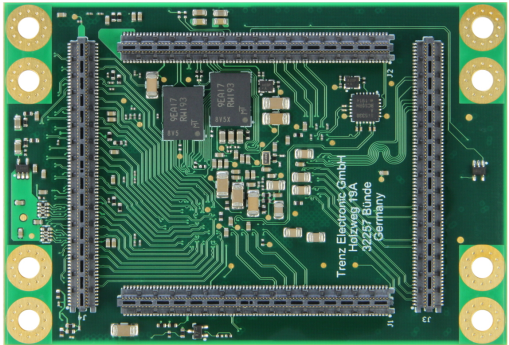
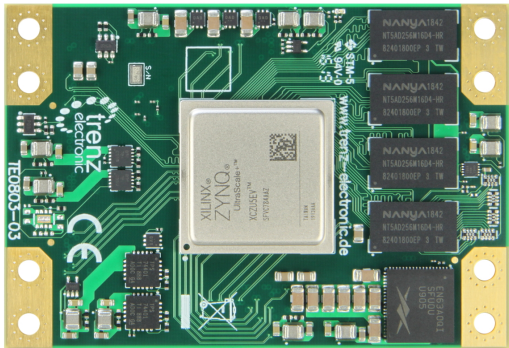


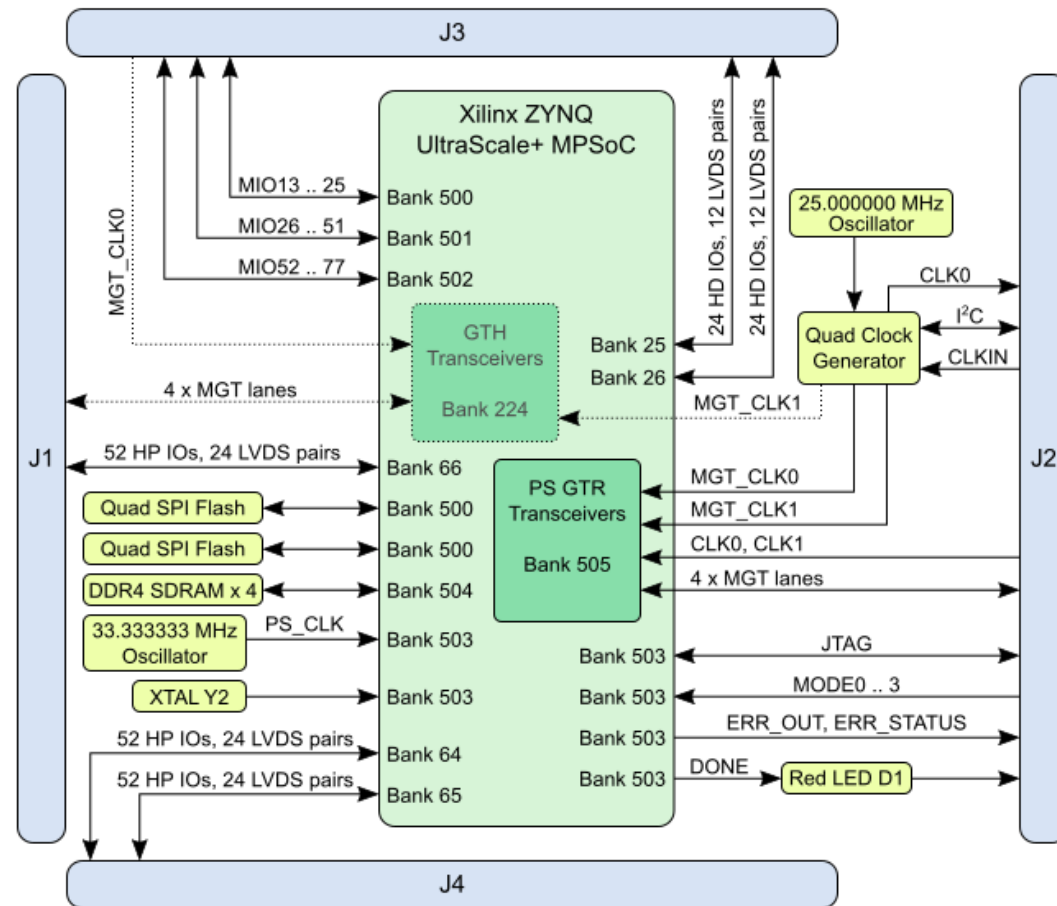


Regarding the usage of our schematics and alike documentation for Trenz module TE0803.

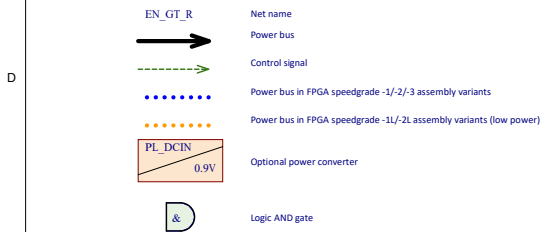
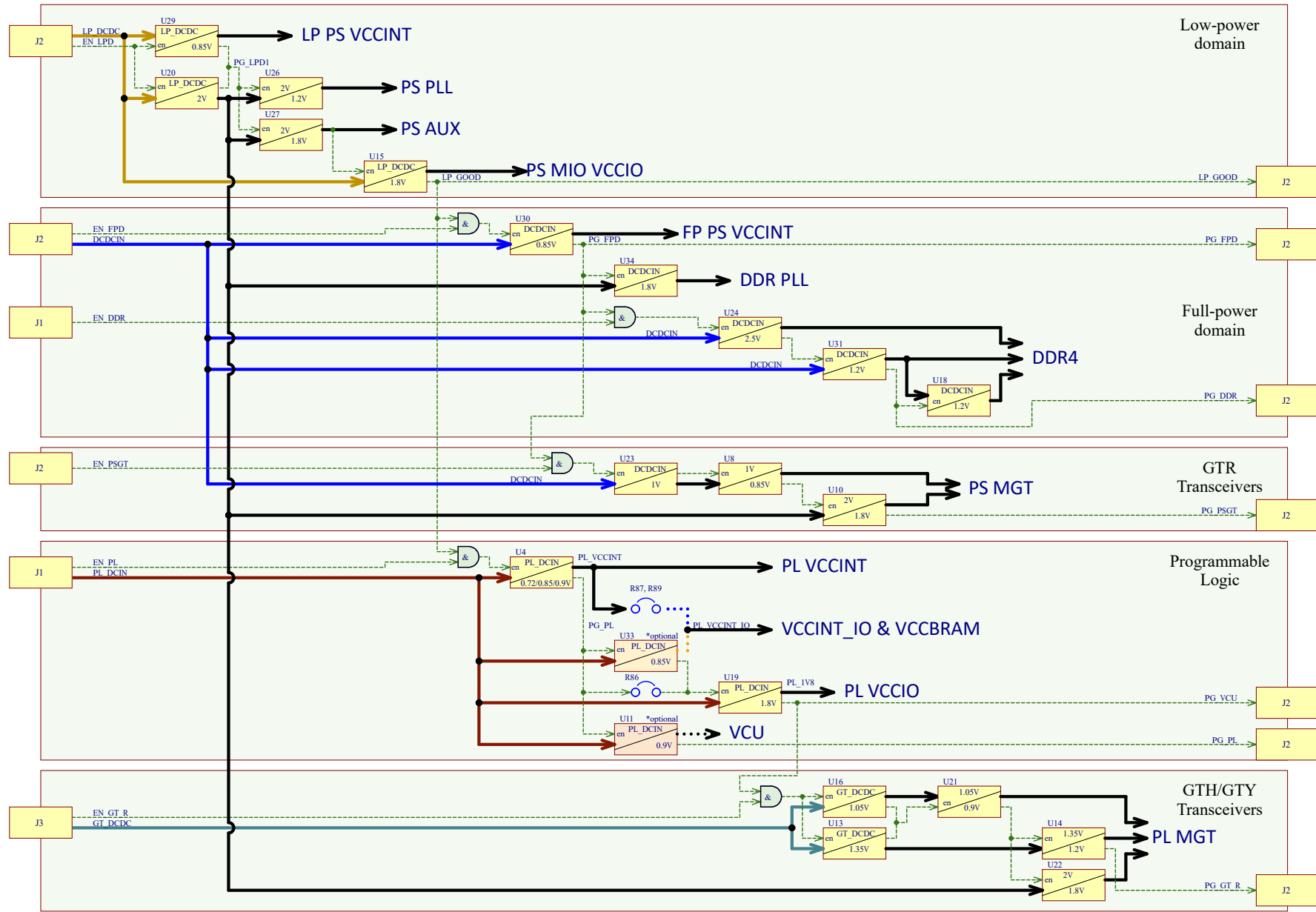
Project is protected under copyright and we strongly and strictly prohibit the reverse engineering or recreation, even if the design is just adapted or modified. TE0803 is protected under such right and in case of plagiarism we will have to do anything necessary in order to protect our assets.

Schematics and other handouts serve for informational purposes only!

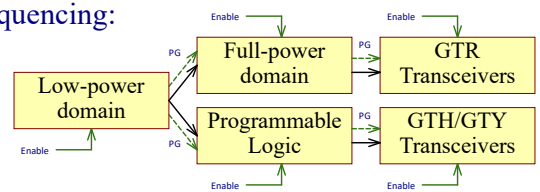
	Title: TE0803		
	A4	Number: TE0803 4BI21-AZ	Rev. 04
	Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page 1 of 30
	Filename: Legal Notices Modules.SchDoc		



Title: TE0803 - System Overview		
A4	Number: TE0803 4BI21-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 4BI21-AZ	Rev. 04
Datum: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page 3 of 30
Filename: Power_Diagram.SchDoc		

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

Serial2

Serial

Serialnumber 6,3 x 6.3mm

AD only

trenz
electronic

Title: TE0803

A4

Number: TE0803
4BI21-AZ

Rev. 04

Date: 2021-01-19

Copyright: Trenz Electronic GmbH / TT

Page4 of 30

Filename: TE0803.SchDoc

Assembly variant 4BI21-AZ

Created by VT

Modified by VT

Modified at 2022-12-14

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

1

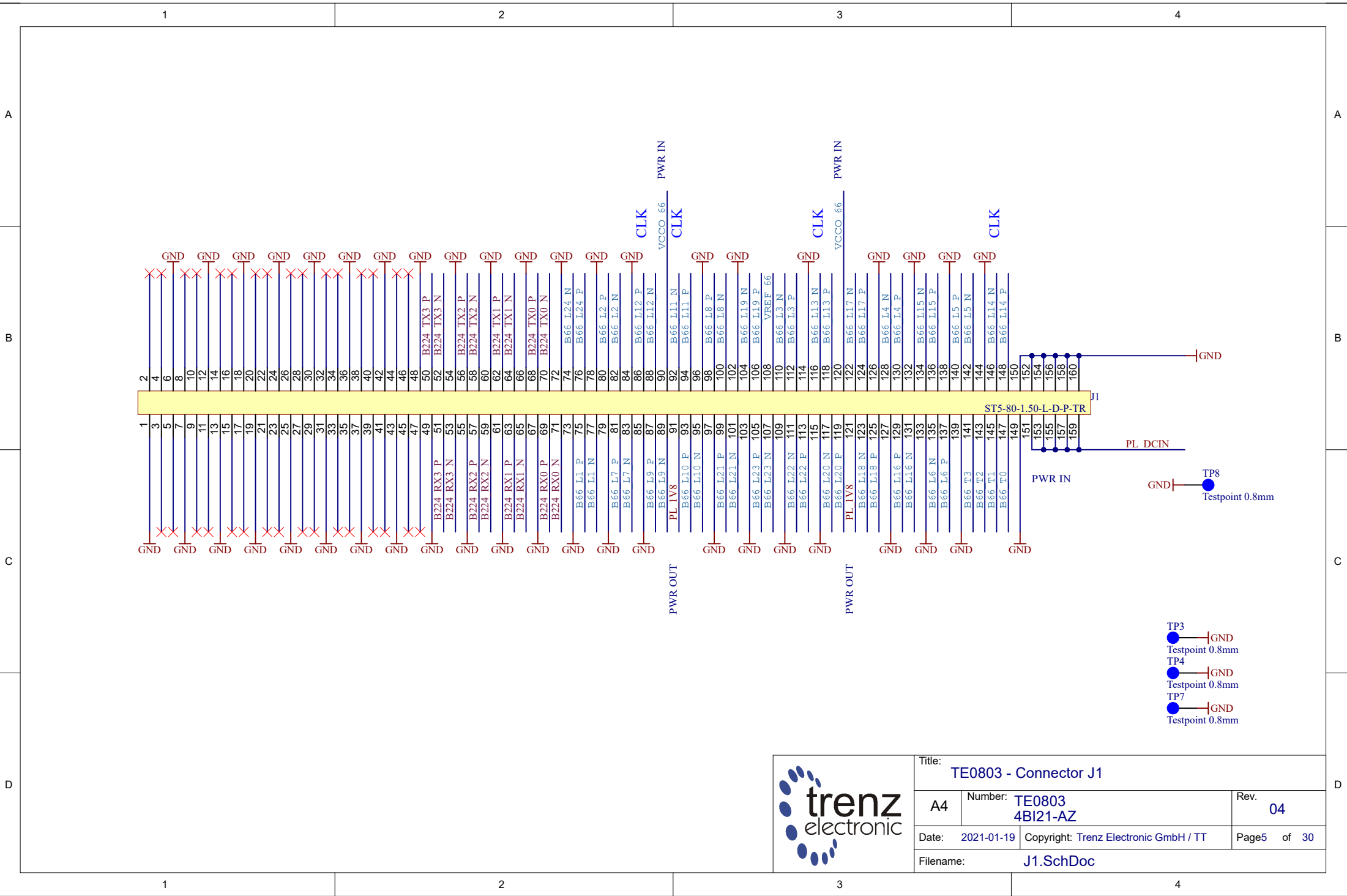
2

3

4

D

D



Title: TE0803 - Connector J1		
A4	Number: TE0803 4BI21-AZ	Rev. 04
Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page5 of 30
Filename: J1.SchDoc		

1

2

3

4

A

B

C

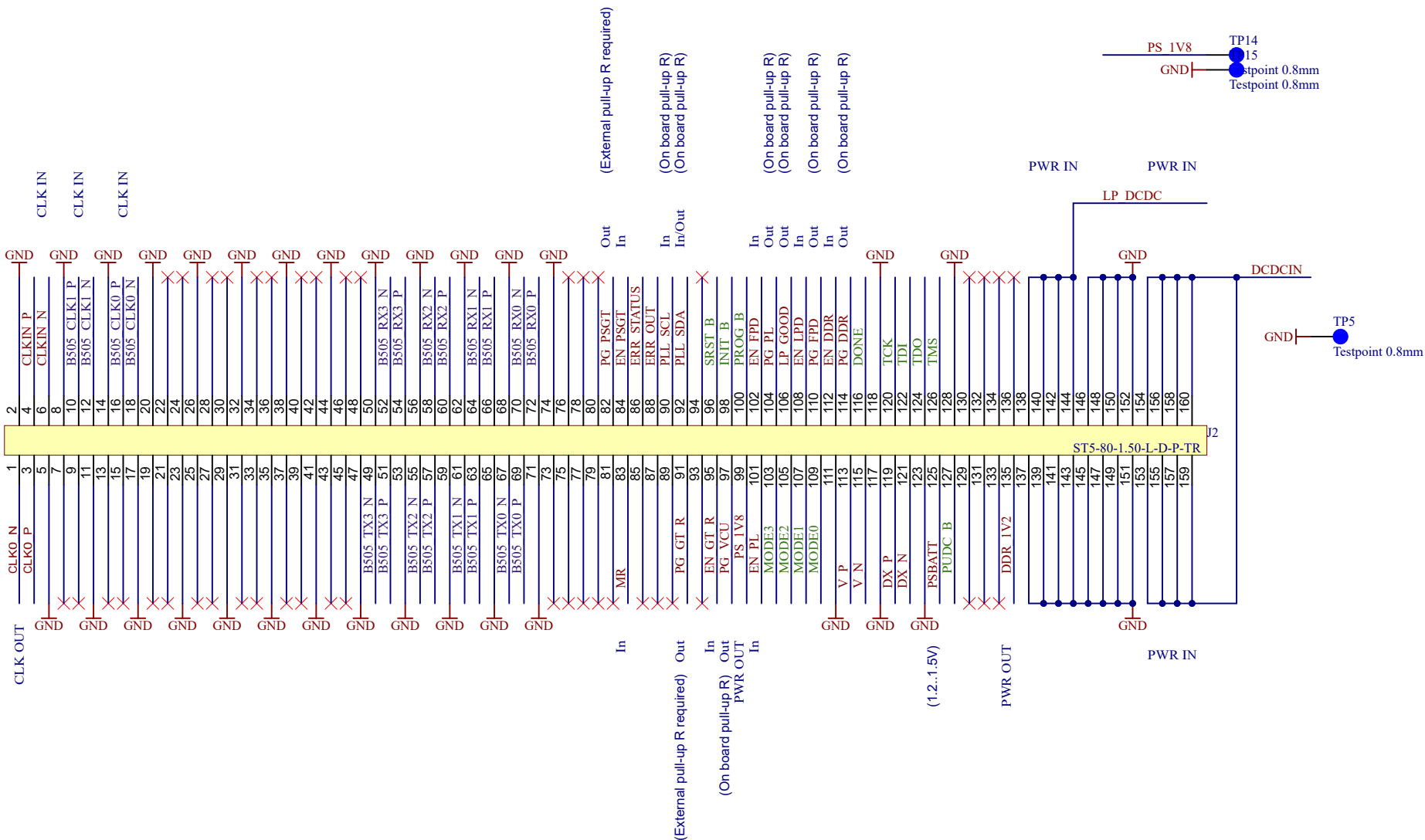
D

A

B

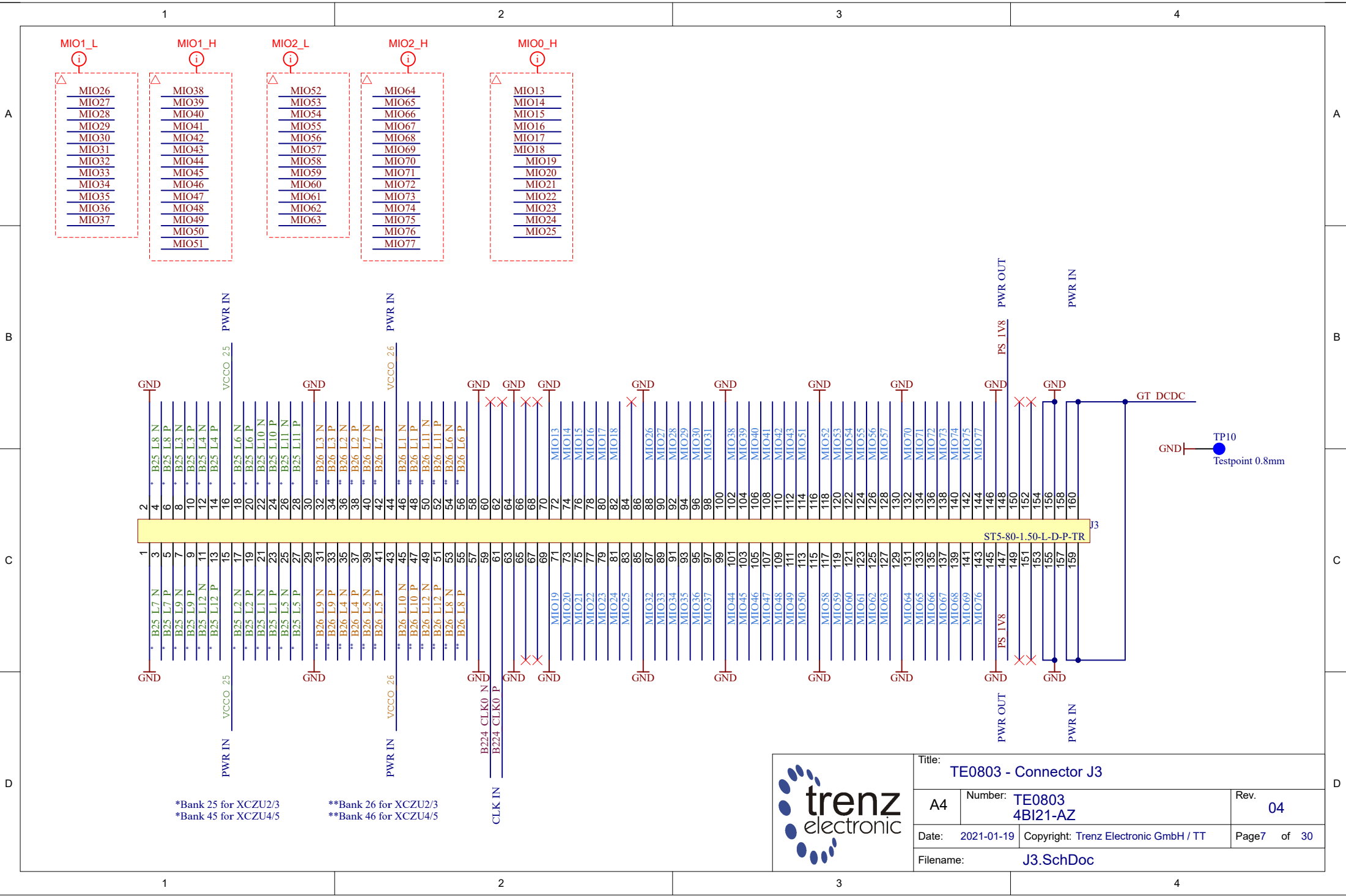
C

D





Title: TE0803 - Connector J2			
A4	Number: TE0803 4BI21-AZ	Rev. 04	
Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page6 of 30	
Filename: J2.SchDoc			

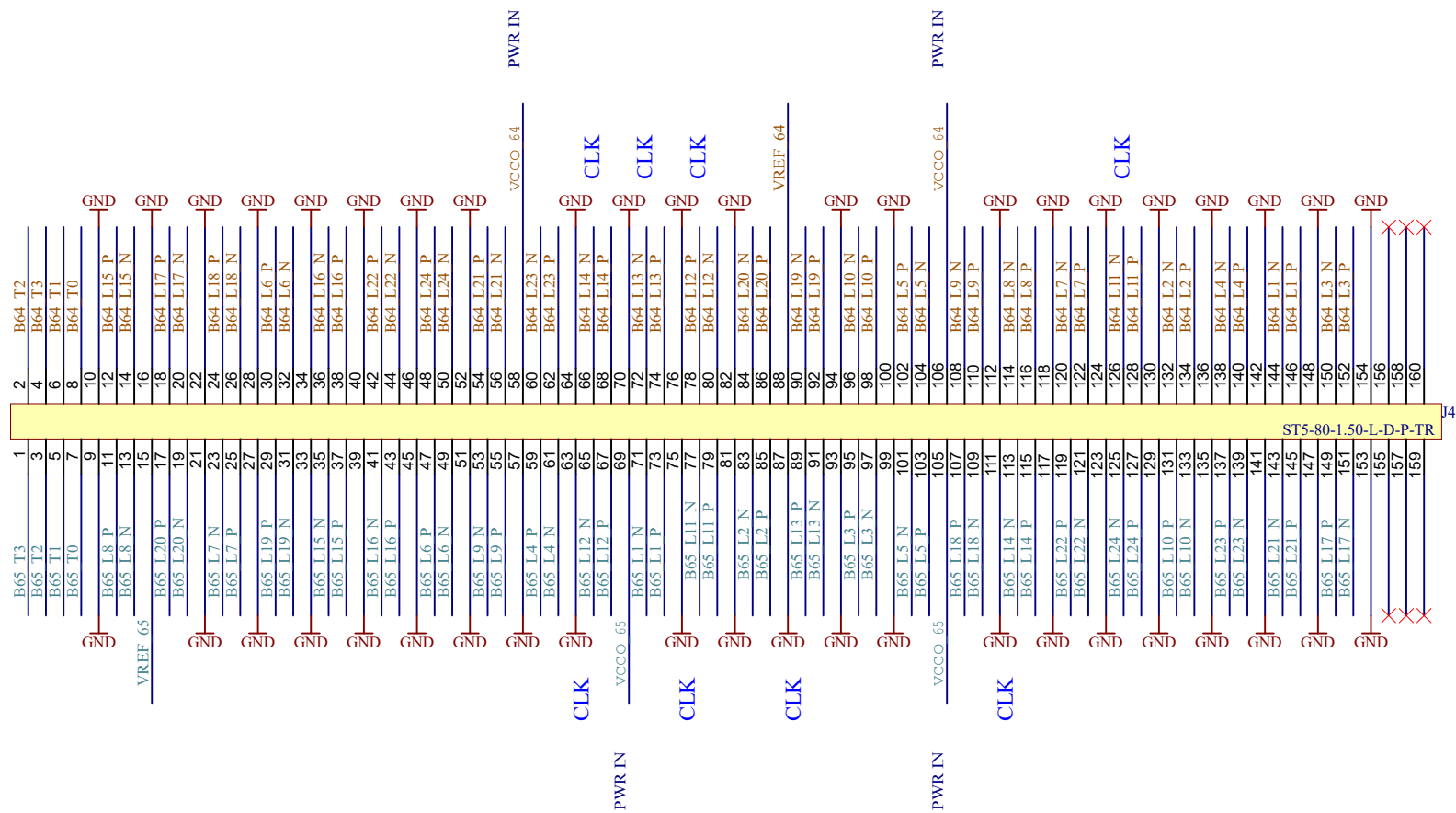


*Bank 25 for XCZU2/3
*Bank 45 for XCZU4/5

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



Title: TE0803 - Connector J3		
A4	Number: TE0803 4BI21-AZ	Rev. 04
Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page7 of 30
Filename: J3.SchDoc		



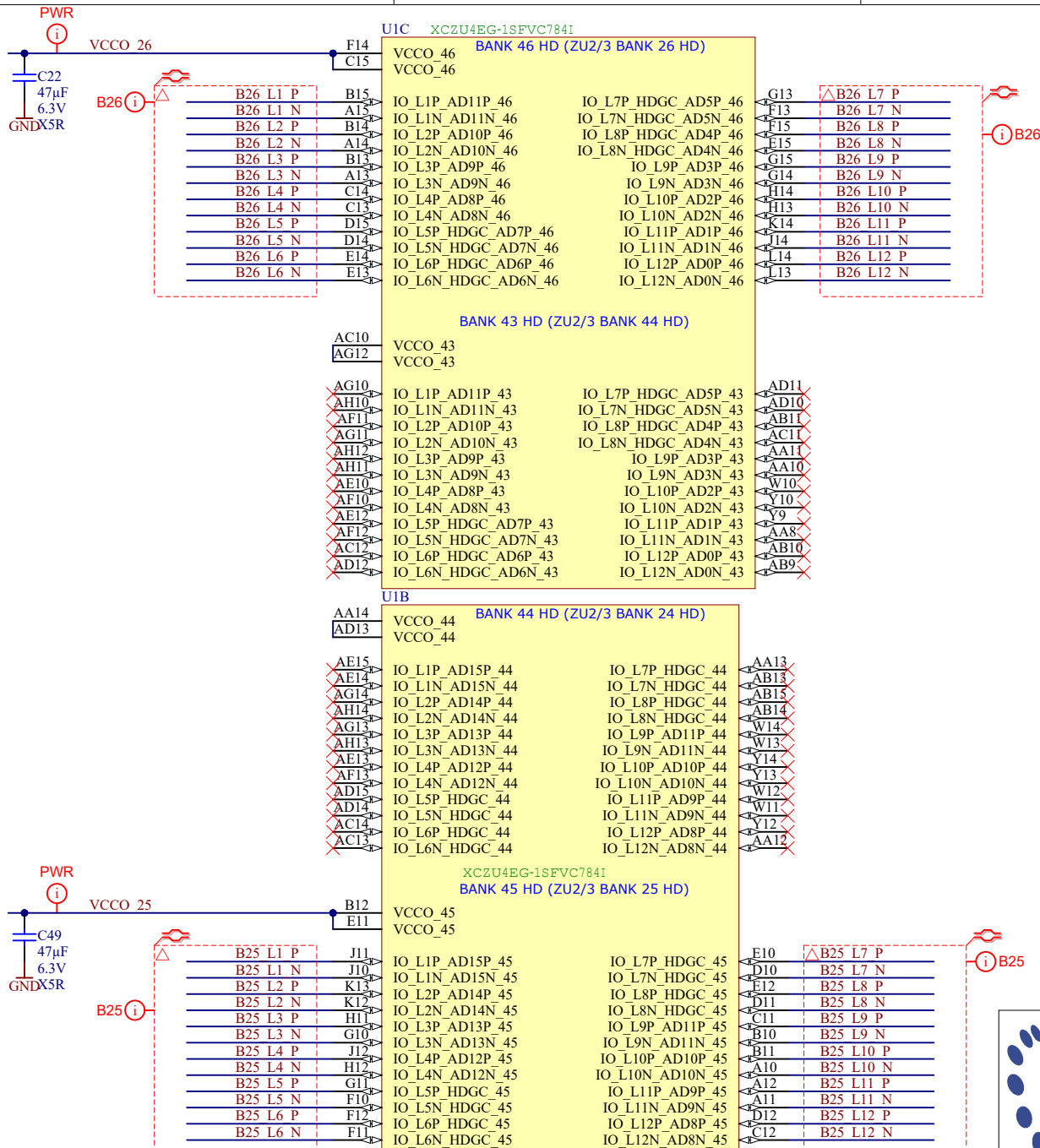
Title: TE0803 - Connector J4		
A4	Number: TE0803 4BI21-AZ	Rev. 04
Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page 8 of 30
Filename: J4.SchDoc		

1

2

3

4



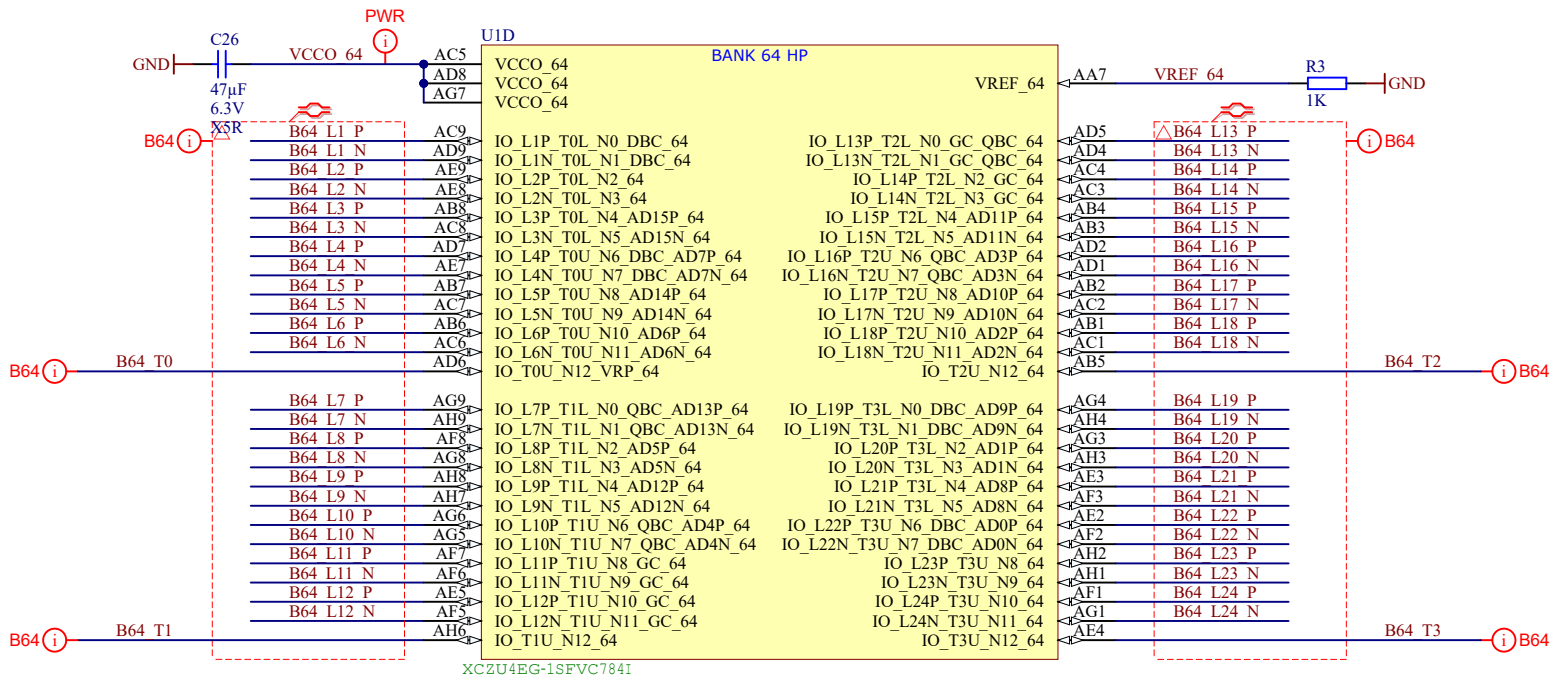
Title: TE0803 - HD Banks			
A4	Number: TE0803 4BI21-AZ		Rev. 04
Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT		Page9 of 30
Filename: B_HD.SchDoc			

1

2

3

4



	Title: TE0803 - B64		
	A4	Number: TE0803 4BI21-AZ	Rev. 04
	Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page11 of 30
	Filename: B64.SchDoc		

1

2

3

4

A

A

B

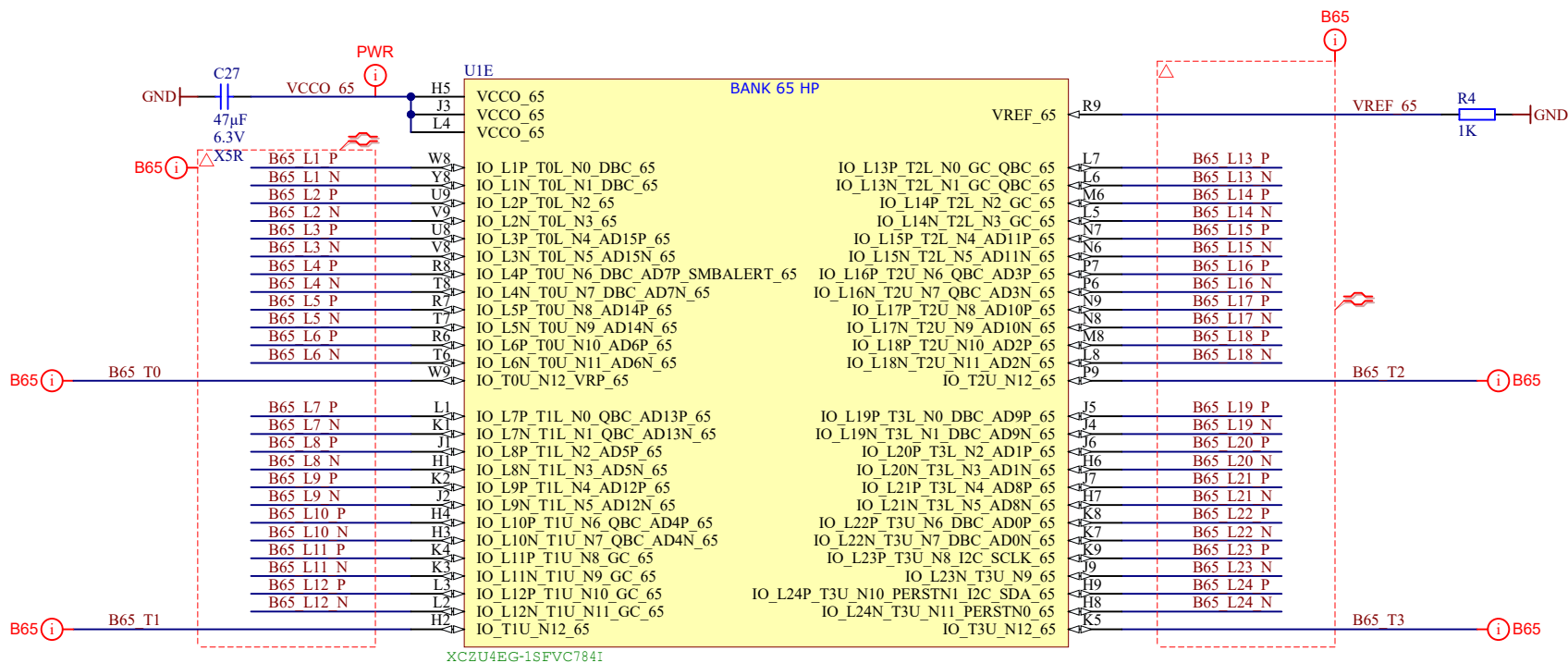
B

C

C

D

D



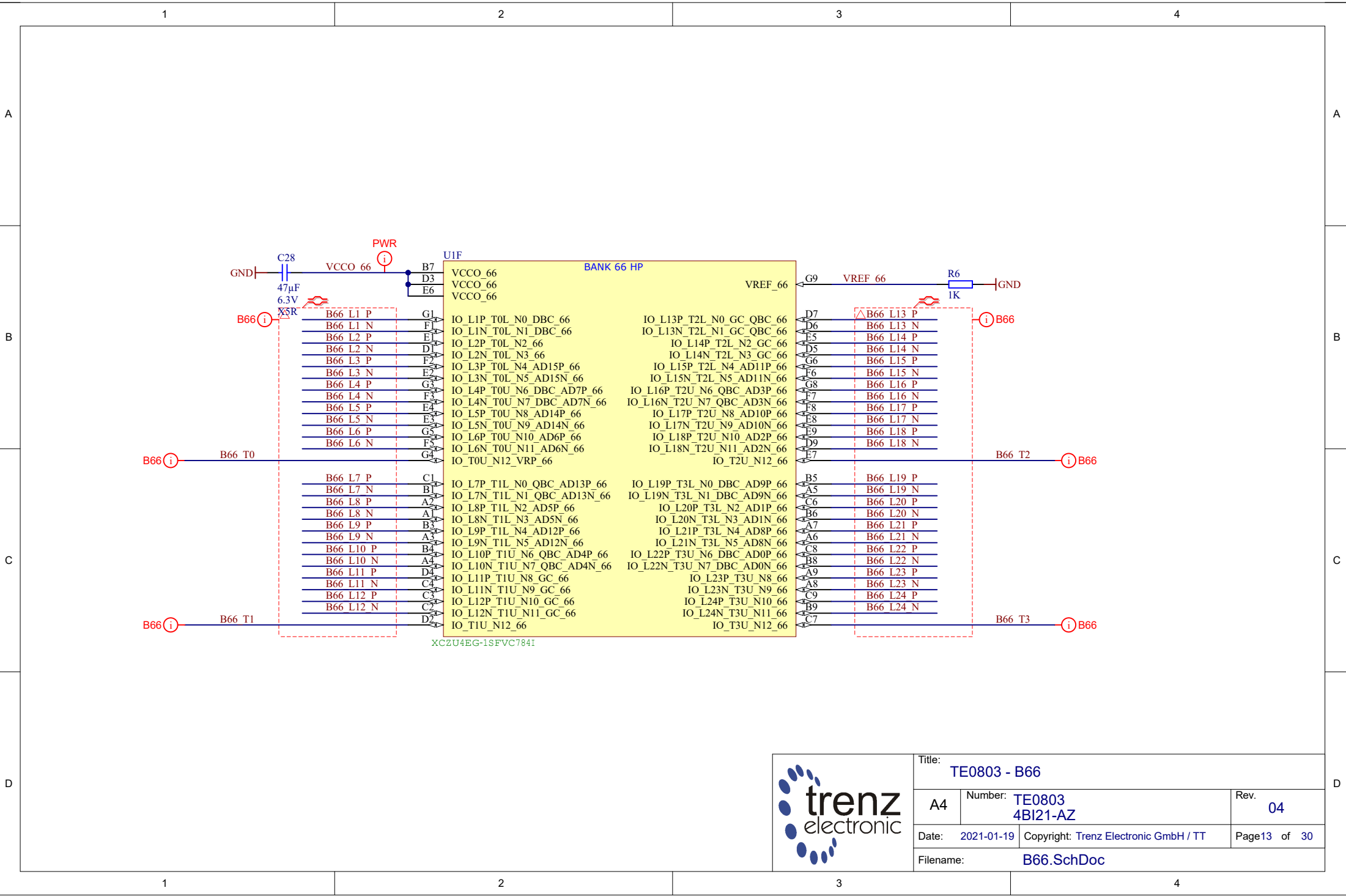
Title: TE0803 - B65			
A4	Number: TE0803 4BI21-AZ	Rev. 04	
Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT		Page 12 of 30
Filename: B65.SchDoc			

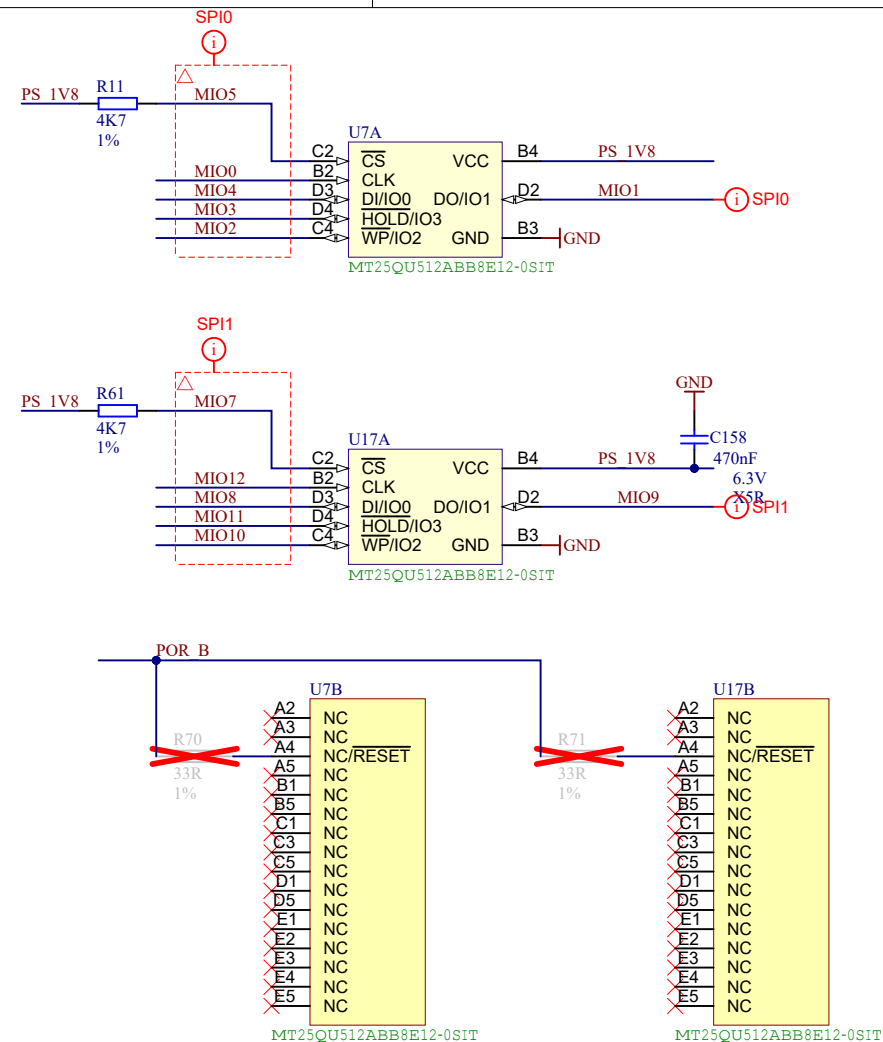
1

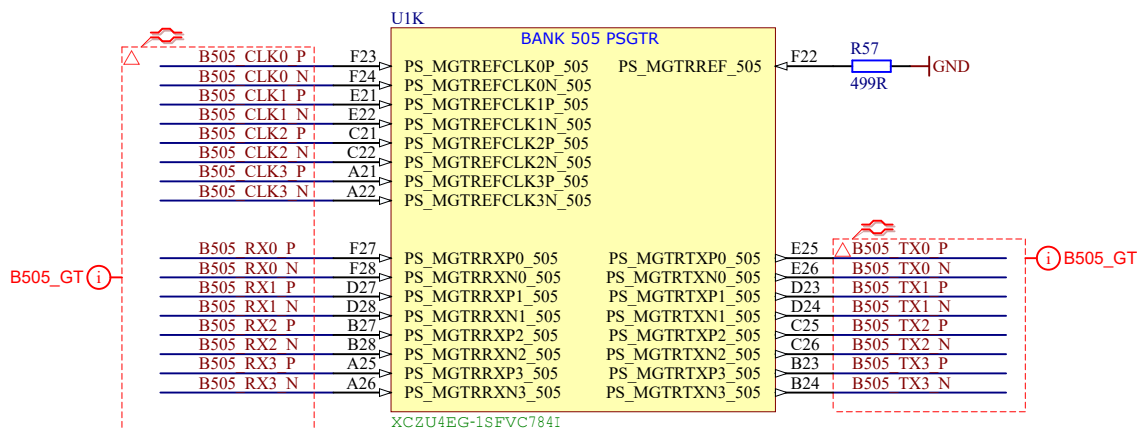
2

3

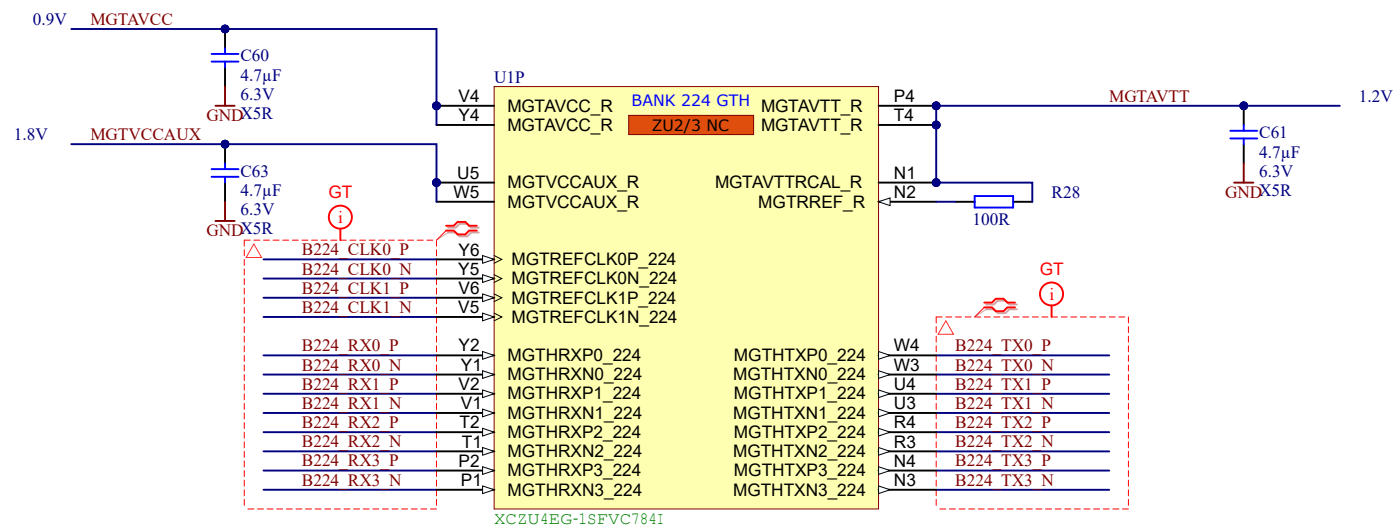
4



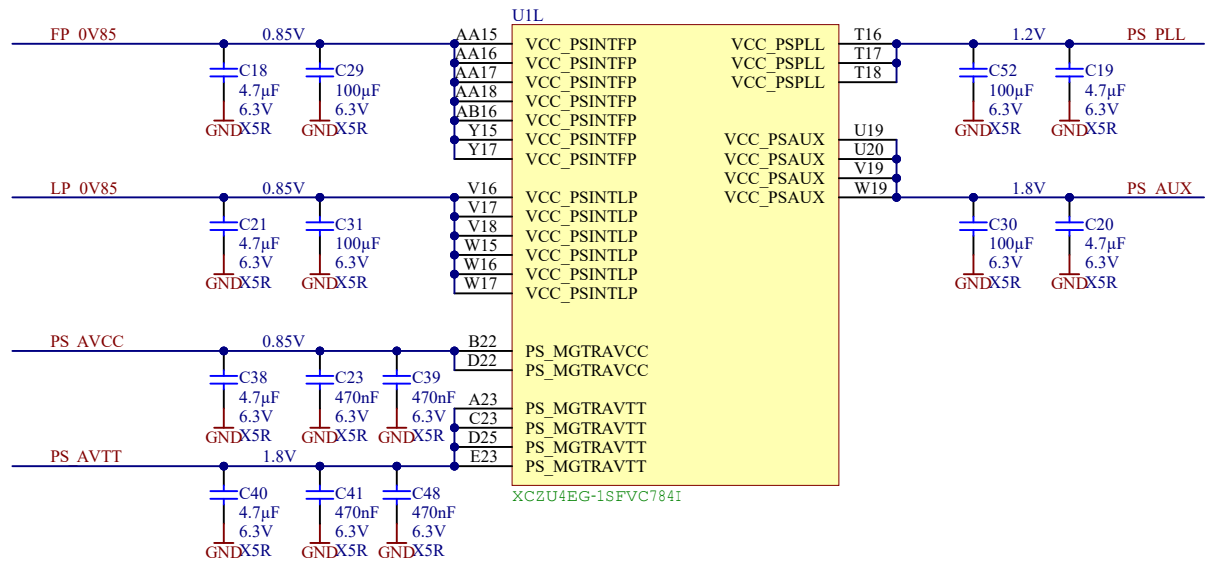




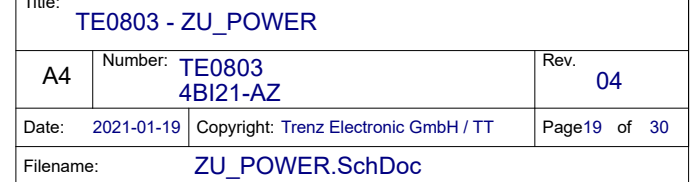
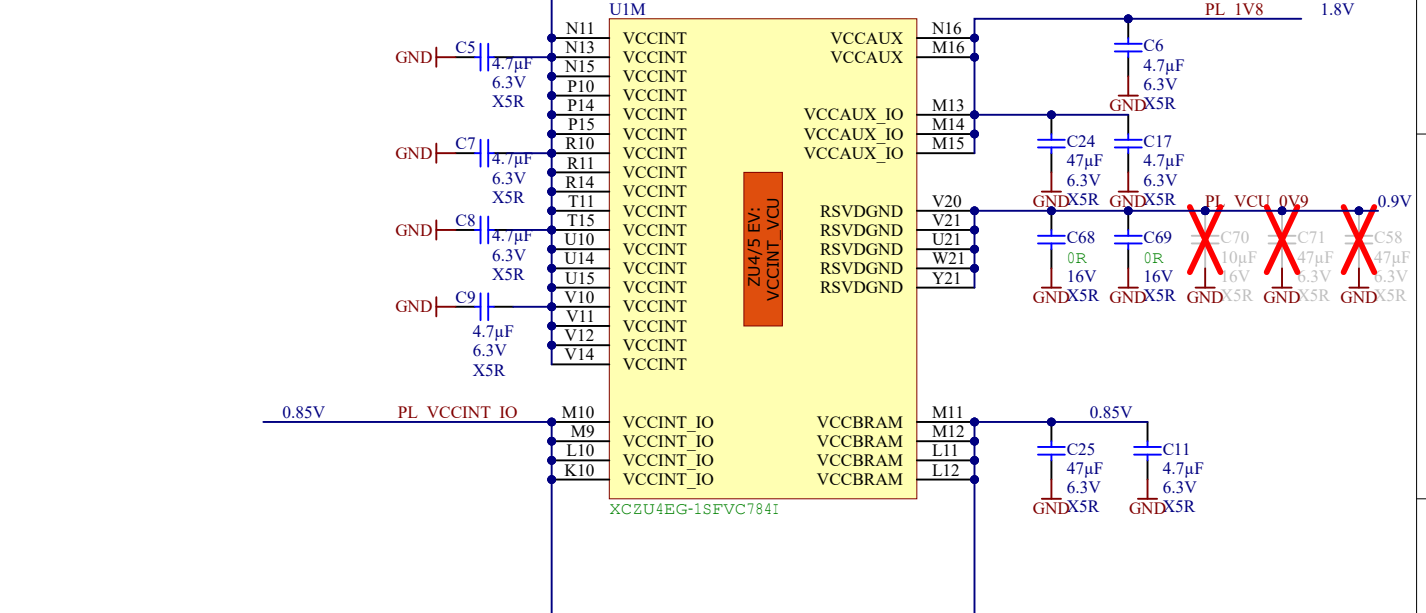
	Title: TE0803 - PS_GT	
	A4	Number: TE0803 4BI21-AZ
Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Rev. 04
Filename: B_PS_GT.SchDoc		Page 16 of 30

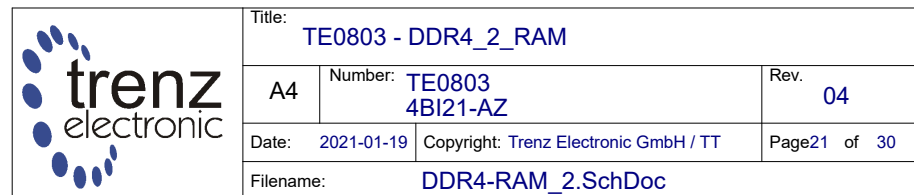


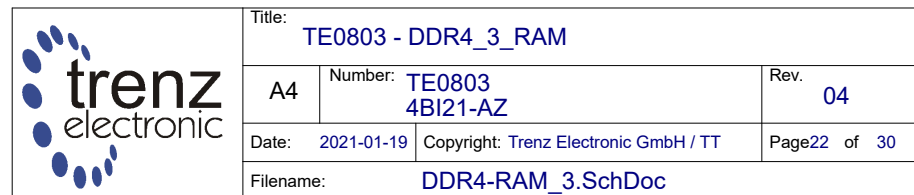
		Title: TE0803 - B224GTH	
		A4	Rev. 04
Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT		Page 17 of 30
Filename: B_GT.SchDoc			



		Title: TE0803 - ZU_PS_POWER	
		Number: TE0803 4BI21-AZ	Rev. 04
Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT		Page 18 of 30
Filename: ZU_PS_POWER.SchDoc			





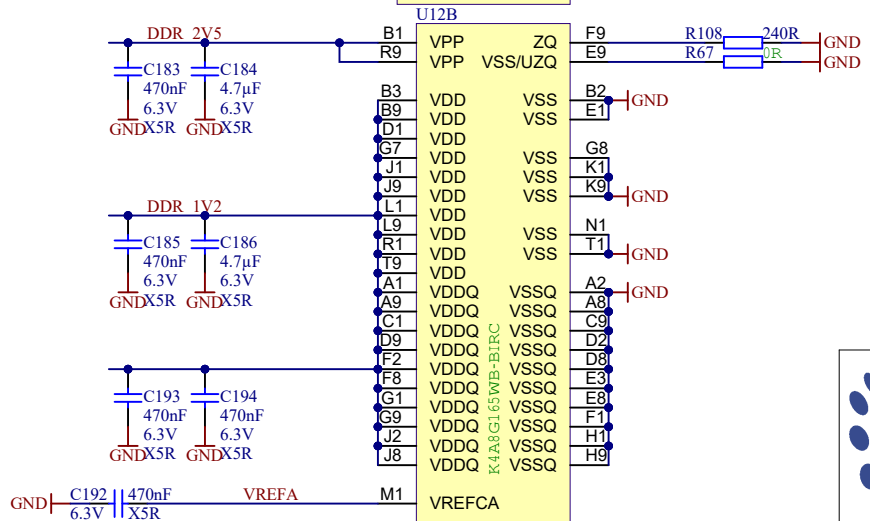
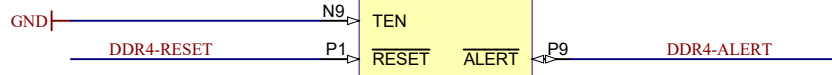
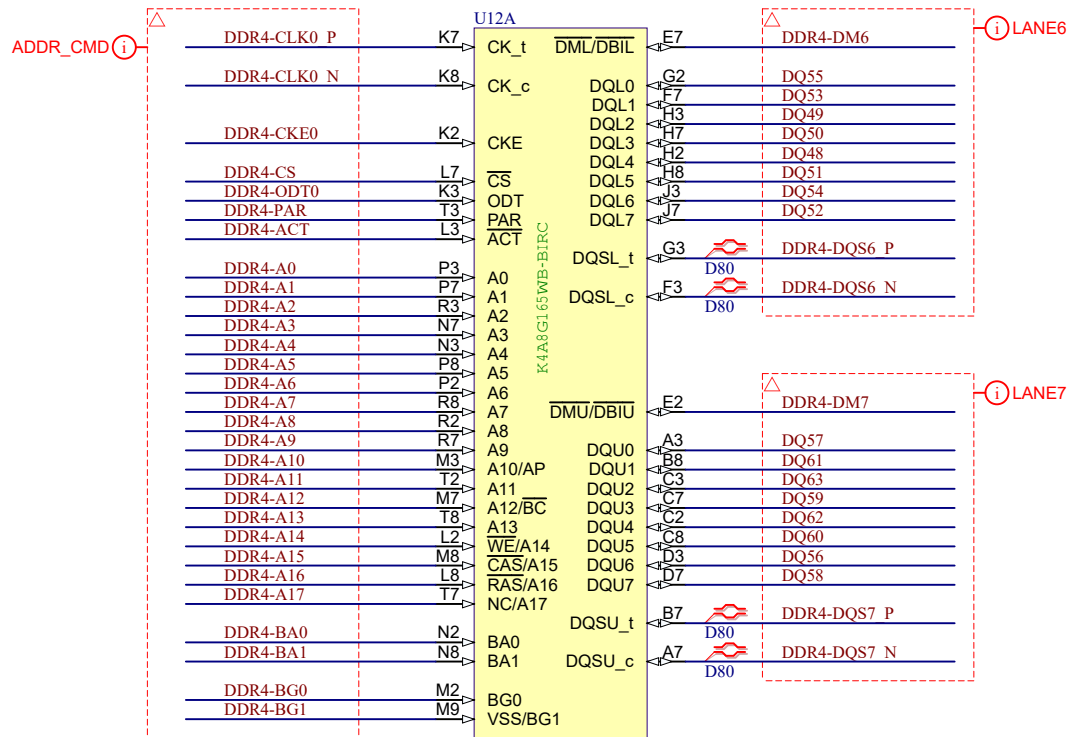


1

2

3

4



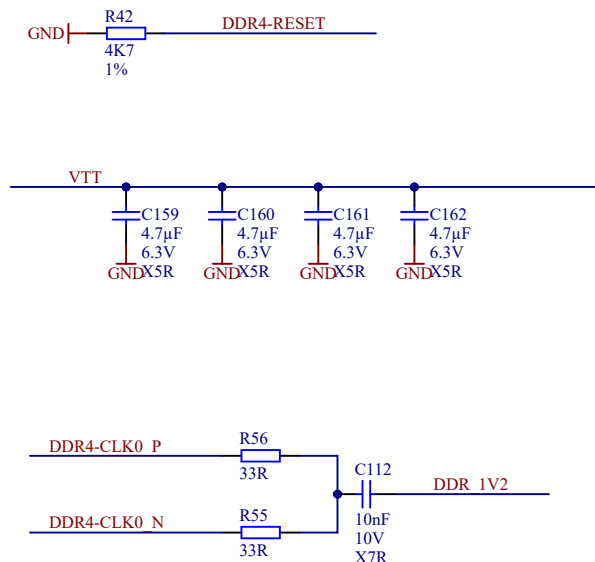
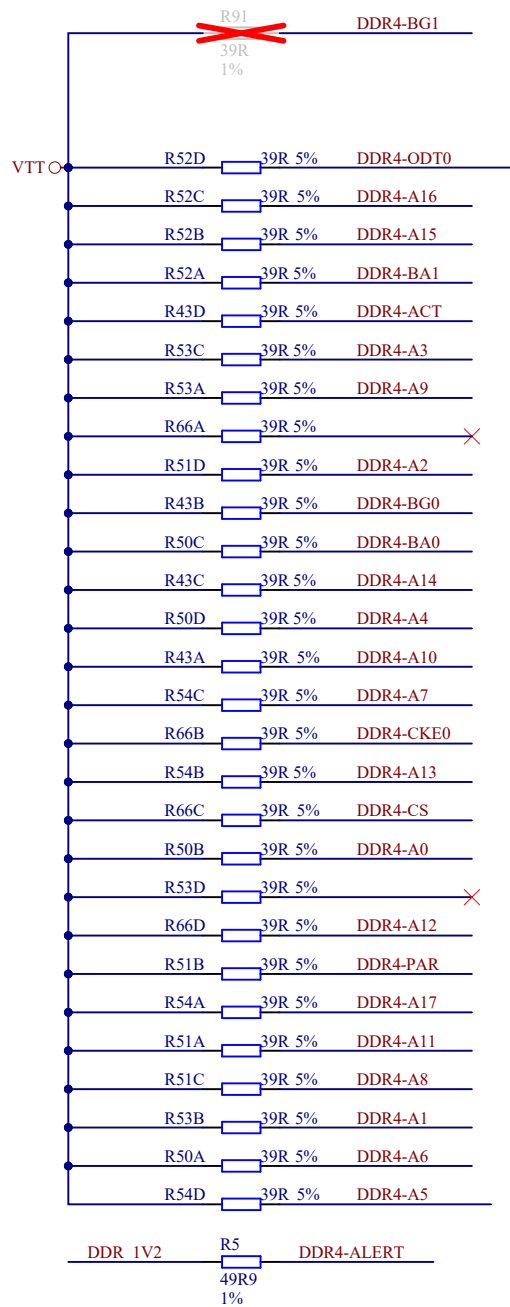
Title: TE0803 - DDR4_4_RAM		
A4	Number: TE0803 4BI21-AZ	Rev. 04
Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page23 of 30
Filename: DDR4-RAM_4.SchDoc		

1

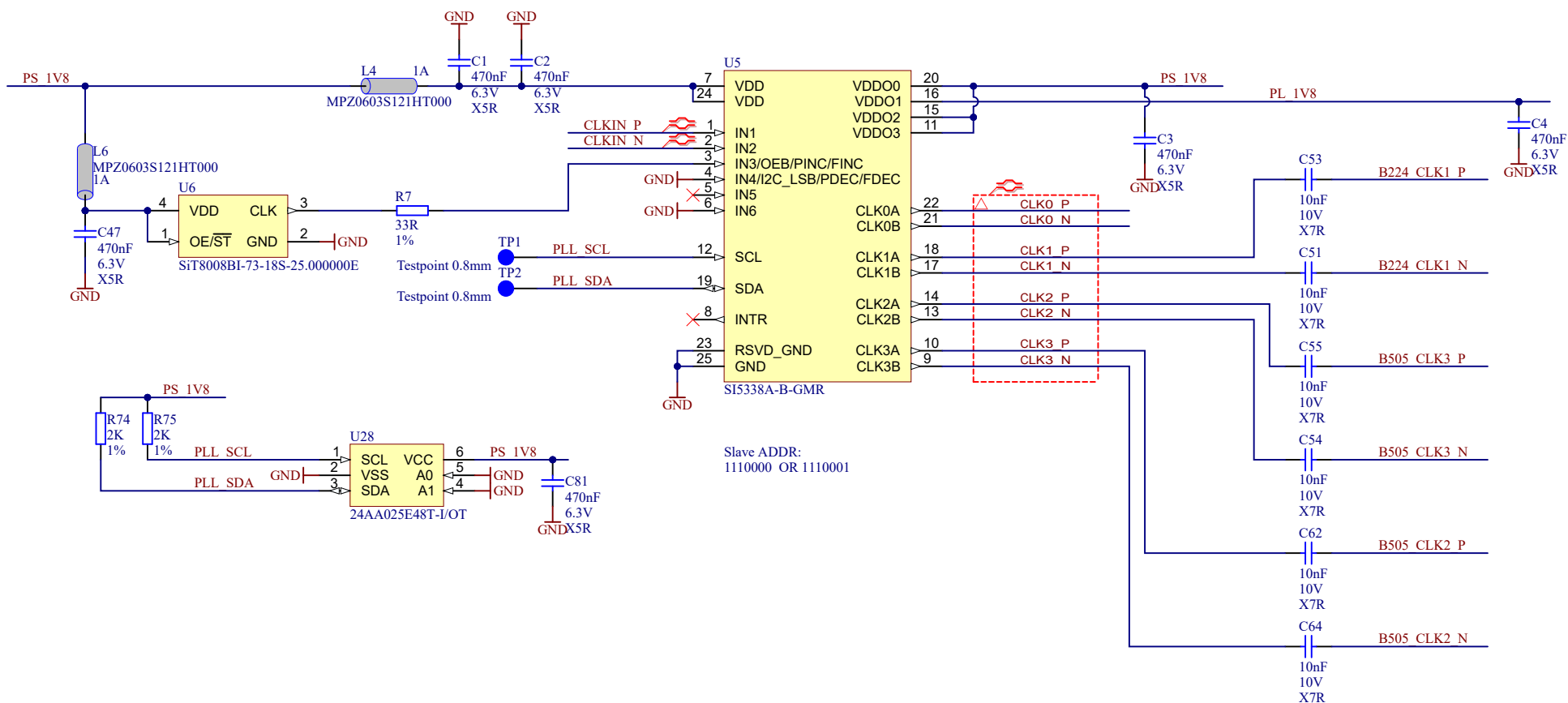
2

3

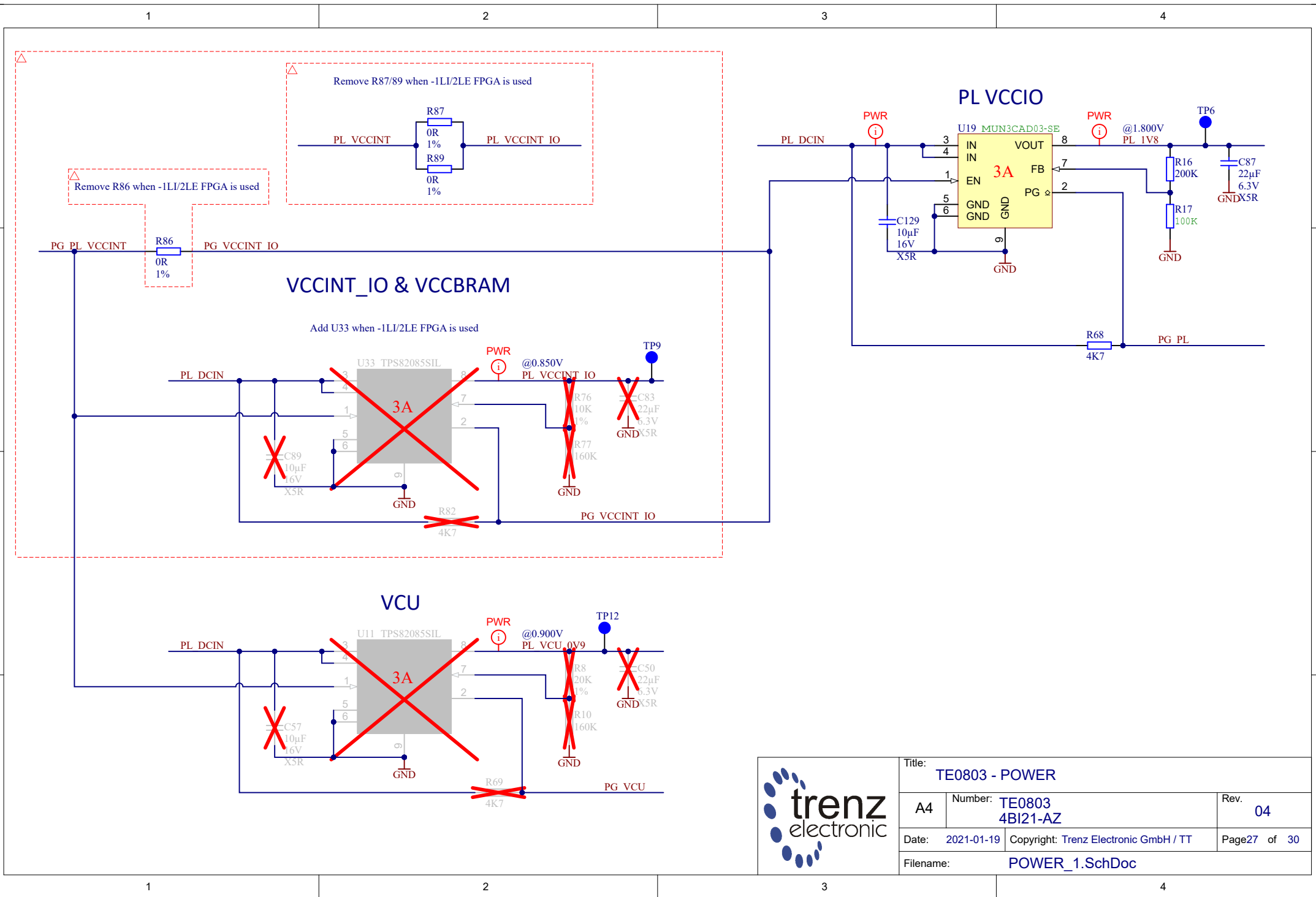
4



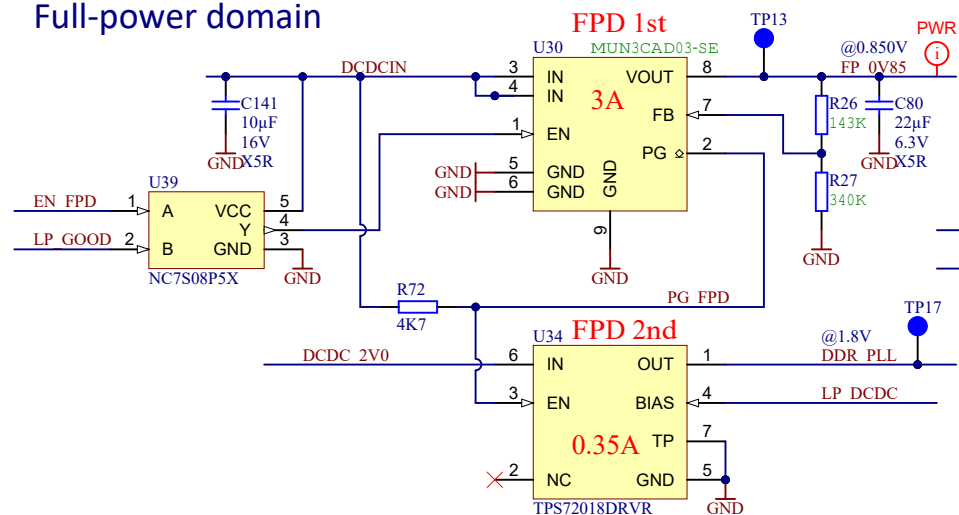
			Title: TE0803 - DDR4_TERM	
			A4 Number: TE0803 4BI21-AZ	Rev. 04
Date: 2021-01-19		Copyright: Trenz Electronic GmbH / TT		Page24 of 30
Filename: DDR4-TERM.SchDoc				



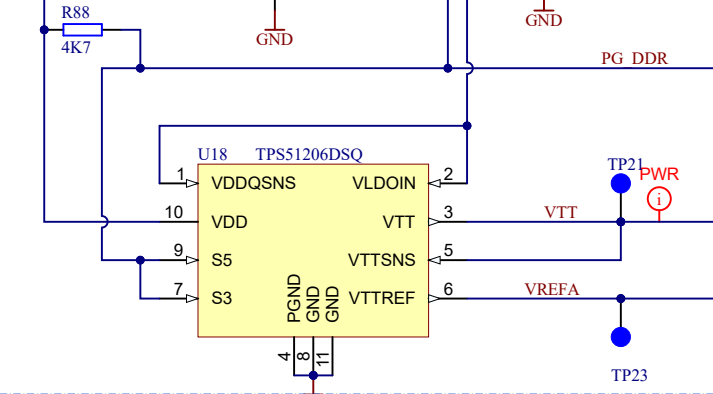
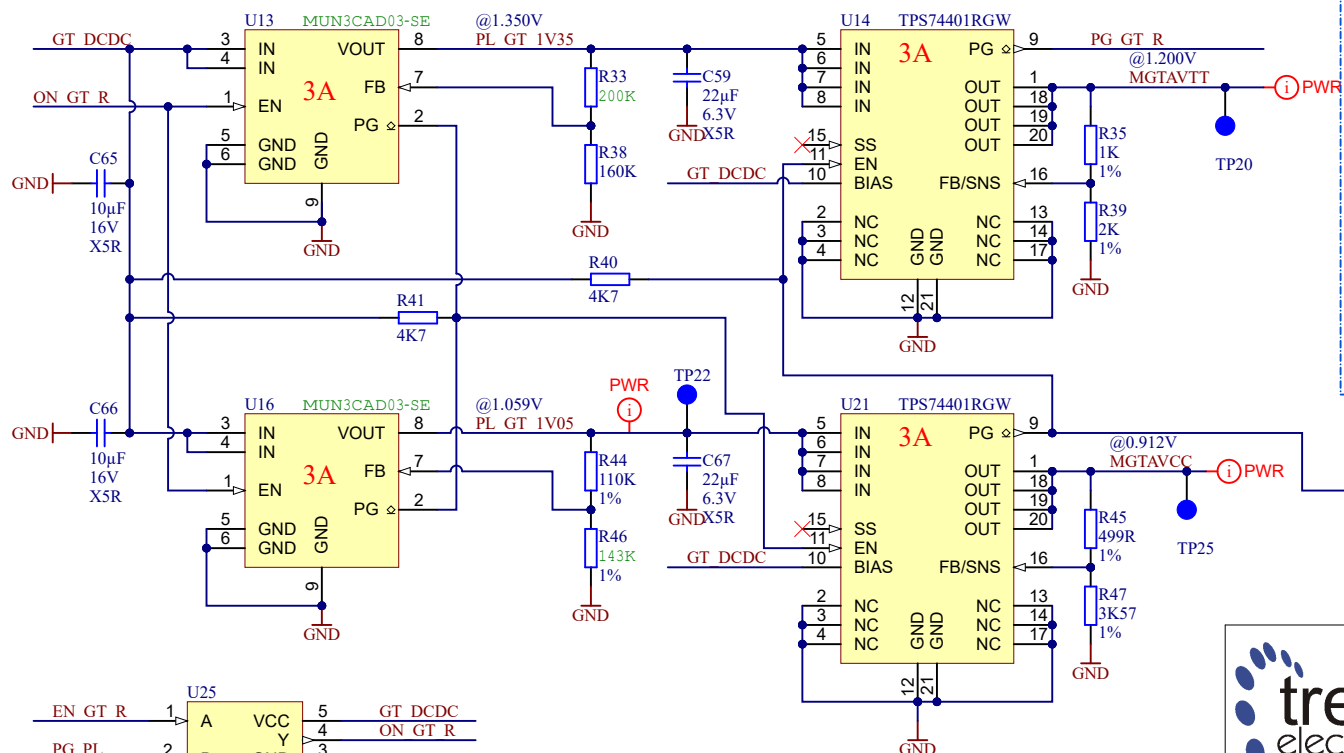
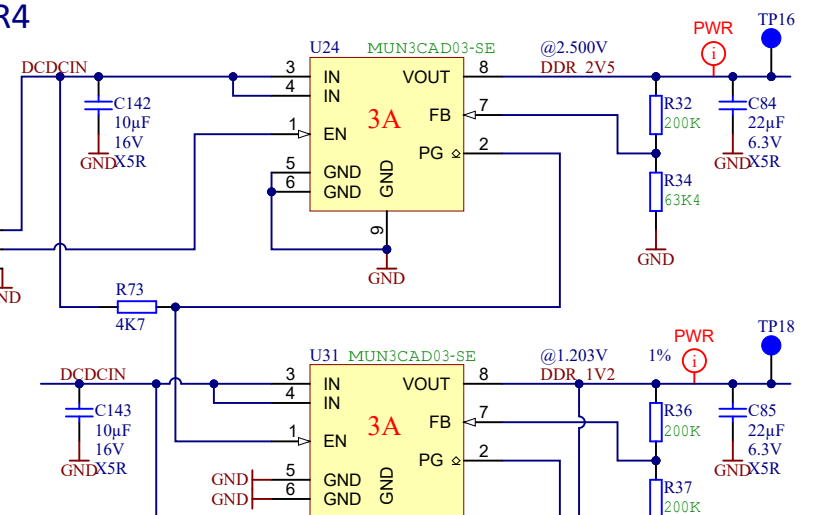
		Title: TE0803 - CLOCK	
		A4	Rev. 04
Date: 2021-01-19	Number: TE0803 4BI21-AZ	Copyright: Trenz Electronic GmbH / TT	Page 25 of 30
Filename: Clock.SchDoc			



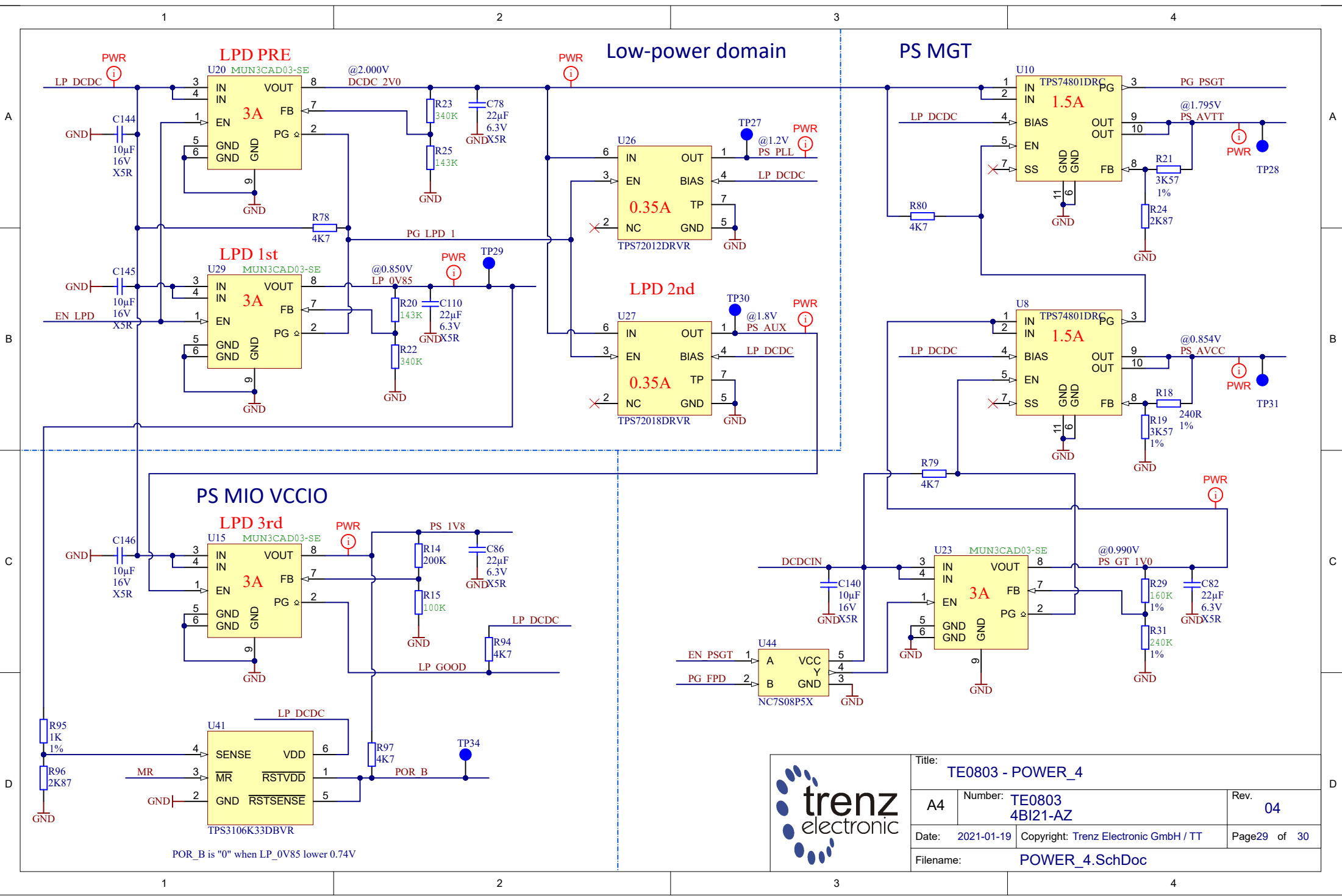
Full-power domain



DDR4



Title: TE0803 - POWER_2		
A4	Number: TE0803 4BI21-AZ	Rev. 04
Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page 28 of 30
Filename: POWER_2.SchDoc		



Title: TE0803 - POWER_4			
A4	Number: TE0803 4BI21-AZ	Rev. 04	
Date: 2021-01-19	Copyright: Trenz Electronic GmbH / TT	Page29 of 30	
Filename: POWER_4.SchDoc			

1

2

3

4

A

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 silkscreen. 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

B

C

D

</



Title: TE0803 - Revision History

A4

Number: TE0803
4BI21-AZ

Rev. 04

Date: 2021-01-19

Copyright: Trenz Electronic GmbH

Page 30 of 30

Drawn by: VY

Filename: Revision Changes.SchDoc