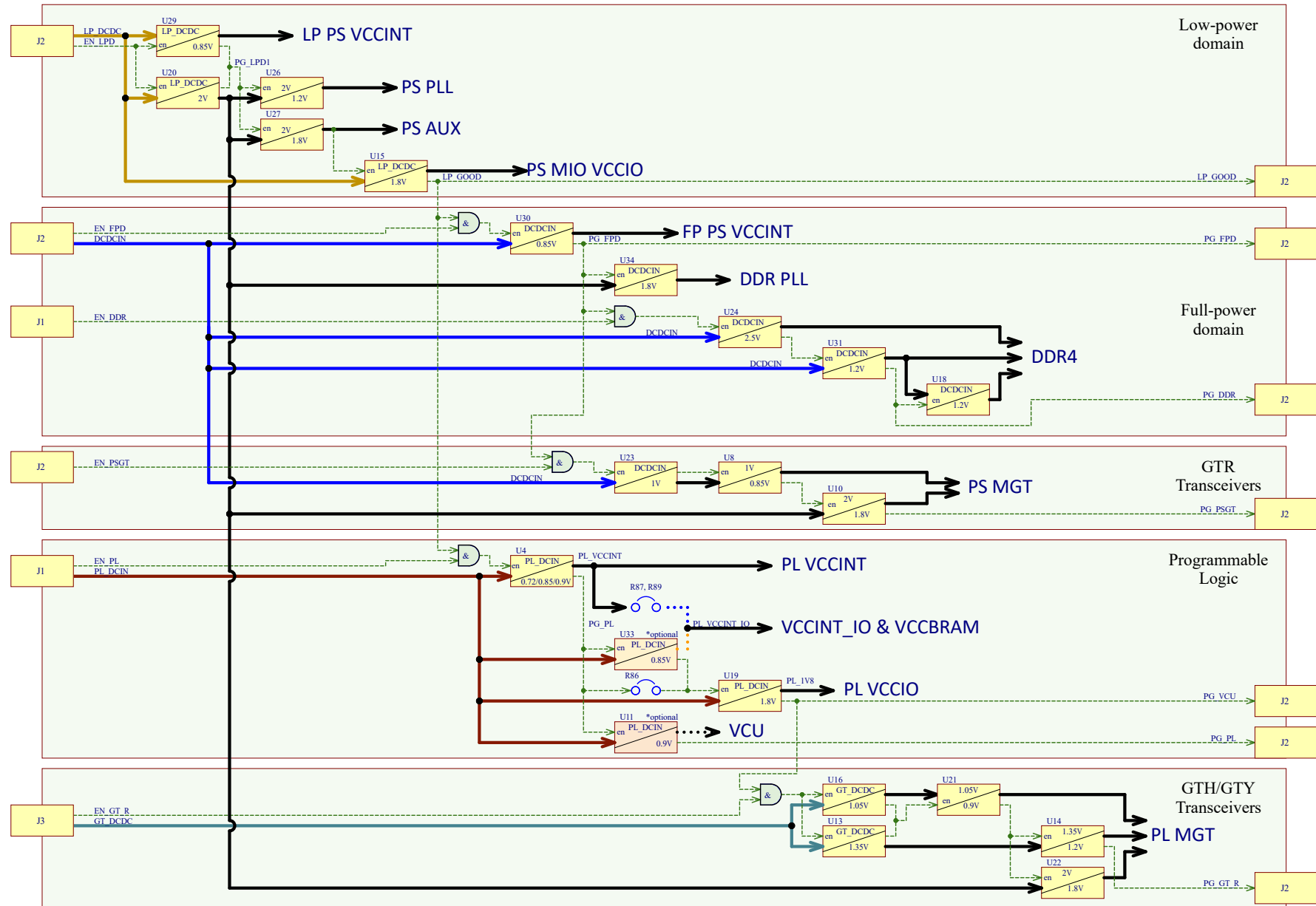
Project is protected under copyright and we strongly and strictly prohibit the reverse engineering or recreation, even if the design is just adapted or modified. TE0803 is protected under such right and in case of plagiarism we will have to do anything necessary in order to protect our assets.

Schematics and other handouts serve for informational purposes only!

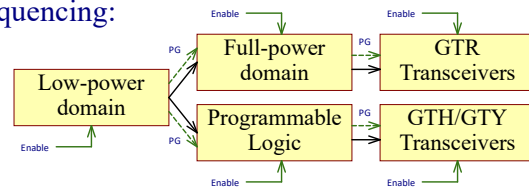
	Title: TE0803		
	A4	Number: TE0803 4HE11-A	Rev. 04
	Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page 1 of 30
	Filename: Legal Notices Modules.SchDoc		



	Title: TE0803 - System Overview		
	A4	Number: TE0803 4HE11-A	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 4HE11-A	Rev. 04
Datum: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page 3 of 30
Filename: Power_Diagram.SchDoc		

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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:

PM1

PM2

PM3

PM4

PM5

PM6

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

FIDU-DOT - mini

FIDU-DOT - mini

FIDU-DOT - mini

FIDU-DOT - mini

FIDU-DOT - mini

FIDU-DOT - mini

trenz
electronic

Title: TE0803

A4

Number: TE0803
4HE11-A

Rev. 04

Date: 2021-01-19

Copyright: Trenz Electronic GmbH / TT

Page4 of 30

Filename: TE0803.SchDoc

Assembly variant 4HE11-A

Created by

Modified by

Modified at

SVN Revision 15880

Mount.Hole 3.2mm für Unterlegscheibe

Mount.Hole 3.2mm für Unterlegscheibe

Mount.Hole 3.2mm für Unterlegscheibe

Mount.Hole 3.2mm für Unterlegscheibe

Mount.Hole 3.2mm für Unterlegscheibe

Mount.Hole 3.2mm für Unterlegscheibe

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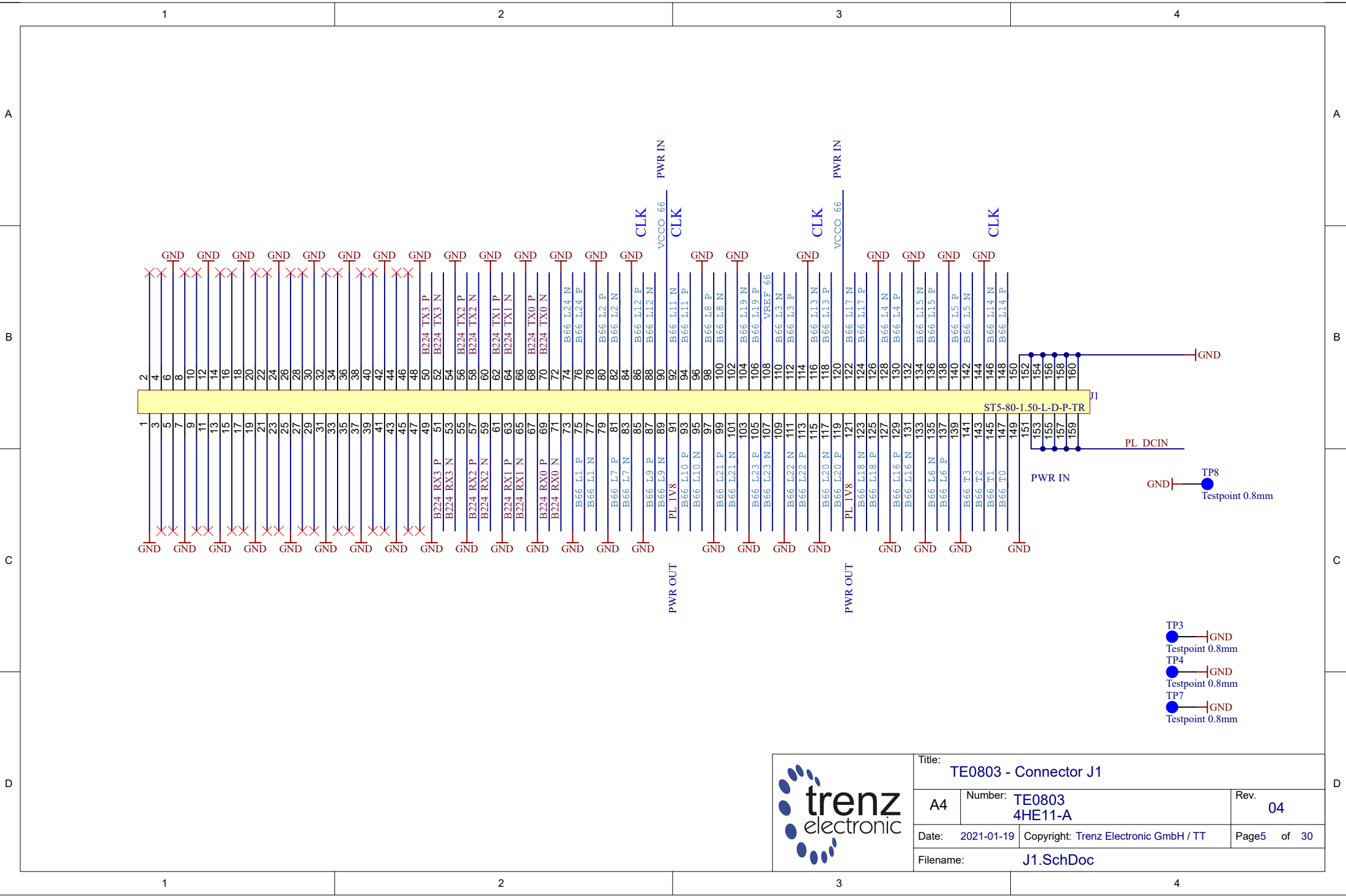
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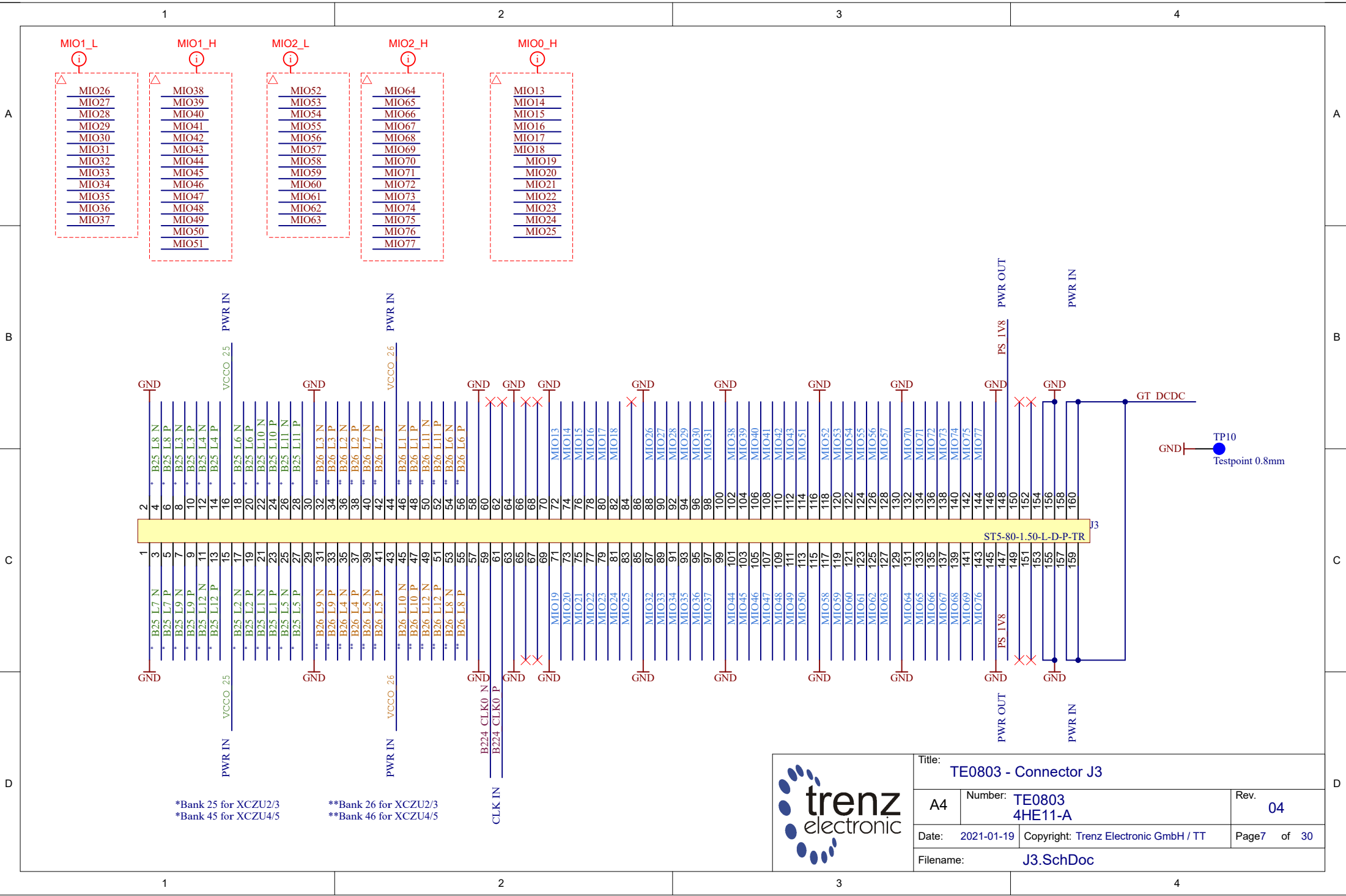
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Title: TE0803 - Connector J1			
A4	Number: TE0803 4HE11-A	Rev. 04	
	Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page5 of 30
	Filename: J1.SchDoc		



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

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



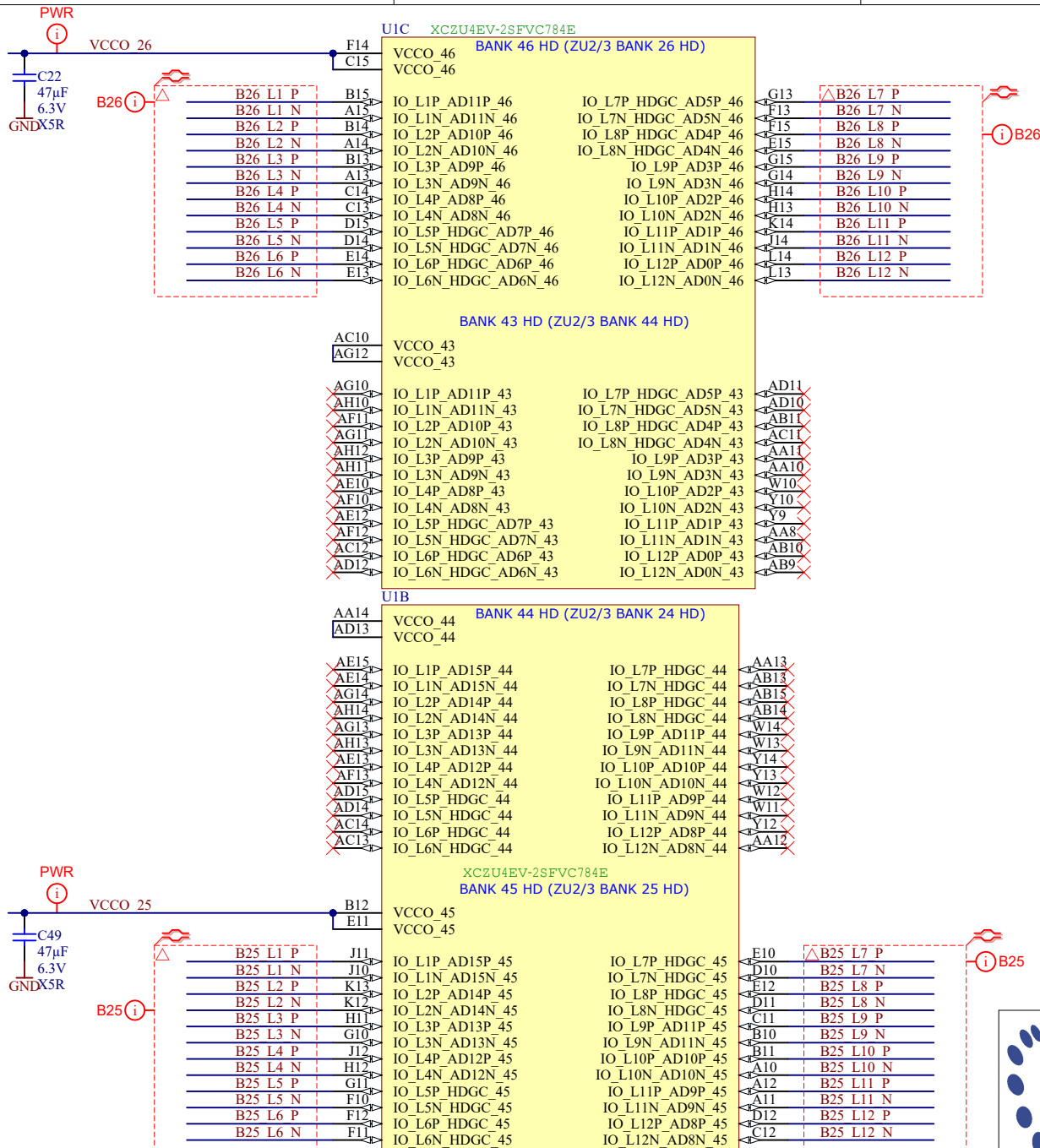
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A4	Number: TE0803 4HE11-A	Rev. 04
Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page7 of 30
Filename: J3.SchDoc		

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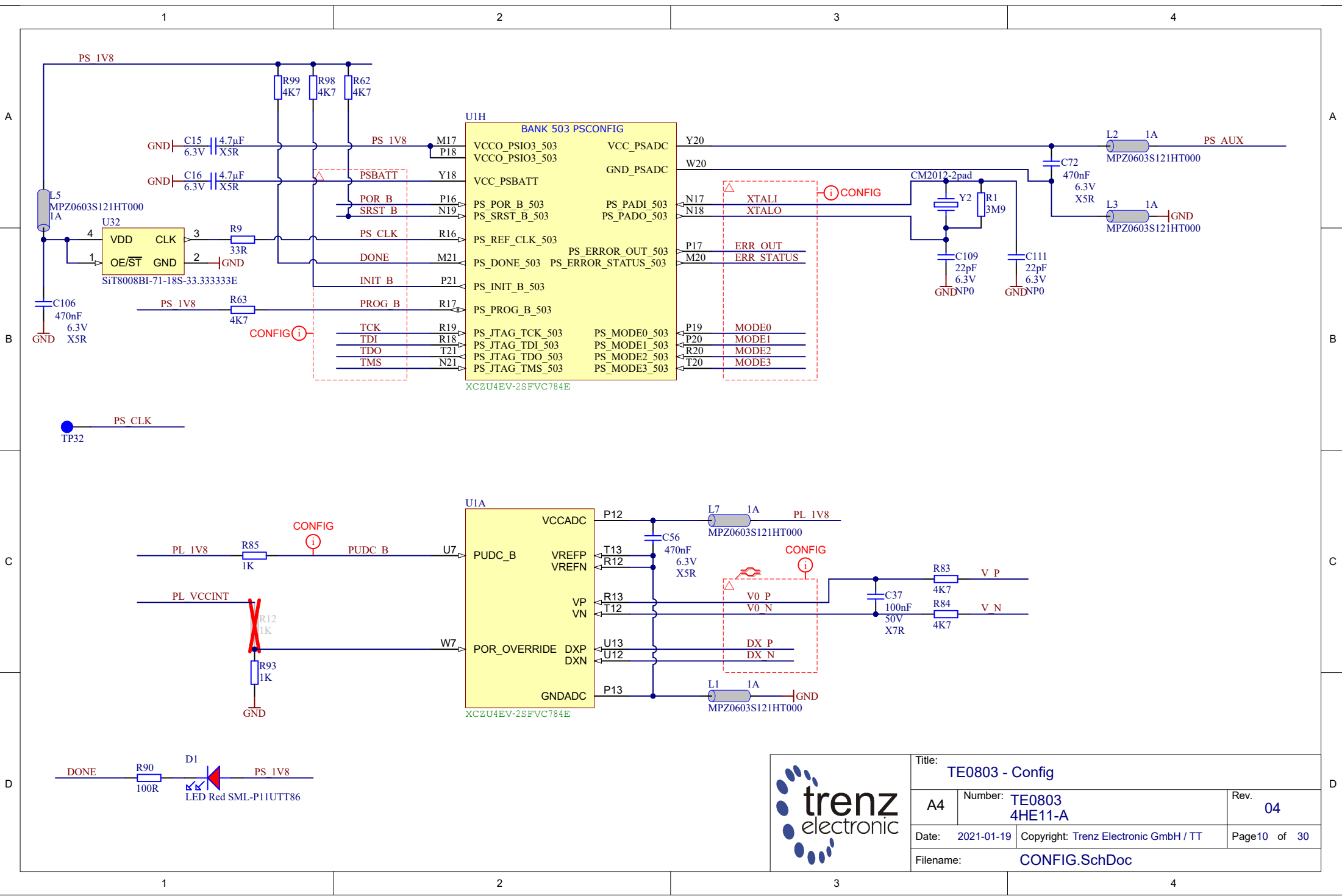
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Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	
Filename: B_HD.SchDoc		Page 9 of 30

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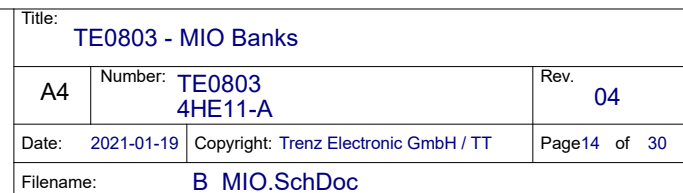
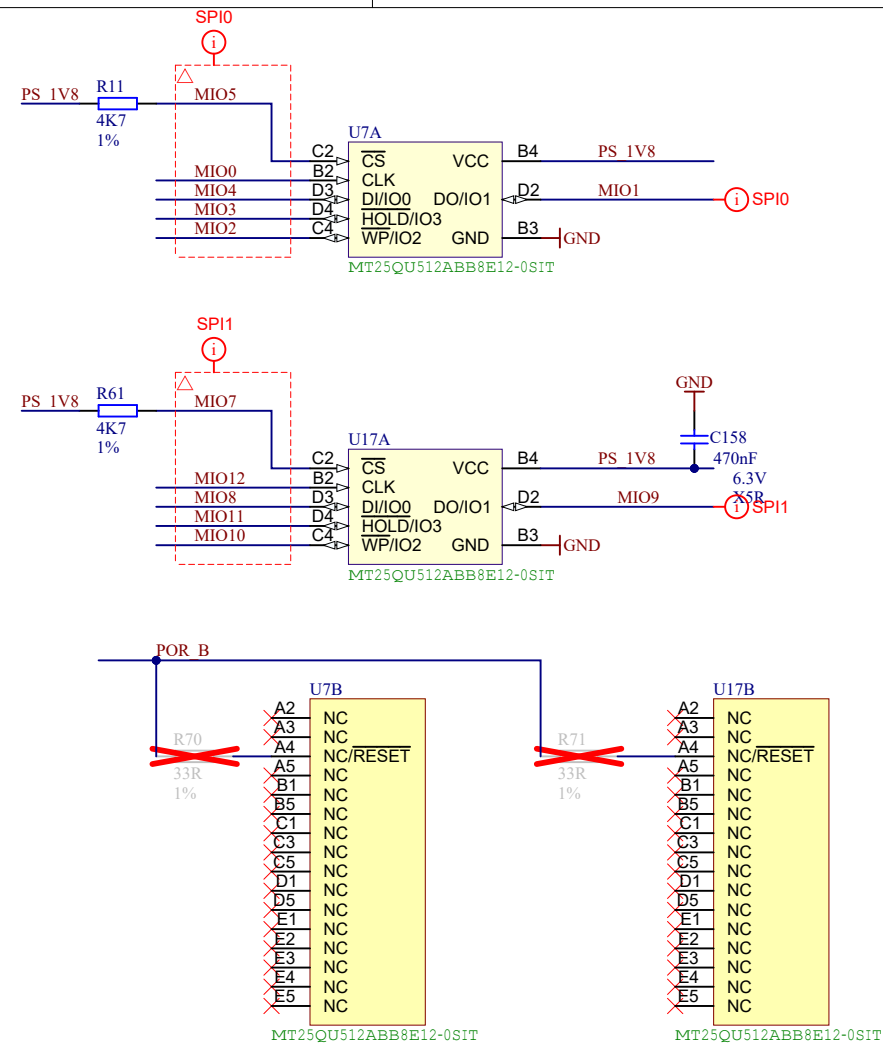
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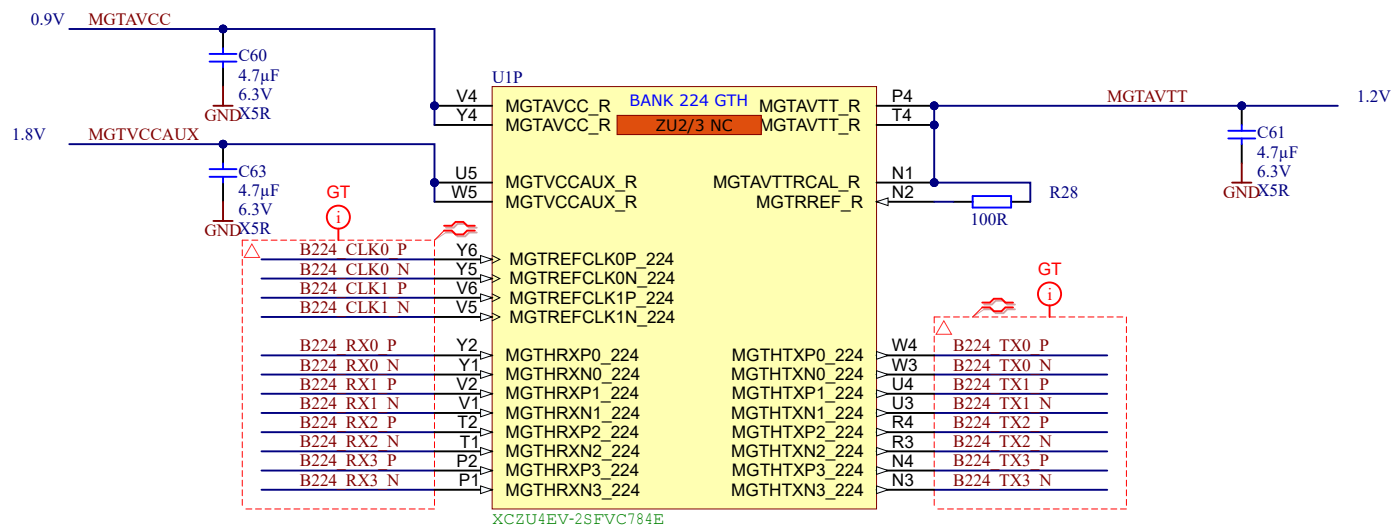
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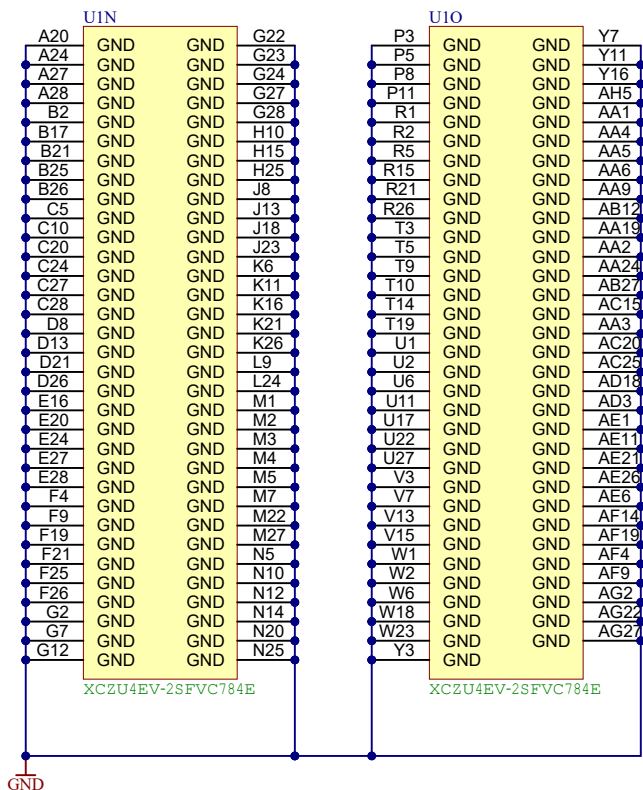
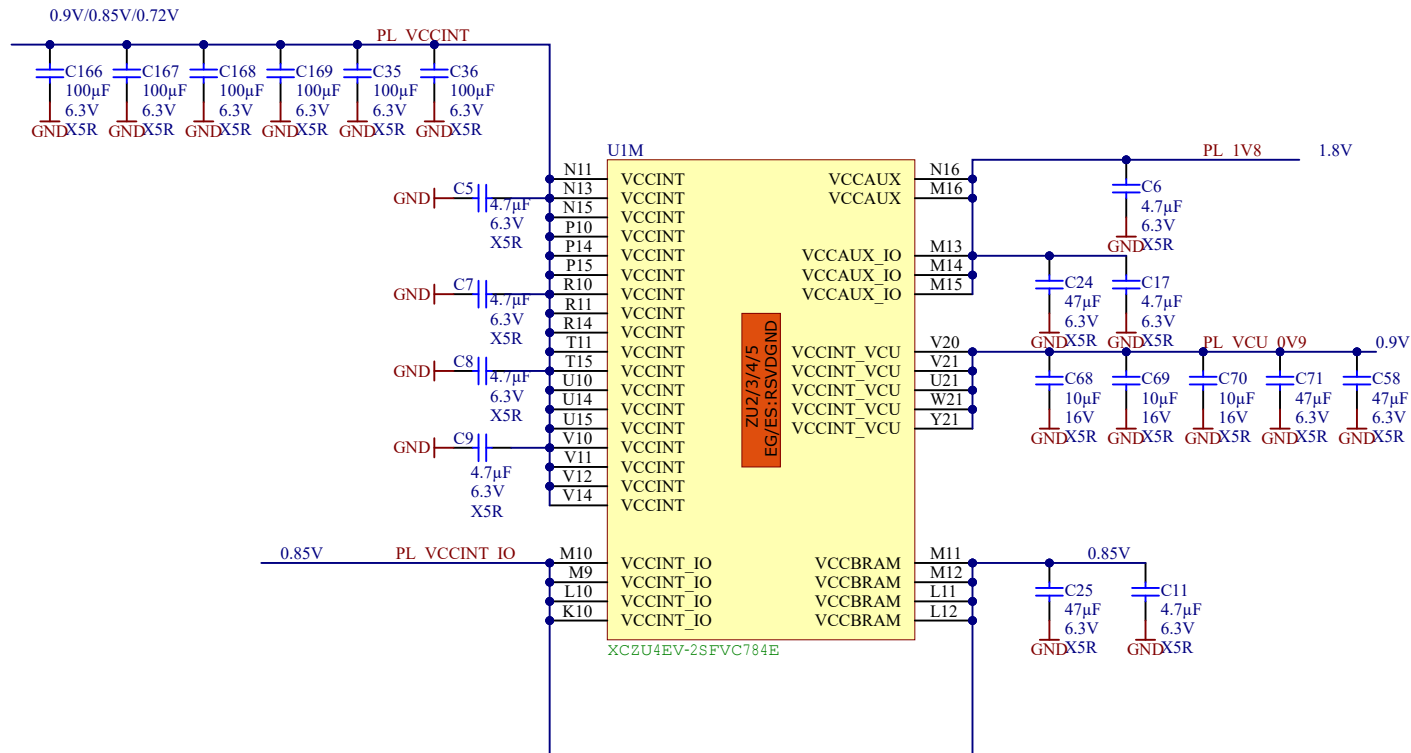


Title: TE0803 - Config			
A4	Number: TE0803 4HE11-A	Rev. 04	
Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT		Page 10 of 30
Filename: CONFIG.SchDoc			





	Title: TE0803 - B224GTH		
	A4	Number: TE0803 4HE11-A	Rev. 04
	Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page17 of 30
	Filename: B_GT.SchDoc		



		Title: TE0803 - ZU_POWER	
		A4	Number: TE0803 4HE11-A
Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page 19	of 30
Filename: ZU_POWER.SchDoc		Rev. 04	

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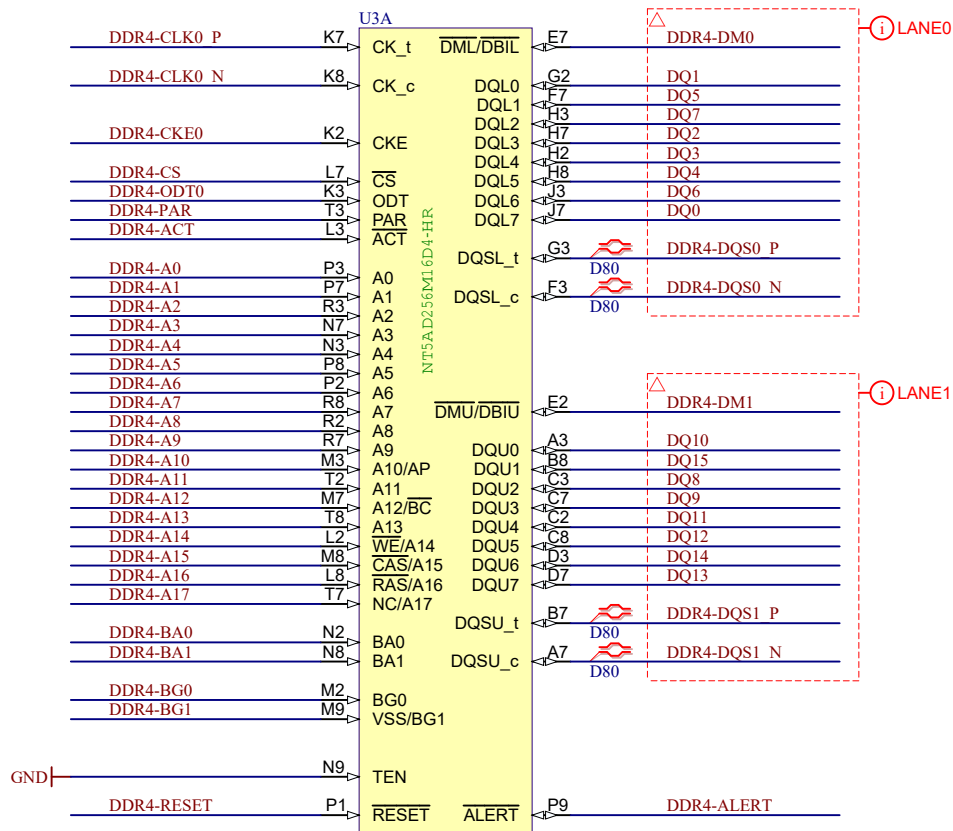
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Title: TE0803 - DDR4_2_RAM		
A4	Number: TE0803 4HE11-A	Rev. 04
Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page21 of 30
Filename: DDR4-RAM_2.SchDoc		

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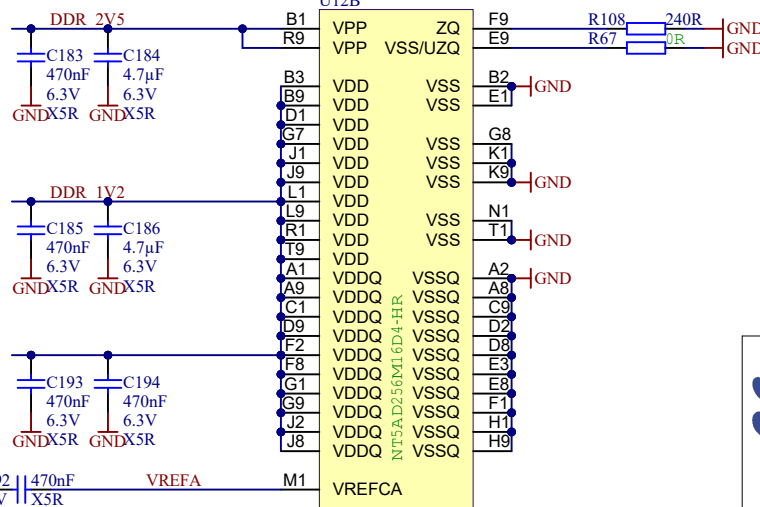
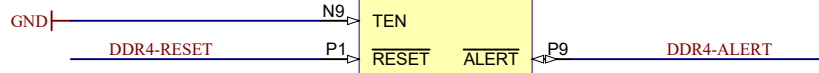
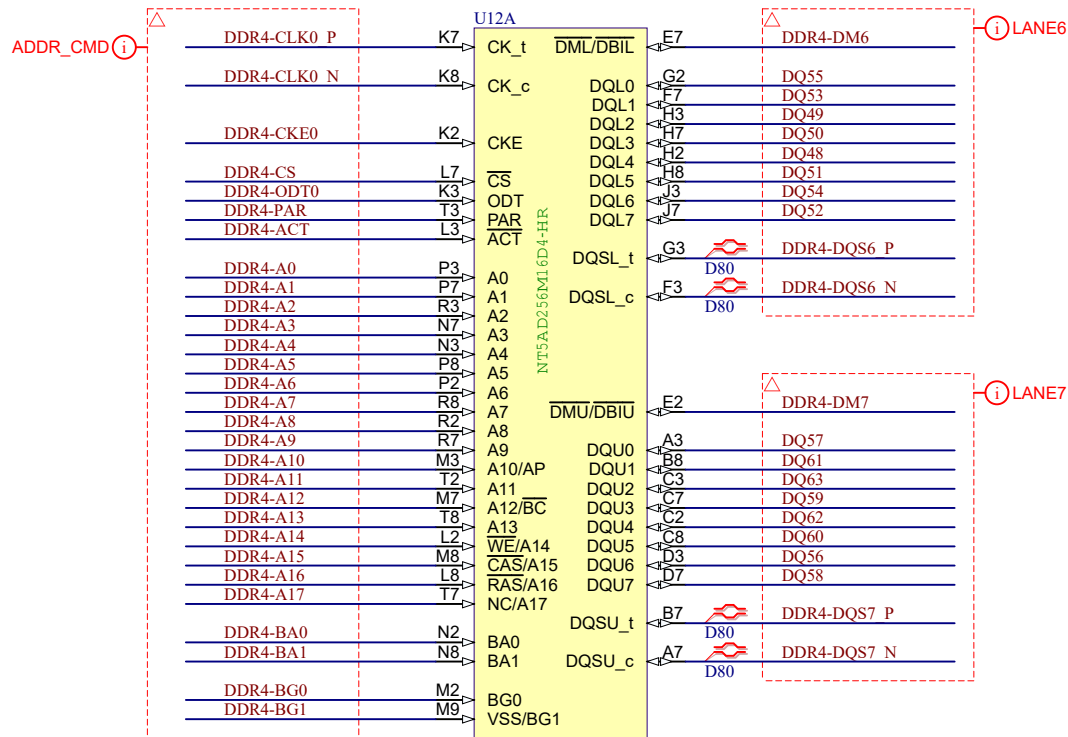
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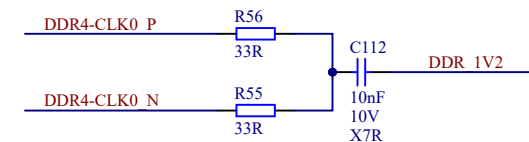
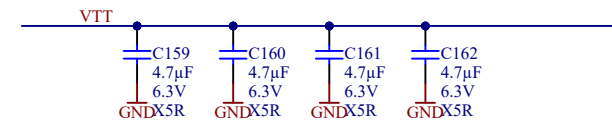
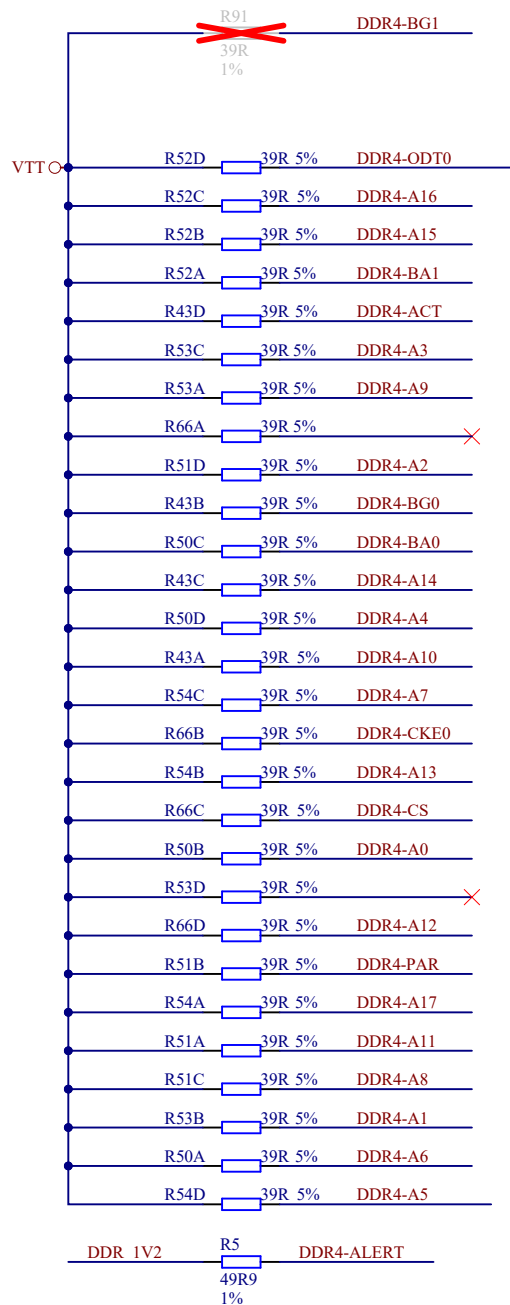
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Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page23 of 30
Filename: DDR4-RAM_4.SchDoc		

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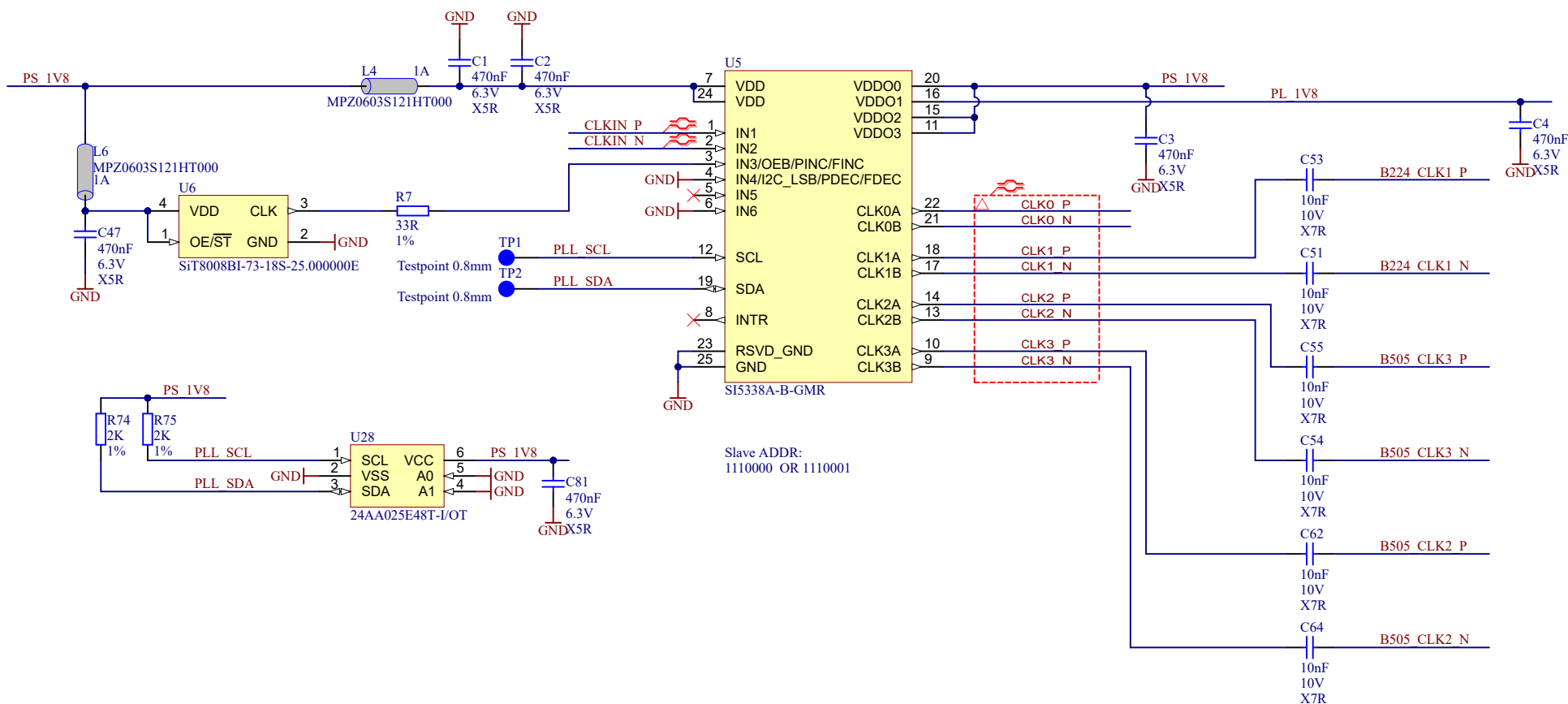
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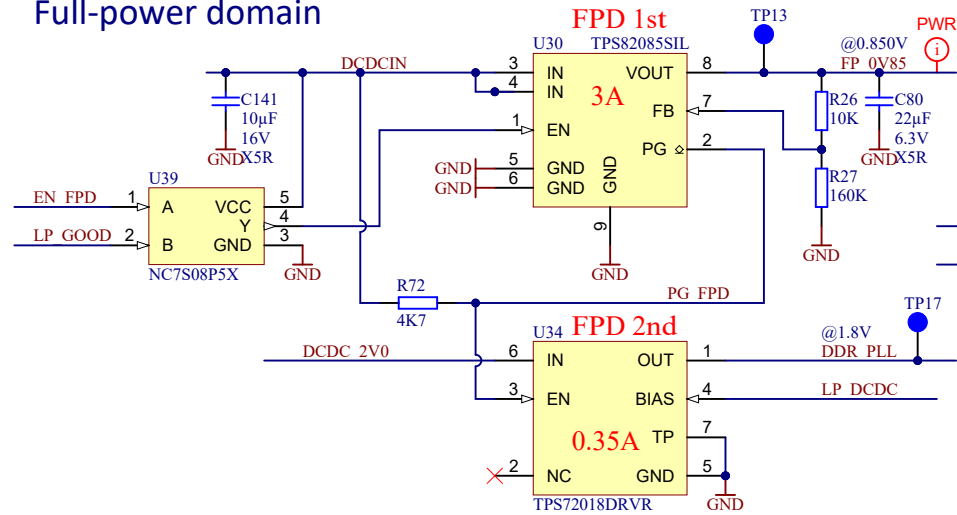


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Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page 24 of 30
Filename: DDR4-TERM.SchDoc		

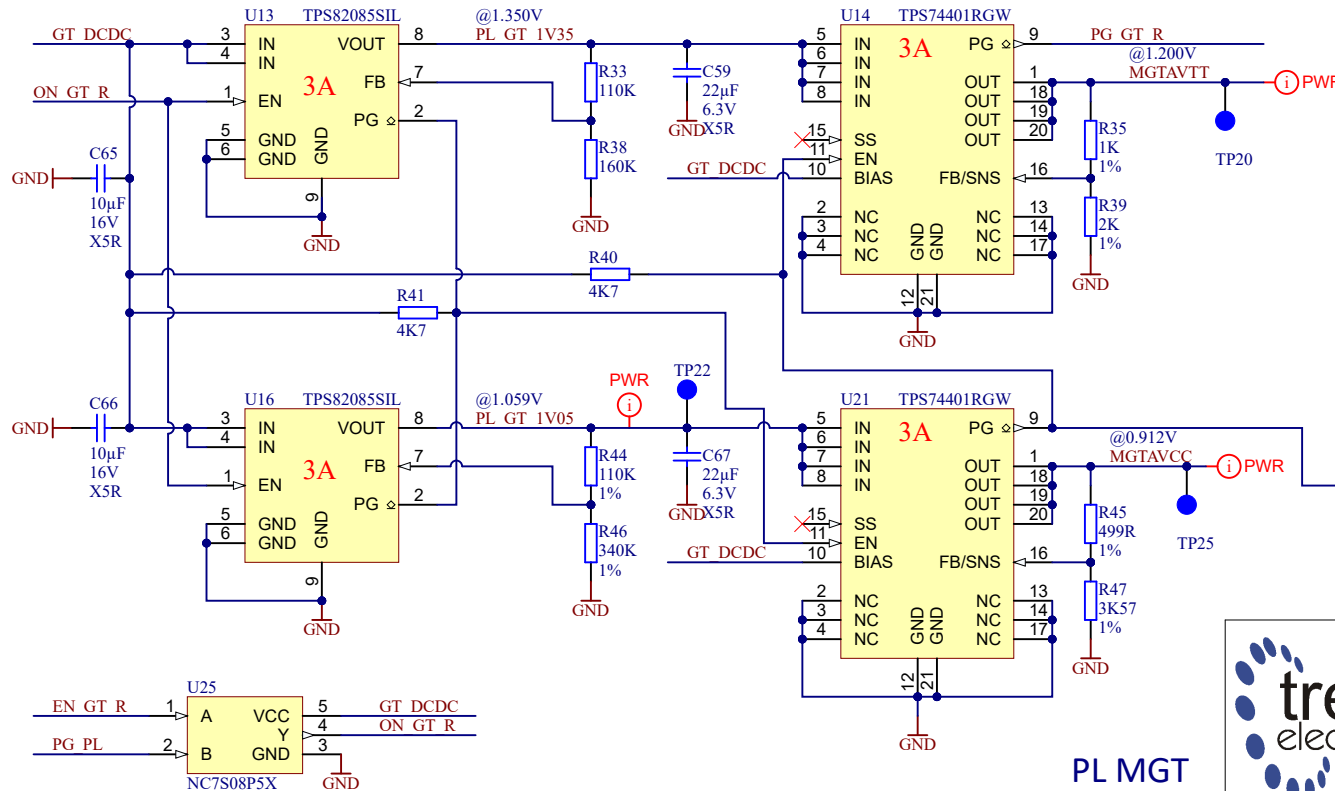
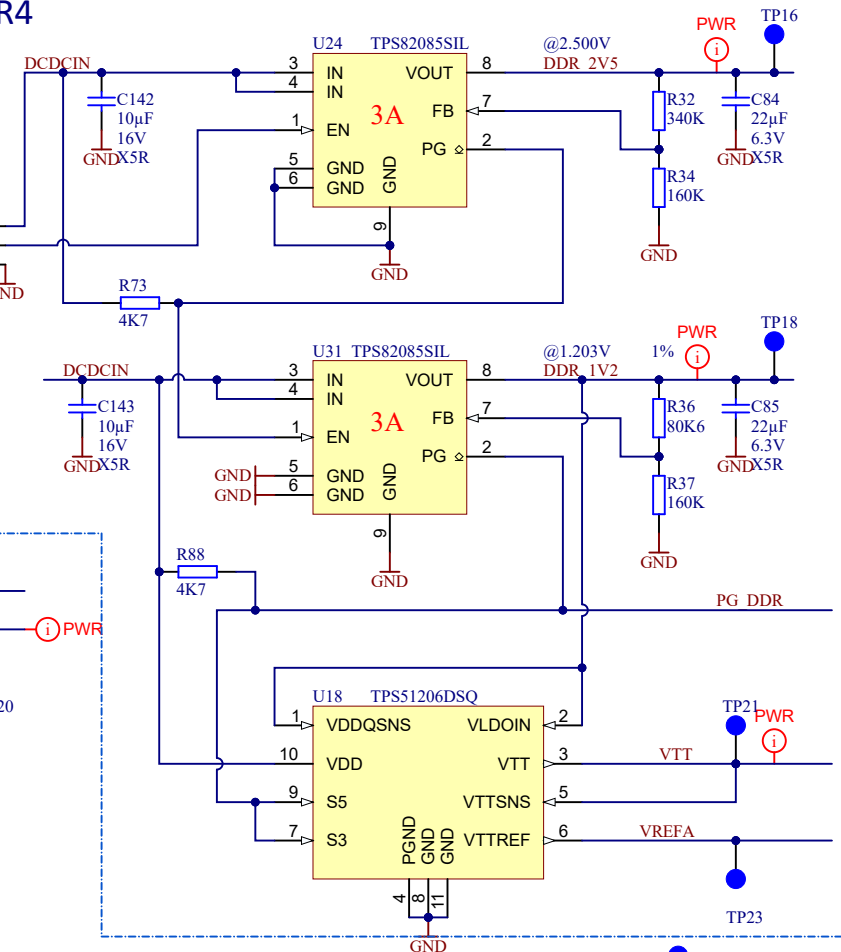


		Title: TE0803 - CLOCK	
		A4	Rev. 04
Date: 2021-01-19	Number: TE0803 4HE11-A	Copyright: Trenz Electronic GmbH / TT	
Filename: Clock.SchDoc		Page 25 of 30	

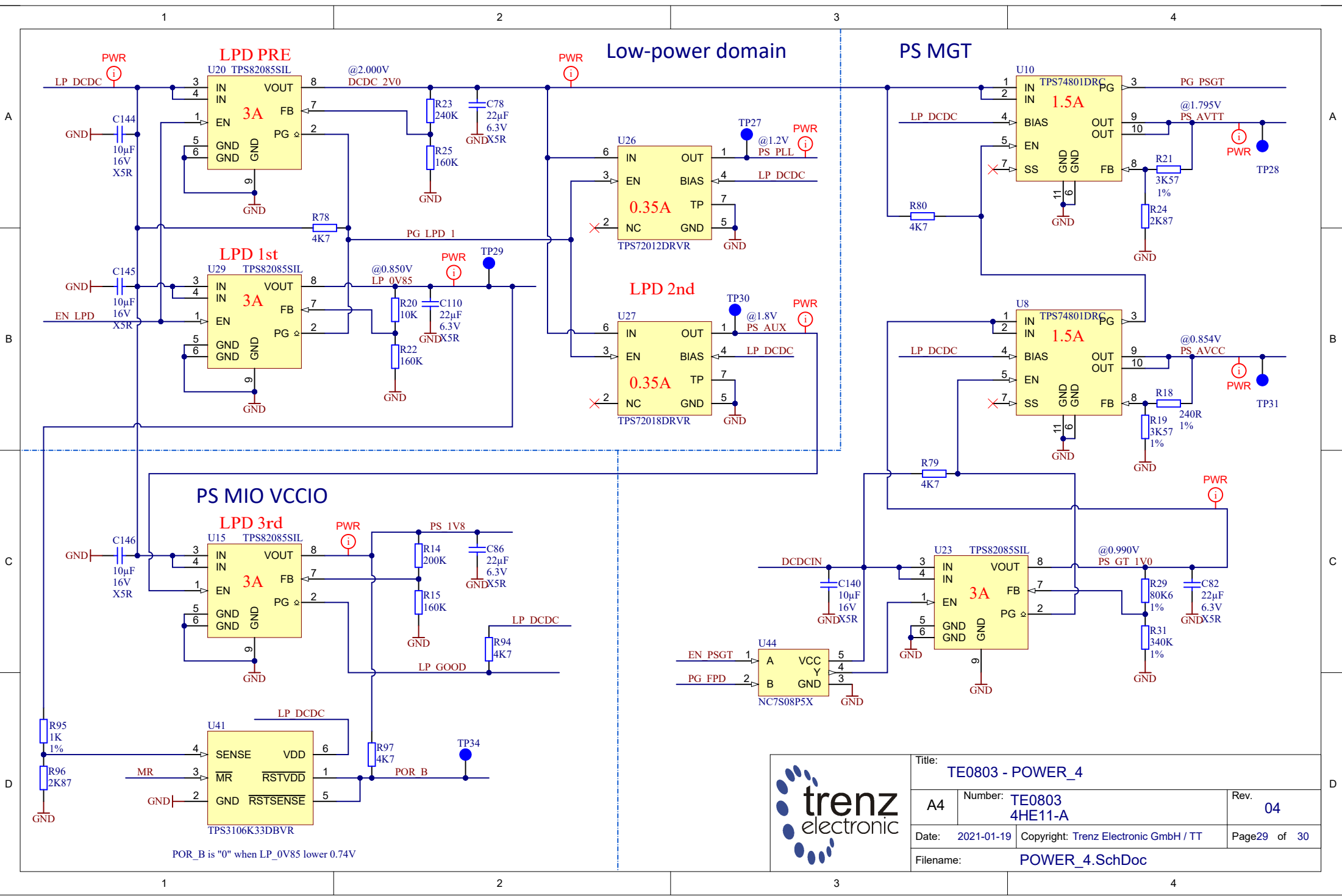
Full-power domain



DDR4



Title: TE0803 - POWER_2		
A4	Number: TE0803 4HE11-A	Rev. 04
Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page 28 of 30
Filename: POWER_2.SchDoc		



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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
4HE11-A

Rev. 04

Date: 2021-01-19

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Drawn by: VY

Filename: Revision Changes.SchDoc