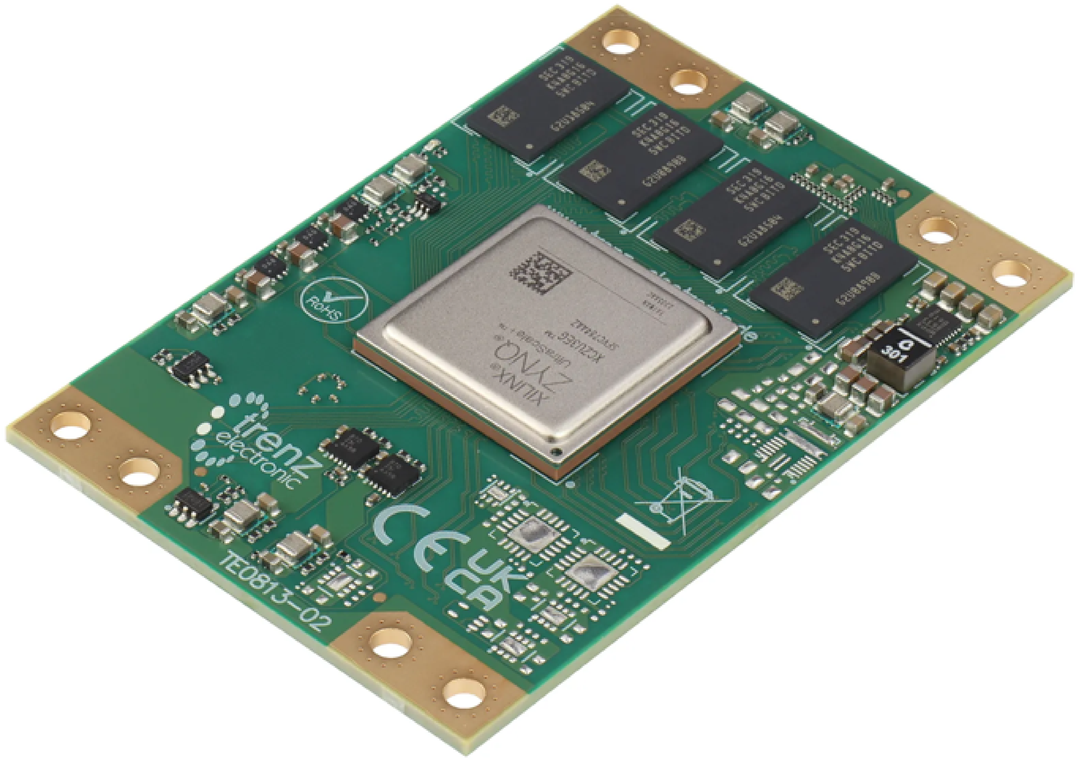

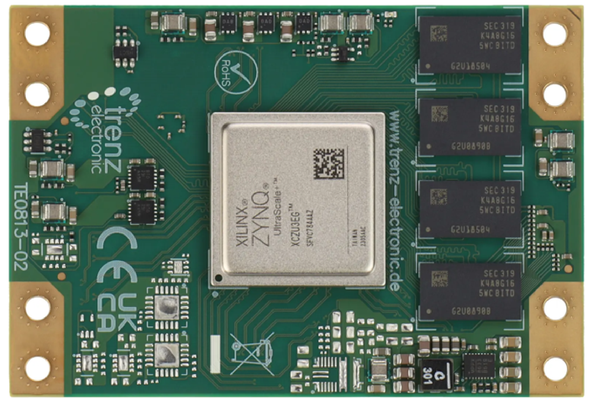

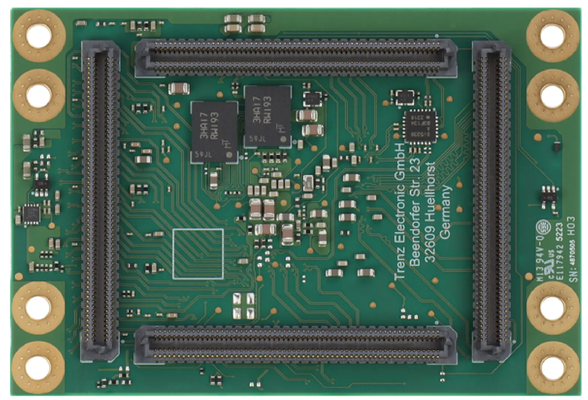

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Project is protected under copyright and we strongly and strictly prohibit the reverse engineering or recreation,
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TE0813 is protected under such right and in case of plagiarism we will have to do anything necessary in order to protect our assets.
Schematics and other handouts serve for informational purposes only!

Drawn by	ED
Checked by	MR
Assembly variant	4DE61-A
Created by	VG
Modified by	VG
Modified at	2025-12-17

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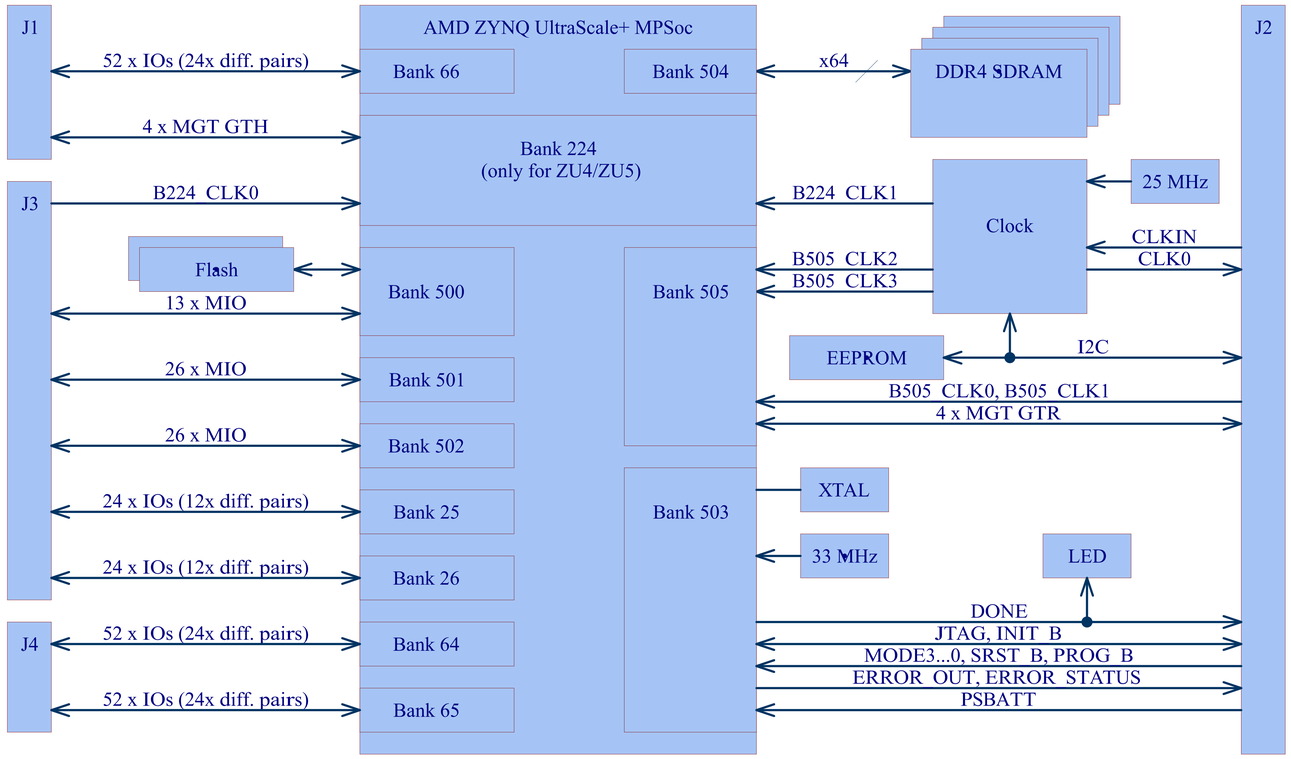
Title: TE0813 - Legal Notices

A4	Number: TE0813 4DE61-A	Rev. 02
Date: 04.05.2026	Copyright: Trenz Electronic GmbH	Page 1 of 30
Filename: Legal Notices Modules.SchDoc		



Supported Voltage Ranges:

Power Rail	Direction	Range	Tolerance	Description	Note
3.3VIN	IN	3.3V	+/- 5 %	Micromodule Power	Management voltage rail, supplied by power rail
PL_DCIN	IN	3.3V	+/- 5 %	Micromodule Power	Programmable Logic, supplied by power rail
LP_DCDC	IN	3.3V	+/- 3 %	Micromodule Power	Low-Power Domain, supplied by power rail
GT_DCDC	IN	3.3V	+/- 3 %	Micromodule Power	GTH Transceiver, supplied by power rail
DCDCIN	IN	3.3V	+/- 5 %	Micromodule Power	Full-Power Domain and GTR, supplied by power rail
VCCO_64	IN	1.0 V - 1.8 V	+/- 3 %	HP IO Bank 64	Supplied by external power rail via B2B connector
VCCO_65	IN	1.0 V - 1.8 V	+/- 3 %	HP IO Bank 65	Supplied by external power rail via B2B connector
VCCO_66	IN	1.0 V - 1.8 V	+/- 3 %	HP IO Bank 66	Supplied by external power rail via B2B connector
VCCO_25	IN	1.2 V - 3.3 V	+/- 3 %	HD IO Bank 25	Supplied by external power rail via B2B connector
VCCO_26	IN	1.2 V - 3.3 V	+/- 3 %	HD IO Bank 26	Supplied by external power rail via B2B connector
PSBATT	IN	1.2 V - 1.5 V	-	RTC / BBRAM	Supplied by external power rail via B2B connector
PL_1V8	OUT	1.8 V	+/- 3 %	Power for Carrier	Micromodule: Programmable Logic
PS_1V8	OUT	1.8 V	+/- 3 %	Power for Carrier	Micromodule: Processing System
DDR_1V2	OUT	1.2 V	+/- 3 %	Power for Carrier	Micromodule: PS DDR I/O Supply

I2C Address:

Device	I2C ADDR	Note
PLL U5	0x70	-
EEPROM U28	0x50	-

TE0813 | DDR4_TERM | ZU_PS_POWER | ZU_POWER

POWER | POWER_1 | POWER_2 | POWER_3

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Title: TE0813 - System Overview

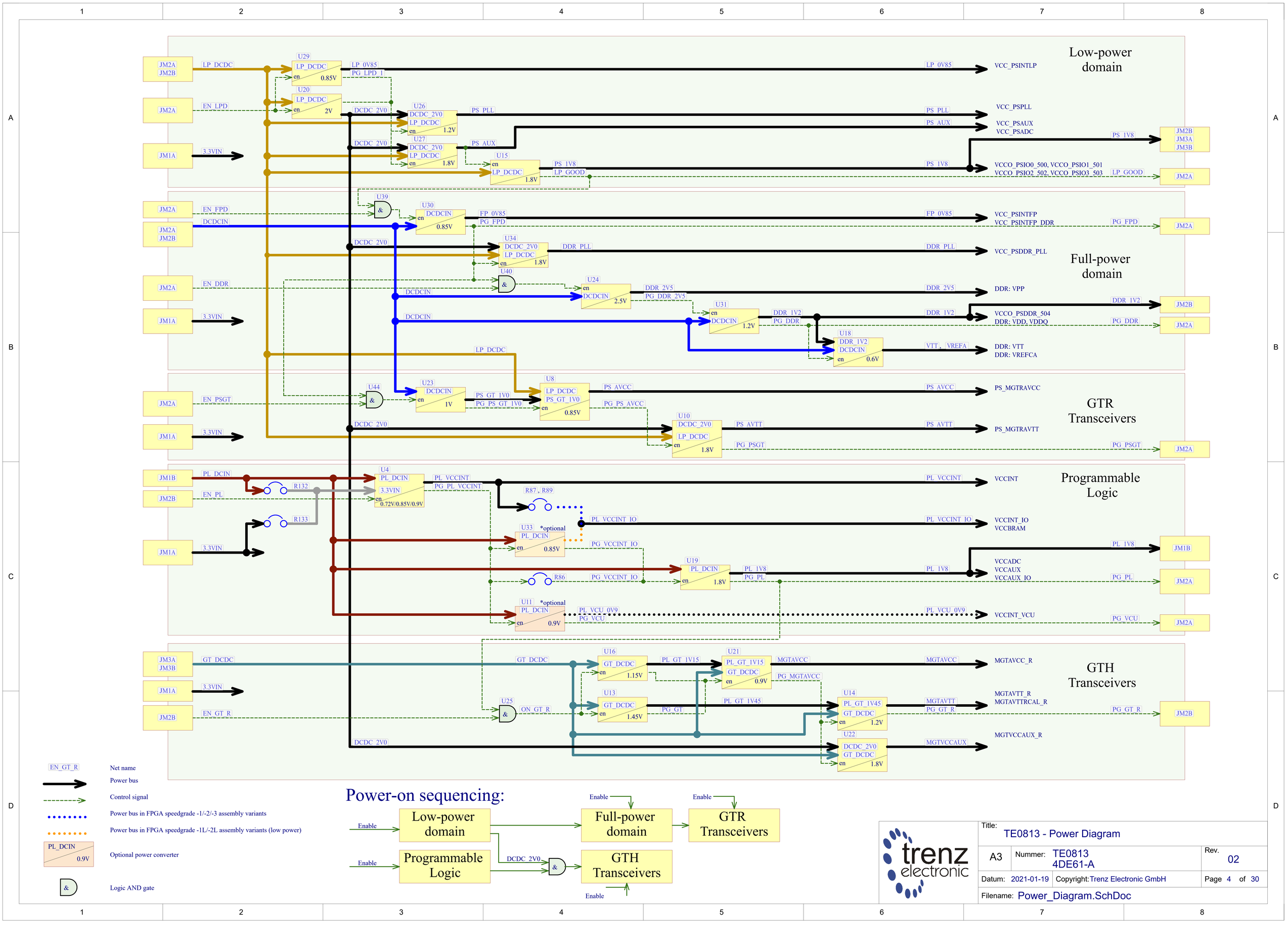
A4 | Number: TE0813 4DE61-A | Rev. 02

Date: 06.01.2026 | Copyright: Trenz Electronic GmbH | Page 2 of 30

Filename: TE0813-Overview.SchDoc

REV	DATE	Description	
-01	2021-05	Initial revision	VT
	2022-03	Added Table with Supported Voltage Ranges	
	2022-05	Changed DCDC U4 TPS548A28 to MPQ8633BGLE-Z Changed C92 100nF to 1nF	
	2022-11	Added additional Info about Voltage Range	
-02	2023-07	1. Change DCDC U11 from EN6347QI to MPM3860GQW-Z and adapted according circuits. 2. Connected DDR4-TEN signals together for U2, U3, U9, and U12 and pulled them low via 499 Ohm resistor R131. Added a testpoint TP3 for DDR4-TEN. 3. Changed voltage rail from 1.35 V to 1.45 V via adapting voltage divider resistors R33 and R38 and changed according voltage rail name PL_GT_1V35 to PL_GT_1V45. 4. Changed voltage rail from 1.05 V to 1.15 V via adaption voltage divider resistors R44 and R46 and changed according rail name PL_GT_1V05 to PL_GT_1V15. 5. Added diode D2 between U41 pin 3 net MR and voltage rail 3.3VIN. 6. Connected enable signal for U11 and U33 from "3.3VIN" to "PG_PL_VCCINT". 7. Added capacitors C137, C147, and C148 for VTT voltage rail. 8. Added resistors R132 (default: not fitted) and R133 to supply U4 VCC either from "PL_DCIN" or from "3.3VIN". 9. Change resistor R92 from 4.22 kOhm to 9.09 kOhm to set current limit to nearly 14.5 A for U4. 10. Added remote sense option: 10.1 R134 for U30 10.2 R135 for U29 10.3 R136 for U31 11. Added decoupling capacitors: 11.1 C210 and C211 for U5. 11.2 C190 for U7. 11.3 C198, C199, and C213 for U8. 11.4 C153, C170...172 for U9 11.5 C196 C197, and C212 for U10. 11.6 C156 and C157 for U12 11.7 C207 and C208 for U14. 11.8 C189 for U17. 11.9 C149...152, C205, and C206 for U18 11.10 C209 and C217 for U21. 11.11 C214...216 for U22. 11.12 C154 and C155 for U24 11.13 C188 and C191 for U26. 11.14 C187 and C195 for U27. 11.15 C203 and C204 for U34. 11.16 C201 for U39. 11.17 C202 for U40. 11.18 C178 for U41. 11.19 C200 for U44. 12. Added testpoints TP4, TP19, TP26. 13. Added UKCA logo. 14. Change 100 nF capacitors C135 and C136 from 6.3 V to 25 V for BOM optimization.	ED

Title: TE0813 - Revision History			
A4	Number: TE0813 4DE61-A		Rev. 02
Date: 06.01.2026	Copyright: Trenz Electronic GmbH		Page 3 of 30
Filename: Revision Changes.SchDoc			



Title:	TE0813 - Power Diagram
A3	Nummer: TE0813 4DE61-A
Rev.	02
Datum: 2021-01-19	Copyright: Trenz Electronic GmbH
Page 4 of 30	
Filename:	Power_Diagram.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

GND
Mount.Hole 3.2mm für Unterlegscheibe

GND
Mount.Hole 3.2mm für Unterlegscheibe

PM1
FIDU-DOT - mini

PM2
FIDU-DOT - mini

PM3
FIDU-DOT - mini

PM4
FIDU-DOT - mini

PM5
FIDU-DOT - mini

PM6
FIDU-DOT - mini

UKCA1
UKCA Logo on Top Overlay
UKCA-TOPOVERLAY

CE1
CE Logo on Top Overlay
CE-TOPOVERLAY

MECH1
TE Address Overlay
LOGO ADDRESS

LOGO1
TE Logo PRINT Layer
LOGO PRINT

Serial
Serial
Serialnumber 6,3 x 6.3mm

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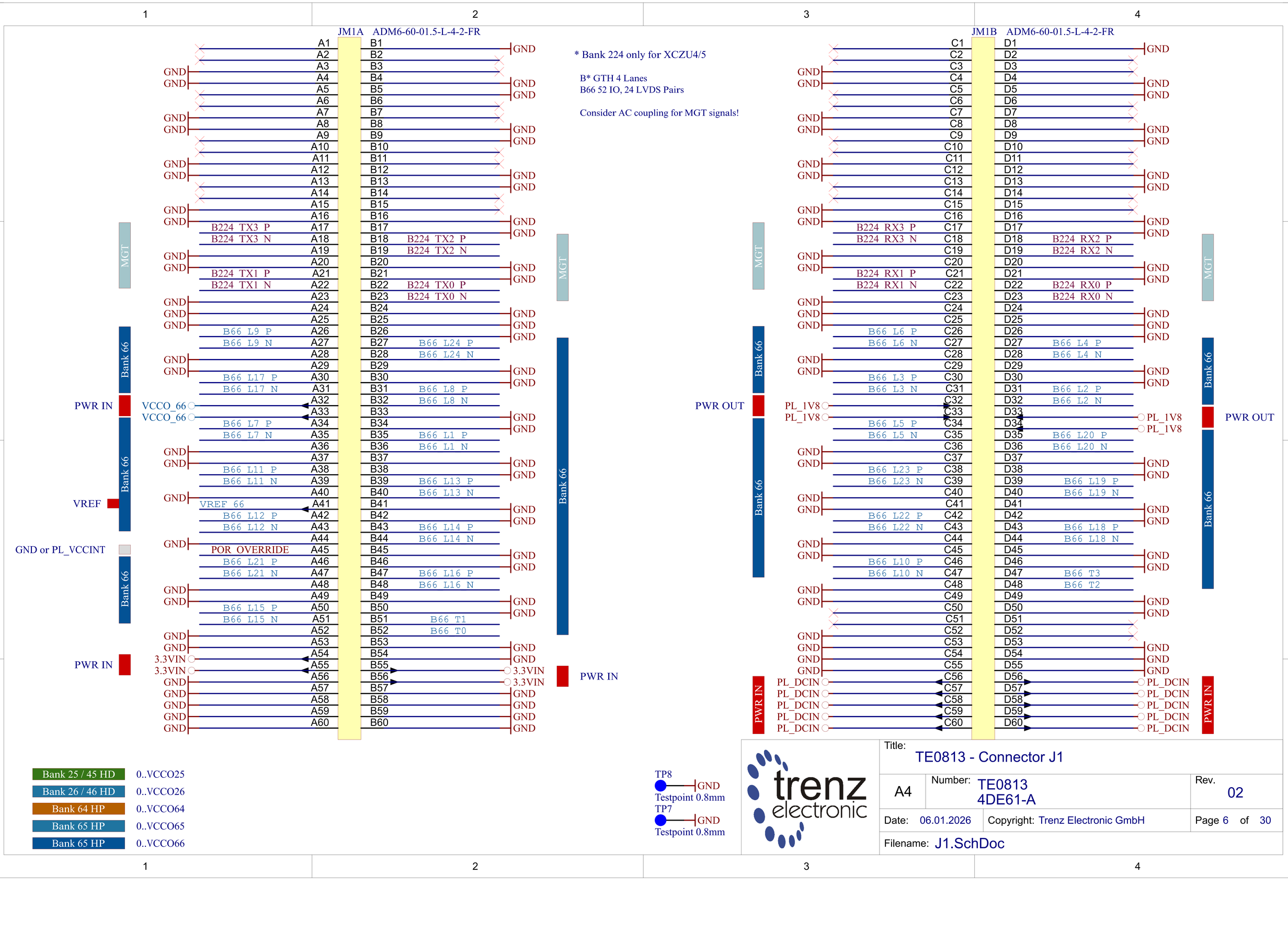
Title: TE0813			
A4	Number: TE0813 4DE61-A		Rev. 02
Date: 06.01.2026	Copyright: Trenz Electronic GmbH		Page 5 of 30
Filename: TE0813.SchDoc			



Title: TE0813 - Connector J1

A4	Number: TE0813 4DE61-A	Rev. 02
Date: 06.01.2026	Copyright: Trenz Electronic GmbH	Page 6 of 30
Filename: J1.SchDoc		

JM2A ADM6-60-01.5-L-4-2-FR

GND		A1	B1	CLKIN_P	
	B505_CLK1_P	A2	B2	CLKIN_N	
	B505_CLK1_N	A3	B3		GND
GND		A4	B4		GND
GND		A5	B5	B505_CLK0_P	
		A6	B6	B505_CLK0_N	
		A7	B7		GND
GND		A8	B8		GND
GND		A9	B9		
		A10	B10		
		A11	B11		GND
GND		A12	B12		GND
GND		A13	B13		
		A14	B14		
		A15	B15		GND
GND		A16	B16		GND
GND		A17	B17	B505_RX3_N	
	B505_RX2_N	A18	B18	B505_RX3_P	
	B505_RX2_P	A19	B19		GND
		A20	B20		GND
GND		A21	B21	B505_RX1_N	
GND		A22	B22	B505_RX1_P	
	B505_RX0_N	A23	B23		GND
	B505_RX0_P	A24	B24		GND
GND		A25	B25		
GND		A26	B26		
		A27	B27		GND
		A28	B28		GND
GND		A29	B29	PG_PSGT	
GND		A30	B30	PROG_B	
	ERR_OUT	A31	B31		GND
		A32	B32		GND
GND		A33	B33	SRST_B	
GND		A34	B34	INIT_B	
	LP_GOOD	A35	B35		
	PLL_SCL	A36	B36		GND
	PLL_SDA	A37	B37	PG_PL	GND
		A38	B38	EN_FPD	
GND		A39	B39		
GND		A40	B40		GND
	EN_PSGT	A41	B41	PG_FPD	GND
		A42	B42	EN_LPD	
GND		A43	B43		
GND		A44	B44		GND
	TCK	A45	B45	PG_DDR	GND
	TDI	A46	B46	DONE	
	TDO	A47	B47	EN_DDR	
	TMS	A48	B48		GND
GND		A49	B49		GND
GND		A50	B50		LP_DCDC
LP_DCDC		A51	B51		LP_DCDC
LP_DCDC		A52	B52		LP_DCDC
LP_DCDC		A53	B53		
GND		A54	B54		GND
GND		A55	B55		GND
GND		A56	B56		GND
GND		A57	B57		GND
DCDCIN		A58	B58		DCDCIN
DCDCIN		A59	B59		DCDCIN
DCDCIN		A60	B60		DCDCIN

JM2B ADM6-60-01.5-L-4-2-FR

GND		C1	D1	CLK0_N	
		C2	D2	CLK0_P	
		C3	D3		GND
GND		C4	D4		GND
GND		C5	D5		
		C6	D6		
		C7	D7		GND
GND		C8	D8		GND
GND		C9	D9		
		C10	D10		
		C11	D11		GND
GND		C12	D12		GND
GND		C13	D13		
		C14	D14		
		C15	D15		GND
GND		C16	D16		GND
GND		C17	D17	B505_TX3_N	
	B505_TX2_N	C18	D18	B505_TX3_P	
	B505_TX2_P	C19	D19		GND
		C20	D20		GND
GND		C21	D21	B505_TX1_N	
GND		C22	D22	B505_TX1_P	
	B505_TX0_N	C23	D23		GND
	B505_TX0_P	C24	D24		GND
GND		C25	D25		
GND		C26	D26		
		C27	D27		GND
		C28	D28		GND
GND		C29	D29		
GND		C30	D30		
	MR	C31	D31		
		C32	D32		
		C33	D33	PG_GT_R	
PWR OUT		C34	D34		PS_1V8
	EN_PL	C35	D35		GND
	EN_GT_R	C36	D36		GND
		C37	D37	PSBATT	
GND		C38	D38	PUDC_B	
GND		C39	D39		
GND		C40	D40		GND
		C41	D41	V_P	GND
		C42	D42	V_N	
GND		C43	D43		
GND		C44	D44		GND
	MODE3	C45	D45	DX_P	GND
	MODE2	C46	D46	DX_N	
	MODE1	C47	D47		
	MODE0	C48	D48		DDR_1V2
GND		C49	D49		GND
GND		C50	D50		GND
LP_DCDC		C51	D51		LP_DCDC
LP_DCDC		C52	D52		LP_DCDC
LP_DCDC		C53	D53		LP_DCDC
GND		C54	D54		GND
GND		C55	D55		GND
GND		C56	D56		GND
GND		C57	D57		GND
DCDCIN		C58	D58		DCDCIN
DCDCIN		C59	D59		DCDCIN
DCDCIN		C60	D60		DCDCIN

JTAG I2C
PLL CLK IN
PLL CLK OUT
GTR 2 CLK IN
GTR 4 Lanes

Consider AC coupling for MGT signals!

0 V ... 1.8 V	Out	ERR_OUT	A31	B31	
0 V ... 1.8 V	Out	ERR_STATUS	A34	B34	INIT_B
0 V ... 3.3 V	Out	LP_GOOD	A35	B35	
0 V ... 1.8 V	In	PLL_SCL	A36	B36	
0 V ... 1.8 V	In/Out	PLL_SDA	A37	B37	PG_PL
0 V ... 3.3 V	Out	PG_VCU	A40	B40	
0 V ... 3.3 V	In	EN_PSGT	A41	B41	PG_FPD
0 V ... 1.8 V	In	TCK	A44	B44	
0 V ... 1.8 V	In	TDI	A45	B45	PG_DDR
0 V ... 1.8 V	In	TDO	A46	B46	DONE
0 V ... 1.8 V	In	TMS	A47	B47	EN_DDR
				B29	PG_PSGT
				B30	PROG_B
				B33	SRST_B
				B34	INIT_B
				B37	PG_PL
				B38	EN_FPD
				B41	PG_FPD
				B42	EN_LPD
				B45	PG_DDR
				B46	DONE
				B47	EN_DDR
Out	0 V ... 3.3 V				
In	0 V ... 1.8 V				
In	0 V ... 1.8 V				
In/Out	0 V ... 1.8 V				
Out	0 V ... 3.3 V				
In	0 V ... 3.3 V				
Out	0 V ... 3.3 V				
In	0 V ... 3.3 V				
Out	0 V ... 1.8 V				
In	0 V ... 1.8 V				

0 V ... 3.3 V	In	MR	C31	D31	
PWR OUT		PS_1V8	C34	D34	PS_1V8
0 V ... 3.3 V	In	EN_PL	C35	D35	
0 V ... 3.3 V	In	EN_GT_R	C36	D36	
0 V ... 1.8 V	In	MODE3	C44	D44	
0 V ... 1.8 V	In	MODE2	C45	D45	
0 V ... 1.8 V	In	MODE1	C46	D46	
0 V ... 1.8 V	In	MODE0	C47	D47	
				D33	PG_GT_R
				D37	PSBATT
				D38	PUDC_B
				D41	V_P
				D42	V_N
				D45	DX_P
				D46	DX_N
				D47	DDR_1V2
Out	0 V ... 3.3 V				
PWR OUT					
	1.2 V ... 1.5 V				
	0 V ... 1.8 V				
In					
In					
PWR OUT					

		LP_DCDC	A50	B50	LP_DCDC
		LP_DCDC	A51	B51	LP_DCDC
		LP_DCDC	A52	B52	LP_DCDC
		DCDCIN	A57	B57	DCDCIN
		DCDCIN	A58	B58	DCDCIN
		DCDCIN	A59	B59	DCDCIN
		DCDCIN	A60	B60	DCDCIN

Bank 25 / 45 HD	0..VCCO25
Bank 26 / 46 HD	0..VCCO26
Bank 64 HP	0..VCCO64
Bank 65 HP	0..VCCO65
Bank 65 HP	0..VCCO66

GND — TP10 — Testpoint 0.8mm

GND — TP5 — Testpoint 0.8mm

GND — TP15 — Testpoint 0.8mm

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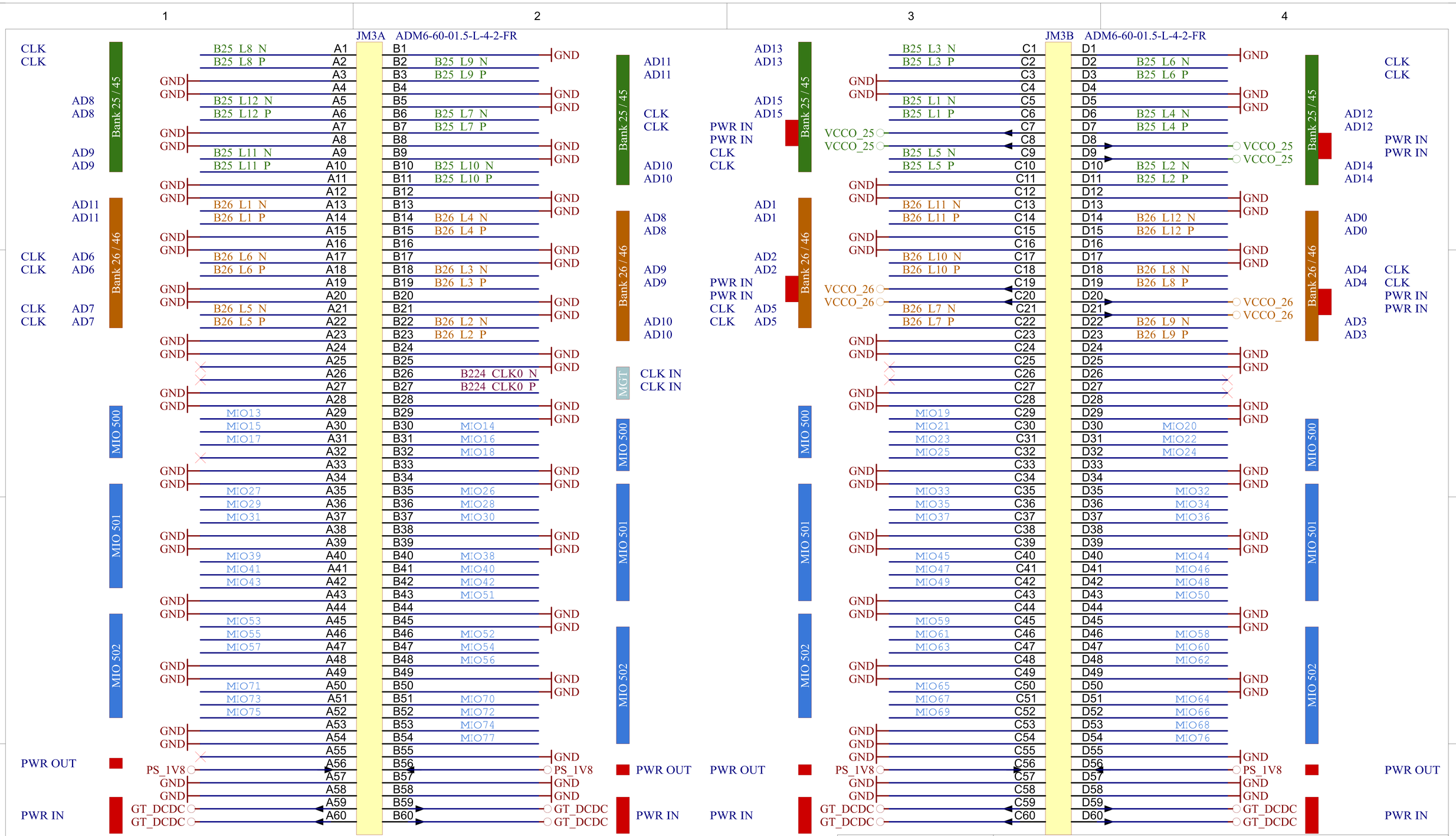
Title: TE0813 - Connector J2			
A4	Number: TE0813 4DE61-A		Rev. 02
Date: 06.01.2026	Copyright: Trenz Electronic GmbH		Page 7 of 30
Filename: J2.SchDoc			



Bank 25 / 45 HD	0..VCCO25
Bank 26 / 46 HD	0..VCCO26
Bank 64 HP	0..VCCO64
Bank 65 HP	0..VCCO65
Bank 65 HP	0..VCCO66

* Bank 25 for XCZU2/3
* Bank 45 for XCZU4/5
** Bank 26 for XCZU2/3
** Bank 46 for XCZU4/5
*** Bank 224 only for XCZU4/5

B* 24 IO, 12 LVDS Pairs
B** 24 IO, 12 LVDS Pairs
B*** GTH 1 CLK IN
65 MIO

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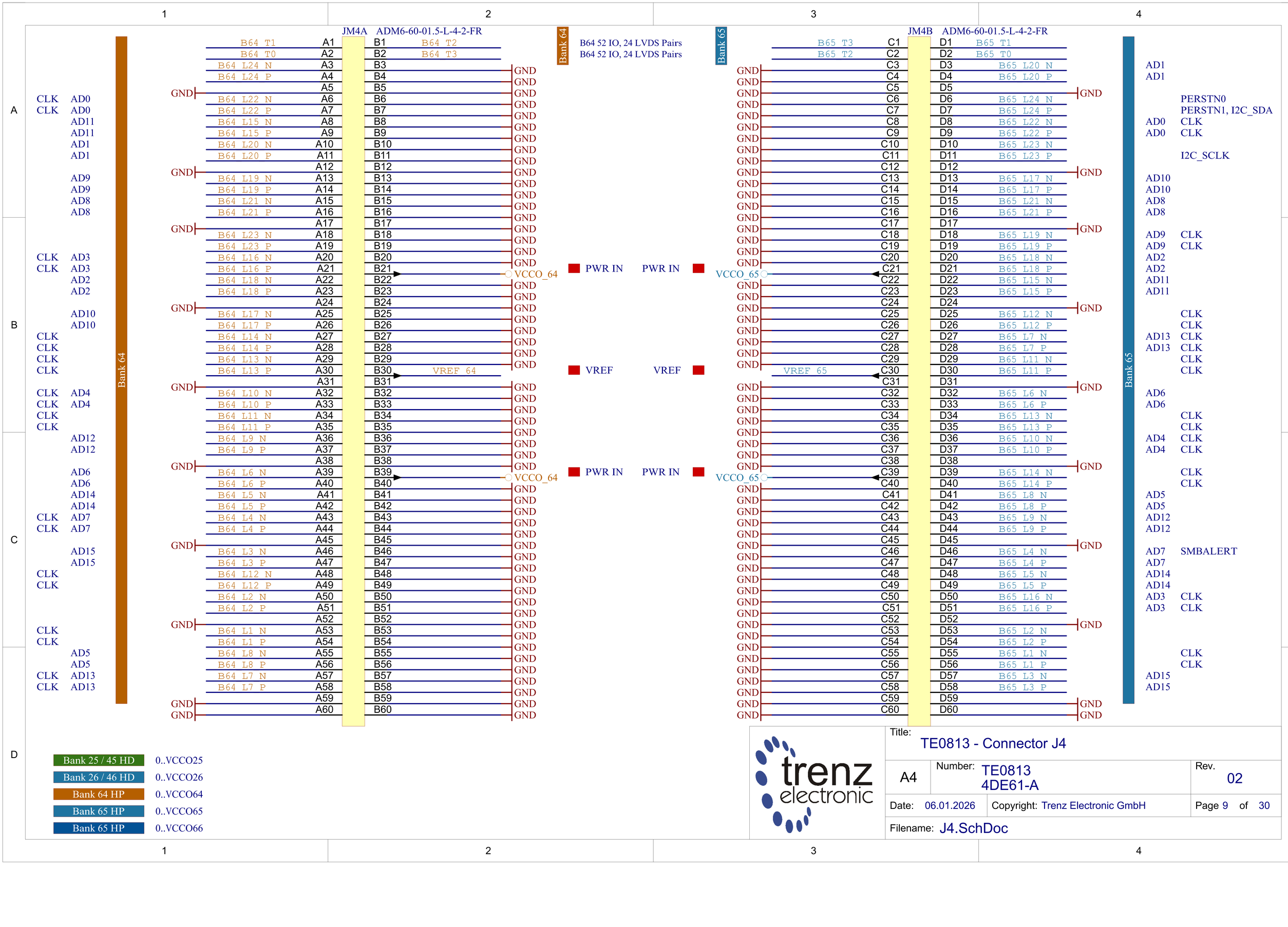
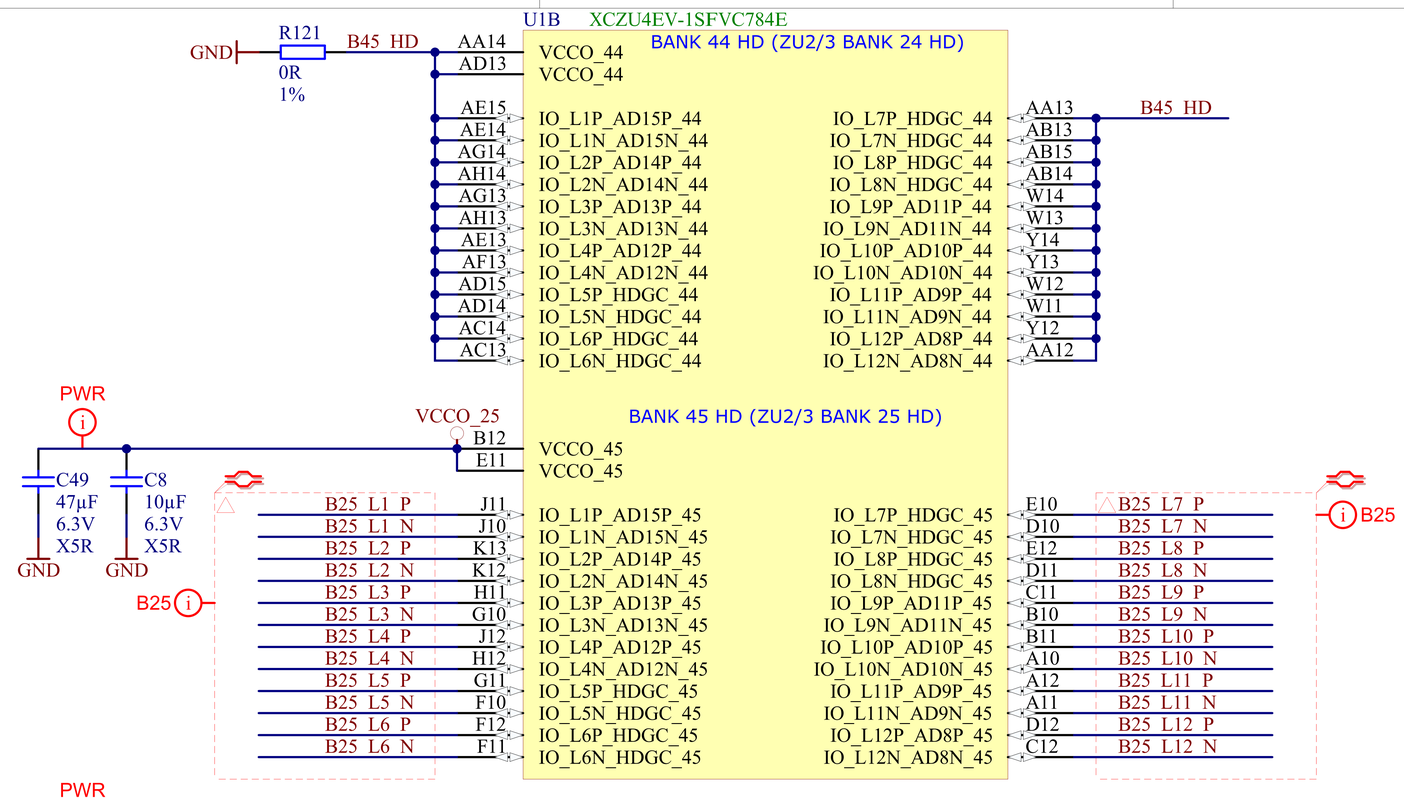
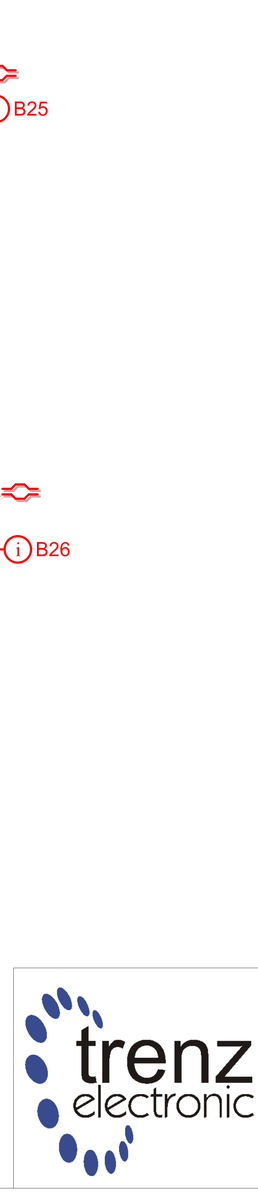
Title: TE0813 - Connector J3		
A4	Number: TE0813 4DE61-A	Rev. 02
Date: 06.01.2026	Copyright: Trenz Electronic GmbH	Page 8 of 30
Filename: J3.SchDoc		



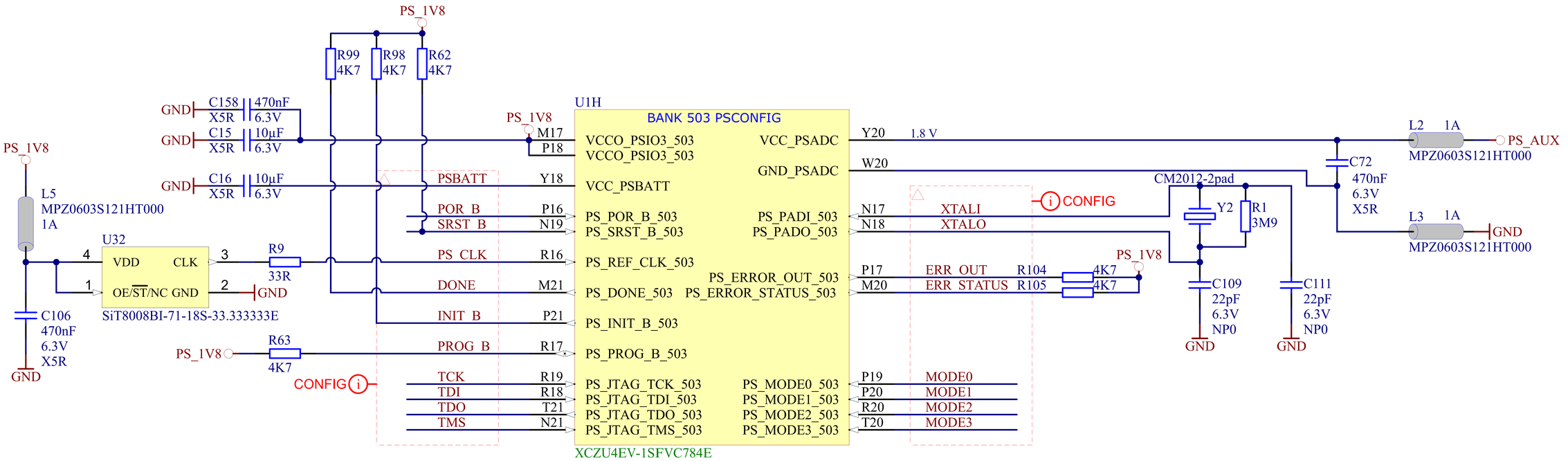
Title: TE0813 - Connector J4

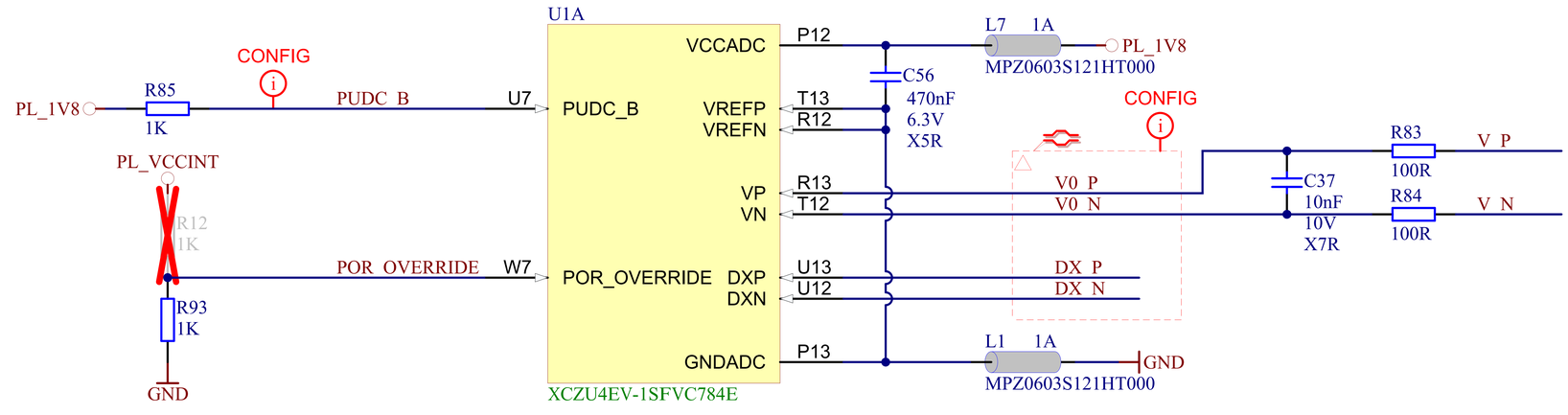
A4	Number: TE0813 4DE61-A	Rev. 02
Date: 06.01.2026	Copyright: Trenz Electronic GmbH	Page 9 of 30
Filename: J4.SchDoc		

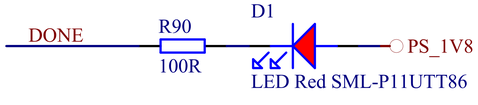




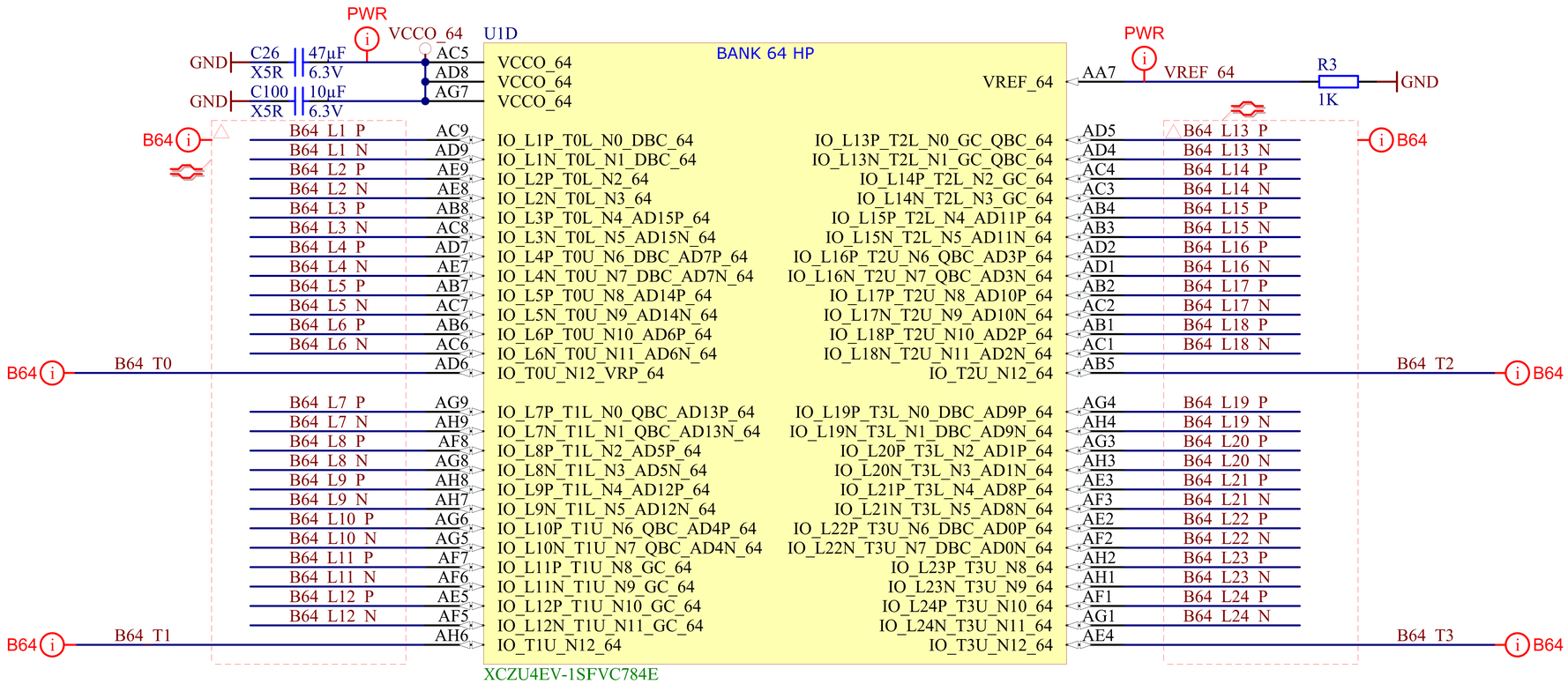
Title: TE0813 - HD Banks		
A4	Number: TE0813 4DE61-A	Rev. 02
Date: 06.01.2026	Copyright: Trenz Electronic GmbH	Page 10 of 30
Filename: B_HD.SchDoc		







trenz electronic	Title: TE0813 - Config		
A4	Number: TE0813 4DE61-A		Rev. 02
Date: 06.01.2026	Copyright: Trenz Electronic GmbH		Page 11 of 30
Filename: CONFIG.SchDoc			



B64_L1_P	AC9	IO_L1P_T0L_N0_DBC_64		IO_L13P_T2L_N0_GC_QBC_64	AD5	B64_L13_P	
B64_L1_N	AD9	IO_L1N_T0L_N1_DBC_64		IO_L13N_T2L_N1_GC_QBC_64	AD4	B64_L13_N	
B64_L2_P	AE9	IO_L2P_T0L_N2_64		IO_L14P_T2L_N2_GC_64	AC4	B64_L14_P	
B64_L2_N	AE8	IO_L2N_T0L_N3_64		IO_L14N_T2L_N3_GC_64	AC3	B64_L14_N	
B64_L3_P	AB8	IO_L3P_T0L_N4_AD15P_64		IO_L15P_T2L_N4_AD11P_64	AB4	B64_L15_P	
B64_L3_N	AC8	IO_L3N_T0L_N5_AD15N_64		IO_L15N_T2L_N5_AD11N_64	AB3	B64_L15_N	
B64_L4_P	AD7	IO_L4P_T0U_N6_DBC_AD7P_64		IO_L16P_T2U_N6_QBC_AD3P_64	AD2	B64_L16_P	
B64_L4_N	AE7	IO_L4N_T0U_N7_DBC_AD7N_64		IO_L16N_T2U_N7_QBC_AD3N_64	AD1	B64_L16_N	
B64_L5_P	AB7	IO_L5P_T0U_N8_AD14P_64		IO_L17P_T2U_N8_AD10P_64	AB2	B64_L17_P	
B64_L5_N	AC7	IO_L5N_T0U_N9_AD14N_64		IO_L17N_T2U_N9_AD10N_64	AC2	B64_L17_N	
B64_L6_P	AB6	IO_L6P_T0U_N10_AD6P_64		IO_L18P_T2U_N10_AD2P_64	AB1	B64_L18_P	
B64_L6_N	AC6	IO_L6N_T0U_N11_AD6N_64		IO_L18N_T2U_N11_AD2N_64	AC1	B64_L18_N	
	AD6	IO_T0U_N12_VRP_64		IO_T2U_N12_64	AB5		
B64_L7_P	AG9	IO_L7P_T1L_N0_QBC_AD13P_64		IO_L19P_T3L_N0_DBC_AD9P_64	AG4	B64_L19_P	
B64_L7_N	AH9	IO_L7N_T1L_N1_QBC_AD13N_64		IO_L19N_T3L_N1_DBC_AD9N_64	AH4	B64_L19_N	
B64_L8_P	AF8	IO_L8P_T1L_N2_AD5P_64		IO_L20P_T3L_N2_AD1P_64	AG3	B64_L20_P	
B64_L8_N	AG8	IO_L8N_T1L_N3_AD5N_64		IO_L20N_T3L_N3_AD1N_64	AH3	B64_L20_N	
B64_L9_P	AH8	IO_L9P_T1L_N4_AD12P_64		IO_L21P_T3L_N4_AD8P_64	AE3	B64_L21_P	
B64_L9_N	AH7	IO_L9N_T1L_N5_AD12N_64		IO_L21N_T3L_N5_AD8N_64	AF3	B64_L21_N	
B64_L10_P	AG6	IO_L10P_T1U_N6_QBC_AD4P_64		IO_L22P_T3U_N6_DBC_AD0P_64	AE2	B64_L22_P	
B64_L10_N	AG5	IO_L10N_T1U_N7_QBC_AD4N_64		IO_L22N_T3U_N7_DBC_AD0N_64	AF2	B64_L22_N	
B64_L11_P	AF7	IO_L11P_T1U_N8_GC_64		IO_L23P_T3U_N8_64	AH2	B64_L23_P	
B64_L11_N	AF6	IO_L11N_T1U_N9_GC_64		IO_L23N_T3U_N9_64	AH1	B64_L23_N	
B64_L12_P	AE5	IO_L12P_T1U_N10_GC_64		IO_L24P_T3U_N10_64	AF1	B64_L24_P	
B64_L12_N	AF5	IO_L12N_T1U_N11_GC_64		IO_L24N_T3U_N11_64	AG1	B64_L24_N	
	AH6	IO_T1U_N12_64		IO_T3U_N12_64	AE4		

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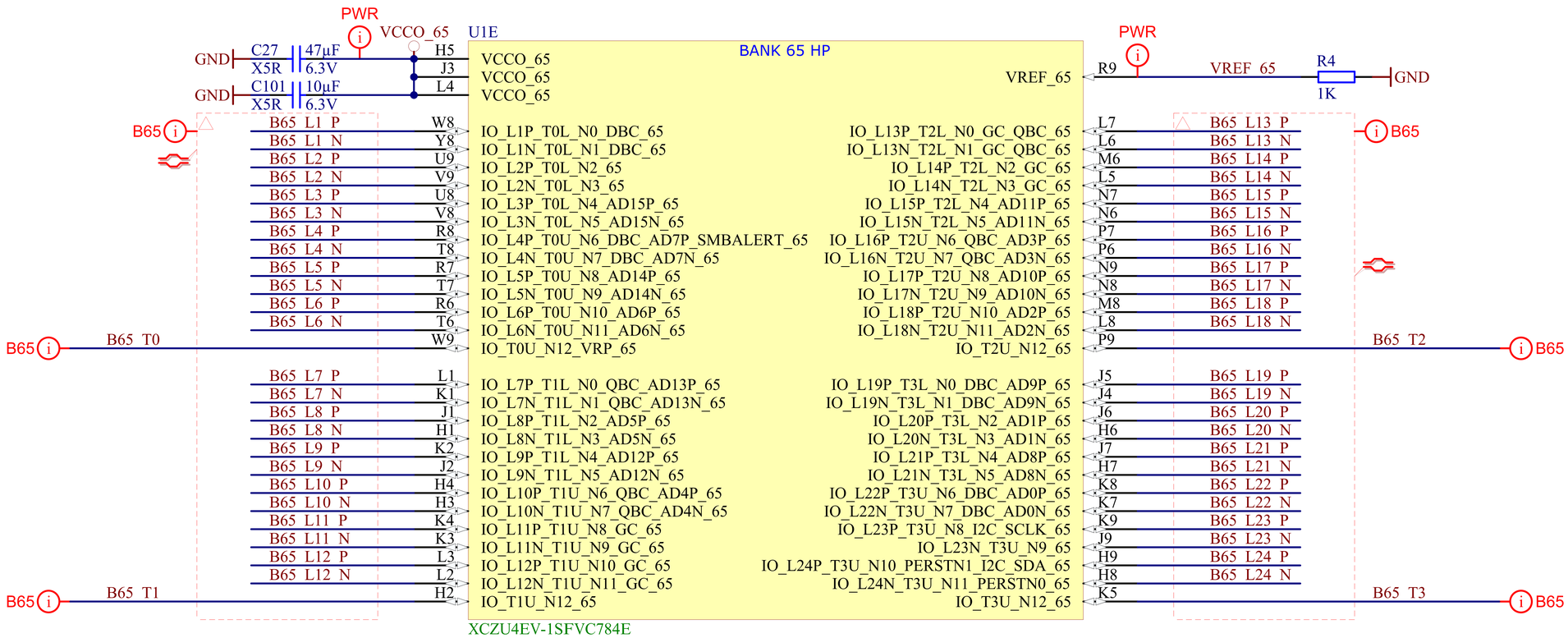
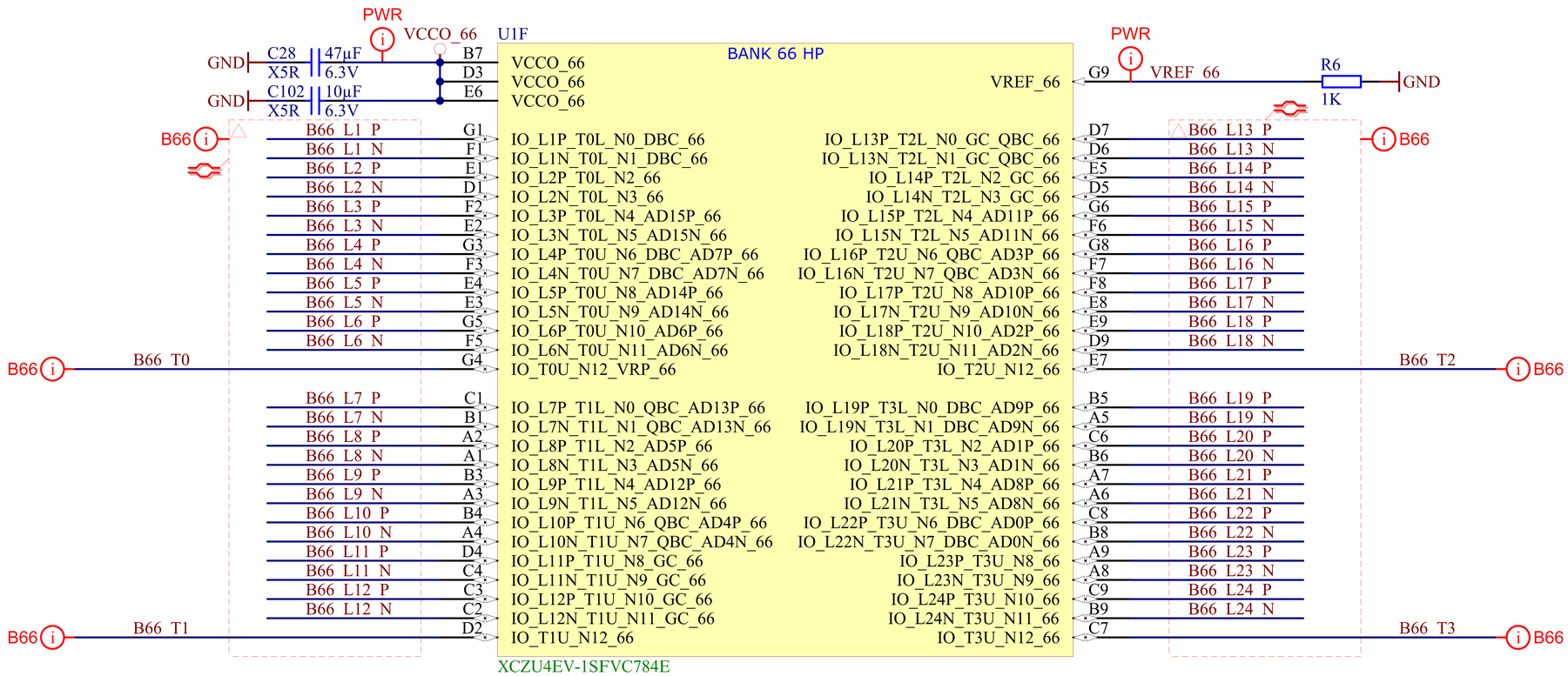
Title: TE0813 - B64		
A4	Number: TE0813 4DE61-A	Rev. 02
Date: 06.01.2026	Copyright: Trenz Electronic GmbH	Page 12 of 30
Filename: B64.SchDoc		



trenz electronic	Title: TE0813 - B65		
	A4	Number: TE0813 4DE61-A	Rev. 02
	Date: 06.01.2026	Copyright: Trenz Electronic GmbH	Page 13 of 30
	Filename: B65.SchDoc		



B66_L1_P	G1	IO_L1P_T0L_N0_DBC_66		IO_L13P_T2L_N0_GC_QBC_66	D7	B66_L13_P	
B66_L1_N	F1	IO_L1N_T0L_N1_DBC_66		IO_L13N_T2L_N1_GC_QBC_66	D6	B66_L13_N	
B66_L2_P	E1	IO_L2P_T0L_N2_66		IO_L14P_T2L_N2_GC_66	E5	B66_L14_P	
B66_L2_N	D1	IO_L2N_T0L_N3_66		IO_L14N_T2L_N3_GC_66	D5	B66_L14_N	
B66_L3_P	F2	IO_L3P_T0L_N4_AD15P_66		IO_L15P_T2L_N4_AD11P_66	G6	B66_L15_P	
B66_L3_N	E2	IO_L3N_T0L_N5_AD15N_66		IO_L15N_T2L_N5_AD11N_66	F6	B66_L15_N	
B66_L4_P	G3	IO_L4P_T0U_N6_DBC_AD7P_66		IO_L16P_T2U_N6_QBC_AD3P_66	G8	B66_L16_P	
B66_L4_N	F3	IO_L4N_T0U_N7_DBC_AD7N_66		IO_L16N_T2U_N7_QBC_AD3N_66	F7	B66_L16_N	
B66_L5_P	E4	IO_L5P_T0U_N8_AD14P_66		IO_L17P_T2U_N8_AD10P_66	F8	B66_L17_P	
B66_L5_N	E3	IO_L5N_T0U_N9_AD14N_66		IO_L17N_T2U_N9_AD10N_66	E8	B66_L17_N	
B66_L6_P	G5	IO_L6P_T0U_N10_AD6P_66		IO_L18P_T2U_N10_AD2P_66	E9	B66_L18_P	
B66_L6_N	F5	IO_L6N_T0U_N11_AD6N_66		IO_L18N_T2U_N11_AD2N_66	D9	B66_L18_N	
	G4	IO_T0U_N12_VRP_66		IO_T2U_N12_66	E7		
B66_L7_P	C1	IO_L7P_T1L_N0_QBC_AD13P_66		IO_L19P_T3L_N0_DBC_AD9P_66	B5	B66_L19_P	
B66_L7_N	B1	IO_L7N_T1L_N1_QBC_AD13N_66		IO_L19N_T3L_N1_DBC_AD9N_66	A5	B66_L19_N	
B66_L8_P	A2	IO_L8P_T1L_N2_AD5P_66		IO_L20P_T3L_N2_AD1P_66	C6	B66_L20_P	
B66_L8_N	A1	IO_L8N_T1L_N3_AD5N_66		IO_L20N_T3L_N3_AD1N_66	B6	B66_L20_N	
B66_L9_P	B3	IO_L9P_T1L_N4_AD12P_66		IO_L21P_T3L_N4_AD8P_66	A7	B66_L21_P	
B66_L9_N	A3	IO_L9N_T1L_N5_AD12N_66		IO_L21N_T3L_N5_AD8N_66	A6	B66_L21_N	
B66_L10_P	B4	IO_L10P_T1U_N6_QBC_AD4P_66		IO_L22P_T3U_N6_DBC_AD0P_66	C8	B66_L22_P	
B66_L10_N	A4	IO_L10N_T1U_N7_QBC_AD4N_66		IO_L22N_T3U_N7_DBC_AD0N_66	B8	B66_L22_N	
B66_L11_P	D4	IO_L11P_T1U_N8_GC_66		IO_L23P_T3U_N8_66	A9	B66_L23_P	
B66_L11_N	C4	IO_L11N_T1U_N9_GC_66		IO_L23N_T3U_N9_66	A8	B66_L23_N	
B66_L12_P	C3	IO_L12P_T1U_N10_GC_66		IO_L24P_T3U_N10_66	C9	B66_L24_P	
B66_L12_N	C2	IO_L12N_T1U_N11_GC_66		IO_L24N_T3U_N11_66	B9	B66_L24_N	
	D2	IO_T1U_N12_66		IO_T3U_N12_66	C7		

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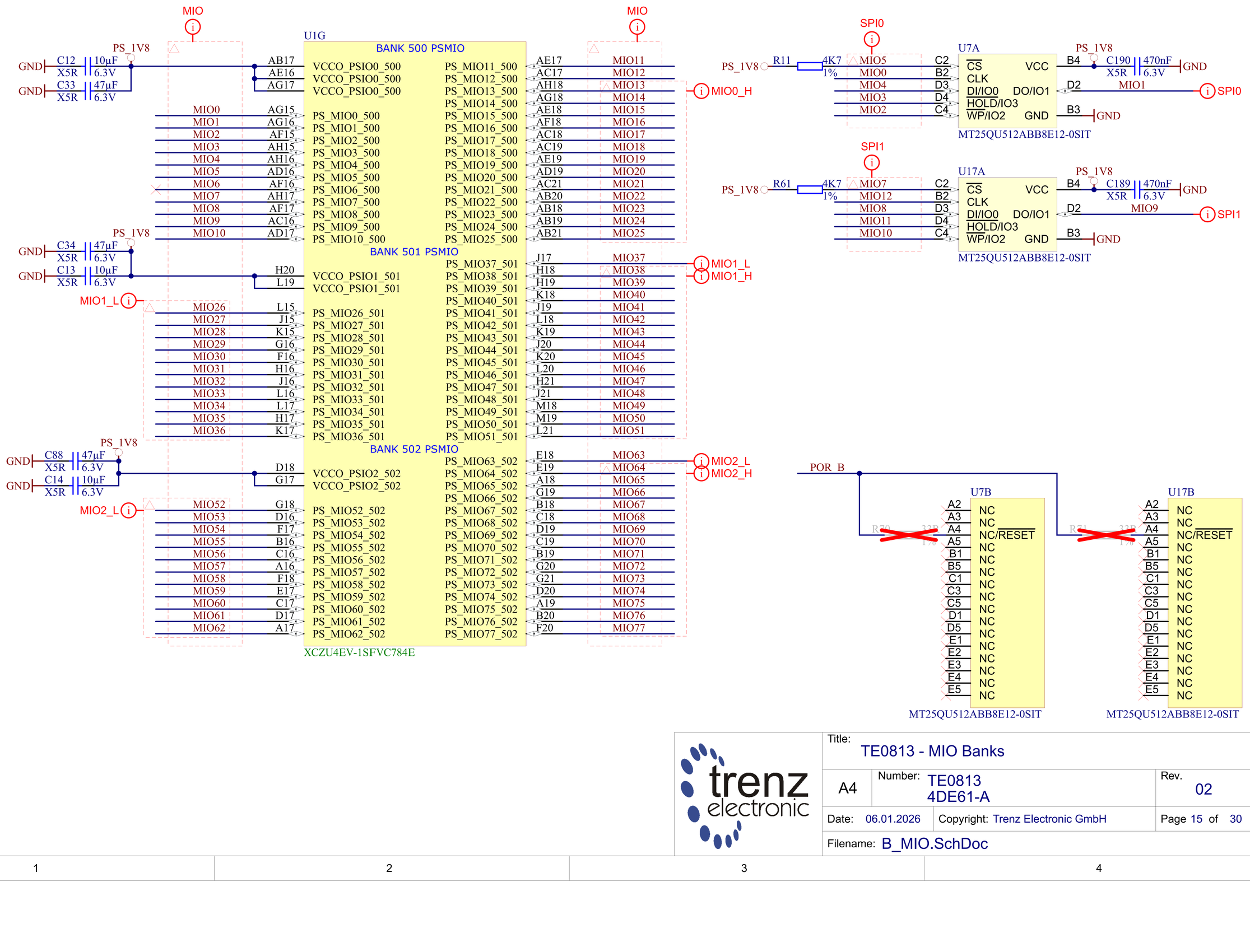
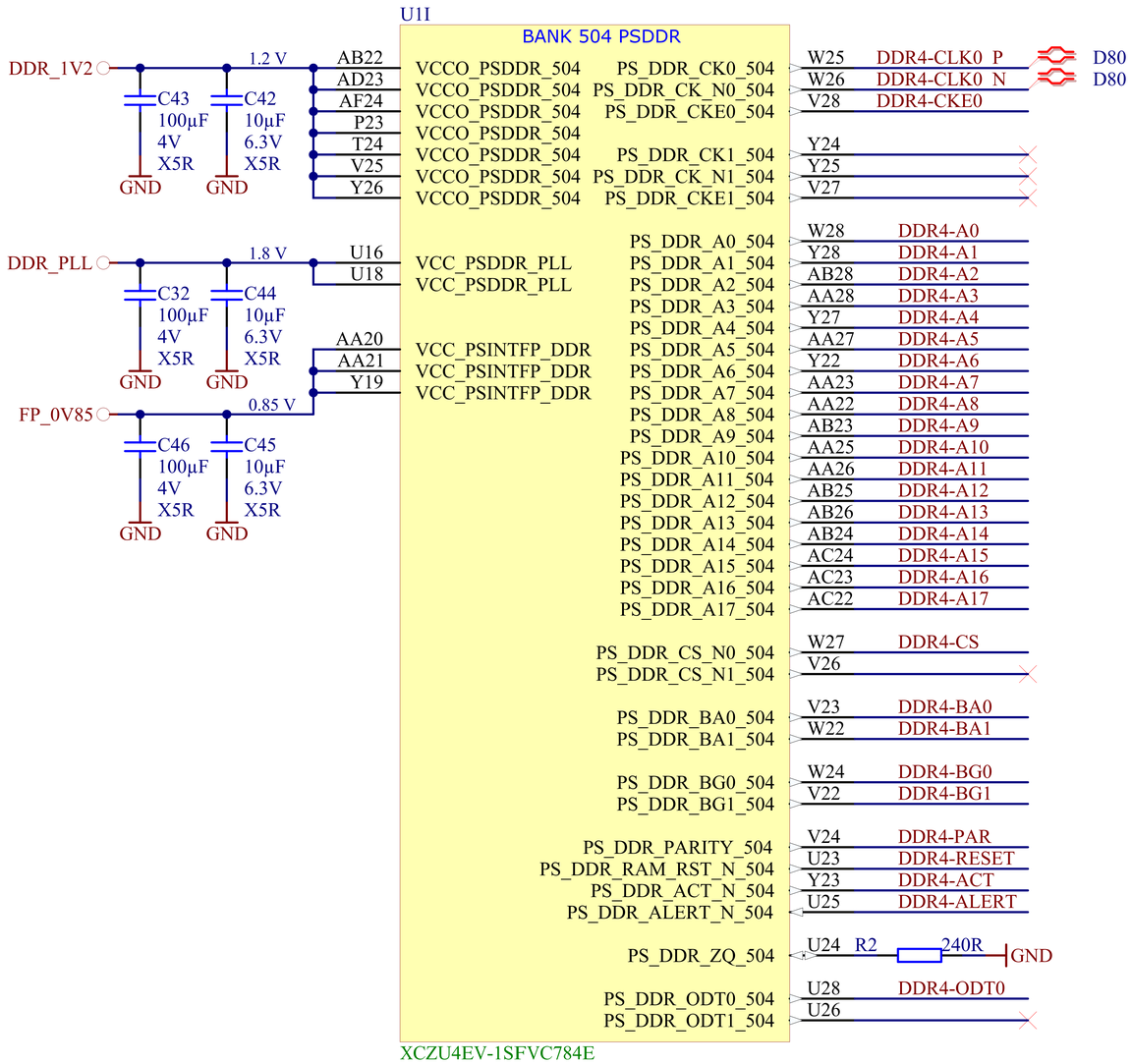
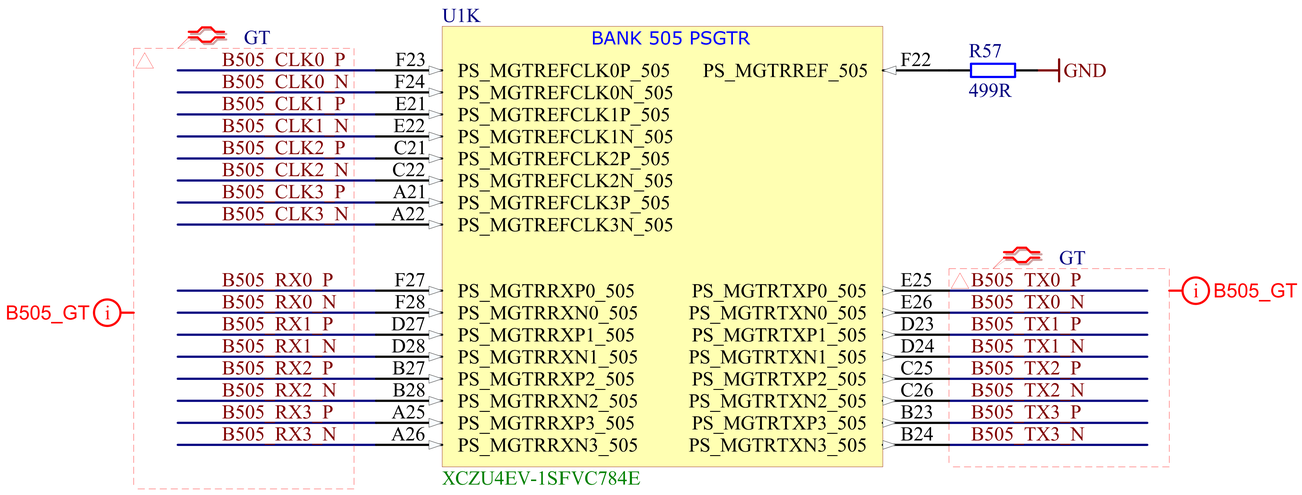
Title: TE0813 - B66		
A4	Number: TE0813 4DE61-A	Rev. 02
Date: 06.01.2026	Copyright: Trenz Electronic GmbH	Page 14 of 30
Filename: B66.SchDoc		



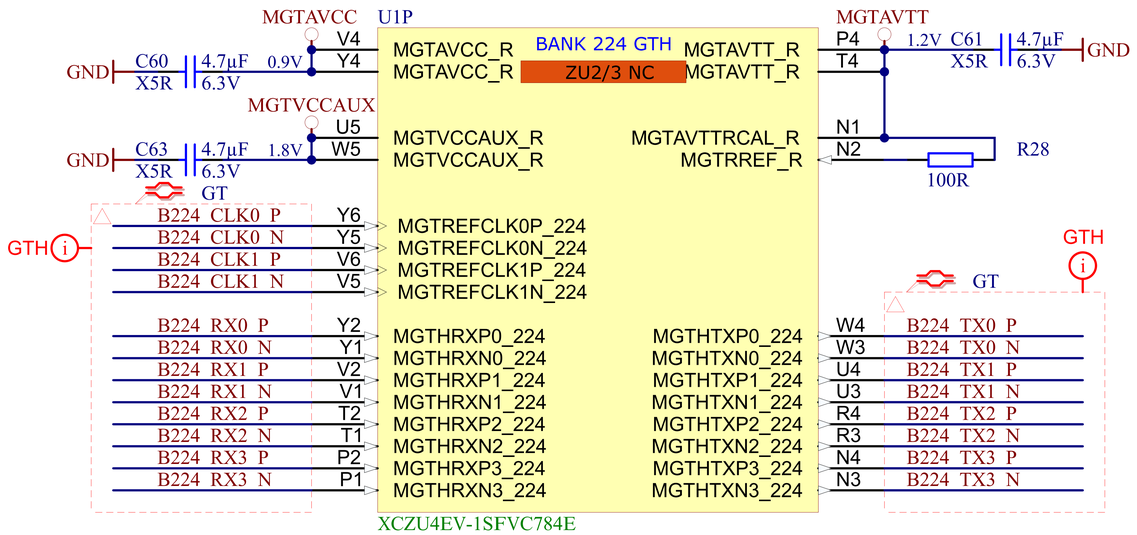
Title: TE0813 - MIO Banks			
A4	Number: TE0813 4DE61-A		Rev. 02
Date: 06.01.2026	Copyright: Trenz Electronic GmbH		Page 15 of 30
Filename: B_MIO.SchDoc			



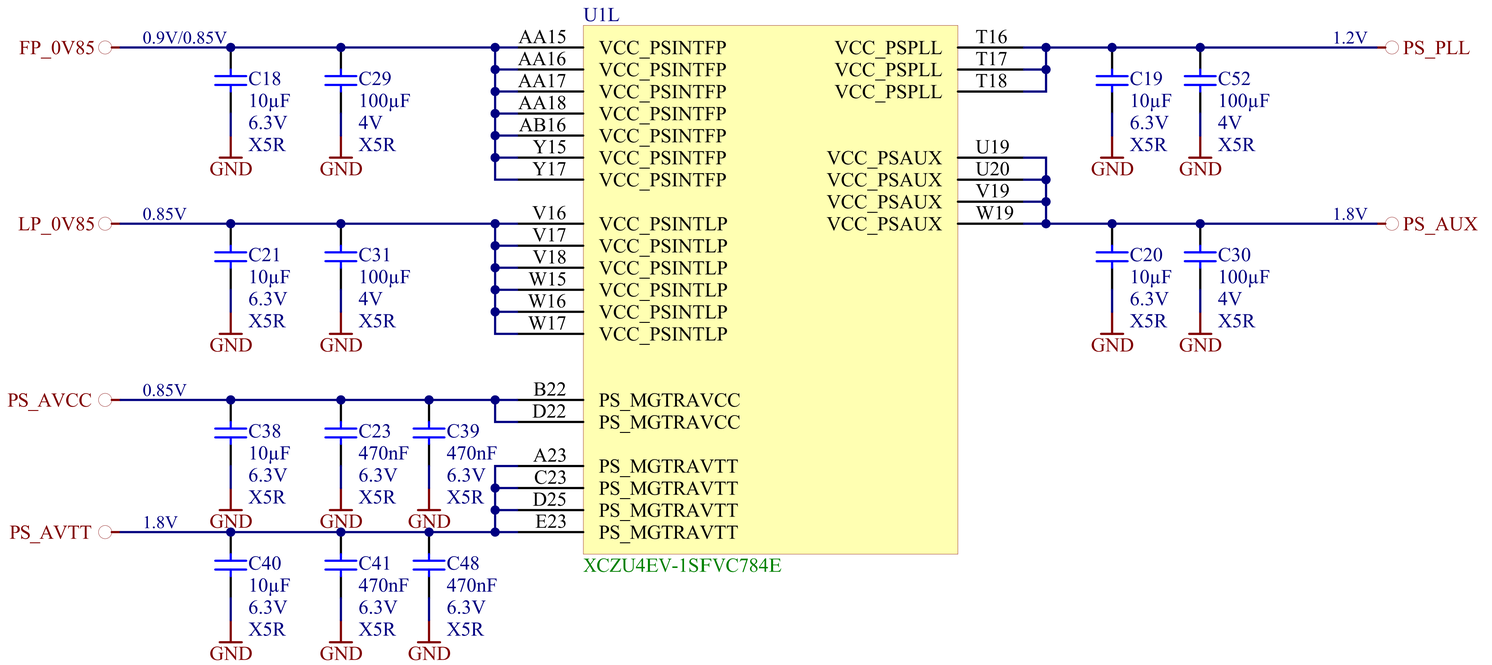
	Title: TE0813 - PS_DDR		
A4	Number: TE0813 4DE61-A		Rev. 02
Date: 06.01.2026	Copyright: Trenz Electronic GmbH		Page 16 of 30
Filename: PS_DDR.SchDoc			



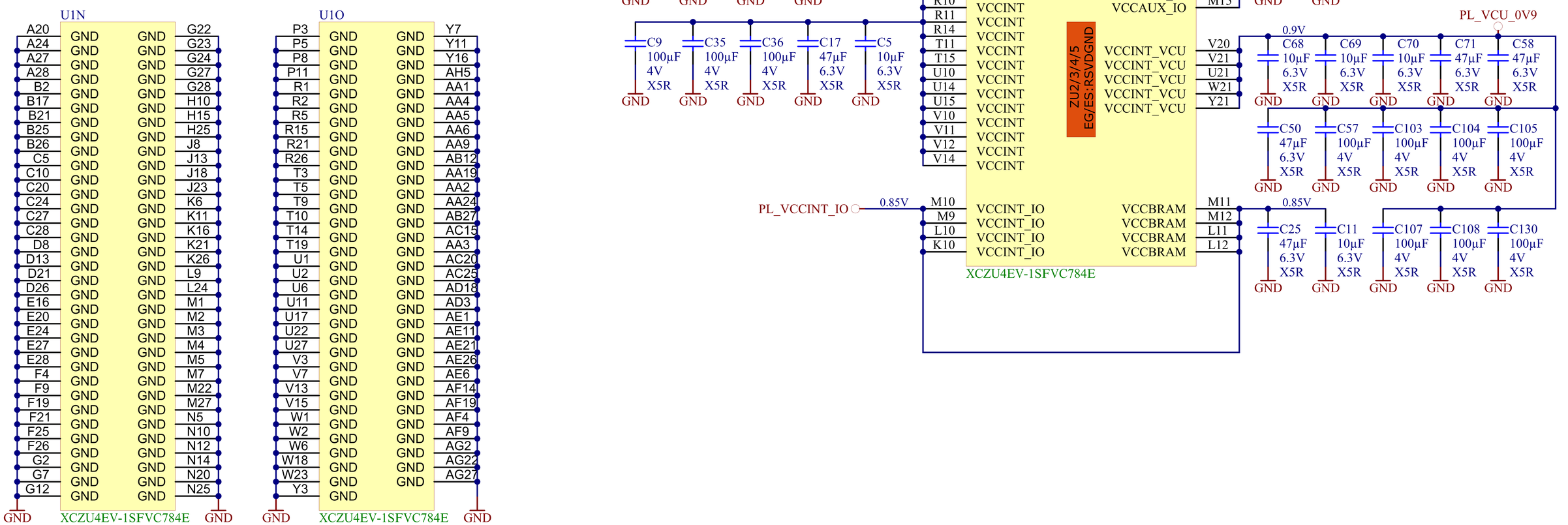
	Title: TE0813 - PS_GT		
A4	Number: TE0813 4DE61-A		Rev. 02
Date: 06.01.2026	Copyright: Trenz Electronic GmbH		Page 17 of 30
Filename: B_PS_GT.SchDoc			



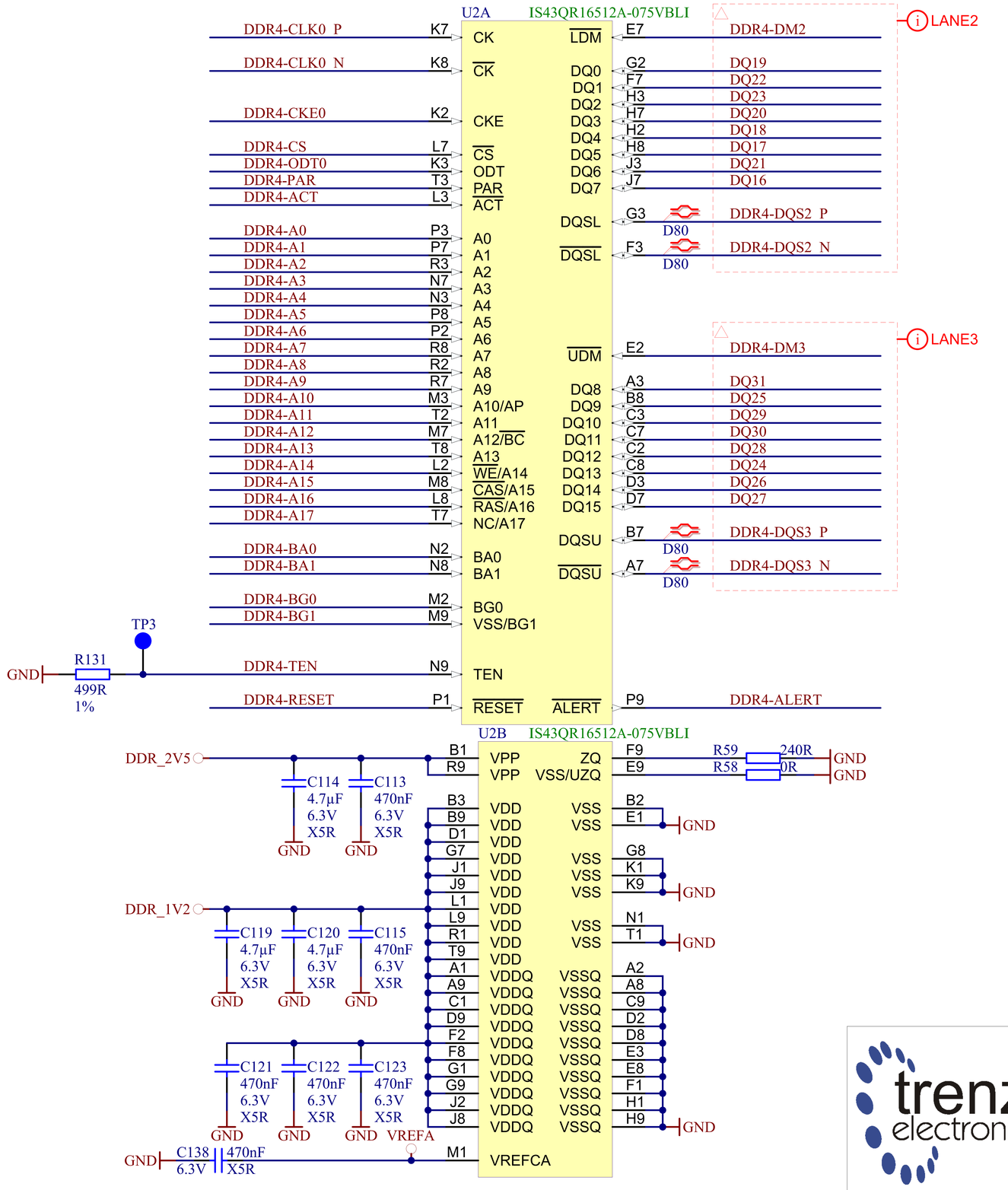
Title: TE0813 - B224 - GTH			
A4	Number: TE0813 4DE61-A		Rev. 02
Date: 06.01.2026	Copyright: Trenz Electronic GmbH		Page 18 of 30
Filename: B_GT.SchDoc			



Title: TE0813 - ZU_PS_POWER		
A4	Number: TE0813 4DE61-A	Rev. 02
Date: 06.01.2026	Copyright: Trenz Electronic GmbH	Page 19 of 30
Filename: ZU_PS_POWER.SchDoc		



Title: TE0813 - ZU_POWER			
A4	Number: TE0813 4DE61-A		Rev. 02
Date: 06.01.2026	Copyright: Trenz Electronic GmbH		Page 20 of 30
Filename: ZU_POWER.SchDoc			



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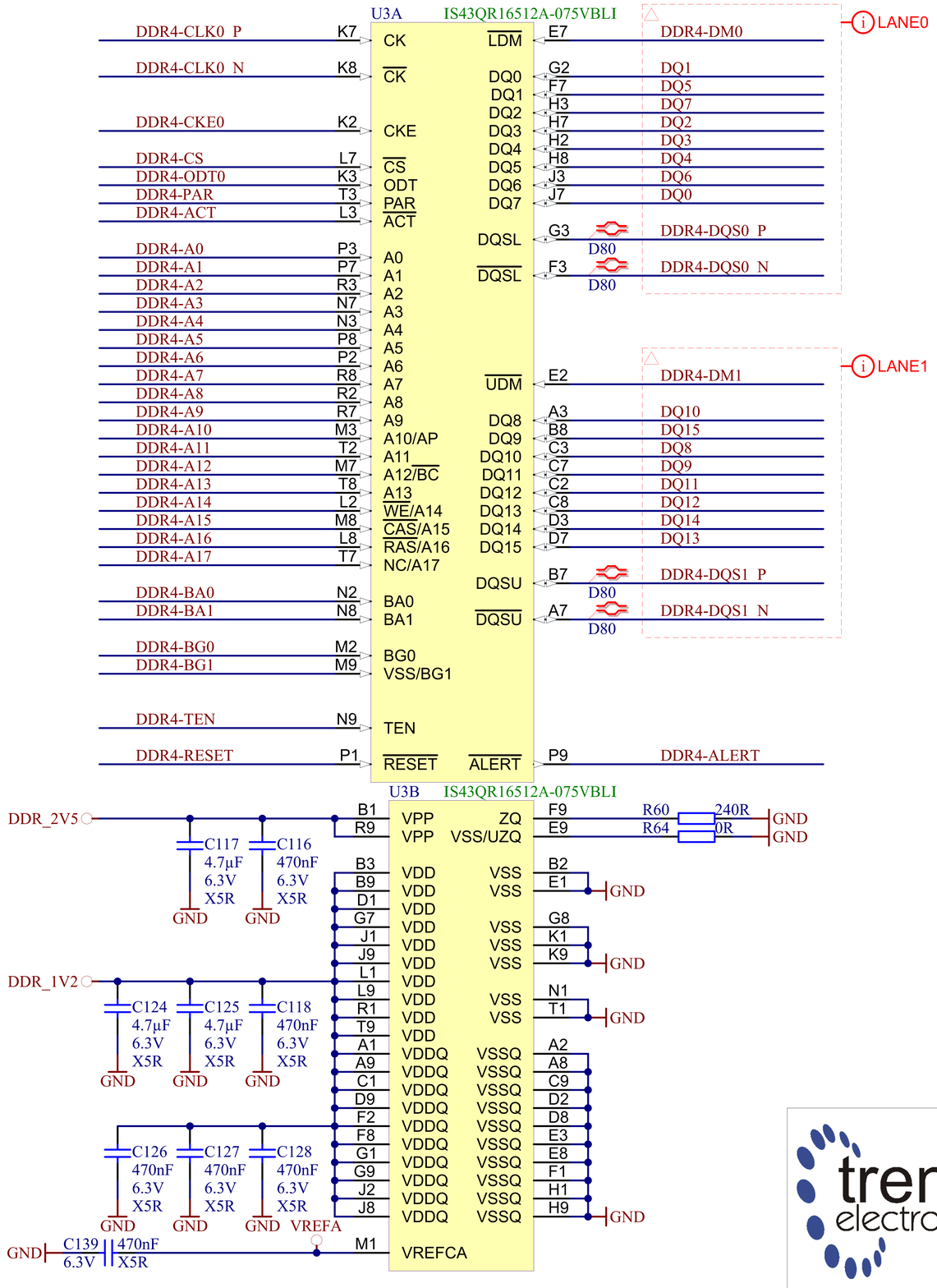
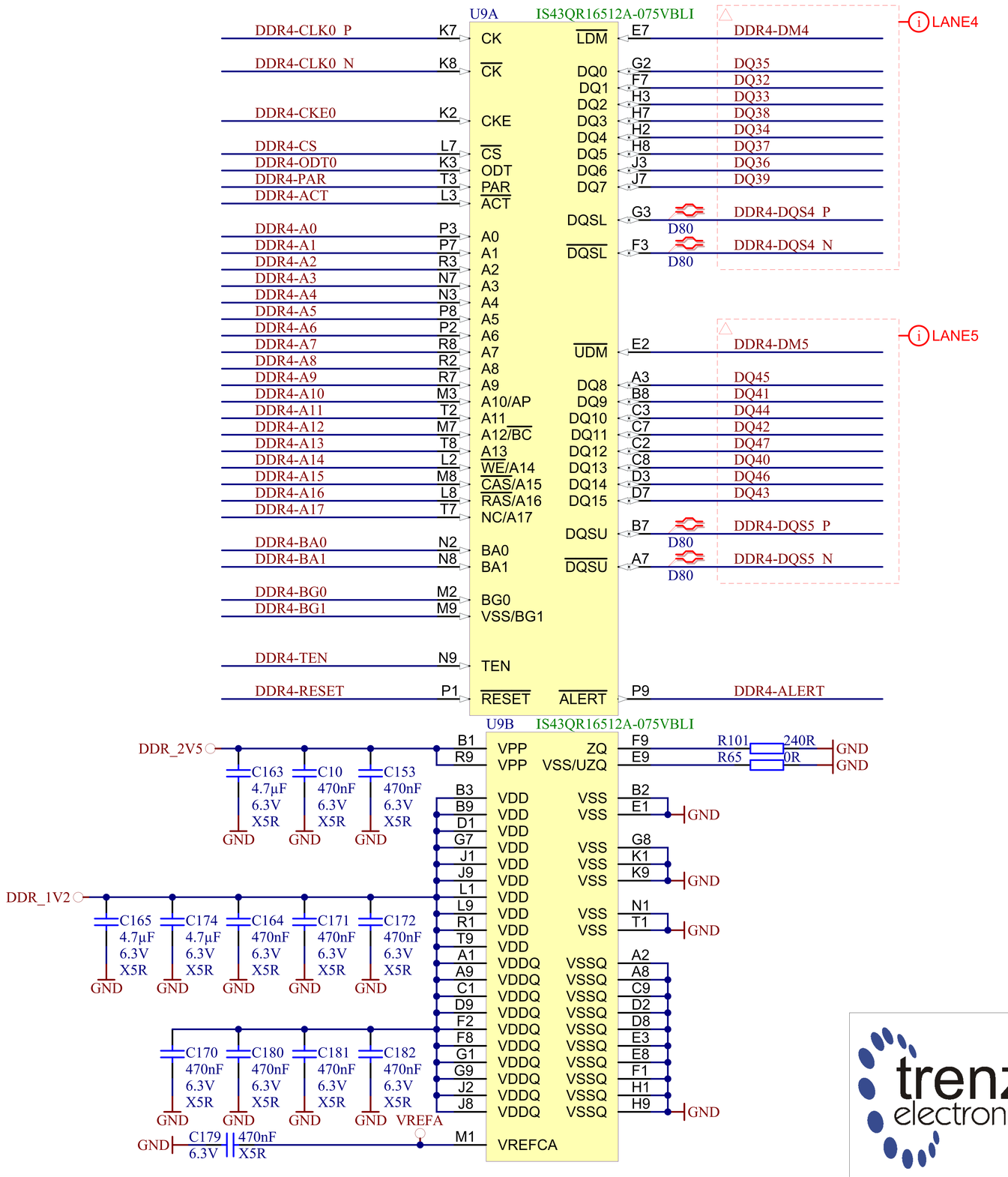
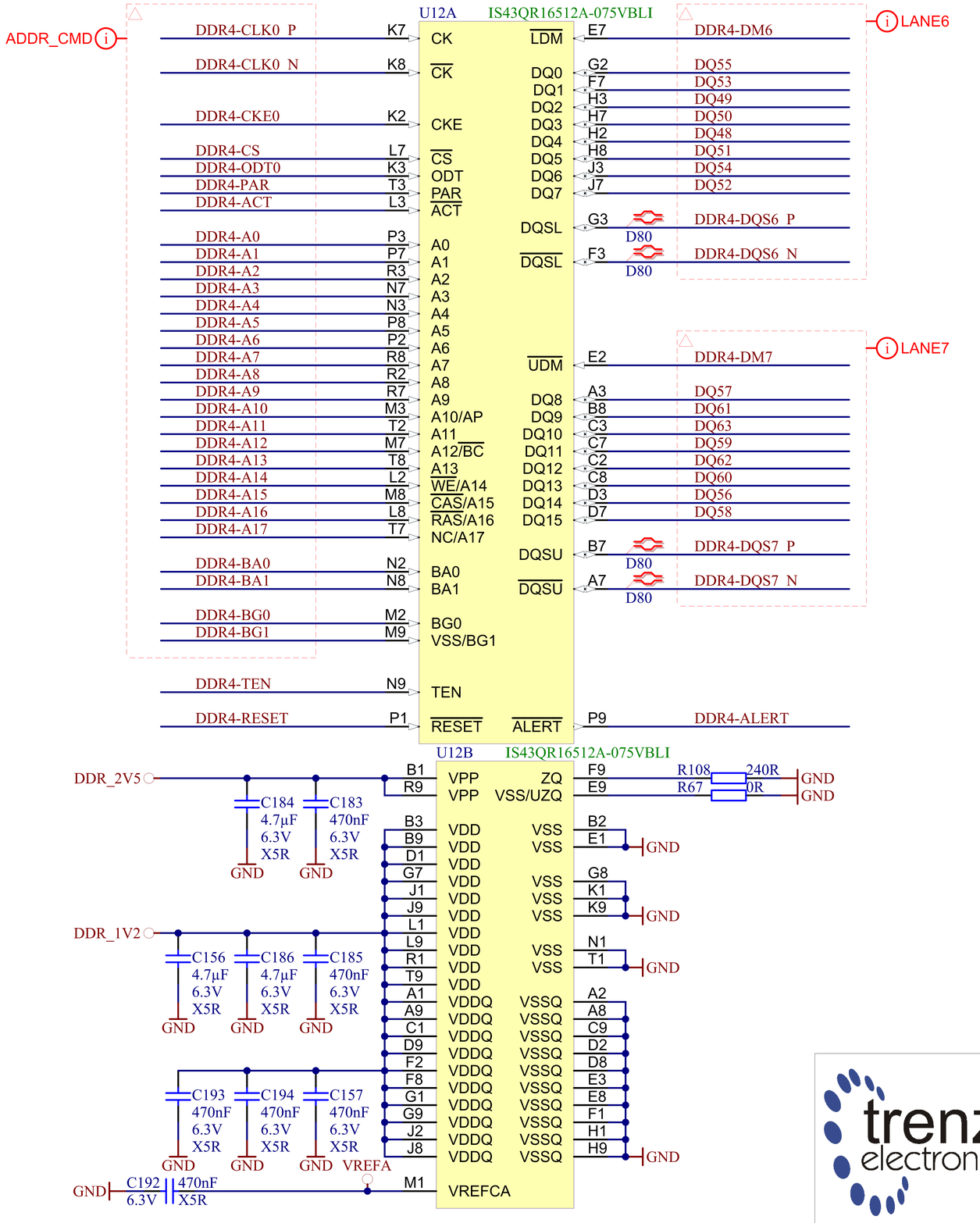
Title: TE0813 - DDR4_1_RAM			
A4	Number: TE0813 4DE61-A		Rev. 02
Date: 06.01.2026	Copyright: Trenz Electronic GmbH		Page 21 of 30
Filename: DDR4-RAM.SchDoc			



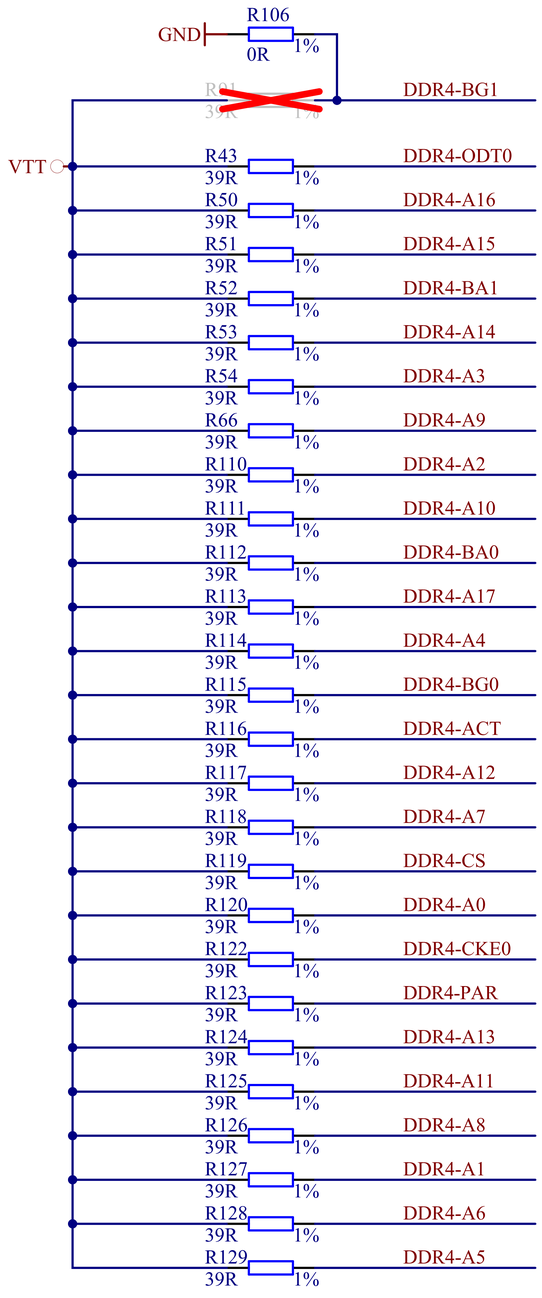
Title:	TE0813 - DDR4_2_RAM
A4	Number: TE0813 4DE61-A
Rev.	02
Date: 06.01.2026	Copyright: Trenz Electronic GmbH
Page 22 of 30	
Filename:	DDR4-RAM_2.SchDoc

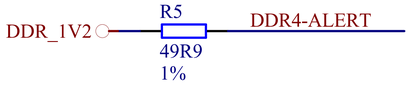


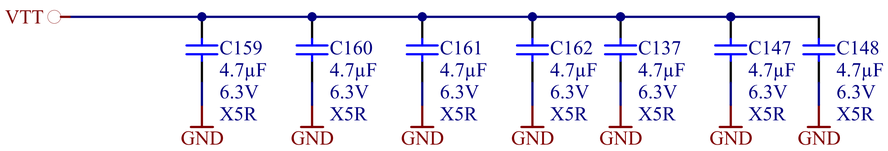
Title:	TE0813 - DDR4_3_RAM
A4	Number: TE0813 4DE61-A
Rev.	02
Date: 06.01.2026	Copyright: Trenz Electronic GmbH
Page 23 of 30	
Filename:	DDR4-RAM_3.SchDoc

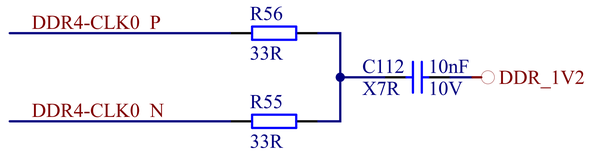


Title: TE0813 - DDR4_4_RAM			
A4	Number: TE0813 4DE61-A		Rev. 02
Date: 06.01.2026	Copyright: Trenz Electronic GmbH		Page 24 of 30
Filename: DDR4-RAM_4.SchDoc			

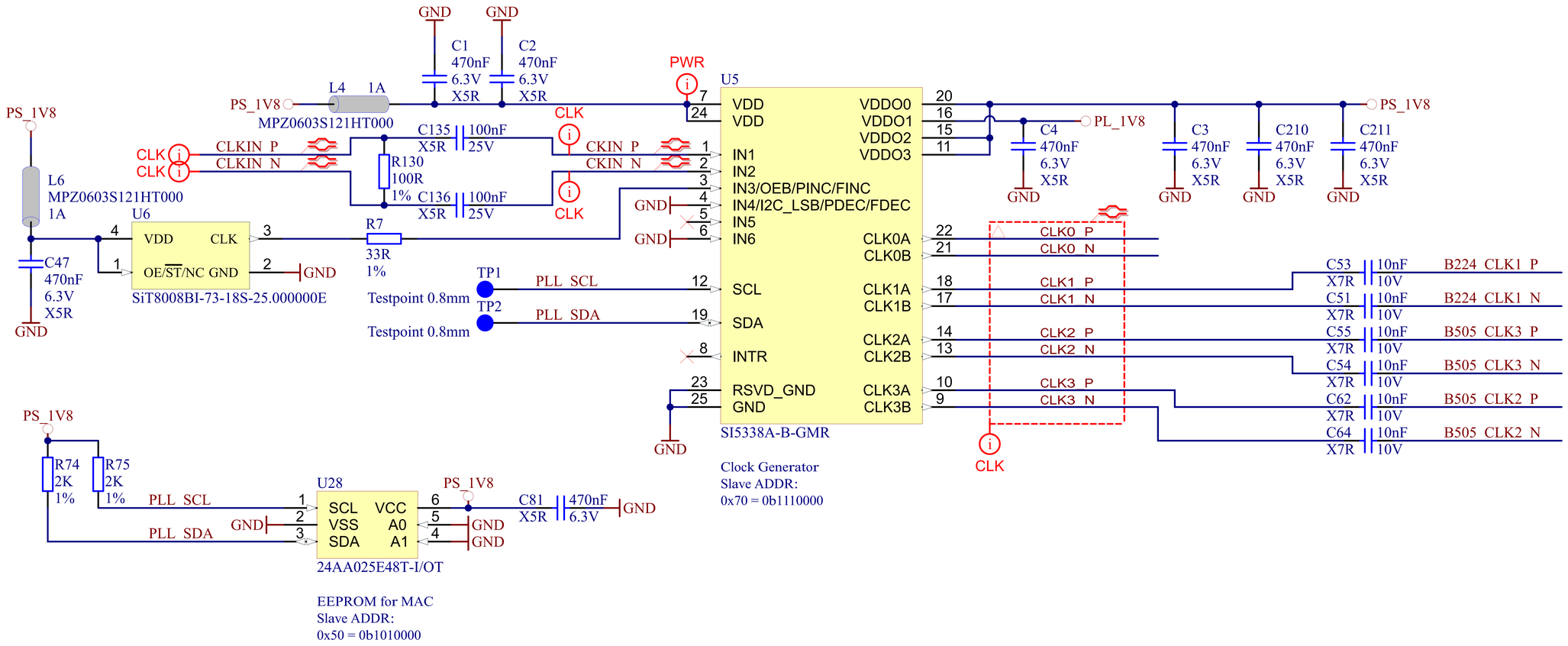








Title: TE0813 - DDR4_TERM			
A4	Number: TE0813 4DE61-A		Rev. 02
Date: 06.01.2026	Copyright: Trenz Electronic GmbH		Page 25 of 30
Filename: DDR4-TERM.SchDoc			

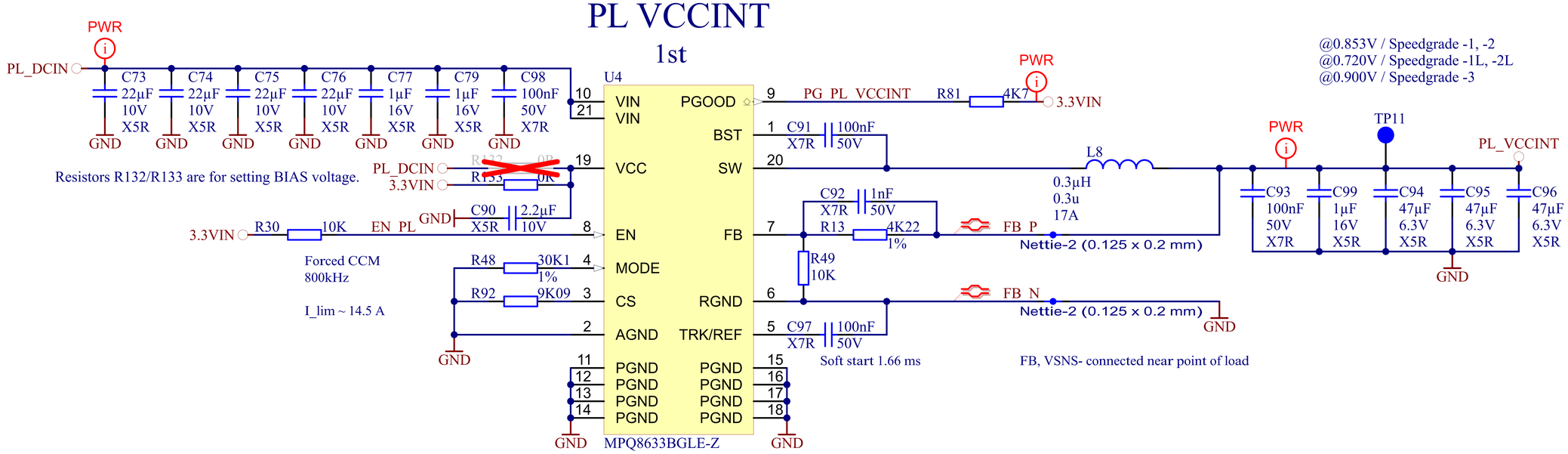


Title: TE0813 - CLOCK			
A4	Number: TE0813 4DE61-A		Rev. 02
Date: 06.01.2026	Copyright: Trenz Electronic GmbH		Page 26 of 30
Filename: Clock.SchDoc			

U4 can be TPS548A28RWWR or MPQ8633BGLE-Z which is up to Trenz Electronic GmbH.

PL VCCINT

1st

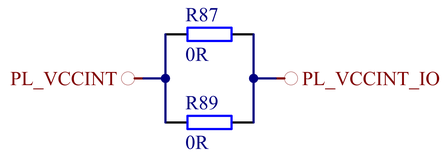


FPGA Speedgrade	R13	R49	PL_VCCINT
-1LI	2 kOhm	10 kOhm	0.720 V
-2LE	2 kOhm	10 kOhm	0.720 V
-1	4.22 kOhm	10 kOhm	0.853 V
-2	4.22 kOhm	10 kOhm	0.853 V
-3E	10 kOhm	20 kOhm	0.900 V

U4 pin compatible with
-- TPS548B28 (20A)
-- TPS548A28 (15A)
-- TPS54JA20 (12A)

Title: TE0813 - POWER_1		
A4	Number: TE0813 4DE61-A	Rev. 02
Date: 06.01.2026	Copyright: Trenz Electronic GmbH	Page 27 of 30
Filename: POWER.SchDoc		

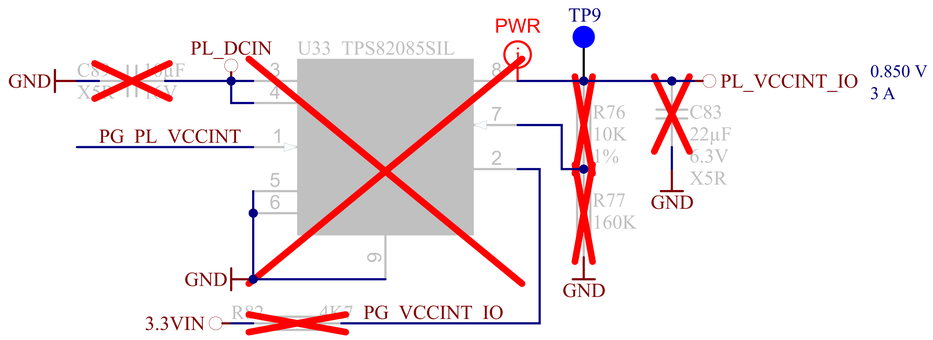
Remove R87/89 when -1LI/2LE FPGA is used



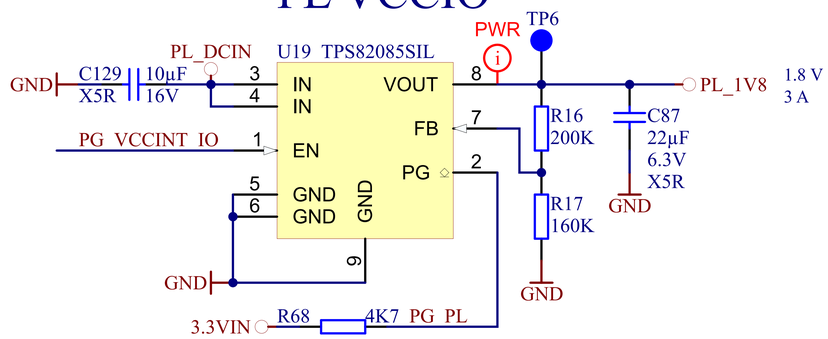
Remove R86 when -1LI/2LE FPGA is used

VCCINT_IO & VCCBRAM

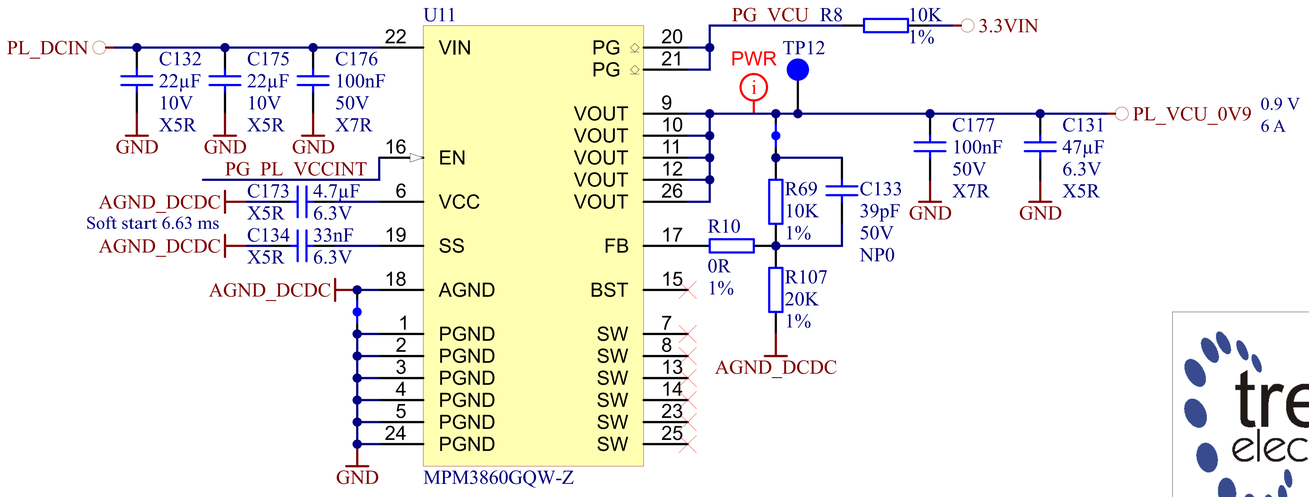
Add U33 when -1LI/2LE FPGA is used



PL VCCIO



VCU



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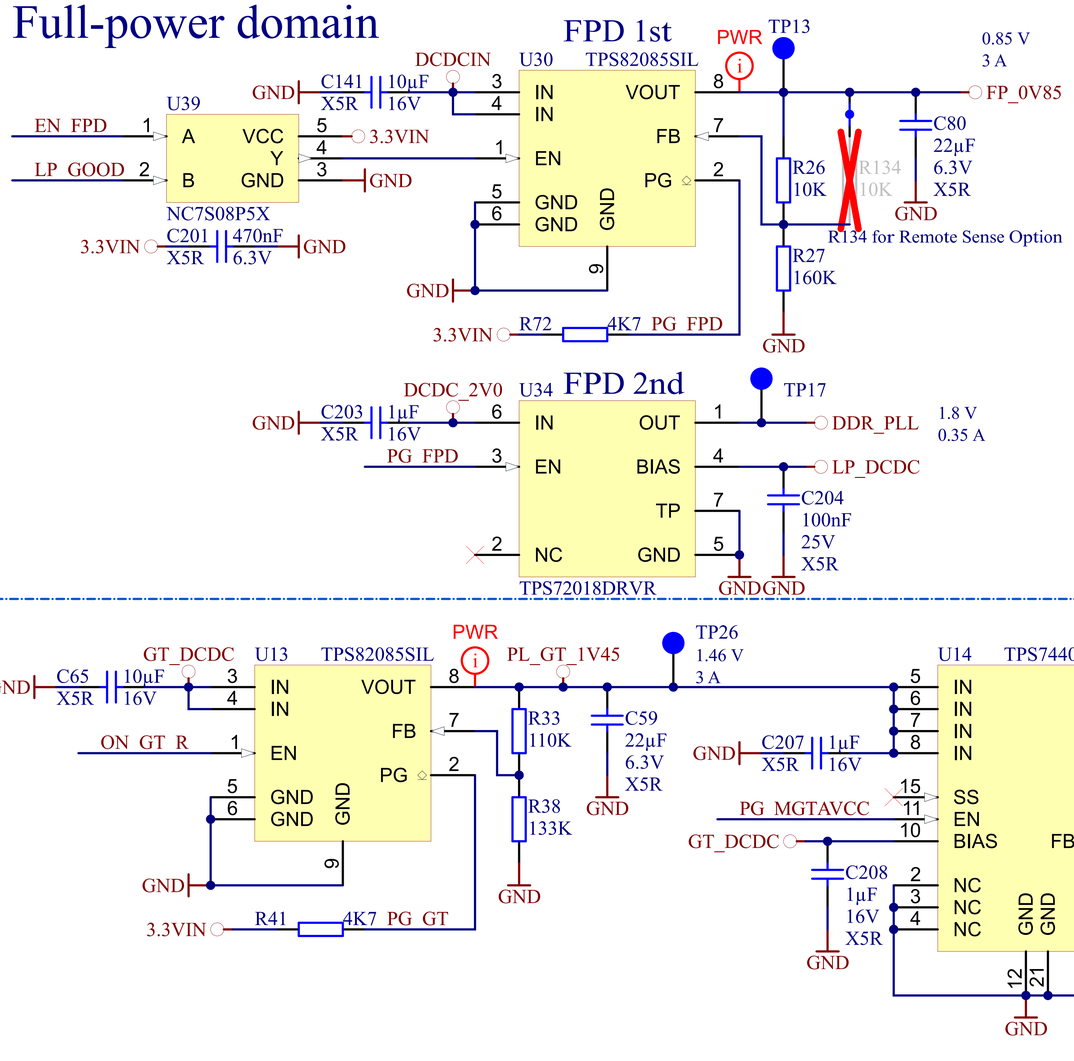
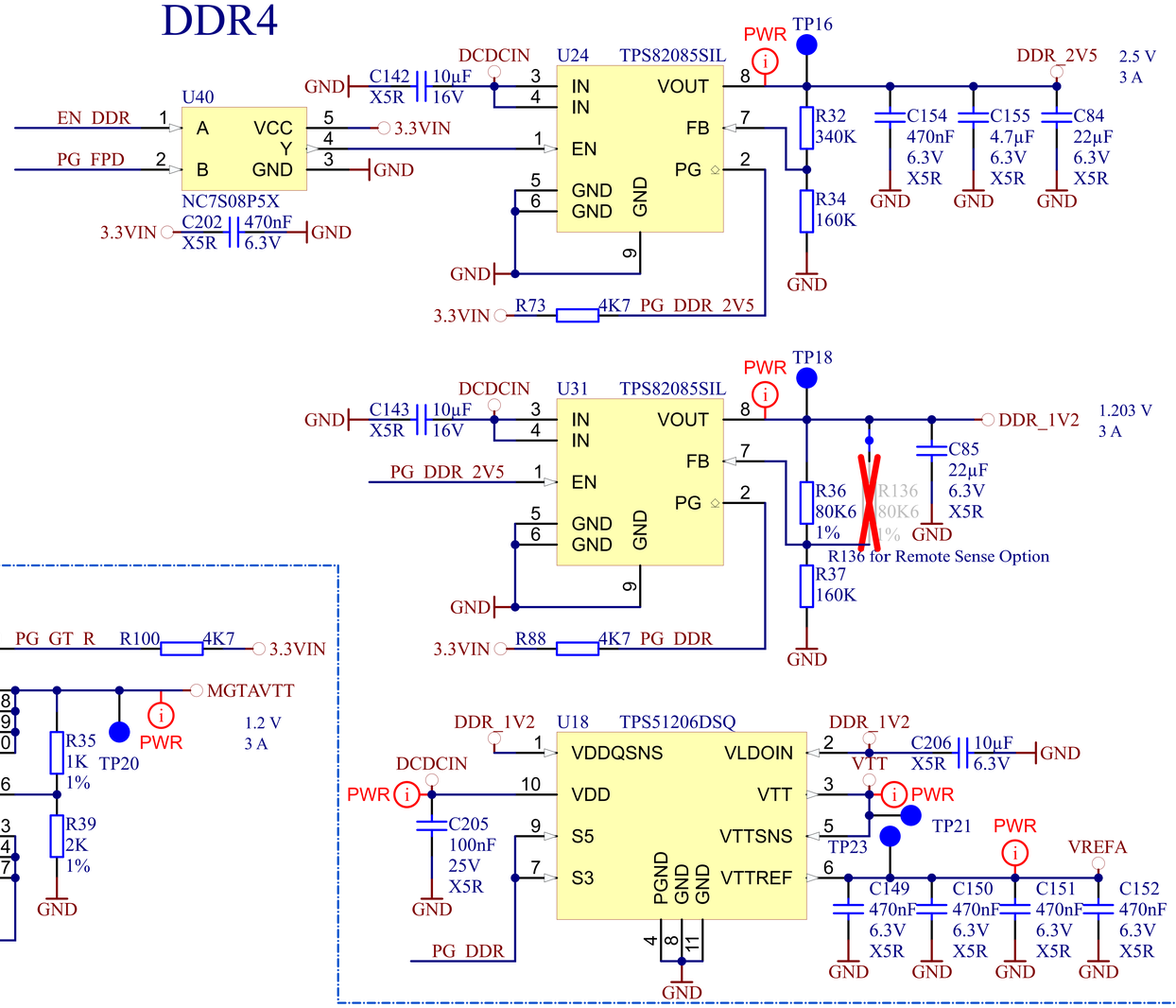
Title: TE0813 - POWER_2		
A4	Number: TE0813 4DE61-A	Rev. 02
Date: 06.01.2026	Copyright: Trenz Electronic GmbH	Page 28 of 30
Filename: POWER_1.SchDoc		

Full-power domain



DDR4



PL MGT

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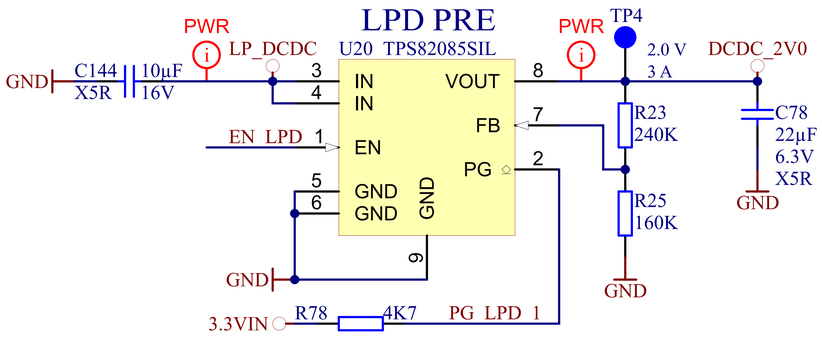
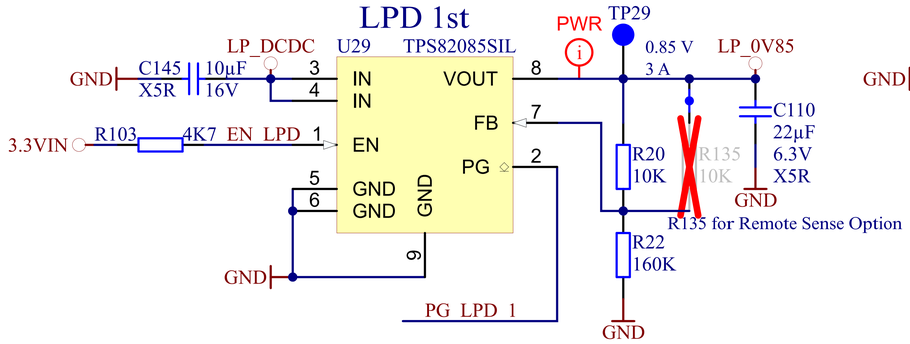
Title: TE0813 - POWER_3			
A4	Number: TE0813 4DE61-A		Rev. 02
Date: 06.01.2026	Copyright: Trenz Electronic GmbH		Page 29 of 30
Filename: POWER_2.SchDoc			

Low-power domain

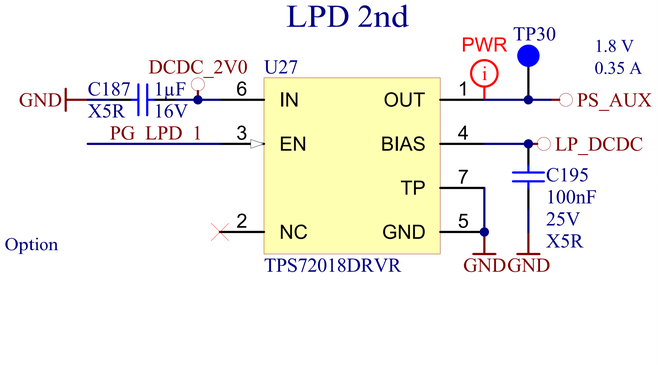
LPD PRE



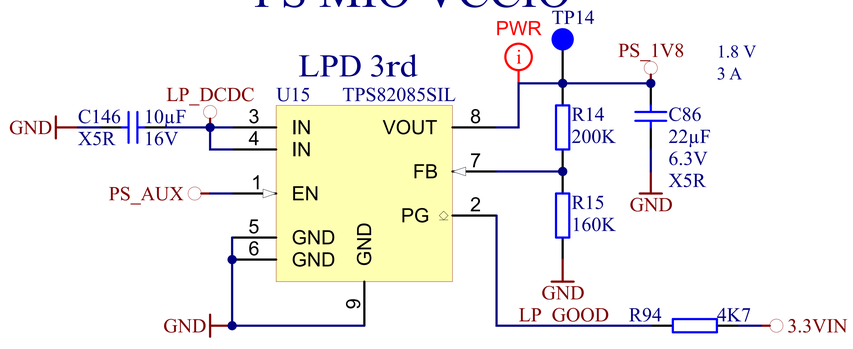
LPD 1st

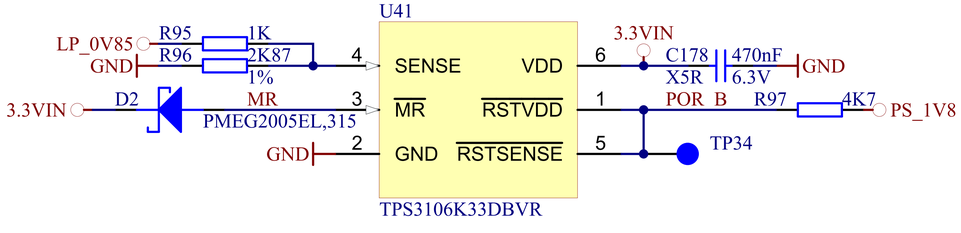


LPD 2nd



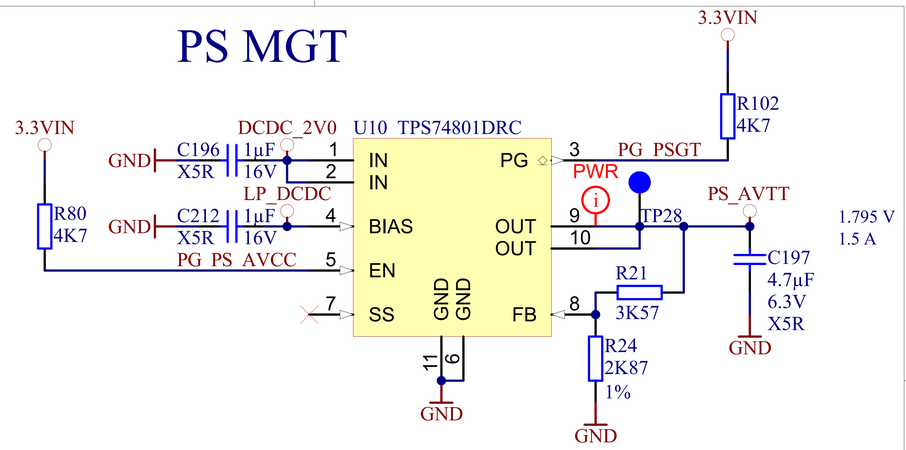
LPD 3rd

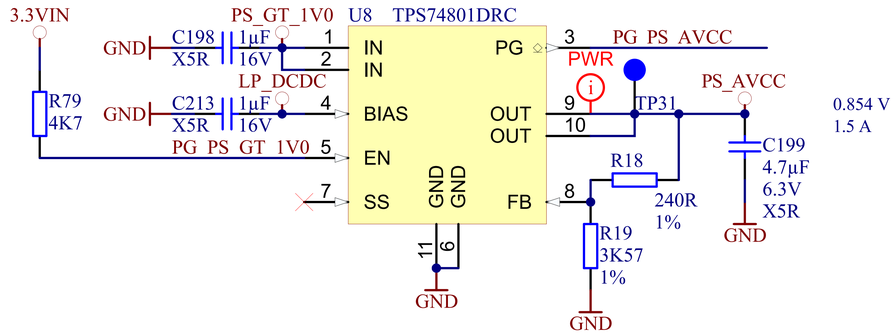




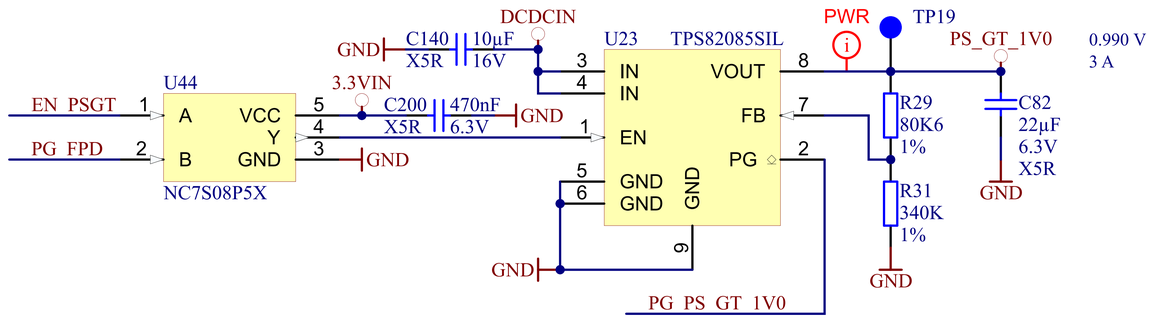
Net Name	Voltage Rail	Low Detect
LP_0V85	0.85 V	0.743 V
3.3VIN	3.3 V	2.941 V

PS MGT





PS MIO VCCIO



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