


Regarding the usage of our schematics and alike documentation for Trenz module TE0807.

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.

TE0807 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: <b>TE0807 – Legal Notices Modules</b>		
	A4	Number: <b>TE0807 7A181-A</b>	Rev. <b>04</b>
	Date: 30.07.2024		Copyright: Trenz Electronic GmbH
	Page 1 of 32		
Filename: <b>Legal Notices Modules.SchDoc</b>			

REV	DATE	Description	
-01	-	Initial revision	-
-02	-	1) Added EEPROM (U11) (24AA025E48T-I/OT). 2) Added optional resistors R39/ R40 for QSPI flash (default: not populated). 3) Fixed VCU connection (added additional DCDC and capacitors, recommendation from AMD). 4) Changed obsolete DDR4 chips (NT5AD256M16B2-GN -> K4A8G165WB-BIRC). 5) Added net "PG_VCU" to J2 (pin97). 6) Full update LIB.	-
-03	2020-06	1) Fixed ADC connection. 2) Fixed DDR4 connection (support B-die DDR4 chips). 3) Fixed DDR4 connection (alert_n pin connection). 4) Added U16. 5) Added testpoints. 6) Full update LIB.	VT
-04	2024-05	1) Changed DCDC (U4) from EN63A0QI to MPQ8633 and adapted according circuit. 2) Changed DCDC (U13) from TPS82085SIL/MUN3CAD03-SE to MPM3860GQW-Z and adapted according circuit. 3) Changed DCDC (U15, U19, U20, U21, U22, U23, U24, U29, U30, U31, U38) from TPS82085SIL/MUN3CAD03-SE to MPM3834CGPA and adapted according circuit. 4) Changed voltage rail from 1.35 V to 1.45 V via adaption voltage divider resistor R28 and R30 and changed voltage rail name PL_GT_1V35 to PL_GT_1V45. 5) Changed voltage rail from 1.05 V to 1.15 V via adaption voltage divider resistors R33 and R35 and changed voltage rail name PL_GT_1V05 to PL_GT_1V15. 6) Changed PLL (U5) from Si5345A-B to Si5345A-D-GM. 7) Changed inverted buffer SN74LVC1G06DRL to not inverted buffer SN74LVC1G07DRL ( U16A/ U16B ). 8) Added diode D3 between U41 pin 3 net MR and voltage rail LP_DCDC. 9) Added capacitors C213 ... C215 for VTT voltage rail VTT. 10) Replaced DDR4 memory chips to use bigger chip sizes. 11) Connected DDR4-TEN signals together for U2A, U3A, U9A, and U12A and pulled them low via 499 Ohm resistor R103. Added testpoint TP3 for signal DDR4-TEN. 12) Added remote sense option (default: not fitted): 12.1) R13 for U29. 12.2) R90 for U30. 12.3) R106 for U31. 13) Added decoupling capacitors: 13.1) C136, C149 for U1B. 13.2) C155 for U1C. 13.3) C151 for U1E. 13.4) C152 for U1D. 13.5) C205 ... C212, C217, and C234 for U1N. 13.6) C226 ... C228 for U6. 13.7) C233 for U8. 13.8) C232 for U10. 13.9) C156 for U11. 13.10) C225 for U14. 13.11) C150 for U16B. 13.12) C216, C219, and C220... C223 for U18. 13.13) C230 for U26. 13.14) C231 for U27. 13.15) C224 for U28. 13.16) C218 for U34. 13.17) C201 for U39. 13.18) C202 for U40. 13.19) C229 for U41. 13.20) C203 for U42. 13.21) C204 for U44. 14) Added pull-up resistors for HOLD (R92) and WP (R93) signals for Flash U7A.	ED/MR

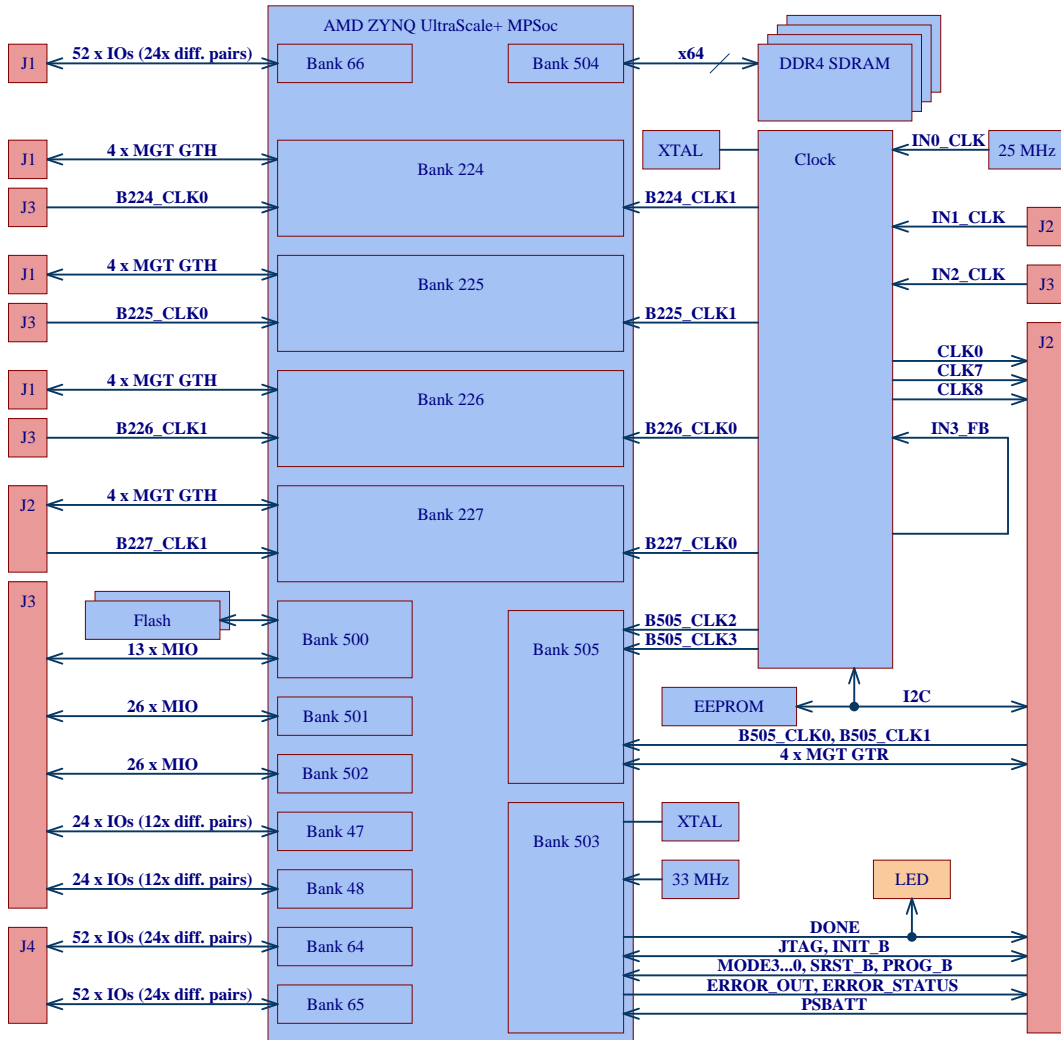


Title: TE0807 – Revision_Changes_1		
A4	Number: TE0807 7AI81-A	Rev. 04
Date: 30.07.2024	Copyright: Trenz Electronic GmbH	Page 2 of 32
Filename: Revision_Changes.SchDoc		

REV	DATE	Description (continued...)	
-04	2024-05	<p>15) Added pull-up resistors for HOLD (R100) and WP (R102) signals for Flash U17A.</p> <p>16) Added pull-up resistor (R107) (default: not fitted) and pull-down resistor (R109) (default: fitted) for signal POR_OVERRIDE (U1A).</p> <p>17) Changed 10 nF capacitor (C112) from 16 V, 0402 to 10 V, 0201.</p> <p>18) Changed 100 nF capacitor (C37, C79, C95, C96, C130, C131, C133) from 6.3 V, X5R, 0201 to 50 V, X7R, 0402.</p> <p>19) Changed capacitor (C12, C13, C14, C15, C16, C18, C19, C20, C21, C42, C44, C45, C170, C171) from 4.7 µF to 10 µF.</p> <p>20) Changed 10 µF capacitor (C65, C66, C67) from 16 V, 0603 to 6.3 V, 0402.</p> <p>21) Changed 100 µF capacitor (C29, C30, C31, C32, C35, C36, C43, C46, C52, C166, C167, C168, C169) from 6.3 V, 1206 to 4 V, 0805.</p> <p>22) Changed 47 µF capacitor (C22, C23, C24, C25, C26, C27, C28, C33, C34, C68, C69, C70, C74, C76, C77, C78, C80, C81, C82, C83, C84, C85, C86, C87, C88, C110, C154, C198, C199, C200, C205) from 0805 to 0603.</p> <p>23) Changed ferrid bead (L1, L2, L3, L4, L5, L7) from BKP0603HS121-T to MPZ0603S121HT000.</p> <p>24) Changed resistor (R41, R58) from 2 kOhm to 2.49 kOhm.</p> <p>25) Changed resistor (R74) from 4.7 kOhm, 0201 to 10 kOhm, 0402.</p> <p>26) Added testpoints TP4, TP6...TP9, TP11, TP13, TP14, TP19...TP22, TP34...TP67.</p> <p>27) Added Trezz address on PCB.</p> <p>28) Added CE-, UKCA- RoHS-, and WEEE-logo.</p> <p>29) Updated components from library.</p> <p>30) Changed signal trace length.</p> <p>31) Updated documentation.</p>	ED/MR



Title: TE0807 – Revision_Changes_2		
A4	Number: TE0807 7A181-A	Rev. 04
Date: 30.07.2024	Copyright: Trenz Electronic GmbH	Page 3 of 32
Filename: Revision_Changes_2.SchDoc		



### Supported Voltage Ranges:

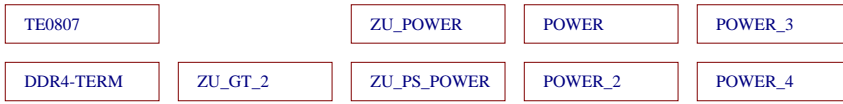
Power Rail	Direction	Range	Tolerance	Description	Note
PL_DCIN	IN	3.3 V	+/- 3 %	Micromodule Power	Programmable Logic
LP_DCDC	IN	3.3 V	+/- 3 %	Micromodule Power	Low-Power Domain
GT_DCDC	IN	3.3 V	+/- 3 %	Micromodule Power	GTH/GTY Transceiver
DCDCIN	IN	3.3 V	+/- 5 %	Micromodule Power	Full-Power Domain and GTR
VCCO_64	IN	1.0 V - 1.8 V	+/- 3 %	HP IO Bank 64	-
VCCO_65	IN	1.0 V - 1.8 V	+/- 3 %	HP IO Bank 65	-
VCCO_66	IN	1.0 V - 1.8 V	+/- 3 %	HP IO Bank 66	-
VCCO_47	IN	1.2 V - 3.3 V	+/- 3 %	HD IO Bank 47	-
VCCO_48	IN	1.2 V - 3.3 V	+/- 3 %	HD IO Bank 48	-
PSBATT	IN	1.2 V - 1.5 V	-	RTC / BBRAM	-
PLL_3V3	IN	3.3 V	+/- 5 %	PLL Core Power	-
PL_1V8	OUT	1.8 V	+/- 3 %	Power for Carrier	Programmable Logic
PS_1V8	OUT	1.8 V	+/- 3 %	Power for Carrier	Processing System
SI_PLL_1V8	OUT	1.8 V	+/- 3 %	Power for Carrier	Clock Supply
DDR_1V2	OUT	1.2 V	+/- 3 %	Power for Carrier	PS DDR I/O Supply

### I2C Address:

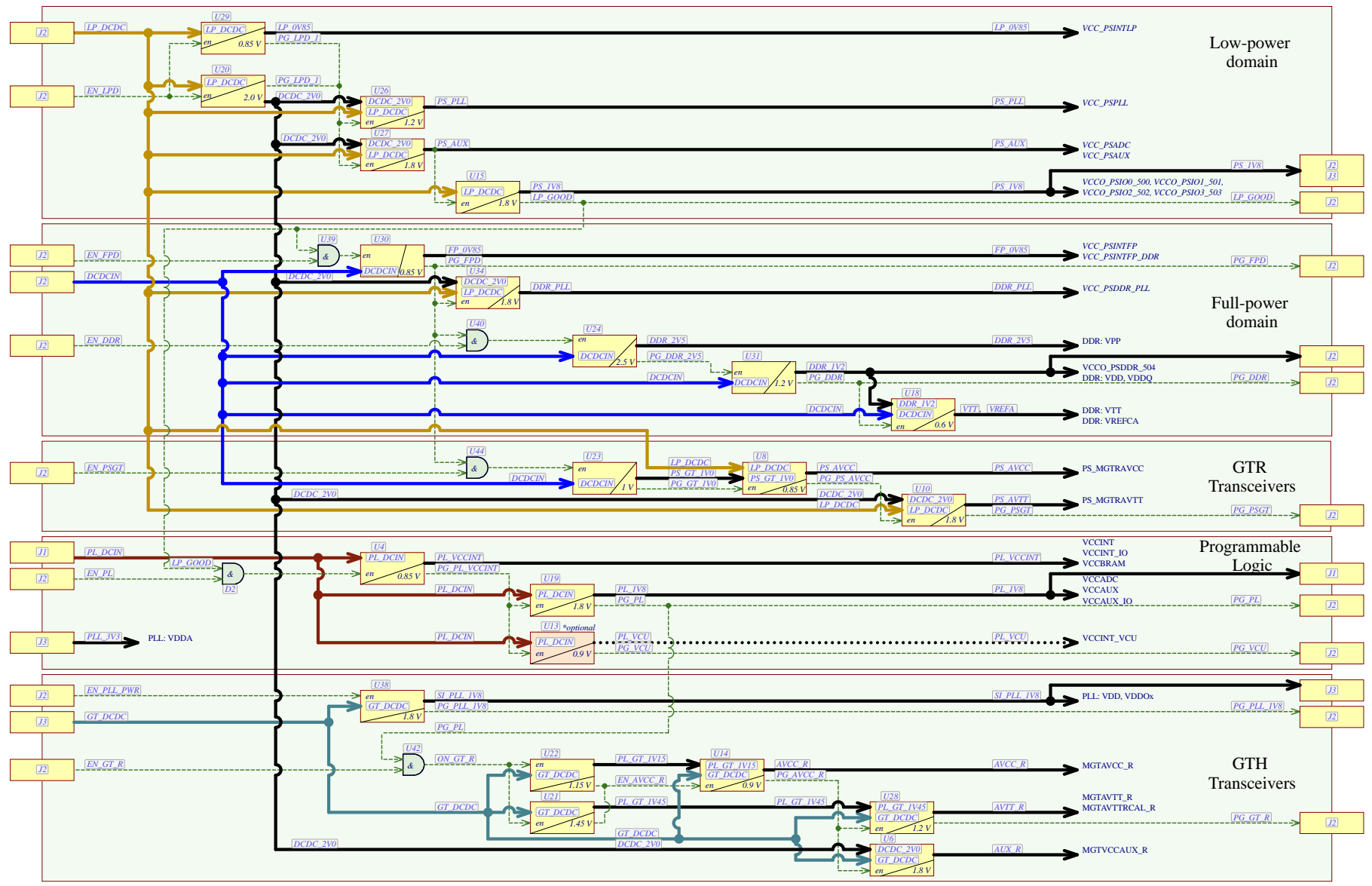
Device	I2C ADDR	Note
PLL <b>U5</b>	0x69	-
EEPROM <b>U11</b>	0x50	-

### Legend:

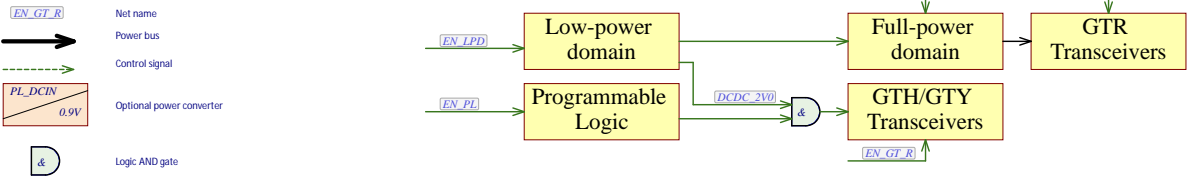
- B2B Connector
- LED Interface
- On-board Components



Title: <b>TE0807 – Overview</b>		
A4	Number: <b>TE0807 7A181-A</b>	Rev. <b>04</b>
Date: <b>30.07.2024</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>4</b> of <b>32</b>
Filename: <b>TE0807-Overview.SchDoc</b>		

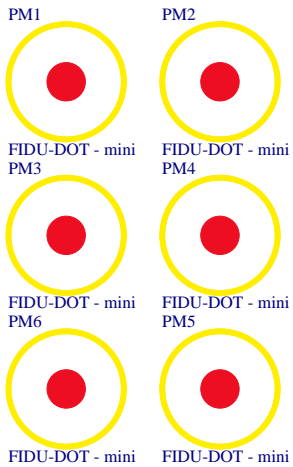


Power-on sequencing:



Title: TE0807 – Power_Diagram		
A3	Number: TE0807 7A181-A	Rev. 04
Datum: 30.07.2024	Copyright:Trenz Electronic GmbH	Page 5 of 32
Filename: Power_Diagram.SchDoc		

Special notes:



Serial  
Serial  
Serialnummer 6,3 x 6.3mm  
LOGO1

TE Logo PRINT Layer

LOGO PRINT  
MECH1

TE Address Overlay

LOGO ADDRESS  
CE1

CE Logo on Top Overlay

CE-TOPOVERLAY  
UKCA1

UKCA Logo on Top Overlay

UKCA-TOPOVERLAY

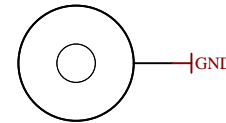
RoHS1

RoHS Logo on Top Overlay

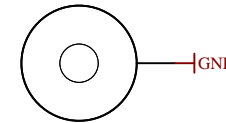
RoHS-TOPOVERLAY  
WEEE1

WEEE Logo on Top Overlay

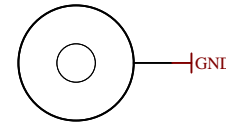
WEEE-TOPOVERLAY



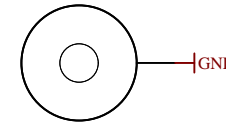
Mount.Hole 3.2mm für Unterlegscheibe



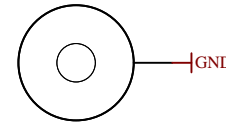
Mount.Hole 3.2mm für Unterlegscheibe



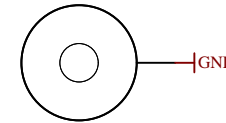
Mount.Hole 3.2mm für Unterlegscheibe



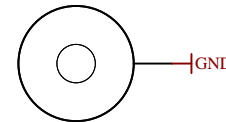
Mount.Hole 3.2mm für Unterlegscheibe



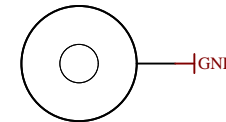
Mount.Hole 3.2mm für Unterlegscheibe



Mount.Hole 3.2mm für Unterlegscheibe



Mount.Hole 3.2mm für Unterlegscheibe



Mount.Hole 3.2mm für Unterlegscheibe

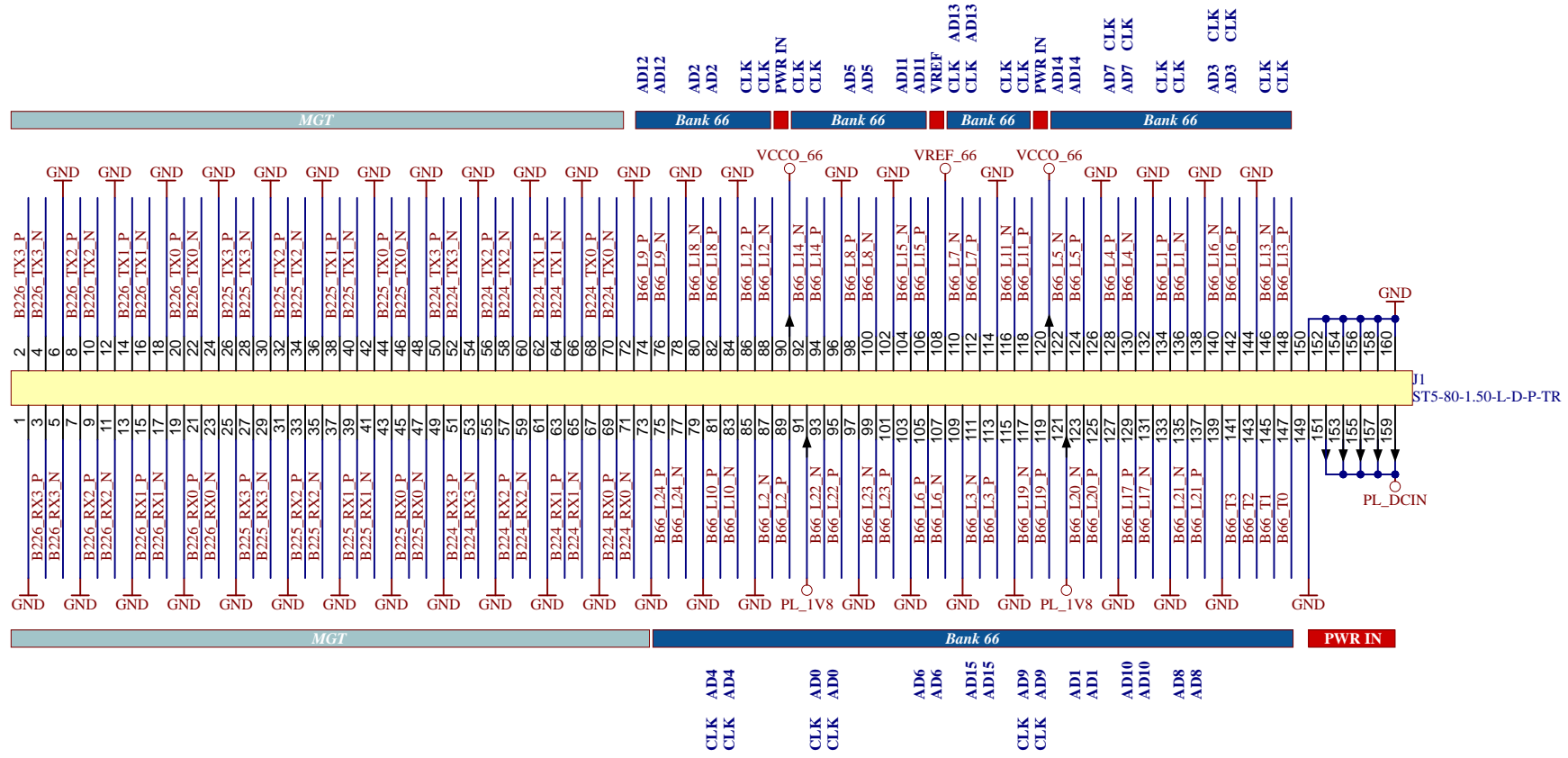
Design drawn by: ED/MR  
Checked by: MT  
Assembly variant: 7AI81-A  
Created by: ED  
Modified by: ED  
Modified at: 2024-05-01



Title: TE0807		
A4	Number: TE0807 7AI81-A	Rev. 04
Date: 30.07.2024	Copyright: Trenz Electronic GmbH	Page 6 of 32
Filename: TE0807.SchDoc		

B224 GTH 4 Lanes  
 B225 GTH 4 Lanes  
 B226 GTH 4 Lanes  
 B66 52 IO, 24 LVDS Pairs

Consider AC coupling for MGT signals!



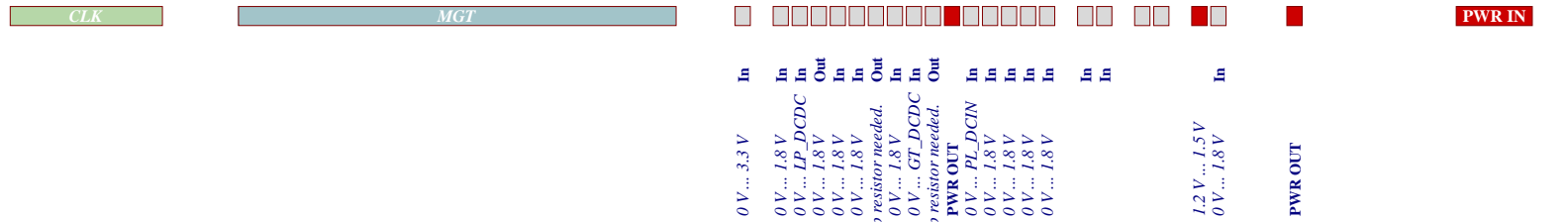
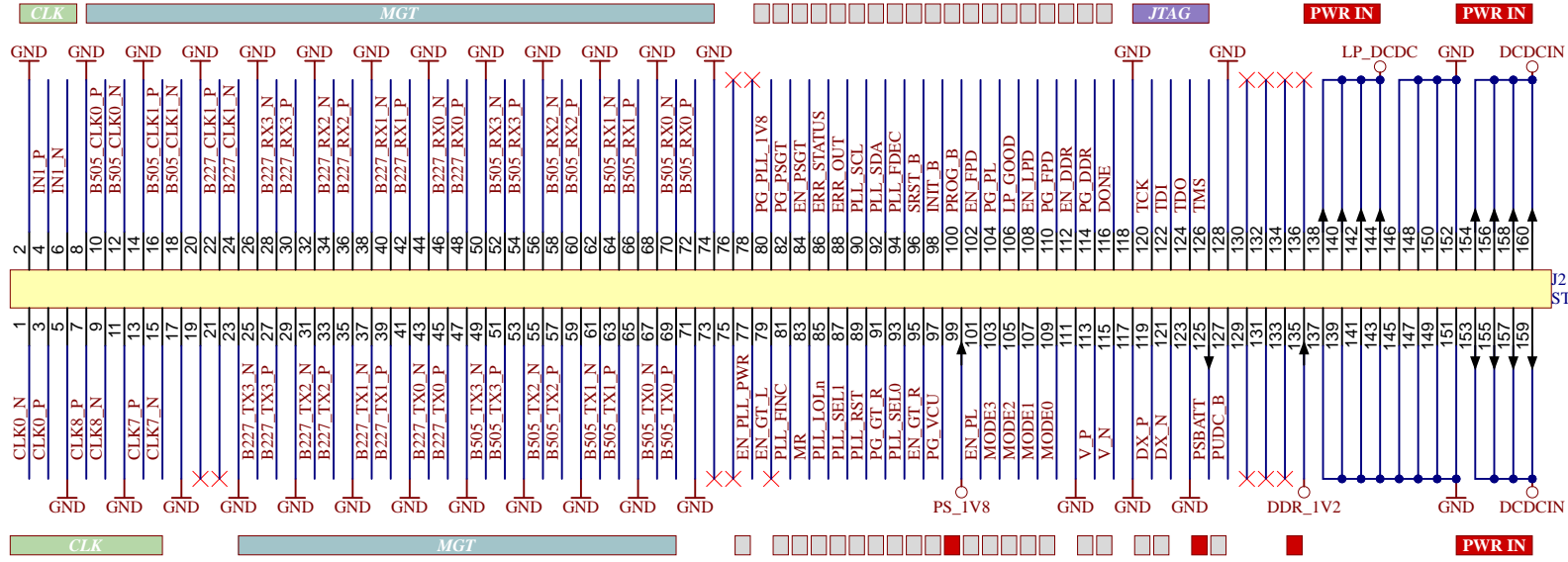
- Bank 47 HD 0..VCCO47
- Bank 48 HD 0..VCCO48
- Bank 64 HP 0..VCCO64
- Bank 65 HP 0..VCCO65
- Bank 66 HP 0..VCCO66



Title: TE0807 – Connector J1		
A4	Number: TE0807 7A181-A	Rev. 04
Date: 30.07.2024	Copyright: Trenz Electronic GmbH	Page 7 of 32
Filename: J1.SchDoc		

JTAG I2C  
 PLL CLK IN  
 3x PLL CLK OUT  
 B505 GTR 2 CLK IN  
 B505 GTR 4 Lanes  
 B227 GTH 4 Lanes  
 B227 GTH CLK IN

Consider AC coupling for MGT signals!



- Bank 47 HD 0..VCC047
- Bank 48 HD 0..VCC048
- Bank 64 HP 0..VCC064
- Bank 65 HP 0..VCC065
- Bank 66 HP 0..VCC066



Title: TE0807 – Connector J2		
A4	Number: TE0807 7A181-A	Rev. 04
Date: 30.07.2024	Copyright: Trenz Electronic GmbH	Page 8 of 32
Filename: J2_SchDoc		

1

2

3

4

1

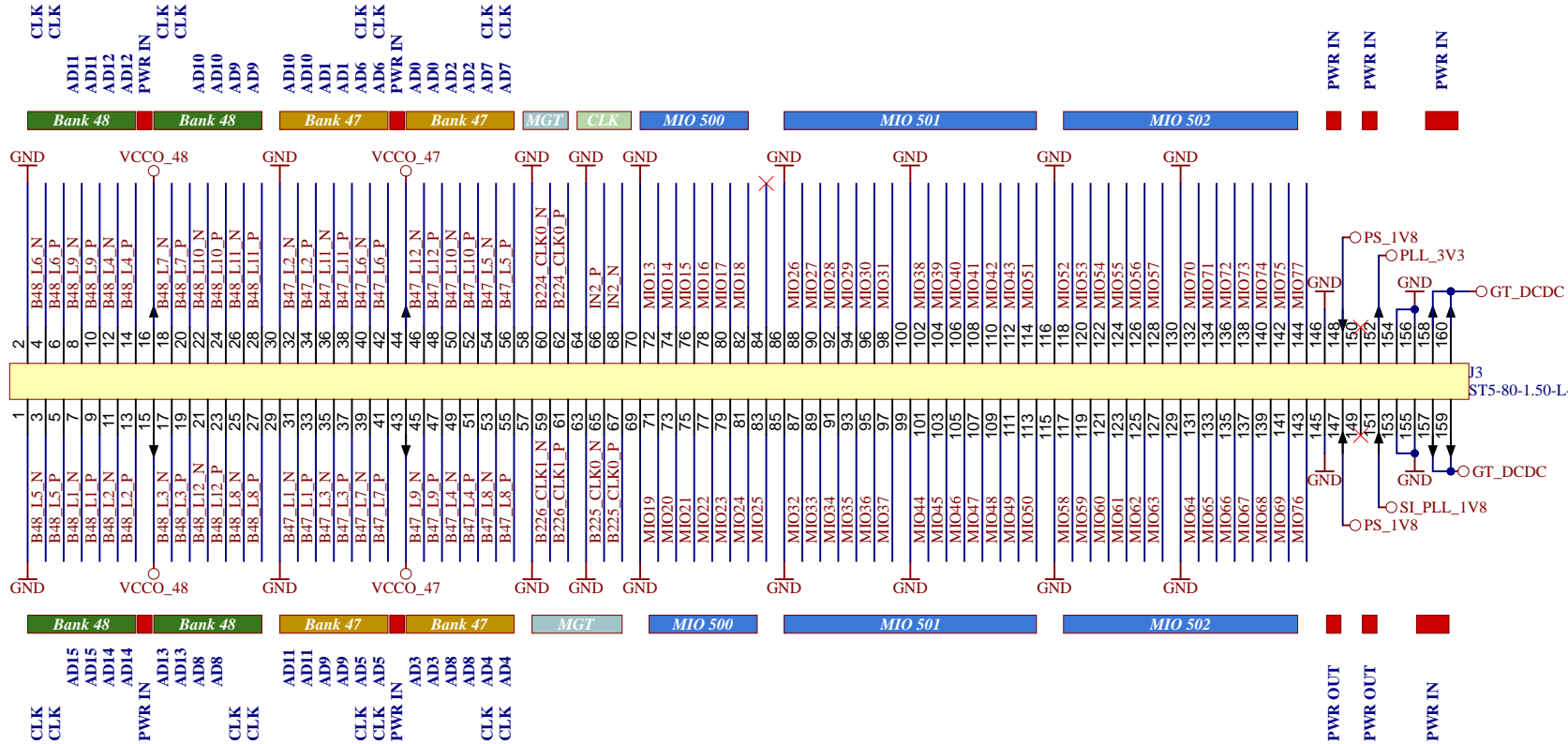
2

3

4



B47 24 IO, 12 LVDS Pairs  
 B48 24 IO, 12 LVDS Pairs  
 B224 GTH CLK IN  
 B225 GTH CLK IN  
 B226 GTH CLK IN  
 65 MIO  
 PLL CLK IN

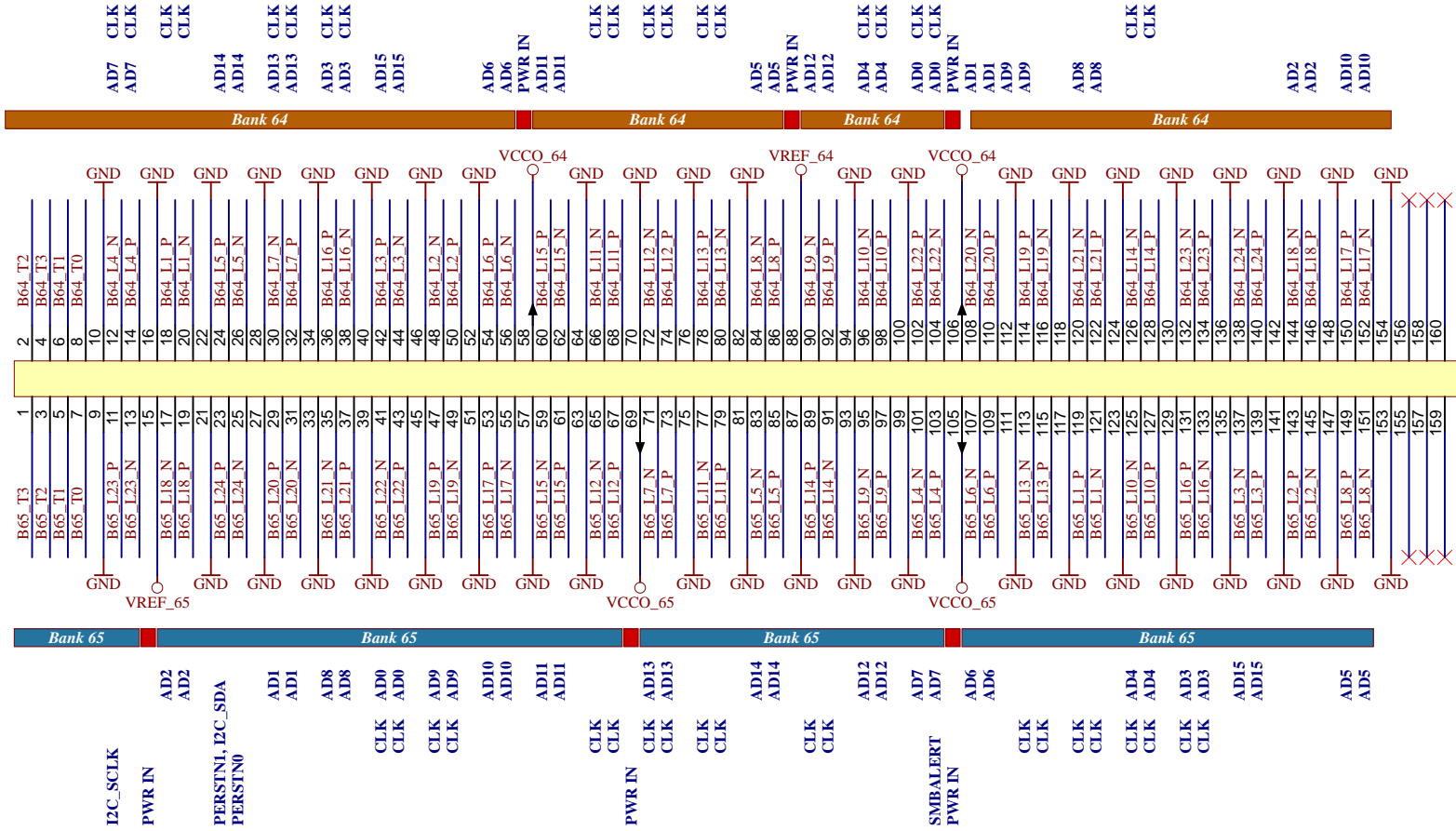


- Bank 47 HD 0..VCCO47
- Bank 48 HD 0..VCCO48
- Bank 64 HP 0..VCCO64
- Bank 65 HP 0..VCCO65
- Bank 66 HP 0..VCCO66



Title: TE0807 – Connector J3		
A4	Number: TE0807 7A181-A	Rev. 04
Date: 30.07.2024	Copyright: Trenz Electronic GmbH	Page 9 of 32
Filename: J3.SchDoc		

B64 52 IO, 24 LVDS Pairs  
 B65 52 IO, 24 LVDS Pairs



J4  
 ST5-80-1.50-L-D-P-TR

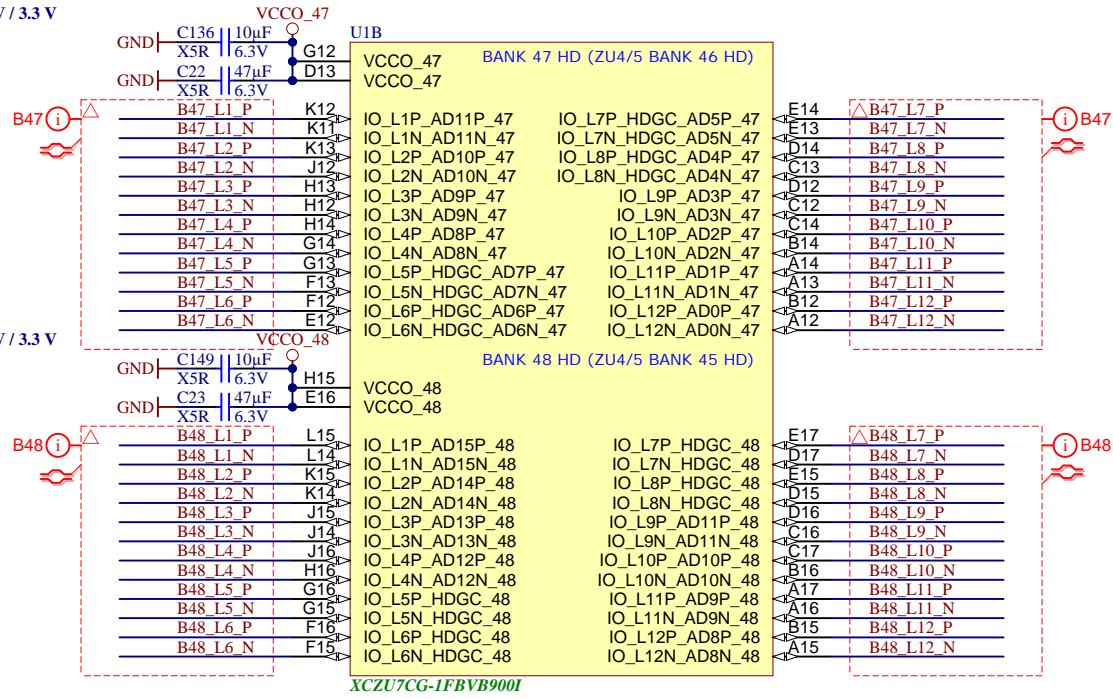
- Bank 47 HD 0..VCCO47
- Bank 48 HD 0..VCCO48
- Bank 64 HP 0..VCCO64
- Bank 65 HP 0..VCCO65
- Bank 66 HP 0..VCCO66




Title: TE0807 – Connector J4		
A4	Number: TE0807 7A181-A	Rev. 04
Date: 30.07.2024	Copyright: Trenz Electronic GmbH	Page 10 of 32
Filename: J4.SchDoc		

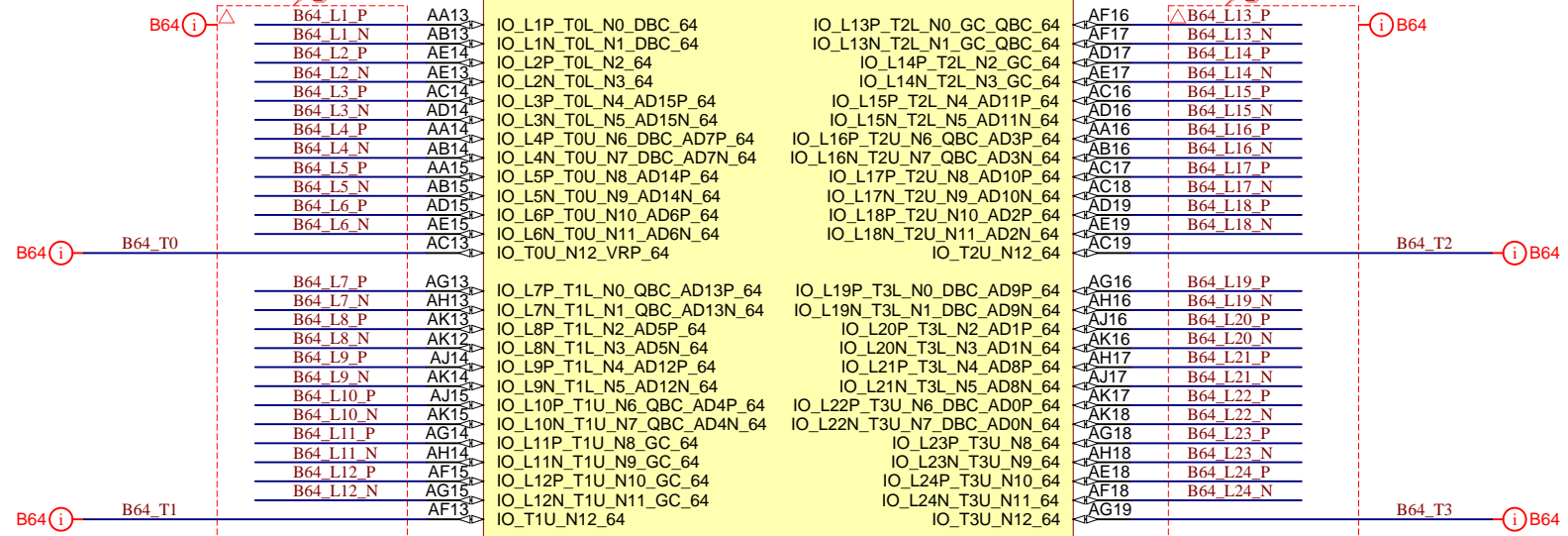
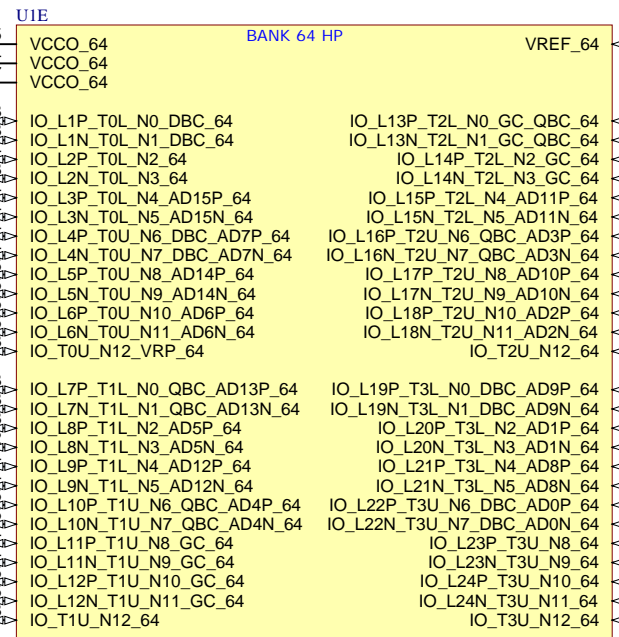
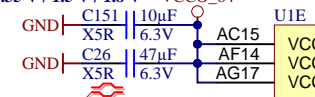
1.2 V / 1.35 V / 1.5 V / 1.8 V / 2.5 V / 3.3 V

1.2 V / 1.35 V / 1.5 V / 1.8 V / 2.5 V / 3.3 V



	Title: TE0807 – HD Banks		
	A4	Number: TE0807 7AI81-A	Rev. 04
	Date: 30.07.2024	Copyright: Trenz Electronic GmbH	Page 11 of 32
	Filename: B_HD.SchDoc		

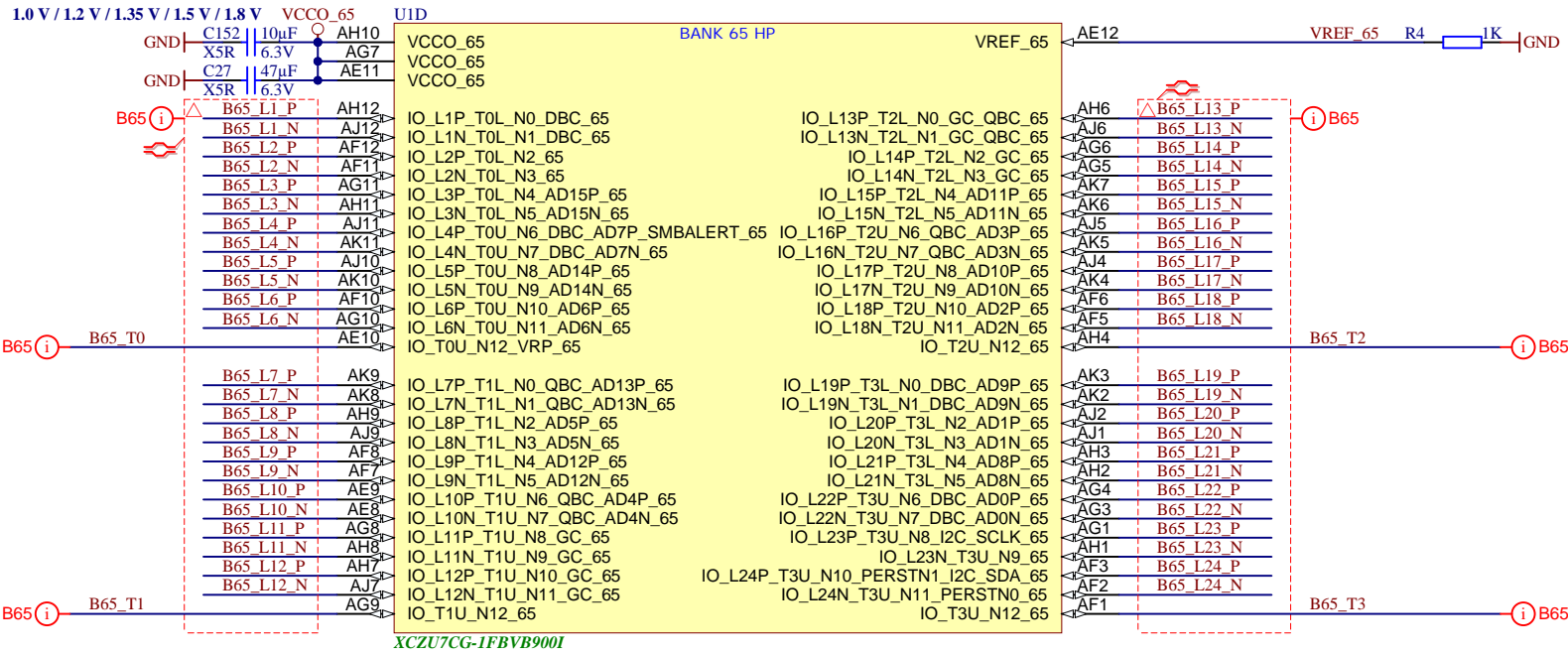
1.0 V / 1.2 V / 1.35 V / 1.5 V / 1.8 V VCCO\_64



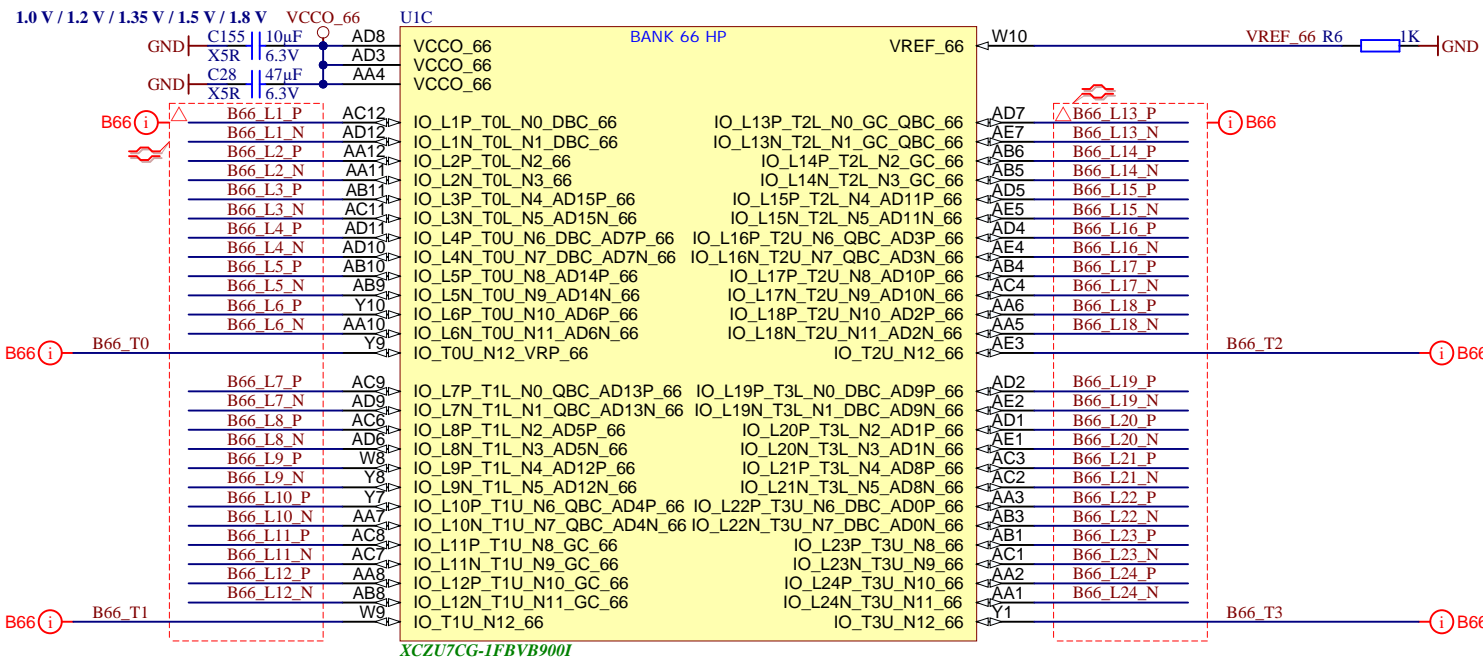

XCZU7CG-1FBVB9001



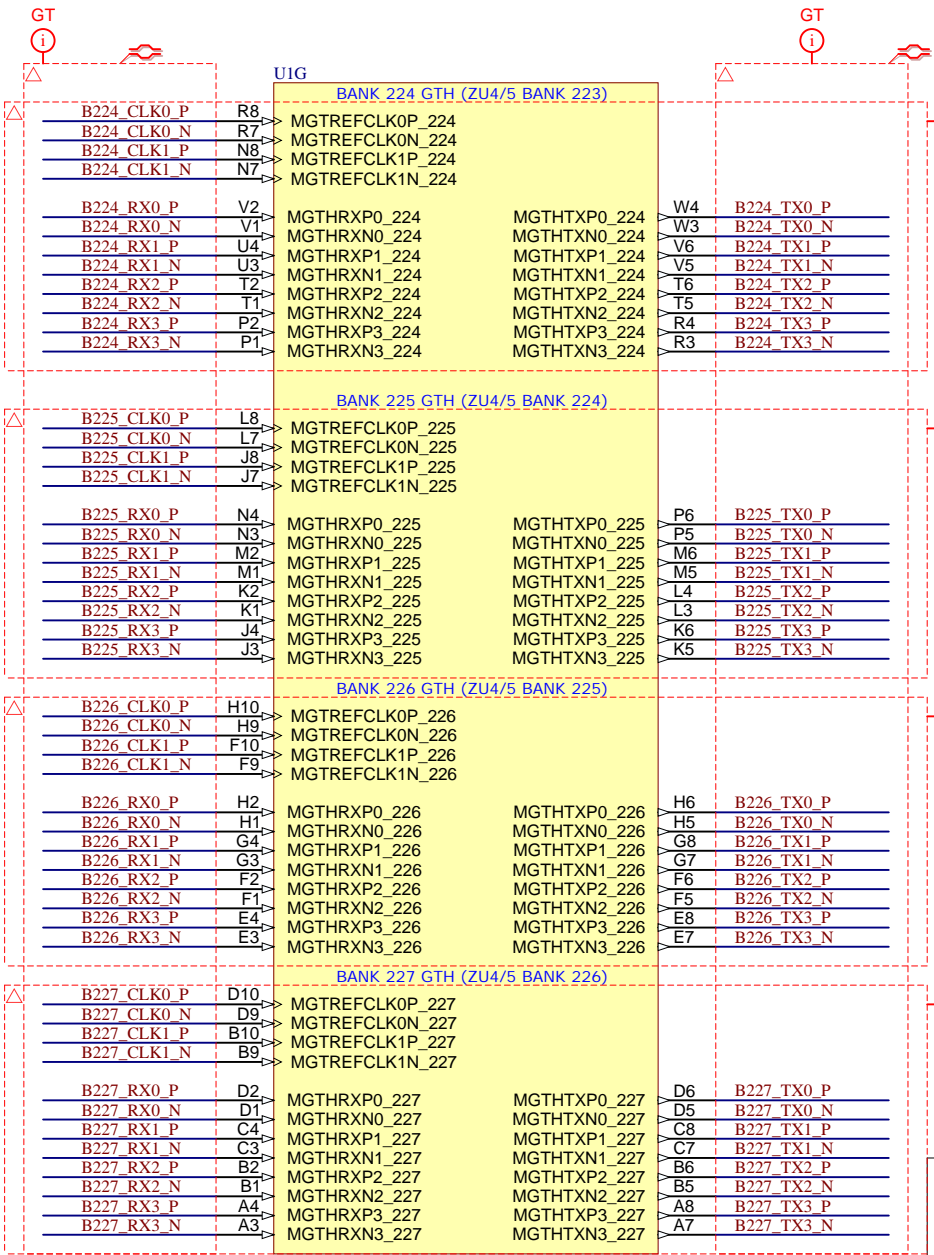
Title: TE0807 – B64		
A4	Number: TE0807 7A181-A	Rev. 04
Date: 30.07.2024	Copyright: Trenz Electronic GmbH	Page 12 of 32
Filename: B64.SchDoc		



Title: <b>TE0807 – B65</b>		
A4	Number: <b>TE0807 7AI81-A</b>	Rev. <b>04</b>
Date: <b>30.07.2024</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>13</b> of <b>32</b>
Filename: <b>B65.SchDoc</b>		

Title: <b>TE0807 – B66</b>		
A4	Number: <b>TE0807 7AI81-A</b>	Rev. <b>04</b>
Date: <b>30.07.2024</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>14</b> of <b>32</b>
Filename: <b>B66.SchDoc</b>		



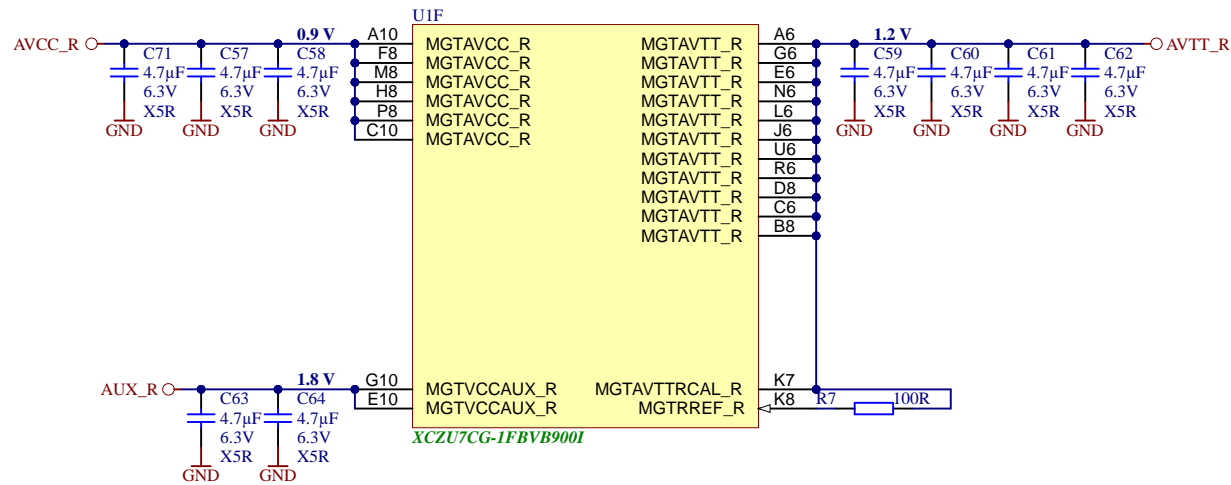
228


229

230

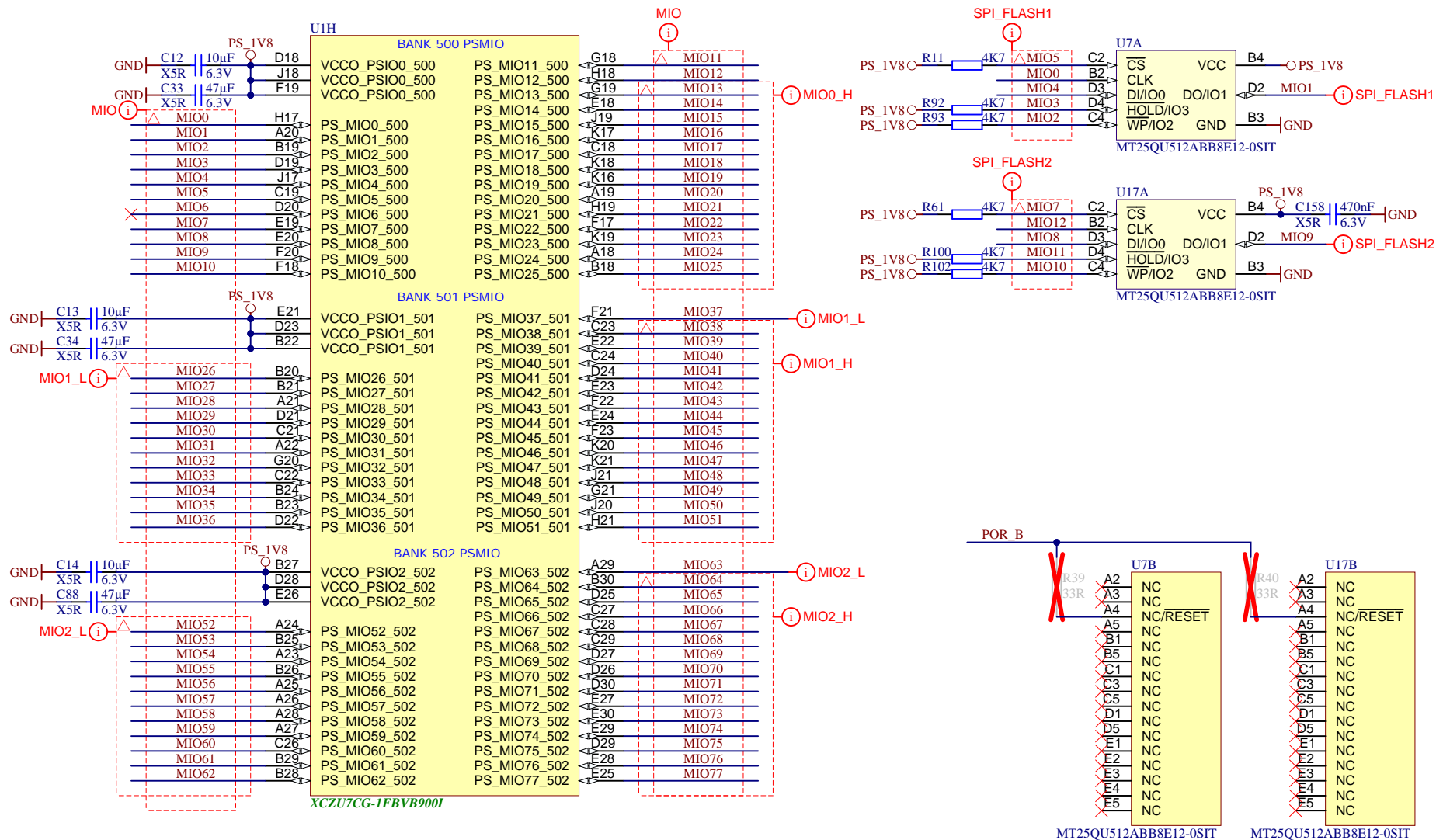


Title: TE0807 – GTH Banks		
A4	Number: TE0807 7A181-A	Rev. 04
Date: 30.07.2024	Copyright: Trenz Electronic GmbH	Page 15 of 32
Filename: B_GT.SchDoc		

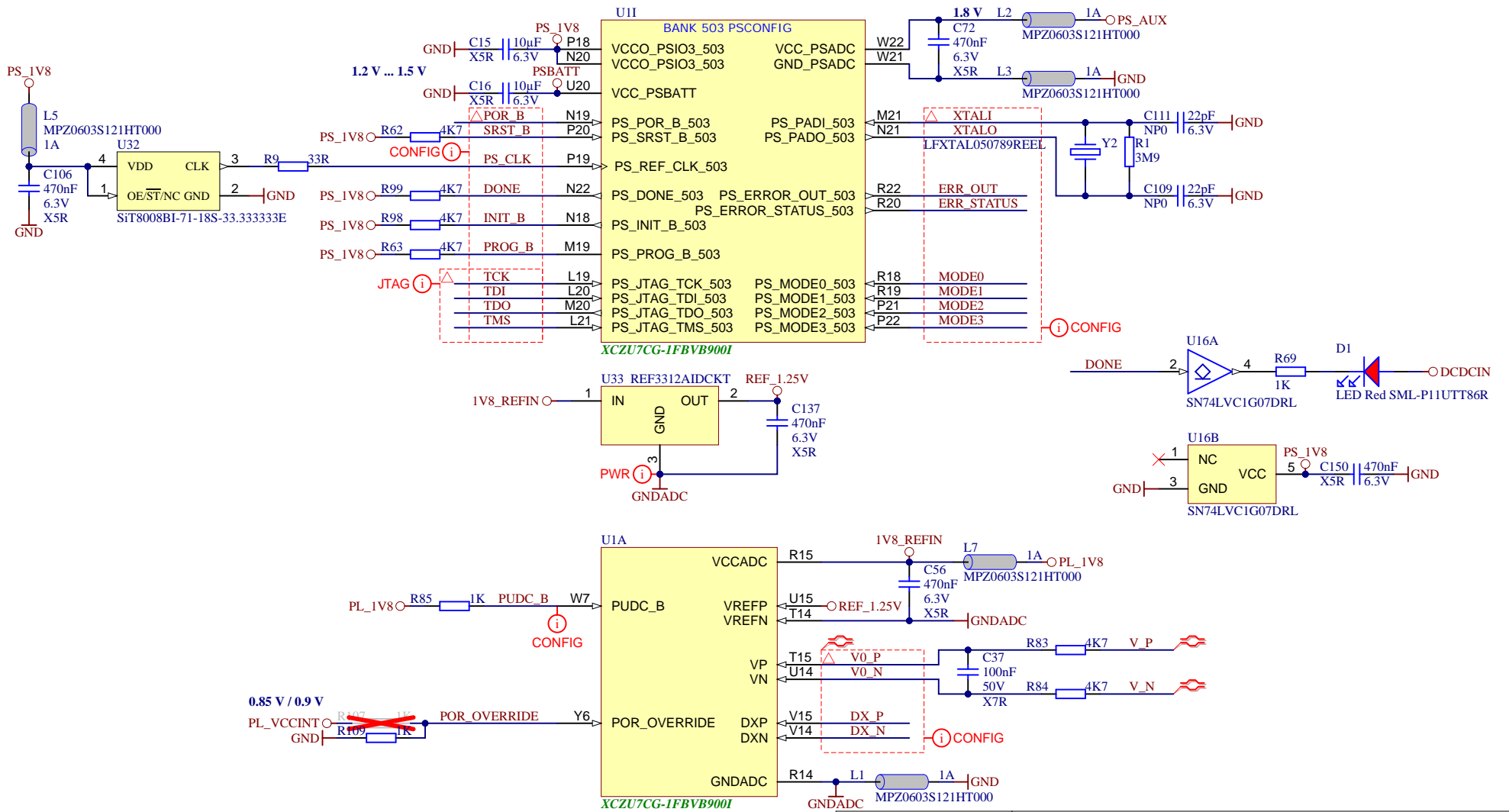



		Title: TE0807 – GTH Power	
		A4	Number: TE0807 7AI81-A
Date: 30.07.2024		Copyright: Trenz Electronic GmbH	
Filename: B_GT_2.SchDoc		Page 16 of 32	





Title: <b>TE0807 – MIO Banks</b>		
A4	Number: <b>TE0807 7A181-A</b>	Rev. <b>04</b>
Date: 30.07.2024	Copyright: Trenz Electronic GmbH	Page 17 of 32
Filename: <b>B_MIO.SchDoc</b>		



			Title: TE0807 – Config	
			A4	Number: TE0807 7A181-A
Date: 30.07.2024		Copyright: Trenz Electronic GmbH		Page 18 of 32
Filename: CONFIG.SchDoc				

A

A

B

B

C

C

D

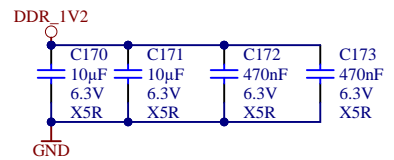
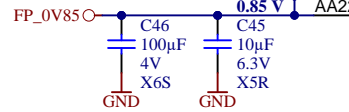
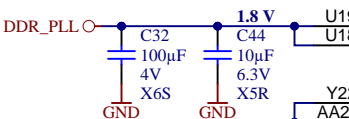
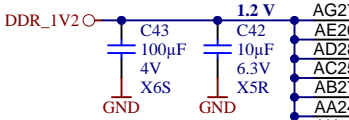
D

**UIJ**

**BANK 504 PSDDR**

VCCO_PSDDR_504	PS_DDR_CK0_504	AE30	DDR4-CLK0_P
VCCO_PSDDR_504	PS_DDR_CK_N0_504	AF30	DDR4-CLK0_N
VCCO_PSDDR_504	PS_DDR_CKE0_504	AC30	DDR4-CKE0
VCCO_PSDDR_504		AF28	
VCCO_PSDDR_504	PS_DDR_CK1_504	AG28	
VCCO_PSDDR_504	PS_DDR_CK_N1_504	AB28	
VCCO_PSDDR_504	PS_DDR_CKE1_504		
VCC_PSDDR_PLL	PS_DDR_A0_504	AH30	DDR4-A0
VCC_PSDDR_PLL	PS_DDR_A1_504	AG30	DDR4-A1
VCC_PSDDR_PLL	PS_DDR_A2_504	AK29	DDR4-A2
	PS_DDR_A3_504	AJ30	DDR4-A3
	PS_DDR_A4_504	AK28	DDR4-A4
	PS_DDR_A5_504	AK27	DDR4-A5
VCC_PSINTFP_DDR	PS_DDR_A6_504	AF27	DDR4-A6
VCC_PSINTFP_DDR	PS_DDR_A7_504	AE27	DDR4-A7
VCC_PSINTFP_DDR	PS_DDR_A8_504	AF26	DDR4-A8
	PS_DDR_A9_504	AG26	DDR4-A9
	PS_DDR_A10_504	AE29	DDR4-A10
	PS_DDR_A11_504	AE28	DDR4-A11
	PS_DDR_A12_504	AH29	DDR4-A12
	PS_DDR_A13_504	AG29	DDR4-A14
	PS_DDR_A14_504	AJ29	DDR4-A15
	PS_DDR_A15_504	AH27	DDR4-A16
	PS_DDR_A16_504	AJ27	DDR4-A17
	PS_DDR_A17_504		
PS_DDR_CS_N0_504		AD30	DDR4-CS
PS_DDR_CS_N1_504		AD29	
PS_DDR_BA0_504		AD27	DDR4-BA0
PS_DDR_BA1_504		AC26	DDR4-BA1
PS_DDR_BG0_504		AC28	DDR4-BG0
PS_DDR_BG1_504		AC27	DDR4-BG1
PS_DDR_PARITY_504		AB26	DDR4-PAR
PS_DDR_RAM_RST_N_504		AB25	DDR4-RESET
PS_DDR_ACT_N_504		AD26	DDR4-ACT
PS_DDR_ALERT_N_504		AB24	DDR4-ALERT
PS_DDR_ZQ_504		AB23	R2 <span style="border: 1px solid black; padding: 2px;">240R</span> GND
PS_DDR_ODT0_504		AB30	DDR4-ODT0
PS_DDR_ODT1_504		AC29	

*XCZU7CG-1FBVB9001*



**UIK**

**BANK 504 PSDDR**

DQ0	AH22	PS_DDR_DQ0_504	PS_DDR_DQ32_504	U24	DQ32
DQ1	AH21	PS_DDR_DQ1_504	PS_DDR_DQ33_504	V23	DQ33
DQ2	AJ22	PS_DDR_DQ2_504	PS_DDR_DQ34_504	U25	DQ34
DQ3	AK22	PS_DDR_DQ3_504	PS_DDR_DQ35_504	V24	DQ35
DQ4	AK20	PS_DDR_DQ4_504	PS_DDR_DQ36_504	Y25	DQ36
DQ5	AJ19	PS_DDR_DQ5_504	PS_DDR_DQ37_504	AA23	DQ37
DQ6	AK19	PS_DDR_DQ6_504	PS_DDR_DQ38_504	AA25	DQ38
DQ7	AH19	PS_DDR_DQ7_504	PS_DDR_DQ39_504	Y23	DQ39
DQ8	AH23	PS_DDR_DQ8_504	PS_DDR_DQ40_504	P23	DQ40
DQ9	AK23	PS_DDR_DQ9_504	PS_DDR_DQ41_504	R23	DQ41
DQ10	AG24	PS_DDR_DQ10_504	PS_DDR_DQ42_504	T23	DQ42
DQ11	AK24	PS_DDR_DQ11_504	PS_DDR_DQ43_504	P26	DQ43
DQ12	AJ26	PS_DDR_DQ12_504	PS_DDR_DQ44_504	T25	DQ44
DQ13	AK25	PS_DDR_DQ13_504	PS_DDR_DQ45_504	U23	DQ45
DQ14	AG25	PS_DDR_DQ14_504	PS_DDR_DQ46_504	T26	DQ46
DQ15	AH26	PS_DDR_DQ15_504	PS_DDR_DQ47_504	P24	DQ47
DQ16	AD22	PS_DDR_DQ16_504	PS_DDR_DQ48_504	U26	DQ48
DQ17	AE22	PS_DDR_DQ17_504	PS_DDR_DQ49_504	U26	DQ49
DQ18	AF22	PS_DDR_DQ18_504	PS_DDR_DQ50_504	U28	DQ50
DQ19	AG21	PS_DDR_DQ19_504	PS_DDR_DQ51_504	V27	DQ51
DQ20	AD20	PS_DDR_DQ20_504	PS_DDR_DQ52_504	U30	DQ52
DQ21	AF20	PS_DDR_DQ21_504	PS_DDR_DQ53_504	V30	DQ53
DQ22	AE20	PS_DDR_DQ22_504	PS_DDR_DQ54_504	W30	DQ54
DQ23	AG20	PS_DDR_DQ23_504	PS_DDR_DQ55_504	W29	DQ55
DQ24	AG23	PS_DDR_DQ24_504	PS_DDR_DQ56_504	R30	DQ56
DQ25	AF23	PS_DDR_DQ25_504	PS_DDR_DQ57_504	T30	DQ57
DQ26	AF25	PS_DDR_DQ26_504	PS_DDR_DQ58_504	P30	DQ58
DQ27	AE23	PS_DDR_DQ27_504	PS_DDR_DQ59_504	P29	DQ59
DQ28	AC22	PS_DDR_DQ28_504	PS_DDR_DQ60_504	T28	DQ60
DQ29	AC23	PS_DDR_DQ29_504	PS_DDR_DQ61_504	T27	DQ61
DQ30	AD25	PS_DDR_DQ30_504	PS_DDR_DQ62_504	P27	DQ62
DQ31	AC24	PS_DDR_DQ31_504	PS_DDR_DQ63_504	R27	DQ63
DDR4-DQS0_P	AJ21	PS_DDR_DQS_P0_504	PS_DDR_DQ65_504	AB29	
DDR4-DQS0_N	AK21	PS_DDR_DQS_N0_504	PS_DDR_DQ66_504	AA30	
DDR4-DQS1_P	AH24	PS_DDR_DQS_P1_504	PS_DDR_DQ67_504	Y30	
DDR4-DQS1_N	AJ24	PS_DDR_DQS_N1_504	PS_DDR_DQ68_504	Y29	
DDR4-DQS2_P	AC21	PS_DDR_DQS_P2_504	PS_DDR_DQ69_504	AA26	
DDR4-DQS2_N	AD21	PS_DDR_DQS_N2_504	PS_DDR_DQ70_504	W27	
DDR4-DQS3_P	AD24	PS_DDR_DQS_P3_504	PS_DDR_DQ71_504	Y27	
DDR4-DQS3_N	AE24	PS_DDR_DQS_N3_504		W26	
DDR4-DQS4_P	W24	PS_DDR_DQS_P4_504			
DDR4-DQS4_N	W25	PS_DDR_DQS_N4_504	PS_DDR_DM0_504	AJ20	DDR4-DM0
DDR4-DQS5_P	P25	PS_DDR_DQS_P5_504	PS_DDR_DM1_504	AJ25	DDR4-DM1
DDR4-DQS5_N	R25	PS_DDR_DQS_N5_504	PS_DDR_DM2_504	AF21	DDR4-DM2
DDR4-DQS6_P	U29	PS_DDR_DQS_P6_504	PS_DDR_DM3_504	AE25	DDR4-DM3
DDR4-DQS6_N	V29	PS_DDR_DQS_N6_504	PS_DDR_DM4_504	Y24	DDR4-DM4
DDR4-DQS7_P	R28	PS_DDR_DQS_P7_504	PS_DDR_DM5_504	R24	DDR4-DM5
DDR4-DQS7_N	R29	PS_DDR_DQS_N7_504	PS_DDR_DM6_504	V28	DDR4-DM6
	R29	PS_DDR_DQS_P8_504	PS_DDR_DM7_504	P28	DDR4-DM7
	Y28	PS_DDR_DQS_N8_504	PS_DDR_DM8_504	AA27	
	AA28				

*XCZU7CG-1FBVB9001*



Title: TE0807 - PS_DDR		
A4	Number: TE0807 7AI81-A	Rev. 04
Date: 30.07.2024	Copyright: Trenz Electronic GmbH	Page 19 of 32
Filename: PS_DDR.SchDoc		

1

2

3

4

A

A

B

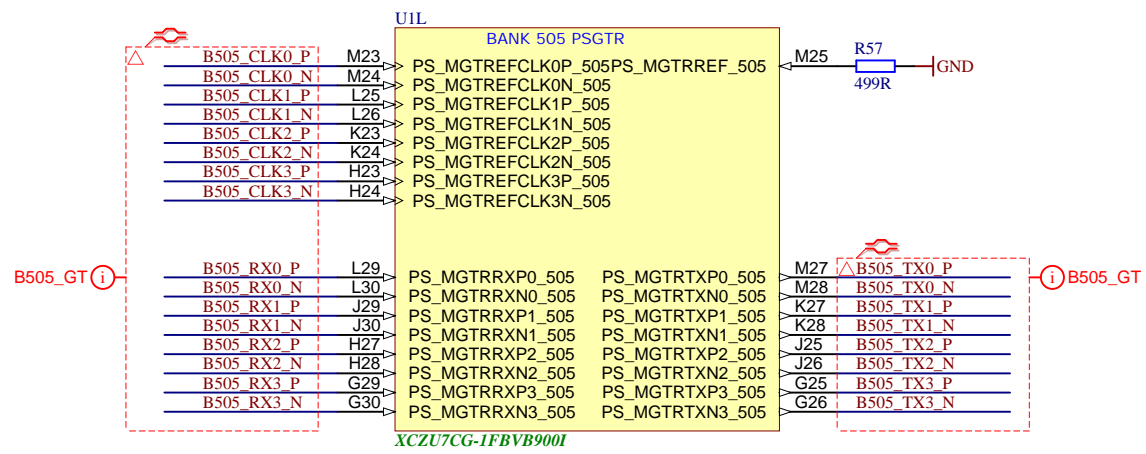
B


C

C

D

D



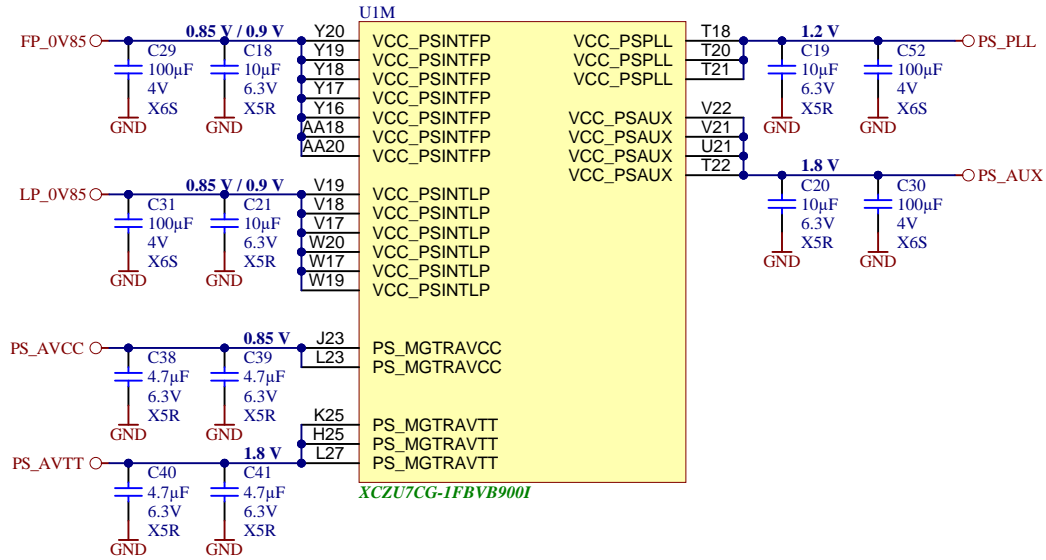
	Title: TE0807 – B_PS_GT		
	A4	Number: TE0807 7A181-A	Rev. 04
	Date: 30.07.2024	Copyright: Trenz Electronic GmbH	Page 20 of 32
	Filename: B_PS_GT.SchDoc		

1

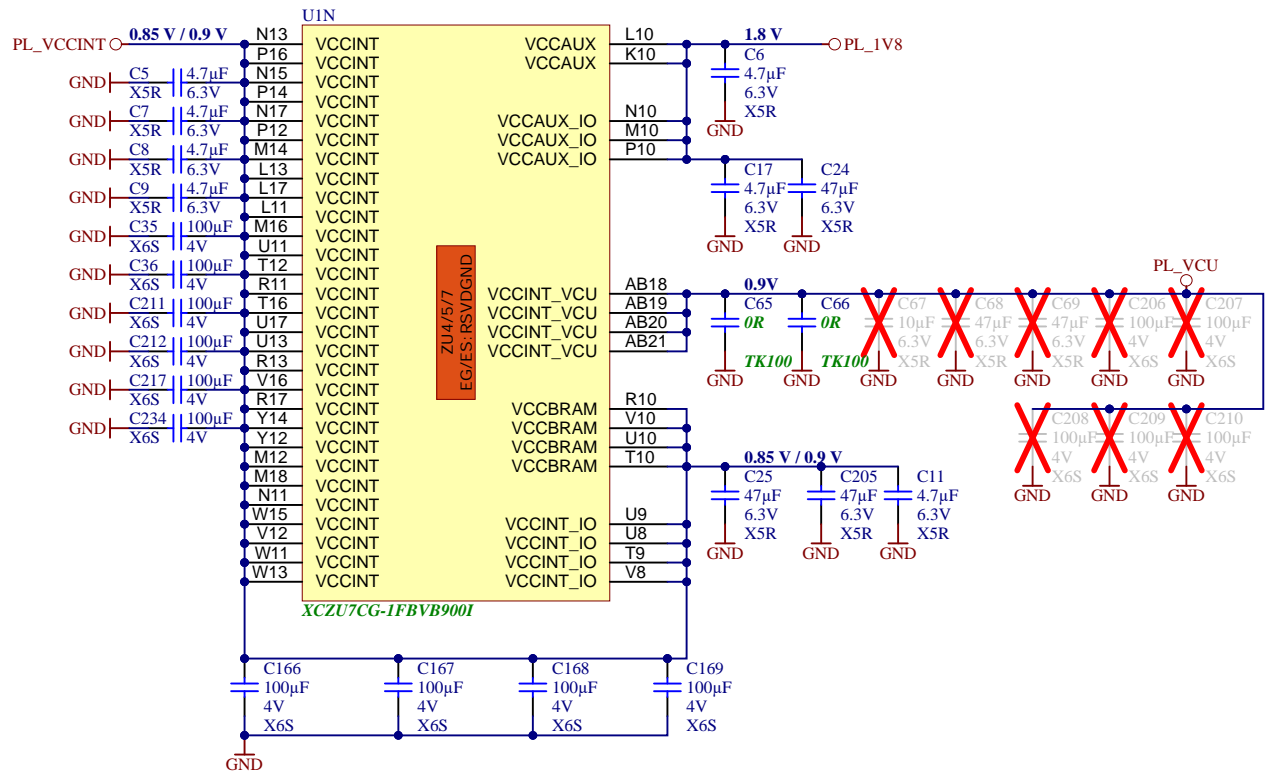
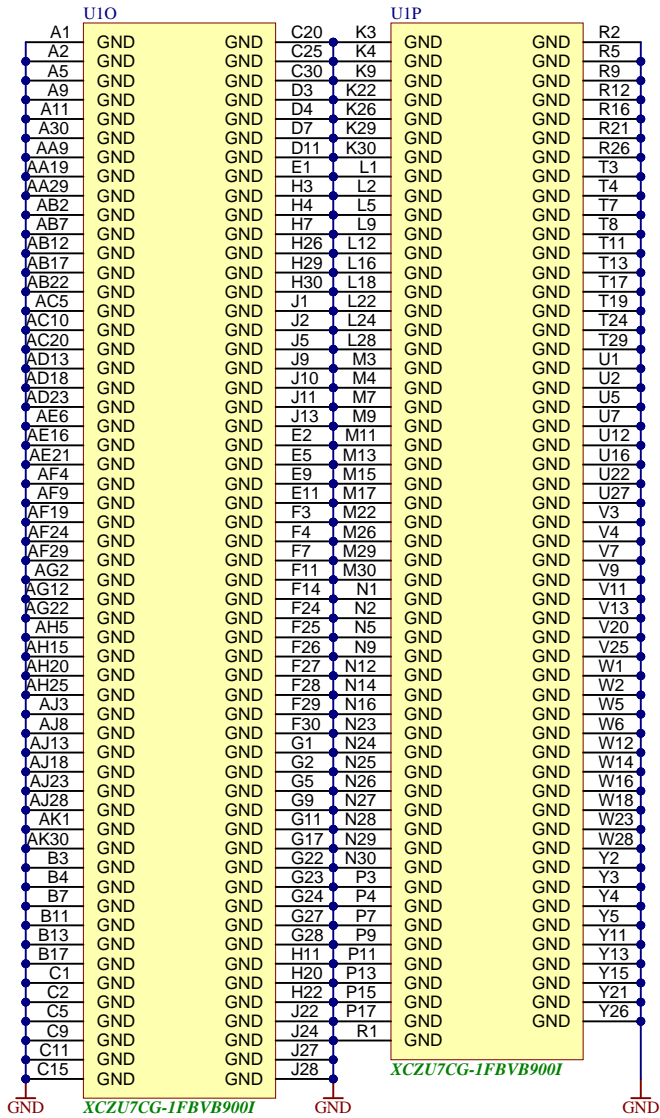
2

3

4

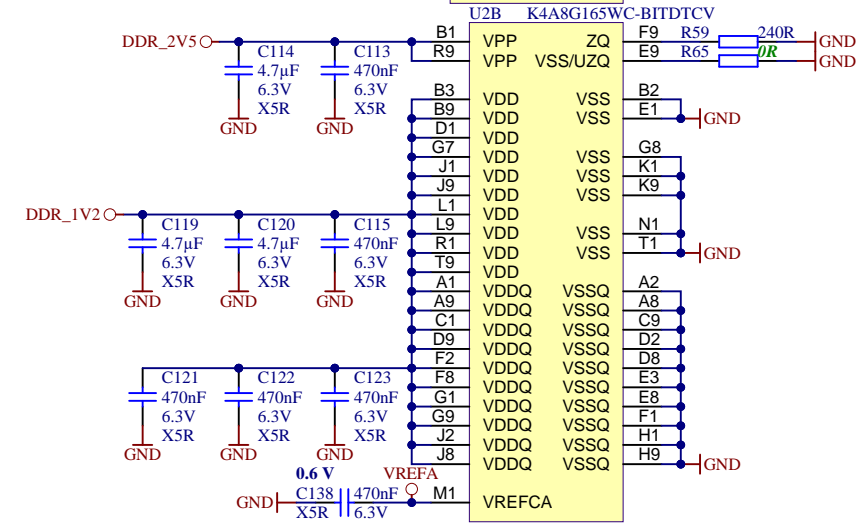
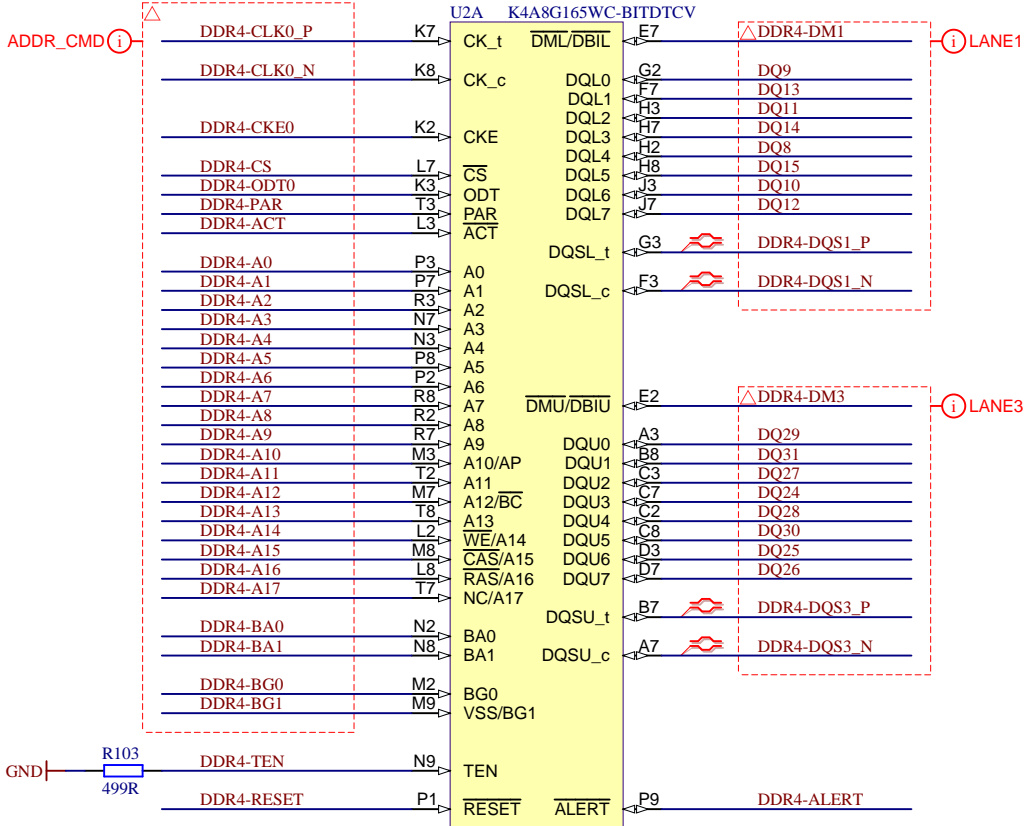


Title: TE0807 – ZU_PS_POWER		
A4	Number: TE0807 7A181-A	Rev. 04
Date: 30.07.2024	Copyright: Trenz Electronic GmbH	Page 21 of 32
Filename: ZU_PS_POWER.SchDoc		

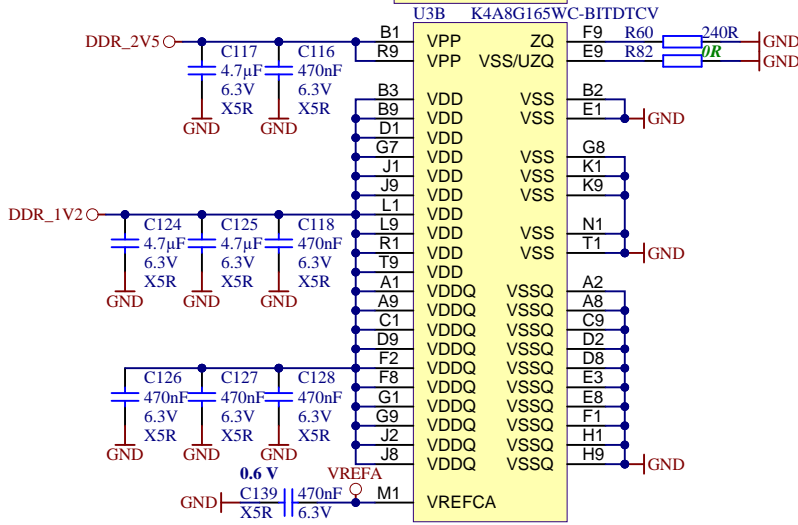
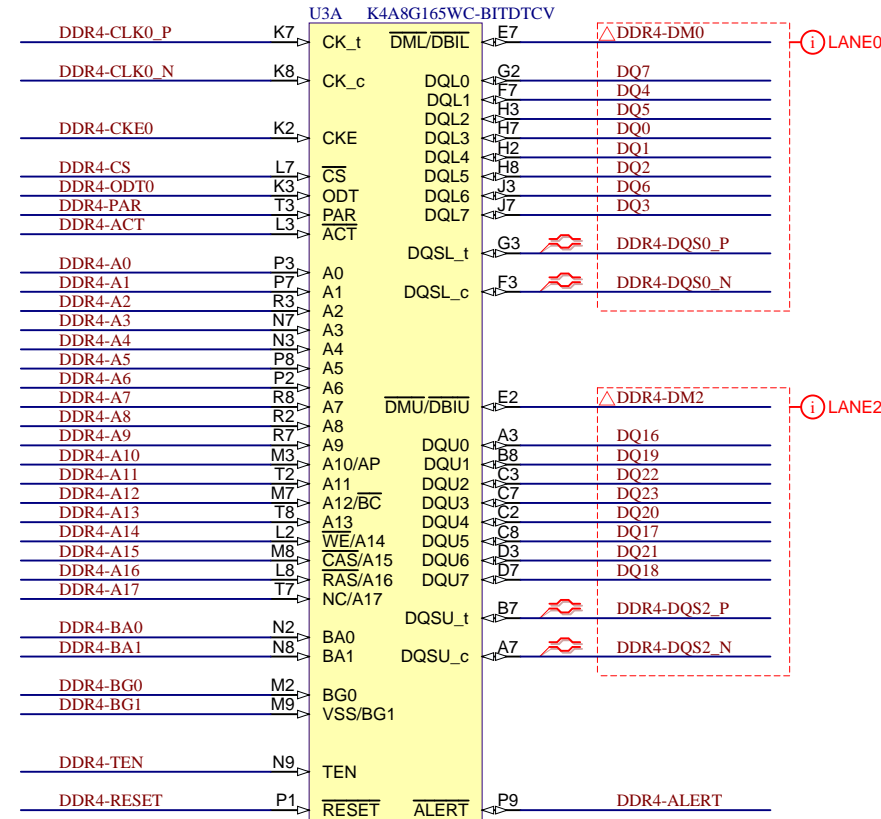


trenz electronic

Title: TE0807 – ZU_POWER		
A4	Number: TE0807 7A181-A	Rev. 04
Date: 30.07.2024	Copyright: Trenz Electronic GmbH	Page 22 of 32
Filename: ZU_POWER.SchDoc		

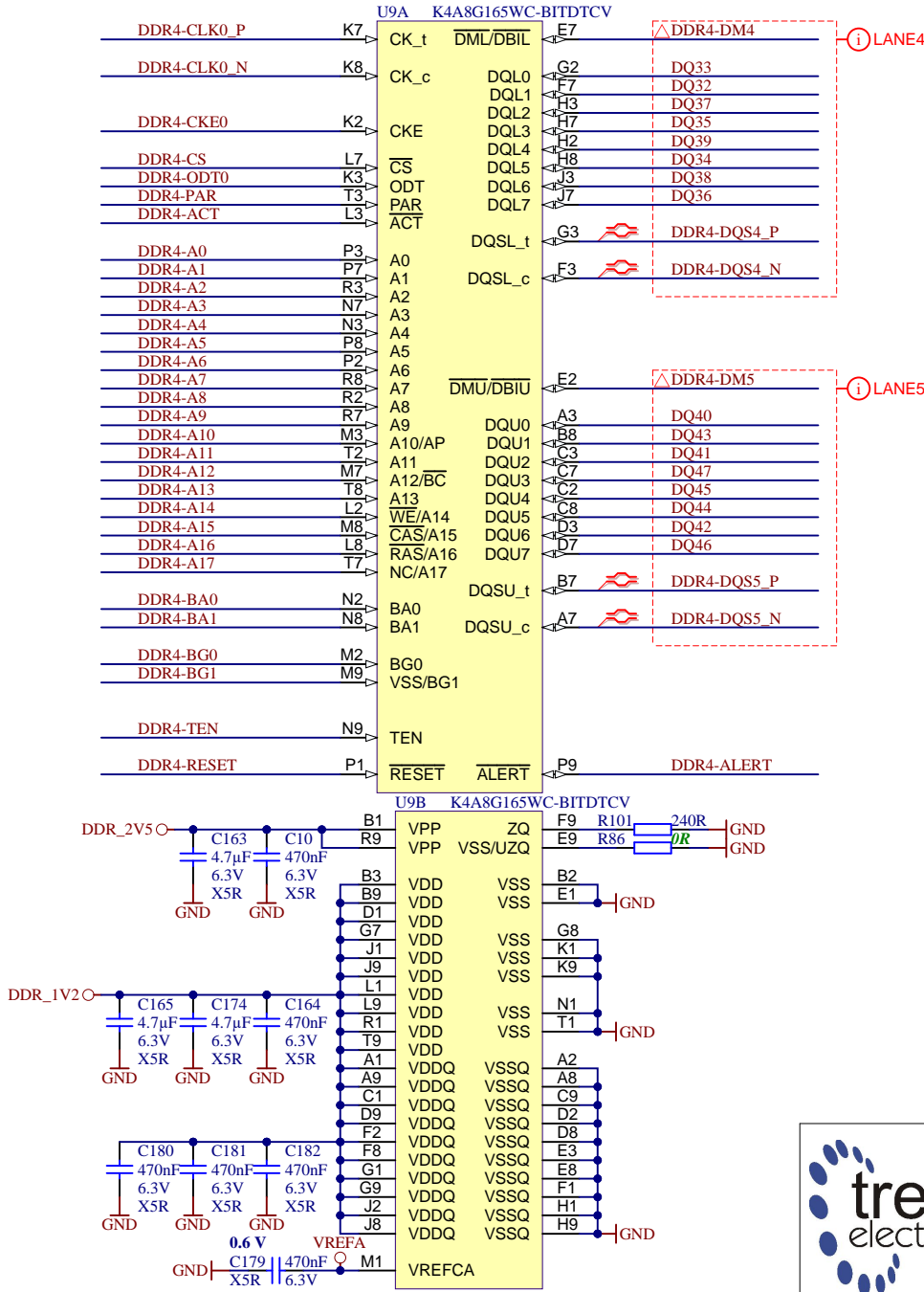


Title: TE0807 – DDR4-RAM_1		
A4	Number: TE0807 7A181-A	Rev. 04
Date: 30.07.2024	Copyright: Trenz Electronic GmbH	Page 23 of 32
Filename: DDR4-RAM.SchDoc		

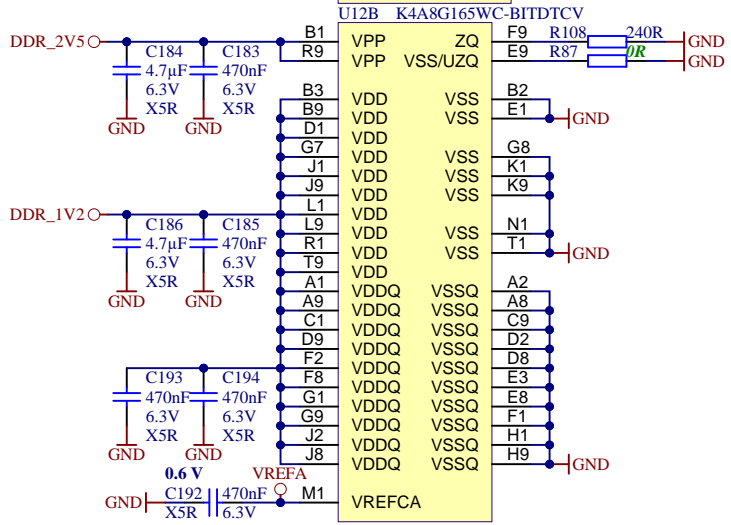
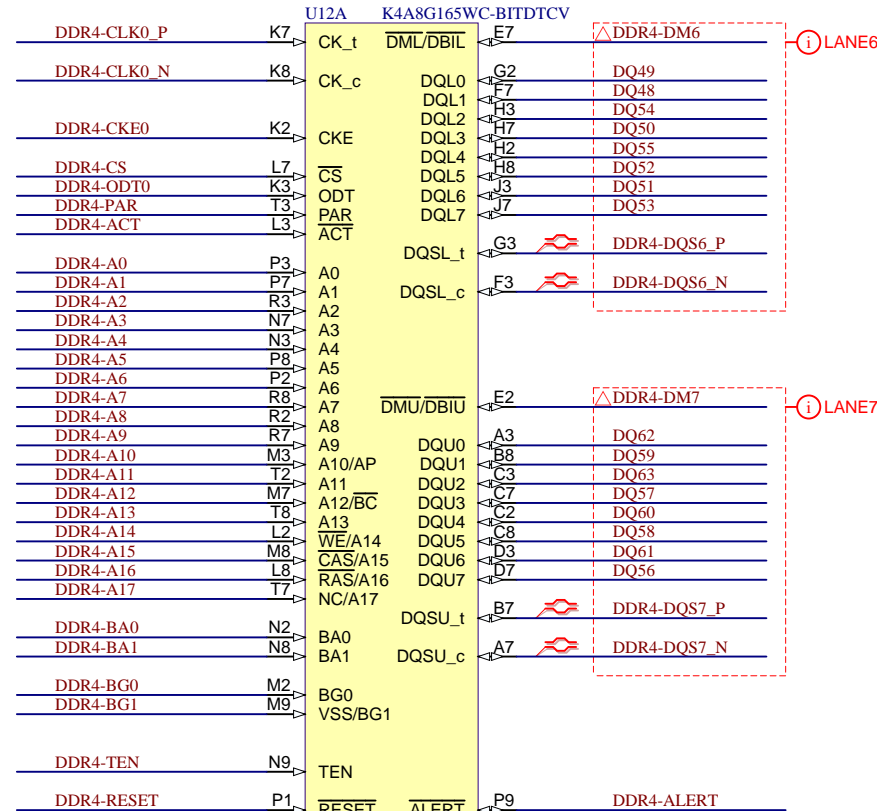


Title: TE0807 – DDR4-RAM_2		
A4	Number: TE0807 7A181-A	Rev. 04
Date: 30.07.2024	Copyright: Trenz Electronic GmbH	Page 24 of 32
Filename: DDR4-RAM_2.SchDoc		

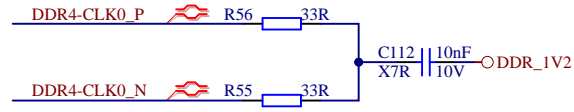
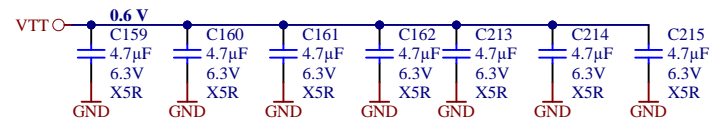
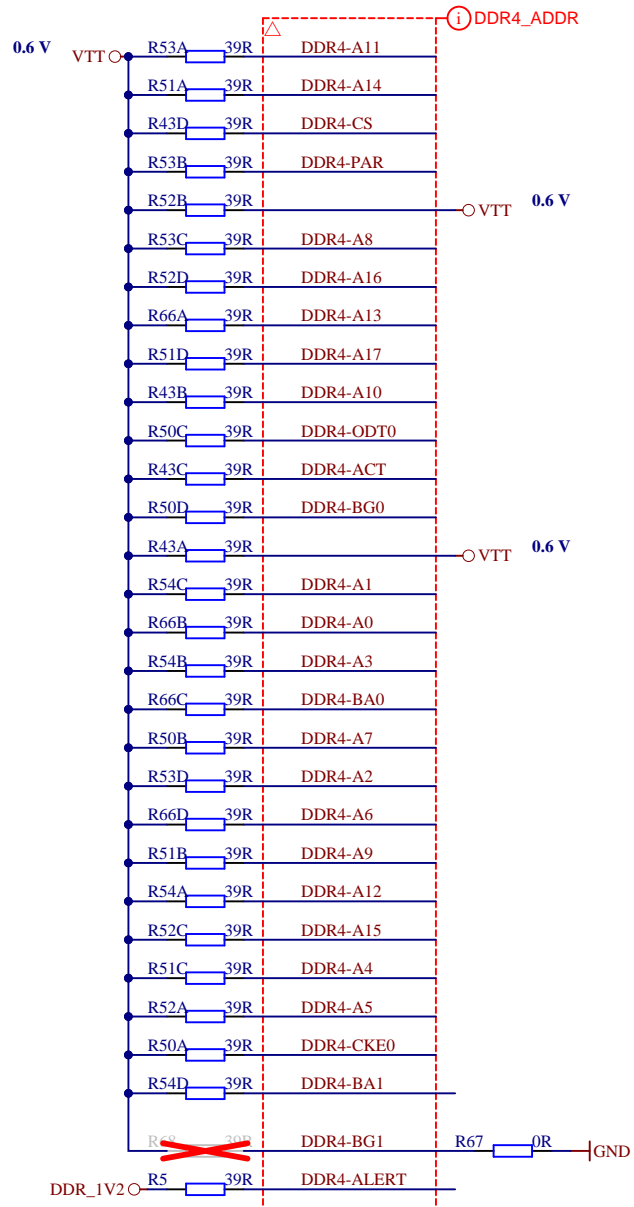




Title: TE0807 – DDR4-RAM_3		
A4	Number: TE0807 7A181-A	Rev. 04
Date: 30.07.2024	Copyright: Trenz Electronic GmbH	Page 25 of 32
Filename: DDR4-RAM_3.SchDoc		



Title: TE0807 – DDR4-RAM_4		
A4	Number: TE0807 7A181-A	Rev. 04
Date: 30.07.2024	Copyright: Trenz Electronic GmbH	Page 26 of 32
Filename: DDR4-RAM_4.SchDoc		



Title: TE0807 – DDR4-TERM		
A4	Number: TE0807 7A181-A	Rev. 04
Date: 30.07.2024	Copyright: Trenz Electronic GmbH	Page 27 of 32
Filename: DDR4-TERM.SchDoc		

1

2

3

4

A

A

B

B

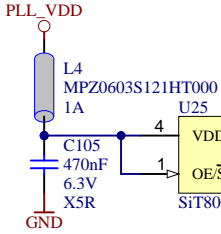
C

C

D

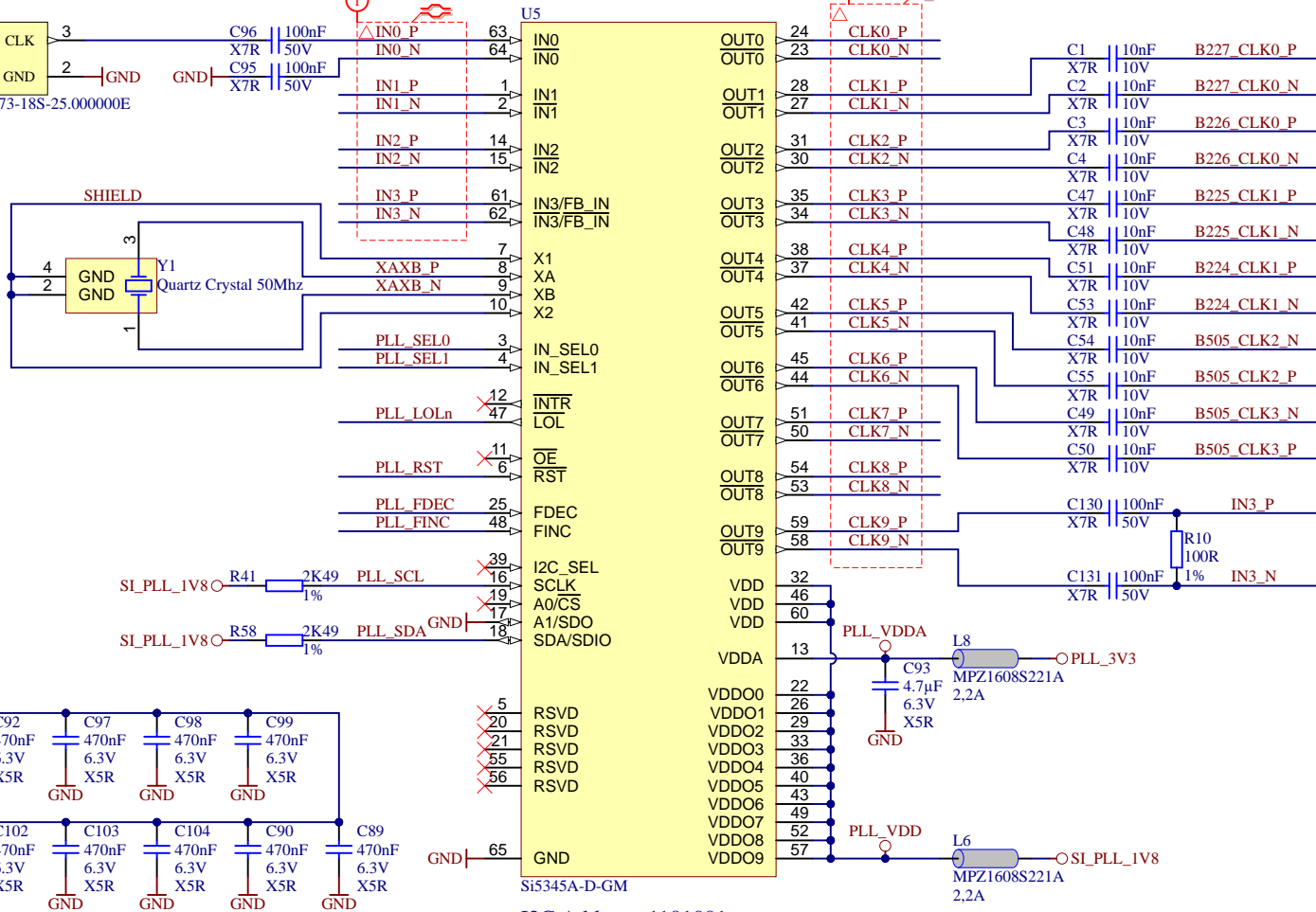
D

1.8 V PLL\_VDD

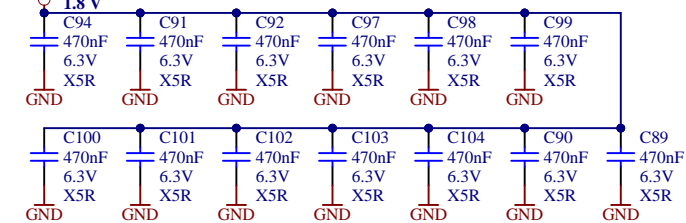


PLL\_IN

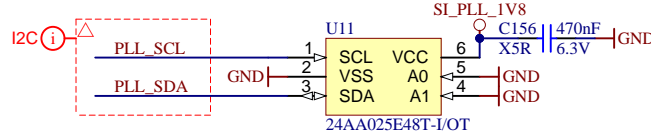
PLL\_OUT



PLL\_VDD



EEPROM for MAC



I2C Address: 1010000



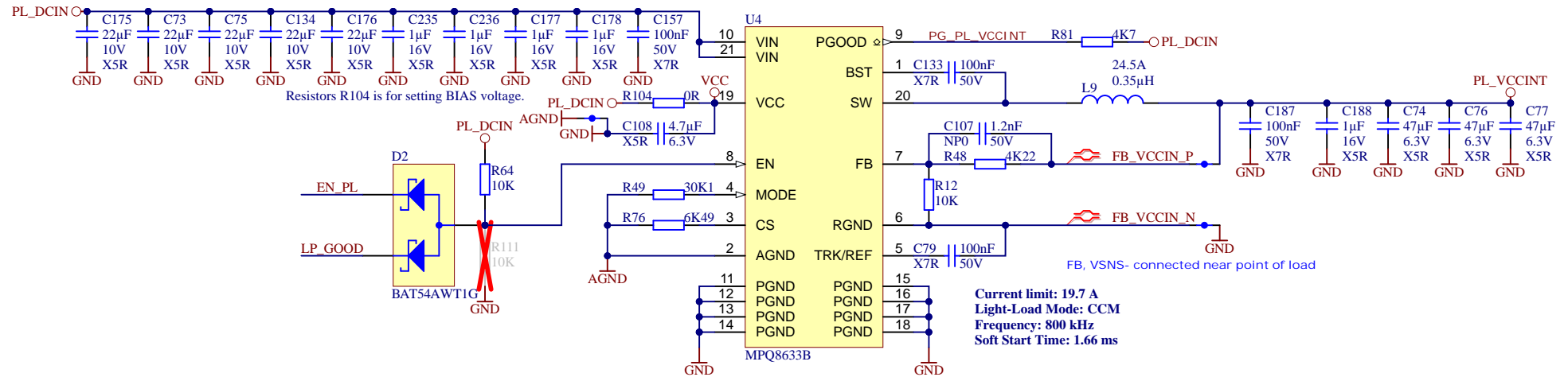
Title: TE0807 – Clock		
A4	Number: TE0807 7A181-A	Rev. 04
Date: 30.07.2024	Copyright: Trenz Electronic GmbH	Page 28 of 32
Filename: Clock.SchDoc		

1

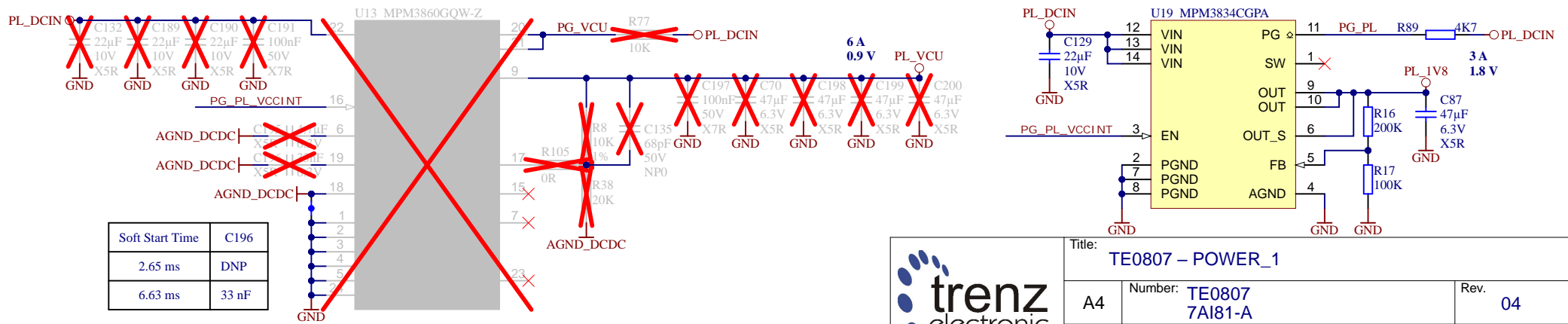
2

3

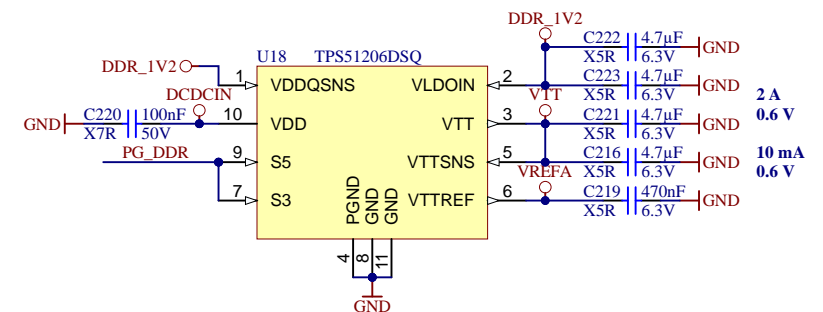
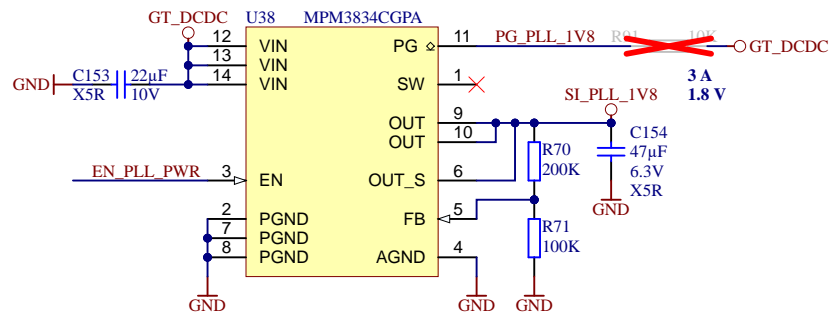
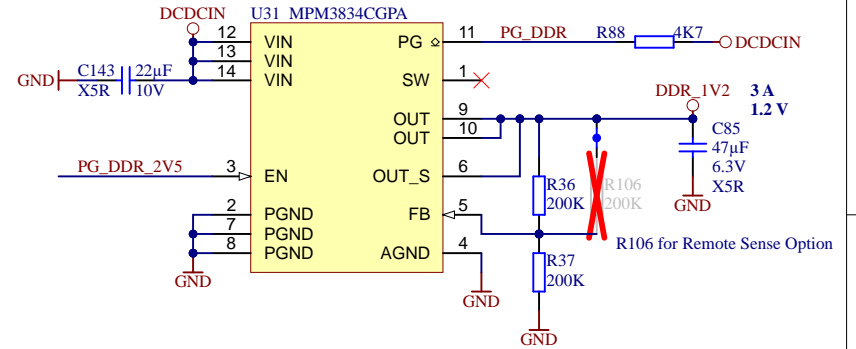
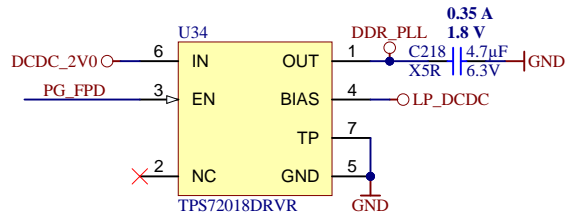
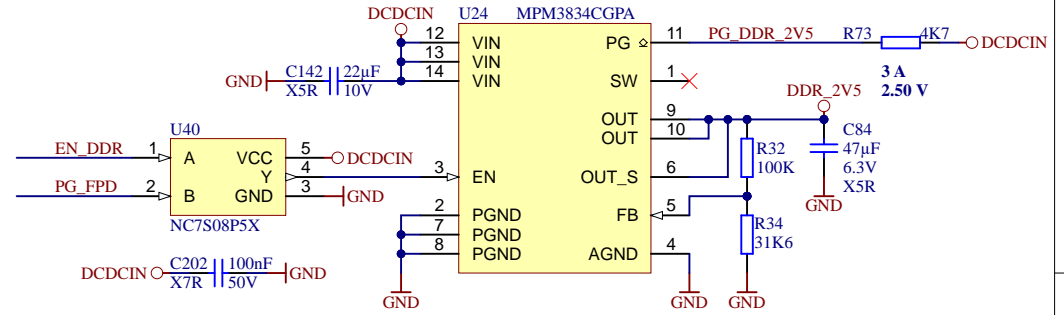
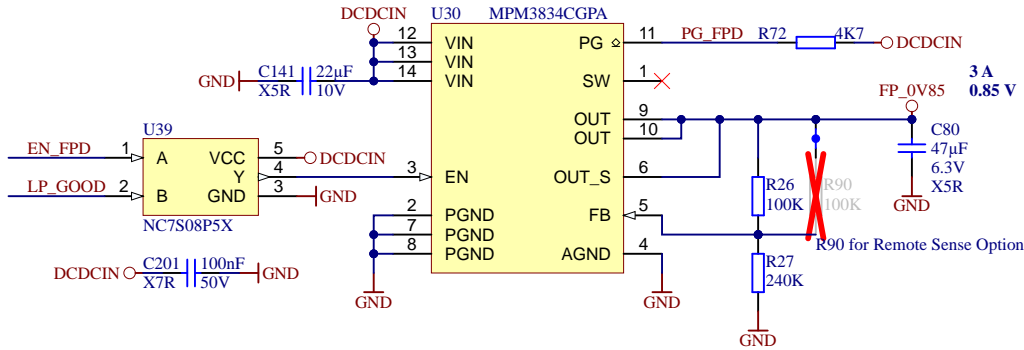
4



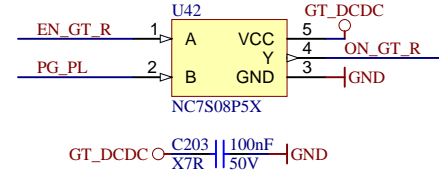
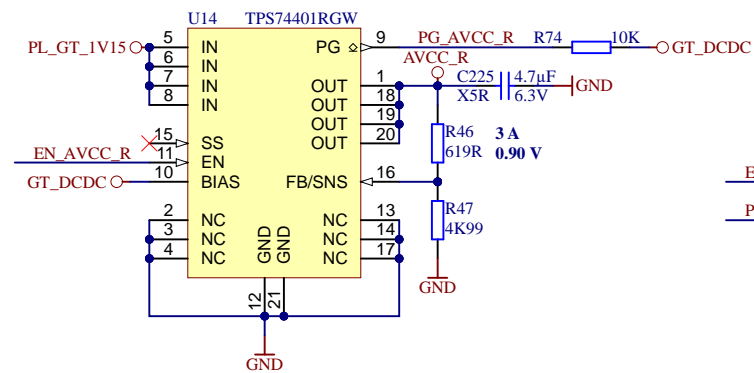
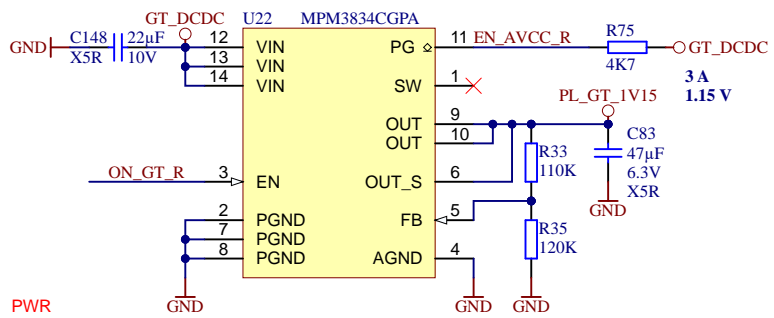
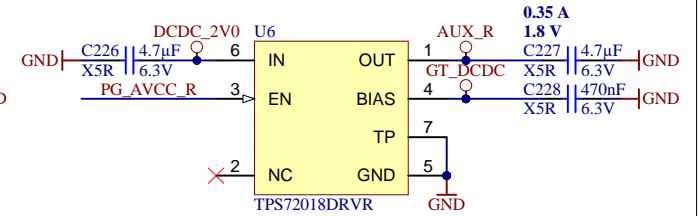
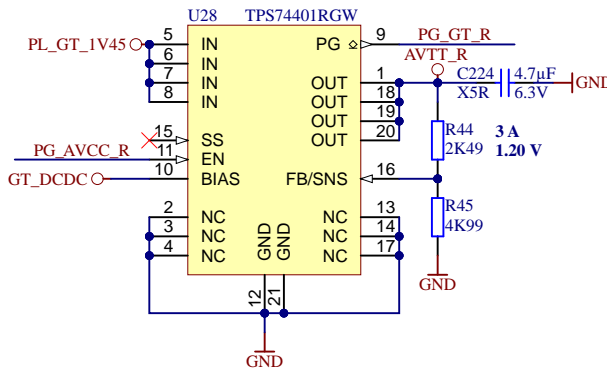
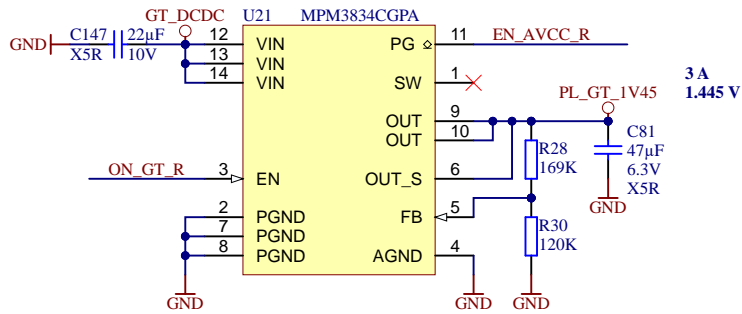
FPGA Speedgrade	R48	R12	PL_VCCINT	C107
-1	4.22 kOhm	10 kOhm	0.853 V	1.2 nF
-2	4.22 kOhm	10 kOhm	0.853 V	1.2 nF
-3	10 kOhm	20 kOhm	0.900 V	560 pF



Title: TE0807 - POWER_1		
A4	Number: TE0807 7AI81-A	Rev. 04
Date: 30.07.2024	Copyright: Trenz Electronic GmbH	Page 29 of 32
Filename: POWER.SchDoc		



Title: <b>TE0807 - POWER_2</b>		
A4	Number: <b>TE0807 7AI81-A</b>	Rev. <b>04</b>
Date: 30.07.2024	Copyright: Trenz Electronic GmbH	Page 30 of 32
Filename: <b>POWER_2.SchDoc</b>		



**Testpoints on top and bottom:**

Testpoints on top:		Testpoints on bottom:	
LP_0V85	TP4	LP_0V85	TP31
FP_0V85	TP6	FP_0V85	TP15
PS_PLL	TP7	PS_PLL	TP27
PS_GT_1V0	TP8	PS_GT_1V0	TP9
PS_AUX	TP11	PS_AUX	TP29
PS_AVCC	TP13	PS_AVCC	TP30
PS_AVTT	TP14	PS_AVTT	TP28
DDR_PLL	TP19	DDR_PLL	TP18
DDR_2V5	TP20	DDR_2V5	TP16
VREFA	TP22	VREFA	TP34
VTT	TP36	VTT	TP23
PL_VCCINT	TP39	PL_VCCINT	TP12
DCDC_2V0	TP41	DCDC_2V0	TP17
PL_GT_1V45	TP43	PL_GT_1V45	TP44
PL_GT_1V15	TP45	PL_GT_1V15	TP46
AUX_R	TP48	AUX_R	TP24
AVCC_R	TP50	AVCC_R	TP26
AVTT_R	TP52	AVTT_R	TP25
PL_VCU	TP54	PL_VCU	TP33
1V8_REFIN	TP56	1V8_REFIN	TP57
REF_1.25V	TP58	REF_1.25V	TP59
PLL_VDDA	TP62	PLL_VDDA	TP63
PLL_VDD	TP65	PLL_VDD	TP66

**Testpoints on top:**

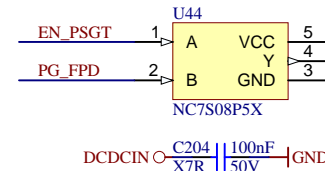
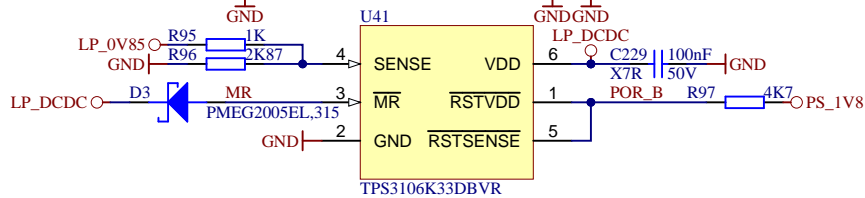
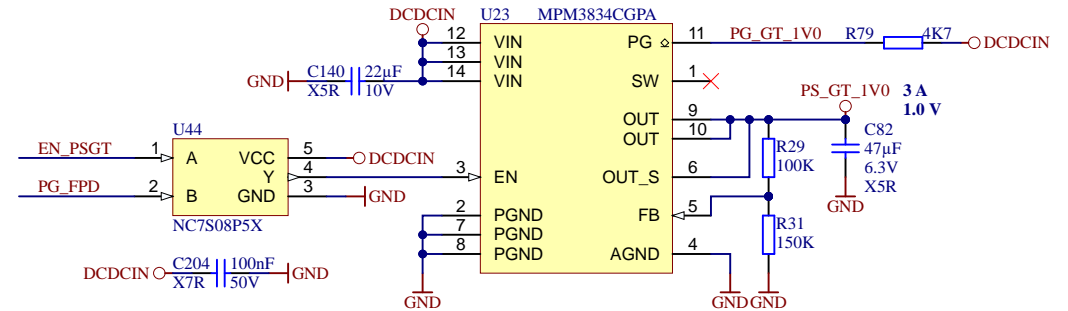
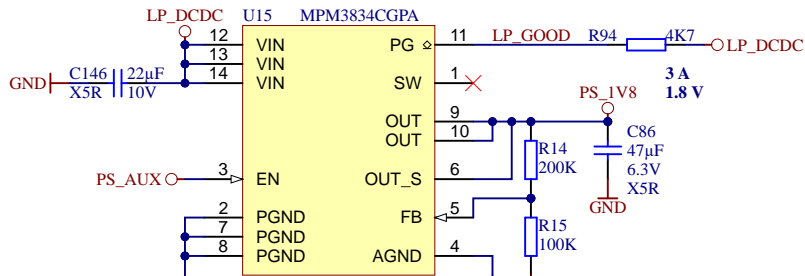
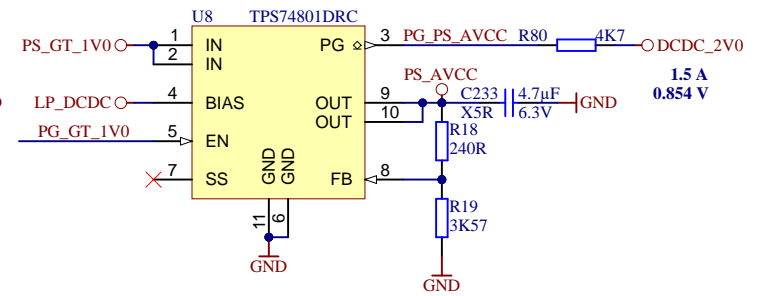
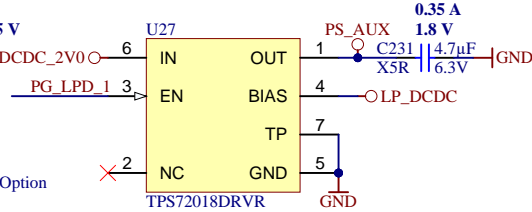
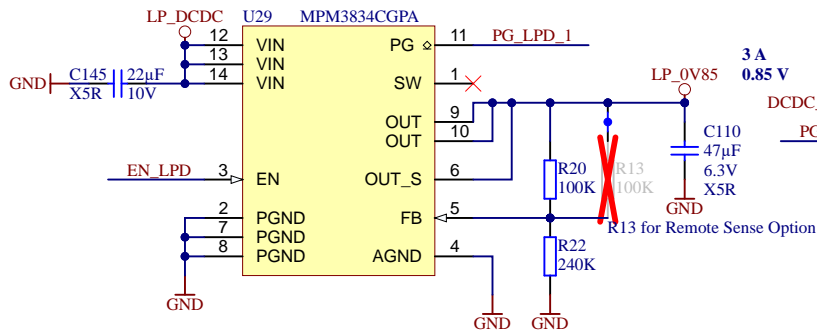
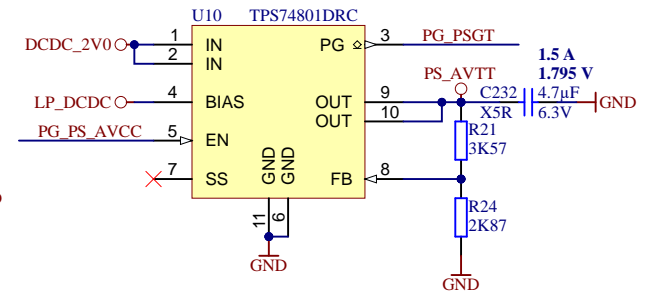
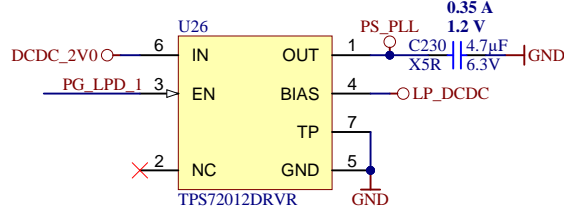
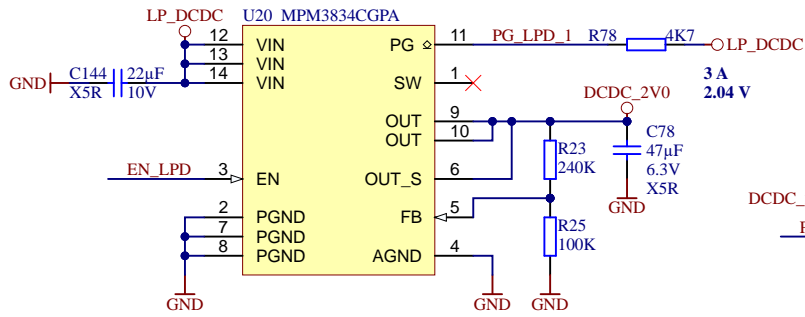
LP_DCDC	TP21
DCDCIN	TP35
PL_DCIN	TP37
GT_DCDC	TP38
PLL_3V3	TP40
PSBATT	TP42
VCCO_47	TP47
VCCO_48	TP49
VCCO_64	TP51
VCCO_65	TP53
VCCO_66	TP55
SI_PLL_1V8	TP60
PS_1V8	TP61
PL_1V8	TP64
DDR_1V2	TP67

**Testpoints on bottom:**

PLL_SCL	TP1
PLL_SDA	TP2
DDR4-TEN	TP3
GND	TP5
GND	TP10
GND	TP32



Title: TE0807 - POWER_3		
A4	Number: TE0807 7A181-A	Rev. 04
Date: 30.07.2024	Copyright: Trenz Electronic GmbH	Page 31 of 32
Filename: POWER_3.SchDoc		



Net Name	Voltage Rail	Low Detect
LP_0V85	0.85 V	0.743 V
LP_DCDC	3.3 V	2.941 V



Title: TE0807 - POWER_4		
A4	Number: TE0807 7A181-A	Rev. 04
Date: 30.07.2024	Copyright: Trenz Electronic GmbH	Page 32 of 32
Filename: POWER_4.SchDoc		