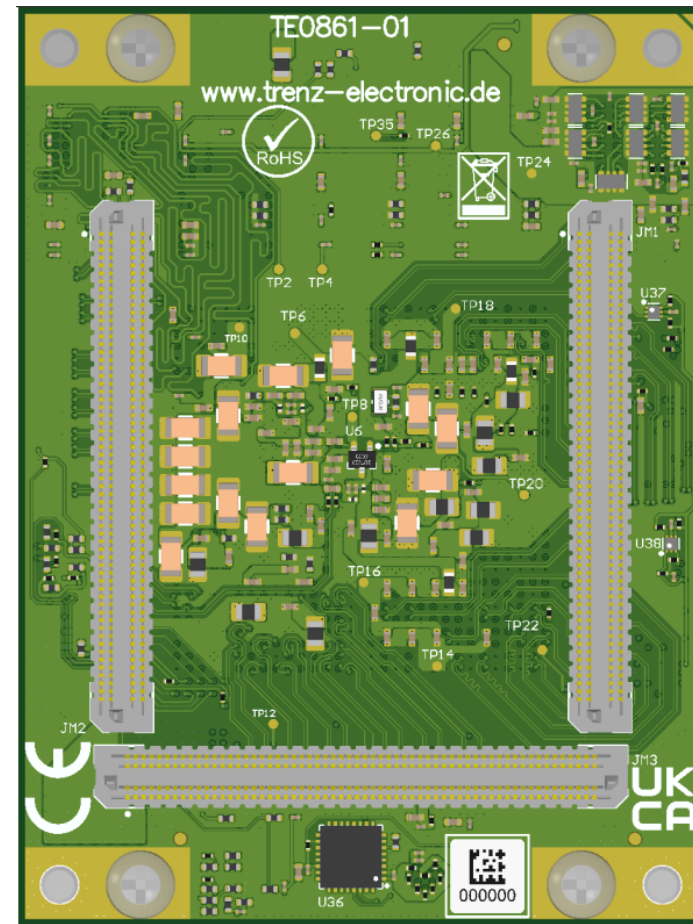
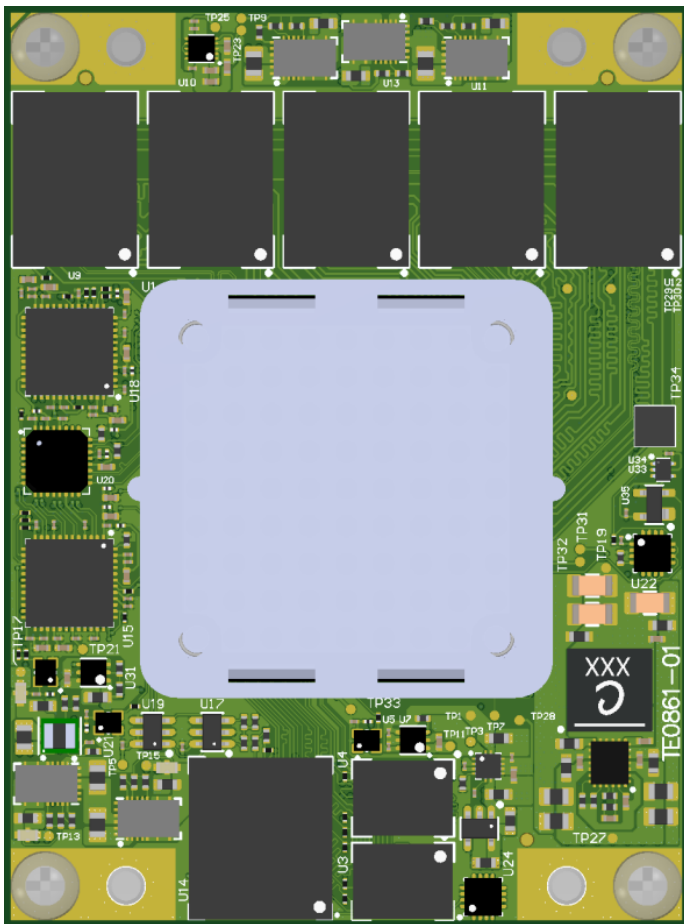




Regarding the usage of our schematics and alike documentation for Trenz module TE0861.

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 6BI59QA	Rev. 01
	Date: 20.11.2025	Copyright: Trenz Electronic GmbH	Page 1 of 35
	Filename: Legal Notices Modules.SchDoc		

1

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A

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REV	Description	
-01	Initial revision	ED/VY



Title: TE0861 – Revision Changes		
A4	Number: TE0861 6BI59QA	Rev. 01
Date: 20.11.2025	Copyright: Trenz Electronic GmbH	Page 2 of 35
Filename: Revision_Changes.SchDoc		

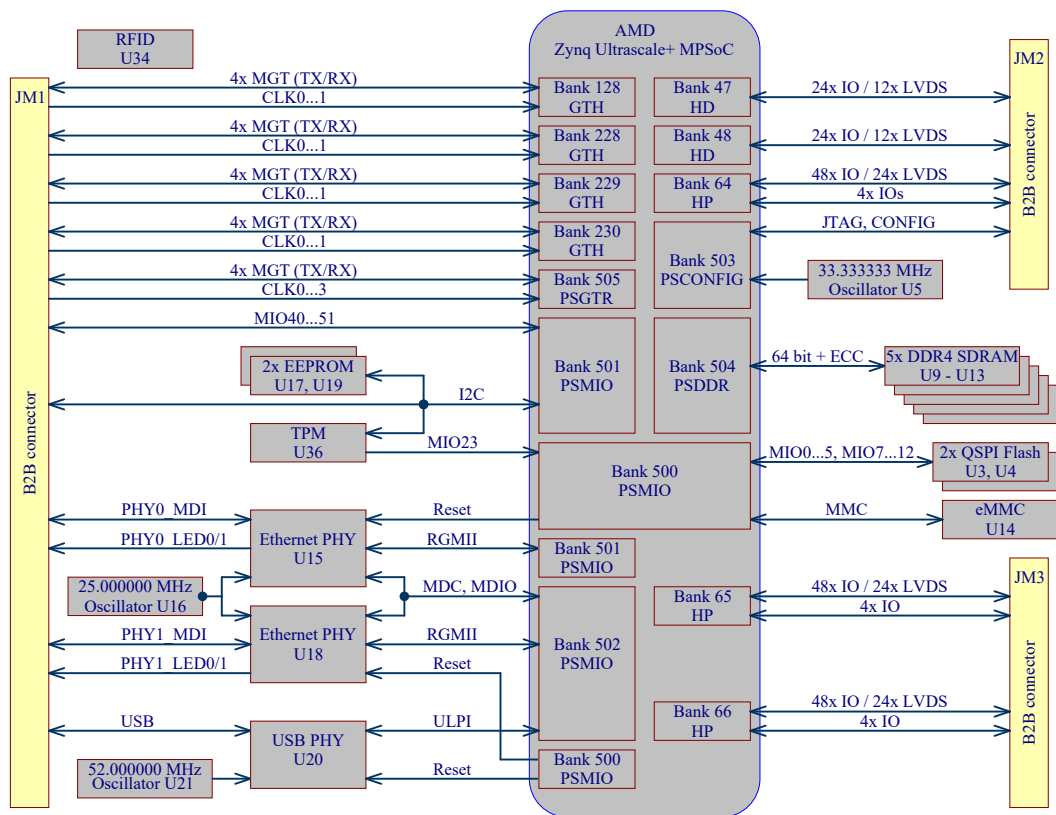
1

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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
6BI59QA

Rev.
01

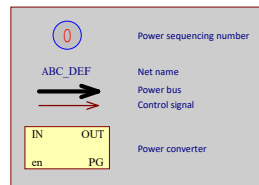
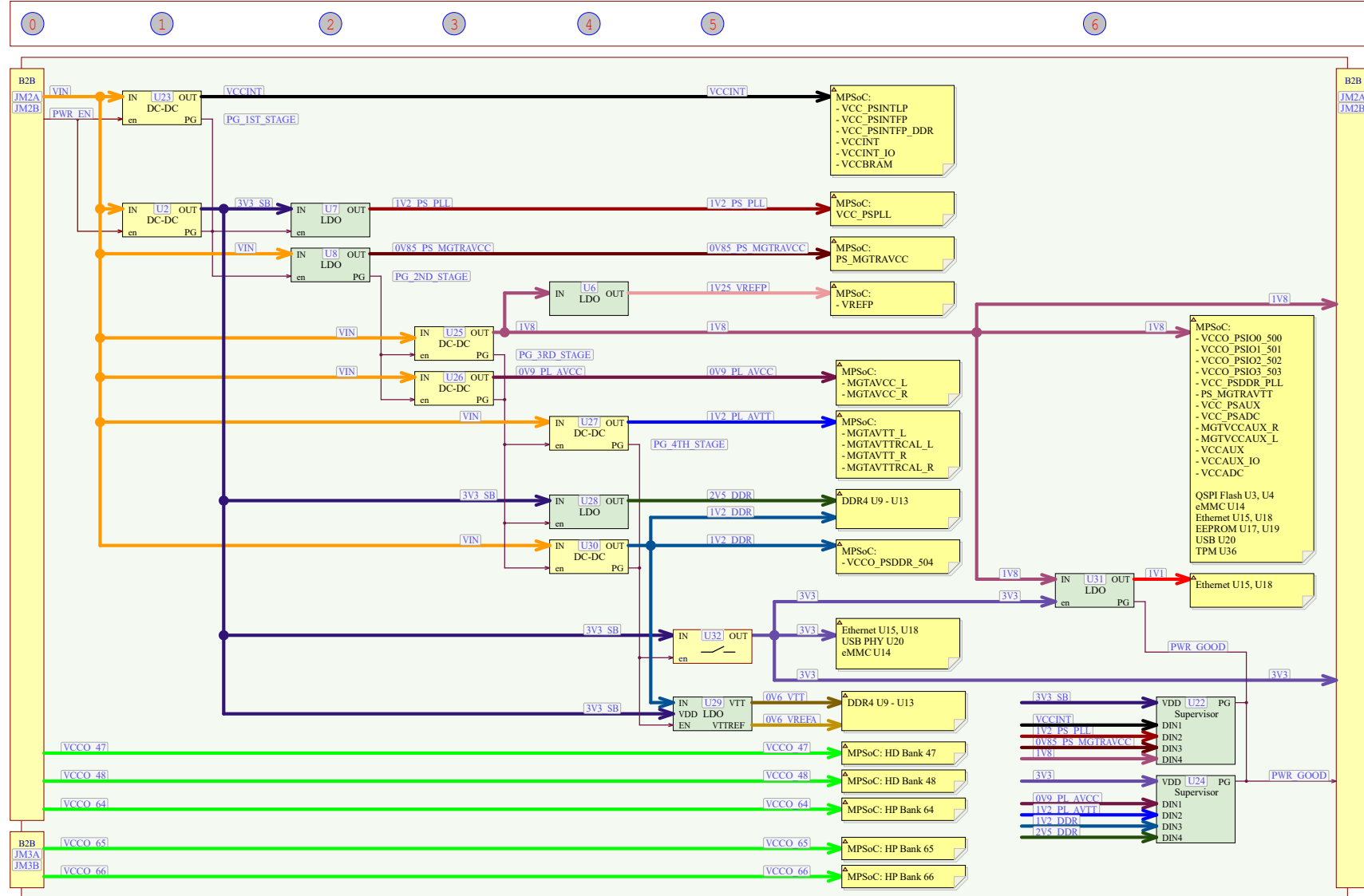
Date: 20.11.2025

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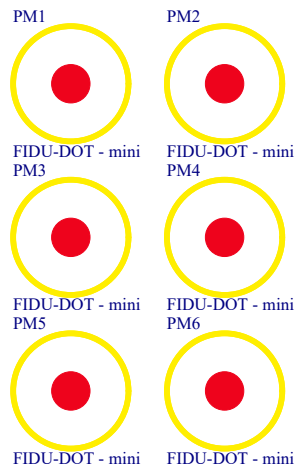
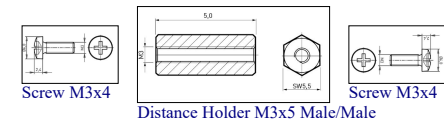
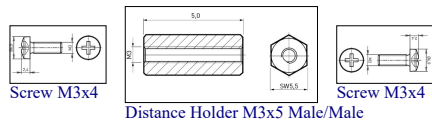
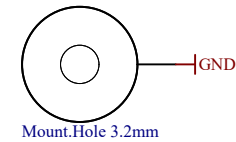
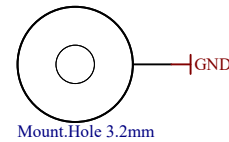
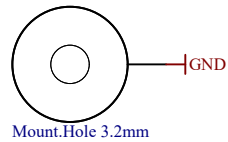
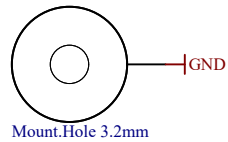
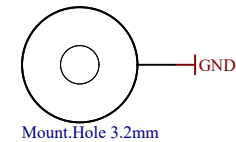
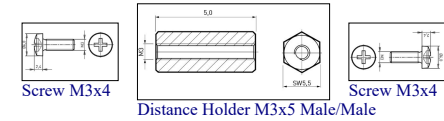
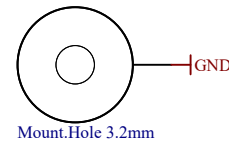
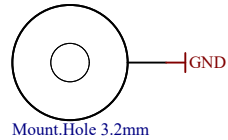
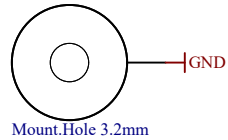
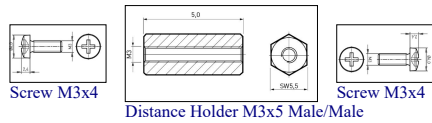
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Power Supply and Power Sequencing



Title: TE0861 – POWER Overview		
A3	Number: TE0861 6BI59QA	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-TOPOVERLAY
WEEE1

WEEE Logo on Top Overlay

WEEE-TOPOVERLAY
CE1

CE Logo on Top Overlay

CE-TOPOVERLAY
UKCA1

UKCA Logo on Top Overlay

UKCA-TOPOVERLAY

Design drawn by: ED
Checked by: MR
Assembly variant: 6BI59QA
Created by: ED
Modified by: ED
Modified at: 2026-04-29



Title: TE0861

A4

Number: TE0861
6BI59QA

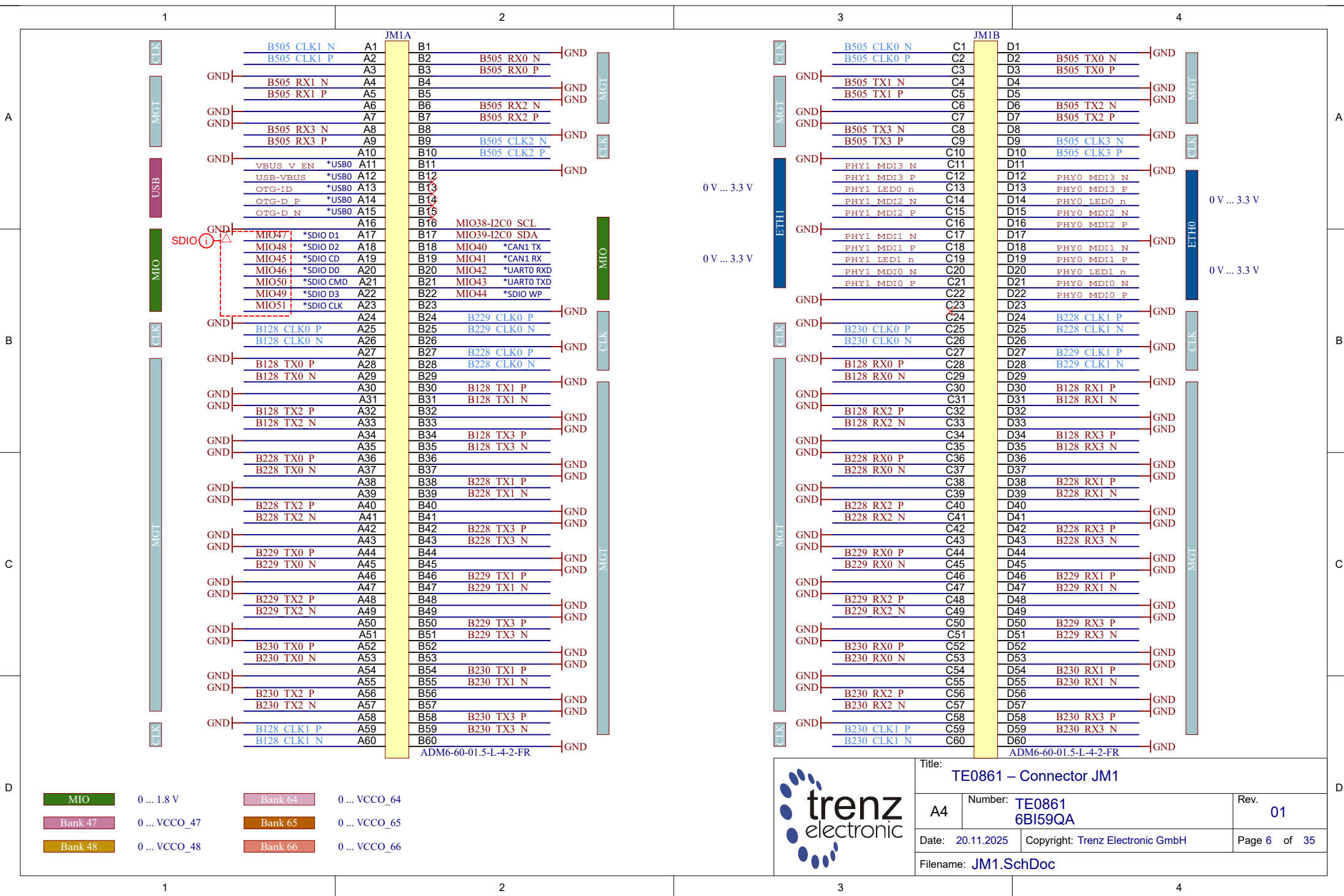
Rev. 01

Date: 20.11.2025

Copyright: Trenz Electronic GmbH

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Filename: TE0861.SchDoc



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A

A

B

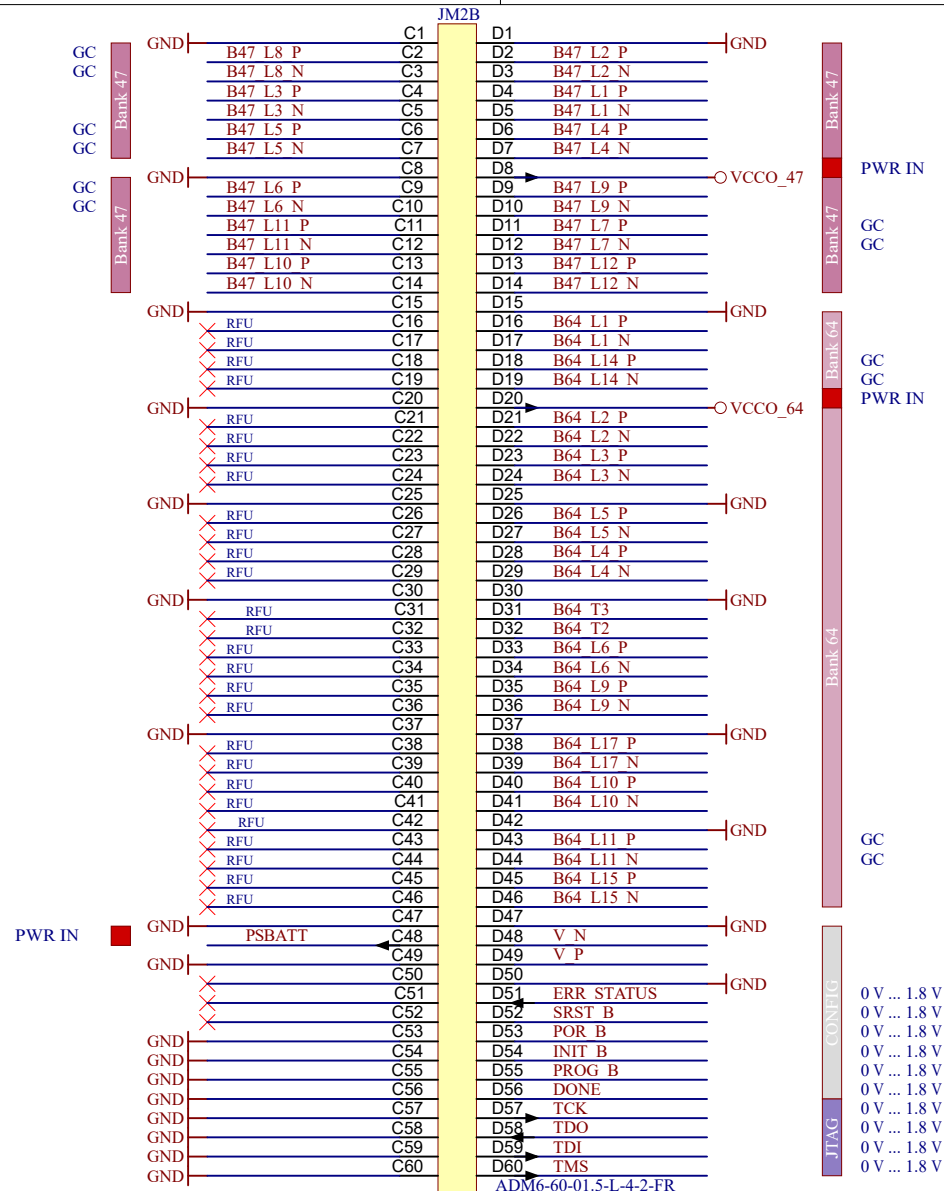
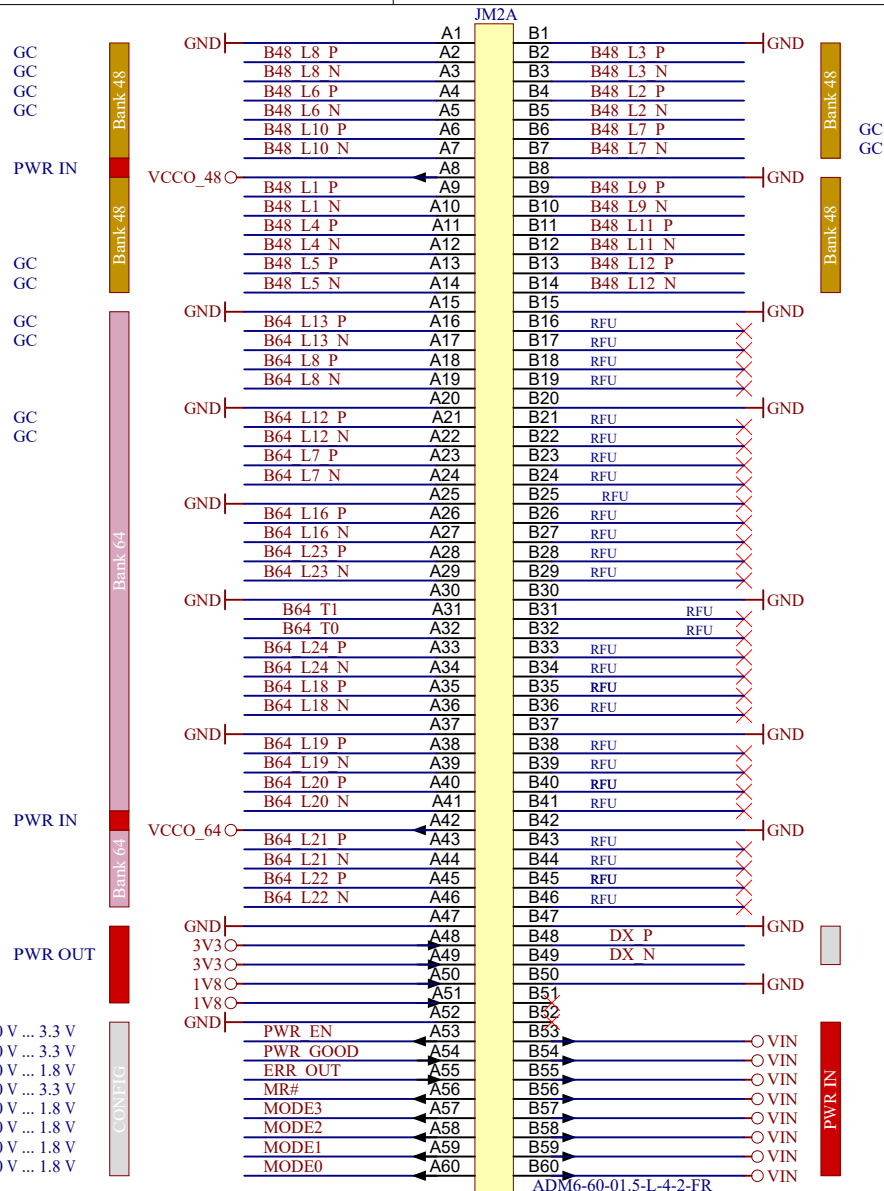
B

C

C

D

D



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



Title: TE0861 – Connector JM2			
A4	Number: TE0861 6BI59QA		Rev. 01
Date: 20.11.2025		Copyright: Trenz Electronic GmbH	Page 7 of 35
Filename: JM2.SchDoc			

1

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A

A

B

B

C

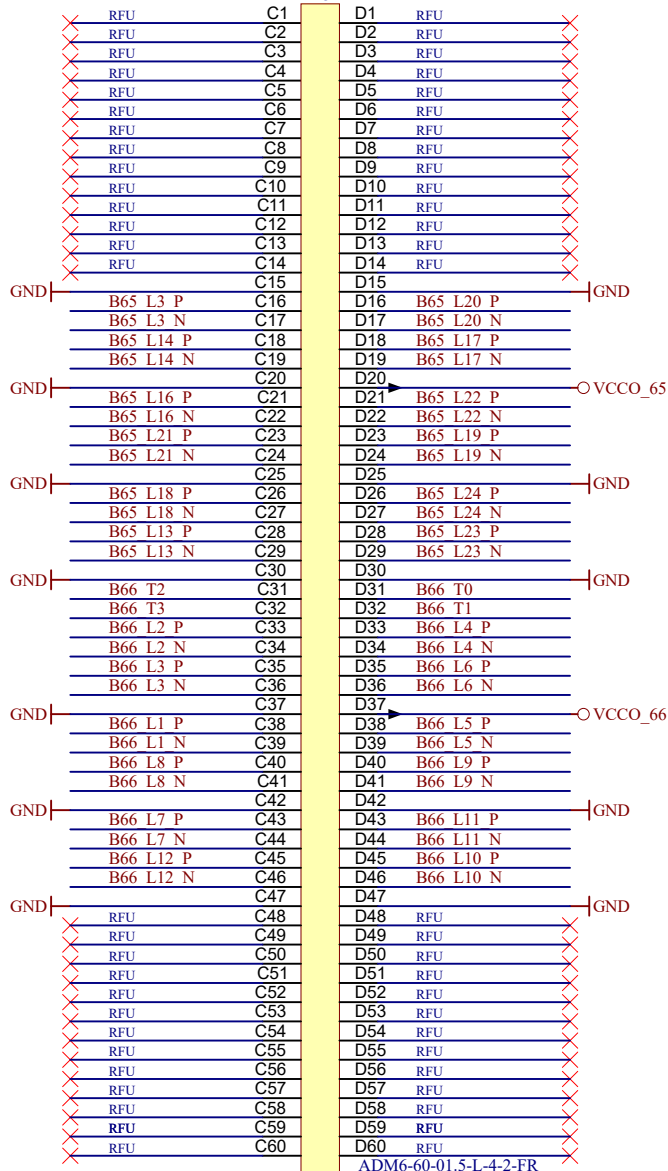
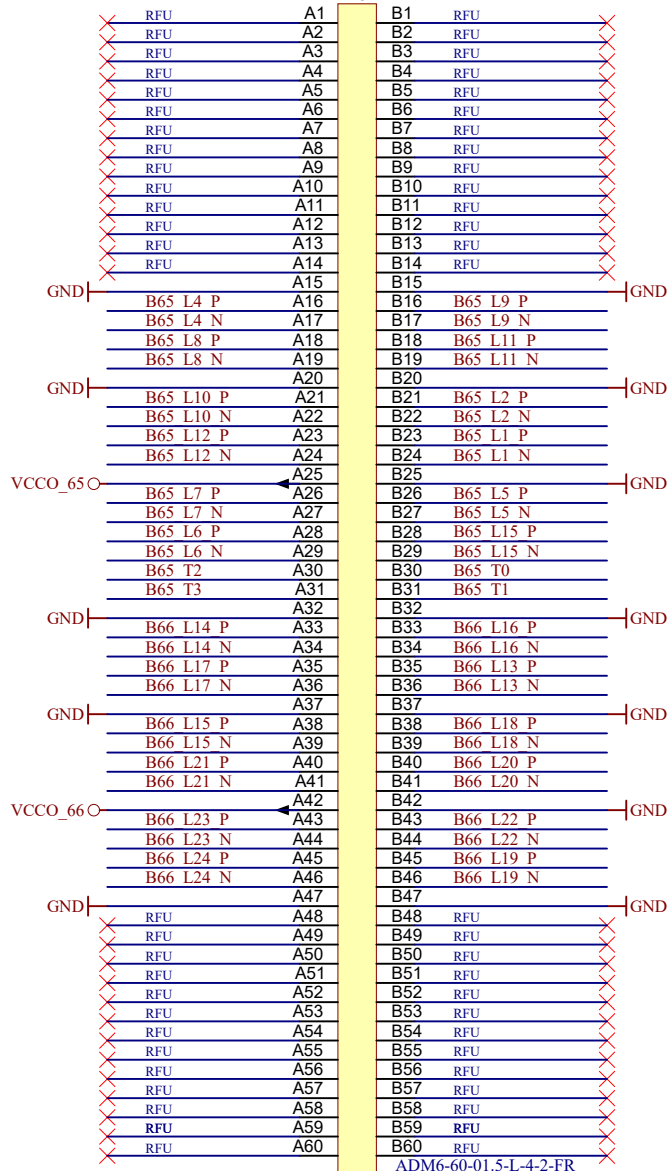
C

D

D

JM3A

JM3B



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



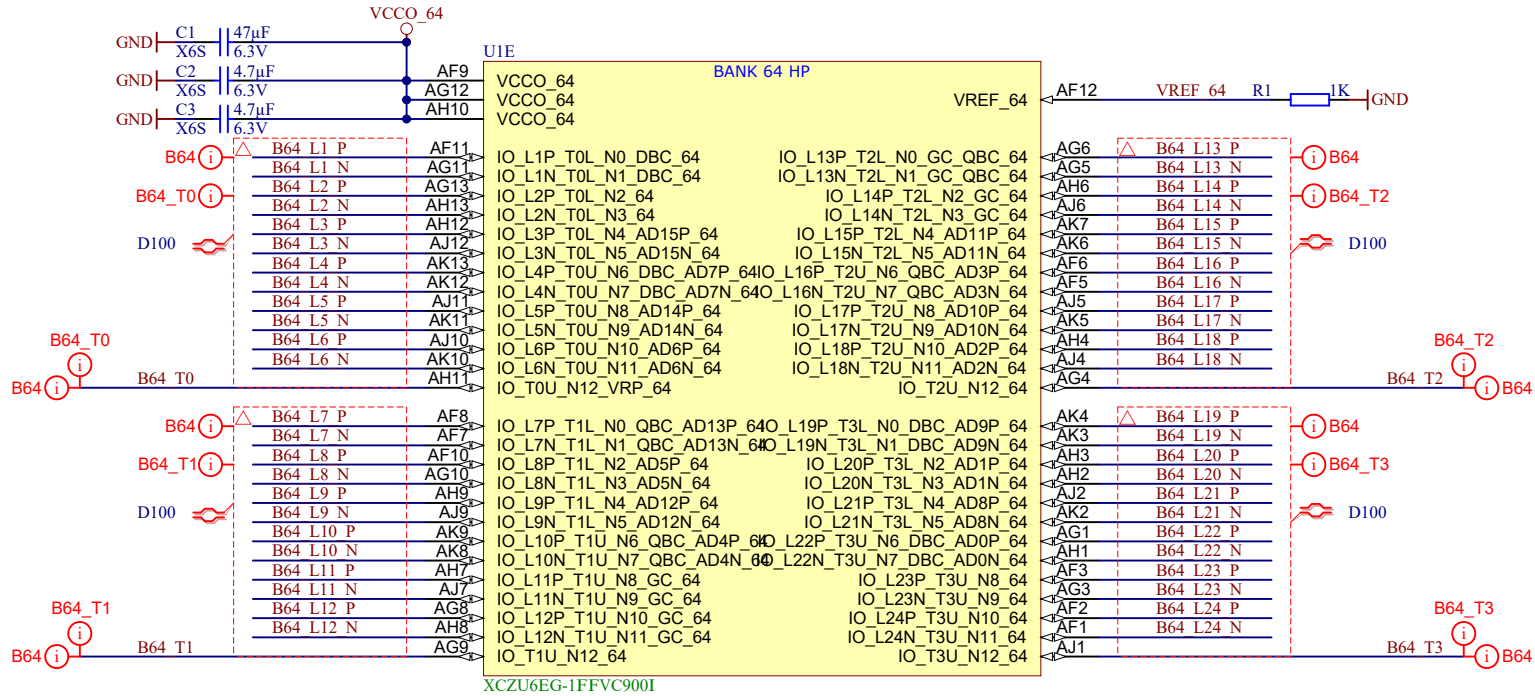
Title: TE0861 – Connector JM3			
A4	Number: TE0861 6BI59QA	Rev. 01	
Date: 20.11.2025	Copyright: Trenz Electronic GmbH		Page 8 of 35
Filename: JM3.SchDoc			

1

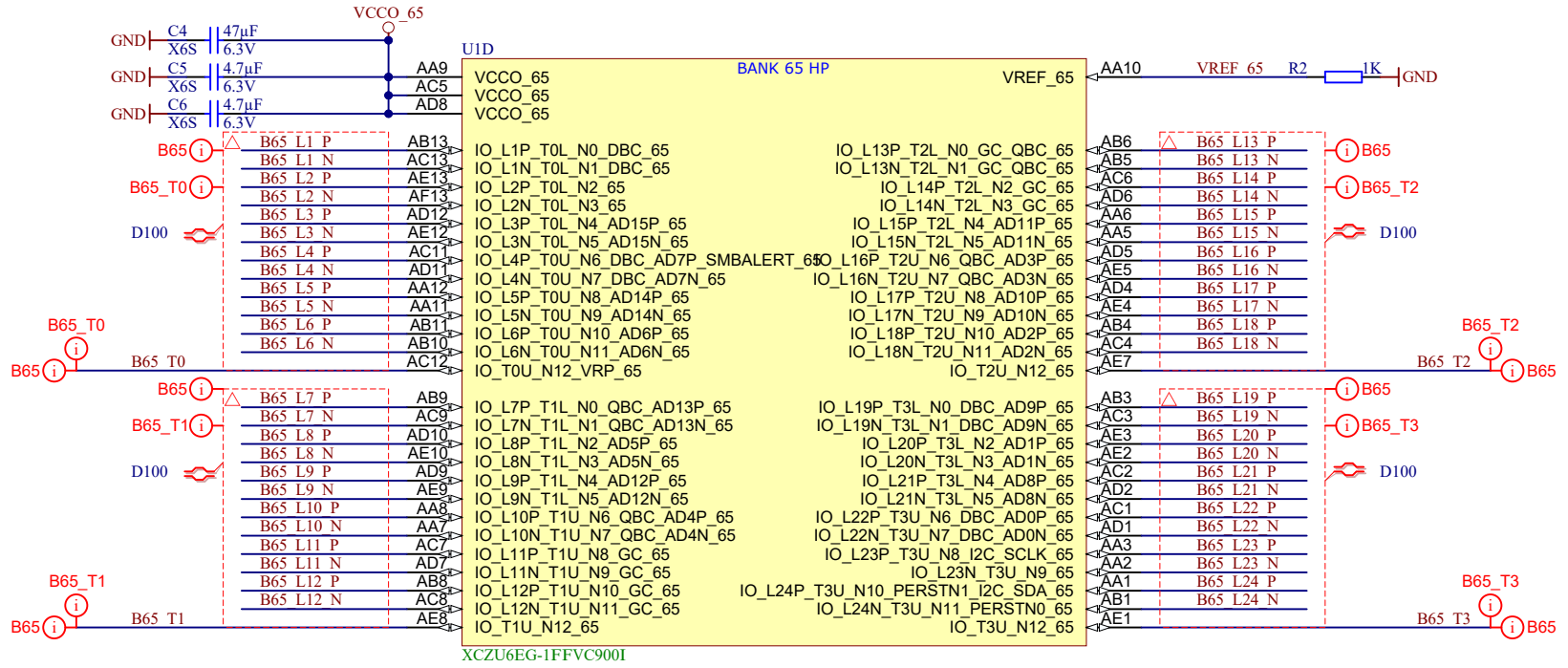
2

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4



		Title: TE0861 – B64	
		A4	Number: TE0861 6BI59QA
Date: 20.11.2025		Copyright: Trenz Electronic GmbH	
Filename: B64.SchDoc		Rev. 01	
Page 9 of 35			





Title:TE0861 – B65

A4

Number:TE0861
6BI59QA

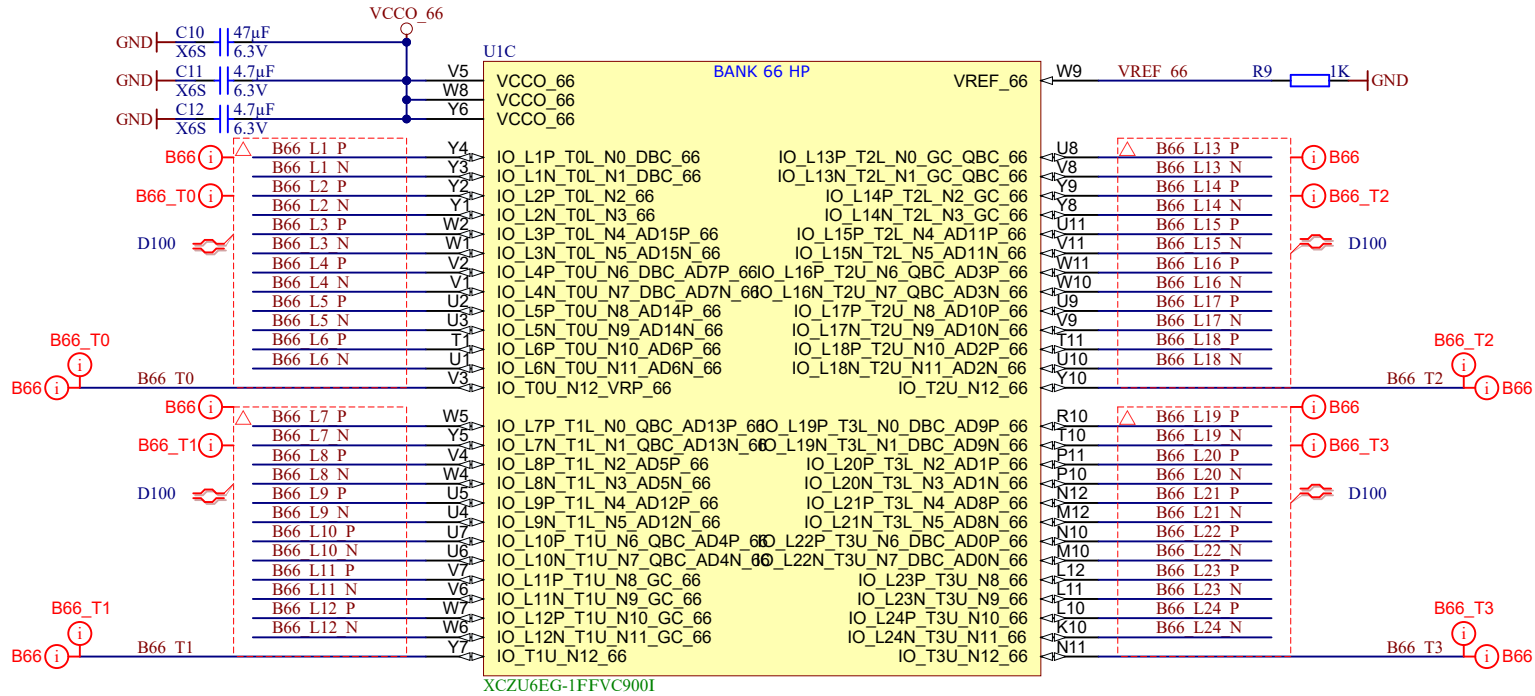
Rev.01

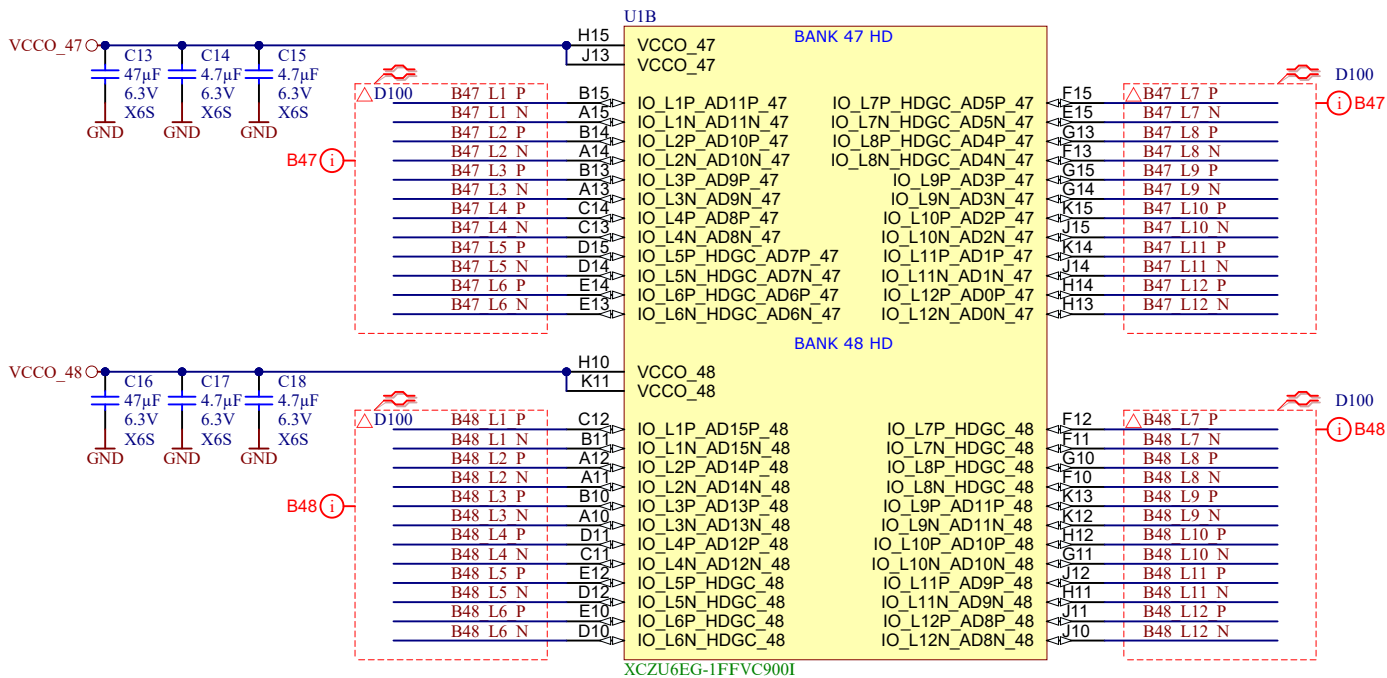
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Copyright: Trenz Electronic GmbH

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Filename: B65.SchDoc



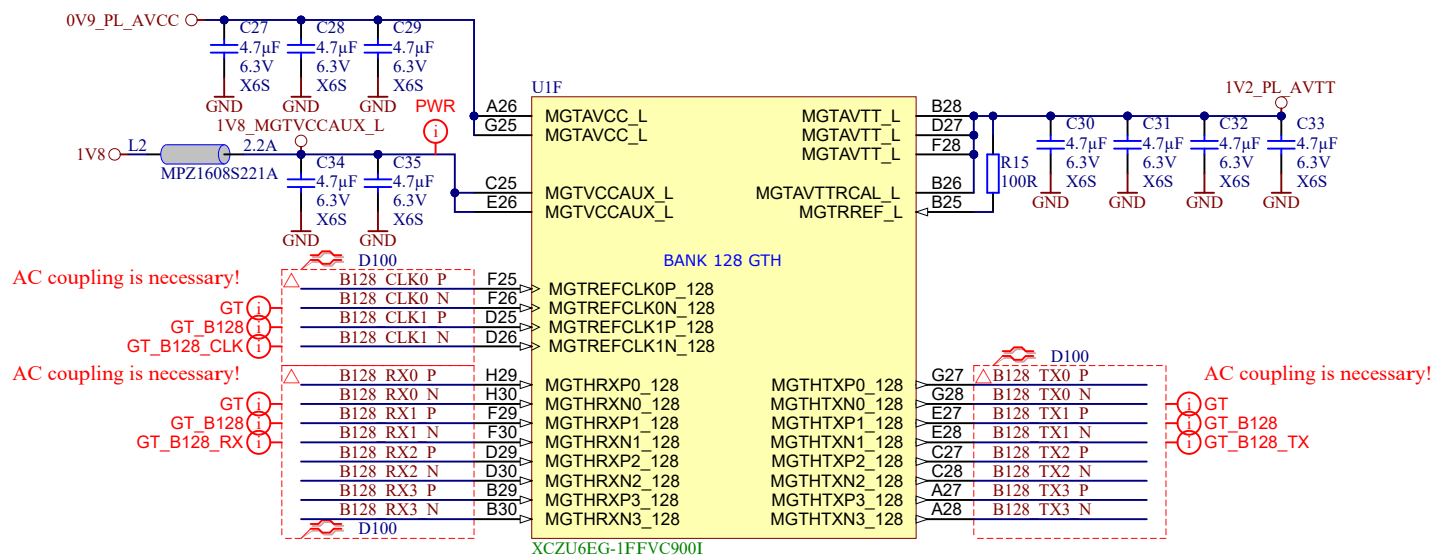


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Title: TE0861 – B_GT_L		
A4	Number: TE0861 6BI59QA	Rev. 01
Date: 20.11.2025	Copyright: Trenz Electronic GmbH	Page 14 of 35
Filename: B_GT_L.SchDoc		

1

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A

A

B

B

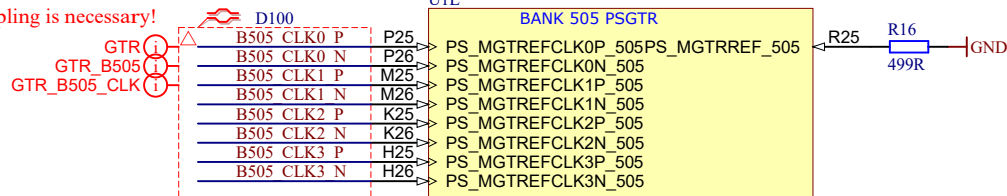
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C

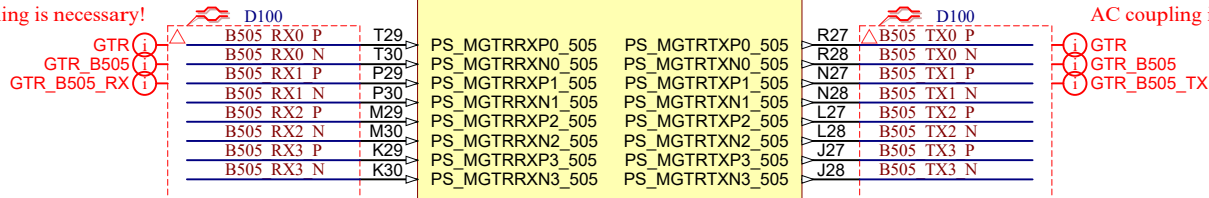
D

D

AC coupling is necessary!



AC coupling is necessary!



AC coupling is necessary!

XCZU6EG-1FFVC900I



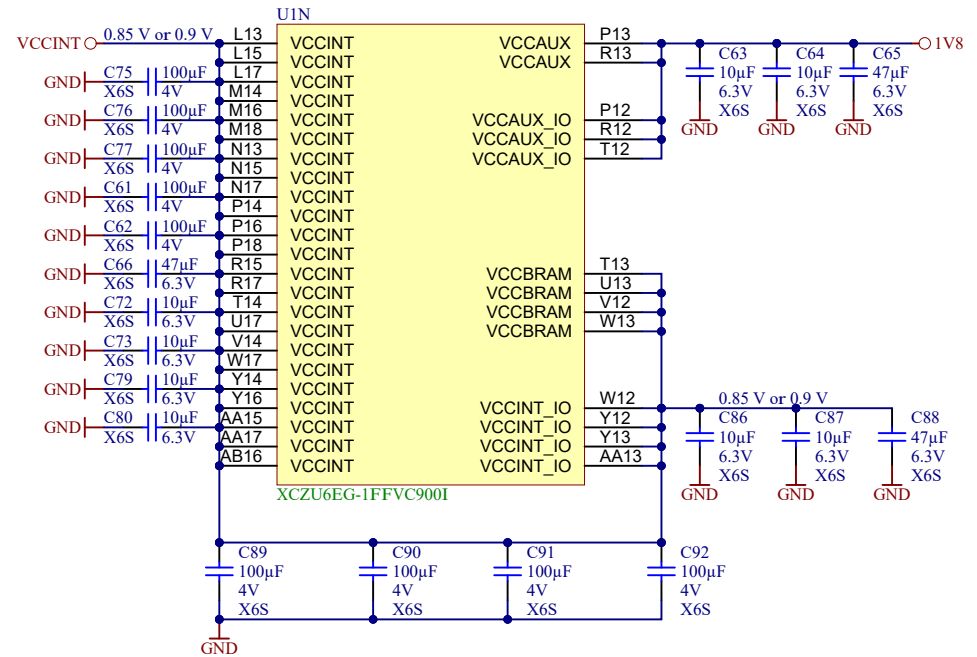
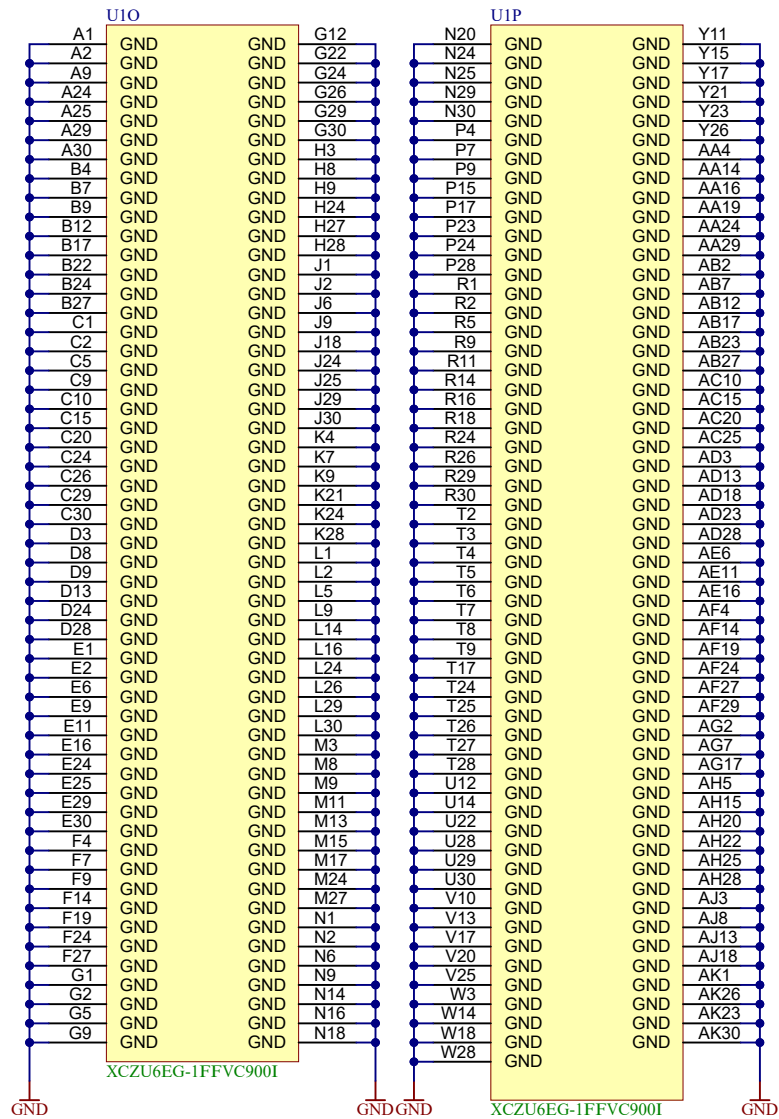
Title: TE0861 – B_PS_GT		
A4	Number: TE0861 6BI59QA	Rev. 01
Date: 20.11.2025	Copyright: Trenz Electronic GmbH	Page 16 of 35
Filename: B_PS_GT.SchDoc		

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		Title: TE0861 – ZU_POWER	
		A4 Number: TE0861 6BI59QA	Rev. 01
Date: 20.11.2025		Copyright: Trenz Electronic GmbH	
Filename: ZU_POWER.SchDoc		Page 19 of 35	

1

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A

A

B

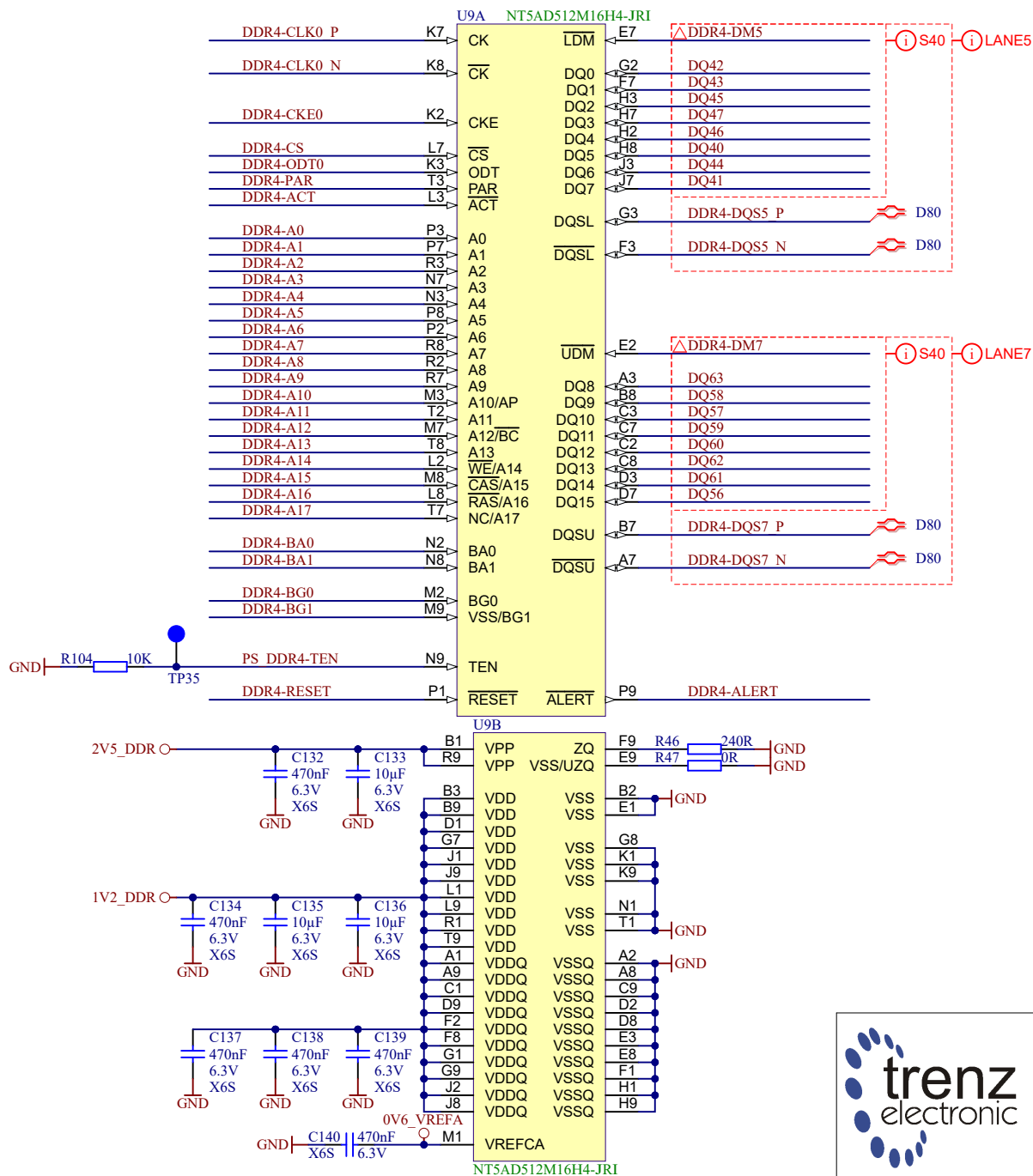
B

C

C

D

D



Title: TE0861 – DDR4-RAM_1		
A4	Number: TE0861 6BI59QA	Rev. 01
Date: 17.12.2025	Copyright: Trenz Electronic GmbH	Page 21 of 35
Filename: DDR4-RAM_1.SchDoc		

1

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2

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4

A

A

B

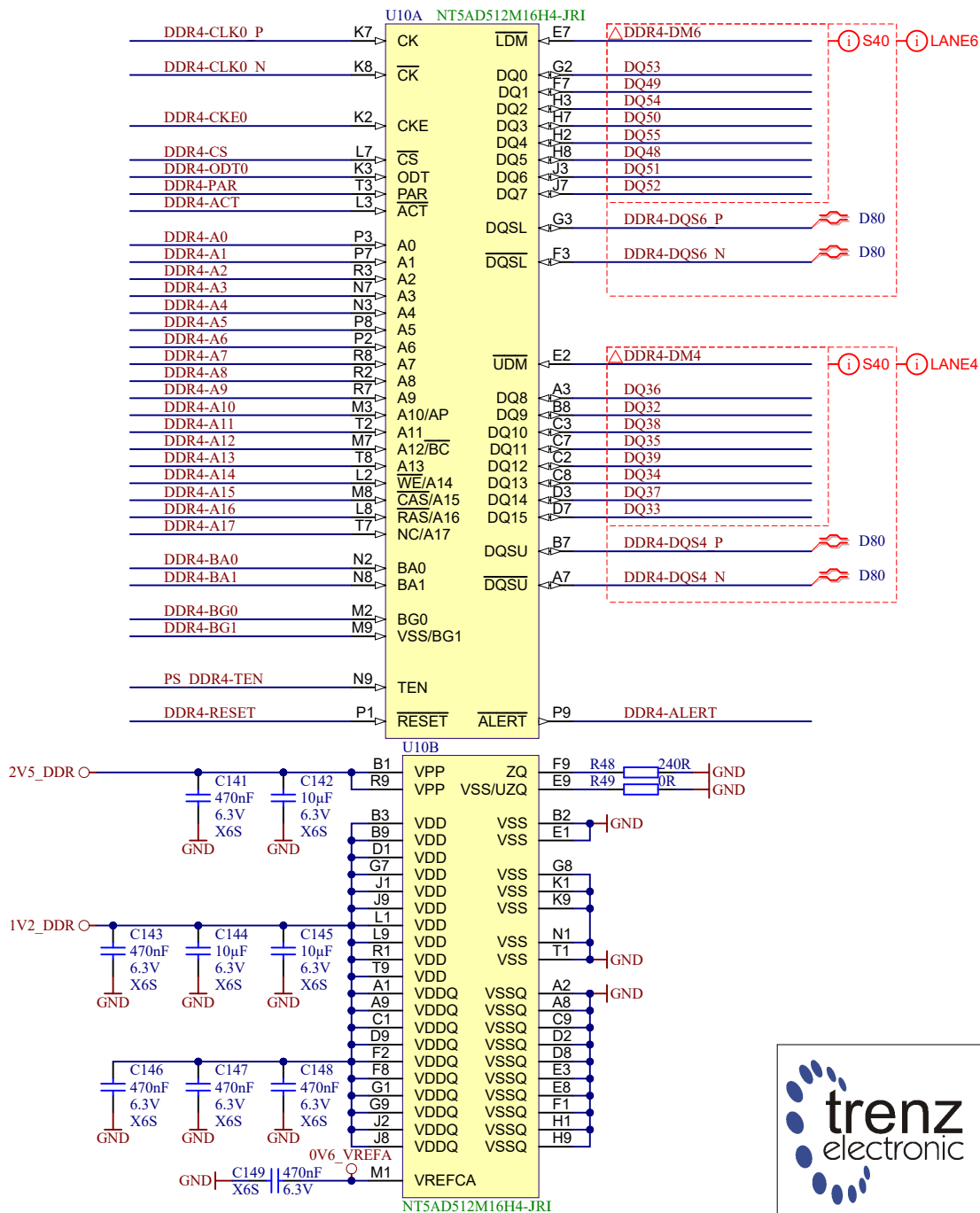
B

C

C

D

D



Title: TE0861 – DDR4-RAM_2		
A4	Number: TE0861 6BI59QA	Rev. 01
Date: 17.12.2025	Copyright: Trenz Electronic GmbH	Page 22 of 35
Filename: DDR4-RAM_2.SchDoc		

1

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A

A

B

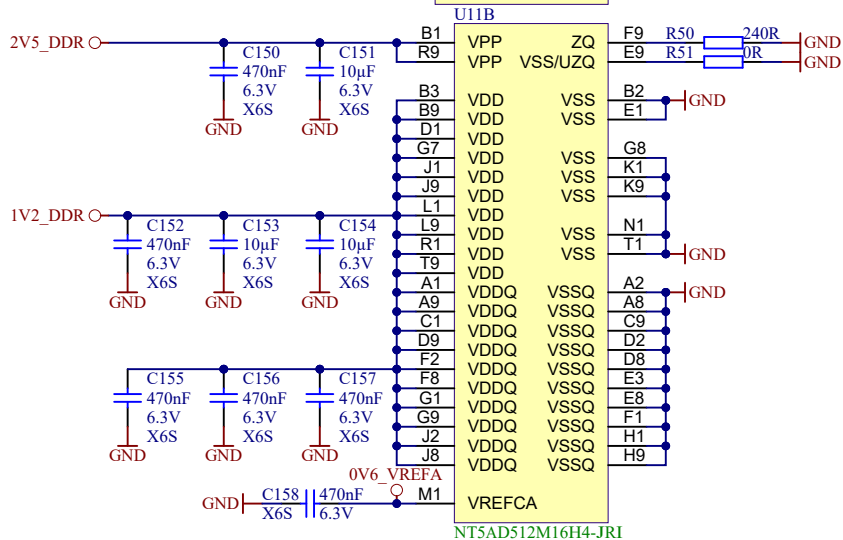
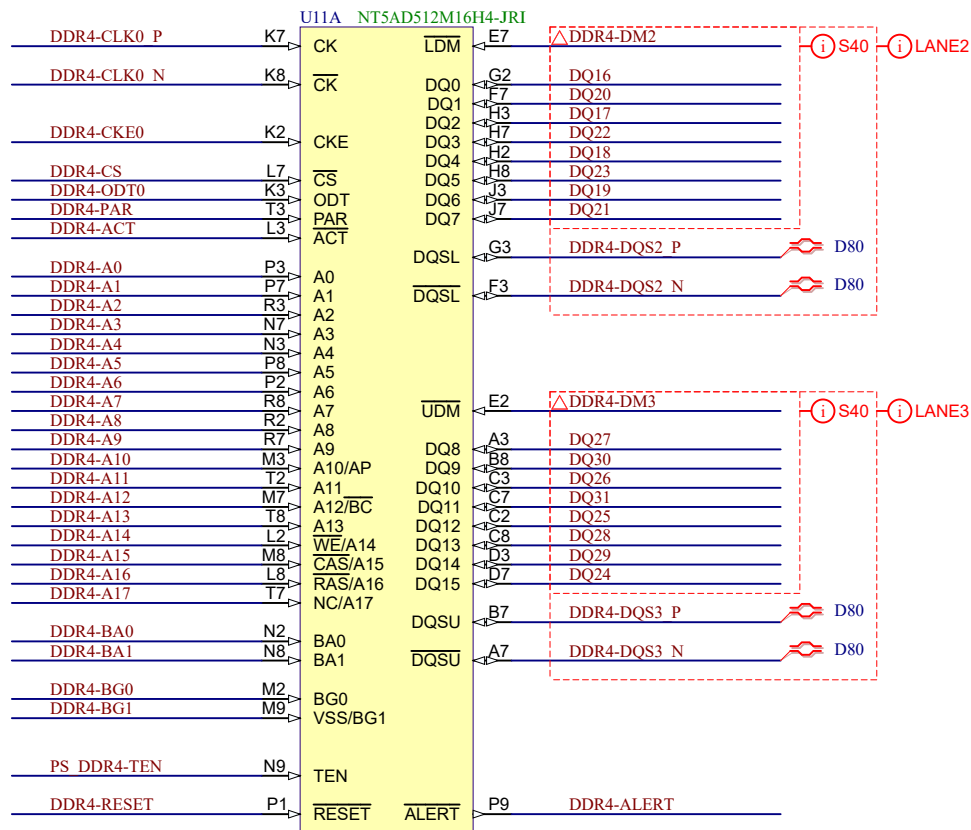
B

C

C

D

D



Title: TE0861 – DDR4-RAM_3		
A4	Number: TE0861 6BI59QA	Rev. 01
Date: 17.12.2025	Copyright: Trenz Electronic GmbH	Page 23 of 35
Filename: DDR4-RAM_3.SchDoc		

1

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1

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4

A

A

B

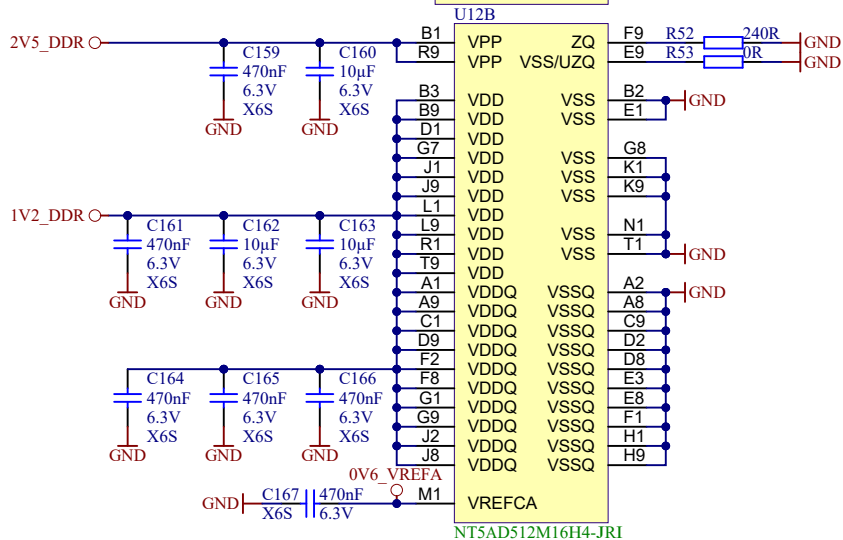
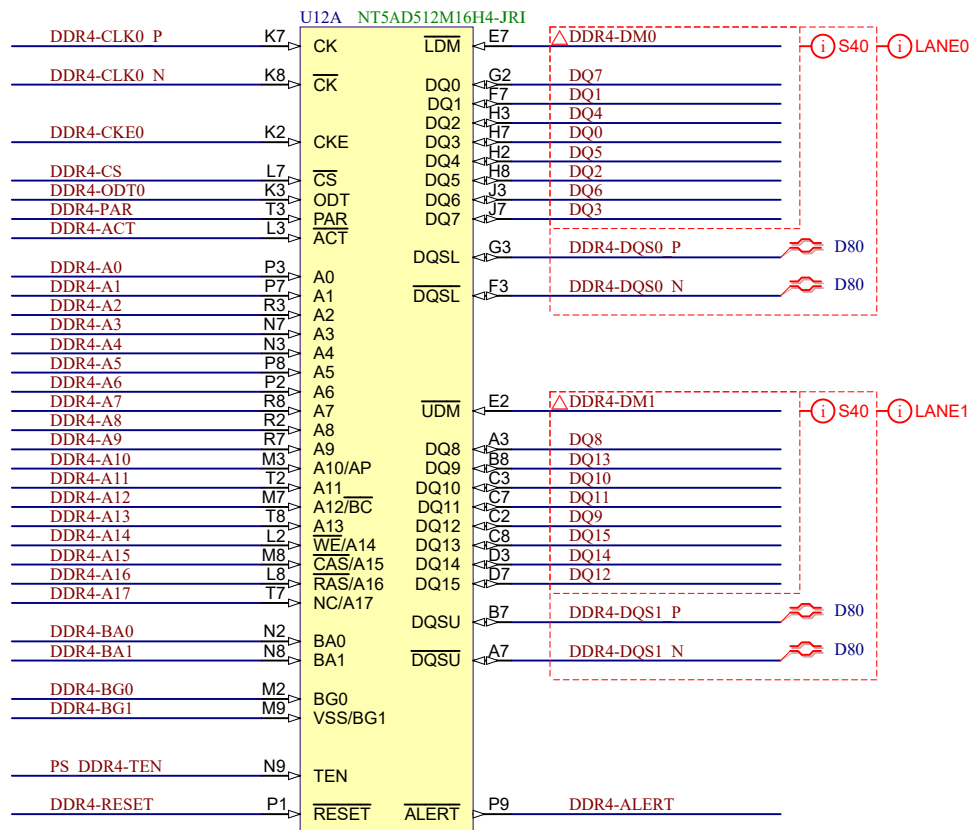
B

C

C

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D



Title: TE0861 – DDR4-RAM_4		
A4	Number: TE0861 6BI59QA	Rev. 01
Date: 17.12.2025	Copyright: Trenz Electronic GmbH	Page 24 of 35
Filename: DDR4-RAM_4.SchDoc		

1

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1

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4

A

A

B

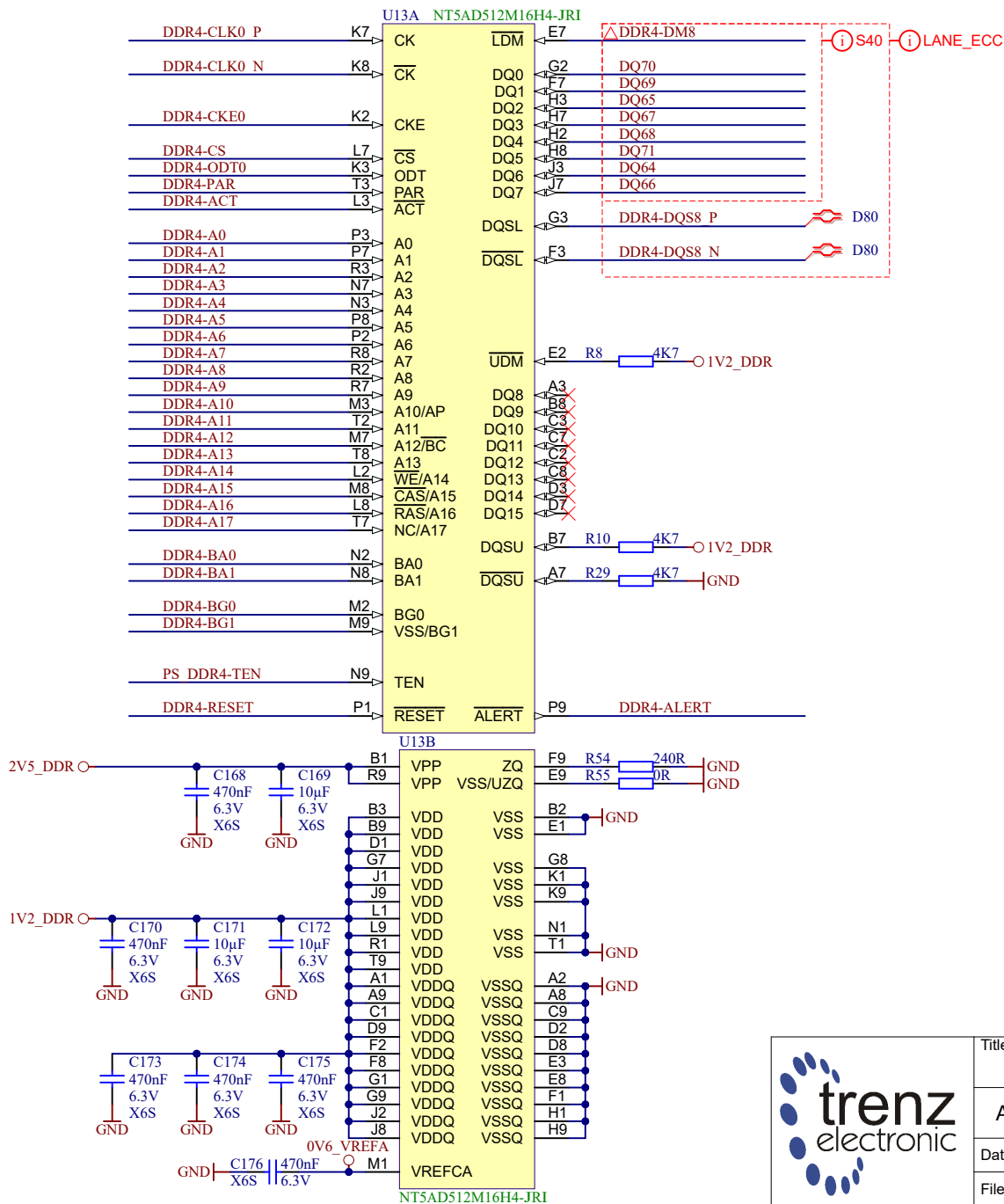
B

C

C

D

D



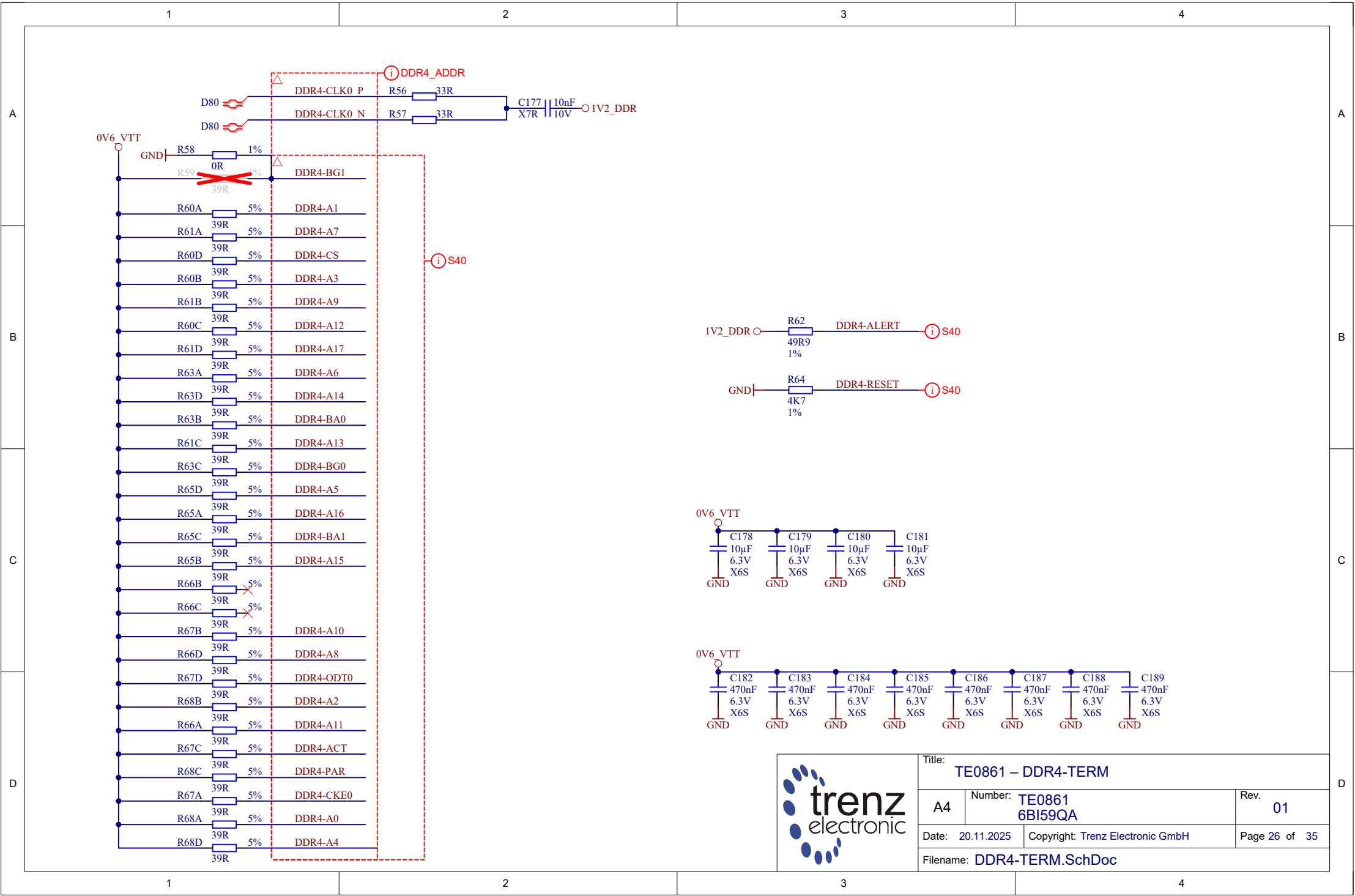
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Date: 17.12.2025	Copyright: Trenz Electronic GmbH	Page 25 of 35
Filename: DDR4-RAM_5.SchDoc		

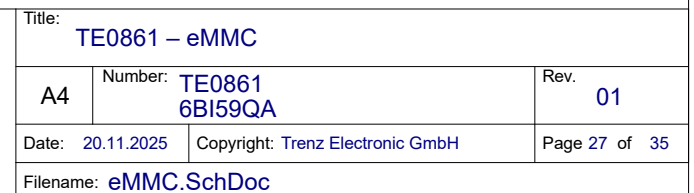
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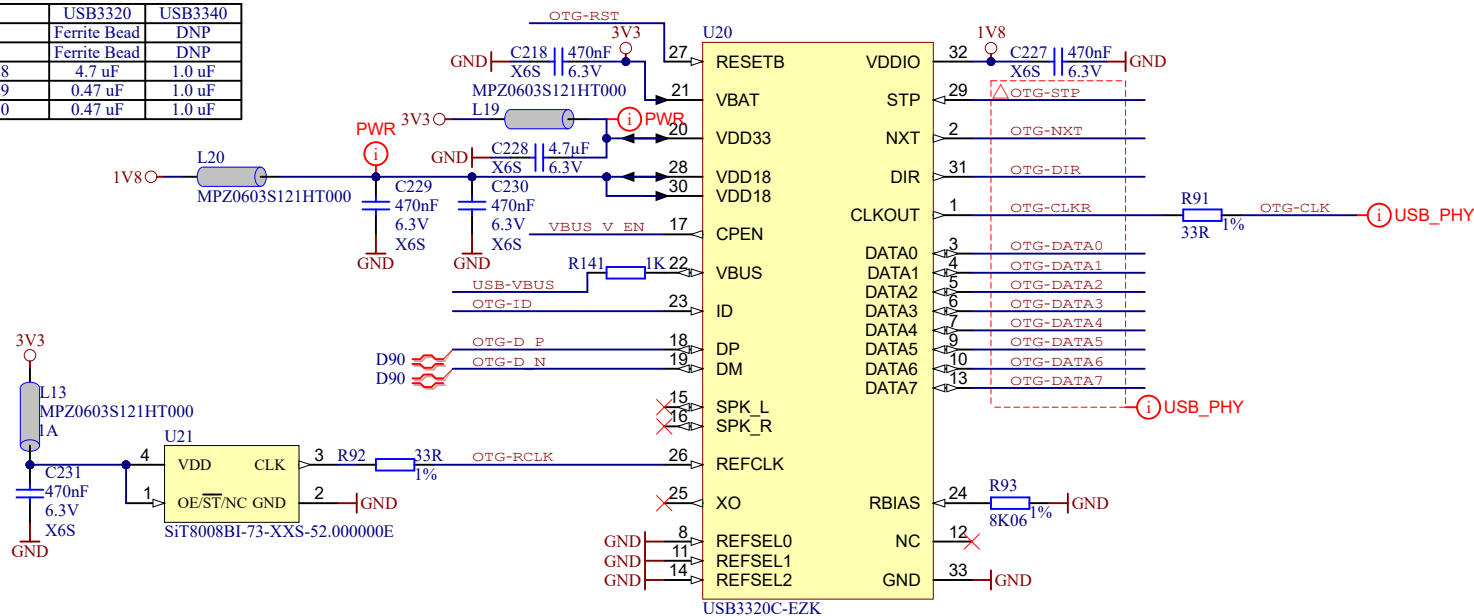
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4





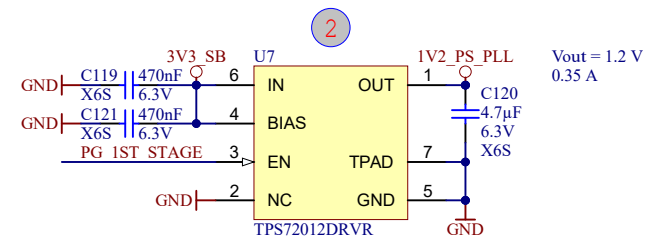
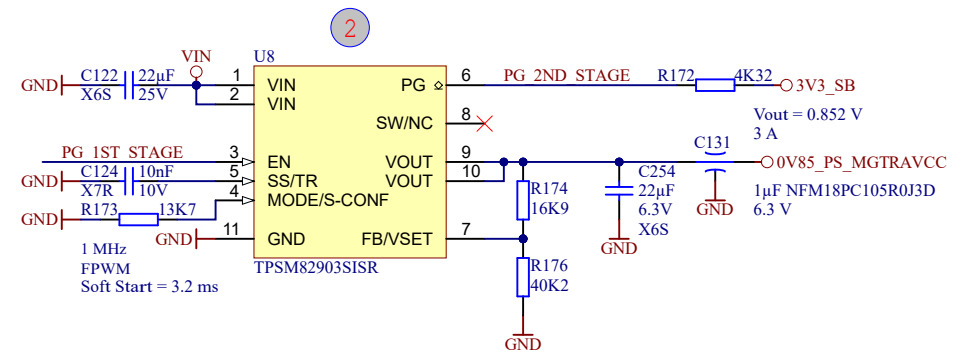
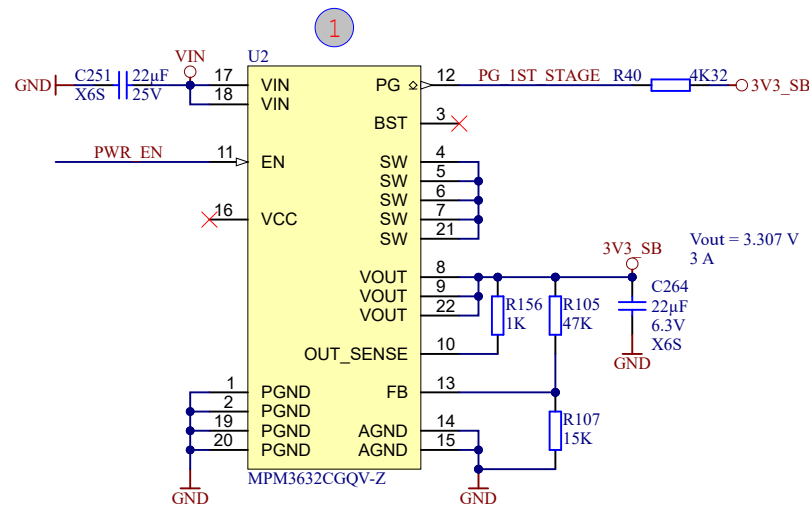
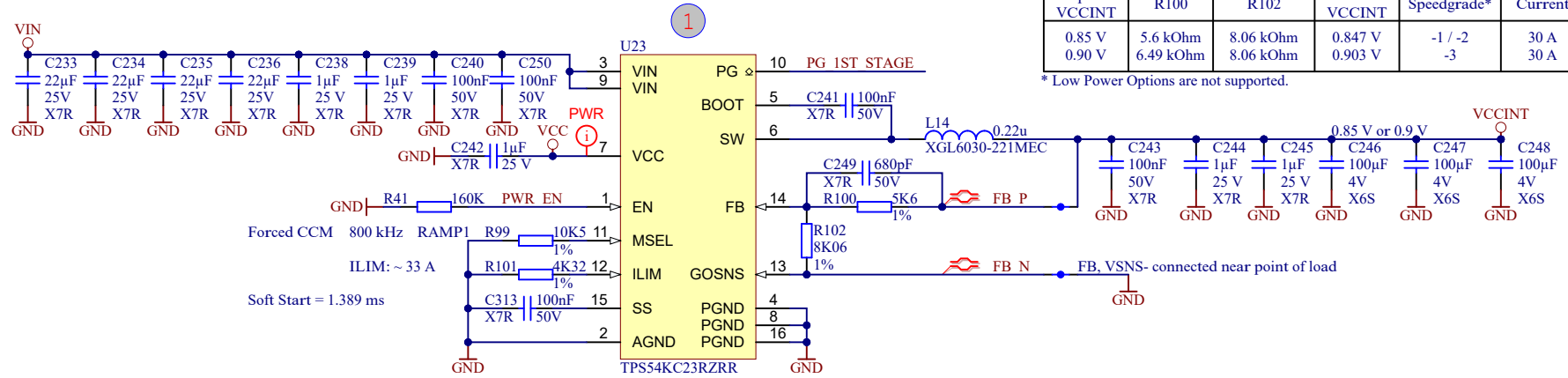
	USB3320	USB3340
L19	Ferrite Bead	DNP
L20	Ferrite Bead	DNP
C228	4.7 uF	1.0 uF
C229	0.47 uF	1.0 uF
C230	0.47 uF	1.0 uF



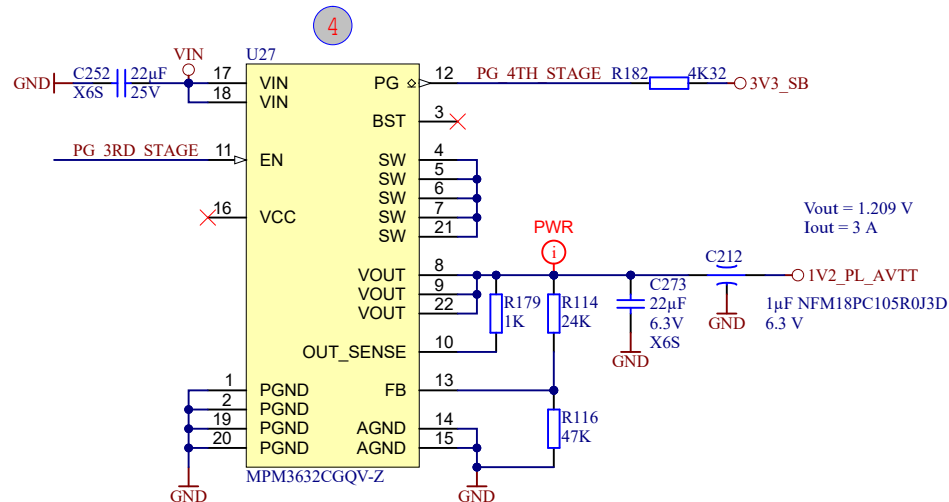
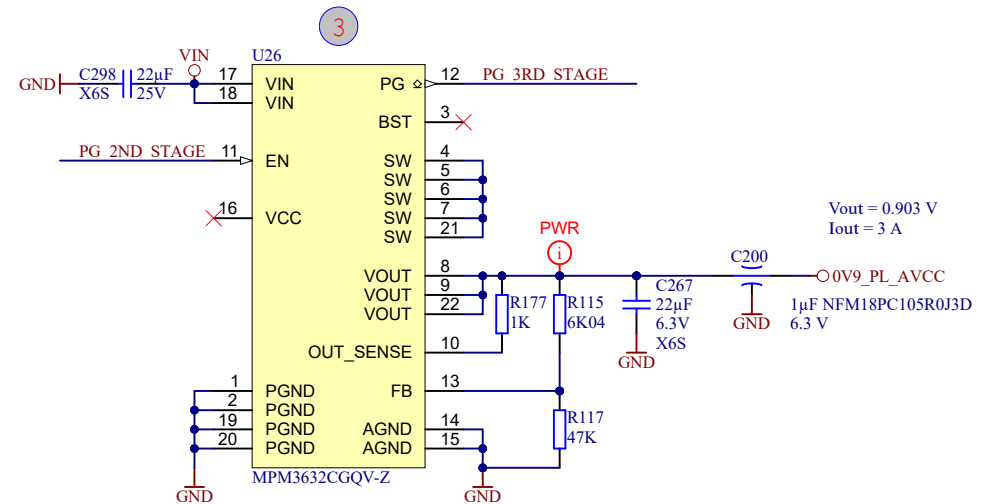
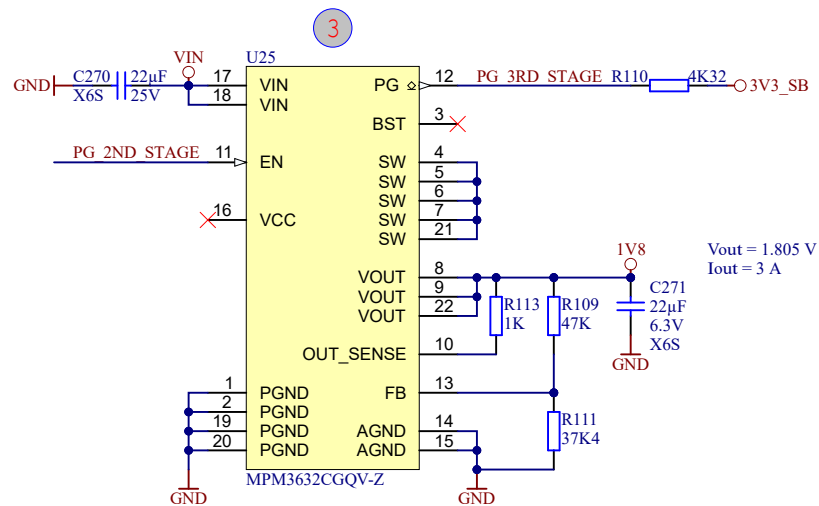
		Title: TE0861 – USB-PHY	
		A4 Number: TE0861 6BI59QA	Rev. 01
Date: 20.11.2025		Copyright: Trenz Electronic GmbH	
Filename: USB-PHY.SchDoc		Page 30 of 35	

Required VCCINT	R100	R102	Calculated VCCINT	Speedgrade*	Current
0.85 V	5.6 kOhm	8.06 kOhm	0.847 V	-1 / -2	30 A
0.90 V	6.49 kOhm	8.06 kOhm	0.903 V	-3	30 A

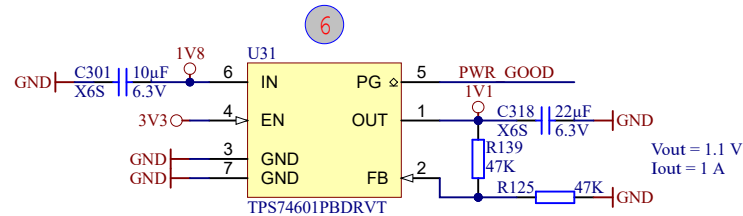
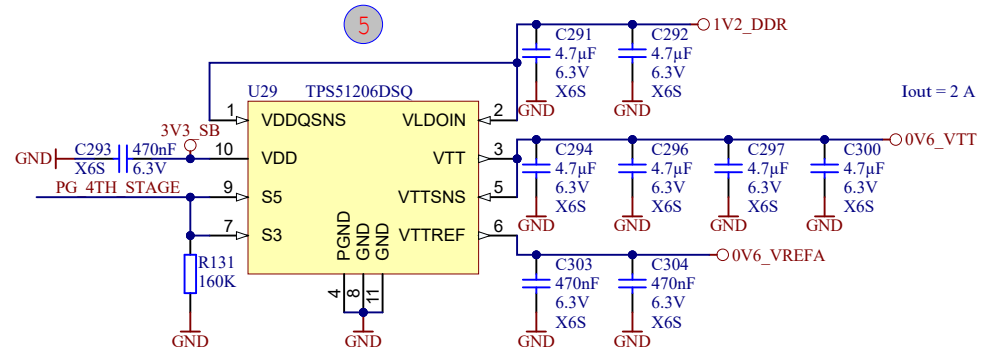
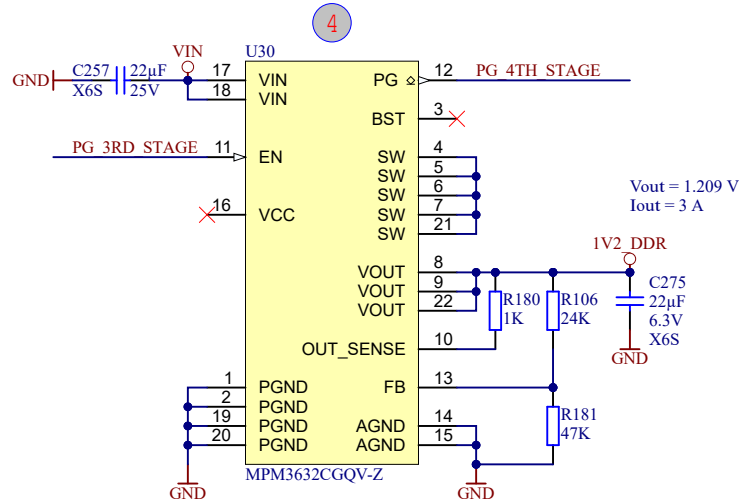
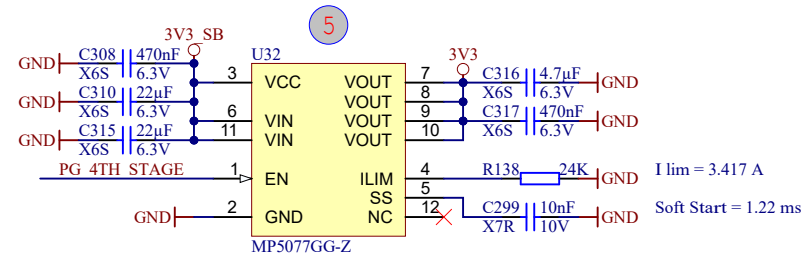
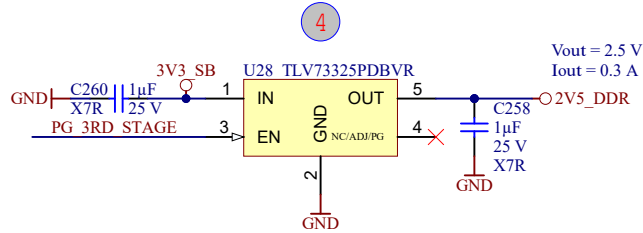
* Low Power Options are not supported.



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	A4	Number: TE0861 6BI59QA	Rev. 01
	Date: 20.11.2025	Copyright: Trenz Electronic GmbH	Page 32 of 35
	Filename: POWER_1.SchDoc		



Title: TE0861 – POWER 2		
A4	Number: TE0861 6BI59QA	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 6BI59QA	Rev. 01
Date: 20.11.2025	Copyright: Trenz Electronic GmbH	Page 34 of 35
Filename: POWER_3.SchDoc		

