

Regarding the usage of our schematics and alike documentation for Trenz module TE0950.

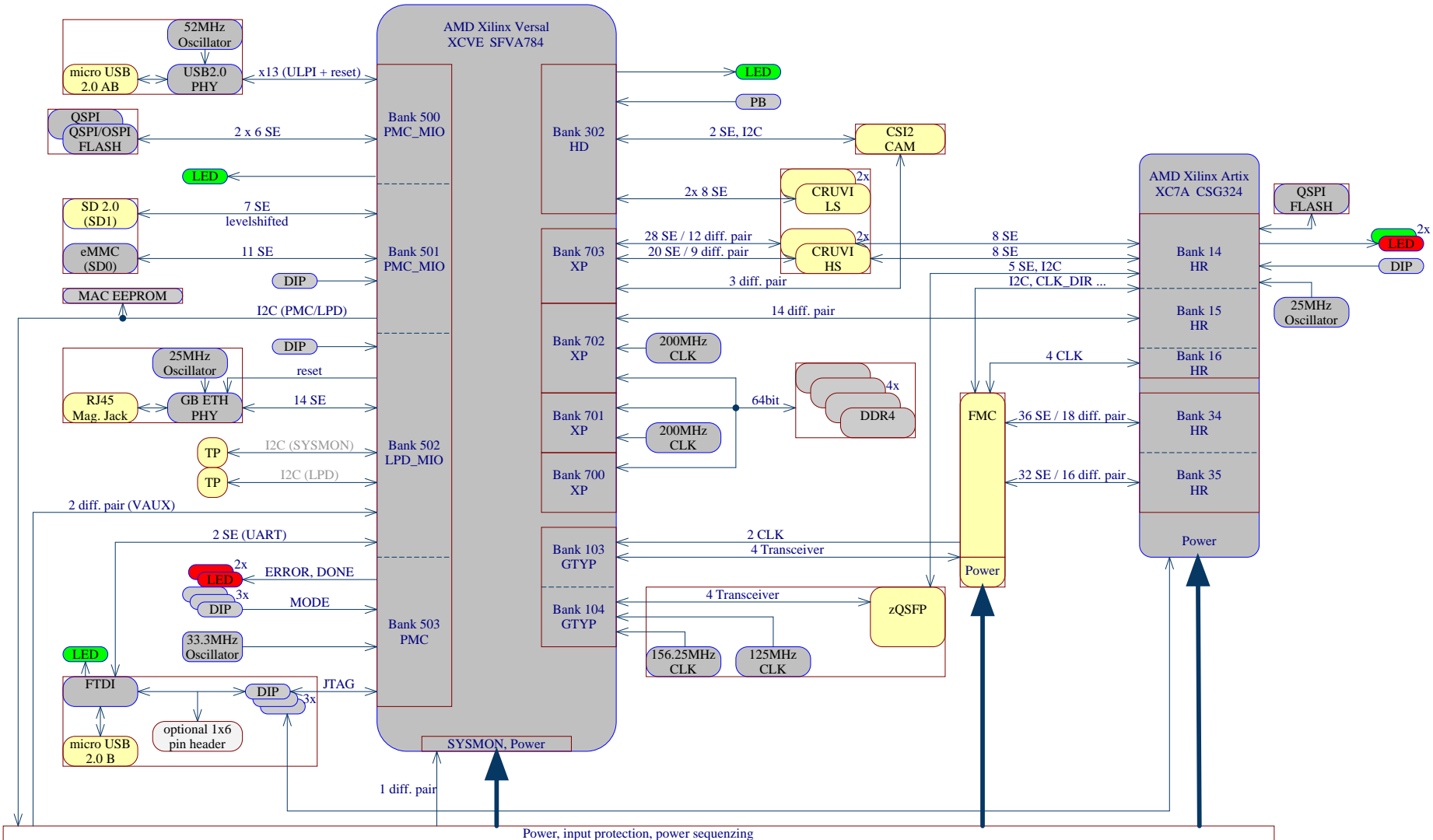
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Schematics and other handouts serve for informational purposes only!


Drawn by	MR
Checked by	ED
Assembly variant	EGBE21C
Created by	MR
Modified by	MR
Modified at	2024-04-17

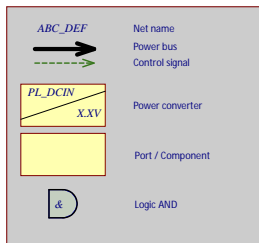
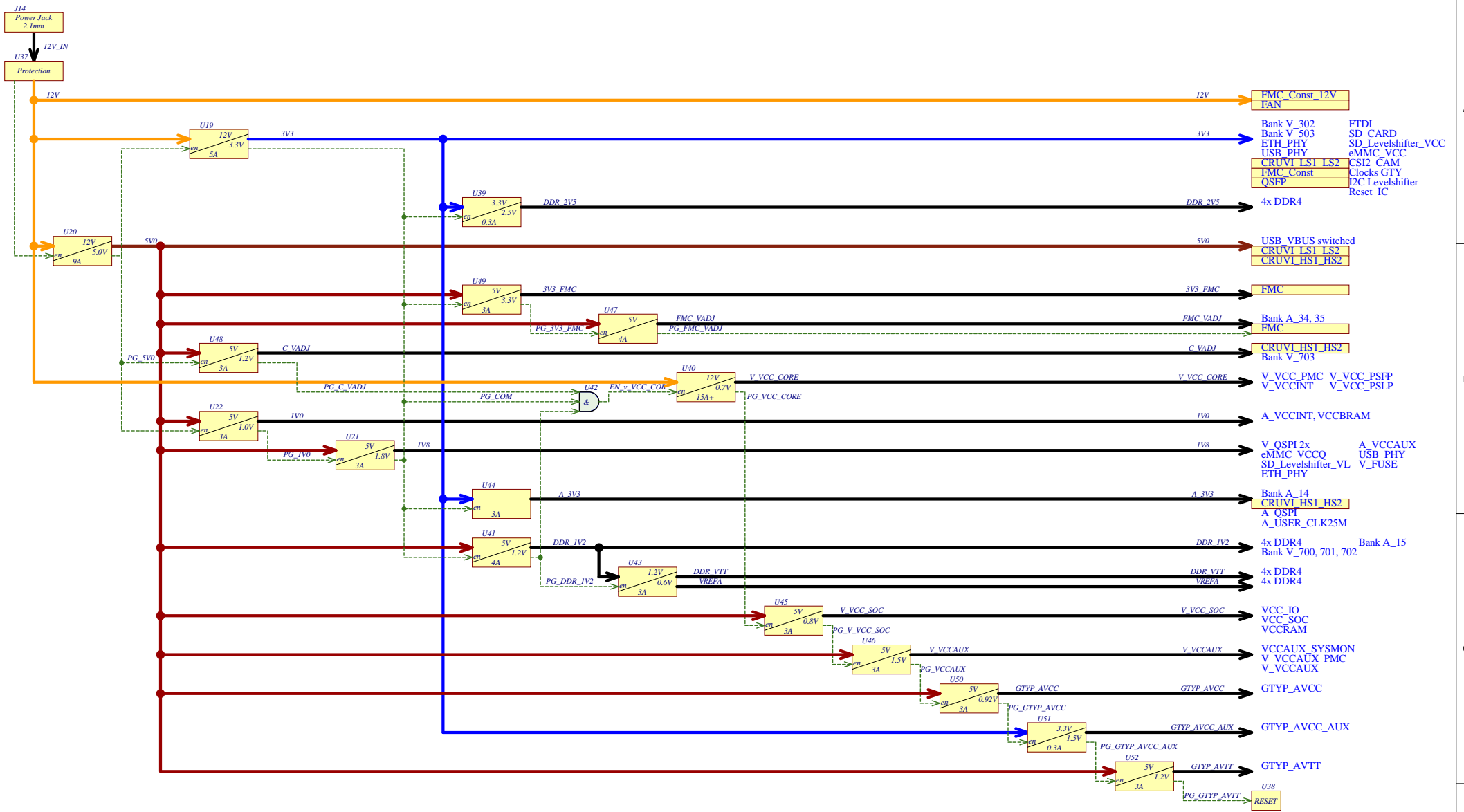


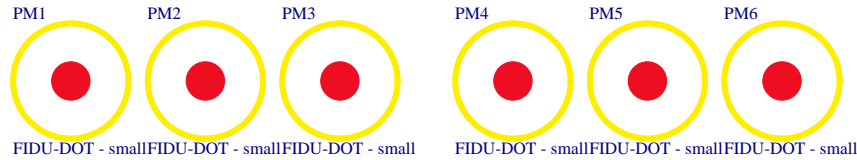
Title: Legal Notices		
A4	Number: TE0950 EGBE21C	Rev. 03
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Filename: Legal Notices TE0950.SchDoc		



Special notes:

		Title: System Overview	
		A4	Number: TE0950 EGBE21C
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I2C Addresses:

Device	Bus	Address	Note
24AA025E48	PMC_I2C	1010000 50H	EEPROM for MAC with user area

MECH1
TE Address Overlay

LOGO ADDRESS

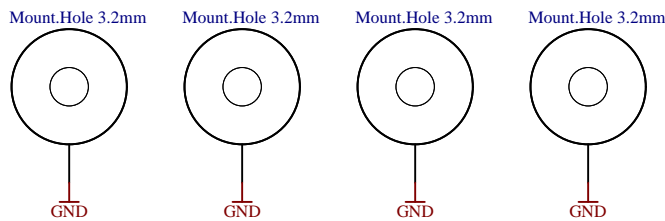
LOGO1
TE Logo PRINT Layer

LOGO PRINT

Serial1
Serial
Serialnumber 6,3 x 6.3mm

Supported Voltage Ranges:

Power Rail	Direction	Range	Tolerance	Description	Note
12V_IN	IN	12V	+/-5%	Board Power	-
5V0	OUT	5.0V	+/-3%	CRUVI LS and HS 5V	Shared with onboard 5V supplies and with further switch (U29) for rail USB_VBUS_SUP via jumper (J5) connectable to USB (J8).
3V3	OUT	3.3V	+/-3%	QSFP, CRUVI LS 3.3V, CSI-2 CAM	Shared with VERSAL VCCO Bank 302 and onboard peripherals.
C_VADJ	OUT	1.2V	+/-3%	CRUVI HS IO	Shared with VERSAL VCCIO XPIO Bank 703.
A_3V3	OUT	3.3V	+/-3%	CRUVI HS 3.3V	Shared with ARTIX VCCIO Bank 14 and onboard peripherals.
12V	OUT	12V	+/-5%	FMC	Derived from 12V_IN after input protection. Shared with onboard peripherals.
3V3_FMC	OUT	3.3V	+/-3%	FMC	-
FMC_VADJ	OUT	1.2V - 3.3V	+/-3%	FMC	Selectable by dip settings.

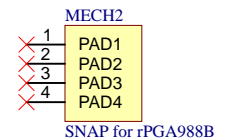


CE1
CE Logo on Top Overlay

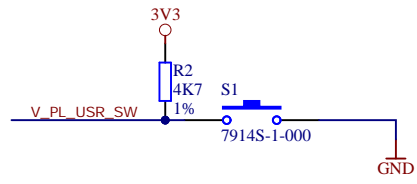
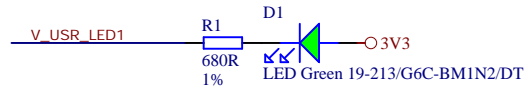
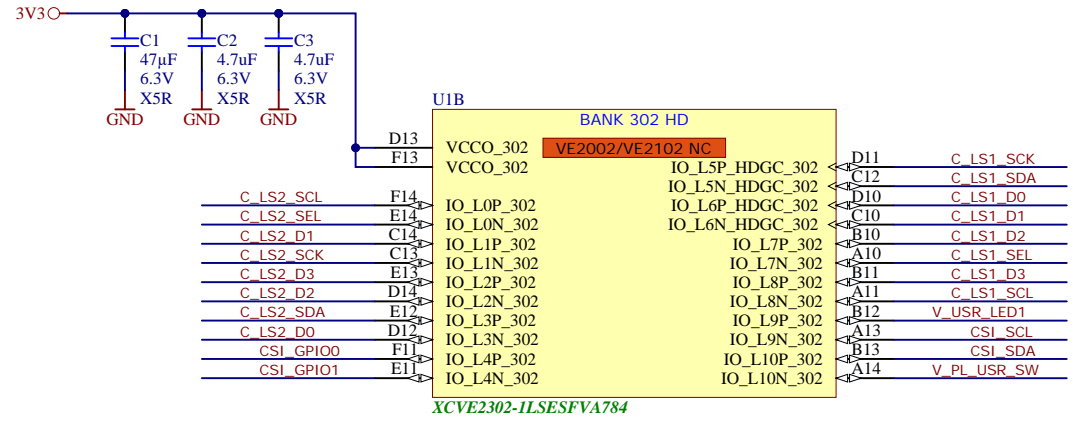
CE-TOPOVERLAY


UKCA1
UKCA Logo on Top Overlay

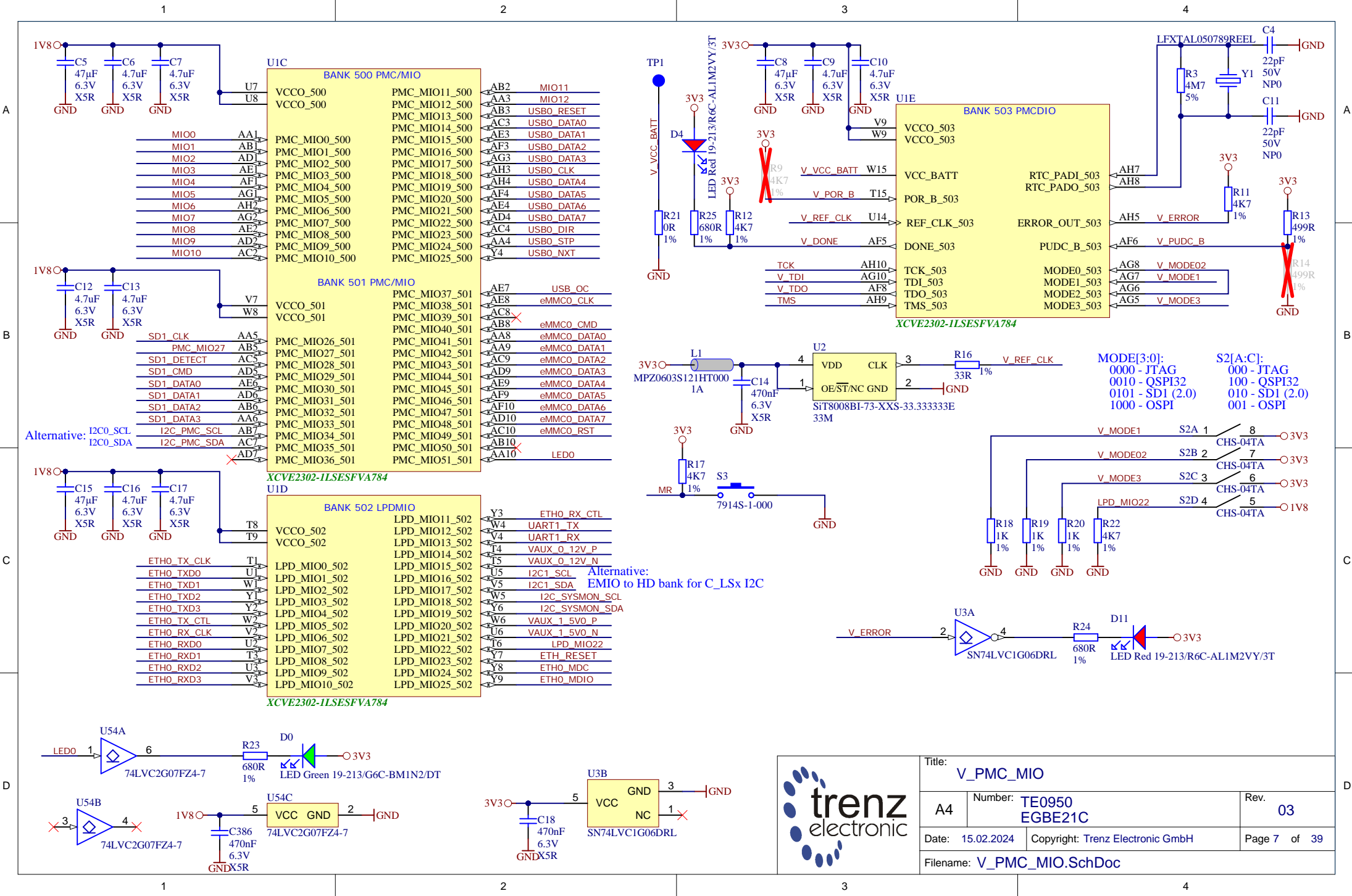
UKCA-TOPOVERLAY



	Title: TE0950	
	A4	Number: TE0950 EGBE21C
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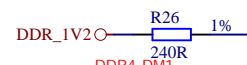
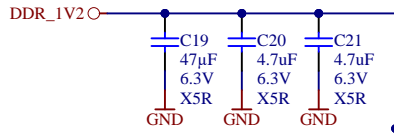


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		A4	Number: TE0950 EGBE21C
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trenz electronic

Title: V_PMC_MIO		Rev: 03
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UIF

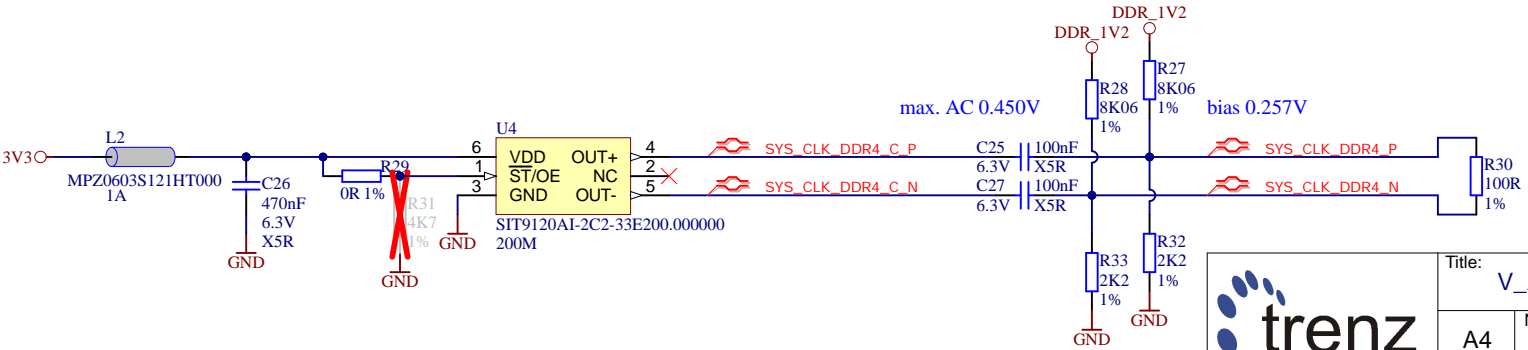
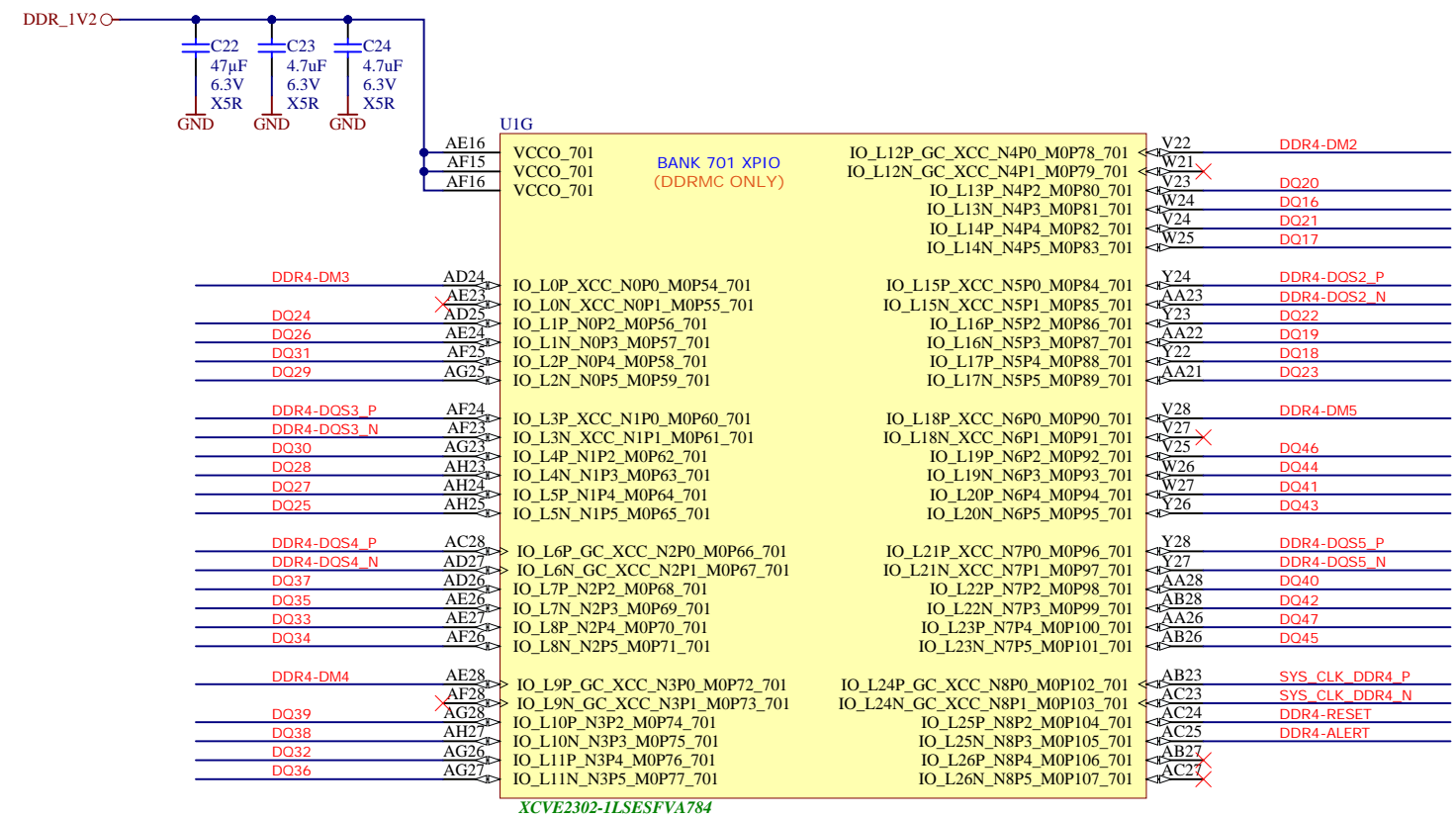
AE11	VCCO_700	BANK 700 XPIO (DDRMIC ONLY)	IO_L12P_GC_XCC_N4P0_M0P24_700	AD12	DDR4-A4
AE12	VCCO_700		IO_L12N_GC_XCC_N4P1_M0P25_700	AD11	DDR4-BA1
AF11	VCCO_700		IO_L13P_N4P2_M0P26_700	AC14	
			IO_L13N_N4P3_M0P27_700	AD14	DDR4-PAR
			IO_L14P_N4P4_M0P28_700	AC17	DDR4-CS
			IO_L14N_N4P5_M0P29_700	AD17	DDR4-A15
				AC19	DDR4-CLK0_P
			IO_L15P_XCC_N5P0_M0P30_700	AD19	DDR4-CLK0_N
			IO_L15N_XCC_N5P1_M0P31_700	AD20	
			IO_L16P_N5P2_M0P32_700	AD21	DDR4-A14
			IO_L16N_N5P3_M0P33_700	AD22	DDR4-A2
			IO_L17P_N5P4_M0P34_700	AE22	DDR4-A1
			IO_L17N_N5P5_M0P35_700		
			IO_L18P_XCC_N6P0_M0P36_700	AB12	DDR4-A0
			IO_L18N_XCC_N6P1_M0P37_700	AC11	DDR4-ACT
			IO_L19P_N6P2_M0P38_700	AB14	DDR4-A9
			IO_L19N_N6P3_M0P39_700	AC13	DDR4-A16
			IO_L20P_N6P4_M0P40_700	AB15	DDR4-A3
			IO_L20N_N6P5_M0P41_700	AC16	DDR4-BA0
			IO_L21P_XCC_N7P0_M0P42_700	AB18	DDR4-BG0
			IO_L21N_XCC_N7P1_M0P43_700	AB17	DDR4-A10
			IO_L22P_N7P2_M0P44_700	AB20	
			IO_L22N_N7P3_M0P45_700	AC20	
			IO_L23P_N7P4_M0P46_700	AB21	DDR4-CKE0
			IO_L23N_N7P5_M0P47_700	AC22	DDR4-ODT0
			IO_L24P_GC_XCC_N8P0_M0P48_700	AD16	DDR4-A6
			IO_L24N_GC_XCC_N8P1_M0P49_700	AD15	DDR4-A13
			IO_L25P_N8P2_M0P50_700	AE13	DDR4-A11
			IO_L25N_N8P3_M0P51_700	AE14	DDR4-A8
			IO_L26P_N8P4_M0P52_700	AE17	DDR4-A5
			IO_L26N_N8P5_M0P53_700	AE18	DDR4-BG1

AA11	IO_VR_700
AH13	IO_L0P_XCC_N0P0_M0P0_700
AH12	IO_L0N_XCC_N0P1_M0P1_700
AH14	IO_L1P_N0P2_M0P2_700
AH15	IO_L1N_N0P3_M0P3_700
AH17	IO_L2P_N0P4_M0P4_700
AH18	IO_L2N_N0P5_M0P5_700
AG20	IO_L3P_XCC_N1P0_M0P6_700
AH19	IO_L3N_XCC_N1P1_M0P7_700
AG21	IO_L4P_N1P2_M0P8_700
AH20	IO_L4N_N1P3_M0P9_700
AG22	IO_L5P_N1P4_M0P10_700
AH22	IO_L5N_N1P5_M0P11_700
AG12	IO_L6P_GC_XCC_N2P0_M0P12_700
AG11	IO_L6N_GC_XCC_N2P1_M0P13_700
AF13	IO_L7P_N2P2_M0P14_700
AG13	IO_L7N_N2P3_M0P15_700
AF14	IO_L8P_N2P4_M0P16_700
AG15	IO_L8N_N2P5_M0P17_700
AG17	IO_L9P_GC_XCC_N3P0_M0P18_700
AG16	IO_L9N_GC_XCC_N3P1_M0P19_700
AF18	IO_L10P_N3P2_M0P20_700
AG18	IO_L10N_N3P3_M0P21_700
AE19	IO_L11P_N3P4_M0P22_700
AF19	IO_L11N_N3P5_M0P23_700

XCVE2302-1LSESFVA784



Title: V_XPIO_700		
A4	Number: TE0950 EGBE21C	Rev. 03
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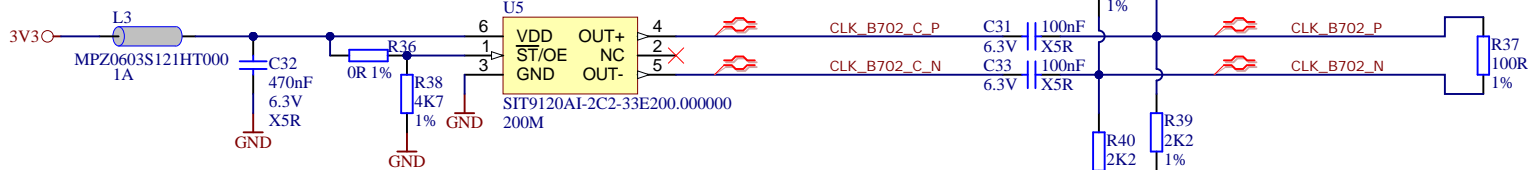
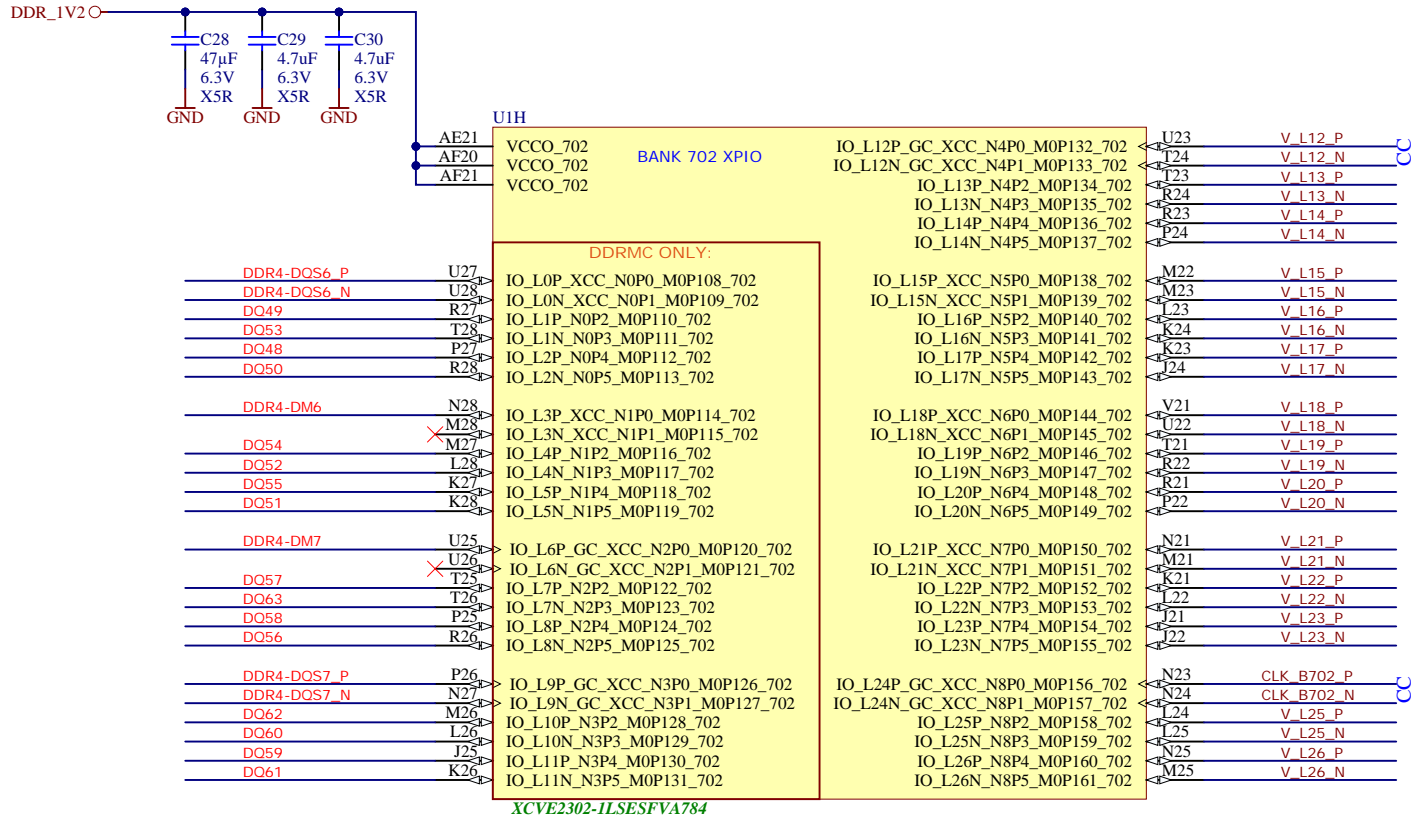
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A4	Number: TE0950 EGBE21C	Rev. 03
Date: 2024-02-15	Copyright: Trenz Electronic GmbH	Page 9 of 39
Filename: V_XPIO_701.SchDoc		

1

2

3

4



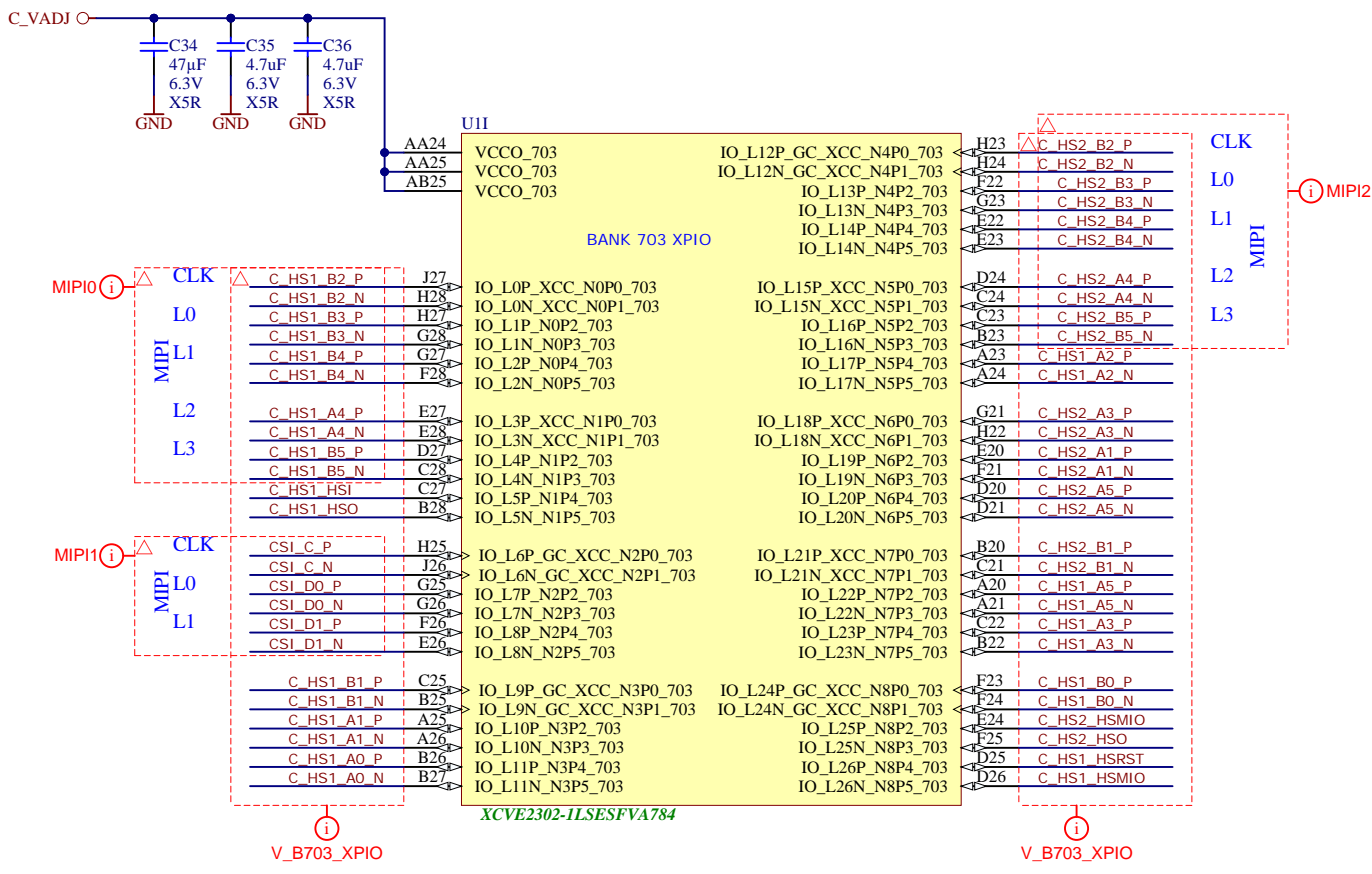
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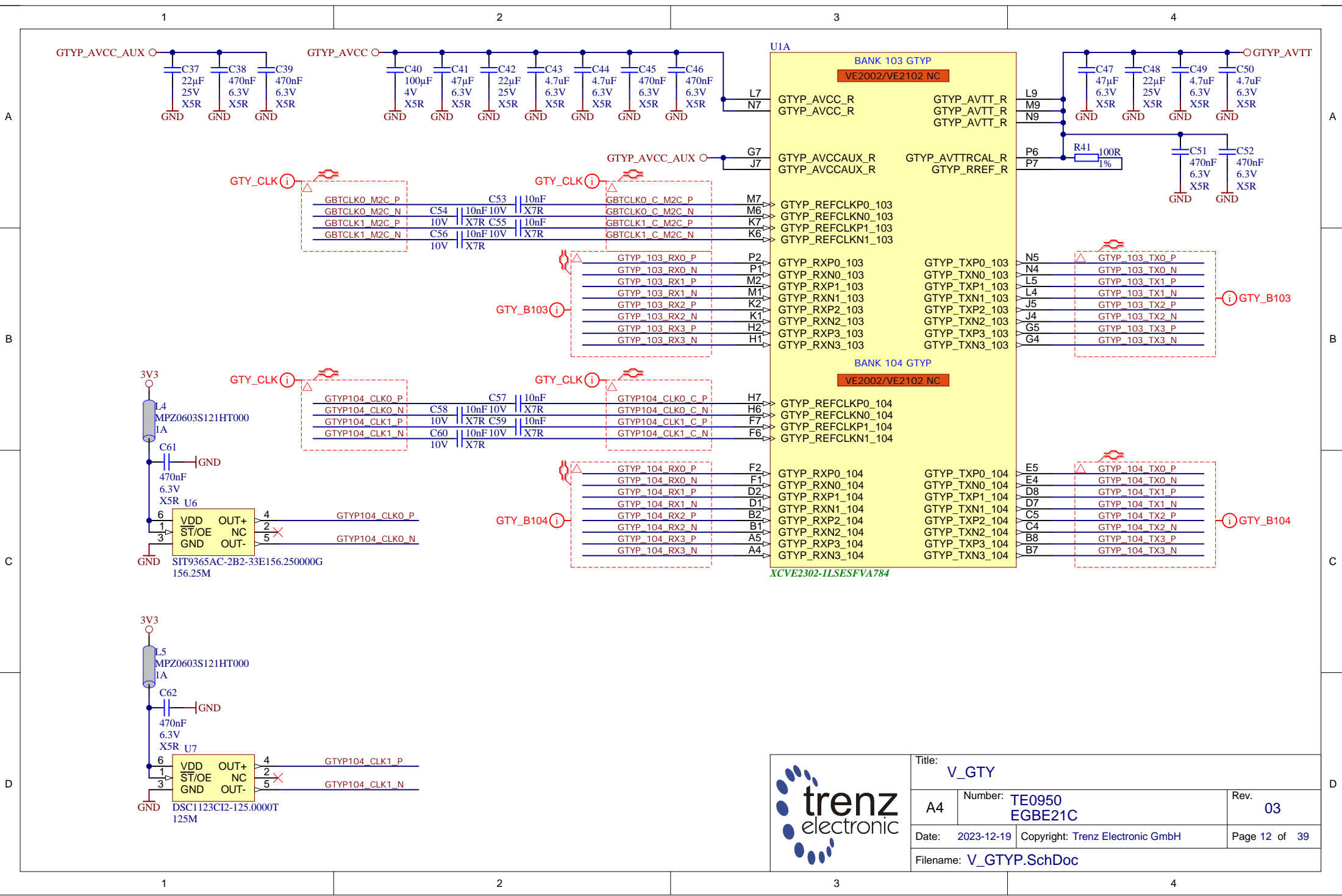
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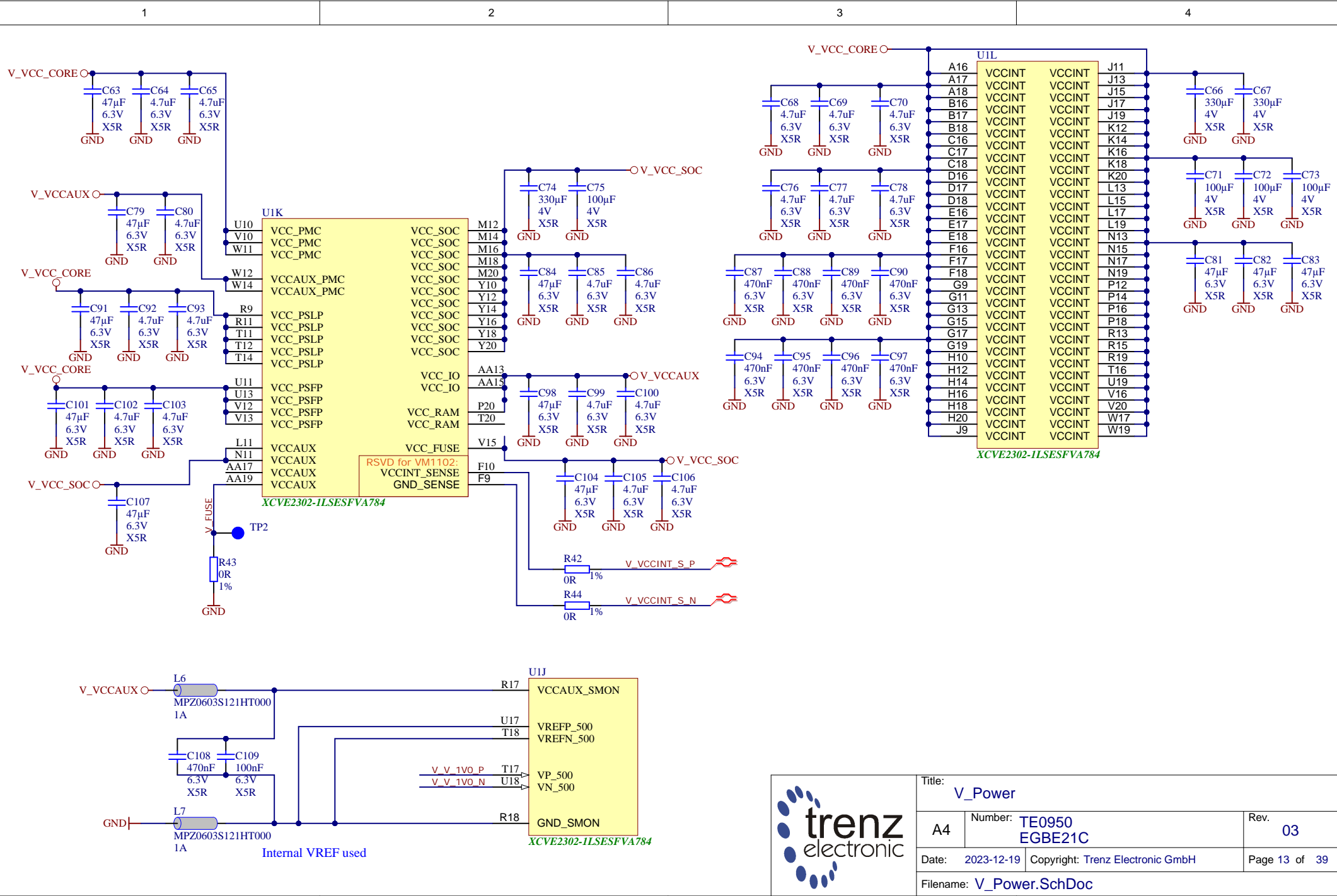
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Filename: V_XPIO_703.SchDoc		



Title: V_GTY		
A4	Number: TE0950 EGBE21C	Rev. 03
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Filename: V_GTYP.SchDoc		



Title: V_Power		
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1

2

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A

A

B

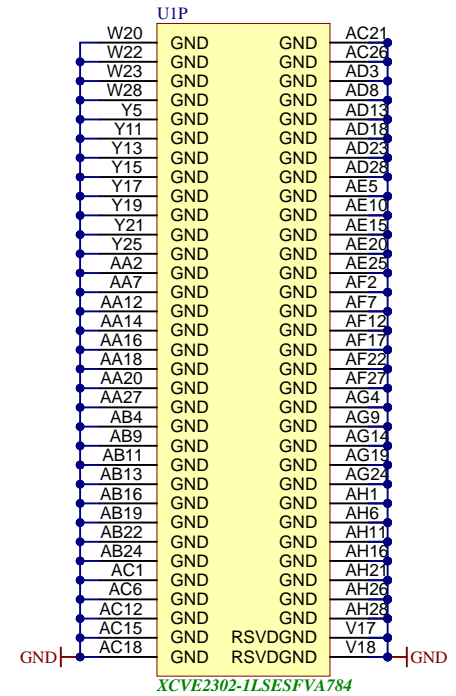
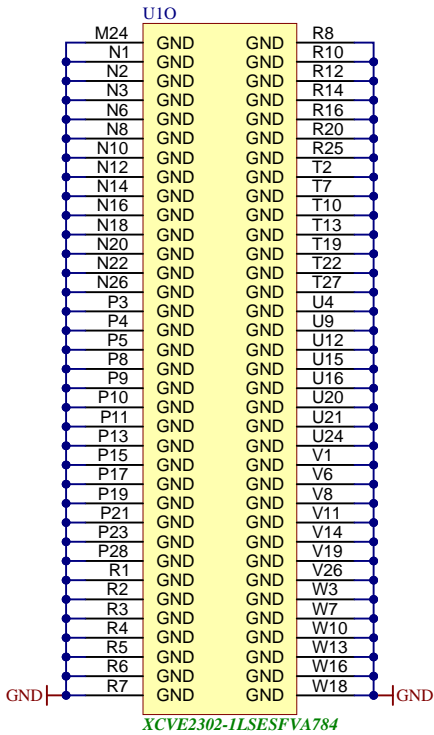
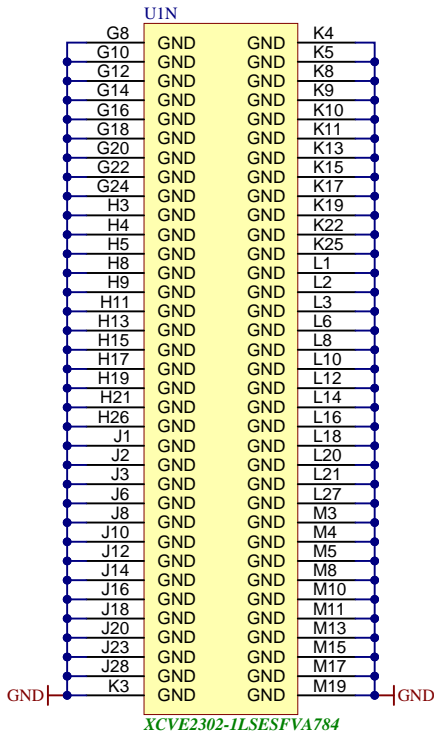
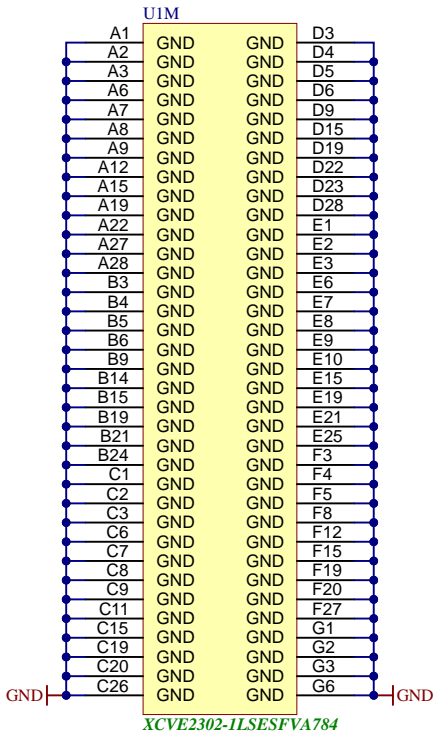
B

C

C

D

D



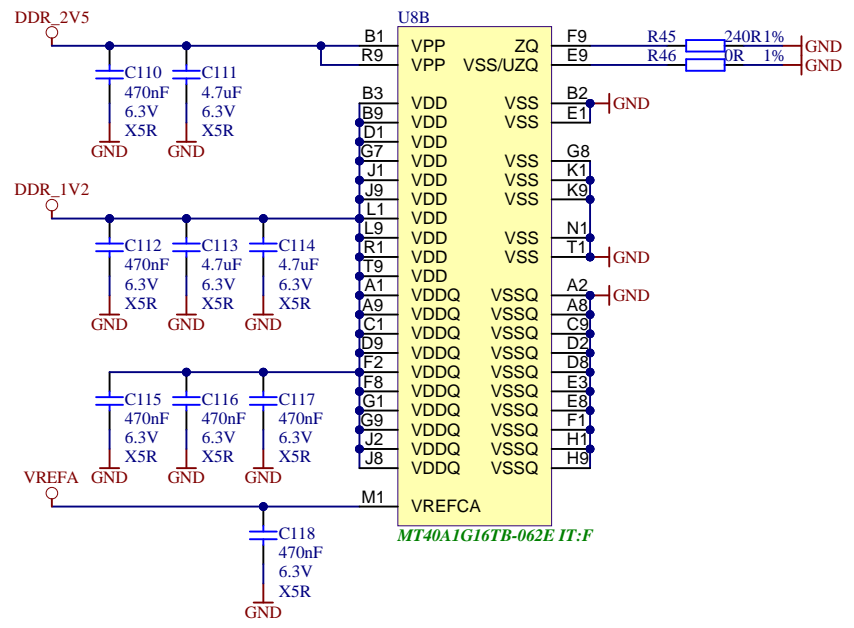
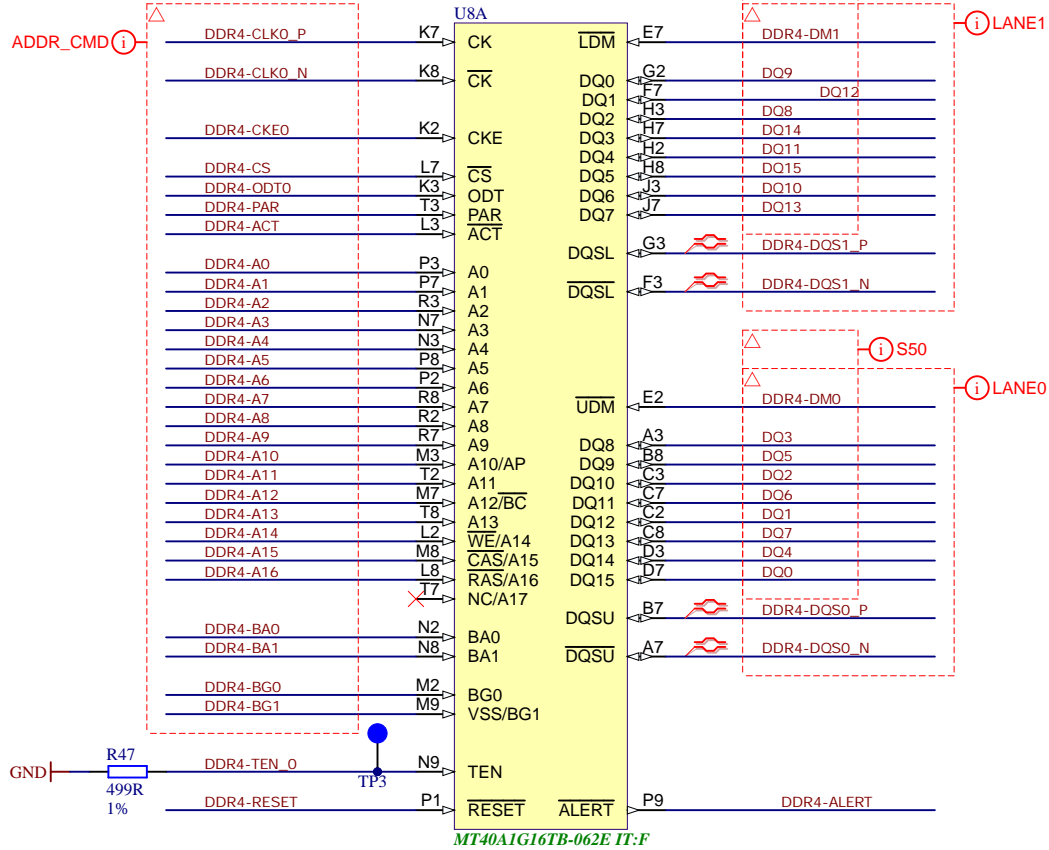
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Filename: V_GND.SchDoc		

1

2

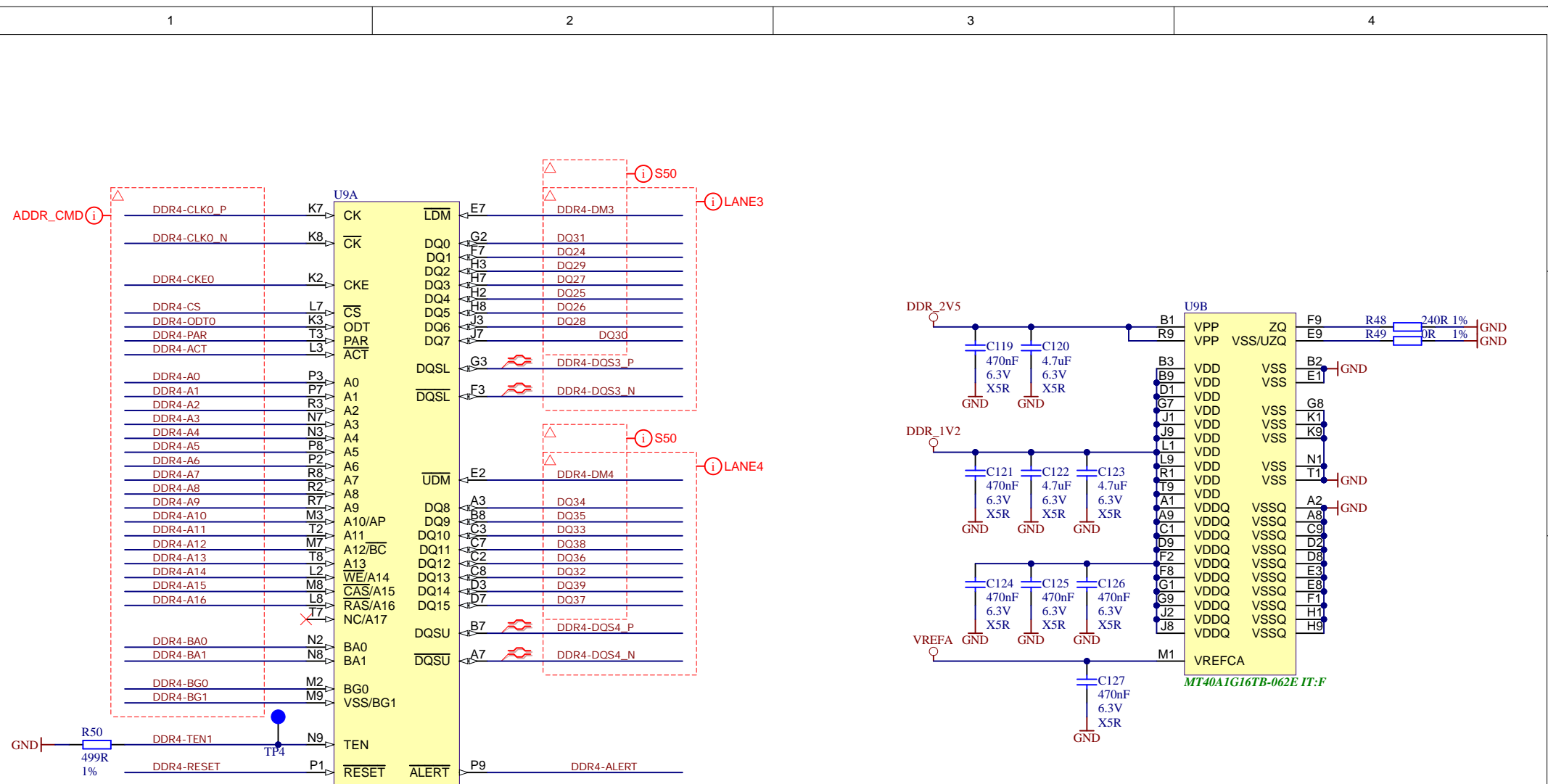
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4



- DDR4_2.SchDoc
- DDR4_3.SchDoc
- DDR4_4.SchDoc
- DDR4_TERM.SchDoc

Title: DDR4_1		
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			Title: DDR4_2	
			A4	Number: TE0950 EGBE21C
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1

2

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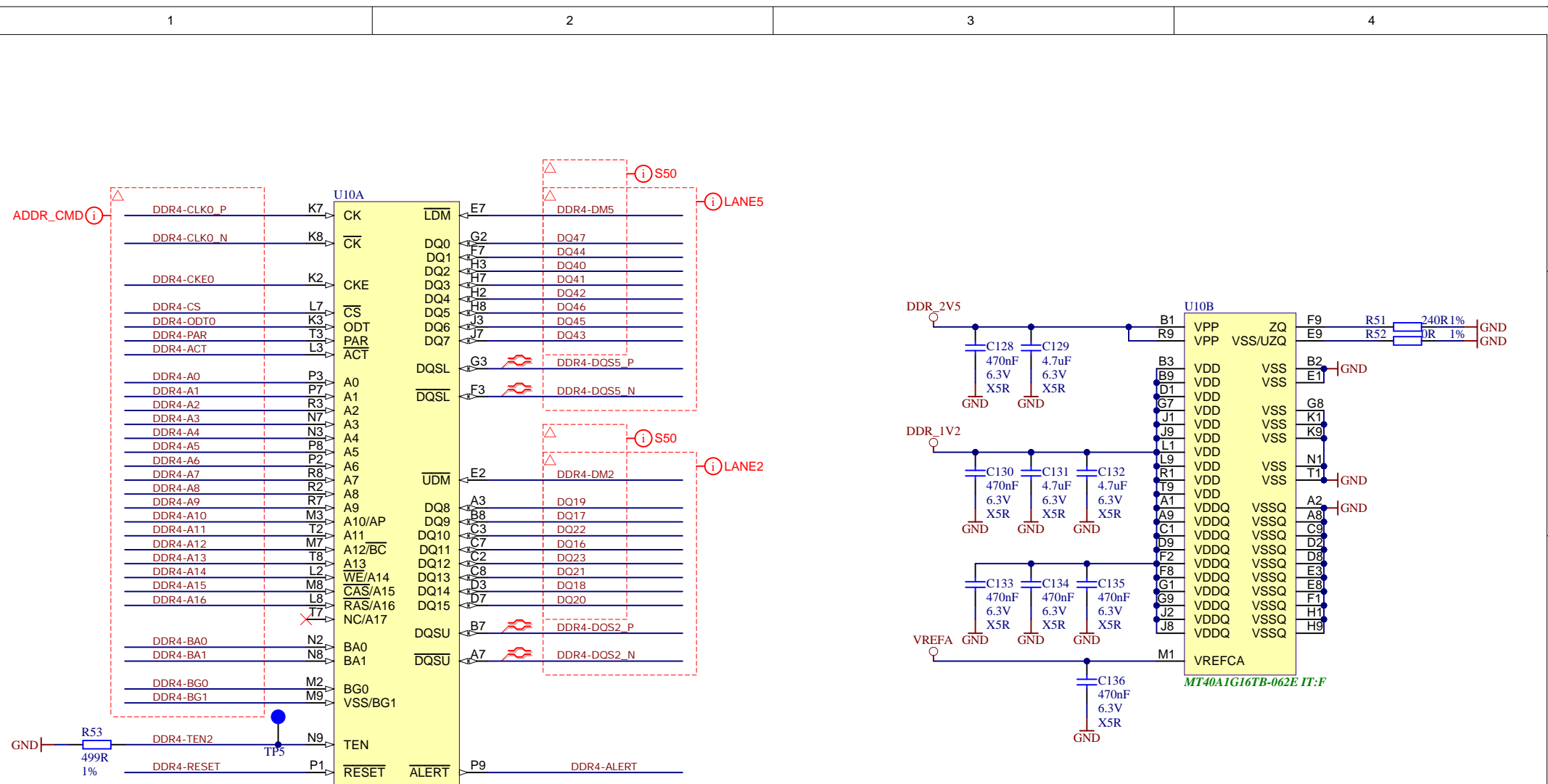
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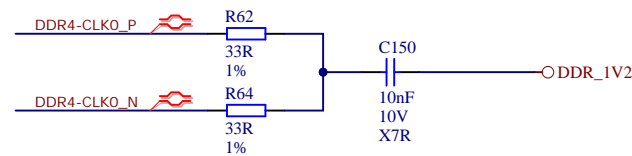
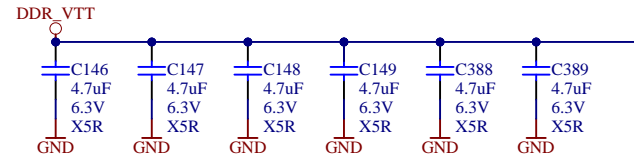
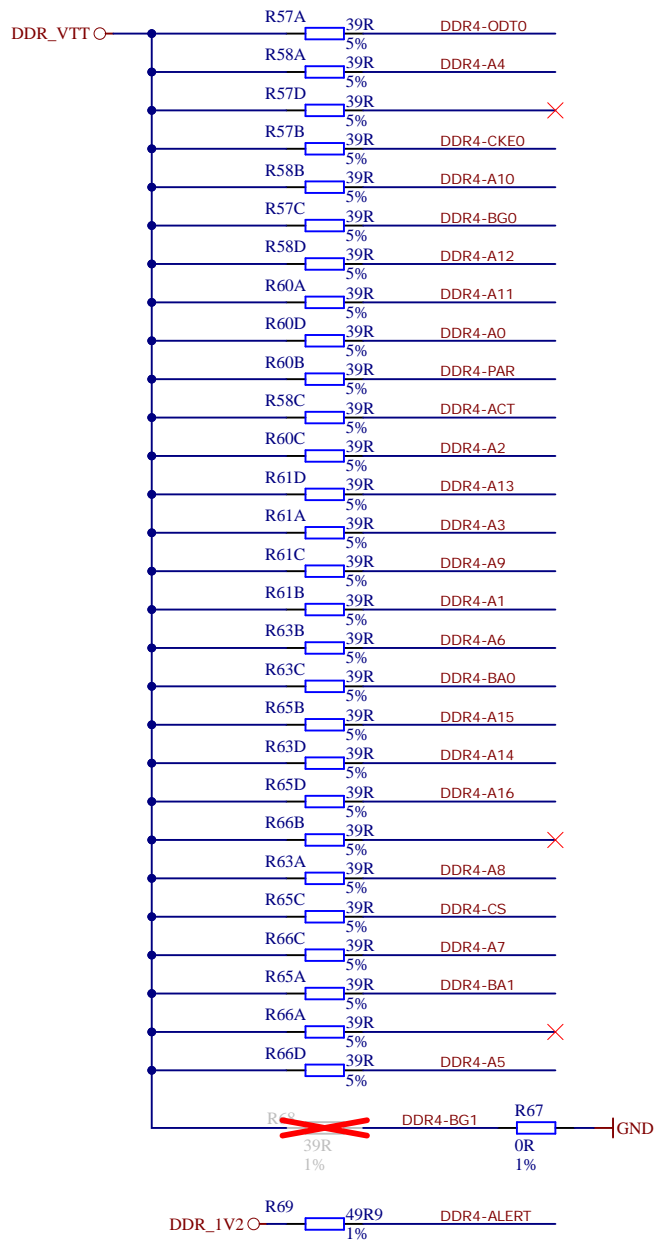
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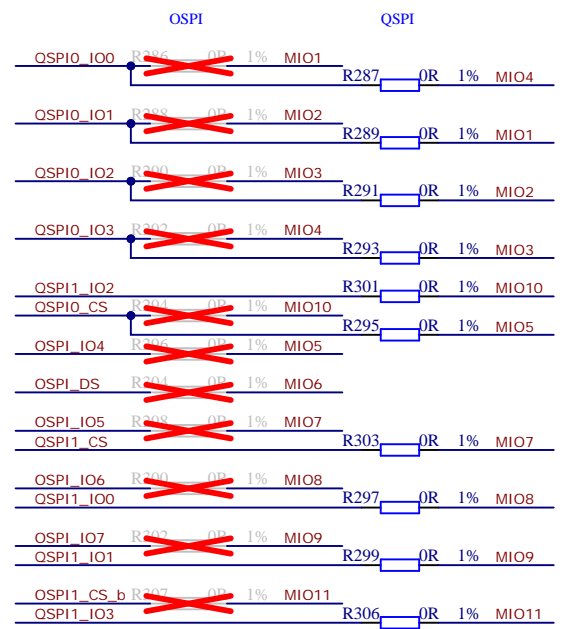
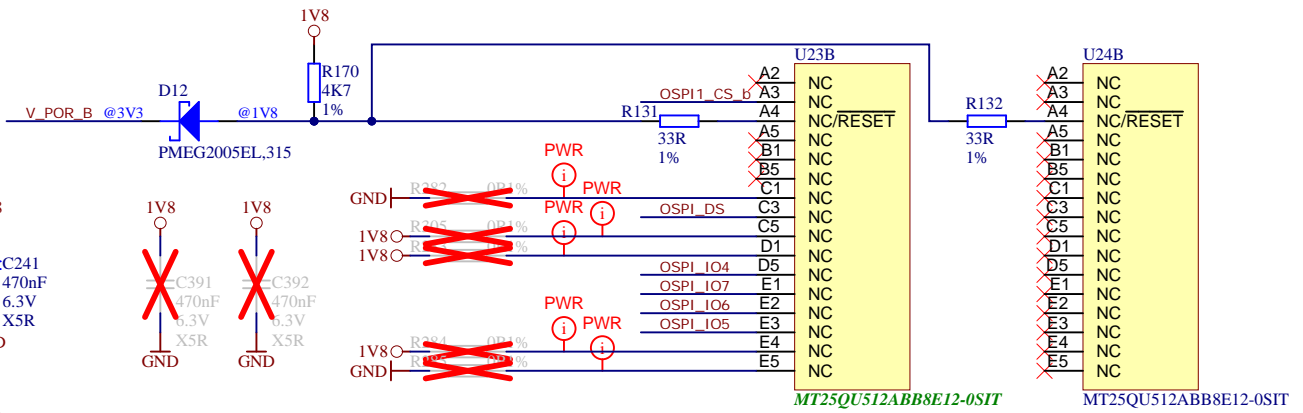
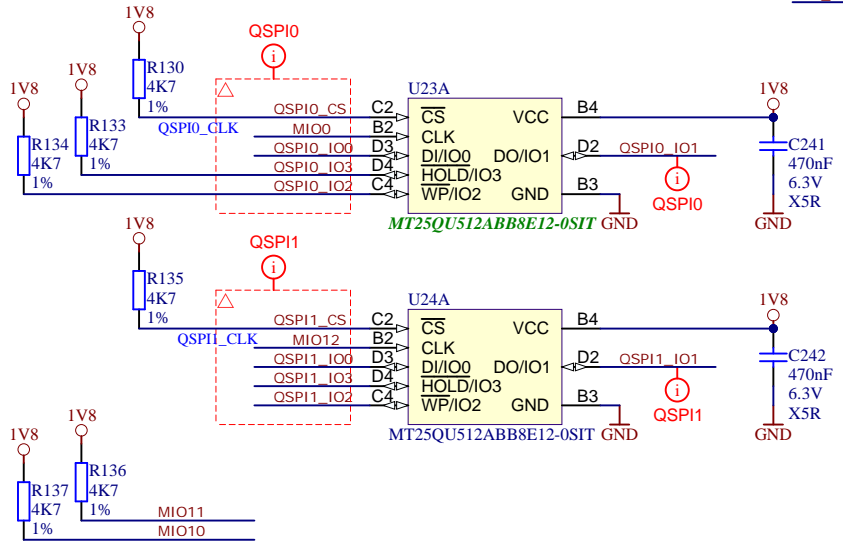


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Title: DDR4_TERM		
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Filename: DDR4_TERM.SchDoc		

Assembly version: 2x QSPI (dual parallel U23, U24) or OSPI (U23)

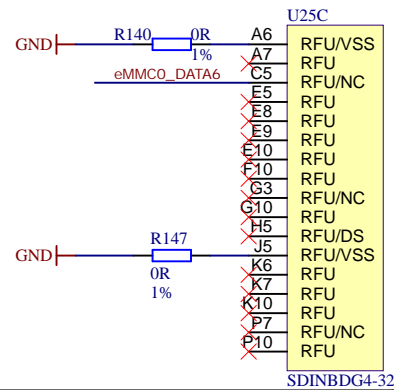
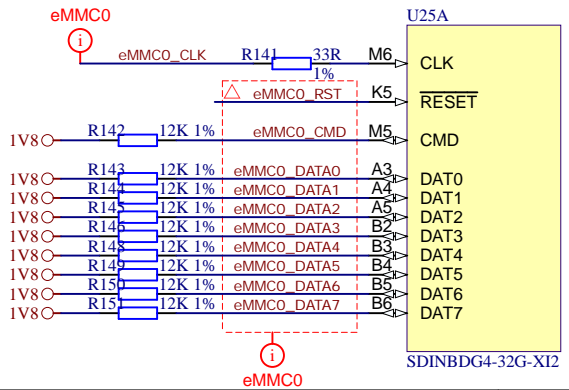
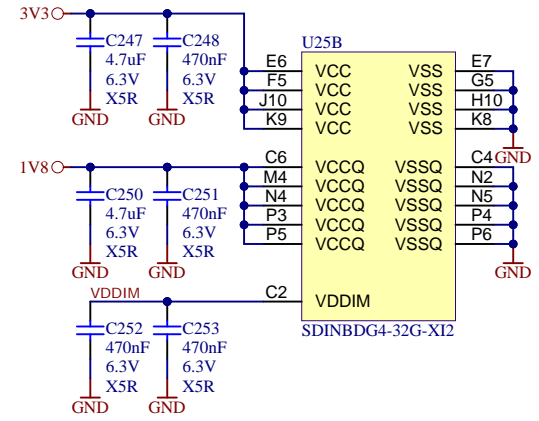
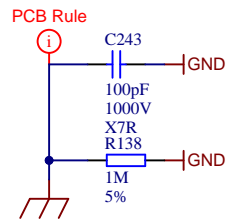
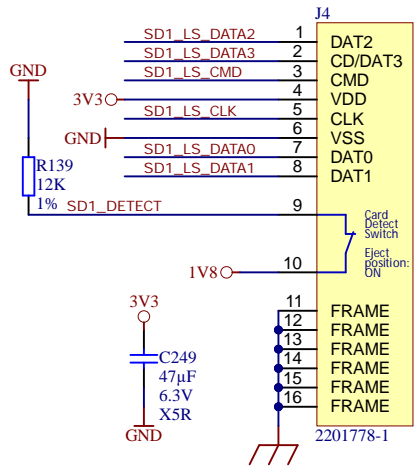
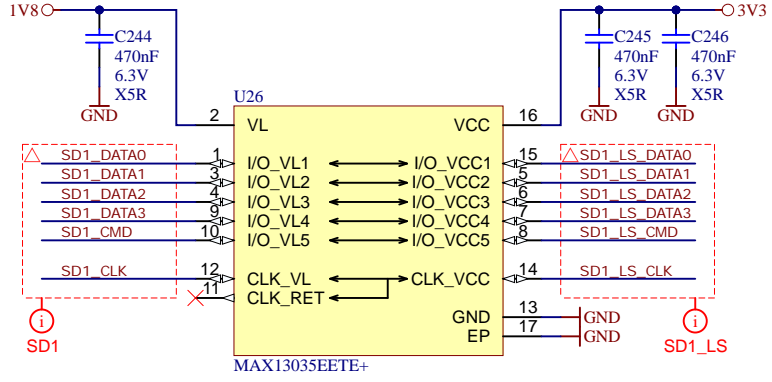


MIO	OSPI	PMC Bank 0	pull-up
MIO 0	OSPI: ospi_clk		
MIO 1	OSPI: ospi_io[0]		
MIO 2	OSPI: ospi_io[1]		
MIO 3	OSPI: ospi_io[2]		
MIO 4	OSPI: ospi_io[3]		
MIO 5	OSPI: ospi_io[4]		
MIO 6	OSPI: ospi_ds		
MIO 7	OSPI: ospi_io[5]		
MIO 8	OSPI: ospi_io[6]		
MIO 9	OSPI: ospi_io[7]		
MIO 10	OSPI: ospi_cs_b	R137 installed	
MIO 11	OSPI: ospi1_cs_b	R136 installed	
MIO 12			

MIO	QSPI	PMC Bank 0	pull-up
MIO 0	QSPI: qspi0_clk		
MIO 1	QSPI: qspi0_io[1]		
MIO 2	QSPI: qspi0_io[2]		
MIO 3	QSPI: qspi0_io[3]	R134 installed	
MIO 4	QSPI: qspi0_io[0]	R133 installed	
MIO 5	QSPI: qspi0_cs_b	R130 installed	
MIO 6	Reserved		
MIO 7	QSPI: qspi1_cs_b	R135 installed	
MIO 8	QSPI: qspi1_io[0]		
MIO 9	QSPI: qspi1_io[1]		
MIO 10	QSPI: qspi1_io[2]	R137 installed	
MIO 11	QSPI: qspi1_io[3]	R136 installed	
MIO 12	QSPI: qspi1_clk		



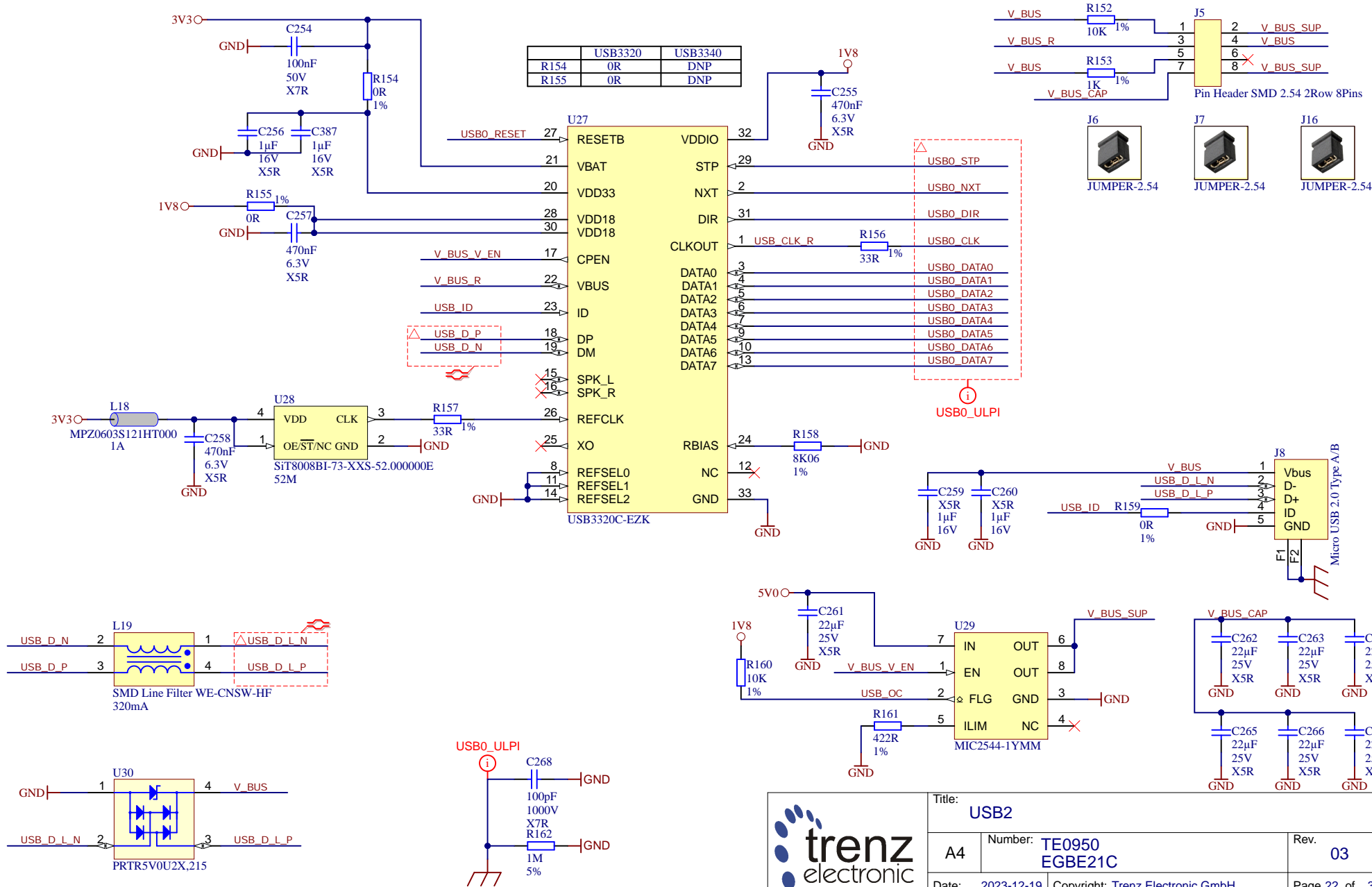
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Filename: QSPI_OSPI.SchDoc		

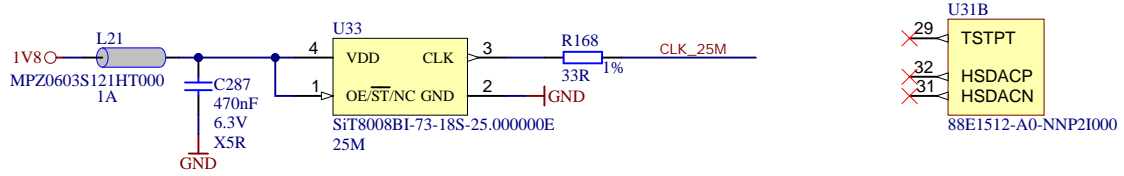
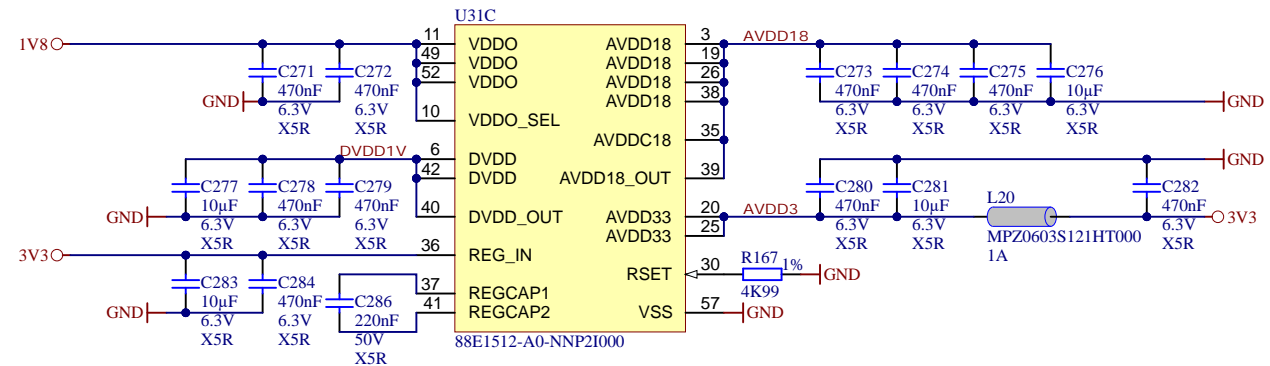
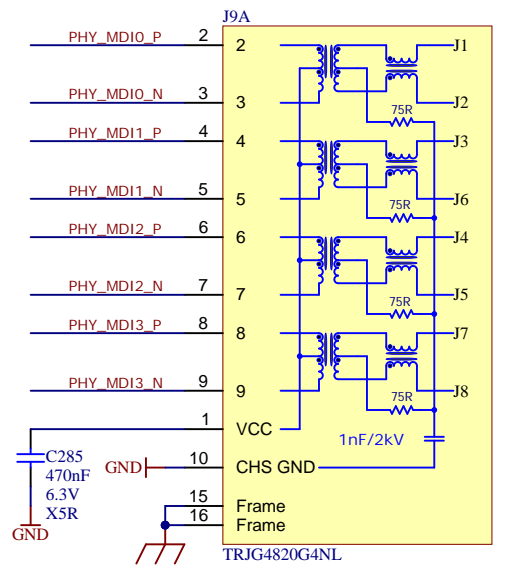
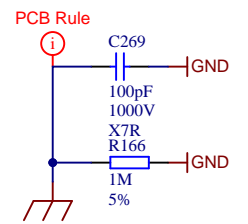
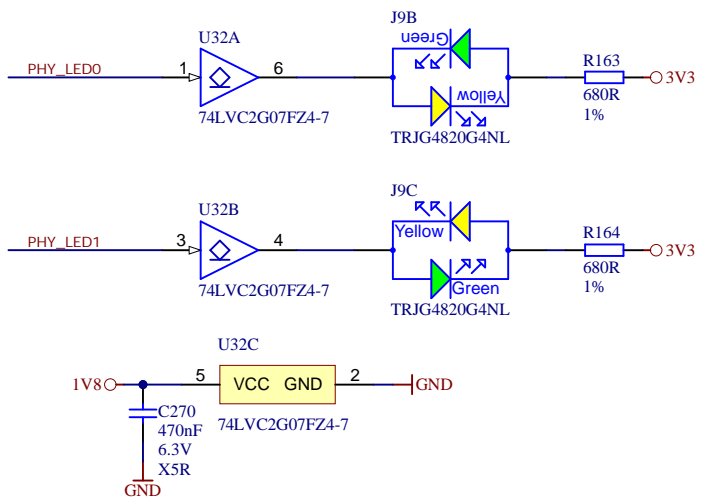
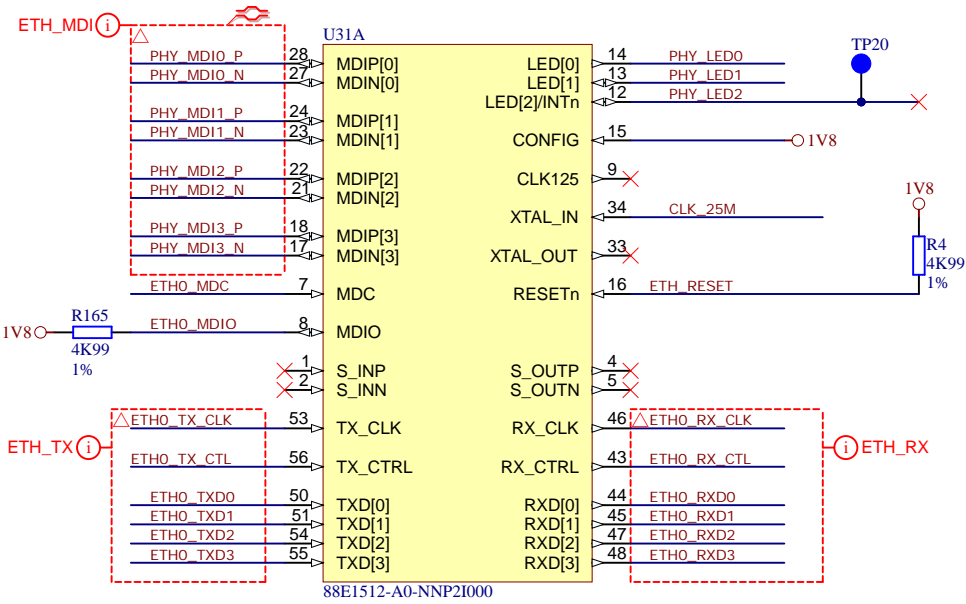


U25D		U25D	
eMMC0_DATA4	A1	NC	NC
	A2	NC	NC
	A8	NC	NC
	A9	NC	NC
	A10	NC	NC
	A11	NC	NC
	A12	NC	NC
	A13	NC	NC
	A14	NC	NC
eMMC0_DATA3	B1	NC	NC
eMMC0_DATA7	B7	NC	NC
eMMC0_DATA7	B8	NC	NC
	B9	NC	NC
	B10	NC	NC
	B11	NC	NC
	B12	NC	NC
	B13	NC	NC
	B14	NC	NC
VDDIM	C1	NC	NC
eMMC0_DATA5	C3	NC	NC
1V8	C7	NC	NC
eMMC0_DATA7	C8	NC	NC
	C9	NC	NC
	C10	NC	NC
	C11	NC	NC
	C12	NC	NC
	C13	NC	NC
	C14	NC	NC
eMMC0_DATA5	D1	NC	NC
eMMC0_DATA5	D2	NC	NC
	D3	NC	NC
	D4	NC	NC
	D12	NC	NC
	D13	NC	NC
	D14	NC	NC
	E1	NC	NC
	E2	NC	NC
	E3	NC	NC
	E12	NC	NC
	E13	NC	NC
	E14	NC	NC
	F1	NC	NC
	F2	NC	NC
	F3	NC	NC
	F12	NC	NC
	F13	NC	NC
	F14	NC	NC
	G1	NC	NC
	G2	NC	NC
	G12	NC	NC
	G13	NC	NC
	G14	NC	NC
	H1	NC	NC
	H2	NC	NC
	H3	NC	NC
	H13	NC	NC
	H14	NC	NC
	J1	NC	NC
	J2	NC	NC
	J3	NC	NC
	J12	NC	NC
	J13	NC	NC
	J14	NC	NC
	K1	NC	NC
	K2	NC	NC
	K3	NC	NC
	K12	NC	NC
	K13	NC	NC
	K14	NC	NC
	L1	NC	NC
	L2	NC	NC
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	L12	NC	NC
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	L14	NC	NC
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	N3	NC	NC
	N6	NC	NC
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	P1	NC	NC
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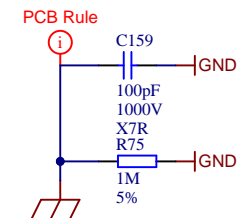
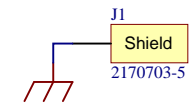
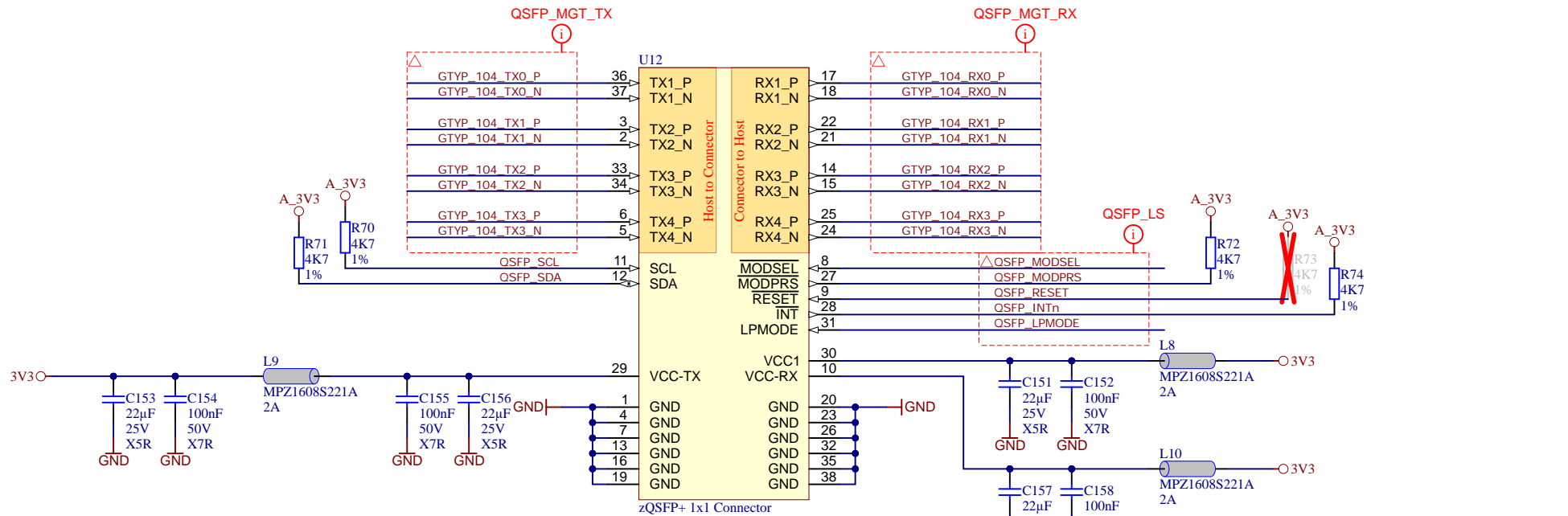


Title: SD_eMMC		Rev. 03	
A4	Number: TE0950 EGBE21C	Page 21 of 39	
Date: 2023-12-19	Copyright: Trenz Electronic GmbH	Filename: SD_eMMC.SchDoc	

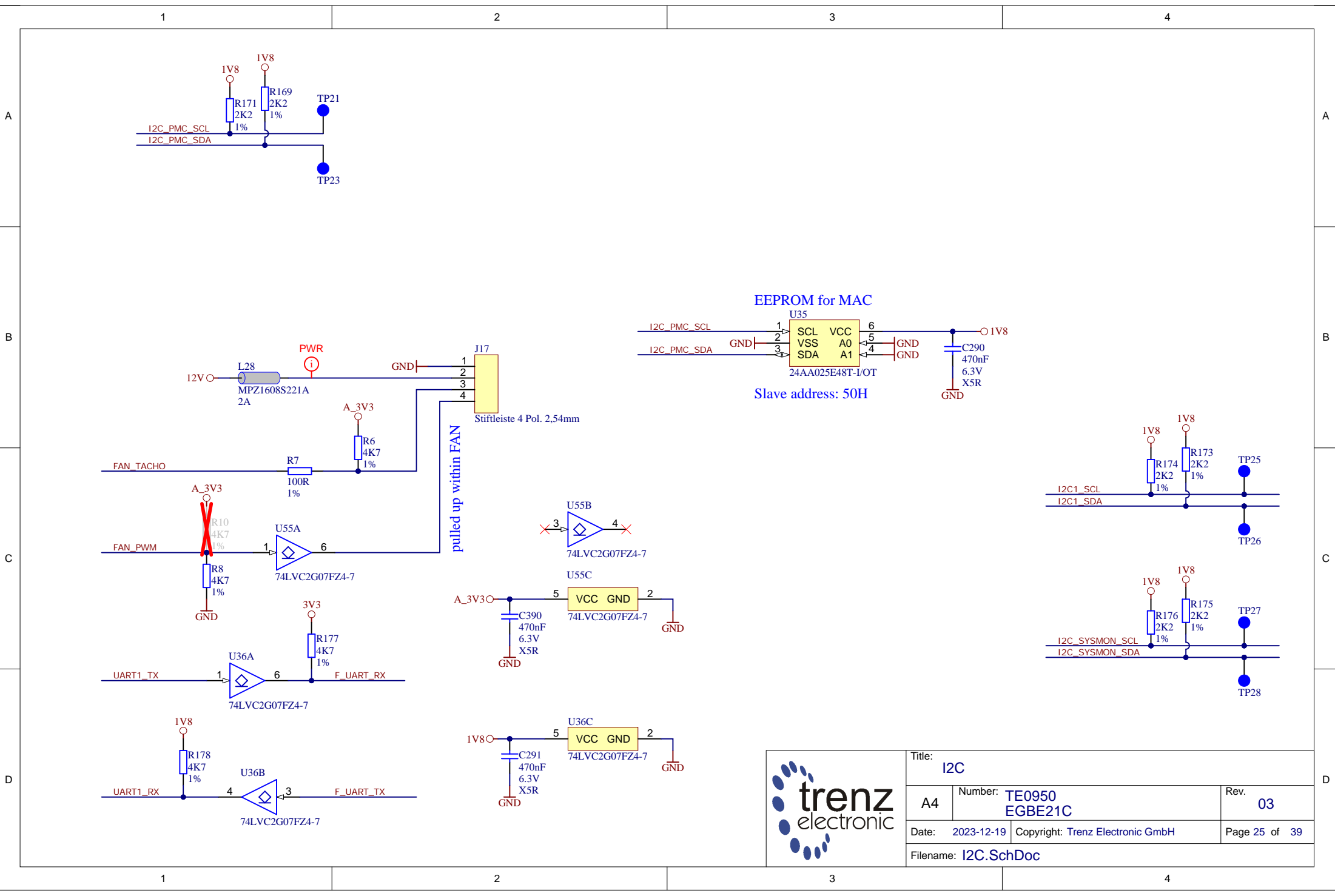




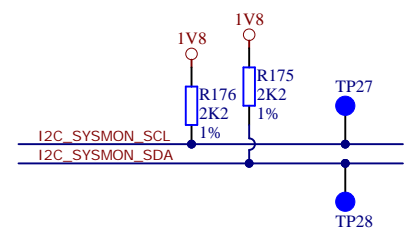
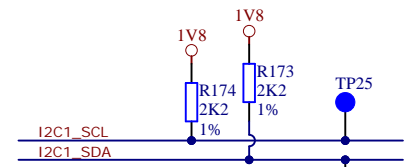
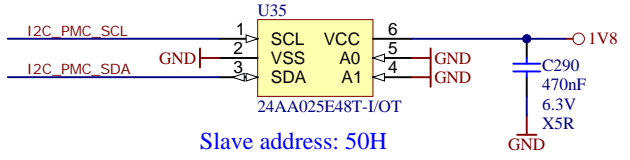
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Filename: GB_ETH.SchDoc		



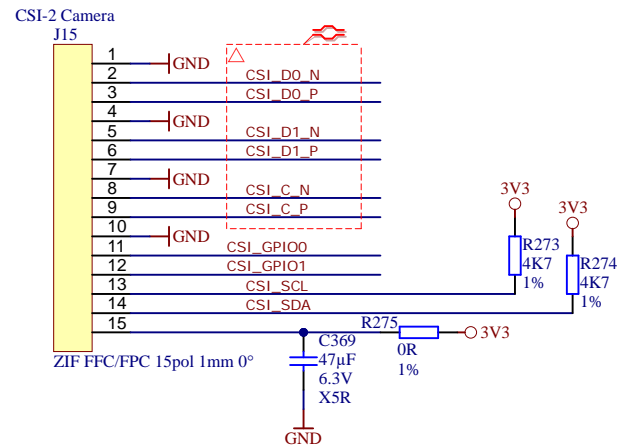
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Filename: QSFP.SchDoc		




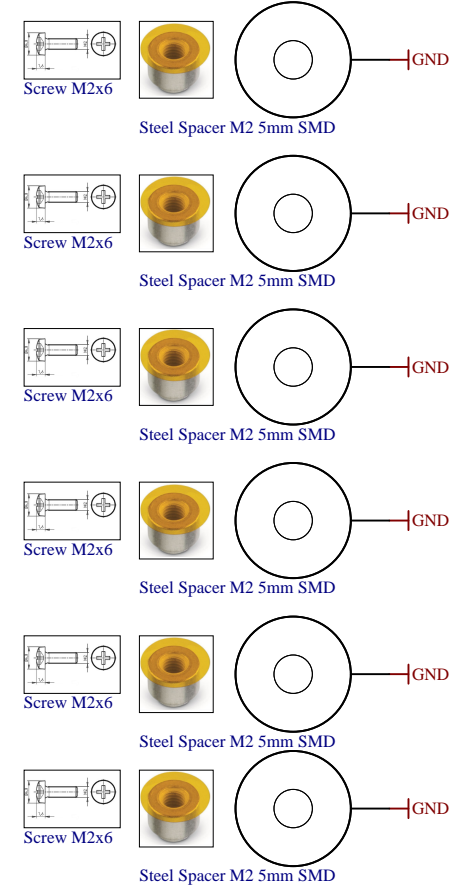
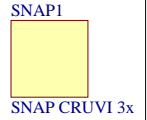
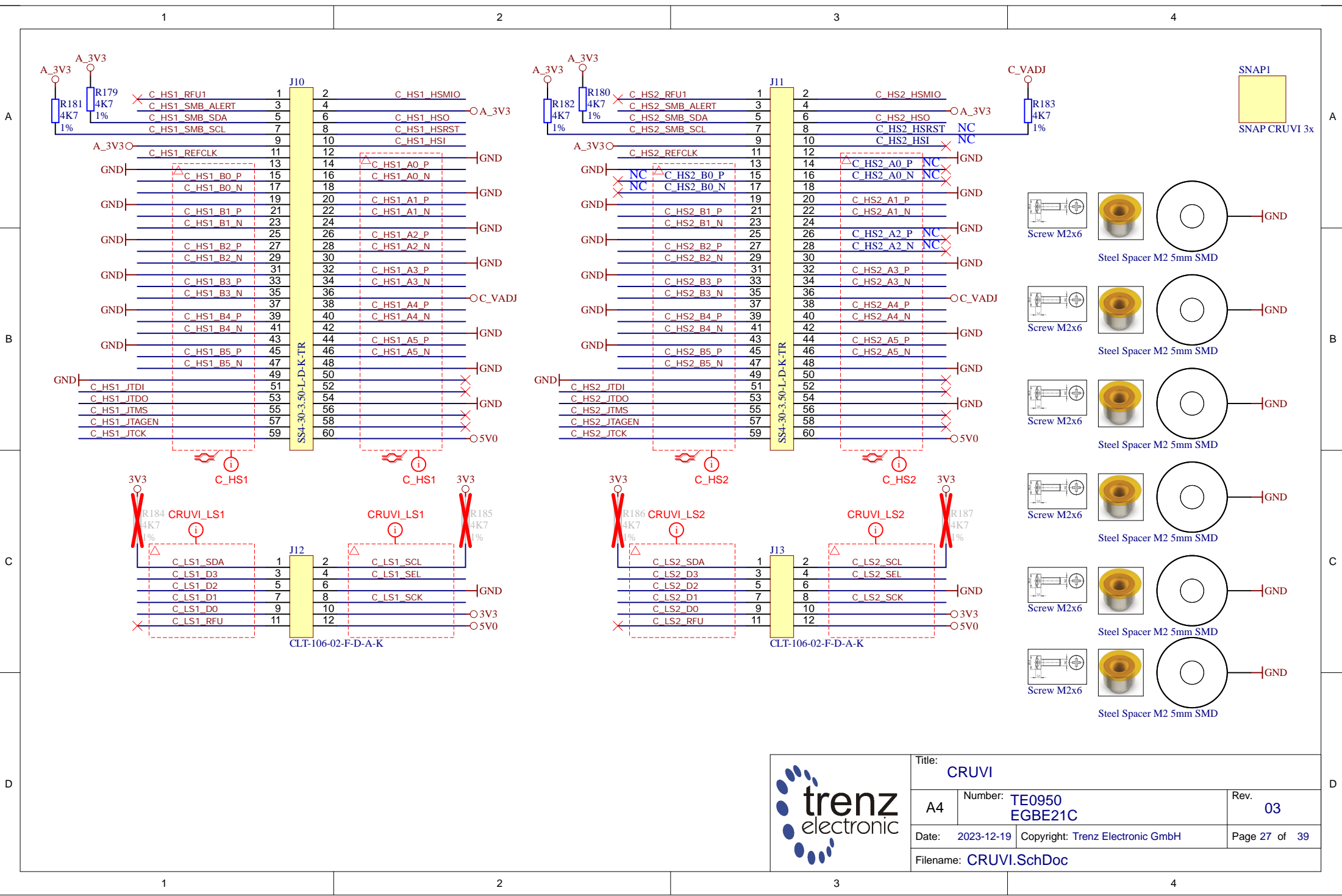
EEPROM for MAC



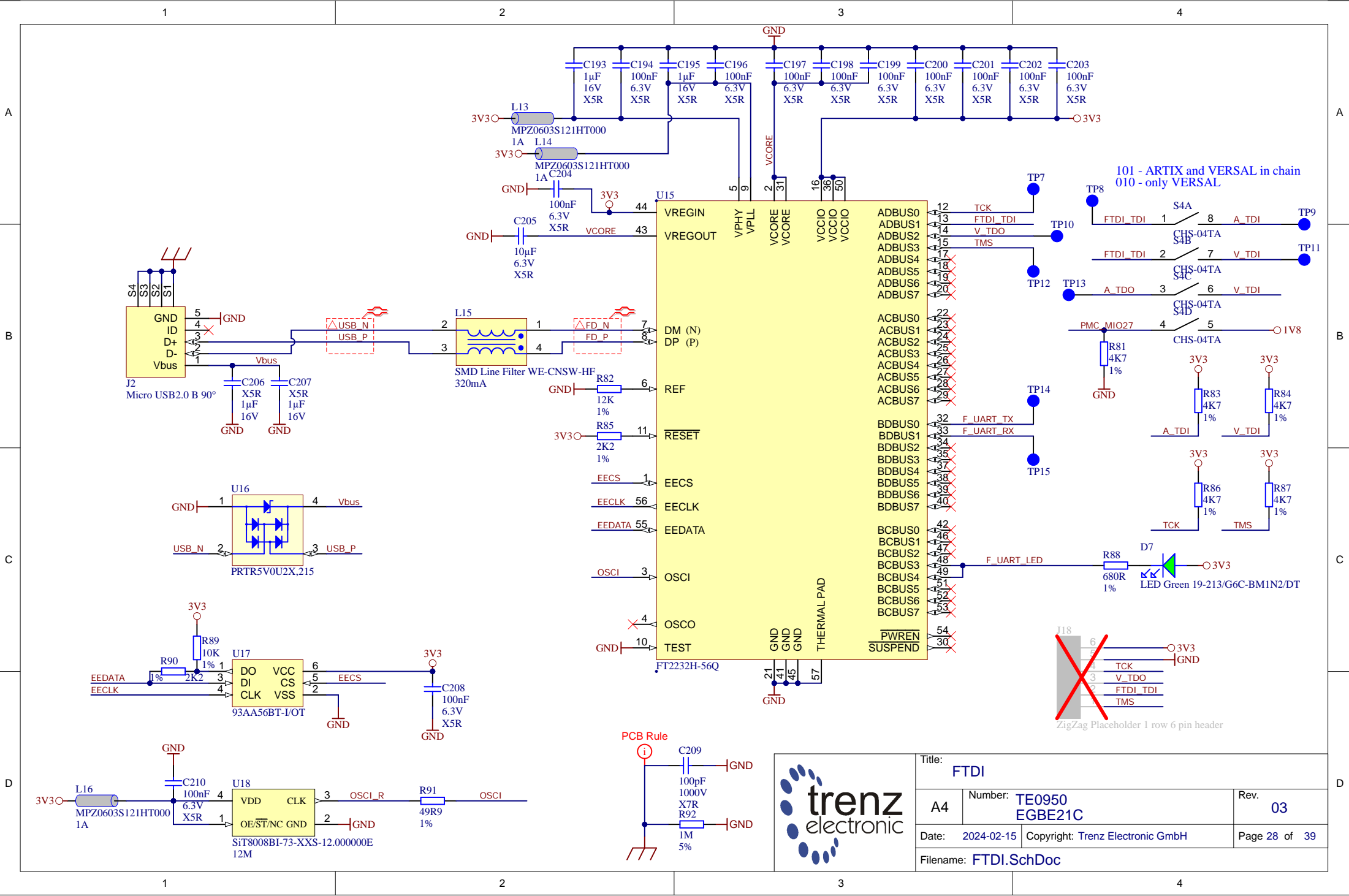
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Date: 2023-12-19	Copyright: Trenz Electronic GmbH	
Filename: I2C.SchDoc		Page 25 of 39



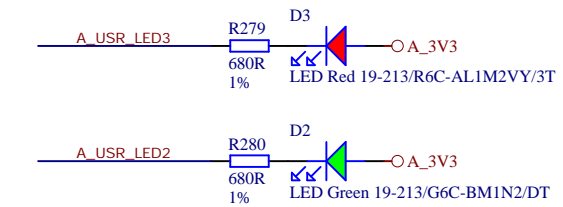
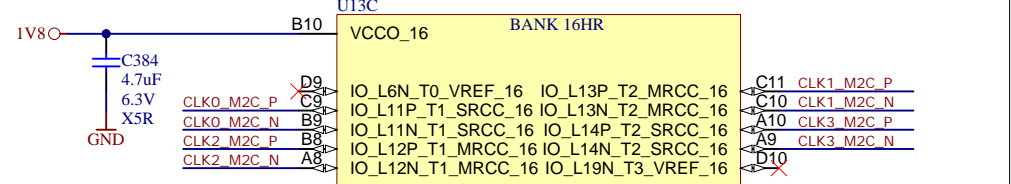
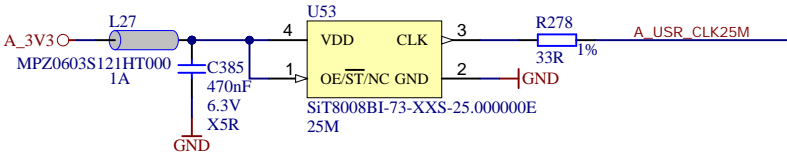
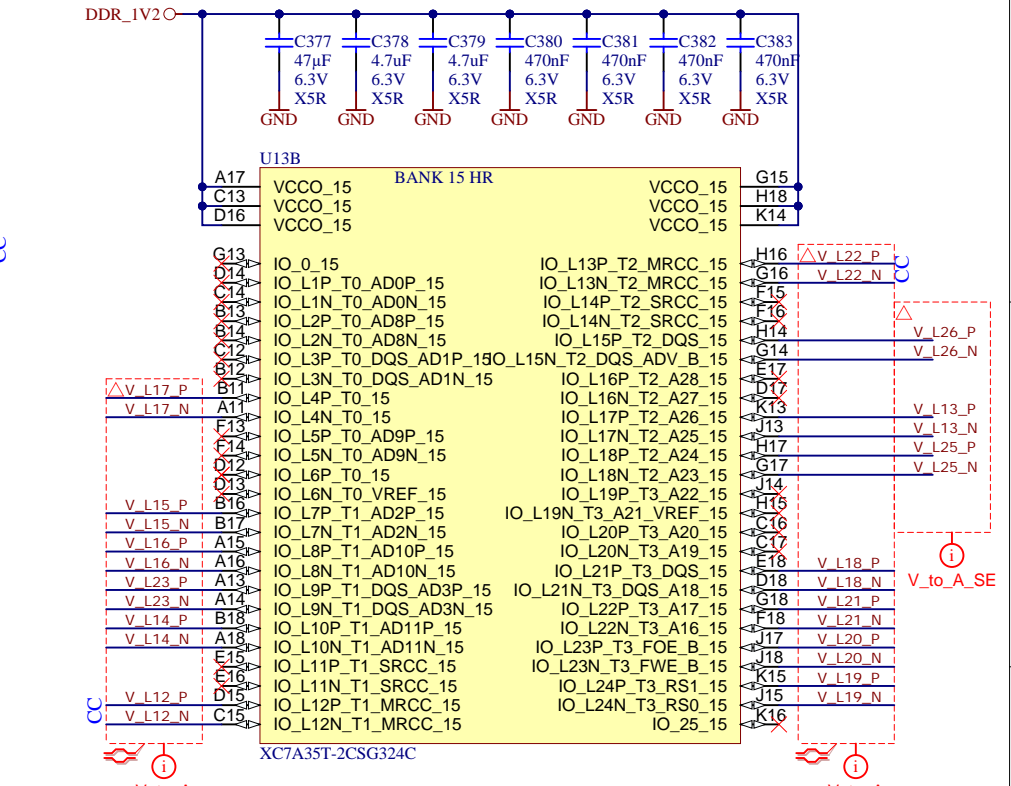
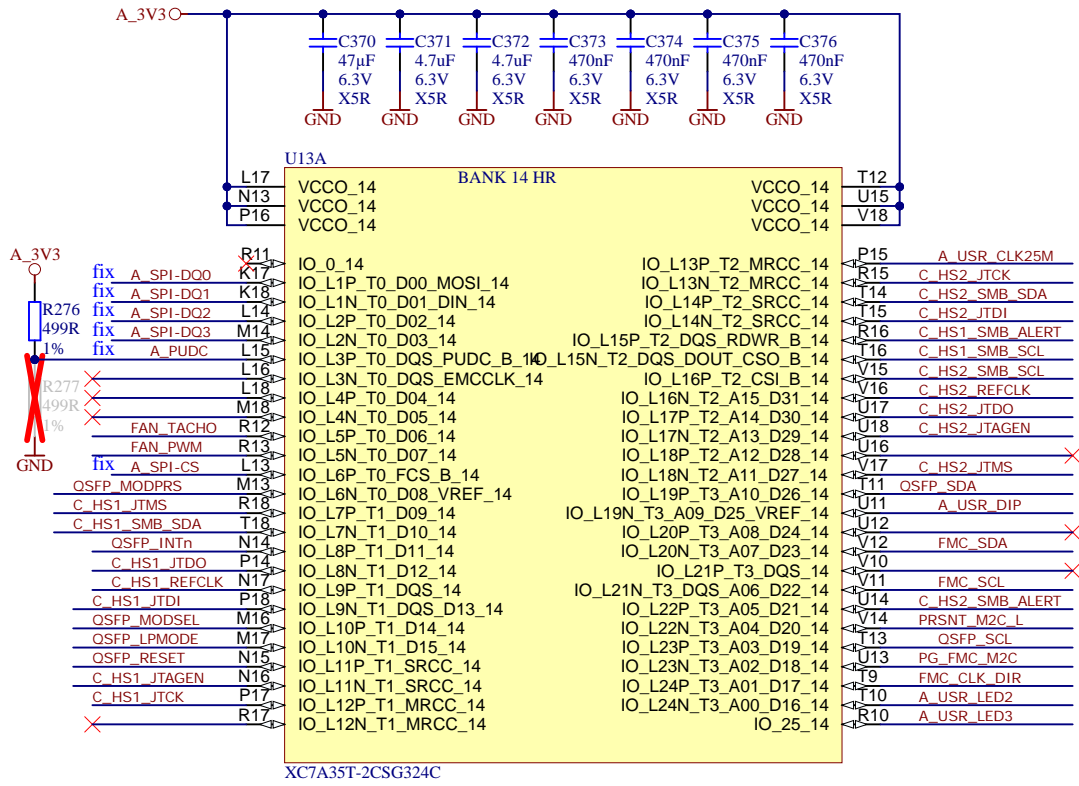
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	Date: 2023-12-19	Copyright: Trenz Electronic GmbH	
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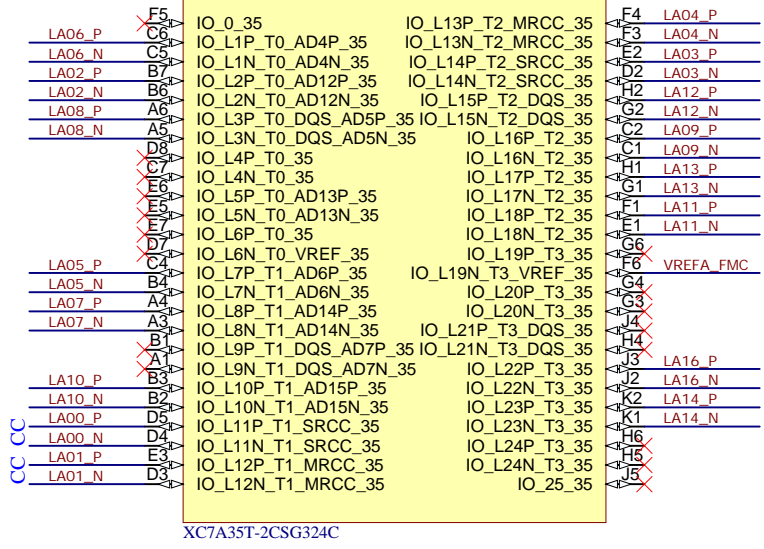
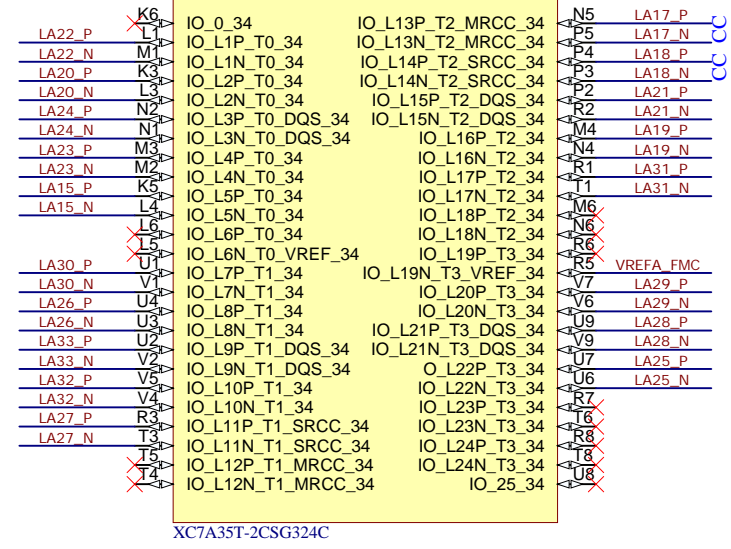
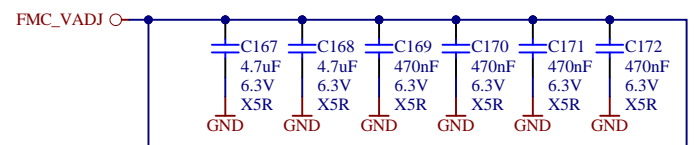
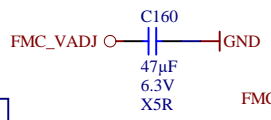
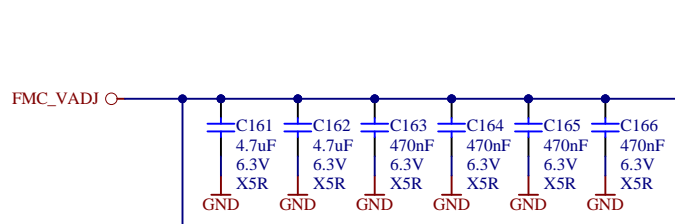
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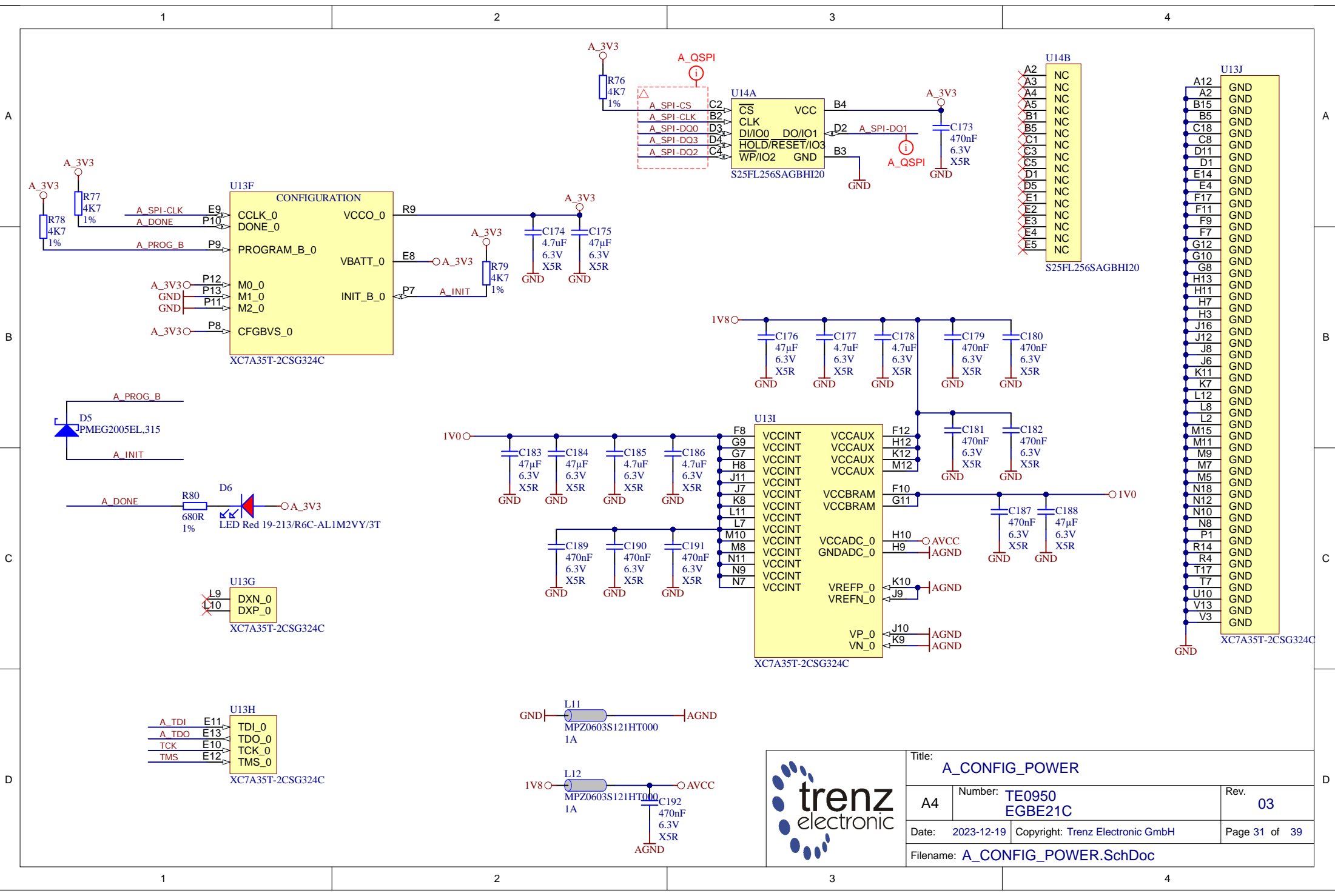
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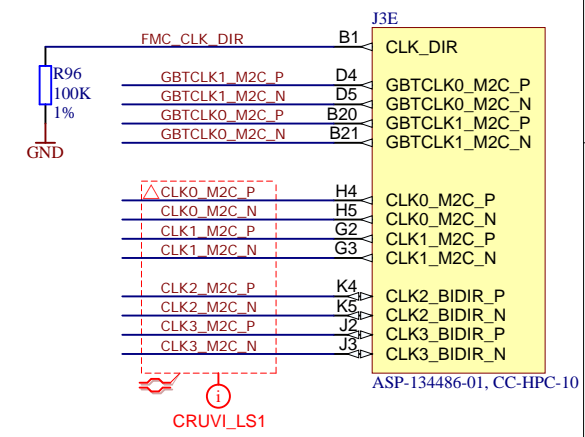
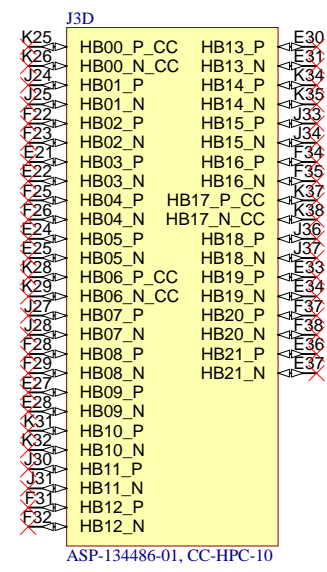
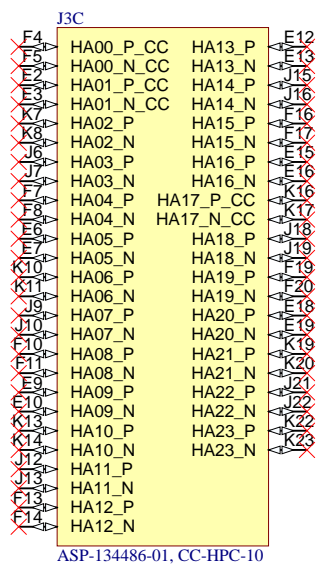
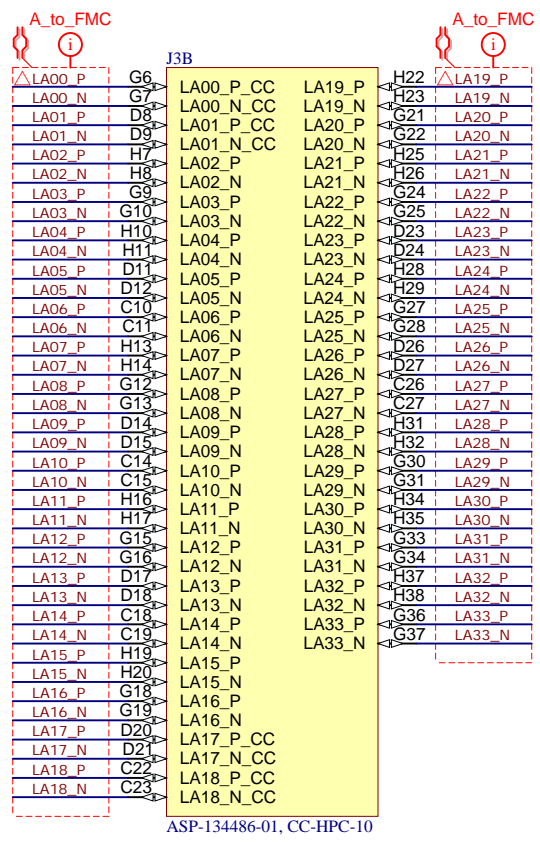
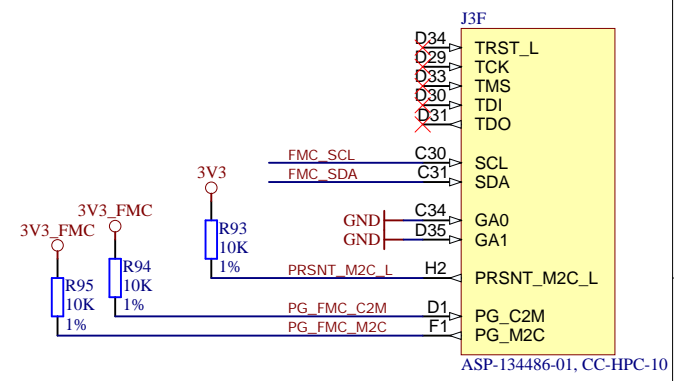
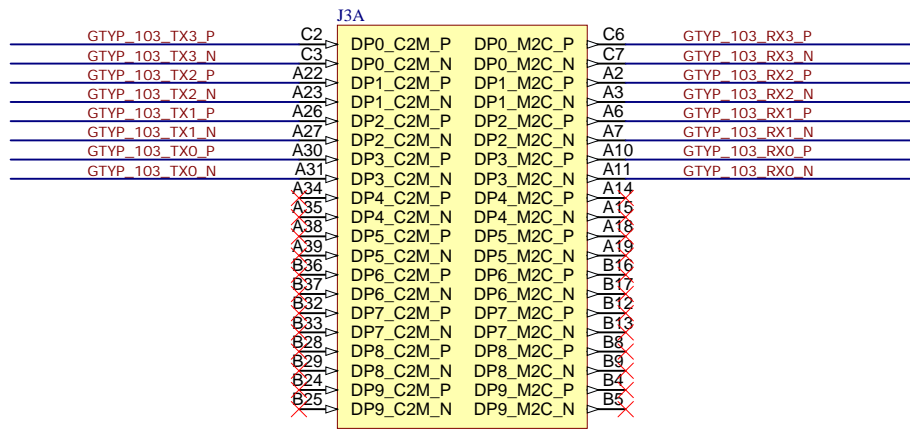
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Filename: A_HR_14_15_16.SchDoc		



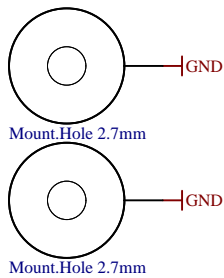
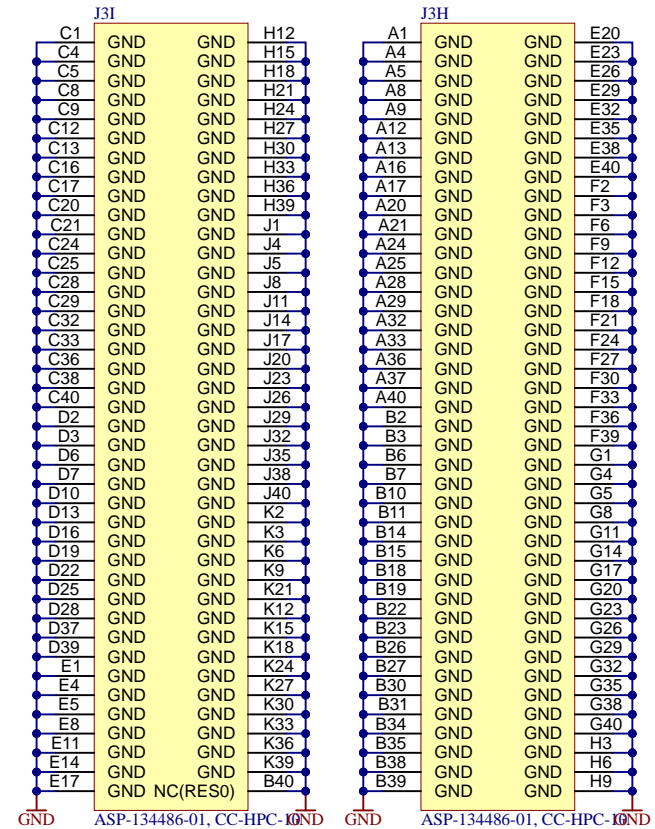
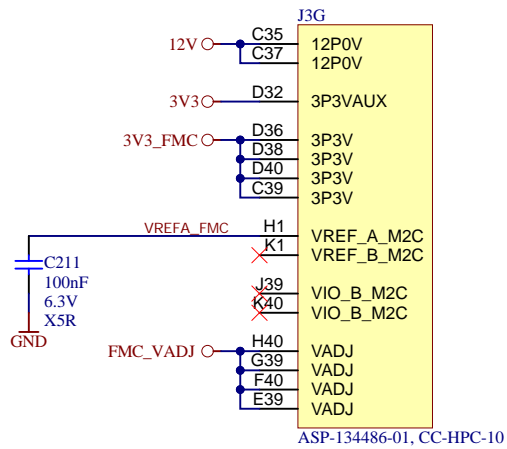
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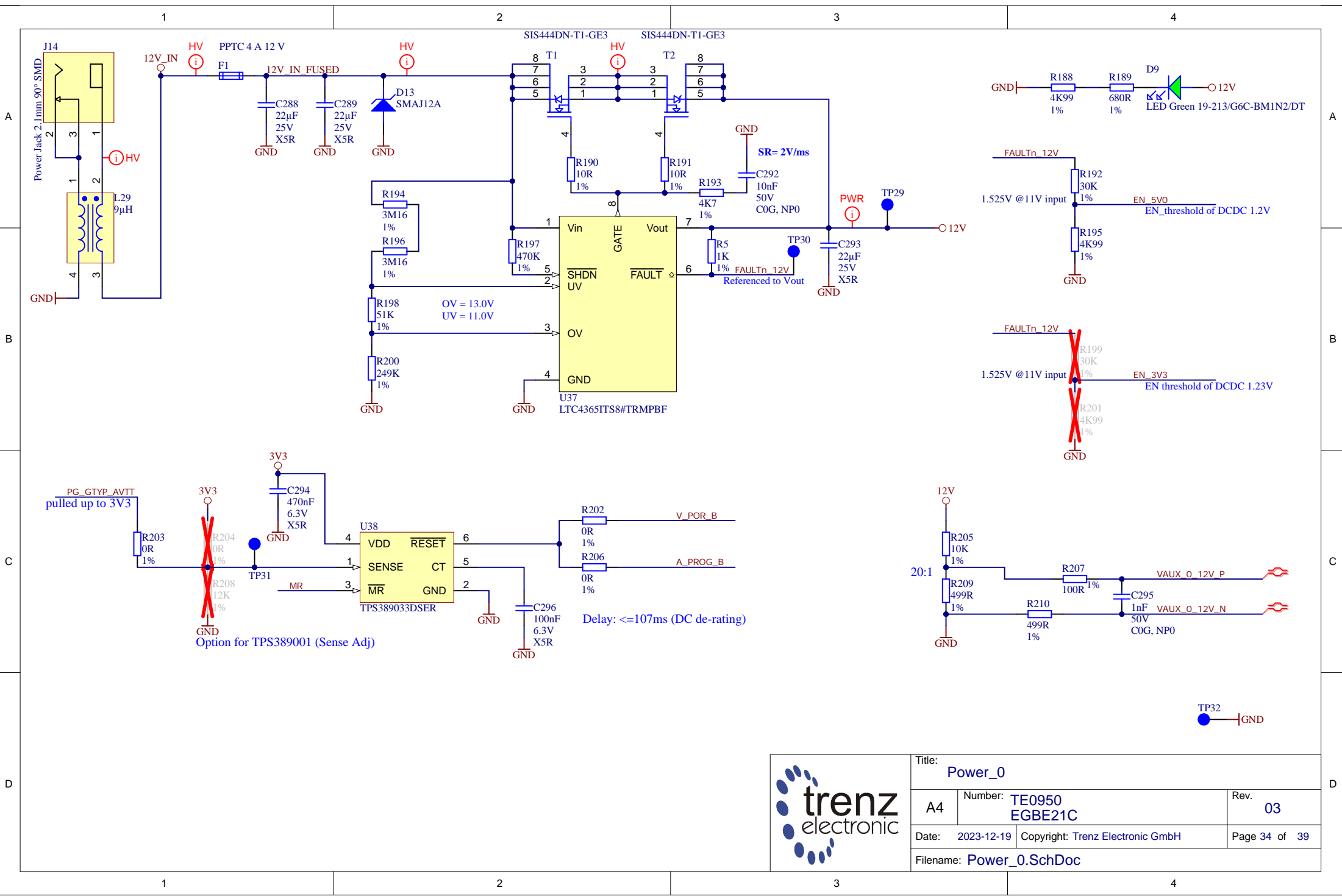
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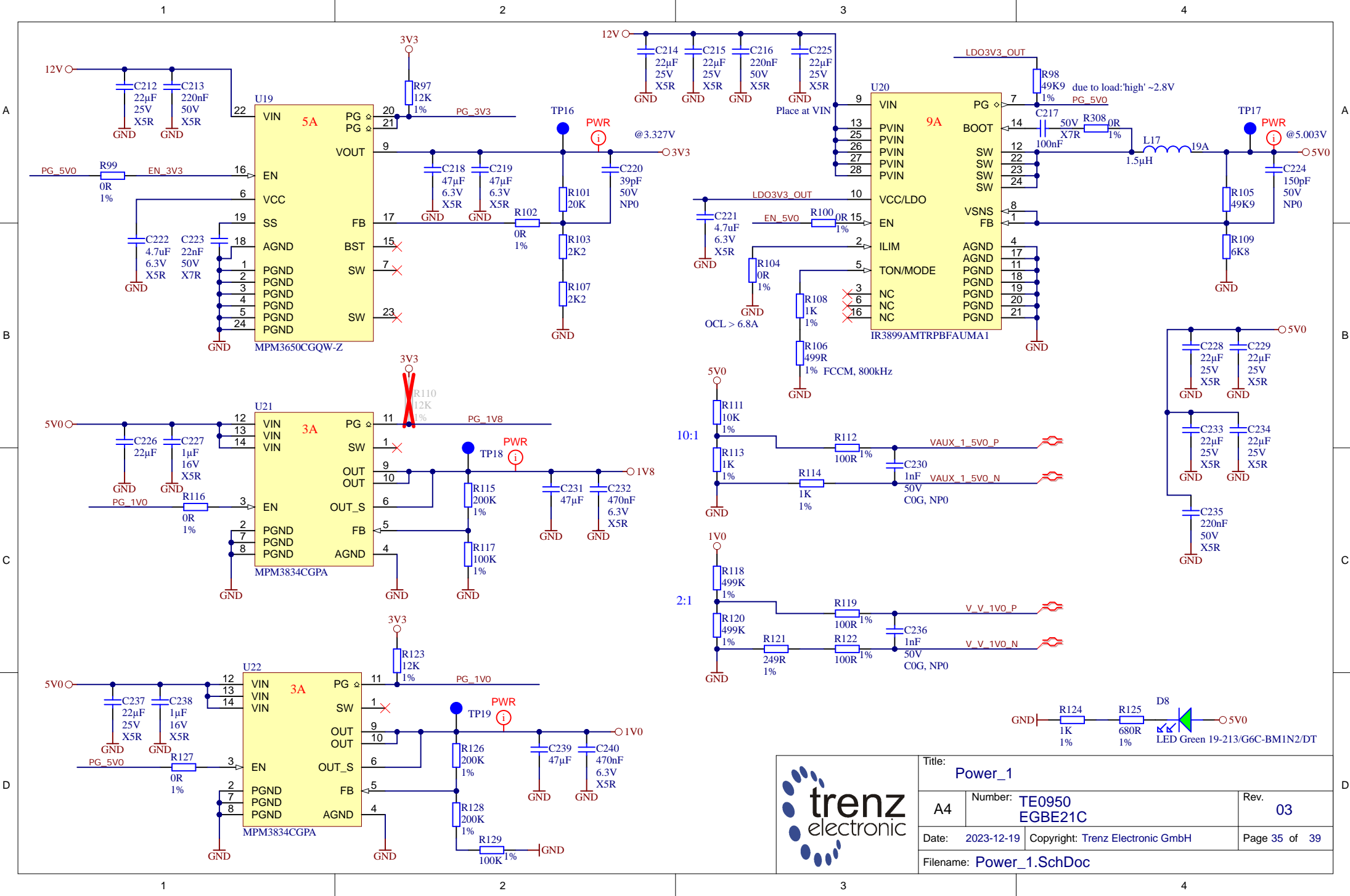
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Filename: FMC.SchDoc		



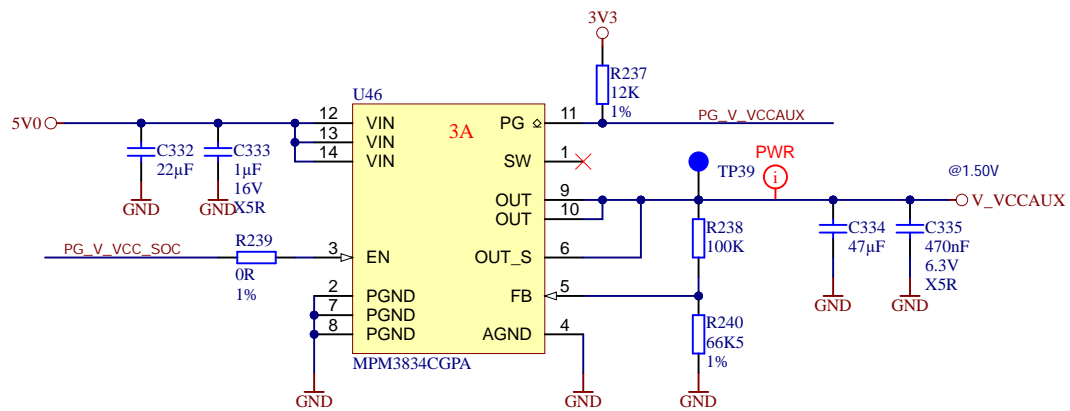
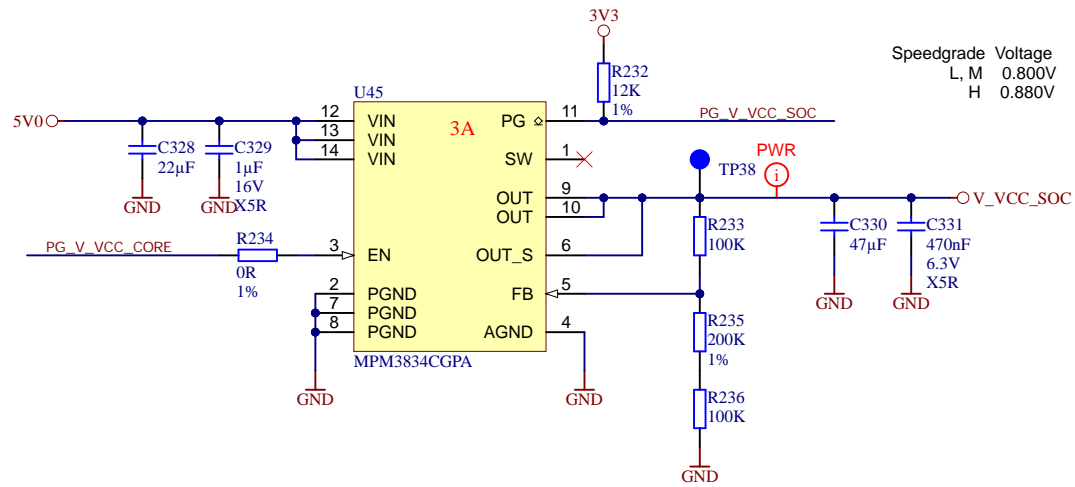
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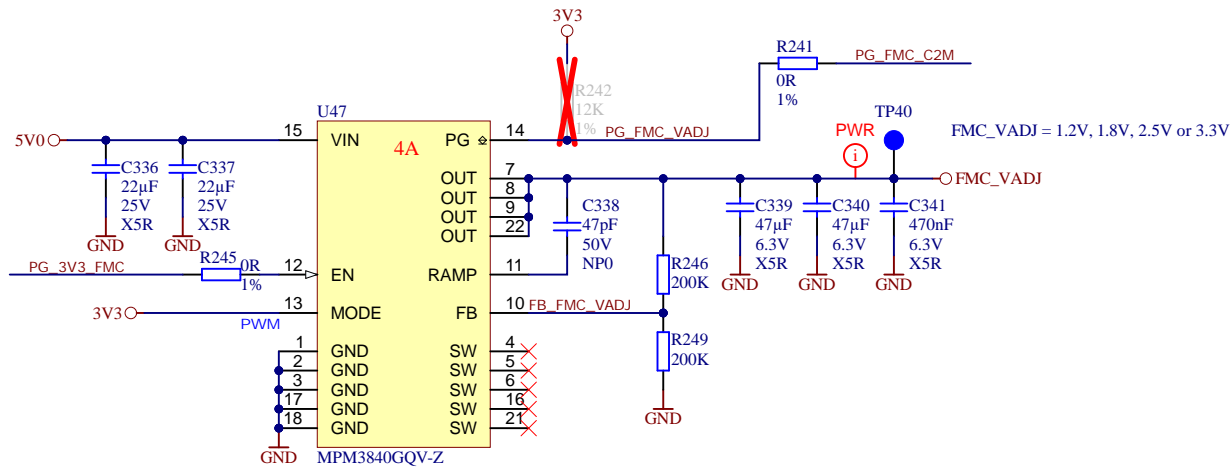
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A4	Number: TE0950 EGBE21C	Rev. 03
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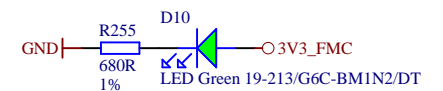
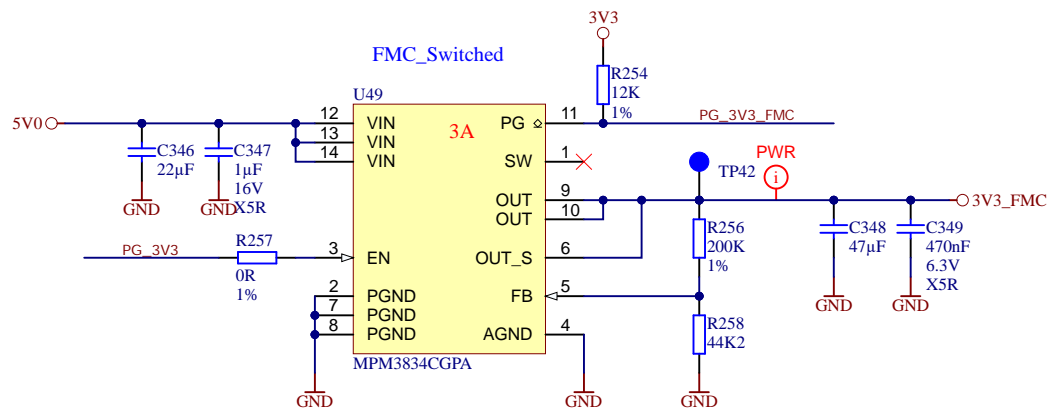
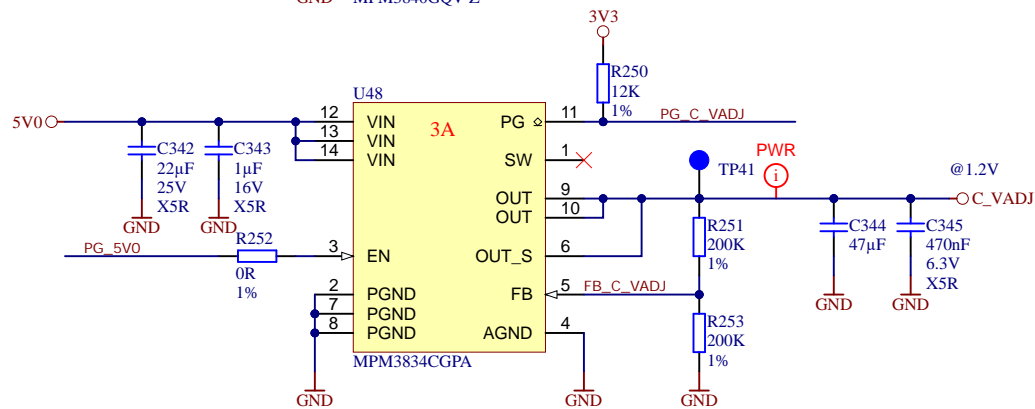
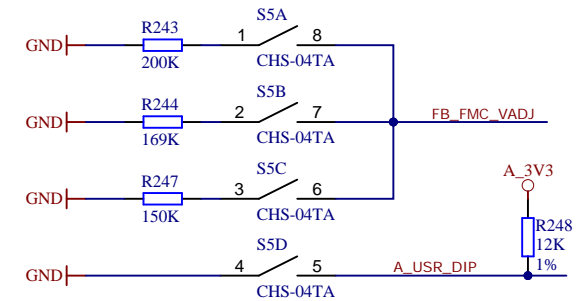
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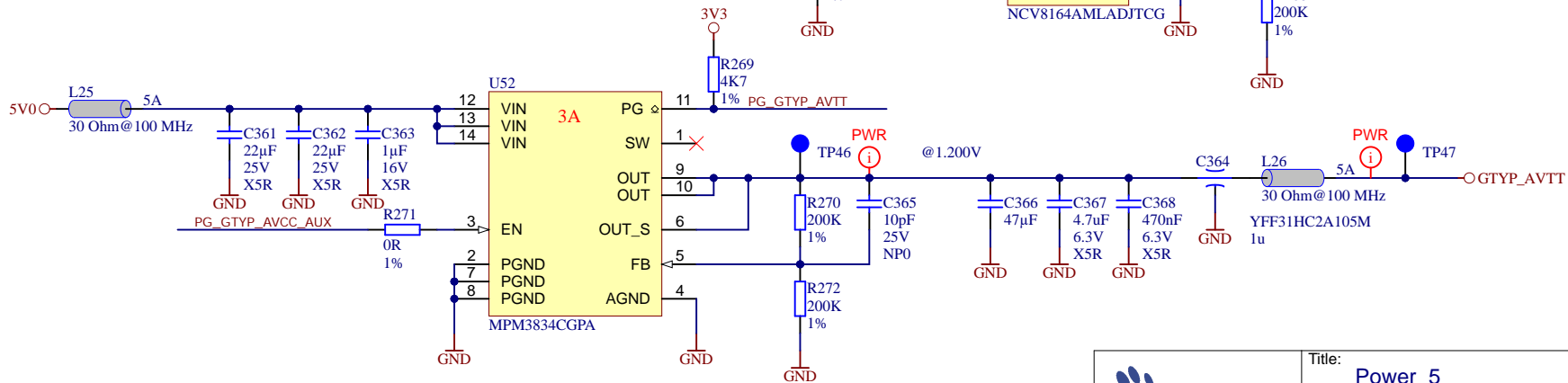
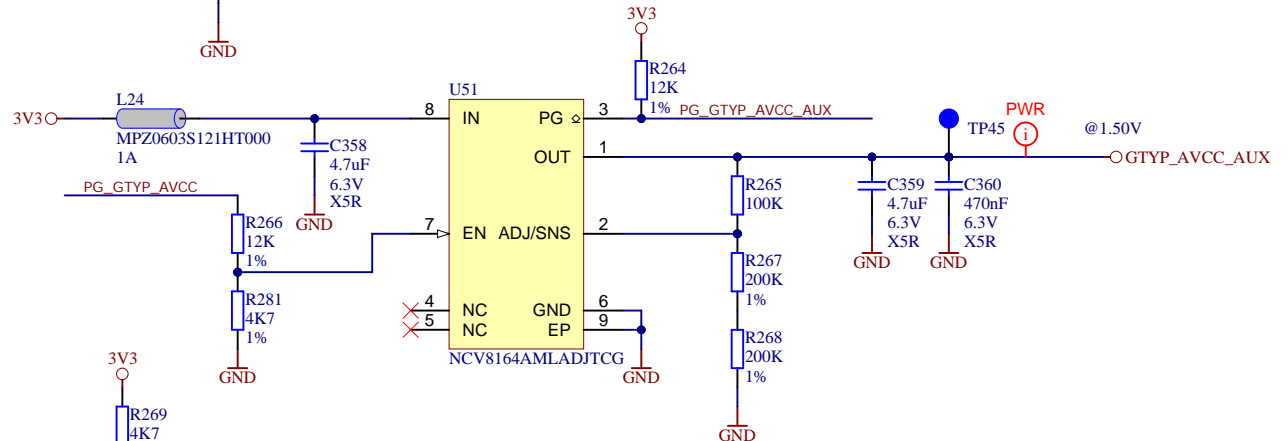
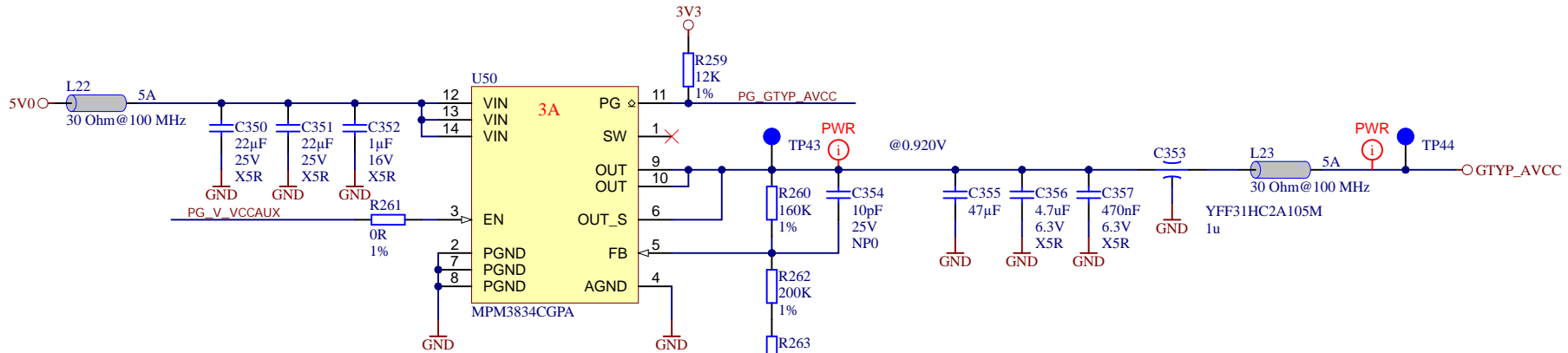
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1.2V 1.8V 2.5V 3.3V
 OFF ON ON ON
 OFF OFF ON ON
 OFF OFF OFF ON



Title: Power_4		
A4	Number: TE0950 EGBE21C	Rev. 03
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	Title: Power_5	
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	Date: 2023-12-19	Copyright: Trenz Electronic GmbH
	Filename: Power_5.SchDoc	
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