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Schematics and other handouts serve for informational purposes only!

	Title: AM0010 – Legal Notices Modules		
	A4	Number: Legal Notices Modules 4AE21MA	Rev. 02
	Date: 22.07.2022	Copyright: Trenz Electronic GmbH	Page 1 of 30
	Filename: Legal Notices Modules.SchDoc		

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A

A

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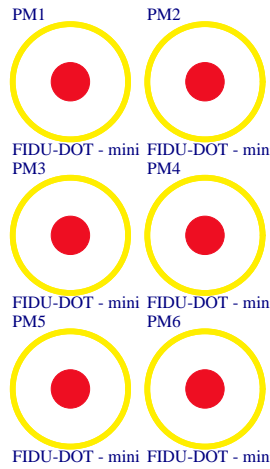
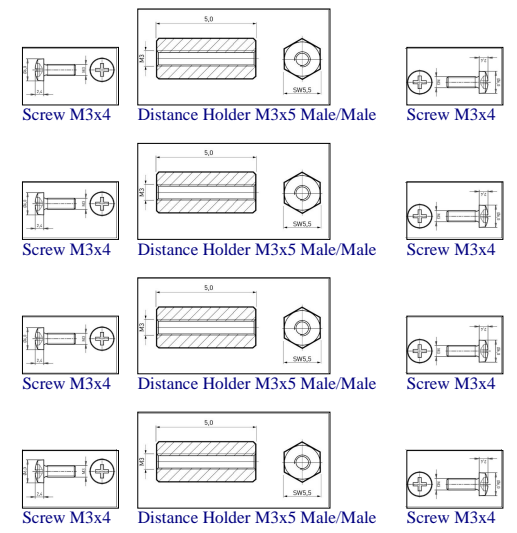
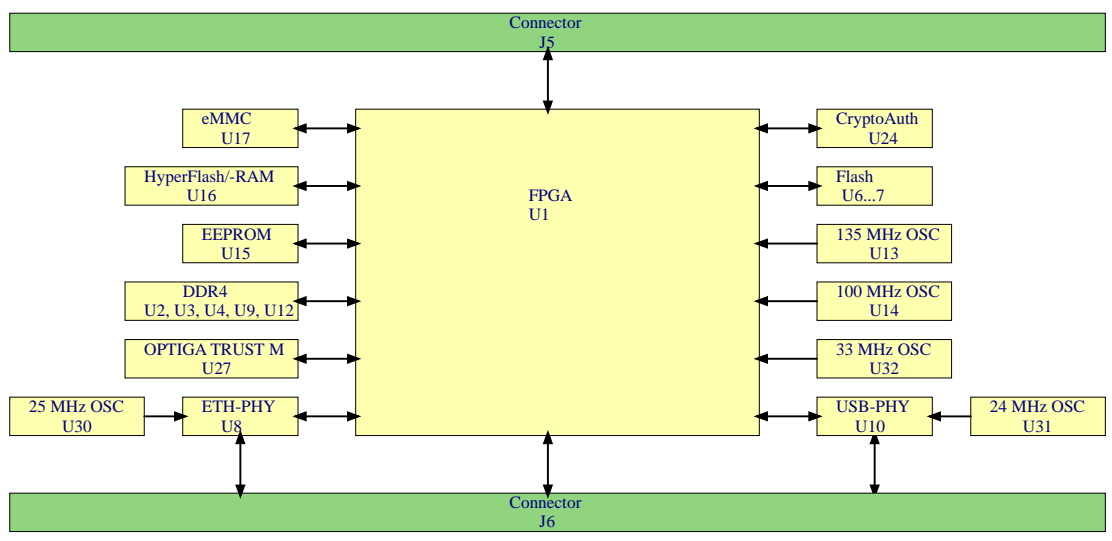
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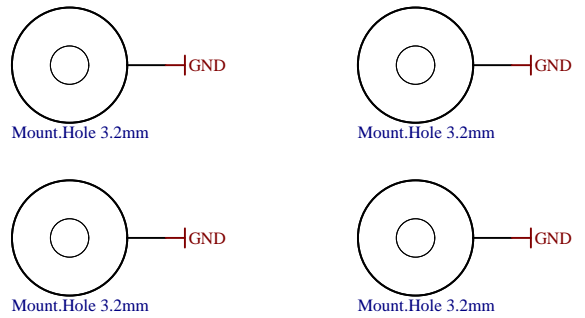
- U_B2B_Connector_1
B2B_Connector_1.SchDoc
- U_B2B_Connector_2
B2B_Connector_2.SchDoc
- U_MPSoC
MPSoC.SchDoc
- U_DDR4-RAM
DDR4-RAM.SchDoc
- U_DDR4-RAM_2
DDR4-RAM_2.SchDoc
- U_DDR4-RAM_3
DDR4-RAM_3.SchDoc
- U_DDR4-RAM_4
DDR4-RAM_4.SchDoc
- U_DDR4-RAM_5
DDR4-RAM_5.SchDoc
- U_DDR4-CAPS
DDR4-CAPS.SchDoc
- U_DDR4-TERM
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- U_ETHPHY
ETHPHY.SchDoc
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USBPHY.SchDoc
- U_eMMC
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- U_POWER_1
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- U_REV_CH
Revision_Changes.SchDoc
- U_Legal_Notices_Modules
Legal_Notices_Modules.SchDoc

Special notes:



Serial
Serialnumber 6,3 x 6.3mm



UKCA
UKCA Logo on Top Overlay
UKCA-TOOVERLAY



Assembly variant	4AE21MA
Created by	VY
Modified by	VY
Modified at	2021-12-20
SVN Revision	588

Title: AM0010		
A4	Number: AM0010 4AE21MA	Rev. 02
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A

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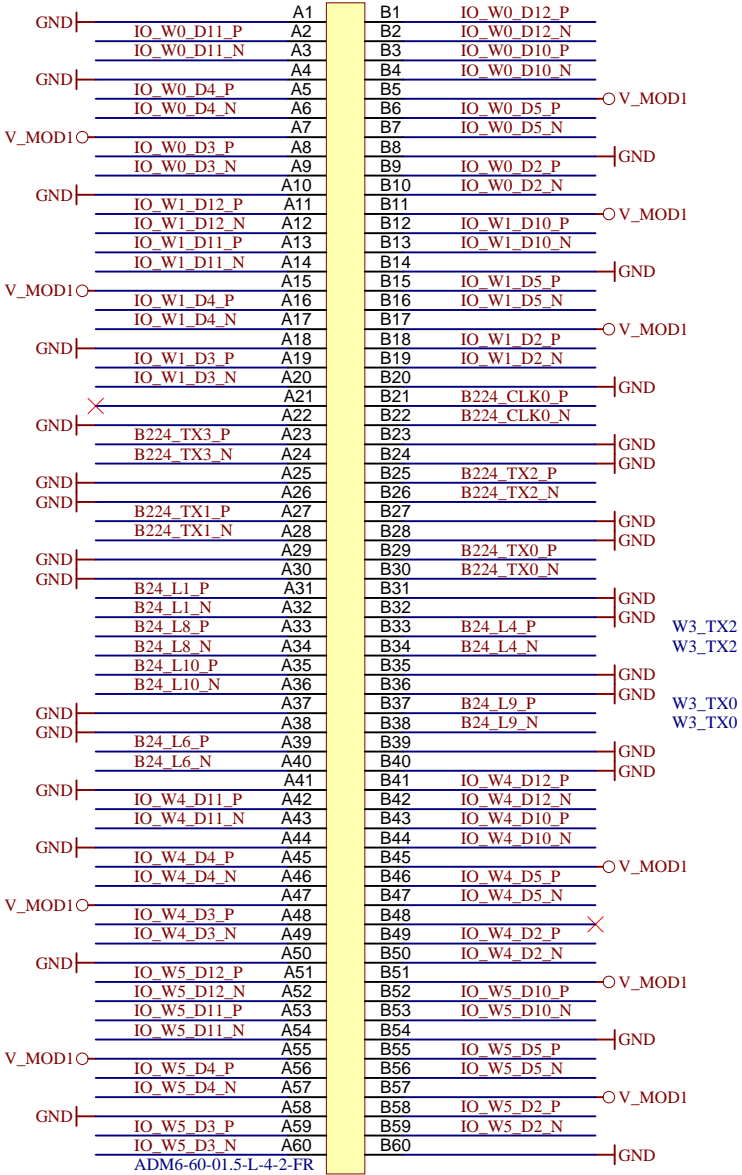
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Connector W

J5A

J5B



W3_TX3
W3_TX3
GND
W3_TX1
W3_TX1

W3_CLK0
W3_CLK0

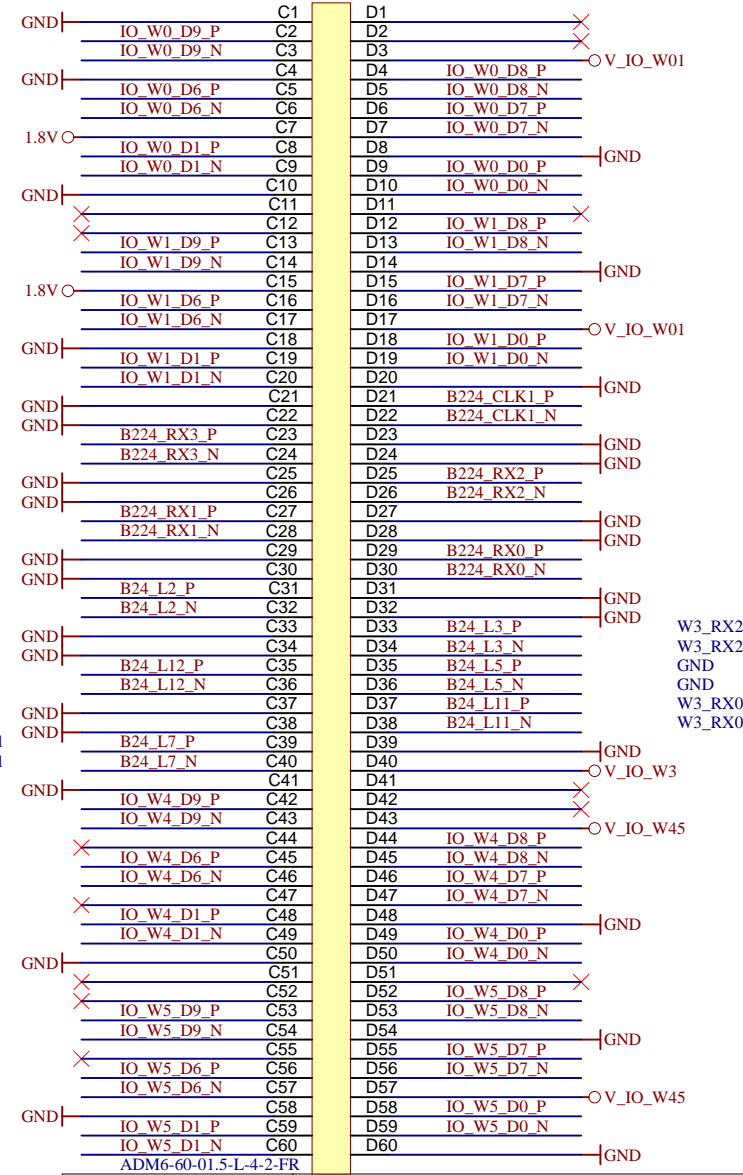
W3_TX2
W3_TX2

W3_TX0
W3_TX0

W3_RX3
W3_RX3

W3_RX1
W3_RX1

W3_CLK1
W3_CLK1



V_IO_W01

V_IO_W01

W3_RX2
W3_RX2
GND
W3_RX0
W3_RX0

V_IO_W3

V_IO_W45

V_IO_W45



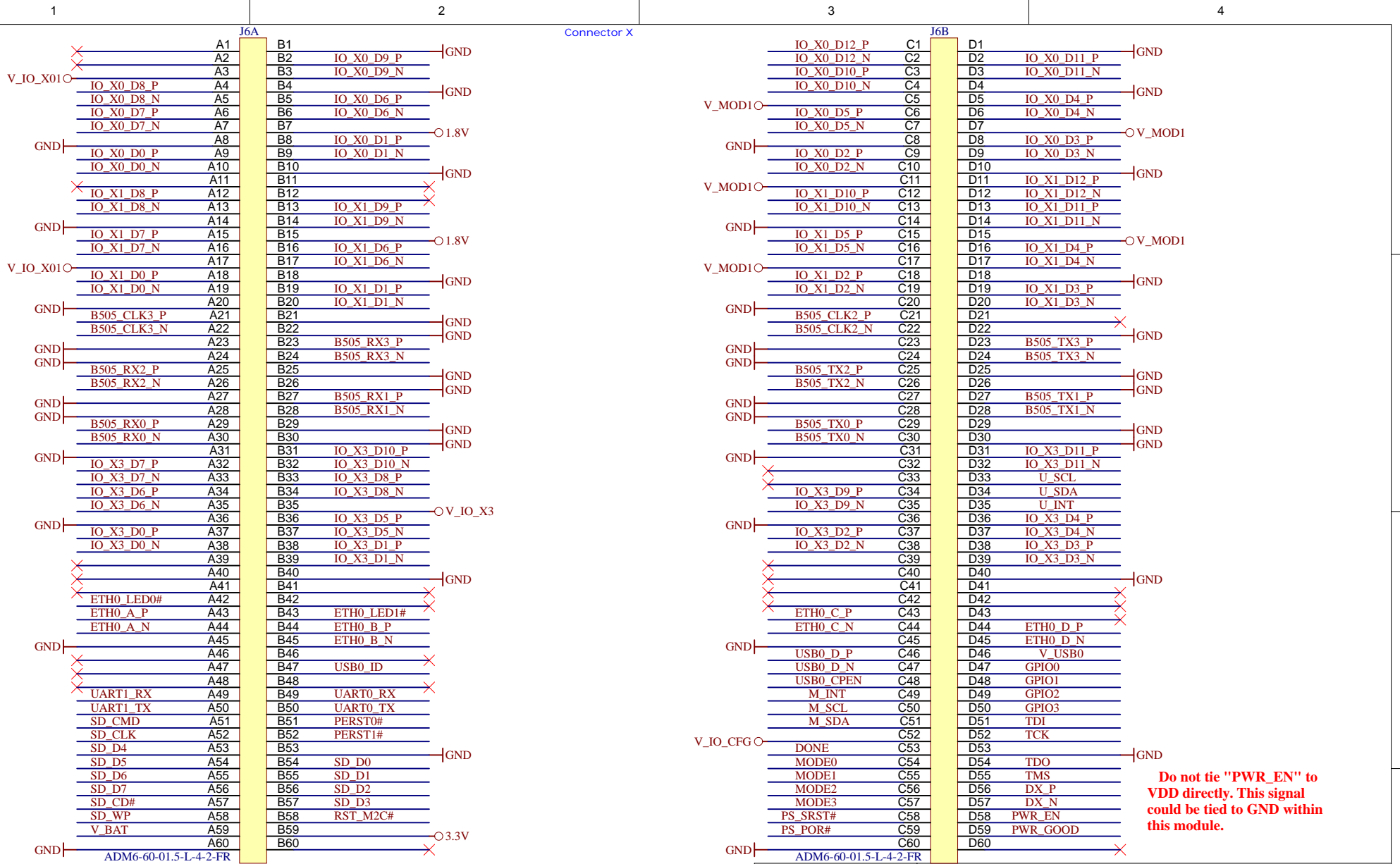
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Filename: B2B_Connector_1.SchDoc		

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Do not tie "PWR_EN" to VDD directly. This signal could be tied to GND within this module.



Title: AM0010 – B2B_Connector_2		
A4	Number: B2B_Connector_2 4AE21MA	Rev. 02
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Filename: B2B_Connector_2.SchDoc		

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A

A

- U_B64
B64.SchDoc
- U_B65
B65.SchDoc
- U_B66
B66.SchDoc
- U_B_HD
B_HD.SchDoc
- U_B_MIO
B_MIO.SchDoc
- U_PS_DDR
PS_DDR.SchDoc
- U_B_PS_GT
B_PS_GT.SchDoc
- U_B_GT
B_GT.SchDoc
- U_CONFIG
CONFIG.SchDoc
- U_ZU_POWER
ZU_POWER.SchDoc
- U_ZU_PS_POWER
ZU_PS_POWER.SchDoc

B

B

C

C

D

D

1

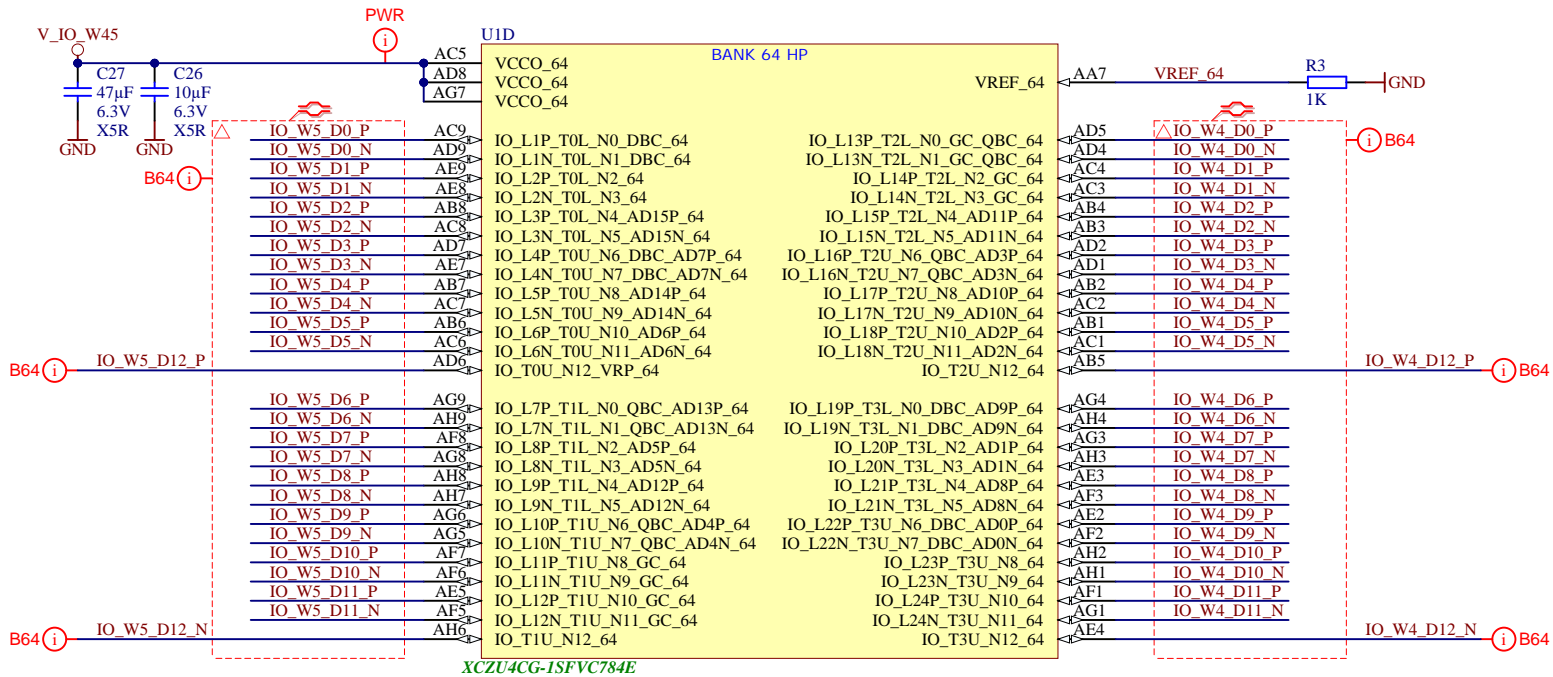
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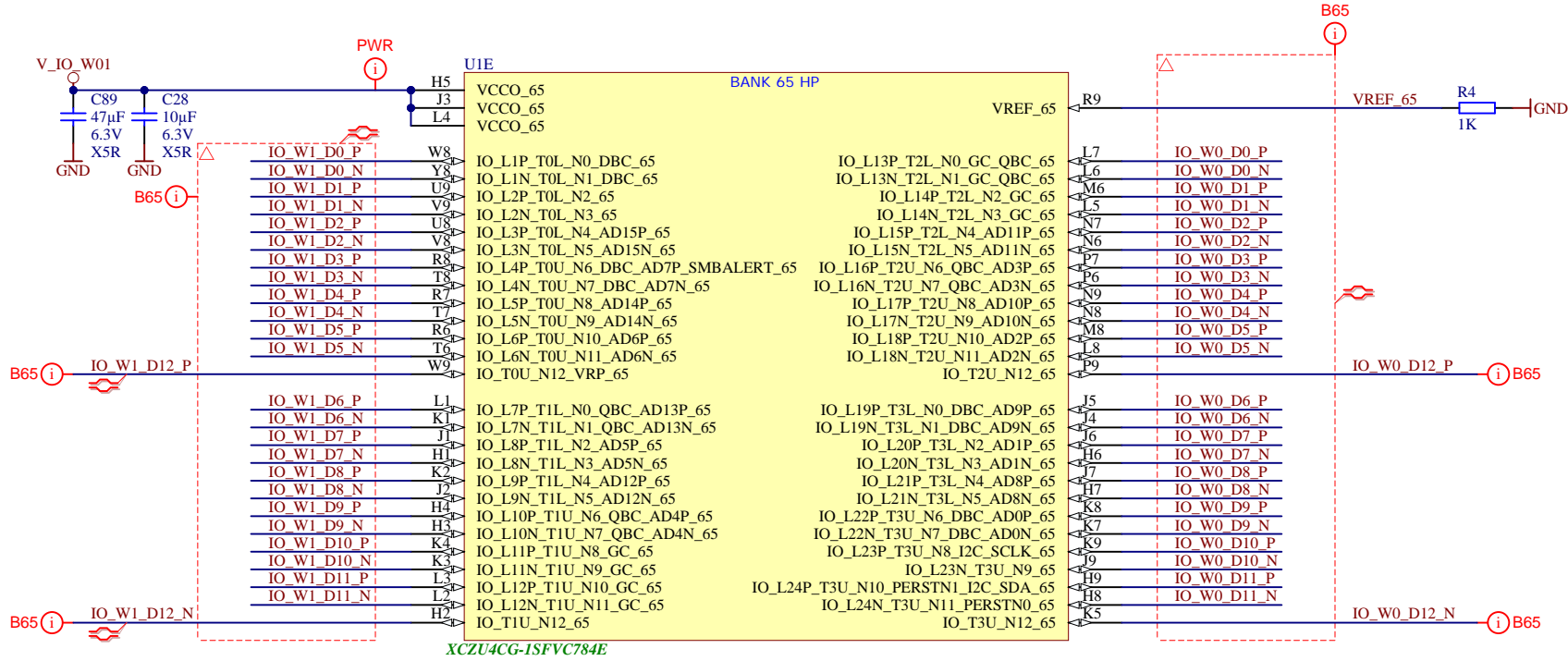
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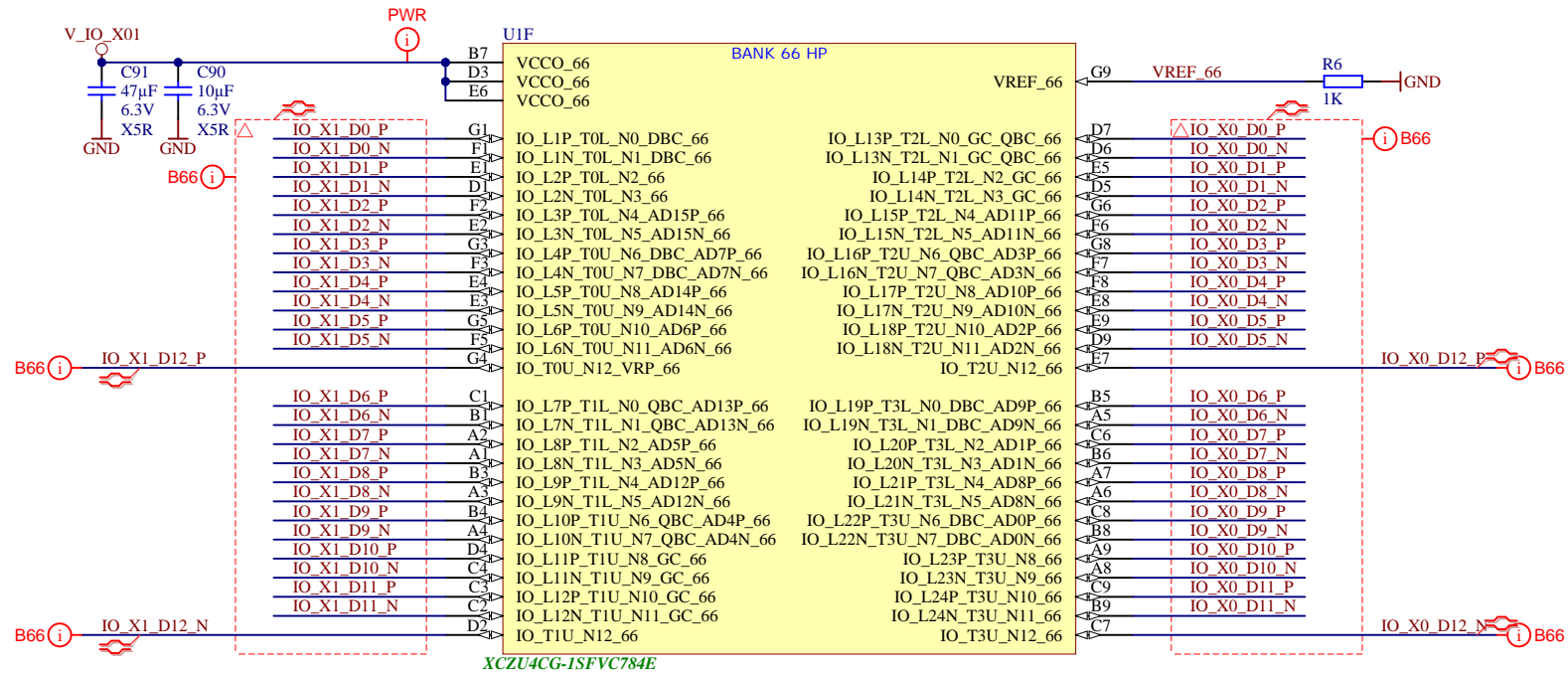
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Date: 22.07.2022	Copyright: Trenz Electronic GmbH	Page 5 of 30
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Title: AM0010 – B64		
A4	Number: B64 4AE21MA	Rev. 02
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Title: AM0010 – B65		
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Title: AM0010 – B66		
A4	Number: B66 4AE21MA	Rev. 02
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A

A

B

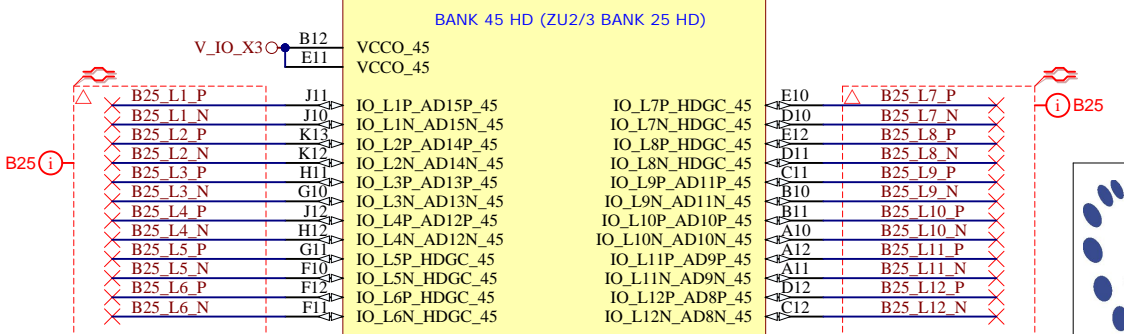
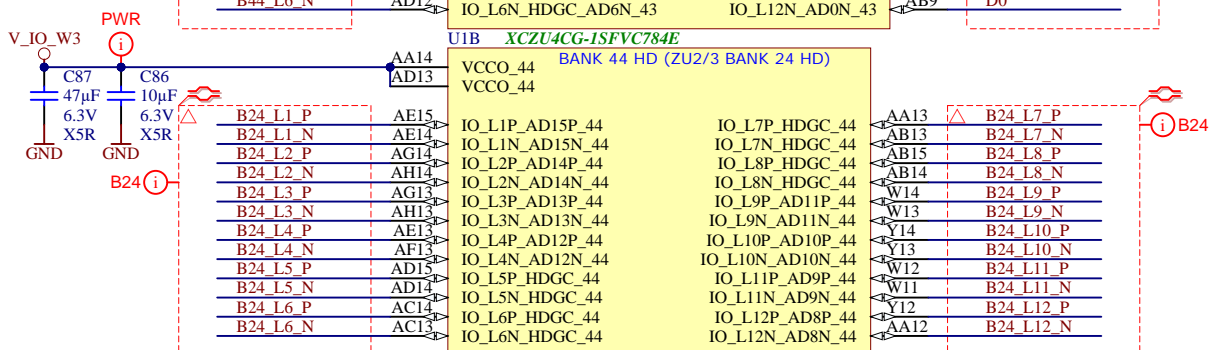
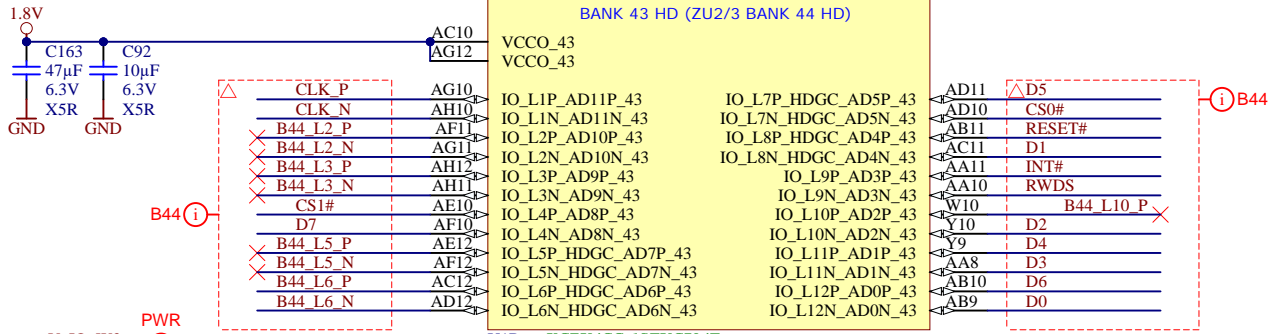
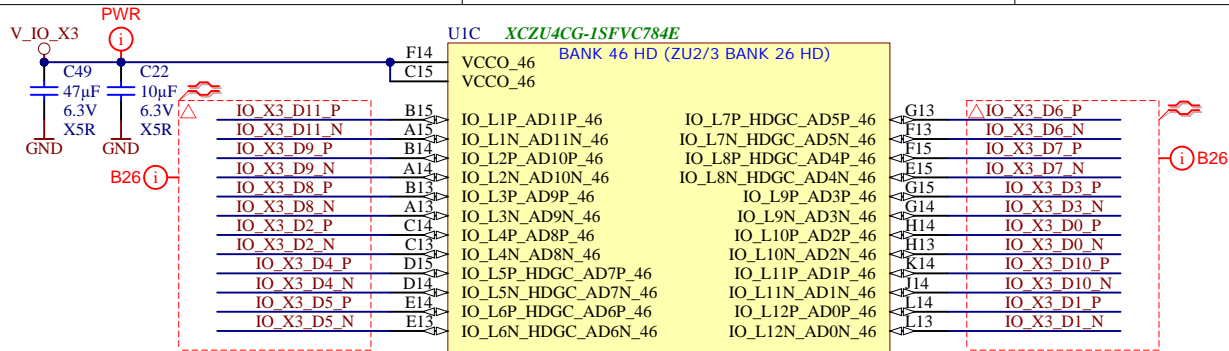
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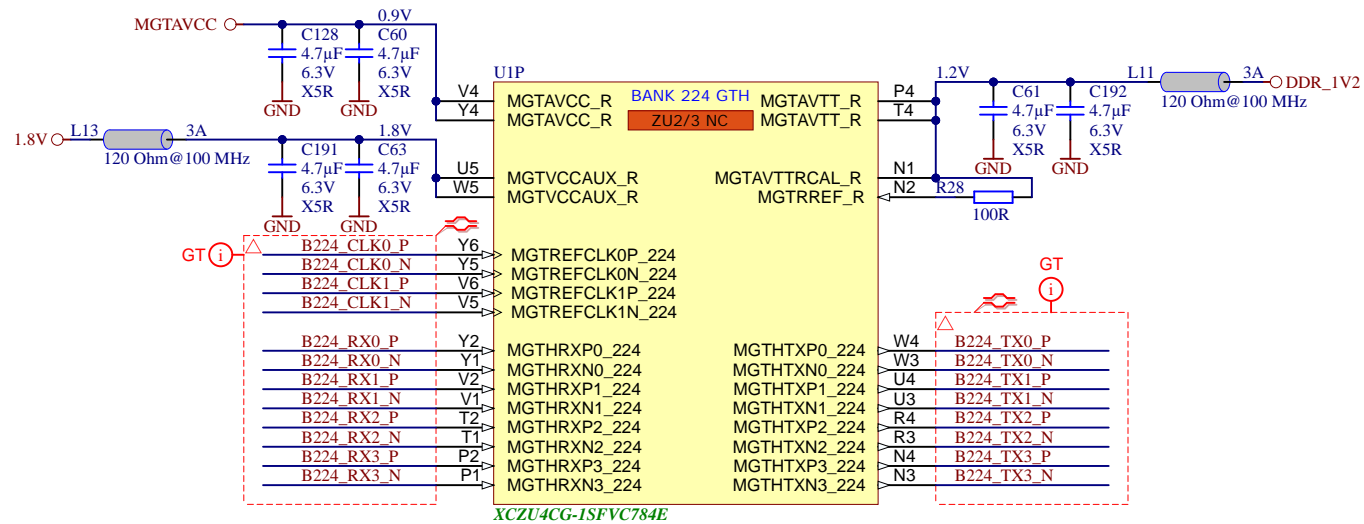
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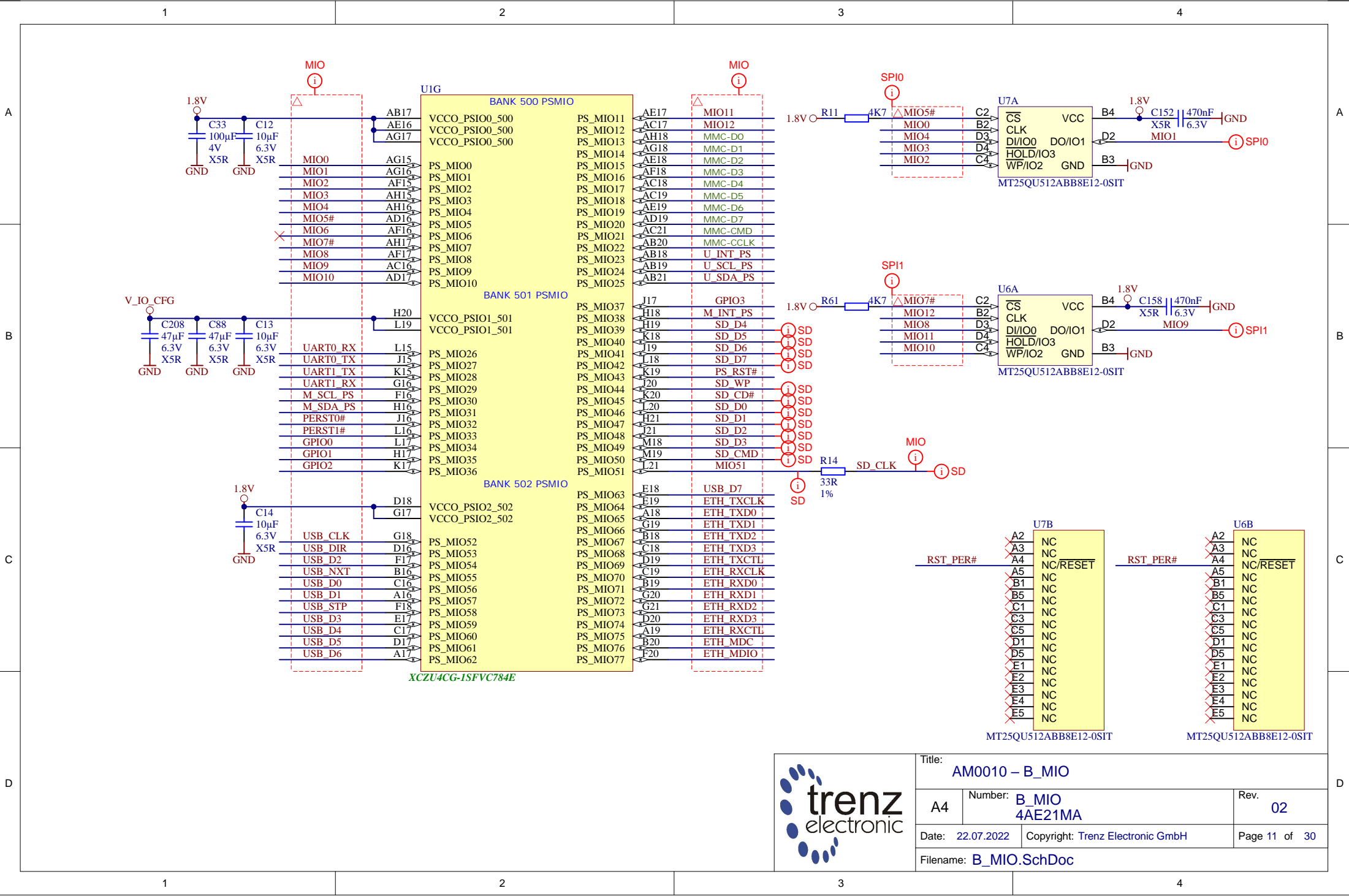
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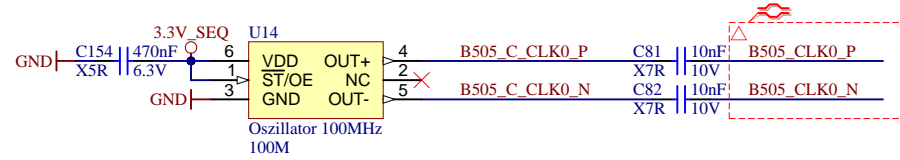
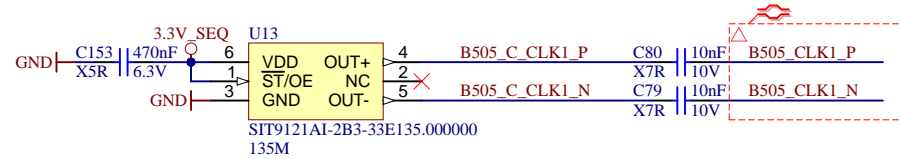
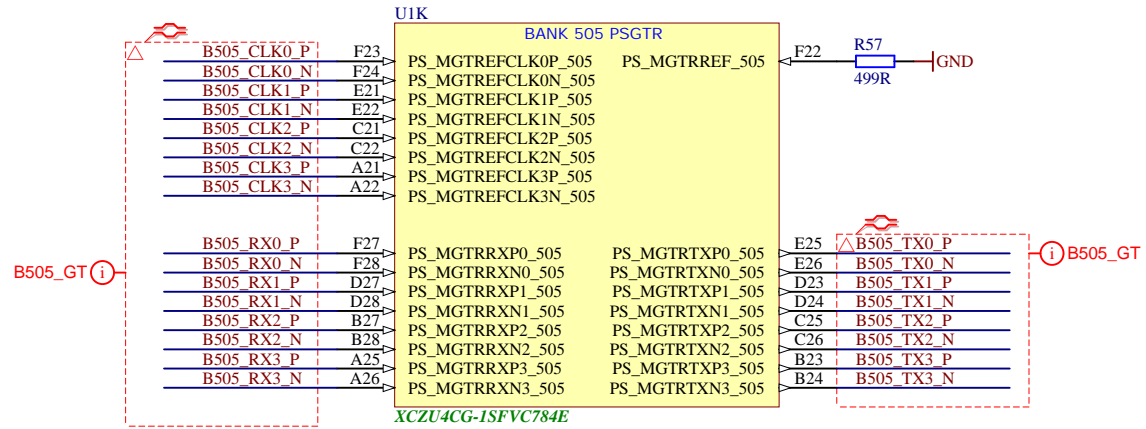
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Filename: B_HD.SchDoc		



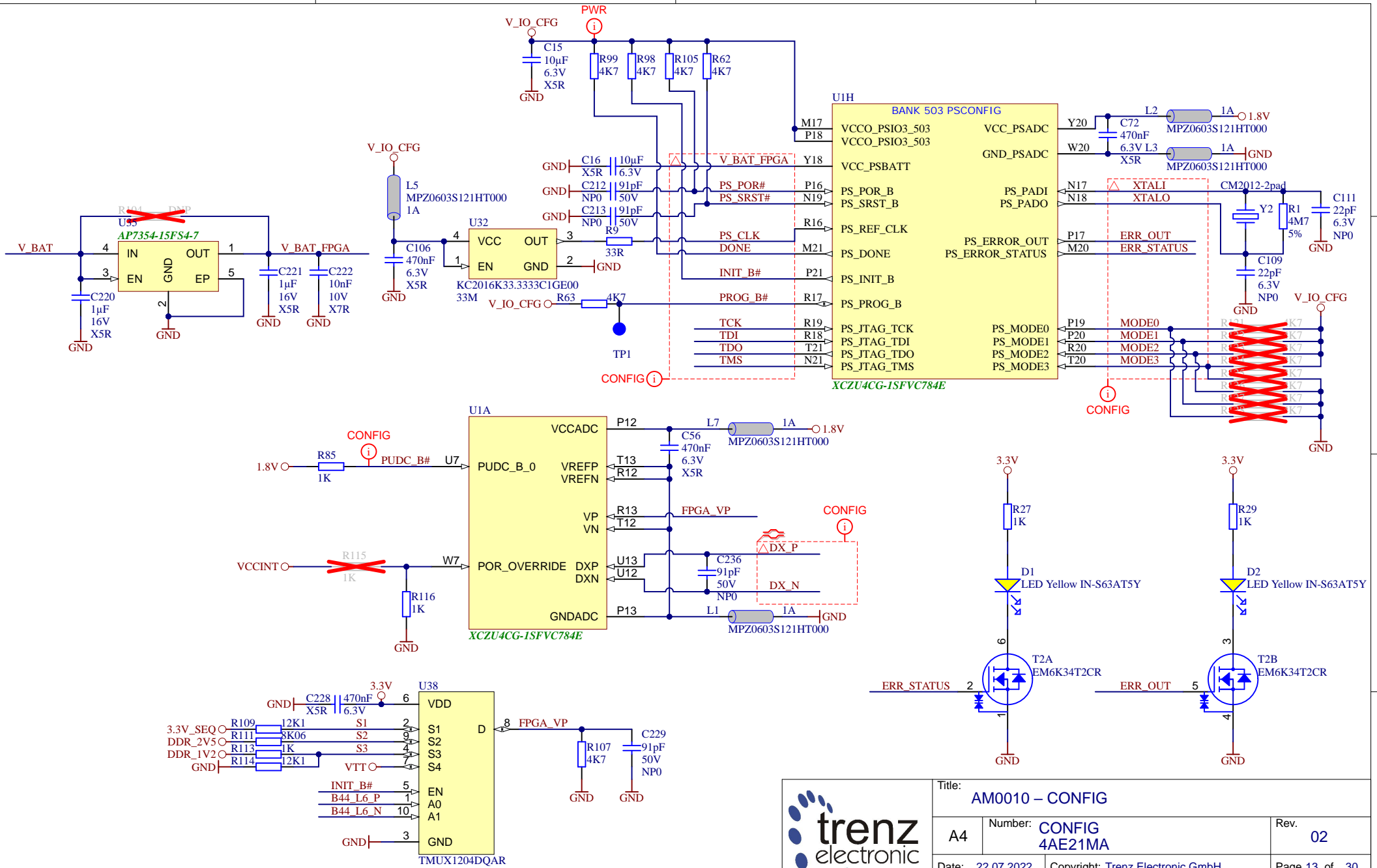
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Date: 22.07.2022		Copyright: Trenz Electronic GmbH	
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Filename: B_GT.SchDoc			



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A4	Number: B_MIO 4AE21MA	Rev. 02
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Filename: B_MIO.SchDoc		



	Title: AM0010 - B_PS_GT		
	A4	Number: B_PS_GT 4AE21MA	Rev. 02
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	Filename: B_PS_GT.SchDoc		



Title: AM0010 - CONFIG		
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Filename: CONFIG.SchDoc		

A

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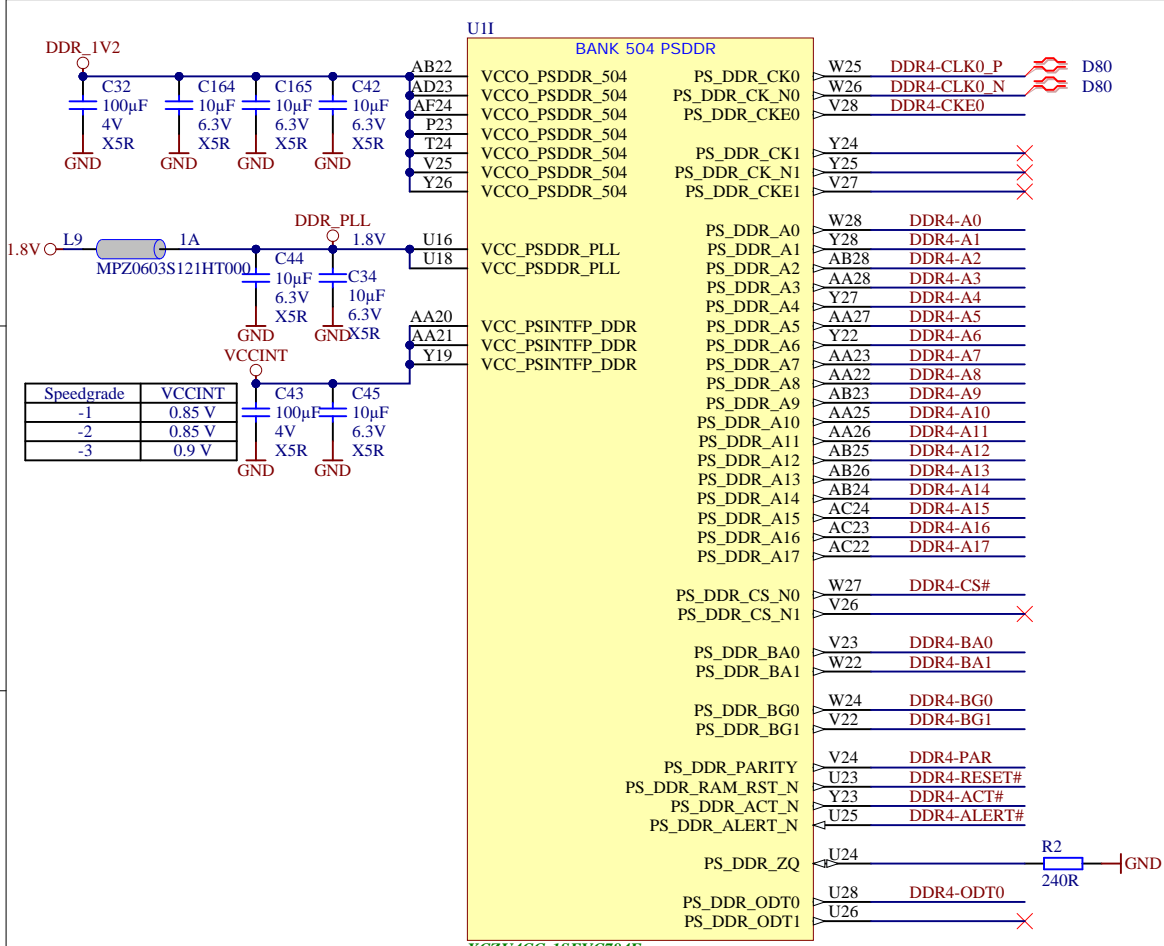
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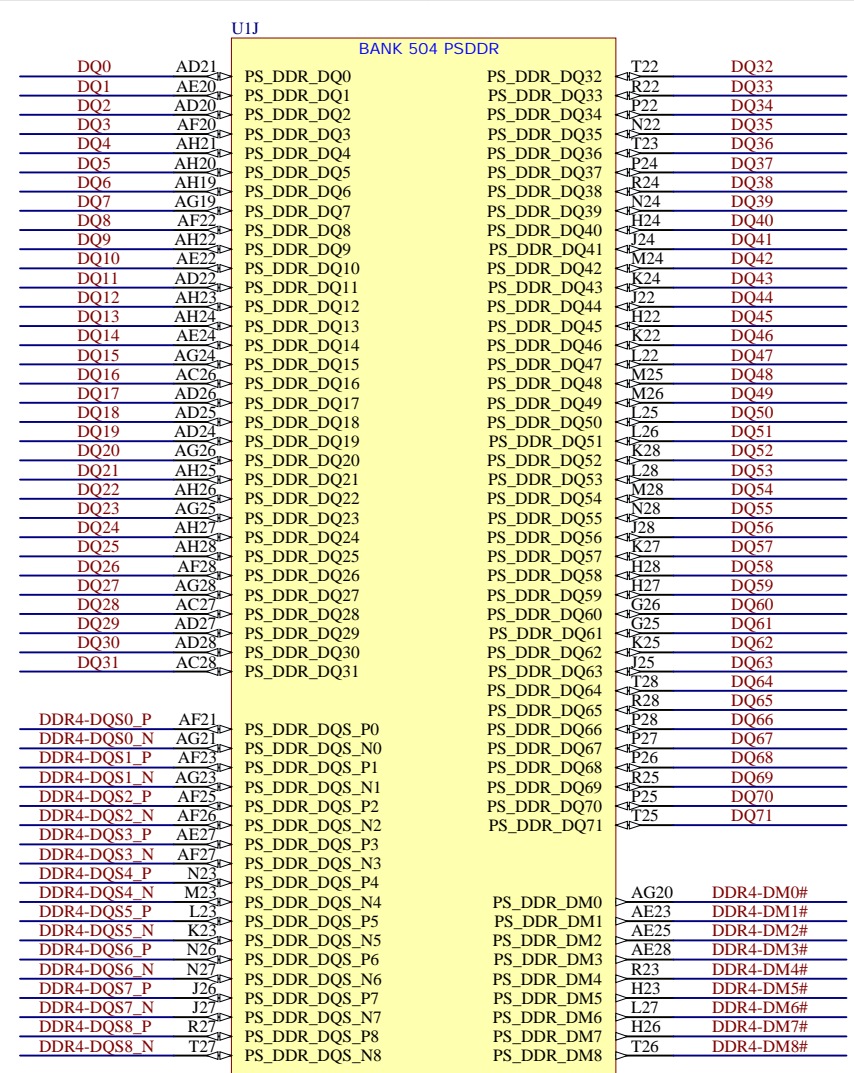
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XCZU4CG-1SFVC784E

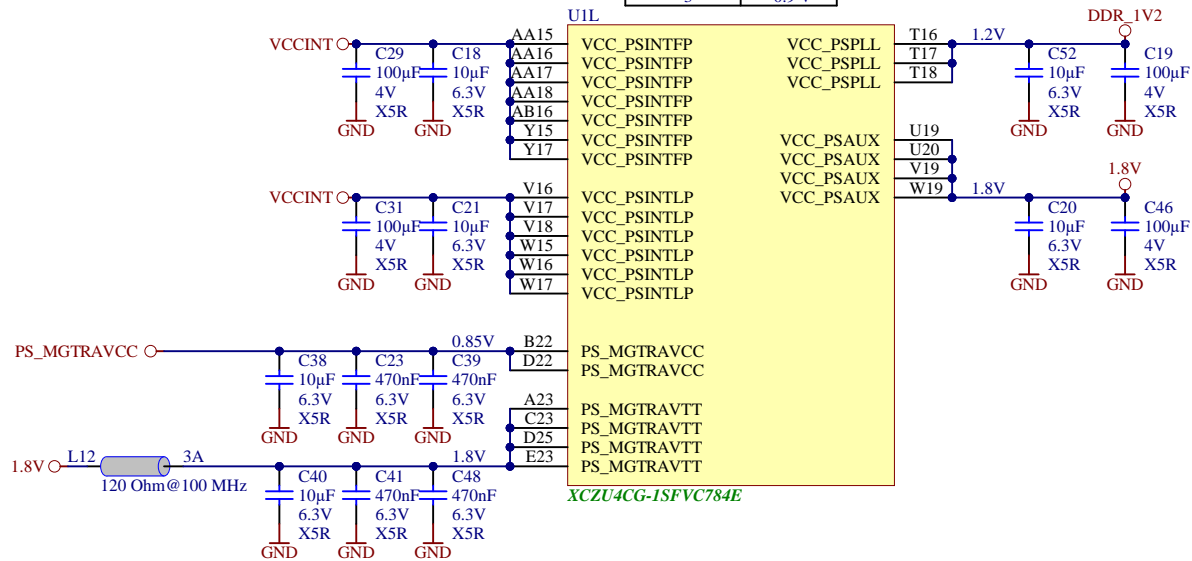



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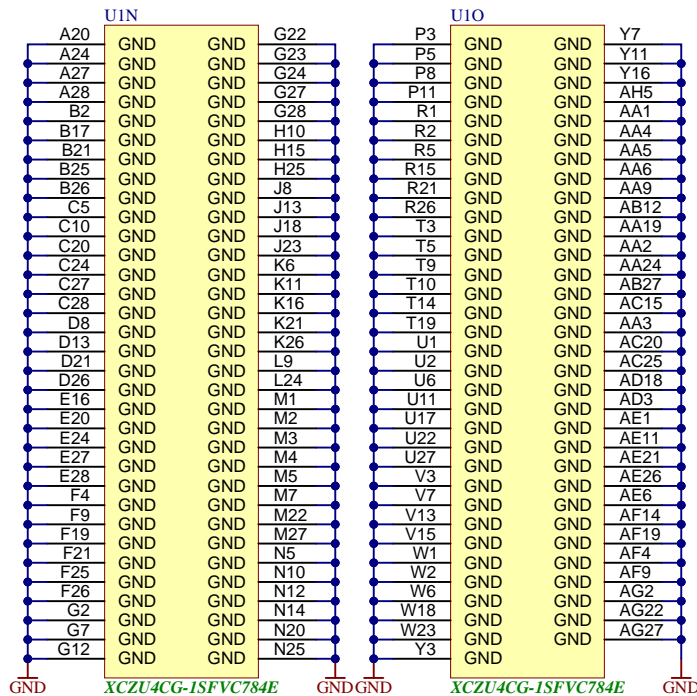


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Filename: PS_DDR.SchDoc		

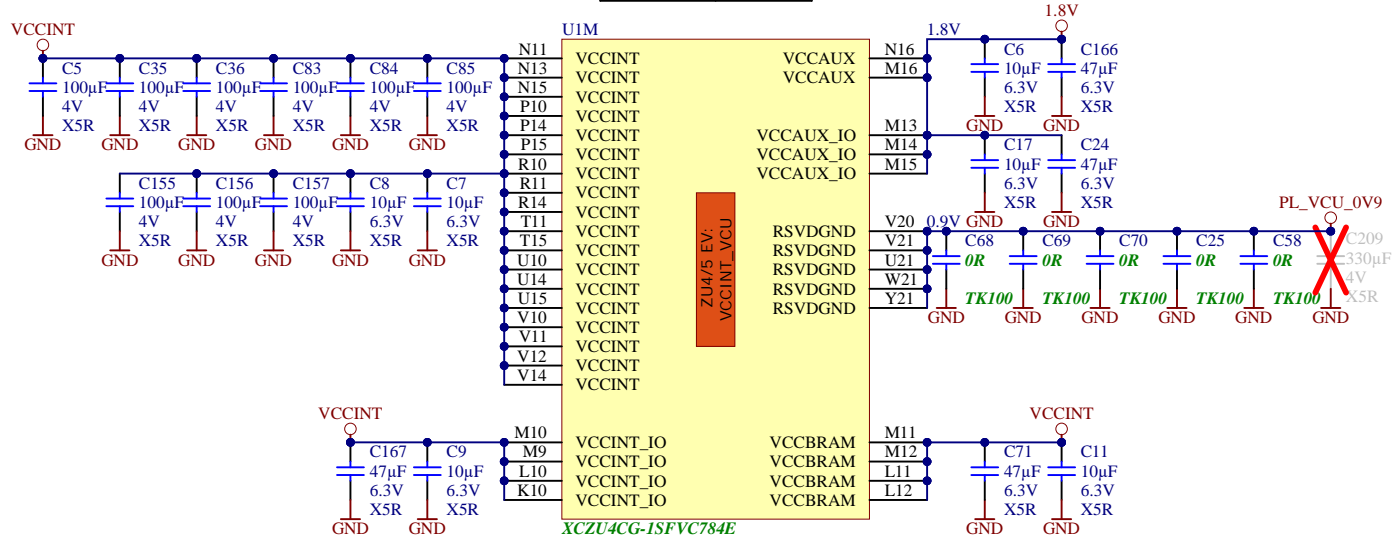

Speedgrade	VCCINT
-1	0.85 V
-2	0.85 V
-3	0.9 V



	Title: AM0010 – ZU_PS_POWER		
	A4	Number: ZU_PS_POWER 4AE21MA	Rev. 02
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Speedgrade	VCCINT
-1	0.85 V
-2	0.85 V
-3	0.9 V

Title: AM0010 – ZU_POWER		
A4	Number: ZU_POWER 4AE21MA	Rev. 02
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A

A

B

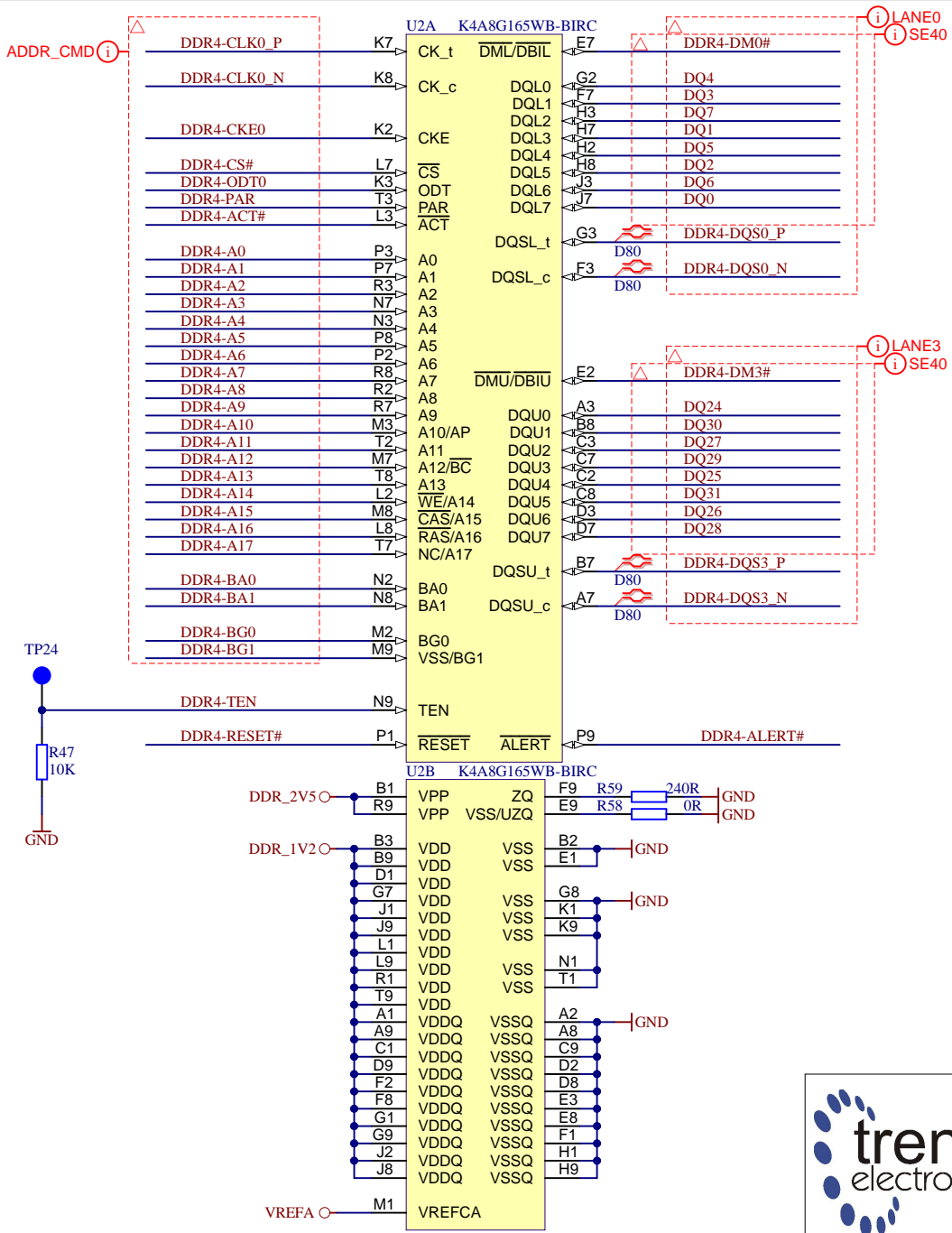
B

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D



Title: AM0010 – DDR4-RAM		
A4	Number: DDR4-RAM 4AE21MA	Rev. 02
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A

A

B

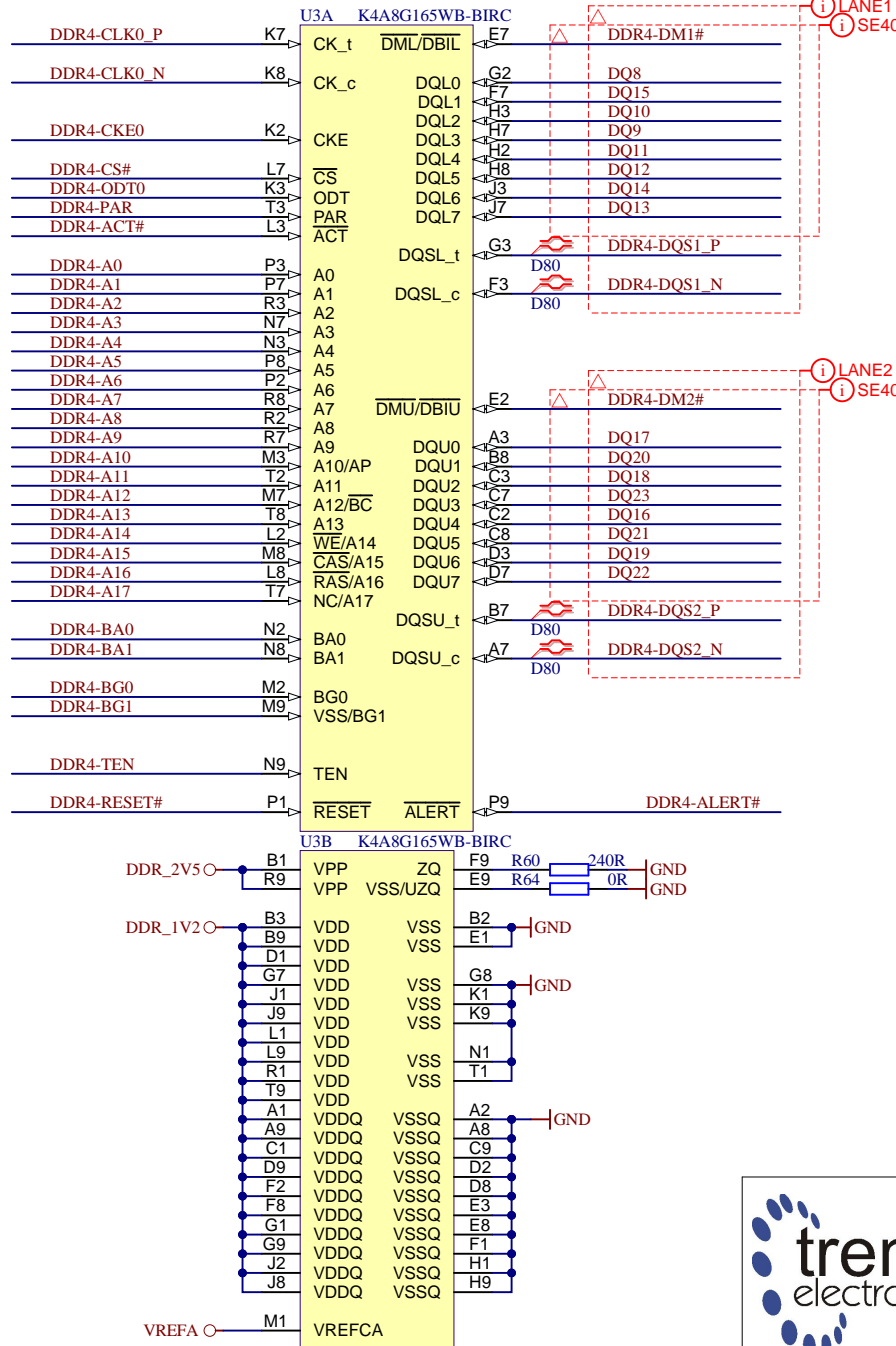

B

C

C

D

D

Title: AM0010 – DDR4-RAM_2		
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Date: 22.07.2022	Copyright: Trenz Electronic GmbH	Page 18 of 30
Filename: DDR4-RAM_2.SchDoc		

A

A

B

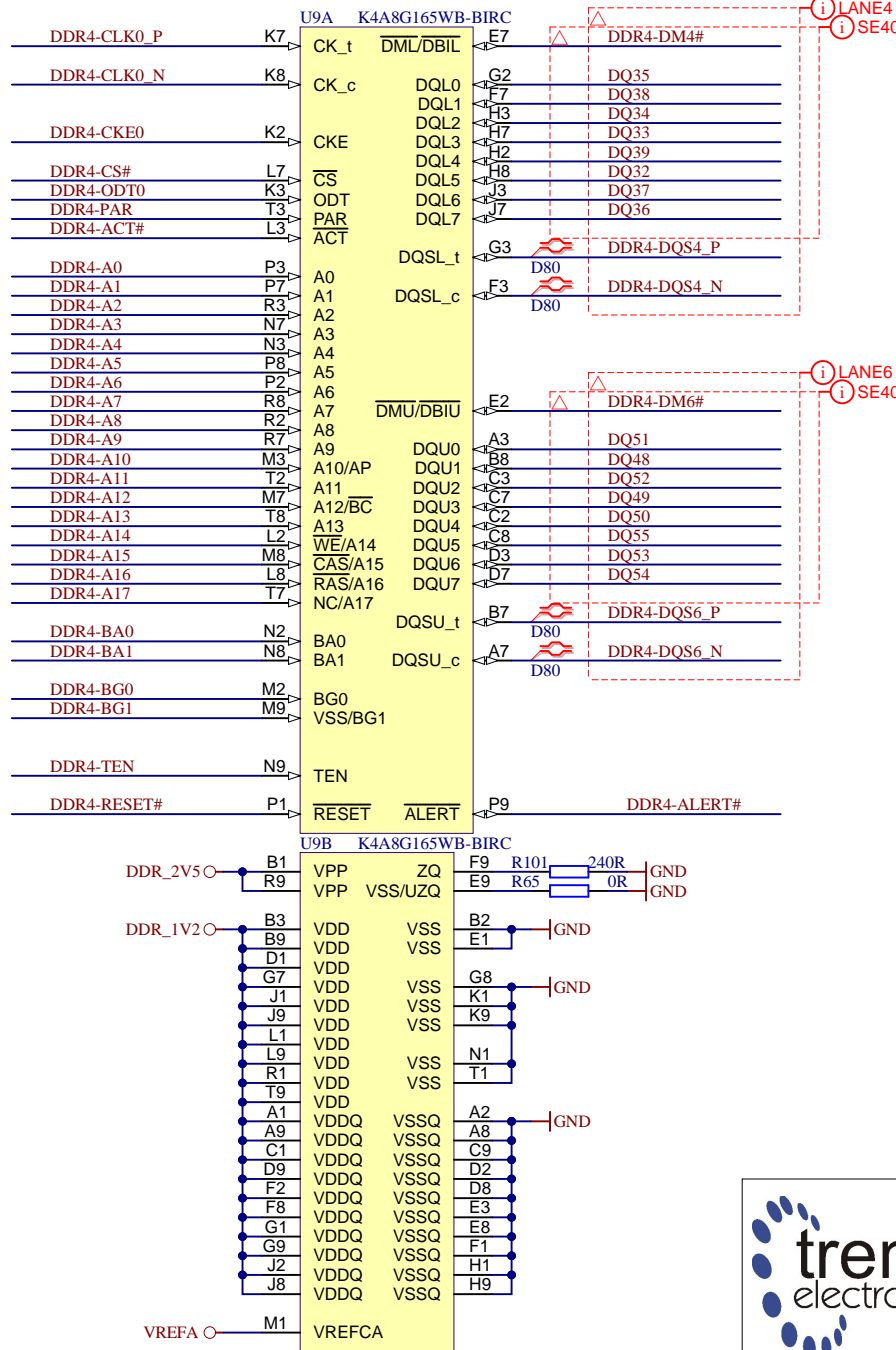

B

C

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D

Title: AM0010 – DDR4-RAM_3		
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Date: 22.07.2022	Copyright: Trenz Electronic GmbH	Page 19 of 30
Filename: DDR4-RAM_3.SchDoc		

A

A

B

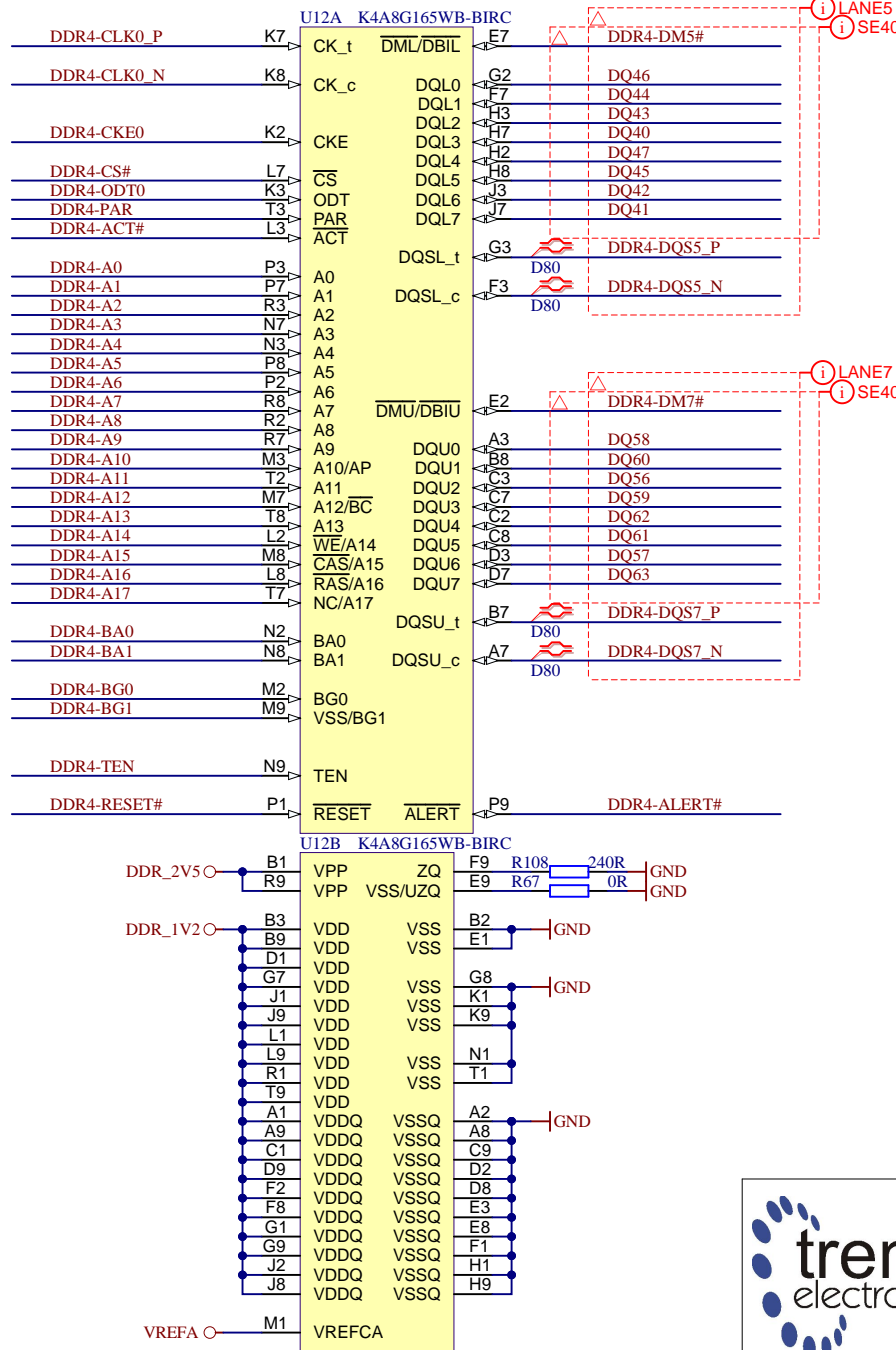

B

C

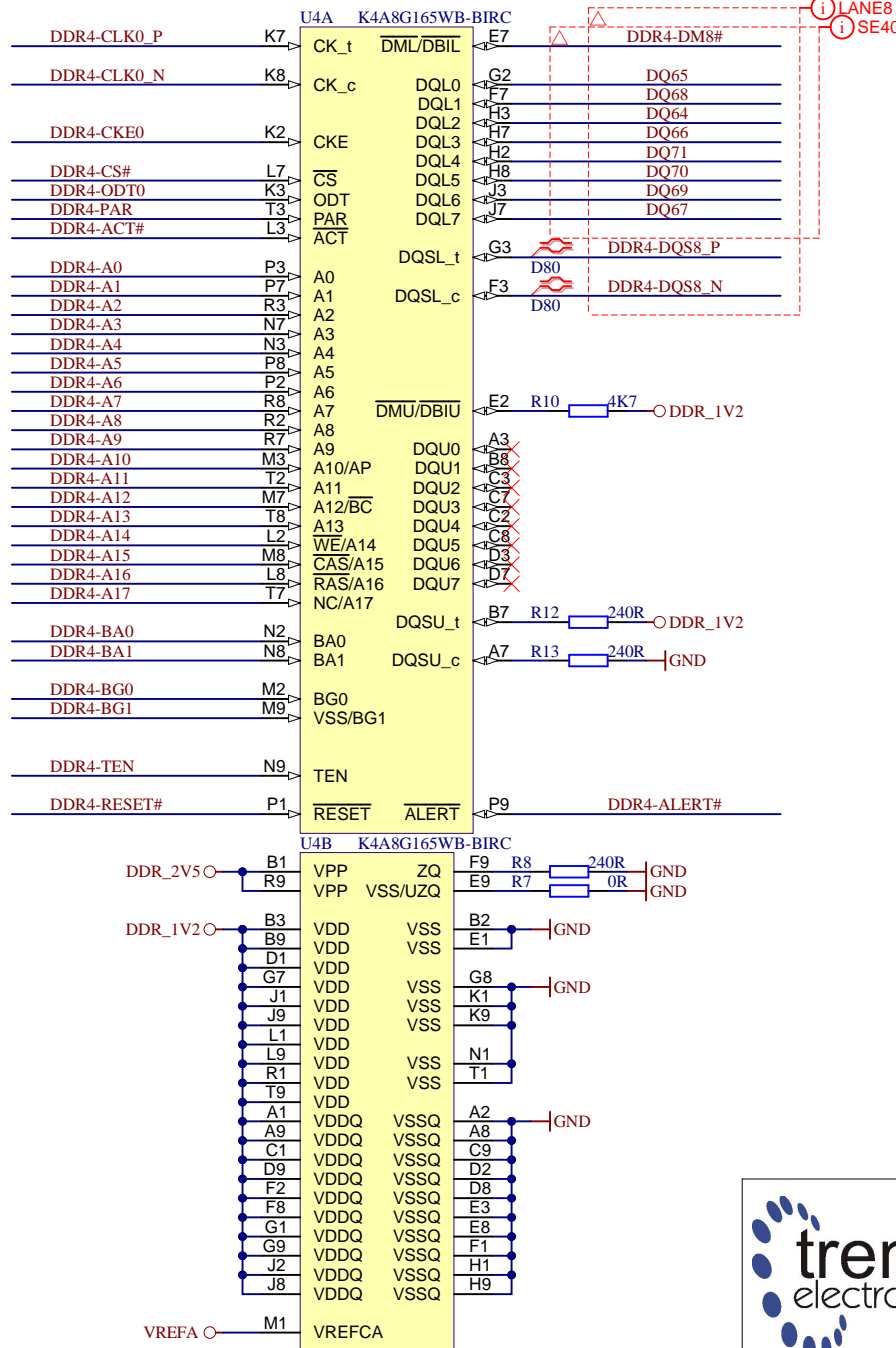
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D

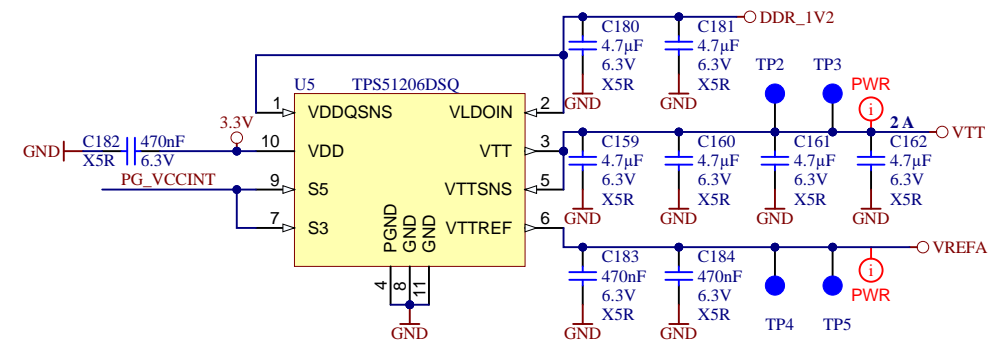
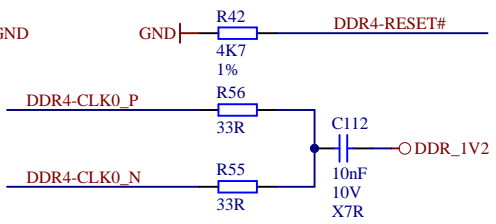
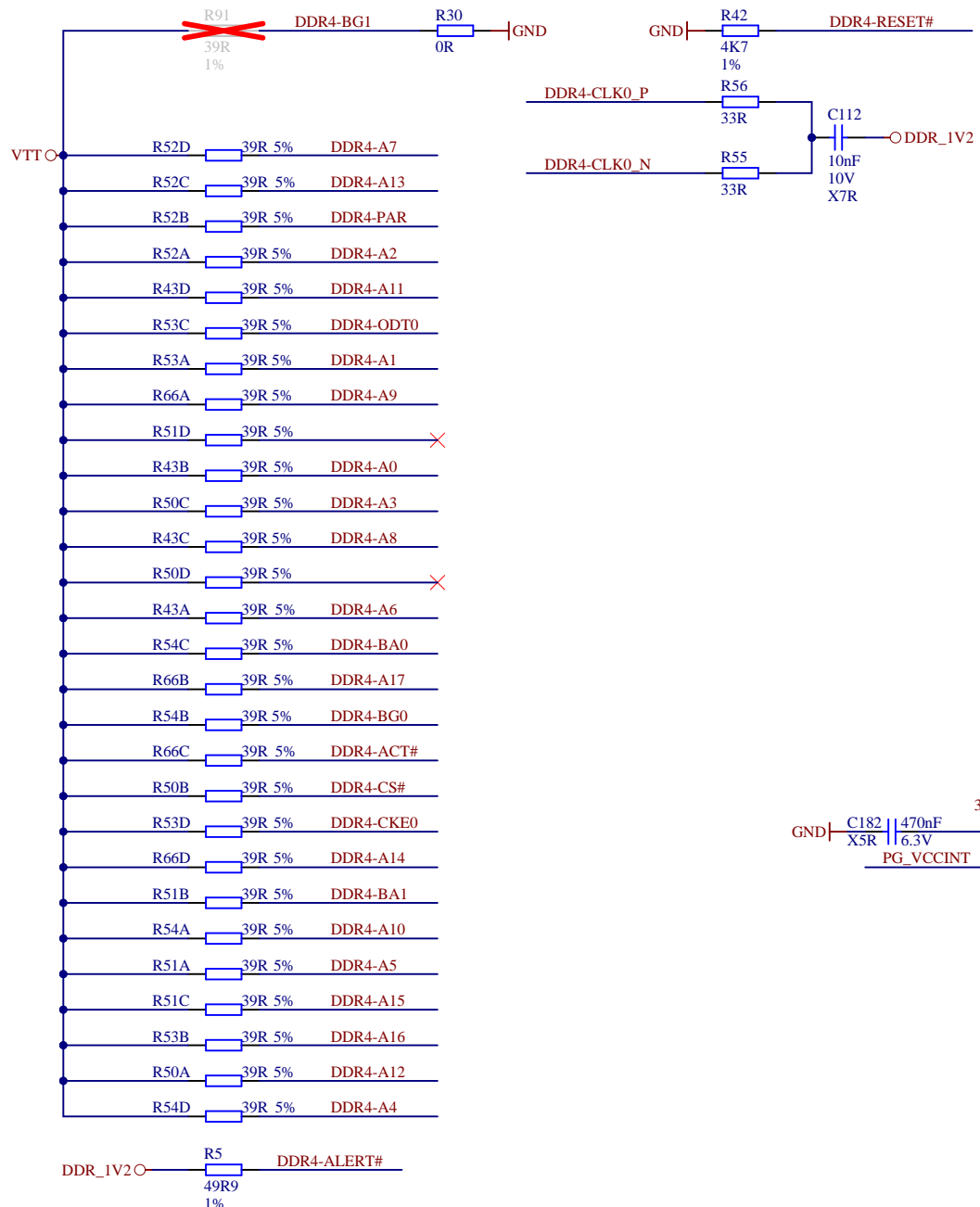
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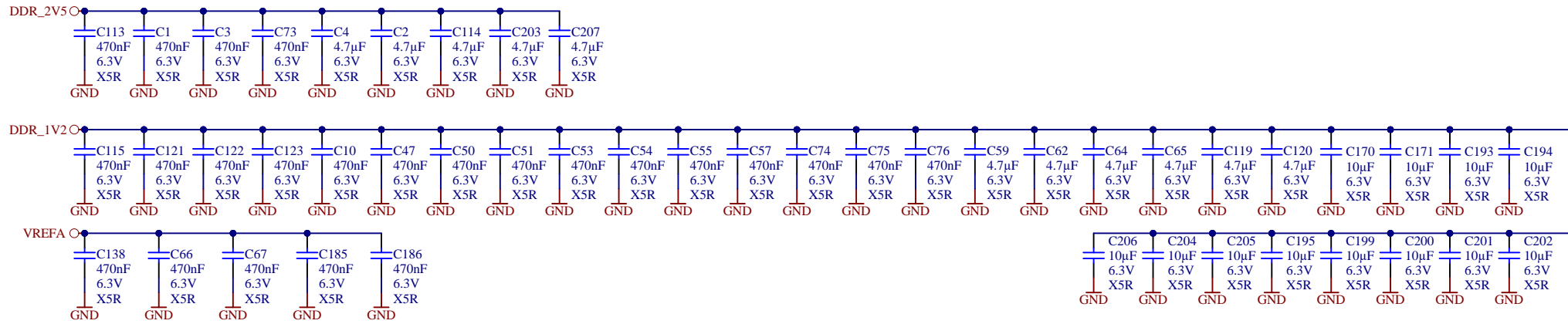
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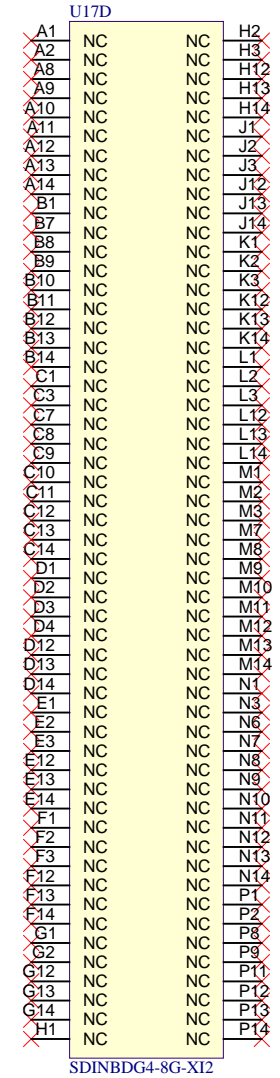
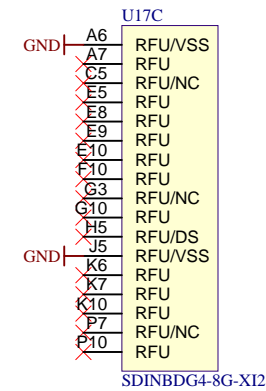
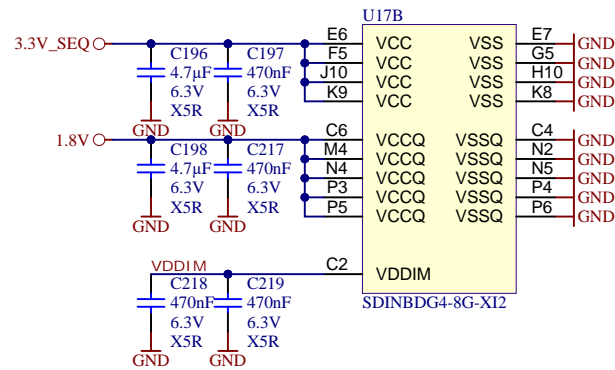
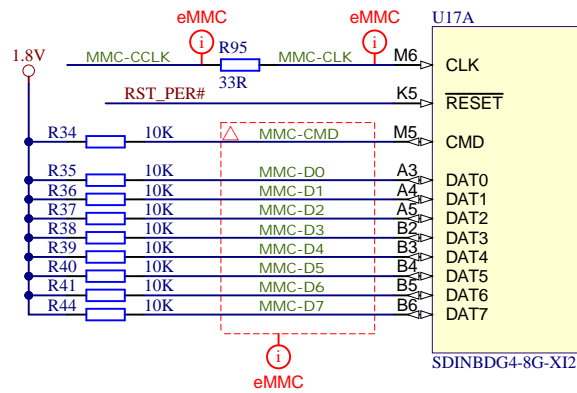
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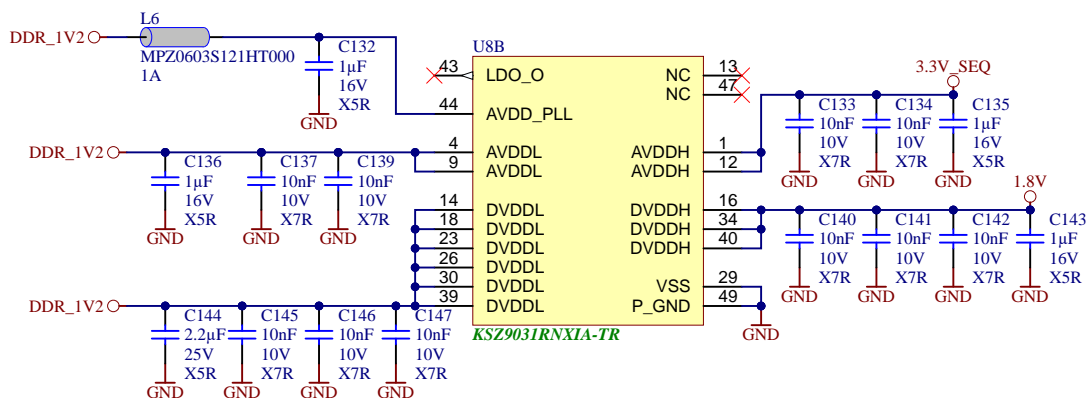
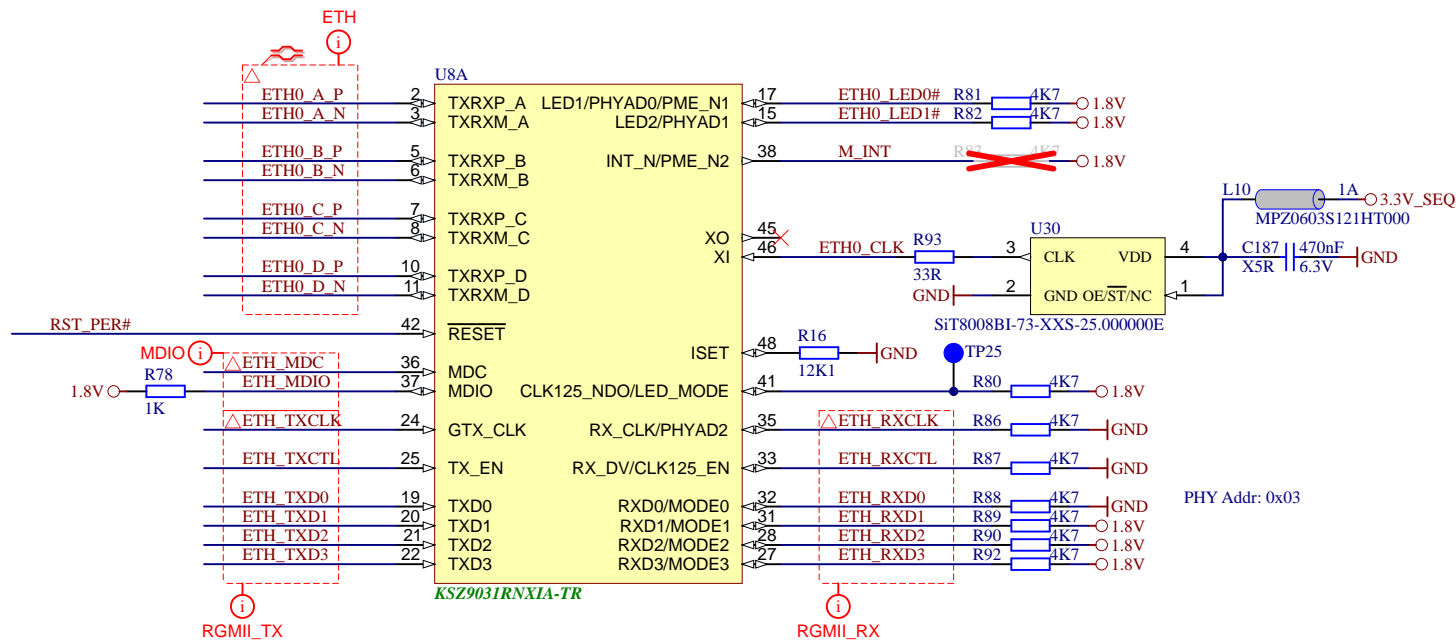
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A4	Number: DDR4-TERM 4AE21MA	Rev. 02
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	Title: AM0010 – DDR4-CAPS		
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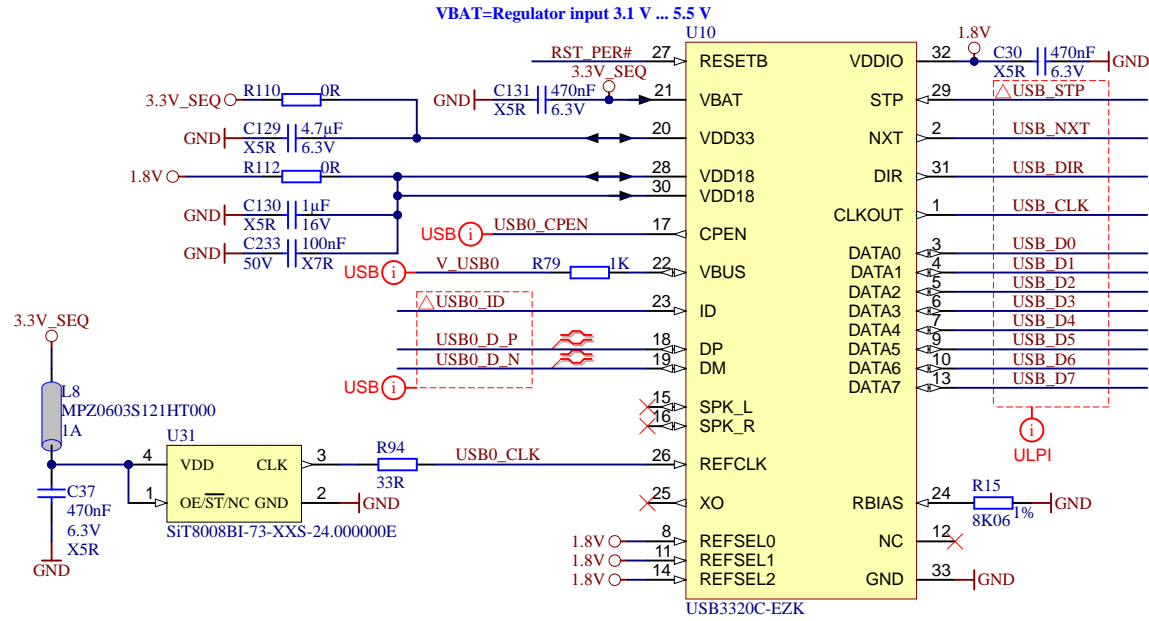
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Filename: eMMC.SchDoc		



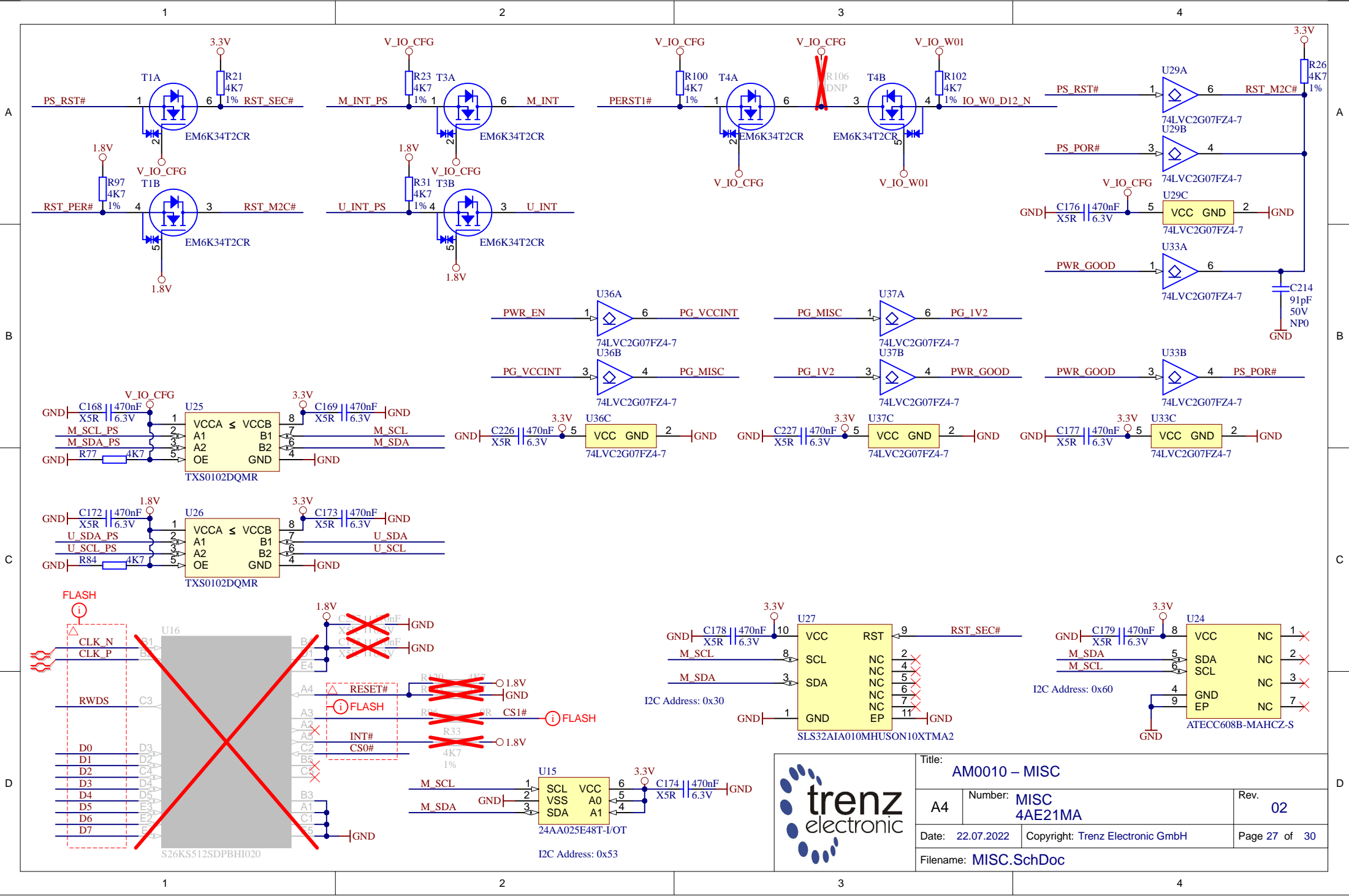
		Title: AM0010 – ETHPHY	
		A4	Number: ETHPHY 4AE21MA
Date: 22.07.2022		Copyright: Trenz Electronic GmbH	
Filename: ETHPHY.SchDoc		Page 25 of 30	

Modify variants!

	USB3320	USB3340
R110	0R	DNP
R112	0R	DNP
C129	4.7 μ F	1 μ F
C233	0.1 μ F	1 μ F



Title: AM0010 – USBPHY		
A4	Number: USBPHY 4AE21MA	Rev. 02
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Title: AM0010 – MISC		
A4	Number: MISC 4AE21MA	Rev. 02
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Filename: MISC.SchDoc		Page 27 of 30

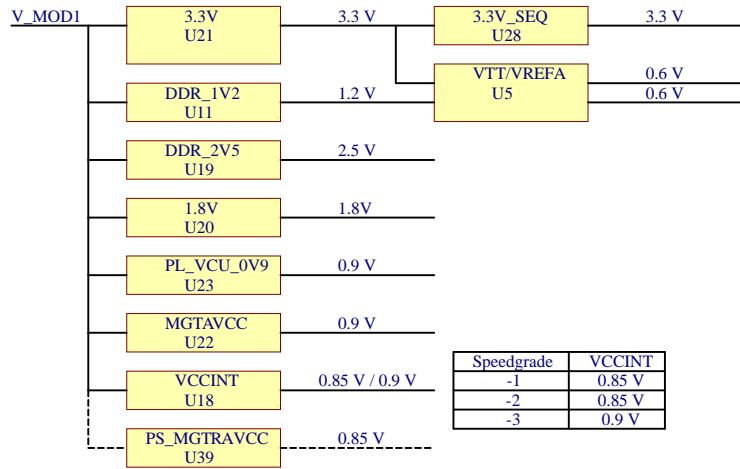
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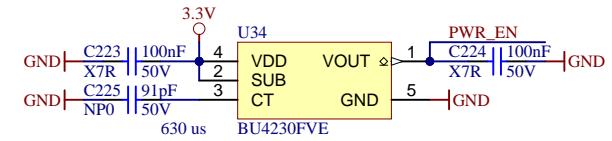
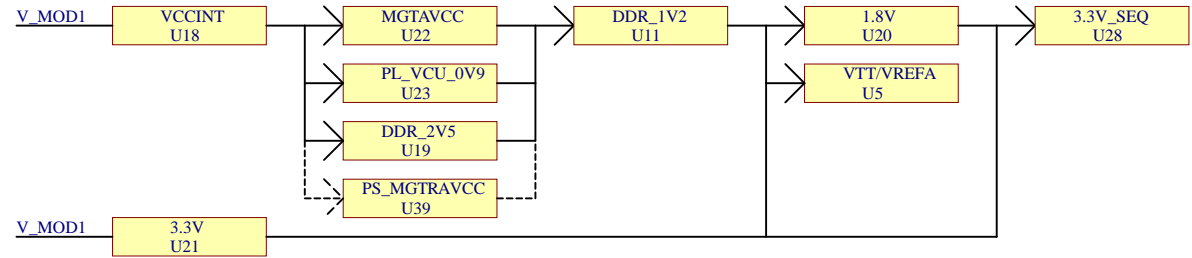
4

Power Supply Structure



Speedgrade	VCCINT
-1	0.85 V
-2	0.85 V
-3	0.9 V

Power Supply Sequencing



A

A

B

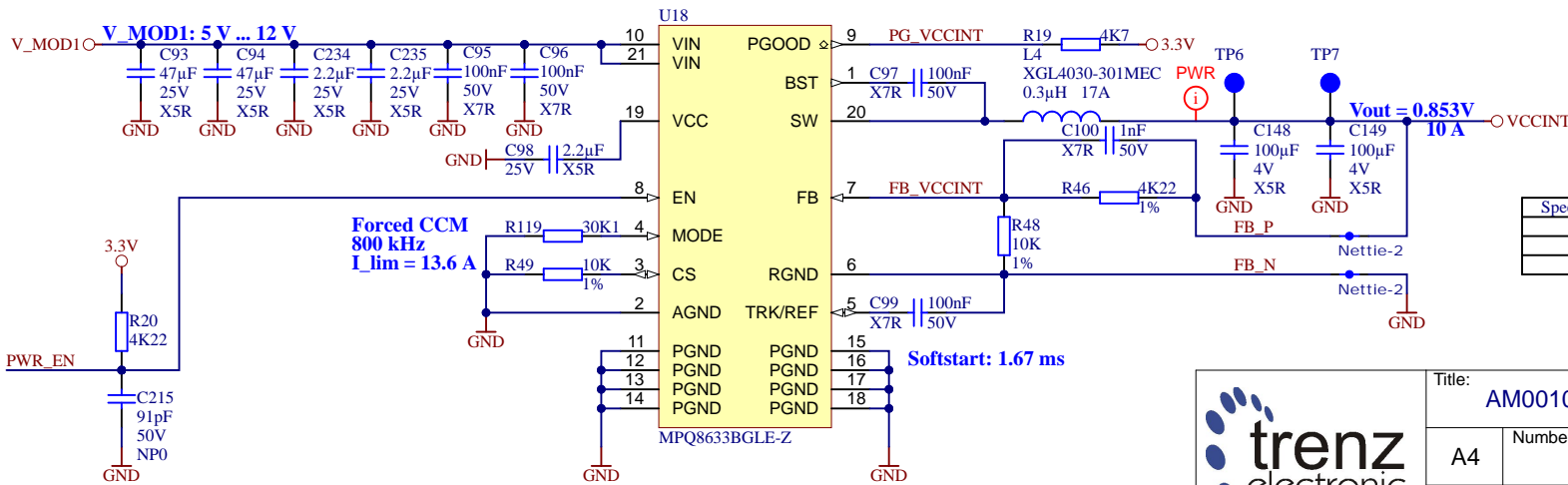
B

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C

D

D



Speedgrade	R46	R48	C100	VCCINT
-1	4K22	10K	1 nF	0.853 V
-2	4K22	10K	1 nF	0.853 V
-3	10K	20K	680 pF	0.900 V



Title: AM0010 - POWER_1		
A4	Number: POWER_1 4AE21MA	Rev. 02
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Filename: POWER_1.SchDoc		

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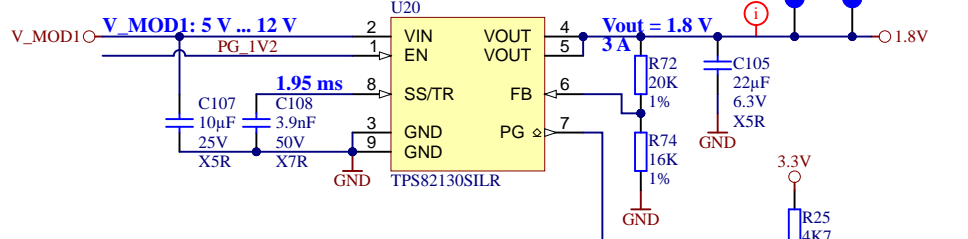
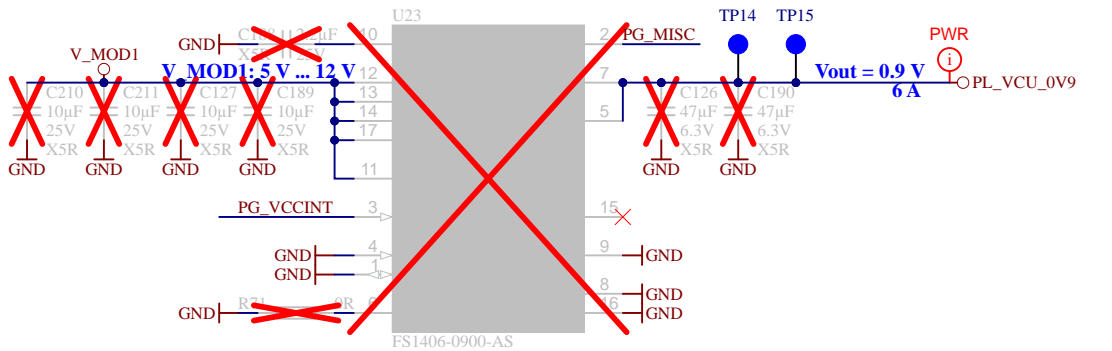
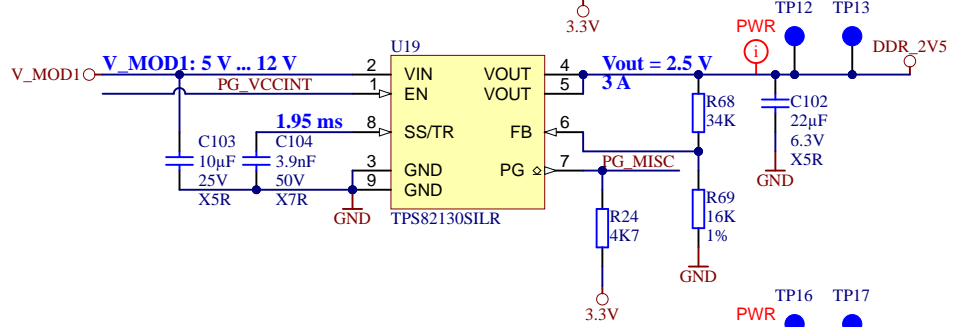
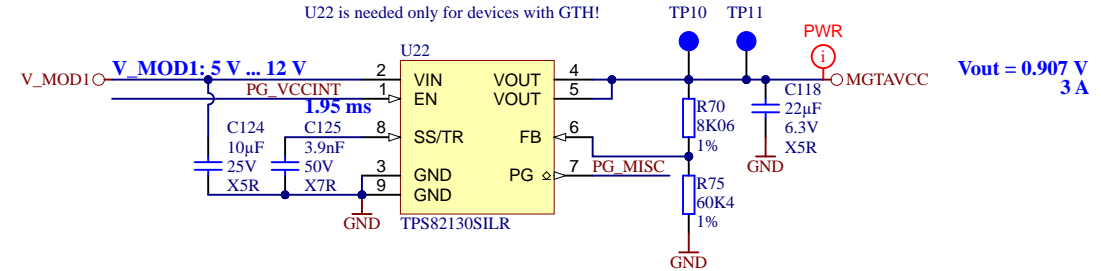
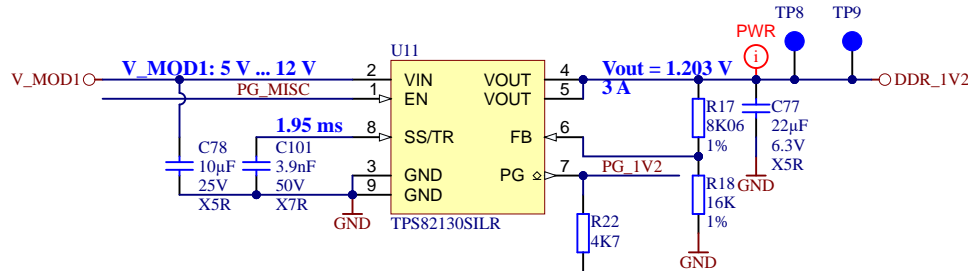
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C

C

D

D

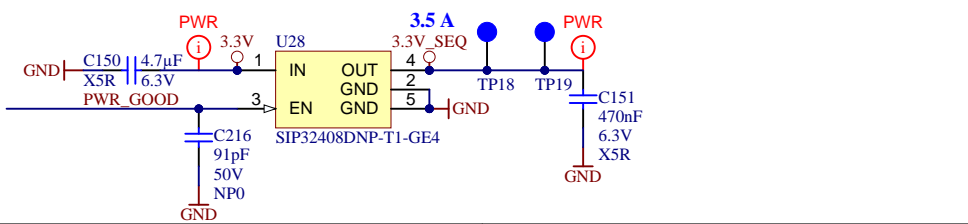
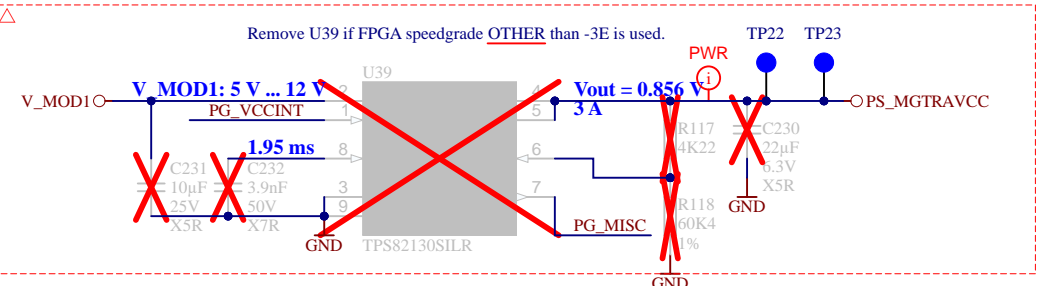
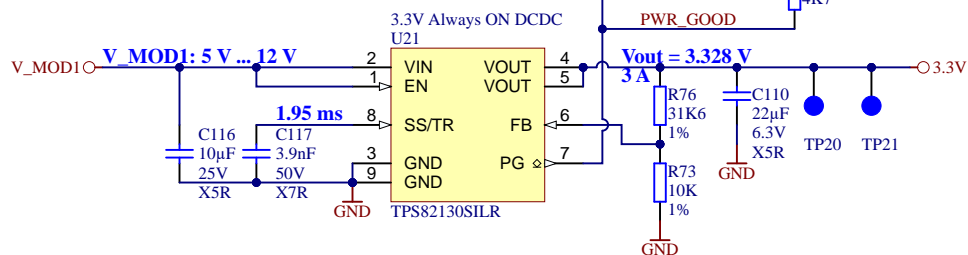


Modify variants!

Speedgrade	L14	VCCINT
-1	L14	0.85 V
-2	L14	0.85 V
-3	DNP	0.9 V

Remove L14 when FPGA speedgrade -3E is used

Vout_max = 0.876V (+3%)
 Vout_nom = 0.85V
 Vout_min = 0.833V (-2%)



Title: AM0010 - POWER_2		
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