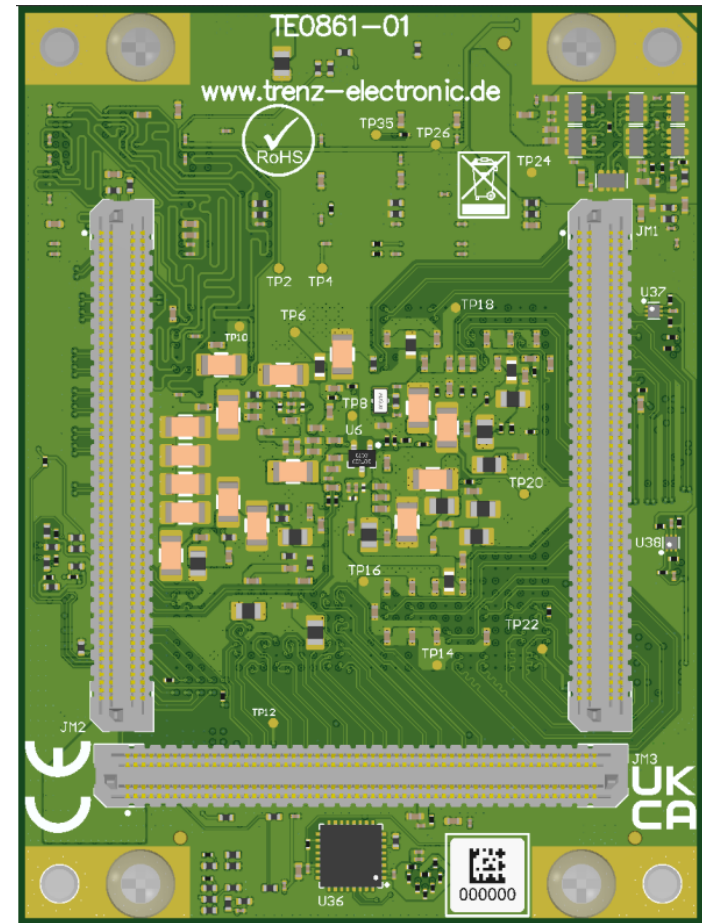
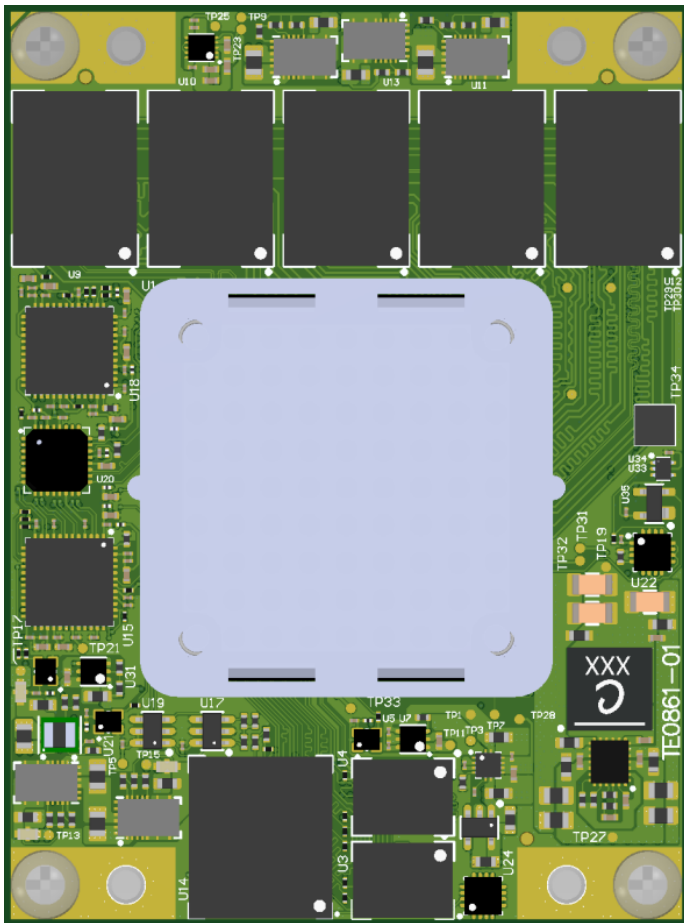




Regarding the usage of our schematics and alike documentation for Trenz module TE0861.
 Project is protected under copyright and we strongly and strictly prohibit the reverse engineering or recreation, even if the design is just adapted or modified.
 TE0861 is protected under such right and in case of plagiarism we will have to do anything necessary in order to protect our assets.
 Schematics and other handouts serve for informational purposes only!

	Title: TE0861 – Legal Notices Modules		
	A4	Number: TE0861 6BI69QA	Rev. 01
	Date: 20.11.2025	Copyright: Trenz Electronic GmbH	Page 1 of 35
	Filename: Legal Notices Modules.SchDoc		

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REV	Description	
-01	Initial revision	ED/VY



Title: TE0861 – Revision Changes		
A4	Number: TE0861 6BI69QA	Rev. 01
Date: 20.11.2025	Copyright: Trenz Electronic GmbH	Page 2 of 35
Filename: Revision_Changes.SchDoc		

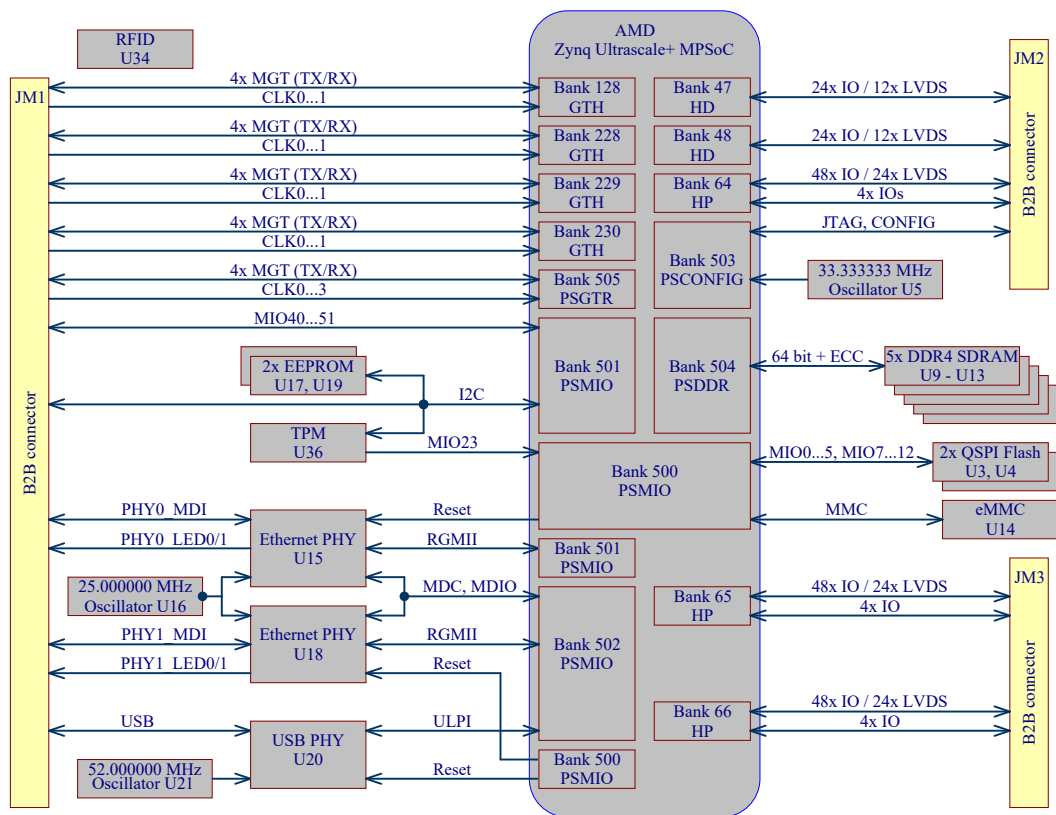
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System Overview



Supported Voltage Ranges:

Power Rail	Direction	Range	Tolerance	Description	Note
VIN	IN	5 V - 12 V	+/- 10 %	Module main power supply	-
VCCO_47	IN	1.2 V - 3.3 V	1)	HD IO Bank 47	-
VCCO_48	IN	1.2 V - 3.3 V	1)	HD IO Bank 48	-
VCCO_64	IN	1.0 V ... 1.8 V	+/- 5 %	HP IO Bank 64	-
VCCO_65	IN	1.0 V ... 1.8 V	+/- 5 %	HP IO Bank 65	-
VCCO_66	IN	1.0 V ... 1.8 V	+/- 5 %	HP IO Bank 66	-
PSBATT	IN	1.2 V - 1.5 V	-	RTC / BBRAM	-
3V3	OUT	3.3 V	+/- 3 %	Periphery supply	-
1V8	OUT	1.8 V	+/- 3 %	Periphery supply	-

1) +/- 5 %, - 5 % / +3 % for 3.3 V

I2C Addresses:

Device	Address	Note
MPSoC U1H	-	AMD Zynq Ultrascale+ MPSoC PS
B2B JM1A	-	B2B connector
TPM U36	0x2E	Trusted Platform Modul
EEPROM U17	0x50	MAC-EEPROM with user area
EEPROM U19	0x51	MAC-EEPROM with user area

U_DDR4-TERM
DDR4-TERM.SchDoc

U_ZU_POWER
ZU_POWER.SchDoc

U_ZU_PS_POWER
ZU_PS_POWER.SchDoc

U_POWER_1
POWER_1.SchDoc

U_POWER_2
POWER_2.SchDoc

U_POWER_3
POWER_3.SchDoc

U_POWER_4
POWER_4.SchDoc



Title: TE0861 – System Overview

A4 Number: TE0861
6BI69QA

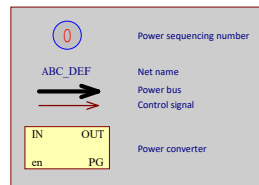
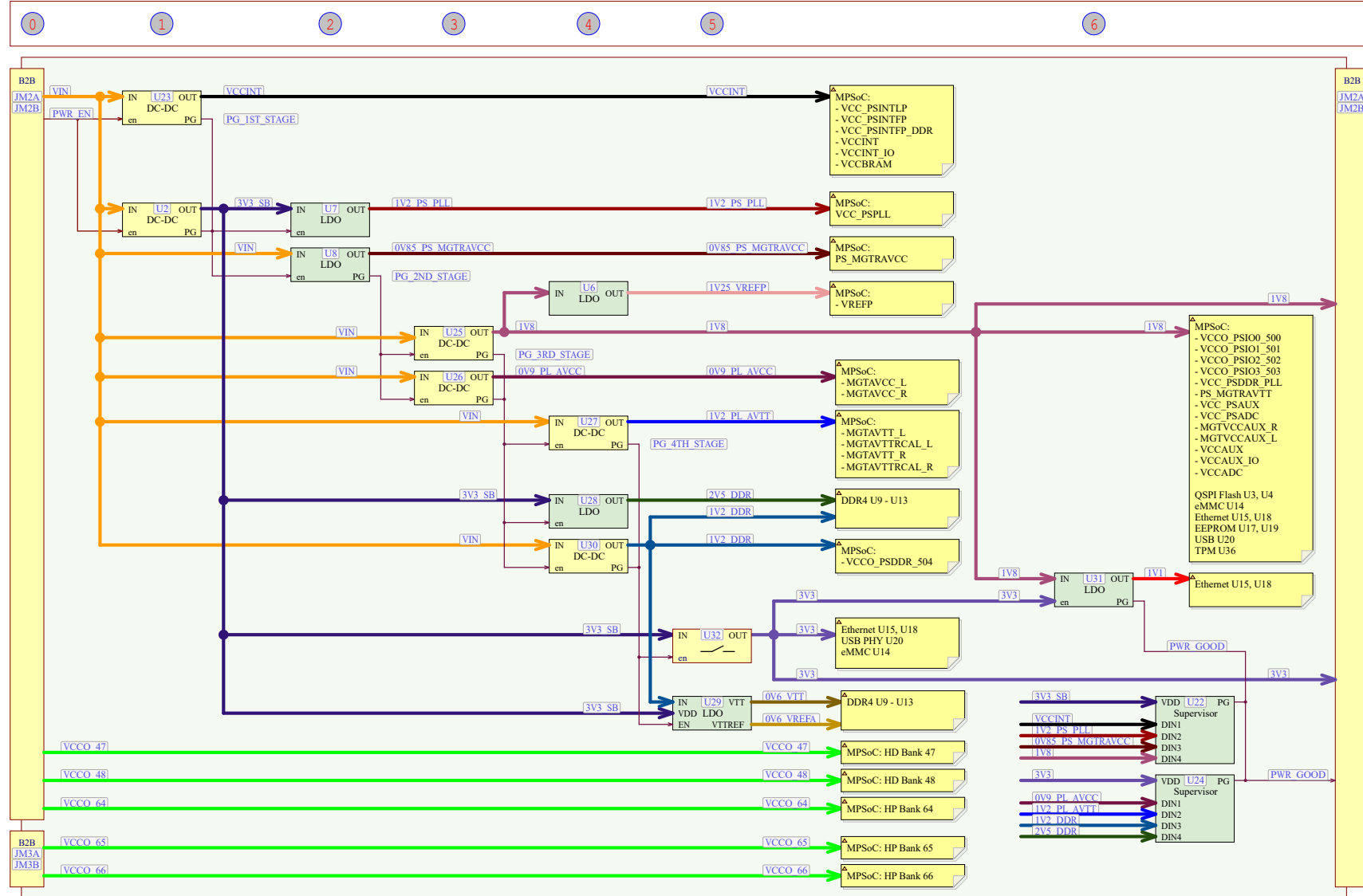
Rev. 01

Date: 20.11.2025 Copyright: Trenz Electronic GmbH

Page 3 of 35

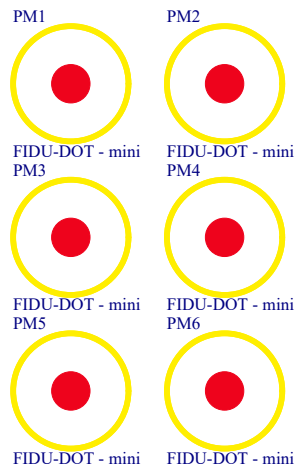
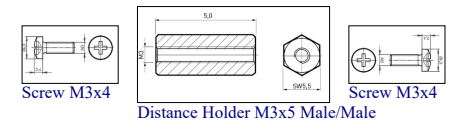
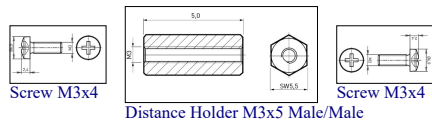
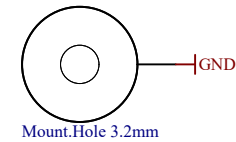
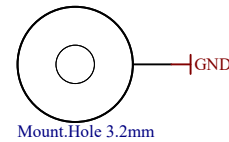
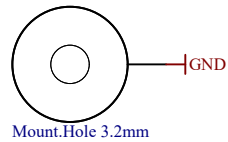
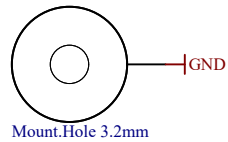
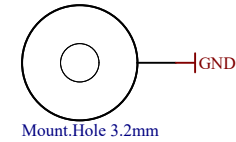
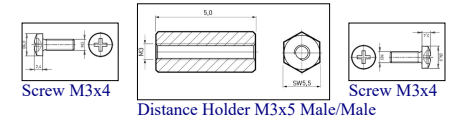
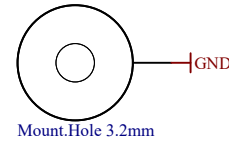
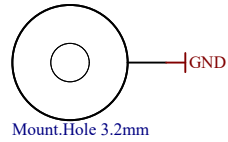
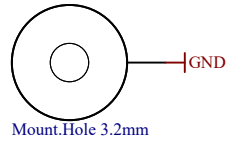
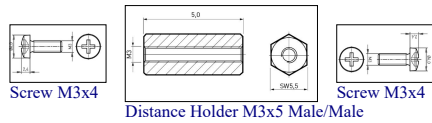
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Power Supply and Power Sequencing



Title: TE0861 – POWER Overview		
A3	Number: TE0861 6BI69QA	Rev. 01
Datum: 20.11.2025	Copyright: Trenz Electronic GmbH	Page 4 of 35
Filename: POWER_Overview.SchDoc		

Special notes:



Serial1
Serial
Serialnumber 6,3 x 6.3mm
RoHS1

RoHS Logo on Top Overlay

RoHS-TOOVERLAY
WEEE1

WEEE Logo on Top Overlay

WEEE-TOOVERLAY
CE1

CE Logo on Top Overlay

CE-TOOVERLAY
UKCA1

UKCA Logo on Top Overlay

UKCA-TOOVERLAY

Design drawn by: ED
Checked by: MR
Assembly variant: 6BI69QA
Created by: ED
Modified by: ED
Modified at: 2026-04-29



Title: TE0861

A4

Number: TE0861
6BI69QA

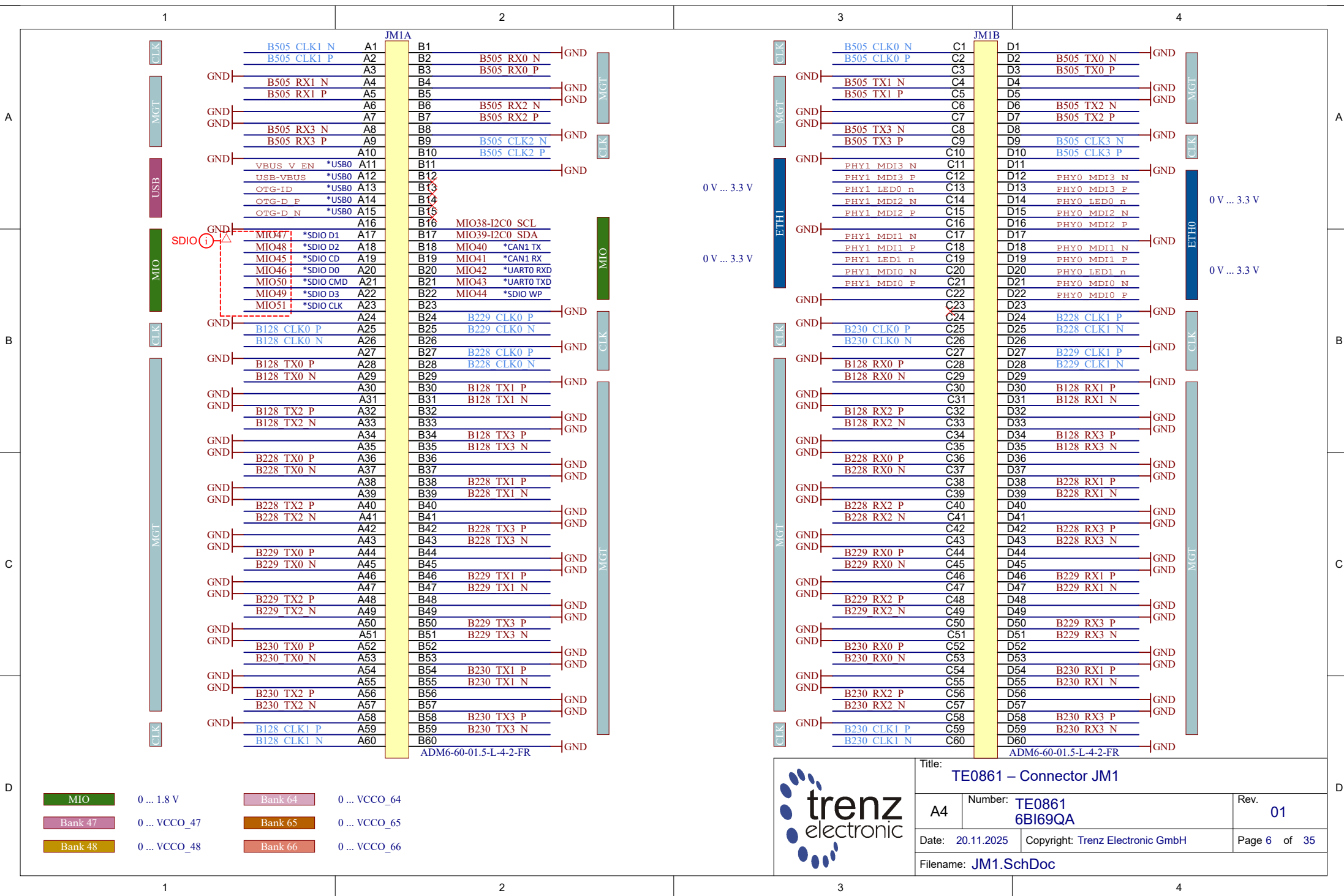
Rev. 01

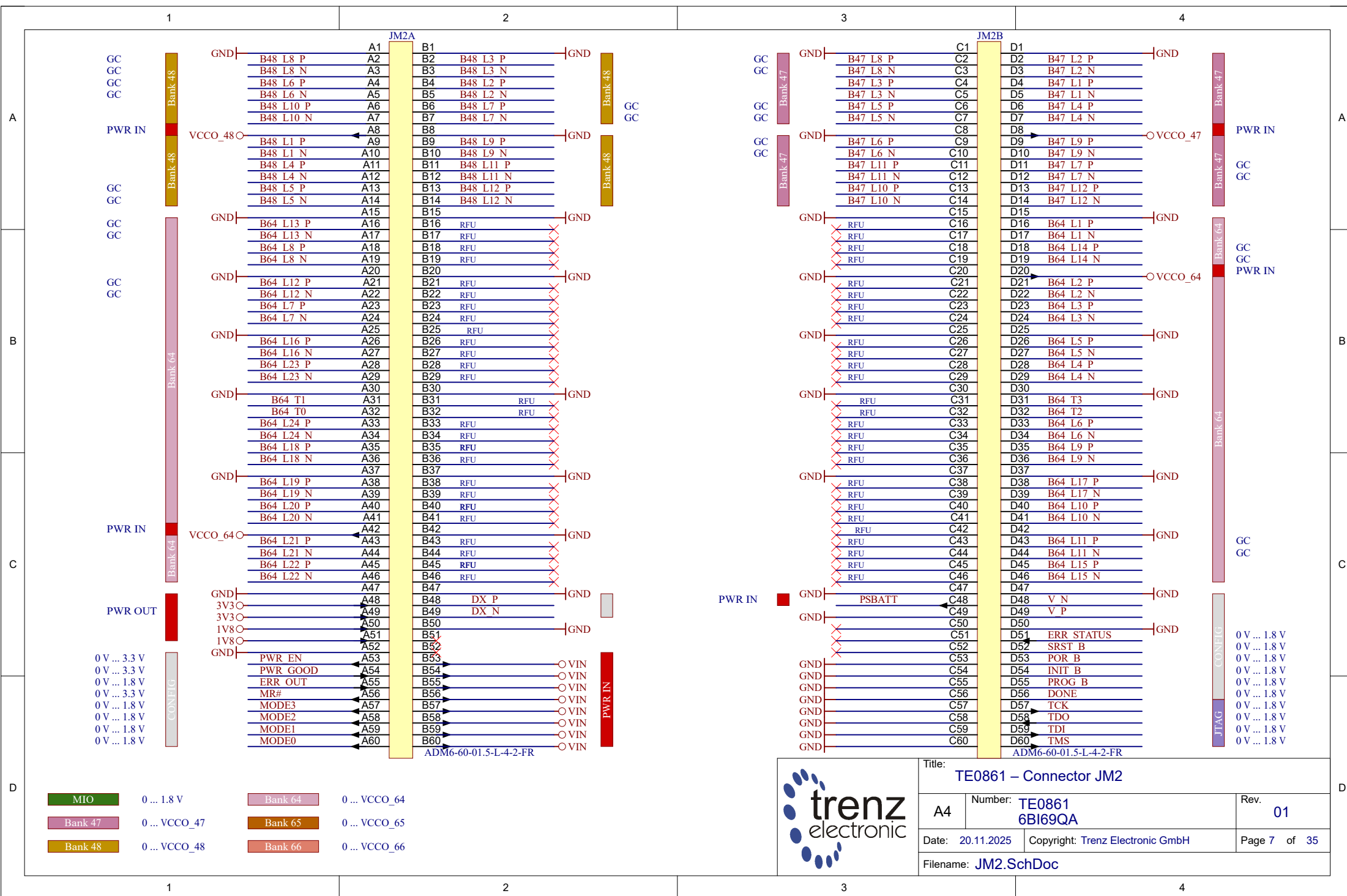
Date: 20.11.2025

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Page 5 of 35

Filename: TE0861.SchDoc





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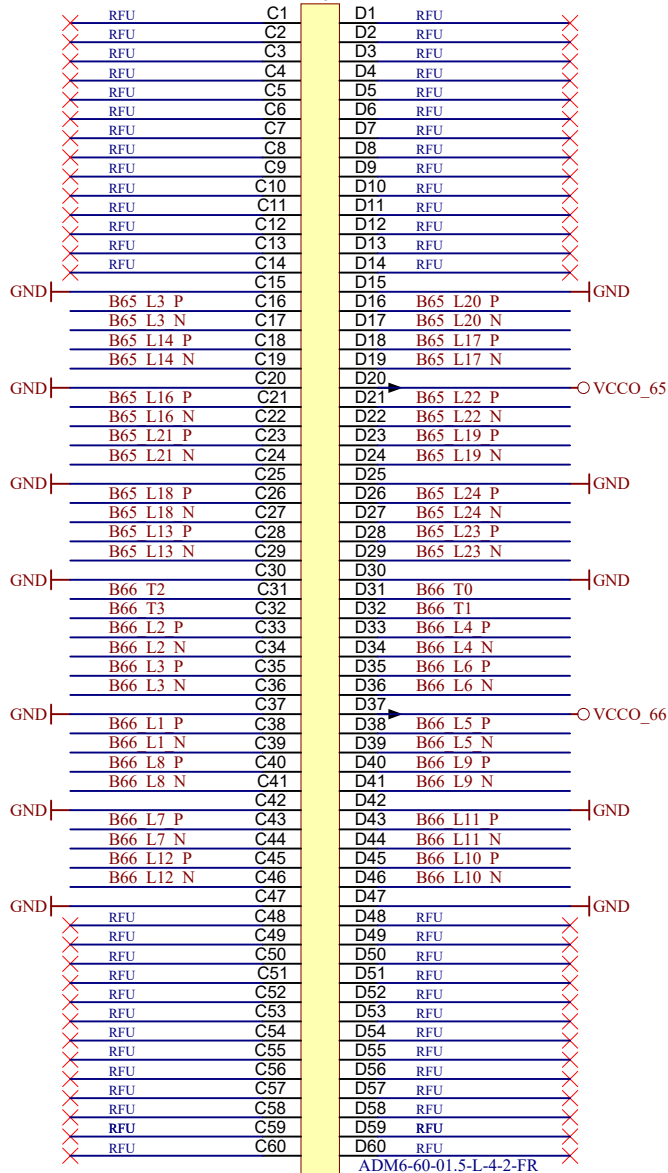
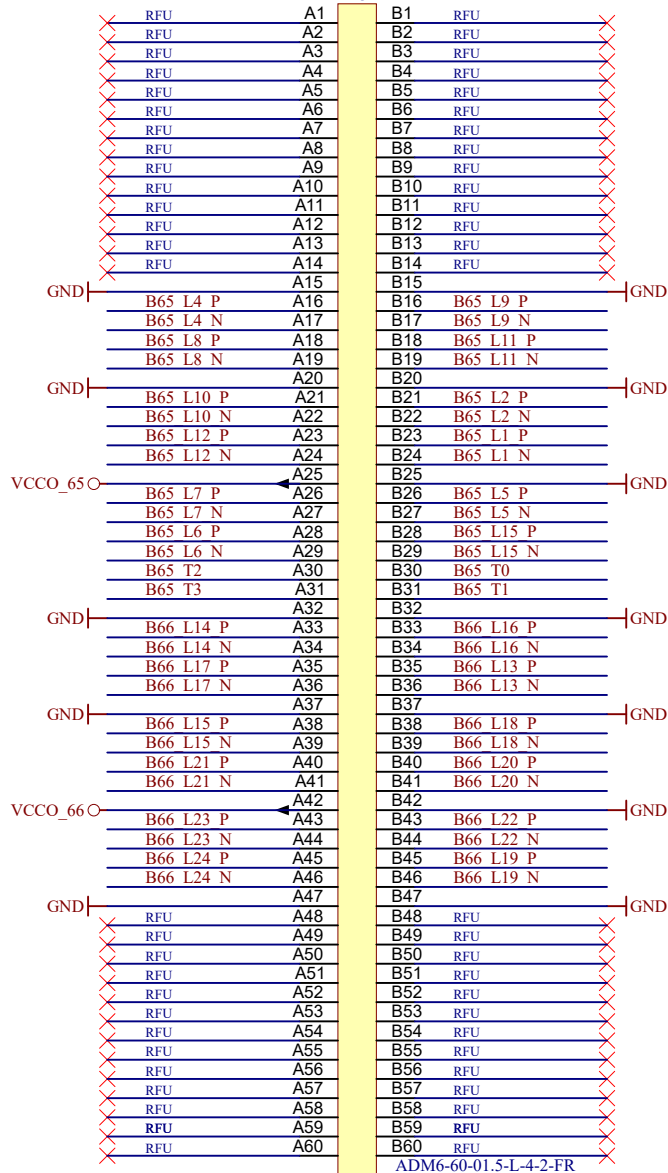
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JM3A

JM3B



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

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

MIO	0 ... 1.8 V	Bank 64	0 ... VCCO_64
Bank 47	0 ... VCCO_47	Bank 65	0 ... VCCO_65
Bank 48	0 ... VCCO_48	Bank 66	0 ... VCCO_66



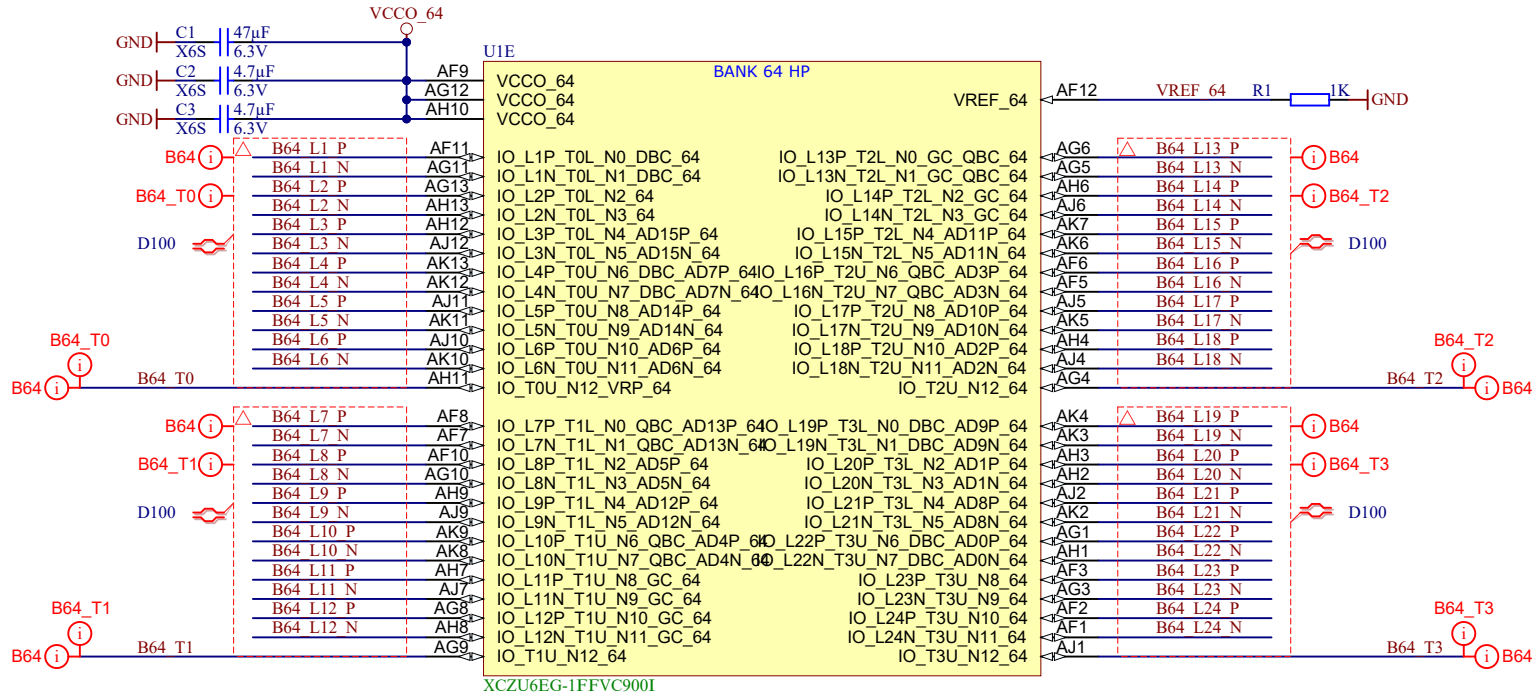
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A4	Number: TE0861 6BI69QA	Rev. 01
Date: 20.11.2025	Copyright: Trenz Electronic GmbH	Page 8 of 35
Filename: JM3.SchDoc		

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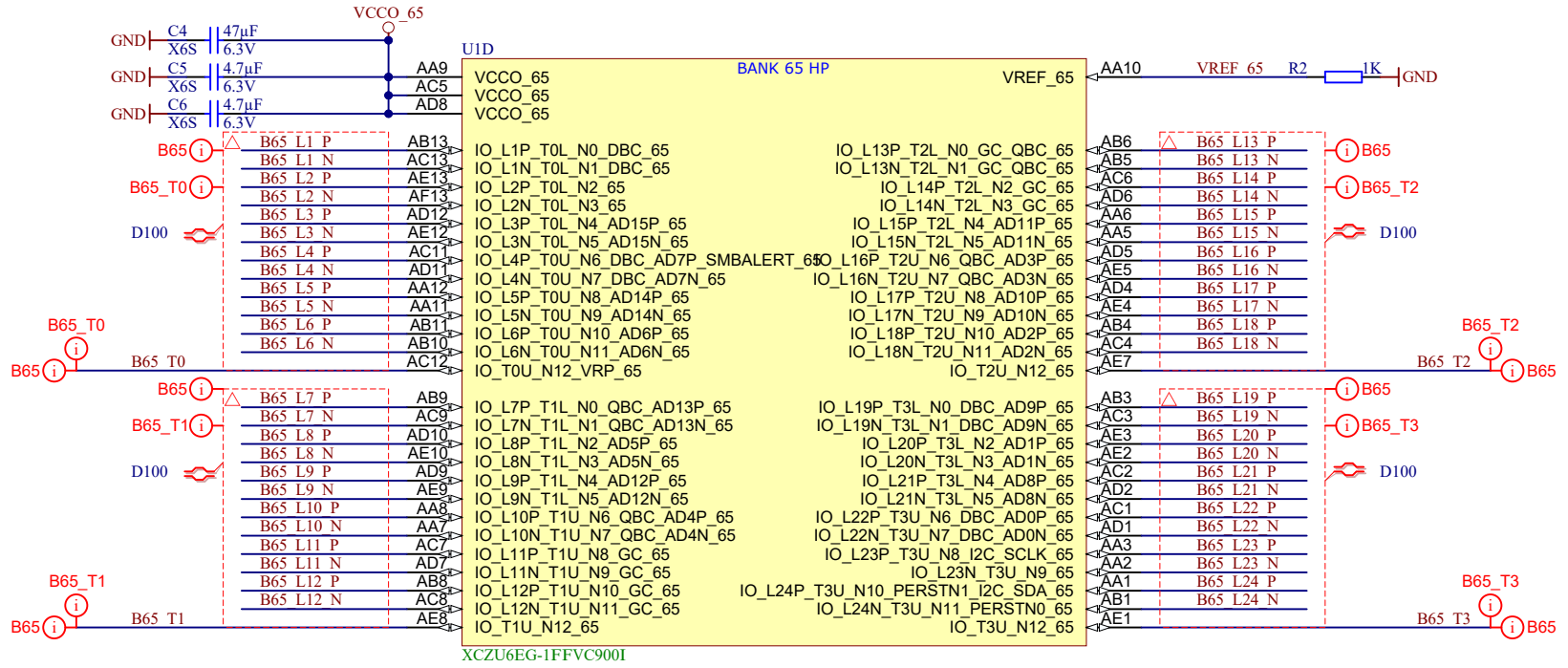
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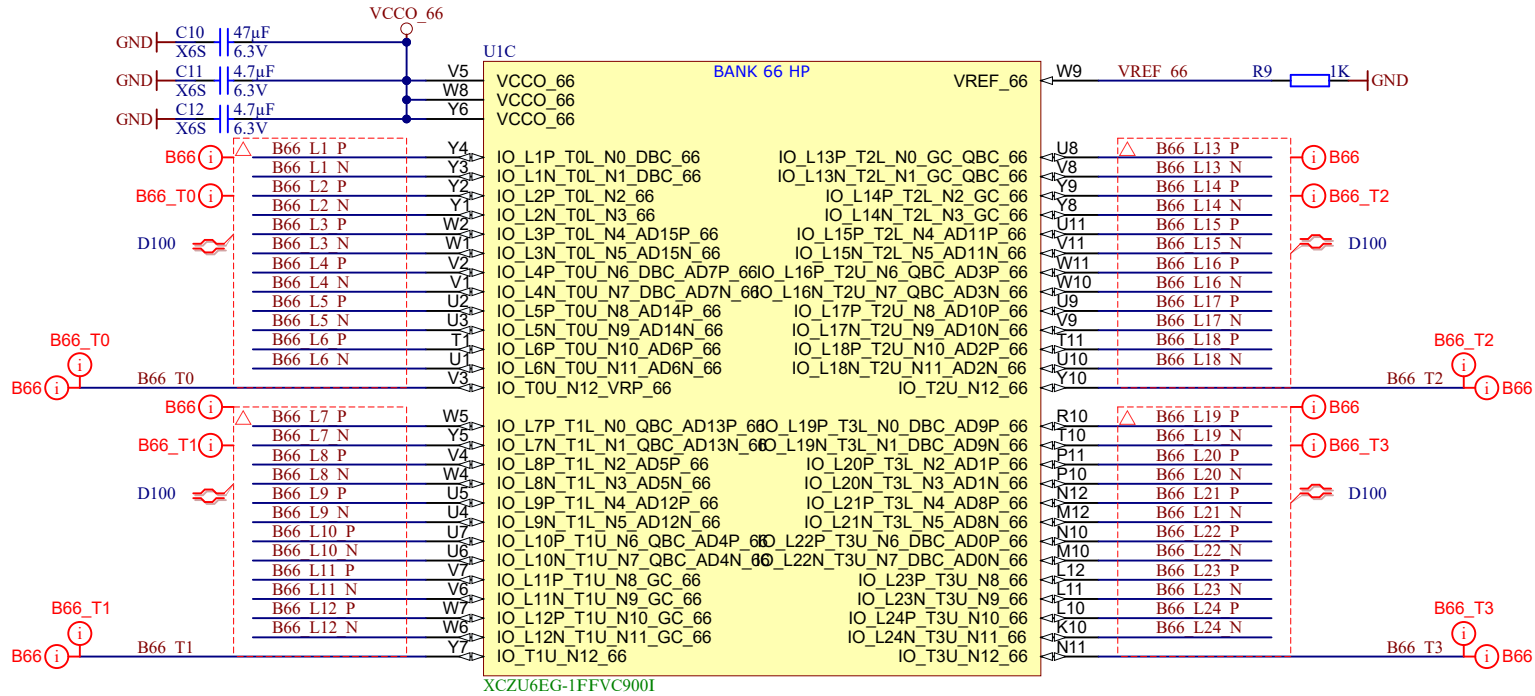
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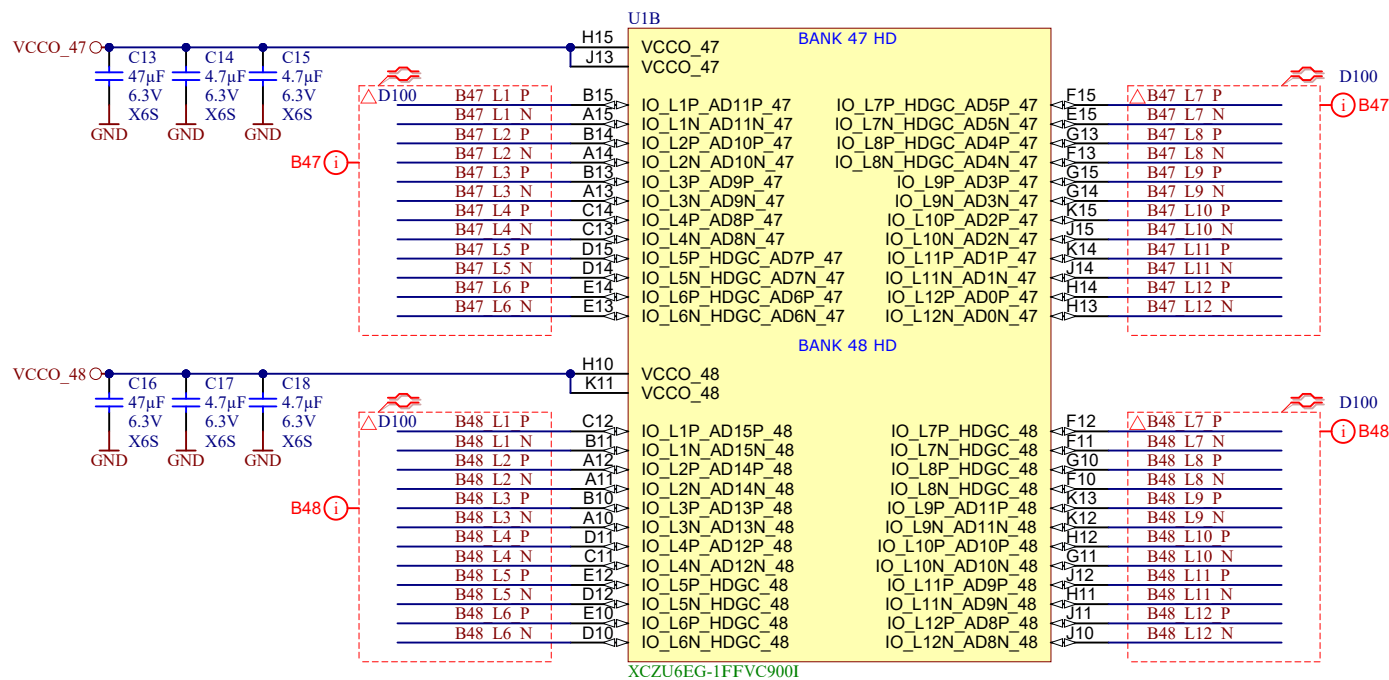
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Date: 20.11.2025		Copyright: Trenz Electronic GmbH	
Filename: B64.SchDoc		Rev. 01	
Page 9 of 35			



Title: TE0861 – B65		
A4	Number: TE0861 6BI69QA	Rev. 01
Date: 20.11.2025	Copyright: Trenz Electronic GmbH	Page 10 of 35
Filename: B65.SchDoc		



Title: TE0861 – B66			
A4	Number: TE0861 6BI69QA		Rev. 01
Date: 20.11.2025	Copyright: Trenz Electronic GmbH		Page 11 of 35
Filename: B66.SchDoc			



			Title: TE0861 – B_HD	
			A4	Number: TE0861 6BI69QA
			Date: 20.11.2025	Rev. 01
			Copyright: Trenz Electronic GmbH	Page 12 of 35
Filename: B_HD.SchDoc				

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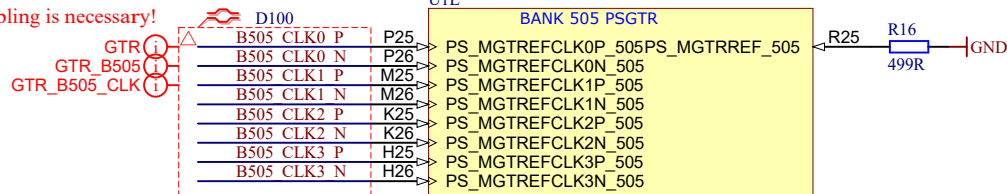
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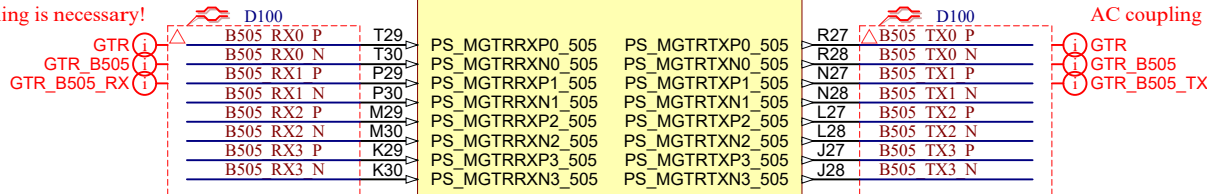
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AC coupling is necessary!



AC coupling is necessary!



AC coupling is necessary!

XCZU6EG-1FFVC900I



Title: TE0861 – B_PS_GT		
A4	Number: TE0861 6BI69QA	Rev. 01
Date: 20.11.2025	Copyright: Trenz Electronic GmbH	Page 16 of 35
Filename: B_PS_GT.SchDoc		

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UIJ

BANK 504 PSDDR

VCCO_PSDDR_504	PS_DDR_CK0
VCCO_PSDDR_504	PS_DDR_CK_N0
VCCO_PSDDR_504	PS_DDR_CKE0
VCCO_PSDDR_504	PS_DDR_CK1
VCCO_PSDDR_504	PS_DDR_CK_N1
VCCO_PSDDR_504	PS_DDR_CKE1
VCC_PSDDR_PLL	PS_DDR_A0
VCC_PSDDR_PLL	PS_DDR_A1
VCC_PSDDR_PLL	PS_DDR_A2
VCC_PSDDR_PLL	PS_DDR_A3
VCC_PSDDR_PLL	PS_DDR_A4
VCC_PSDDR_PLL	PS_DDR_A5
VCC_PSDDR_PLL	PS_DDR_A6
VCC_PSDDR_PLL	PS_DDR_A7
VCC_PSDDR_PLL	PS_DDR_A8
VCC_PSDDR_PLL	PS_DDR_A9
VCC_PSDDR_PLL	PS_DDR_A10
VCC_PSDDR_PLL	PS_DDR_A11
VCC_PSDDR_PLL	PS_DDR_A12
VCC_PSDDR_PLL	PS_DDR_A13
VCC_PSDDR_PLL	PS_DDR_A14
VCC_PSDDR_PLL	PS_DDR_A15
VCC_PSDDR_PLL	PS_DDR_A16
VCC_PSDDR_PLL	PS_DDR_A17
PS_DDR_CS_N0	
PS_DDR_CS_N1	
PS_DDR_BA0	
PS_DDR_BA1	
PS_DDR_BG0	
PS_DDR_BG1	
PS_DDR_PARITY	
PS_DDR_RAM_RST_N	
PS_DDR_ACT_N	
PS_DDR_ALERT_N	
PS_DDR_ZQ	
PS_DDR_ODT0	
PS_DDR_ODT1	

XCZU6EG-1FFVC9001

AJ26	DDR4-CLK0 P	D80
AJ27	DDR4-CLK0 N	D80
AJ25	DDR4-CKE0	

AG23	
AG24	
AH27	
AK25	DDR4-A0
AK28	DDR4-A1
AK27	DDR4-A2
AH24	DDR4-A3
AK24	DDR4-A4
AJ30	DDR4-A5
AE22	DDR4-A6
AE25	DDR4-A7
AE23	DDR4-A8
AE24	DDR4-A9
AD22	DDR4-A10
AH23	DDR4-A11
AF21	DDR4-A12
AG21	DDR4-A13
AF22	DDR4-A14
AF23	DDR4-A15
AD21	DDR4-A16
AD20	DDR4-A17

AJ24	DDR4-CS
AG25	

AG26	DDR4-BA0
AF25	DDR4-BA1

AF26	DDR4-BG0
AD26	DDR4-BG1

AC14	DDR4-PAR
AC16	DDR4-RESET
AC17	DDR4-ACT
AD19	DDR4-ALERT

AC23	R17	240R	GND
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AJ29	DDR4-ODT0
AH26	

UIK

BANK 504 PSDDR

DQ0	AK17	PS_DDR_DQ0	PS_DDR_DQ32	Y24	DQ32
DQ1	AH17	PS_DDR_DQ1	PS_DDR_DQ33	Y25	DQ33
DQ2	AJ17	PS_DDR_DQ2	PS_DDR_DQ34	AA25	DQ34
DQ3	AH16	PS_DDR_DQ3	PS_DDR_DQ35	AA26	DQ35
DQ4	AK15	PS_DDR_DQ4	PS_DDR_DQ36	AC26	DQ36
DQ5	AK14	PS_DDR_DQ5	PS_DDR_DQ37	AD24	DQ37
DQ6	AJ14	PS_DDR_DQ6	PS_DDR_DQ38	AD25	DQ38
DQ7	AH14	PS_DDR_DQ7	PS_DDR_DQ39	AC24	DQ39
DQ8	AK19	PS_DDR_DQ8	PS_DDR_DQ40	W27	DQ40
DQ9	AK18	PS_DDR_DQ9	PS_DDR_DQ41	W26	DQ41
DQ10	AJ19	PS_DDR_DQ10	PS_DDR_DQ42	W24	DQ42
DQ11	AH19	PS_DDR_DQ11	PS_DDR_DQ43	W25	DQ43
DQ12	AK21	PS_DDR_DQ12	PS_DDR_DQ44	U26	DQ44
DQ13	AK22	PS_DDR_DQ13	PS_DDR_DQ45	U27	DQ45
DQ14	AH21	PS_DDR_DQ14	PS_DDR_DQ46	U25	DQ46
DQ15	AJ22	PS_DDR_DQ15	PS_DDR_DQ47	U24	DQ47
DQ16	AG14	PS_DDR_DQ16	PS_DDR_DQ48	AA30	DQ48
DQ17	AG15	PS_DDR_DQ17	PS_DDR_DQ49	AB29	DQ49
DQ18	AG16	PS_DDR_DQ18	PS_DDR_DQ50	AB30	DQ50
DQ19	AF16	PS_DDR_DQ19	PS_DDR_DQ51	AB28	DQ51
DQ20	AD14	PS_DDR_DQ20	PS_DDR_DQ52	AC27	DQ52
DQ21	AD15	PS_DDR_DQ21	PS_DDR_DQ53	AD27	DQ53
DQ22	AD16	PS_DDR_DQ22	PS_DDR_DQ54	AD29	DQ54
DQ23	AD17	PS_DDR_DQ23	PS_DDR_DQ55	AD30	DQ55
DQ24	AE17	PS_DDR_DQ24	PS_DDR_DQ56	AA28	DQ56
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DQ26	AE20	PS_DDR_DQ26	PS_DDR_DQ58	Y28	DQ58
DQ27	AE19	PS_DDR_DQ27	PS_DDR_DQ59	Y27	DQ59
DQ28	AG18	PS_DDR_DQ28	PS_DDR_DQ60	W30	DQ60
DQ29	AH18	PS_DDR_DQ29	PS_DDR_DQ61	V30	DQ61
DQ30	AG19	PS_DDR_DQ30	PS_DDR_DQ62	V28	DQ62
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DDR4-DQS1 P	AJ20	PS_DDR_DQS_P1	PS_DDR_DQ66	AG28	DQ66
DDR4-DQS1 N	AJ21	PS_DDR_DQS_N1	PS_DDR_DQ67	AE28	DQ67
DDR4-DQS2 P	AE15	PS_DDR_DQS_P2	PS_DDR_DQ68	AH30	DQ68
DDR4-DQS2 N	AF15	PS_DDR_DQS_N2	PS_DDR_DQ69	AF30	DQ69
DDR4-DQS3 P	AF17	PS_DDR_DQS_P3	PS_DDR_DQ70	AG30	DQ70
DDR4-DQS3 N	AF18	PS_DDR_DQS_N3	PS_DDR_DQ71	AE30	DQ71
DDR4-DQS4 P	AB24	PS_DDR_DQS_P4			
DDR4-DQS4 N	AB25	PS_DDR_DQS_N4			
DDR4-DQS5 P	V26	PS_DDR_DQS_P5	PS_DDR_DM0	AK16	DDR4-DM0
DDR4-DQS5 N	V27	PS_DDR_DQS_N5	PS_DDR_DM1	AK20	DDR4-DM1
DDR4-DQS6 P	AC28	PS_DDR_DQS_P6	PS_DDR_DM2	AE14	DDR4-DM2
DDR4-DQS6 N	AC29	PS_DDR_DQS_N6	PS_DDR_DM3	AF20	DDR4-DM3
DDR4-DQS7 P	W29	PS_DDR_DQS_P7	PS_DDR_DM4	AB26	DDR4-DM4
DDR4-DQS7 N	Y29	PS_DDR_DQS_N7	PS_DDR_DM5	V24	DDR4-DM5
DDR4-DQS8 P	AG29	PS_DDR_DQS_P8	PS_DDR_DM6	AC30	DDR4-DM6
DDR4-DQS8 N	AH29	PS_DDR_DQS_N8	PS_DDR_DM7	Y30	DDR4-DM7
			PS_DDR_DM8	AE29	DDR4-DM8

XCZU6EG-1FFVC9001



Title:

TE0861 – PS_DDR

A4

Number:

TE0861
6BI69QA

Rev.

01

Date: 20.11.2025

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Page 17 of 35

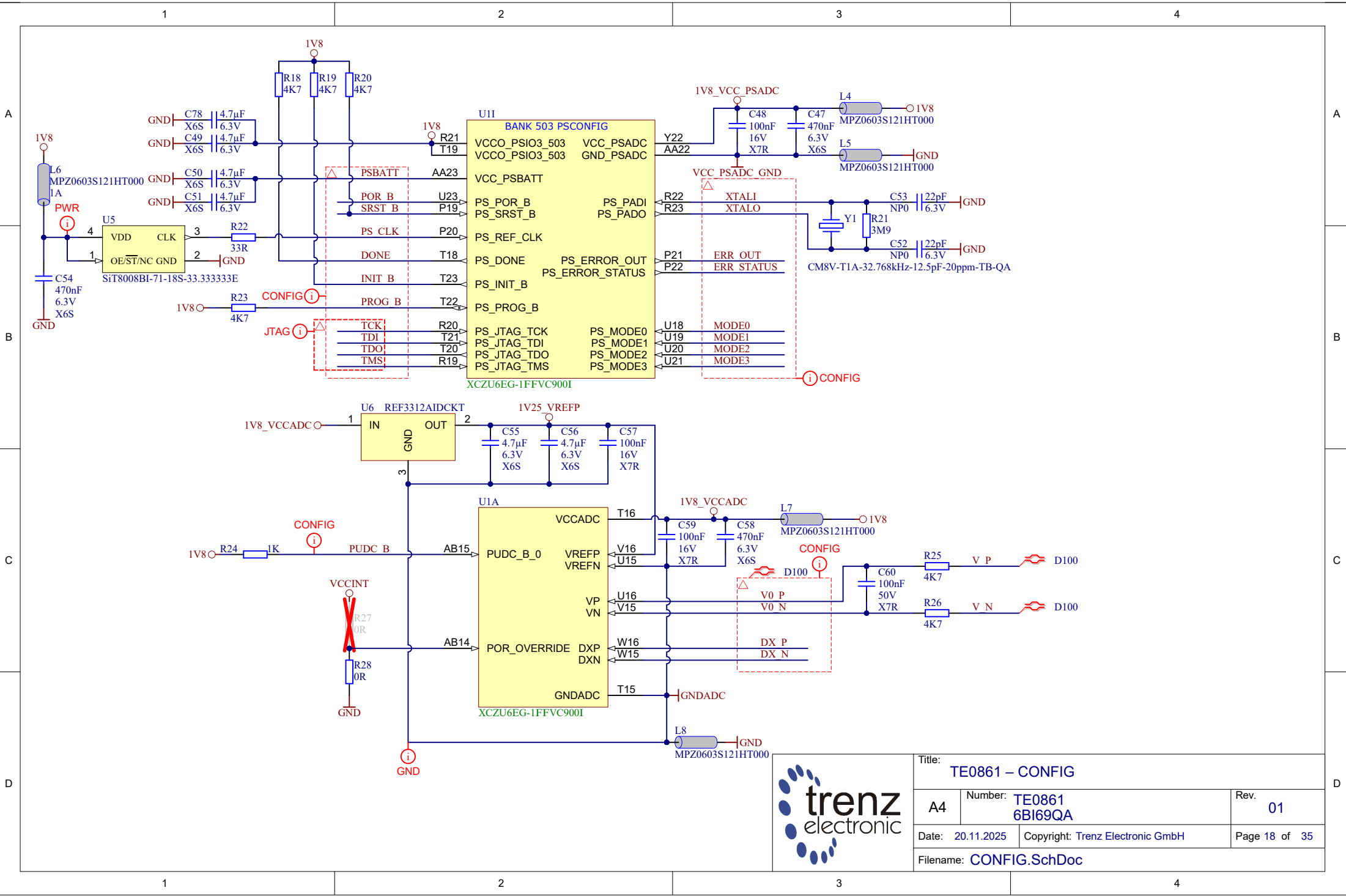
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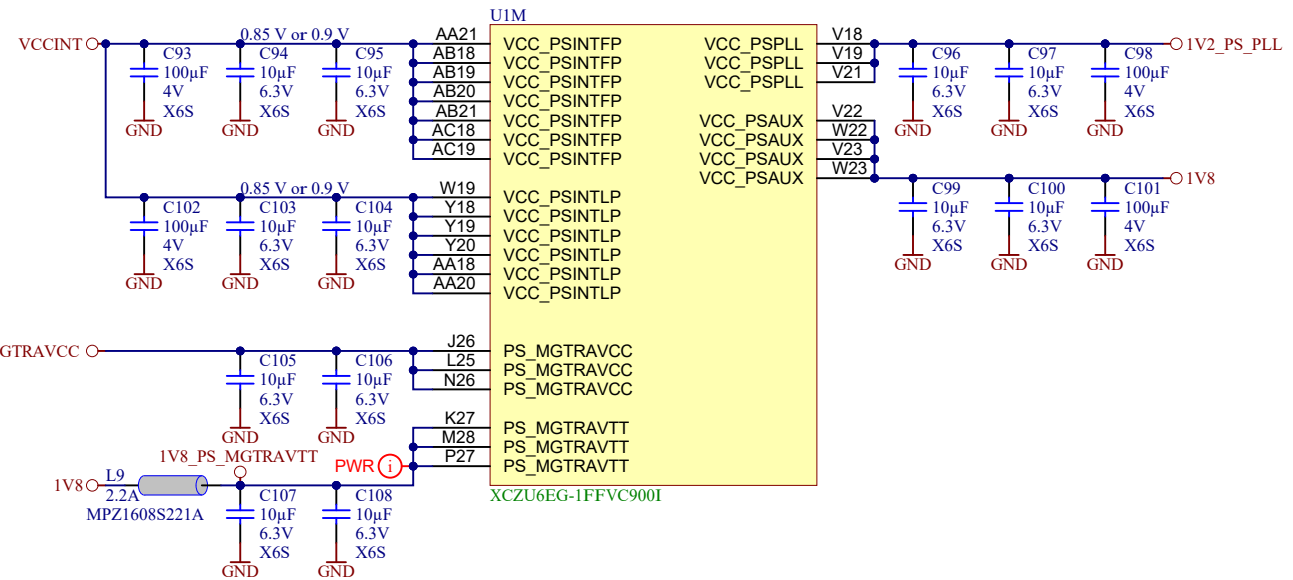
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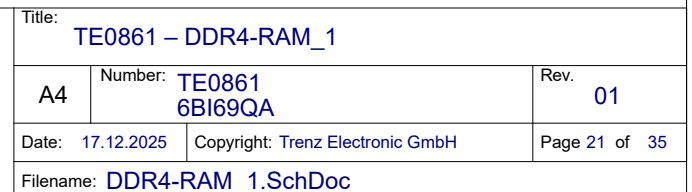
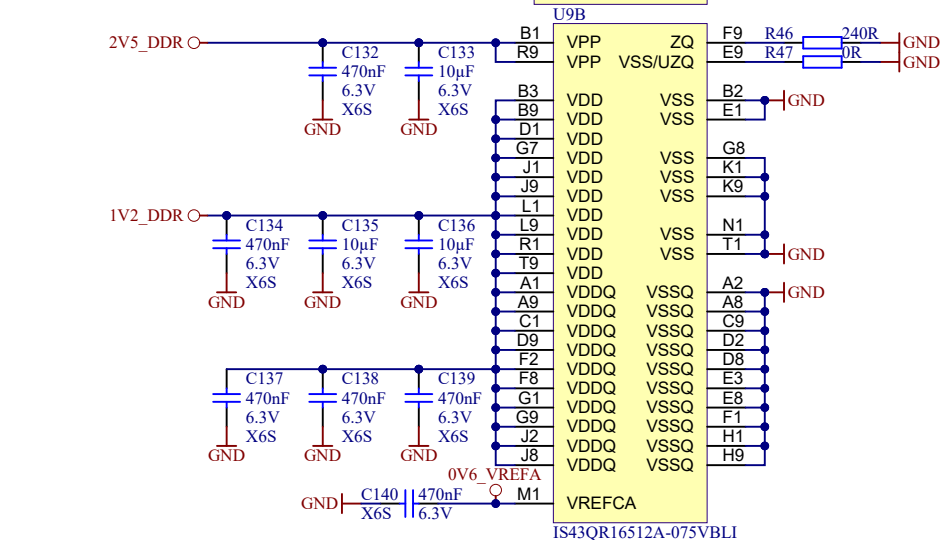
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A4	Number: TE0861 6BI69QA	Rev. 01
Date: 20.11.2025	Copyright: Trenz Electronic GmbH	Page 18 of 35
Filename: CONFIG.SchDoc		



	Title: TE0861 – ZU_PS_POWER		
	A4	Number: TE0861 6BI69QA	Rev. 01
	Date: 20.11.2025	Copyright: Trenz Electronic GmbH	Page 20 of 35
	Filename: ZU_PS_POWER.SchDoc		



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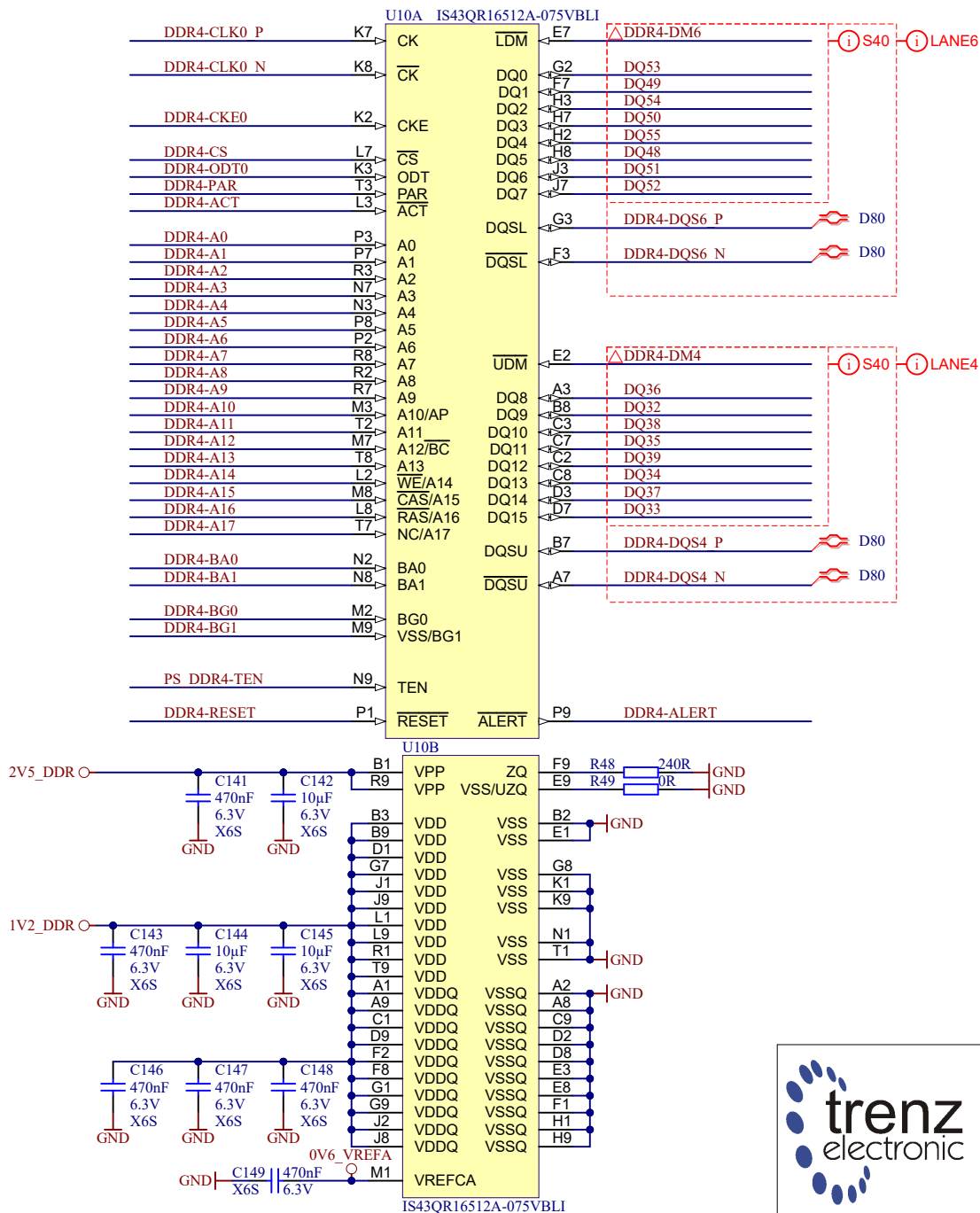
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Title: TE0861 – DDR4-RAM_2		
A4	Number: TE0861 6BI69QA	Rev. 01
Date: 17.12.2025	Copyright: Trenz Electronic GmbH	Page 22 of 35
Filename: DDR4-RAM_2.SchDoc		

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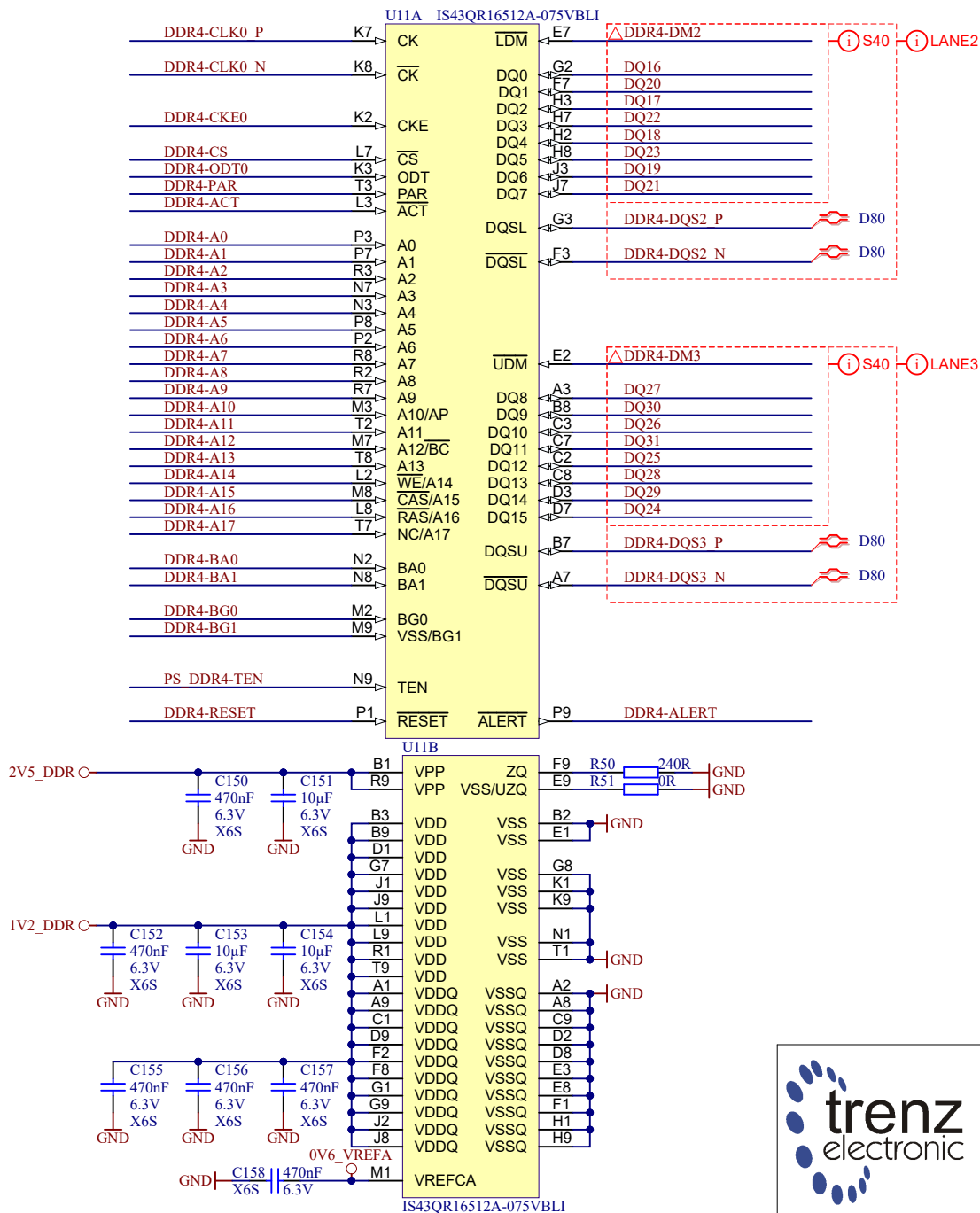
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Title: TE0861 – DDR4-RAM_3		
A4	Number: TE0861 6BI69QA	Rev. 01
Date: 17.12.2025	Copyright: Trenz Electronic GmbH	Page 23 of 35
Filename: DDR4-RAM_3.SchDoc		

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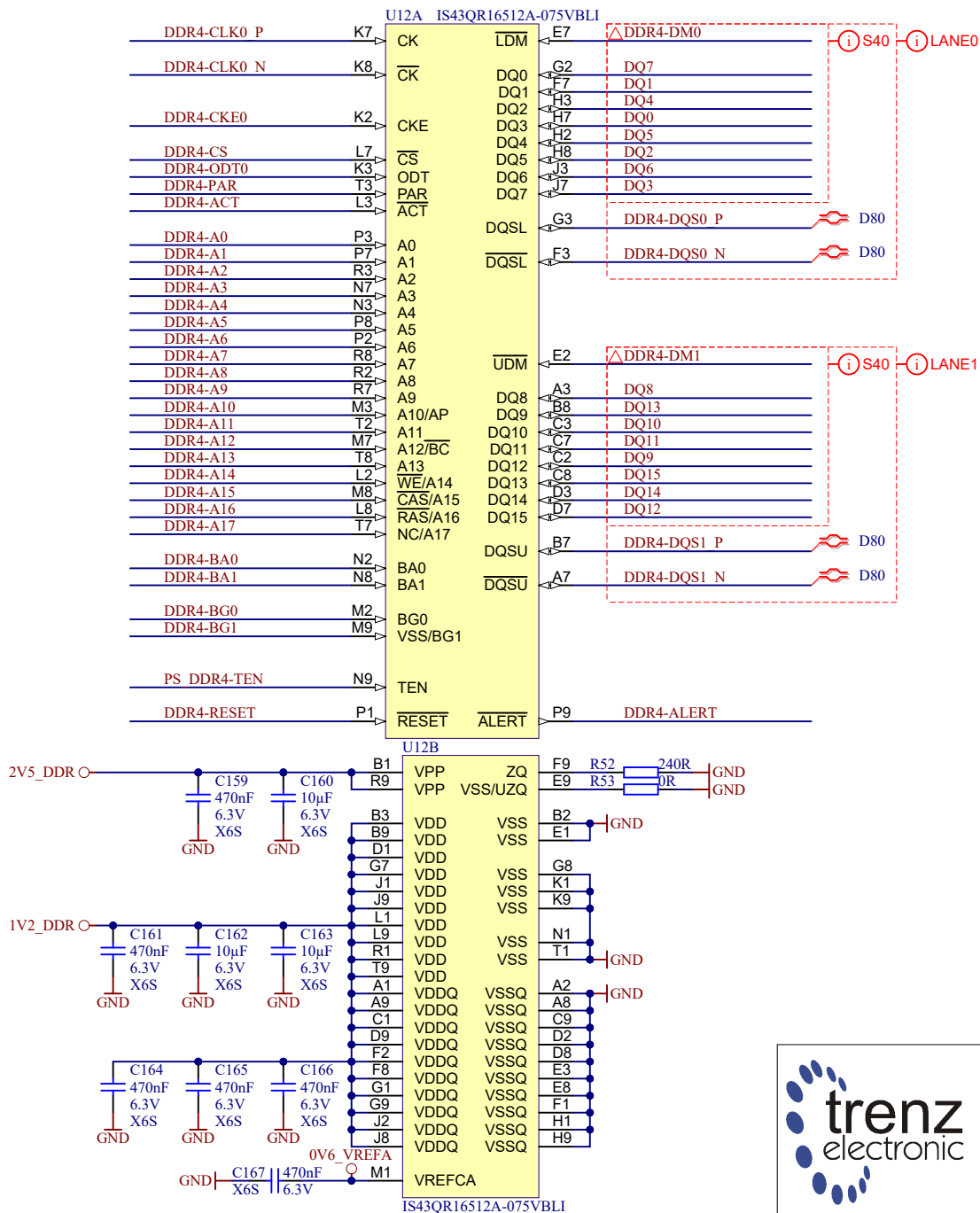
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D

D



Title: TE0861 – DDR4-RAM_4		
A4	Number: TE0861 6BI69QA	Rev. 01
Date: 17.12.2025	Copyright: Trenz Electronic GmbH	Page 24 of 35
Filename: DDR4-RAM_4.SchDoc		

1

2

3

4

1

2

3

4

A

A

B

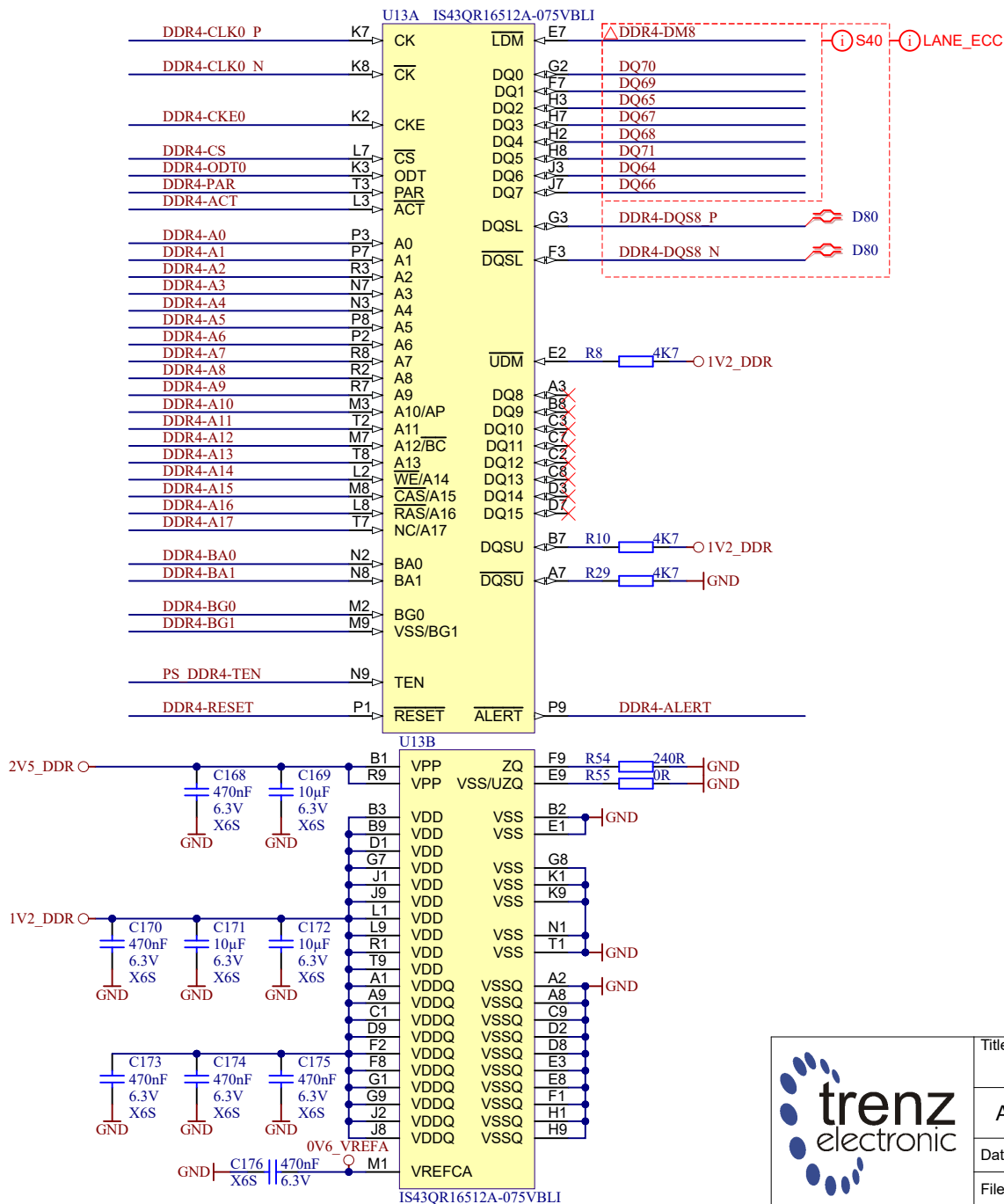
B

C

C

D

D



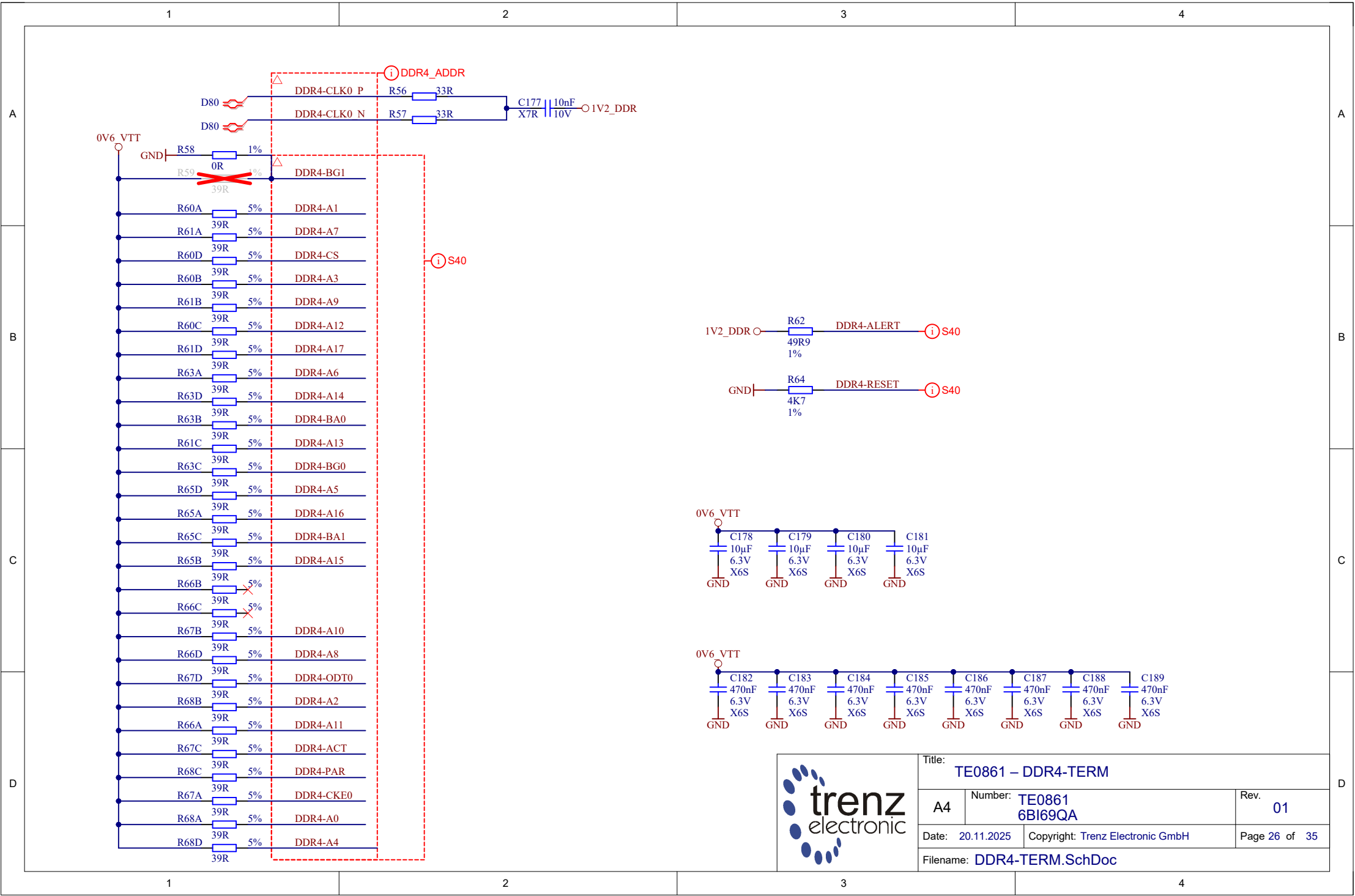
Title: TE0861 – DDR4-RAM_5		
A4	Number: TE0861 6BI69QA	Rev. 01
Date: 17.12.2025	Copyright: Trenz Electronic GmbH	Page 25 of 35
Filename: DDR4-RAM_5.SchDoc		

1

2

3

4



1

2

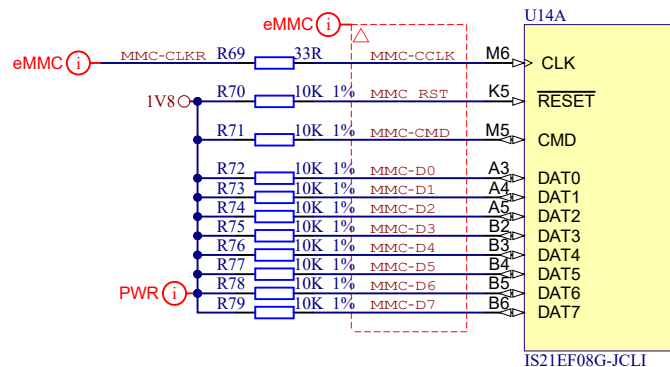
3

4

U14D

A1	NC	NC	H2
A2	NC	NC	H3
A8	NC	NC	H12
A9	NC	NC	H13
A10	NC	NC	H14
A11	NC	NC	J1
A12	NC	NC	J2
A13	NC	NC	J3
A14	NC	NC	J12
B1	NC	NC	J13
B7	NC	NC	J14
B8	NC	NC	K1
B9	NC	NC	K2
B10	NC	NC	K3
B11	NC	NC	K12
B12	NC	NC	K13
B13	NC	NC	K14
B14	NC	NC	L1
C1	NC	NC	L2
C3	NC	NC	L3
C7	NC	NC	L12
C8	NC	NC	L13
C9	NC	NC	L14
C10	NC	NC	M1
C11	NC	NC	M2
C12	NC	NC	M3
C13	NC	NC	M7
C14	NC	NC	M8
D1	NC	NC	M9
D2	NC	NC	M10
D3	NC	NC	M11
D4	NC	NC	M12
D12	NC	NC	M13
D13	NC	NC	M14
D14	NC	NC	N1
E1	NC	NC	N3
E2	NC	NC	N6
E3	NC	NC	N7
E12	NC	NC	N8
E13	NC	NC	N9
E14	NC	NC	N10
F1	NC	NC	N11
F2	NC	NC	N12
F3	NC	NC	N13
F12	NC	NC	N14
F13	NC	NC	P1
F14	NC	NC	P2
G1	NC	NC	P8
G2	NC	NC	P9
G12	NC	NC	P11
G13	NC	NC	P12
G14	NC	NC	P13
H1	NC	NC	P14

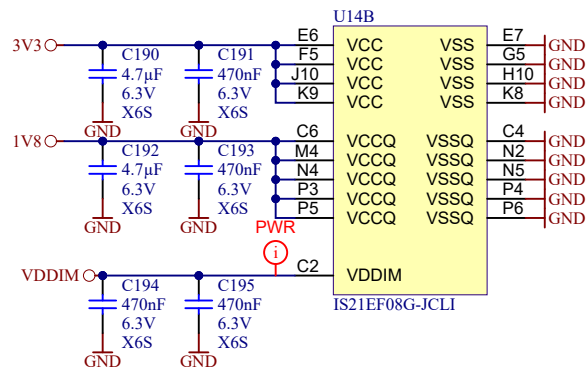
IS21EF08G-JCLI



U14C

A6	RFU/VSS
A7	RFU
C5	RFU/NC
E5	RFU
E8	RFU
E9	RFU
E10	RFU
F10	RFU
G3	RFU/NC
G10	RFU
H5	RFU/DS
J5	RFU/VSS
K6	RFU
K7	RFU
K10	RFU
P7	RFU/NC
P10	RFU

IS21EF08G-JCLI



Title: TE0861 – eMMC		
A4	Number: TE0861 6BI69QA	Rev. 01
Date: 20.11.2025	Copyright: Trenz Electronic GmbH	Page 27 of 35
Filename: eMMC.SchDoc		

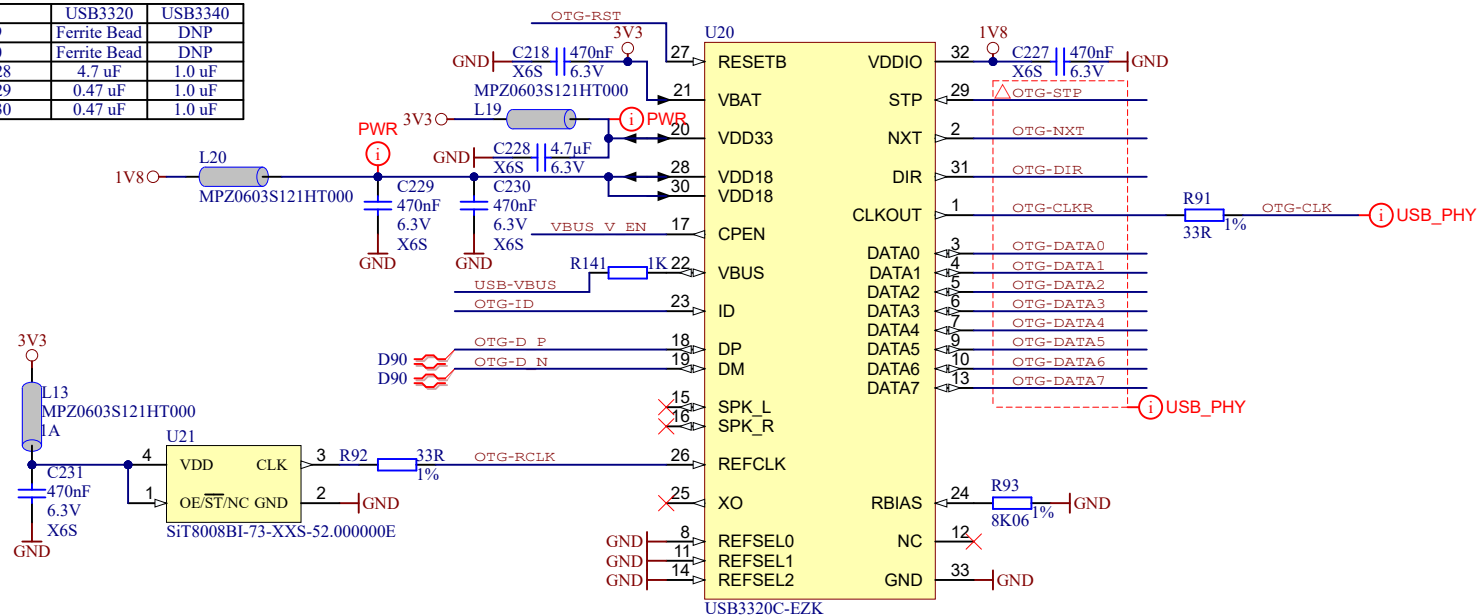
1

2

3

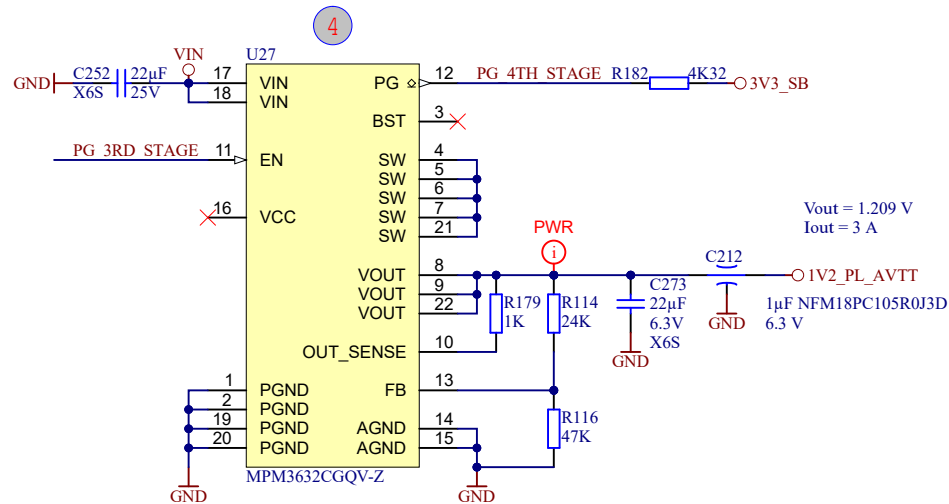
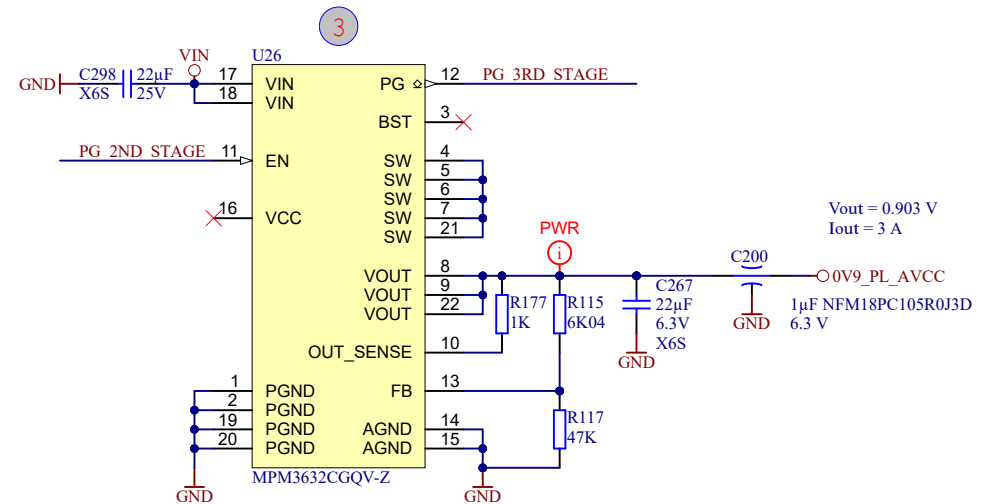
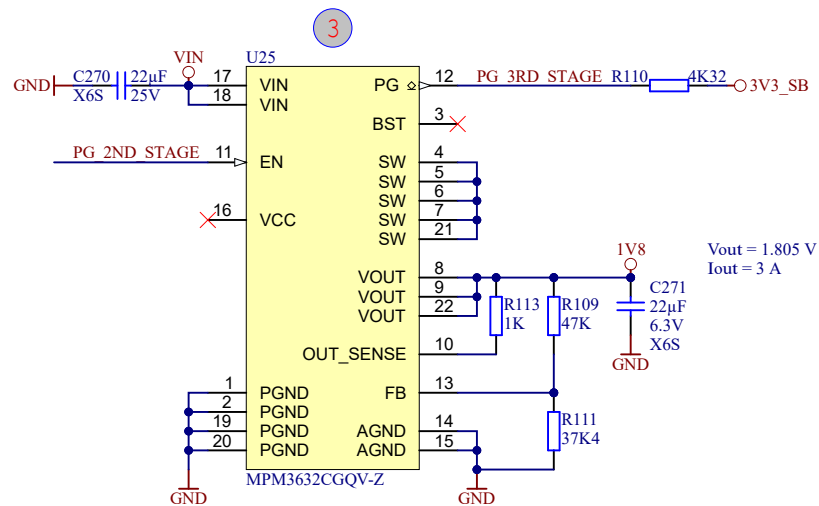
4

	USB3320	USB3340
L19	Ferrite Bead	DNP
L20	Ferrite Bead	DNP
C228	4.7 uF	1.0 uF
C229	0.47 uF	1.0 uF
C230	0.47 uF	1.0 uF

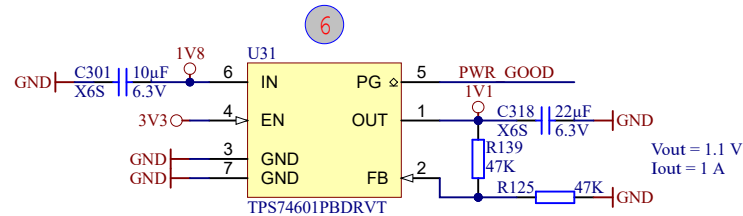
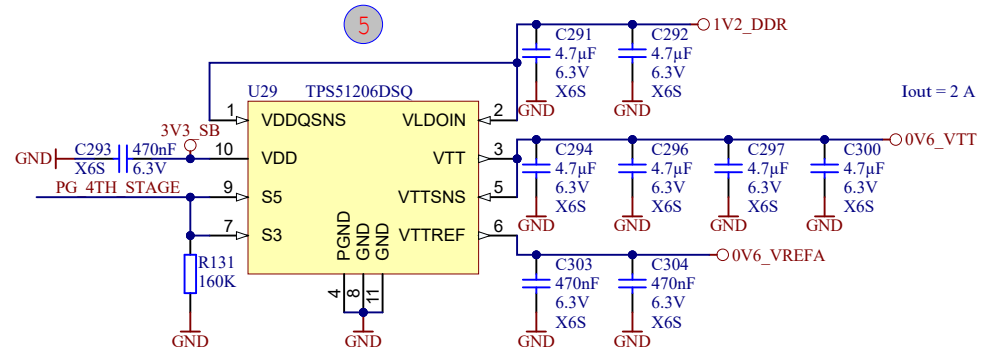
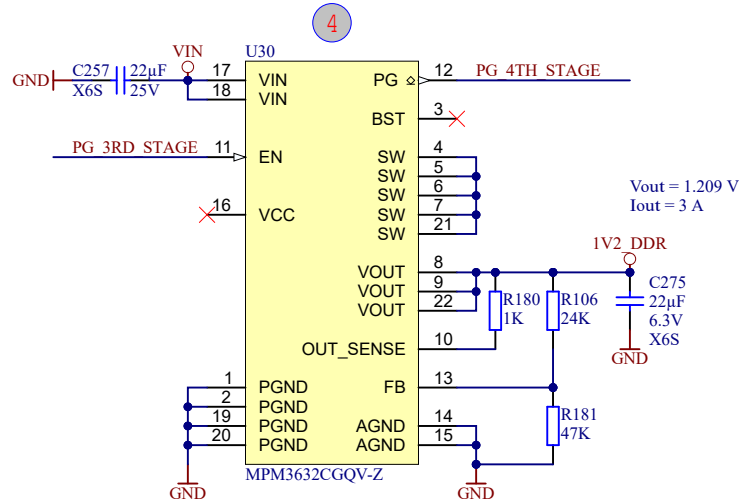
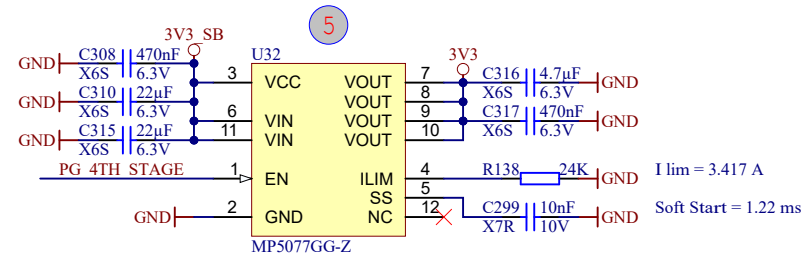
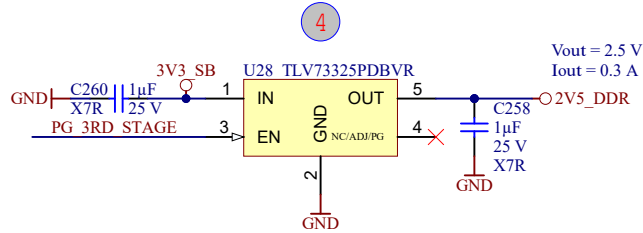


		Title: TE0861 – USB-PHY	
		A4 Number: TE0861 6BI69QA	Rev. 01
Date: 20.11.2025		Copyright: Trenz Electronic GmbH	
Filename: USB-PHY.SchDoc		Page 30 of 35	

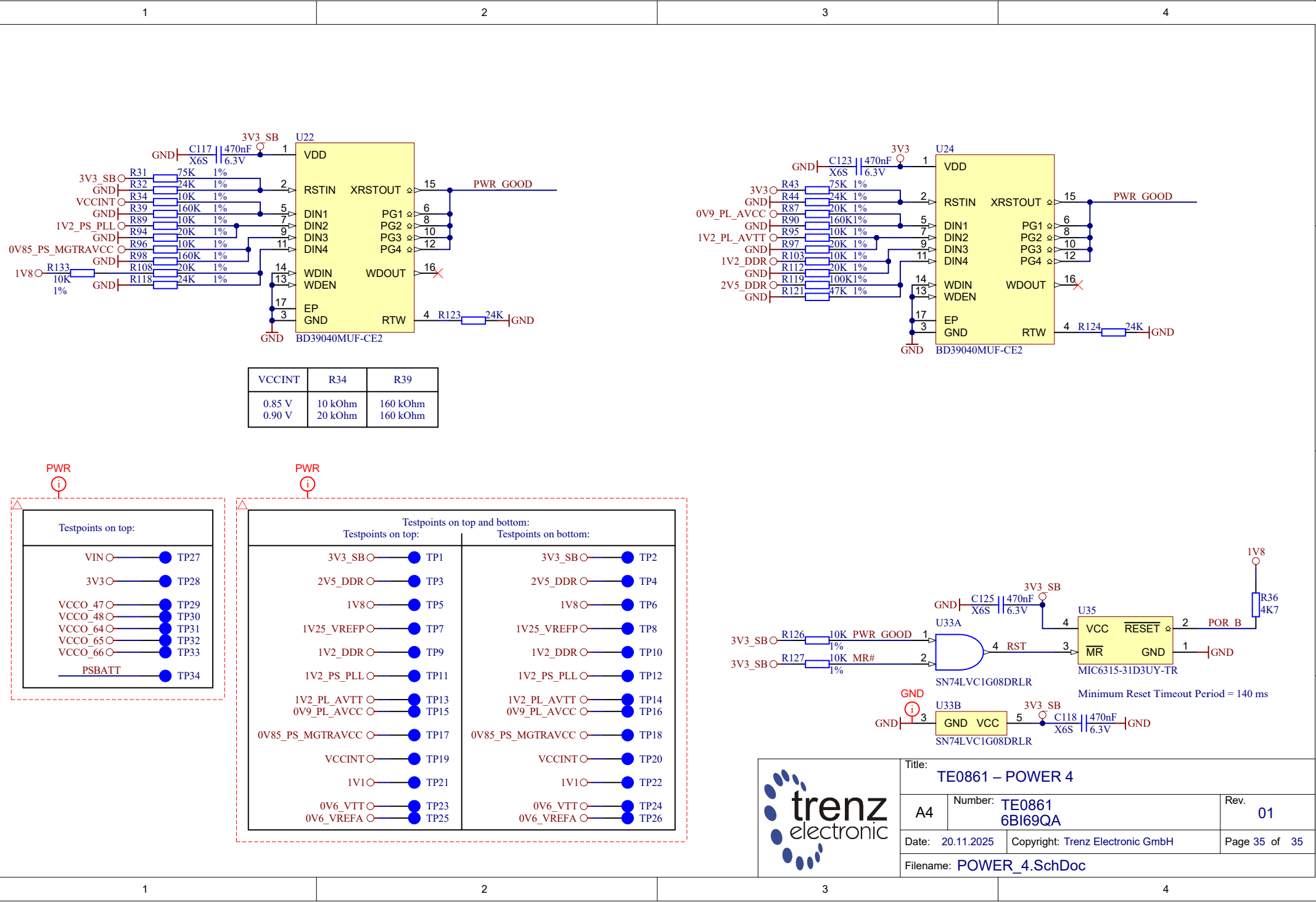




	Title: TE0861 – POWER 2		
	A4	Number: TE0861 6BI69QA	Rev. 01
	Date: 20.11.2025	Copyright: Trenz Electronic GmbH	Page 33 of 35
	Filename: POWER_2.SchDoc		



Title: TE0861 – POWER 3		
A4	Number: TE0861 6BI69QA	Rev. 01
Date: 20.11.2025	Copyright: Trenz Electronic GmbH	Page 34 of 35
Filename: POWER_3.SchDoc		



VCCINT	R34	R39
0.85 V	10 kOhm	160 kOhm
0.90 V	20 kOhm	160 kOhm

Testpoints on top and bottom:			
Testpoints on top:		Testpoints on bottom:	
3V3_SB	TP1	3V3_SB	TP2
2V5_DDR	TP3	2V5_DDR	TP4
1V8	TP5	1V8	TP6
1V25_VREFP	TP7	1V25_VREFP	TP8
1V2_DDR	TP9	1V2_DDR	TP10
1V2_PS_PLL	TP11	1V2_PS_PLL	TP12
1V2_PL_AVTT	TP13	1V2_PL_AVTT	TP14
0V9_PL_AVCC	TP15	0V9_PL_AVCC	TP16
0V85_PS_MGTRAVCC	TP17	0V85_PS_MGTRAVCC	TP18
VCCINT	TP19	VCCINT	TP20
1V1	TP21	1V1	TP22
0V6_VTT	TP23	0V6_VTT	TP24
0V6_VREFA	TP25	0V6_VREFA	TP26

Title: TE0861 – POWER 4		
A4	Number: TE0861 6BI69QA	Rev. 01
Date: 20.11.2025	Copyright: Trenz Electronic GmbH	Page 35 of 35
Filename: POWER_4.SchDoc		