

Photo Shows Similar Product

Regarding the usage of our schematics and alike documentation for Trenz module TE0710.

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. TE0710 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!

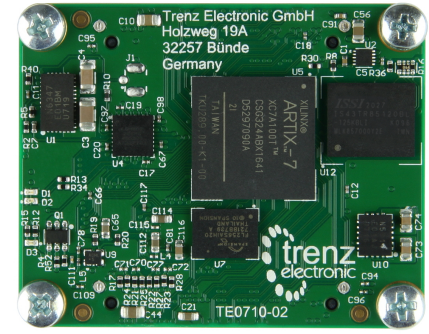


Photo Shows Similar Product

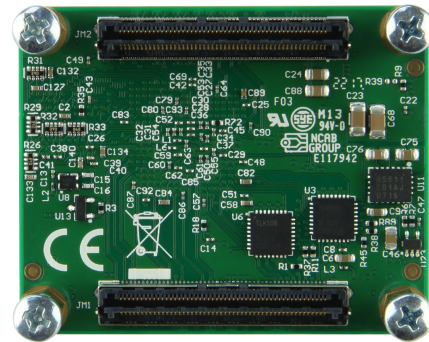


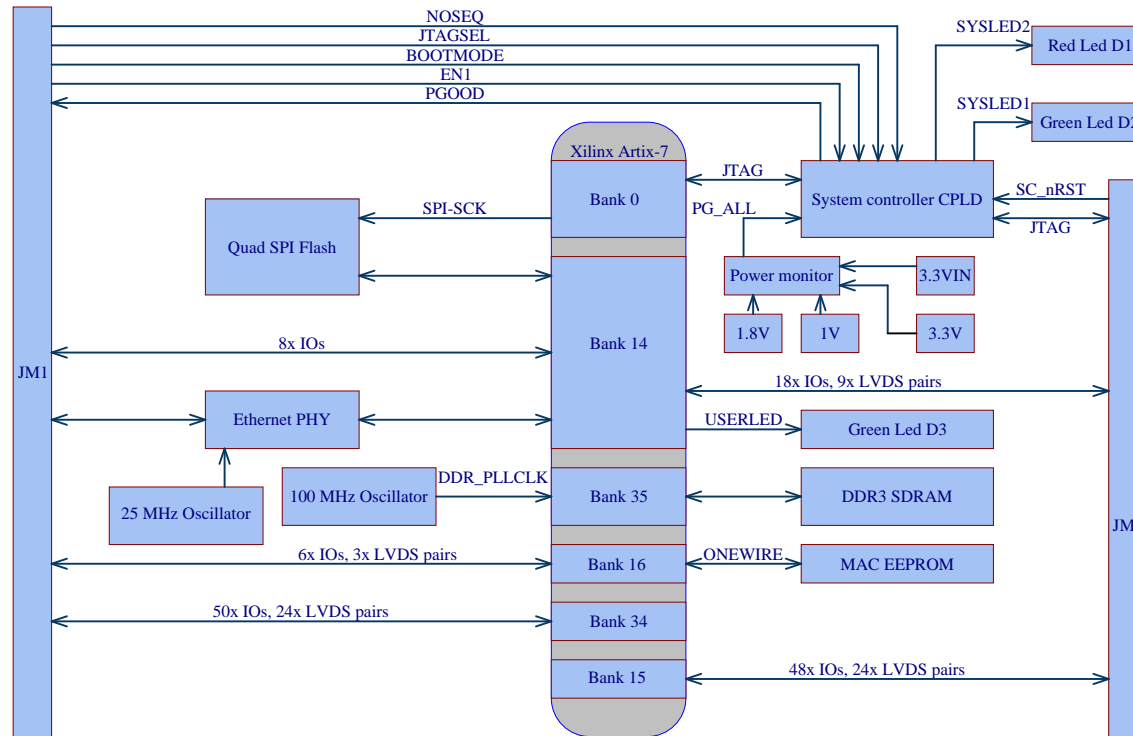


Photo Shows Similar Product

	Title: TE0710 - Legal Notices		
	A4	Number: TE0710 42I21-A	Rev. 03
	Date: 11-Jul-23	Copyright: Trenz Electronic GmbH	Page 1 of 16
	Filename: Legal Notices Modules.SchDoc		

REV	Description	
-01	Initial revision	
-02	Revision changes REV02.a (15.03.19): 1) Schematic: nets B14_IO0 and B14_IO4 renamed to B16_IO0 and B16_IO4 accordingly 2) Schematic: changed value of R12 and R15 to 240R Revision changes REV02.b (19.07.19): 3) VY: Replaced capacitors C39, C40, C43, C111 from 10nF 6.3V X5R to 10nF 10V X7R	VY
-03	1) [Q1] TPS27082LDDCR was changed to MP5077GG-Z on page "TE0710.SchDoc" 2) Full update SCH and PCB lib 3) [U23] TPS3805H33DCKR was changed to STM6710LWB6F on "TE0710.SchDoc" 4) Changed ferrite beads [L1], [L2], [L3], [L4], [L5], [L6] from BKP0603HS121-T to MPZ0603S121HT000 5) [U1] EN6347Q1 was changed to MPM3860GQW-Z on page "TE0710.SchDoc" 6) [U10] and [U11] EN5311Q1 were changed to MPM3834CGPA 7) Diode [D4] between INIT_B and PROG_B was added on page "FPGA_CFG.SchDoc" 8) [R50] PullUp resistor was added on net Prog_B on page "FPGA_CFG.SchDoc" 9) Power Diagram, Overview and Legal notices pages were added 10) All fiducials were changed from 1 mm to 0.5 mm and moved 11) B2B_connector page was updated. Additional info about signal groups was added 12) Testpoints [TP1]... [TP28] were added on page "TE0710.SchDoc" 13) [U9] was changed from SiT8008A1-73-XXS-25.000000E to SiT8008B1-73-XXS-25.000000E 14) Some net classes definitions were corrected on page "DDR3-MEM.SchDoc" 15) UKCA logo was added	MT

	Title: TE0710 - Revision Changes		
	A4	Number: TE0710 42I21-A	Rev. 03
	Date: 18-Jul-23	Copyright: Trenz Electronic GmbH / TT	Page 2 of 16
	Filename: RevisionChanges.SchDoc		



U_Legal Notices Modules

U_Revision Changes

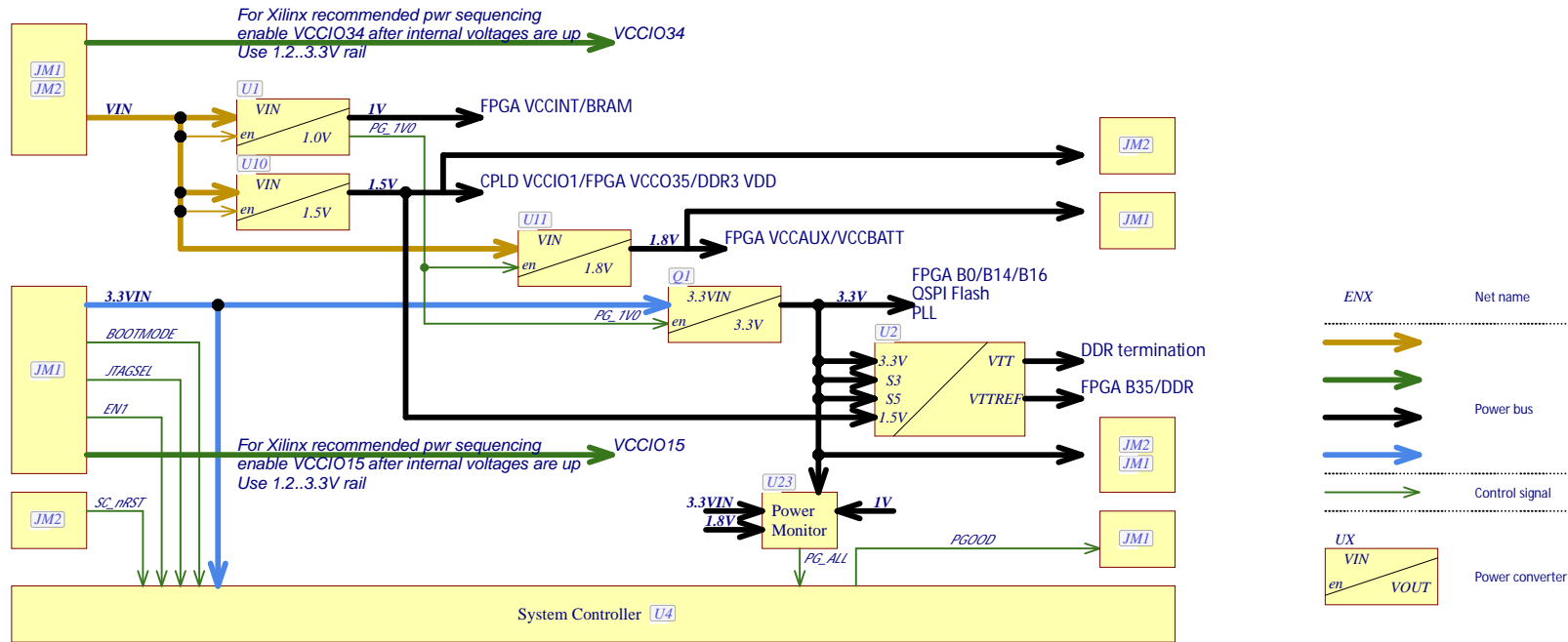
U_Power_Diagram

U_Power_Diagram




Title: TE0710 - System Overview		
A4	Number: TE0710 42I21-A	Rev. 03
Date: 14-Jul-23	Copyright: Trenz Electronic GmbH	Page 3 of 16
Filename: Overview.SchDoc		

Power-on sequencing:



Supported Voltage Ranges:

Power Rail	Direction	Range	Tolerance	Description	Note
VIN	IN	3.3 - 5.0V	+/-5%	Micromodule Power	-
3.3VIN	IN	3.3V	+/-5%	Micromodule Power	-
VCCIO15	IN	1.2 - 3.3V	+/-3%	HR IO Bank15	-
VCCIO34	IN	1.2 - 3.3V	+/-3%	HR IO Bank34	-
3.3V	OUT	3.3V	+/-3%	Internal Voltage	-
1.8V	OUT	1.8V	+/-3%	Internal Voltage	-
1.5V	OUT	1.5V	+/-3%	Internal Voltage	-



Title: TE0710 - Power Diagram		
A4	Number: TE0710 42I21-A	Rev. 03
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Filename: Power_Diagram.SchDoc		

UKCA

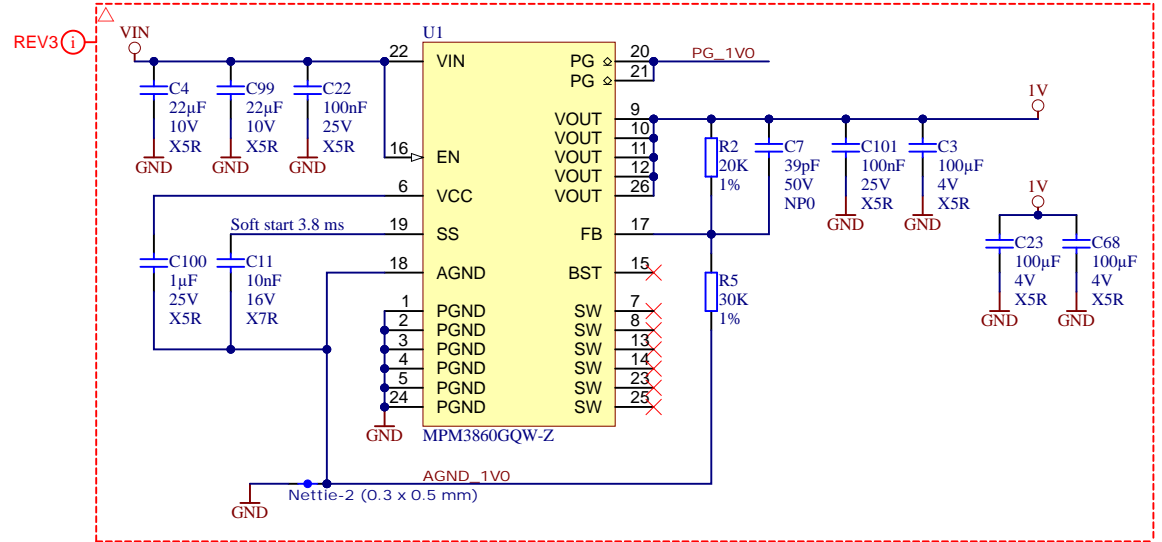
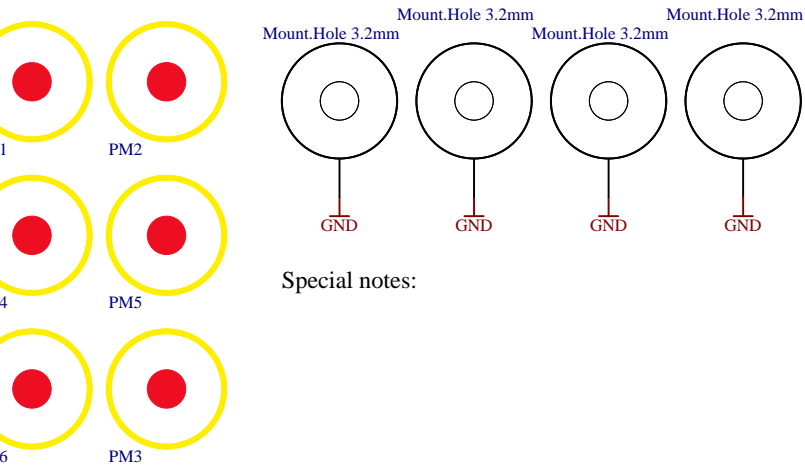
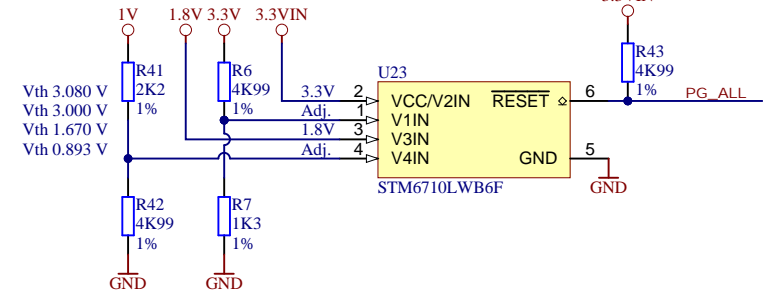
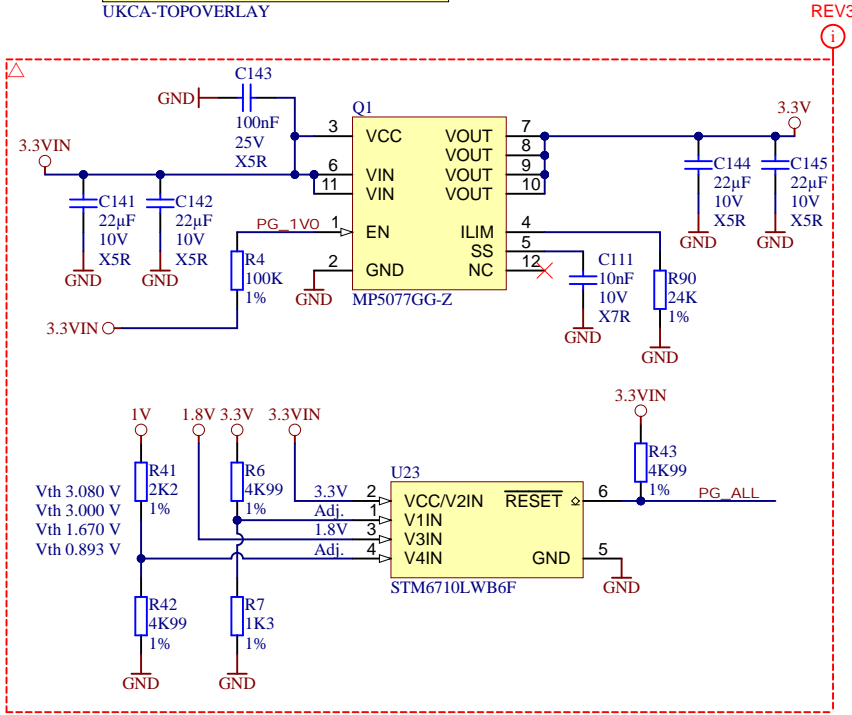
UKCA Logo on Top Overlay

UKCA-TOPOVERLAY

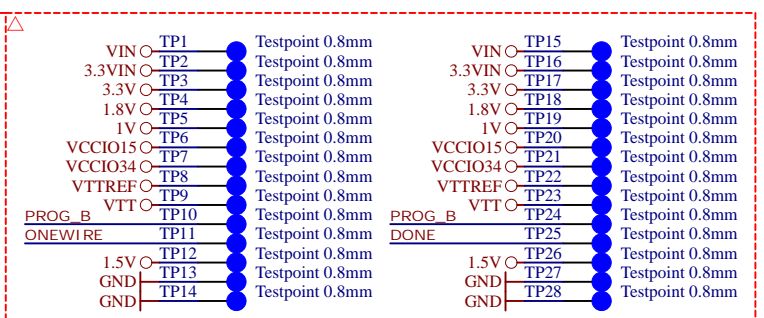
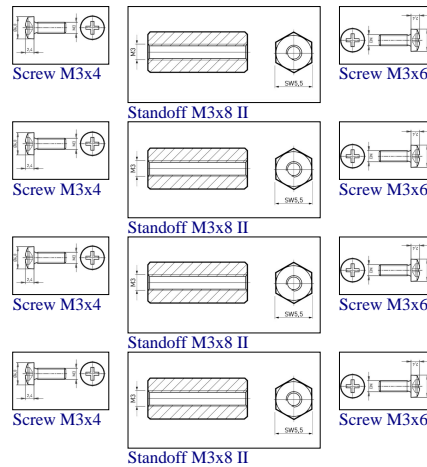
Serial

Serial

Serialnumber 6,3 x 6.3mm



Top of Board



Assembly variant 42121-A
 Created by VY
 Modified by MT
 Modified at 2023-05-02



Title: TE0710		
A4	Number: TE0710 42121-A	Rev. 03
Date: 30-Nov-23	Copyright: Trenz Electronic GmbH / TT	Page 5 of 16
Filename: TE0710.SchDoc		

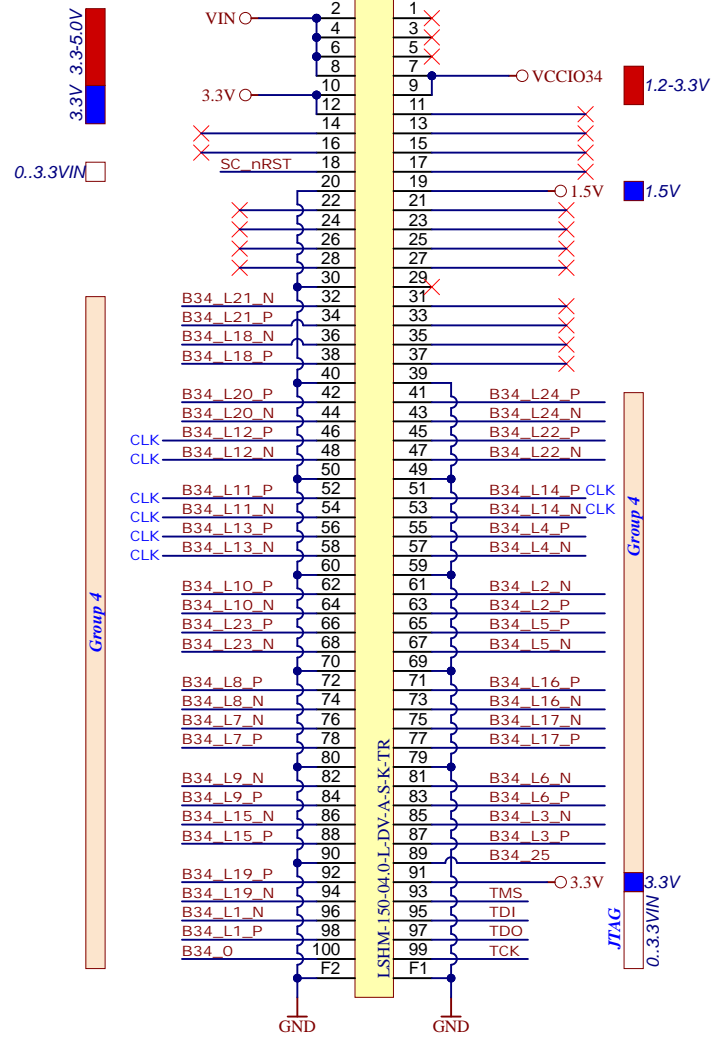
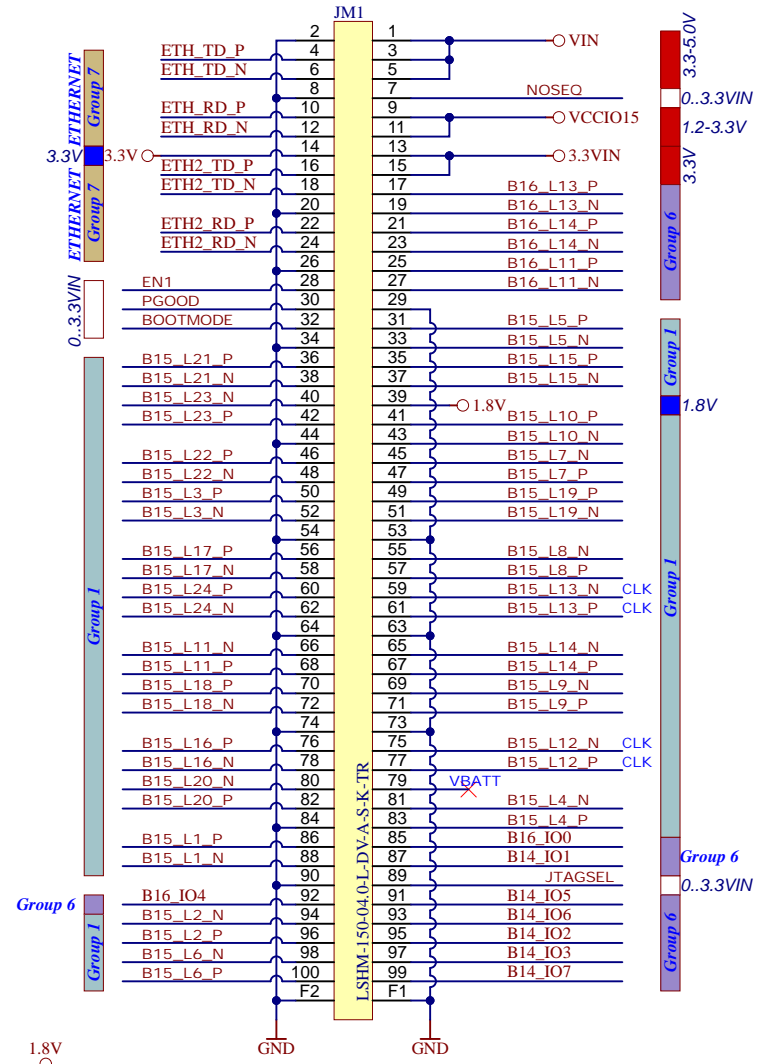
Dual 10/100 Ethernet Interface
 5 system controller IO Pins; 3.3V VCCIO
 B14: 6 Pins Single ended IO; 3.3V Fixed VCCIO; replacing MIO0 pins on TE0720
 B15: 48 Pins; 24 Differential pairs; variable VCCIO
 B16: 8 Pins; 3 Differential pairs; 3.3V Fixed VCCIO; TE0720 SD Card compatible

Total maximum I/O: 112
 JM1 total I/O: 50
 JM1 total I/O: 62

B34: 50 Pins; 24 Differential pairs; variable VCCIO
 JTAG or IO (4 pins); 3.3V Levels
 B35: 40 DDR3 Pins; DATA (8bits), ADDR (16bits), Clock and CTRL nets; 1.5V Fixed VCCIO
 1 system controller IO Pins; 3.3V VCCIO

A

A



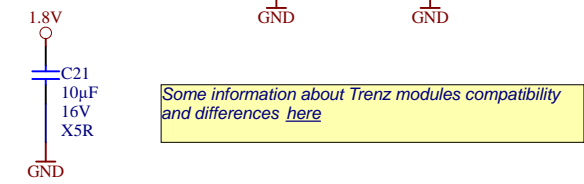
VCCIO14/16	3.3V
VCCIO15	1.2..3.3V
VCCIO34	1.2..3.3V
VCCIO35	1.5V
Group 1	0..VCCIO15
Group 4	0..VCCIO34
Group 6	0..VCCIO14/16
Group 7	ETHERNET
Special	
DDR3	0..VCCIO35
PWR_in	
PWR_out	



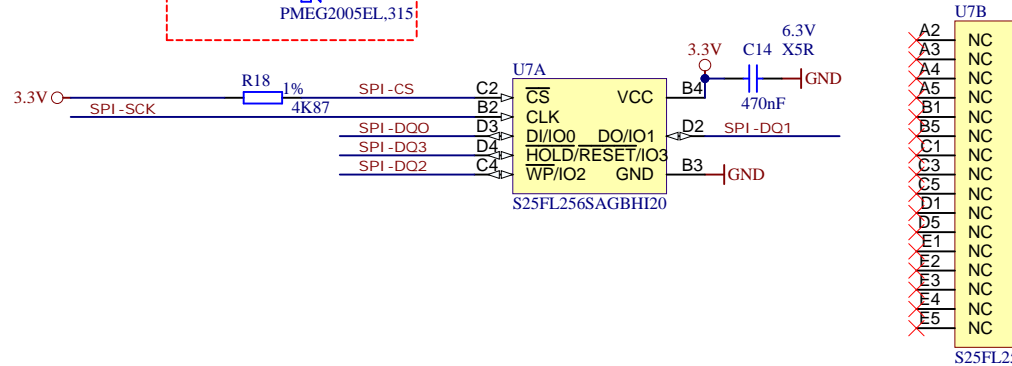
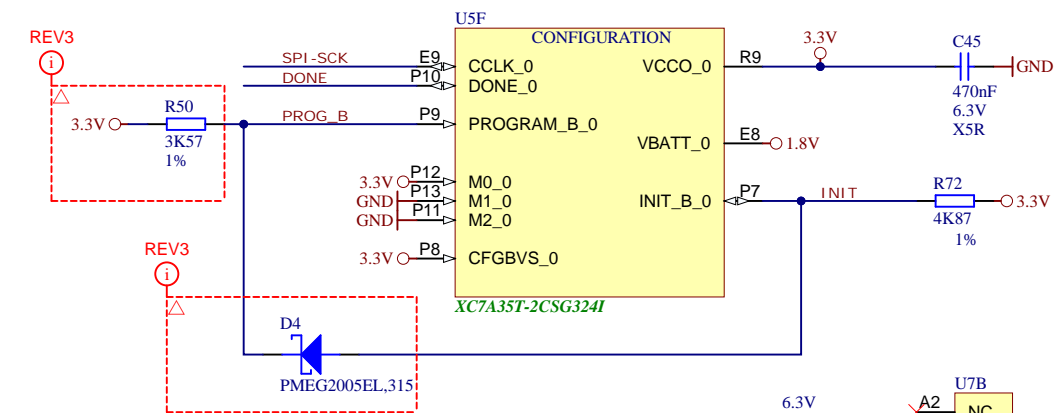
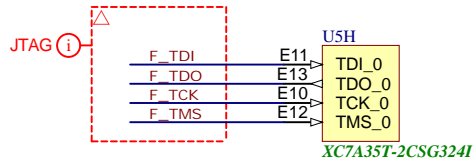
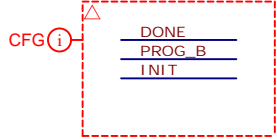
Title: TE0710 - B2B Connectors		
A4	Number: TE0710 42I21-A	Rev. 03
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Filename: B2B_Connector.SchDoc		

D

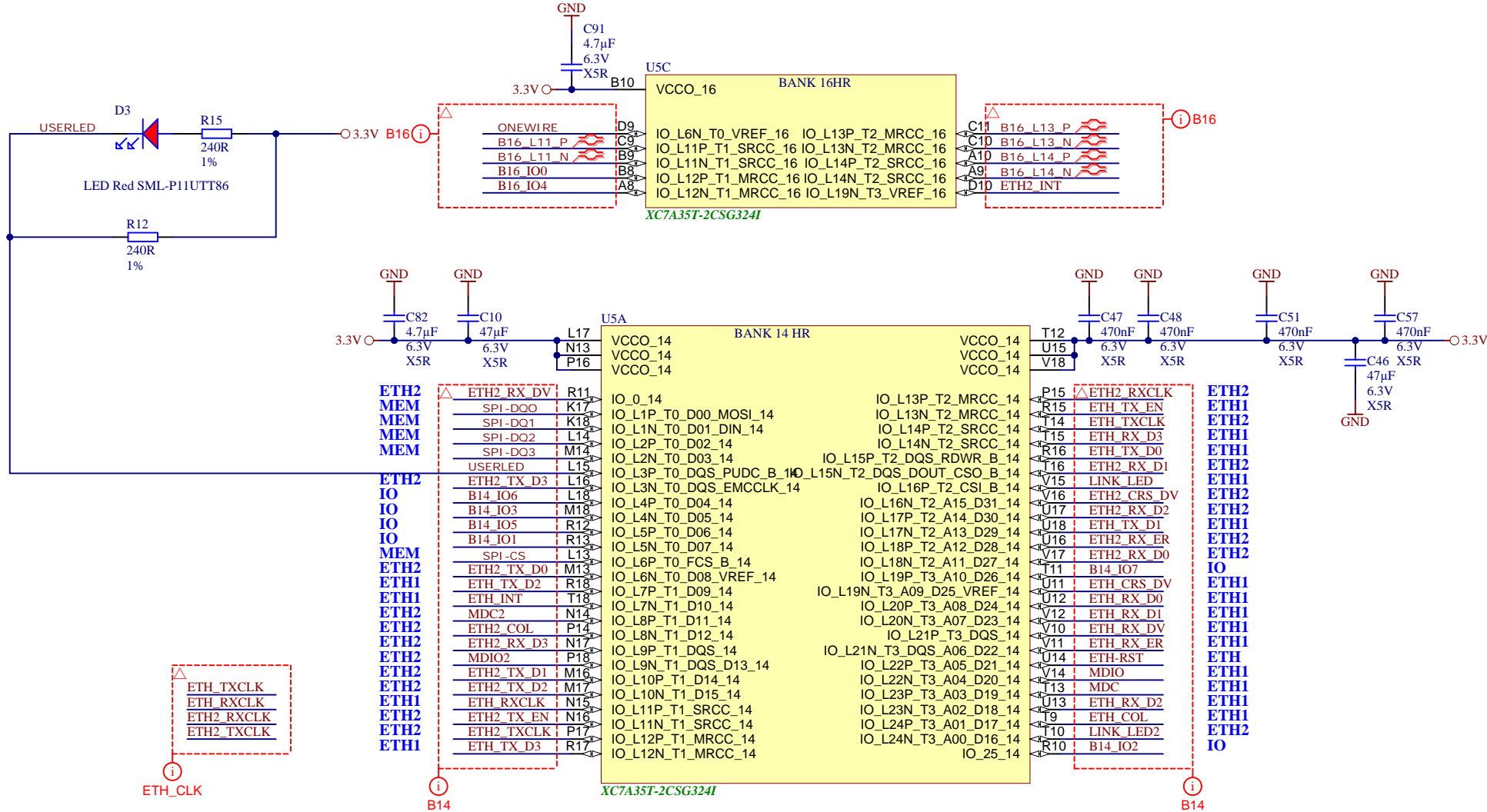
D



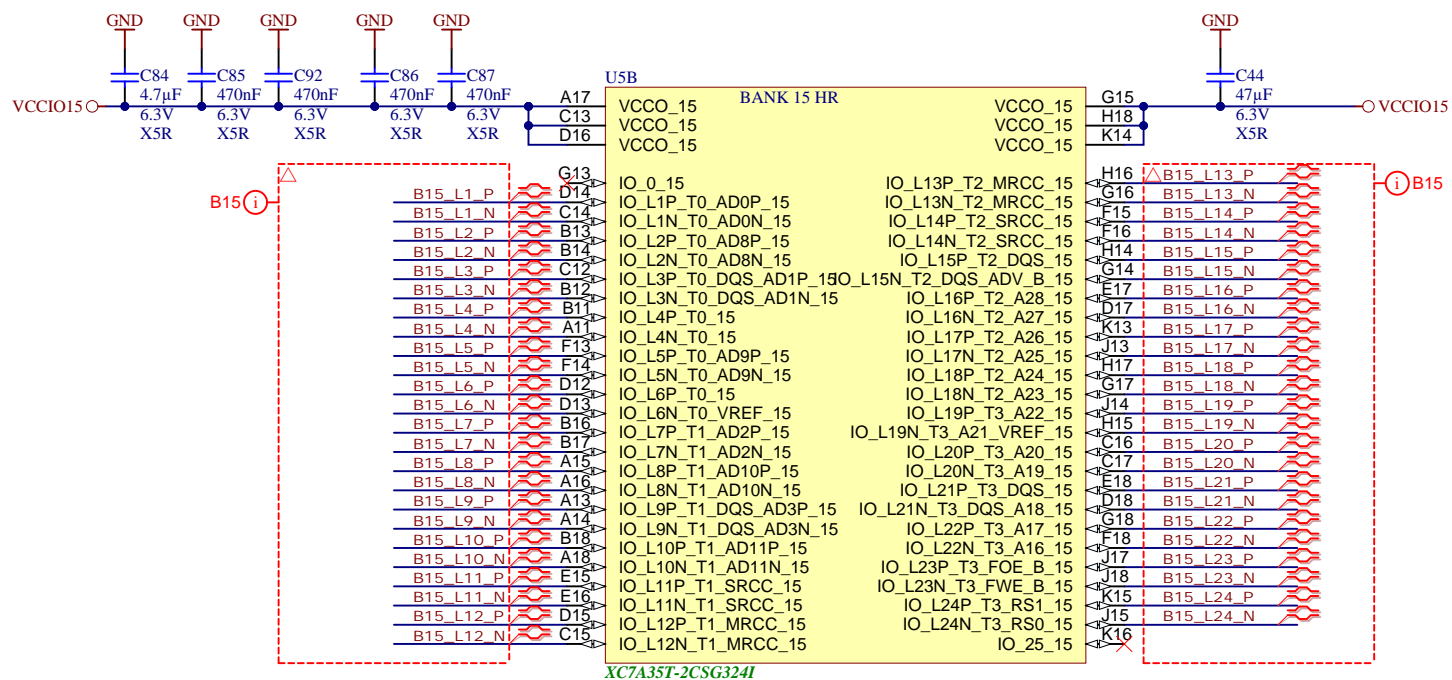
Some information about Trenz modules compatibility and differences [here](#)



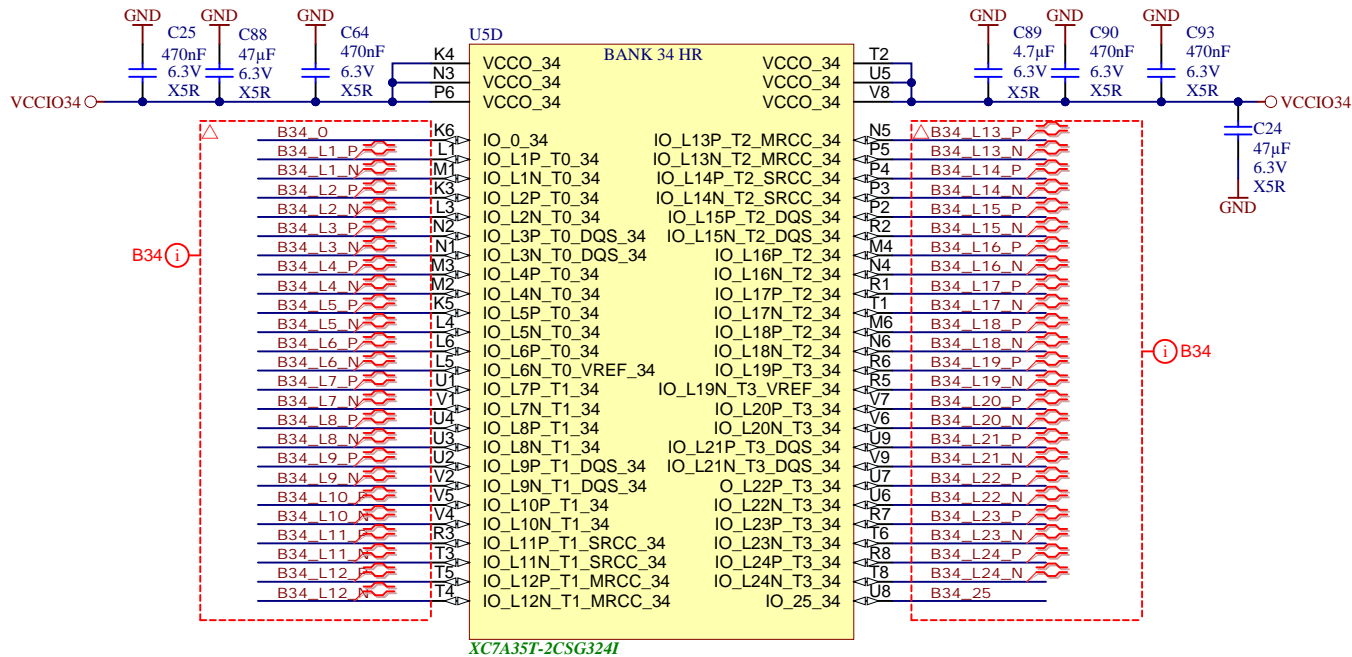
Title: TE0710 - FPGA Configuration		
A4	Number: TE0710 42I21-A	Rev. 03
Date: 22-Aug-23	Copyright: Trenz Electronic GmbH / TT	Page 7 of 16
Filename: FPGA_CFG.SchDoc		



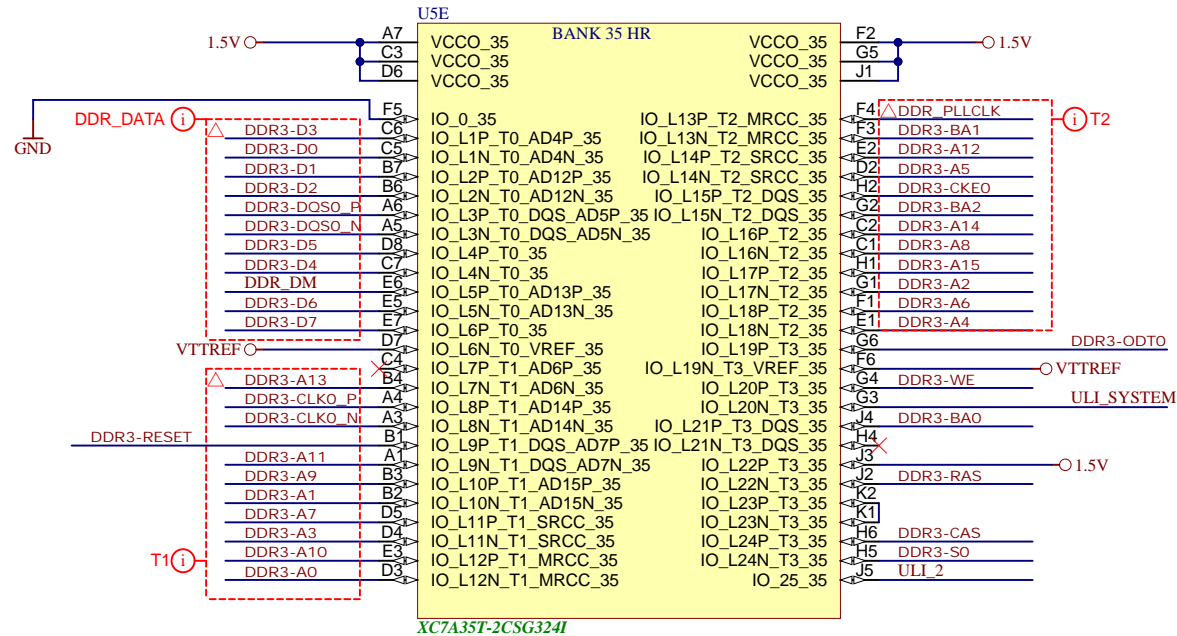
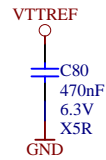
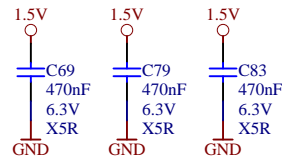
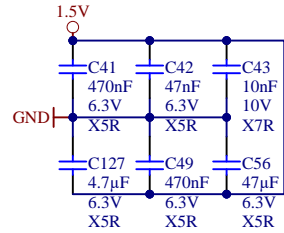
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A4	Number: TE0710 42I21-A	Rev. 03
Date: 22-Aug-23	Copyright: Trenz Electronic GmbH / TT	Page 8 of 16
Filename: B14_B16.SchDoc		




Title: TE0710 - FPGA Bank 15		
A4	Number: TE0710 42I21-A	Rev. 03
Date: 22-Aug-23	Copyright: Trenz Electronic GmbH / TT	Page 9 of 16
Filename: B15.SchDoc		

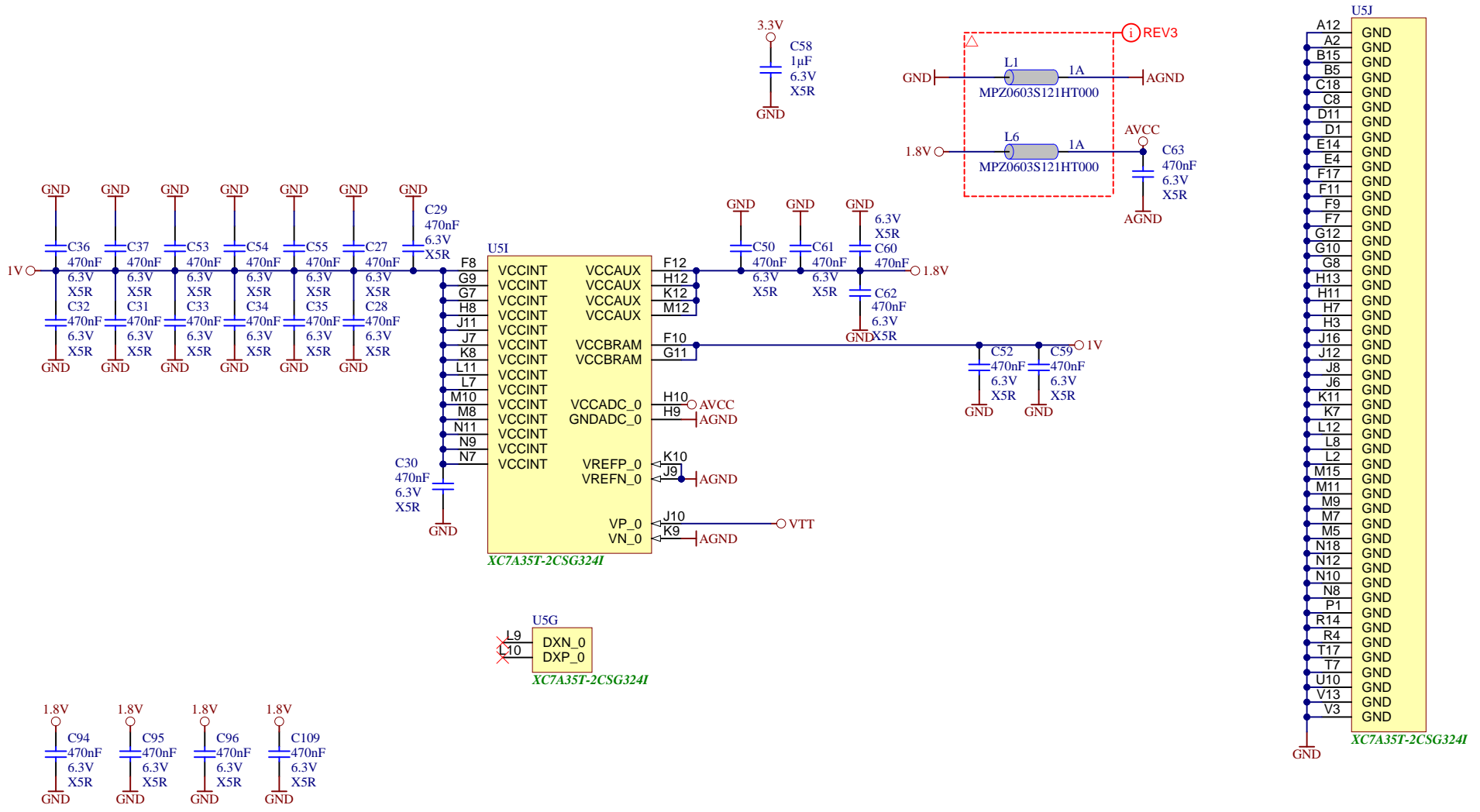



Title: TE0710 - FPGA Bank 34		
A4	Number: TE0710 42I21-A	Rev. 03
Date: 22-Aug-23	Copyright: Trenz Electronic GmbH / TT	Page 10 of 16
Filename: B34.SchDoc		



XC7A35T-2CSG324I

		Title: TE0710 - FPGA Bank 35 DDR3	
		A4	Number: TE0710 42I21-A
Date: 22-Aug-23		Copyright: Trenz Electronic GmbH / TT	
Filename: B35-RAM.SchDoc		Page 11 of 16	



		Title: TE0710 - FPGA PWR	
		A4	Number: TE0710 42I21-A
Date: 14-Jul-23		Copyright: Trenz Electronic GmbH / TT	
Filename: FPGA_PWR_MISC.SchDoc			

1

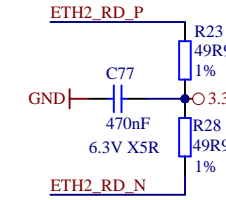
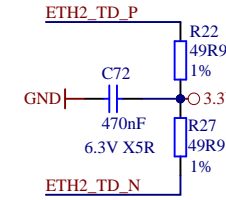
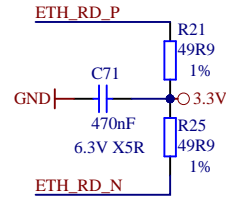
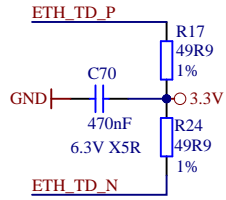
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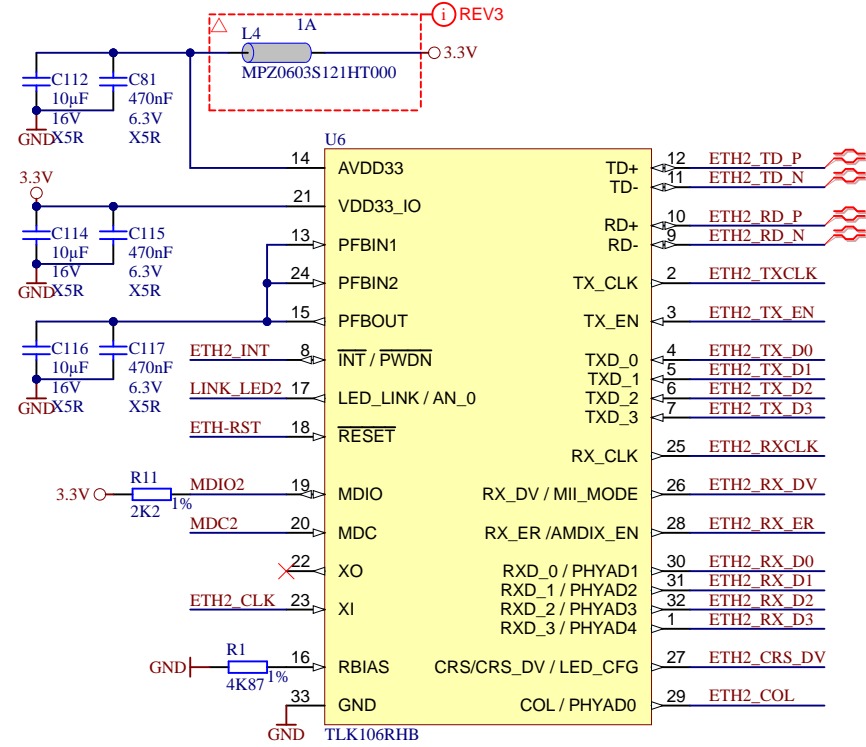
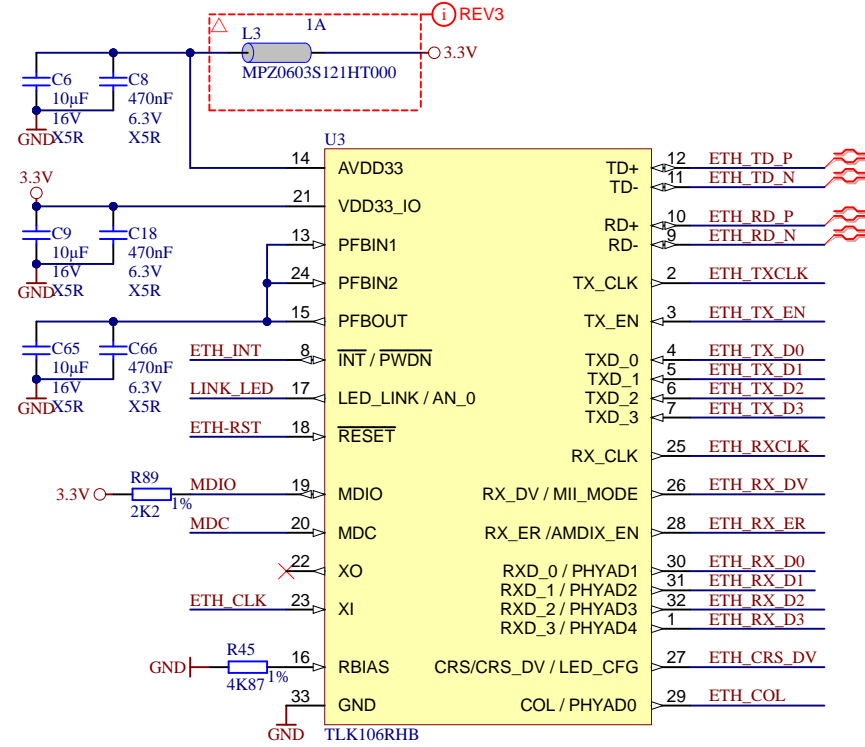
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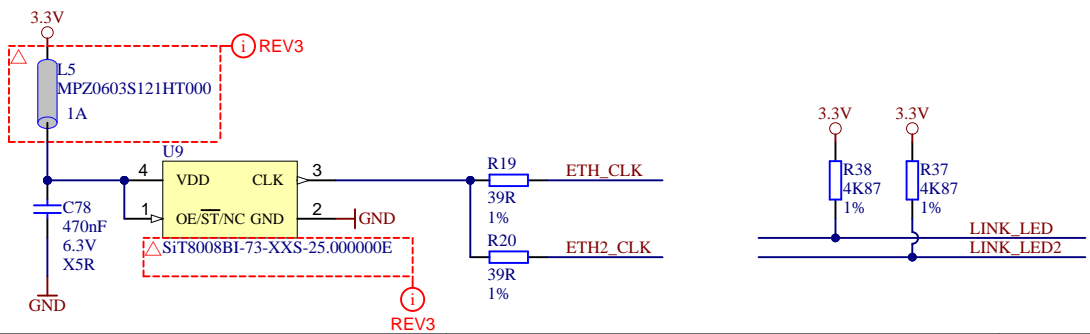
B

B



C

C



			Title: TE0710 - Ethernet	
			A4	Number: TE0710 42I21-A
Date: 22-Aug-23		Copyright: Trenz Electronic GmbH / TT		Rev. 03
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Filename: ETHERNET.SchDoc				

D

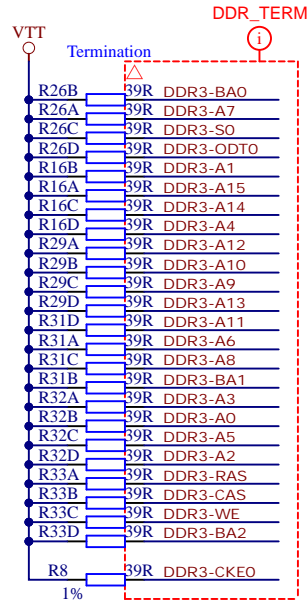
D

1

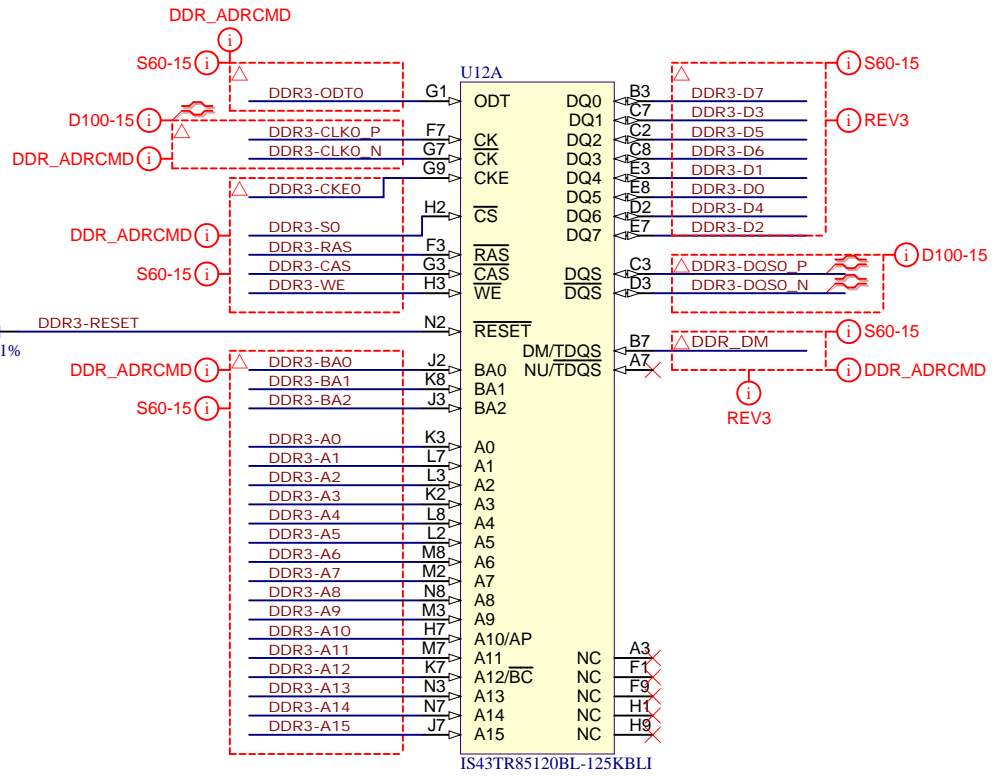
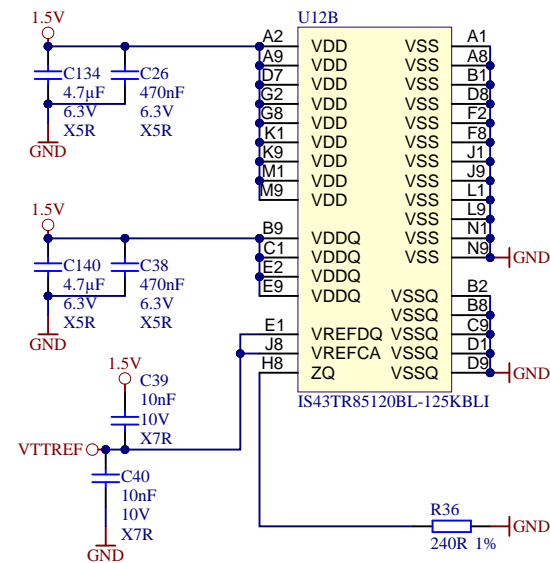
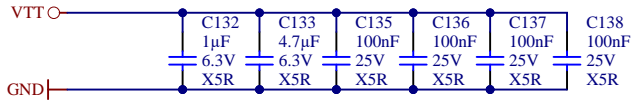
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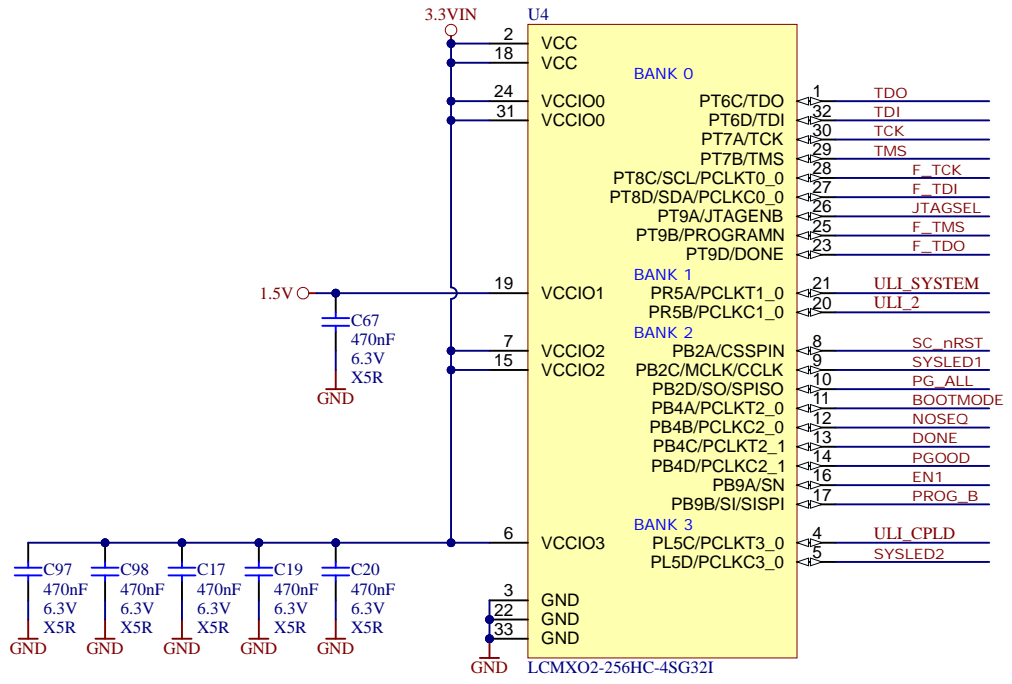
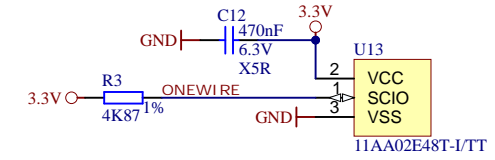
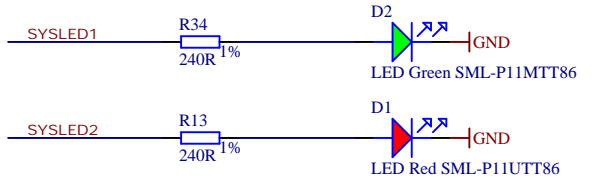
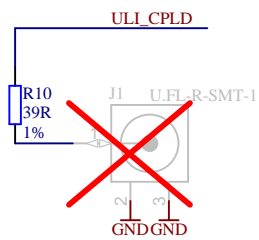
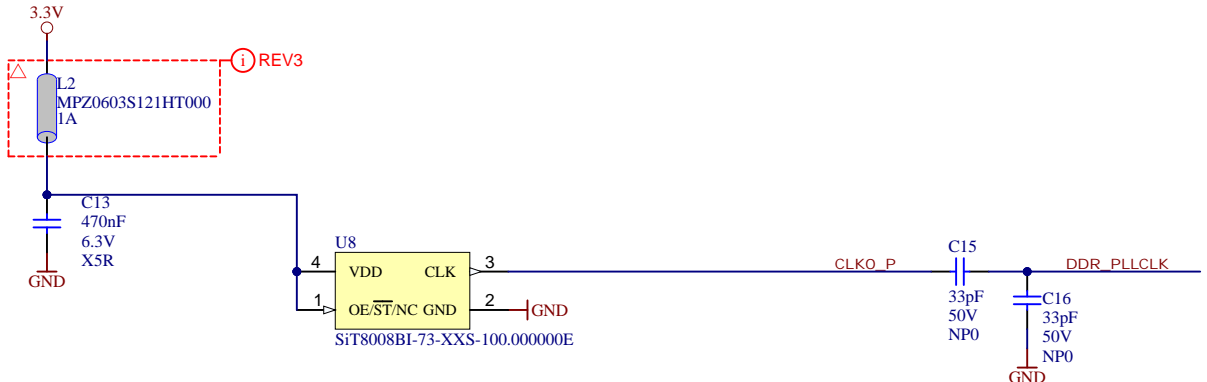
4



Resistors can be swap to better routing

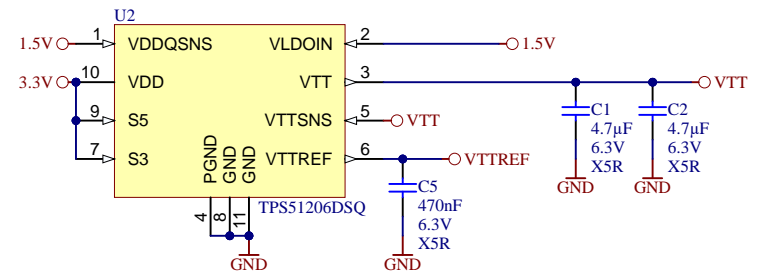
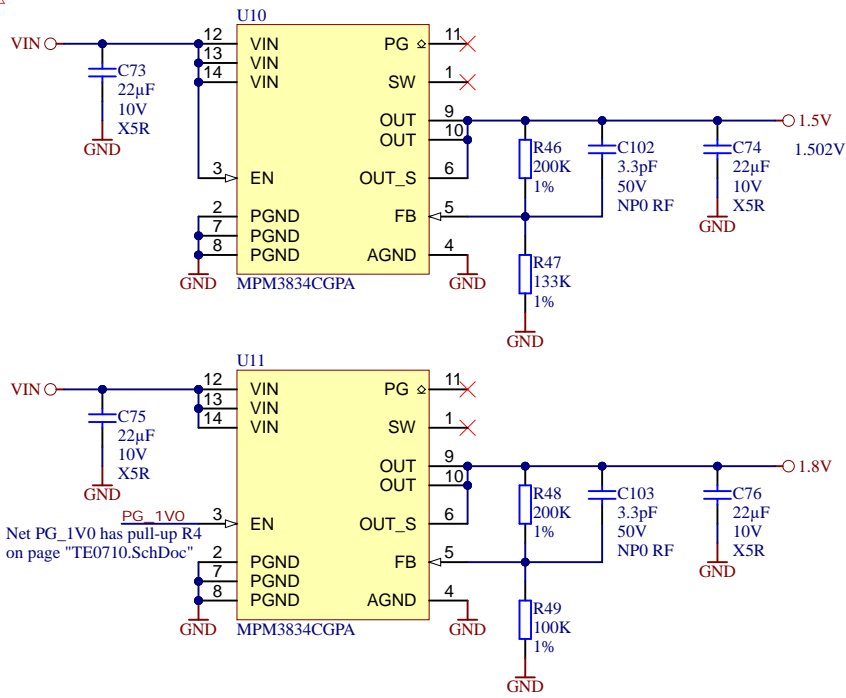



Title: TE0710 - DDR3		
A4	Number: TE0710 42I21-A	Rev. 03
Date: 22-Aug-23	Copyright: Trenz Electronic GmbH / TT	Page 14 of 16
Filename: DDR3-MEM.SchDoc		



	Title: TE0710 - System Controller	
	A4	Number: TE0710 42I21-A
	Date: 22-Aug-23	Copyright: Trenz Electronic GmbH
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Filename: SC.SchDoc		

REV3
i



		Title: TE0710 - Power	
		A4	Number: TE0710 42I21-A
Date: 22-Aug-23		Copyright: Trenz Electronic GmbH	
Filename: POWER.SchDoc			

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