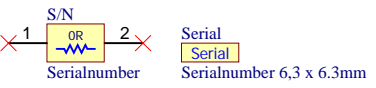
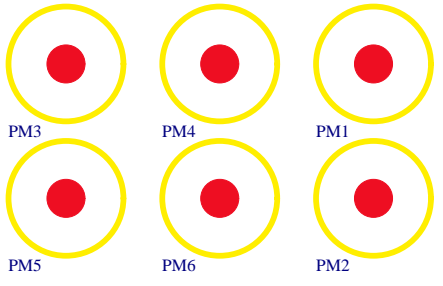
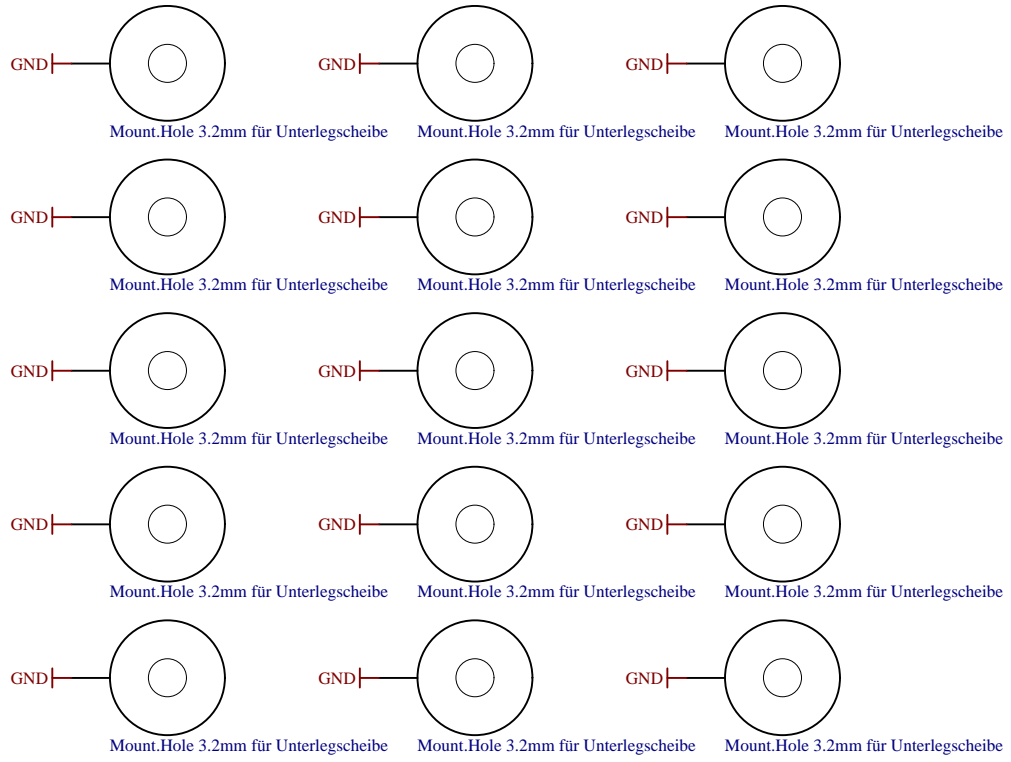



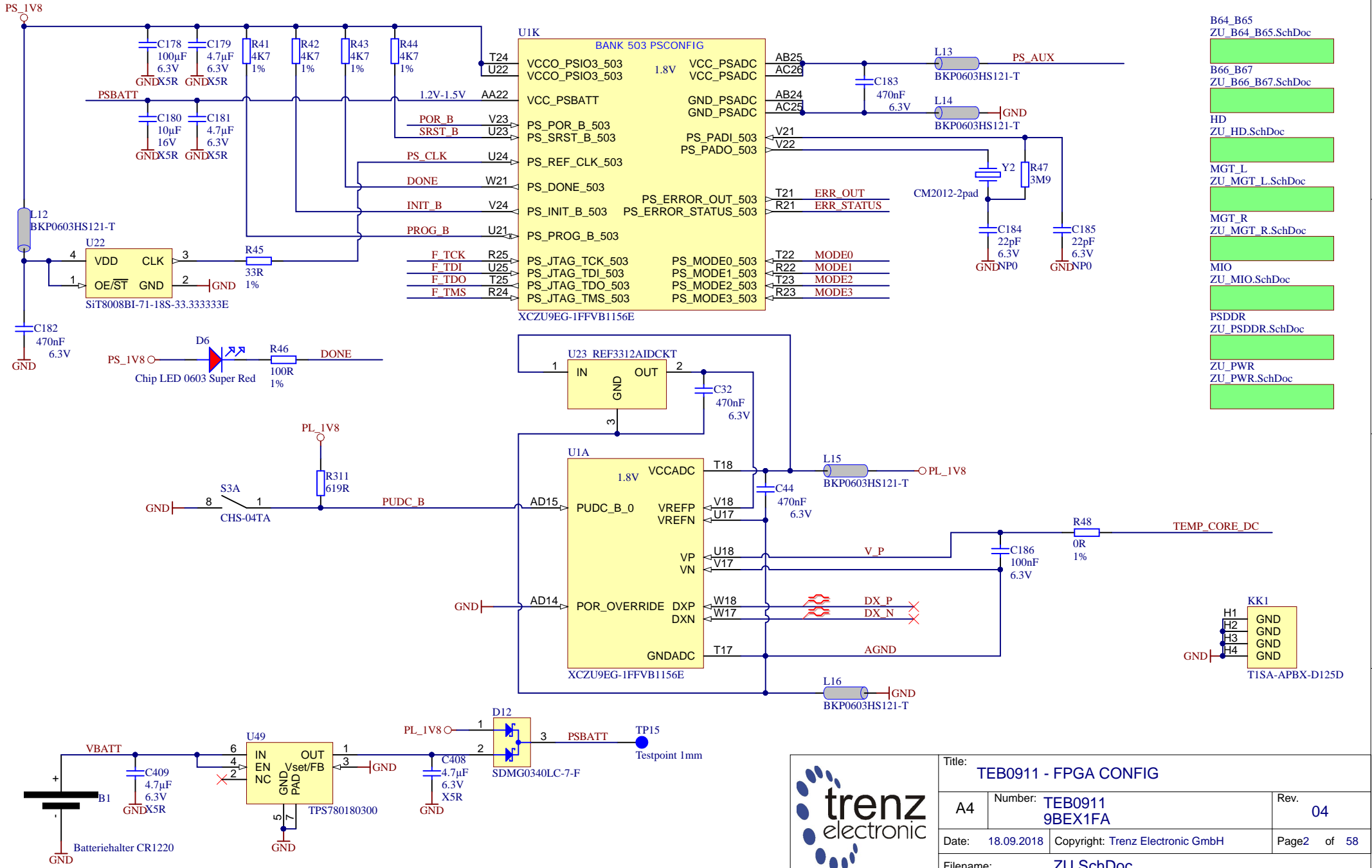
Ethernet Ethernet.SchDoc	U_USBP USB-PHY_SchDoc	U_SC_P SC_POWER.schdoc
U_SFP SFP.SchDoc	U_USBH USB3-HUB.SchDoc	U_POWER_OVERVIEW Power_overview.SchDoc
U_SSD SSD.SchDoc	U_CLK Clock.SchDoc	U_POWER_SEQ PowerUpSequence.SchDoc
U_FrontPanel FrontPanel.SchDoc	U_I2C I2C_system.schdoc	
U_USB USB.SchDoc	U_eMMC eMMC.SchDoc	
U_BackPanel BackPanel.SchDoc	U_DDRP DDR_PWR.SchDoc	
U_FMC PWR FMC PWR.SchDoc	U_DDR DDR_SODIMM.SchDoc	
U_ZU ZU.SchDoc	U_CLK2 Clock2.SchDoc	
U_SFP_CTRL SFP_CTRL.SchDoc	U_SC2 SC2.schdoc	
U_SC SC.schdoc	U_MISC MISC.schdoc	
U_UPWR USB3-HUB_PWR.SchDoc	U_PWR_IN PWR_IN.SchDoc	
U_FAN FAN_CON.schdoc	U_REVCH Revision_changes.SchDoc	



LOGO1
TE Logo PRINT Layer
LOGO PRINT

Assembly variant	9BEX1FA
Created by	VY
Modified by	VY
Modified at	2019-04-08
SVN Revision	8715

	Title: TEB0911		
	A4	Number: TEB0911 9BEX1FA	Rev. 04
	Date: 18.09.2018	Copyright: Trenz Electronic GmbH	Page1 of 58
	Filename: TEB0911.SchDoc		



- B64_B65
ZU_B64_B65.SchDoc
- B66_B67
ZU_B66_B67.SchDoc
- HD
ZU_HD.SchDoc
- MGT_L
ZU_MGT_L.SchDoc
- MGT_R
ZU_MGT_R.SchDoc
- MIO
ZU_MIO.SchDoc
- PSDDR
ZU_PSDDR.SchDoc
- ZU_PWR
ZU_PWR.SchDoc



Title: TEB0911 - FPGA CONFIG		
A4	Number: TEB0911 9BEX1FA	Rev. 04
Date: 18.09.2018	Copyright: Trenz Electronic GmbH	Page2 of 58
Filename: ZU.SchDoc		

A

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C

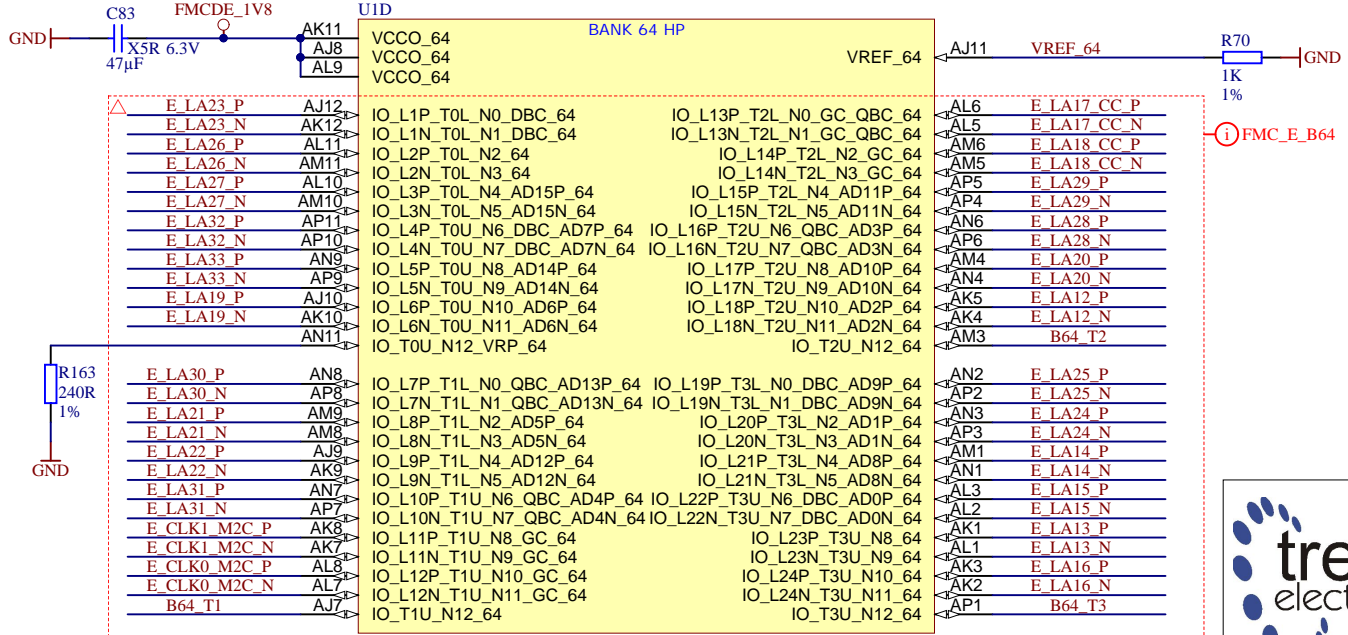
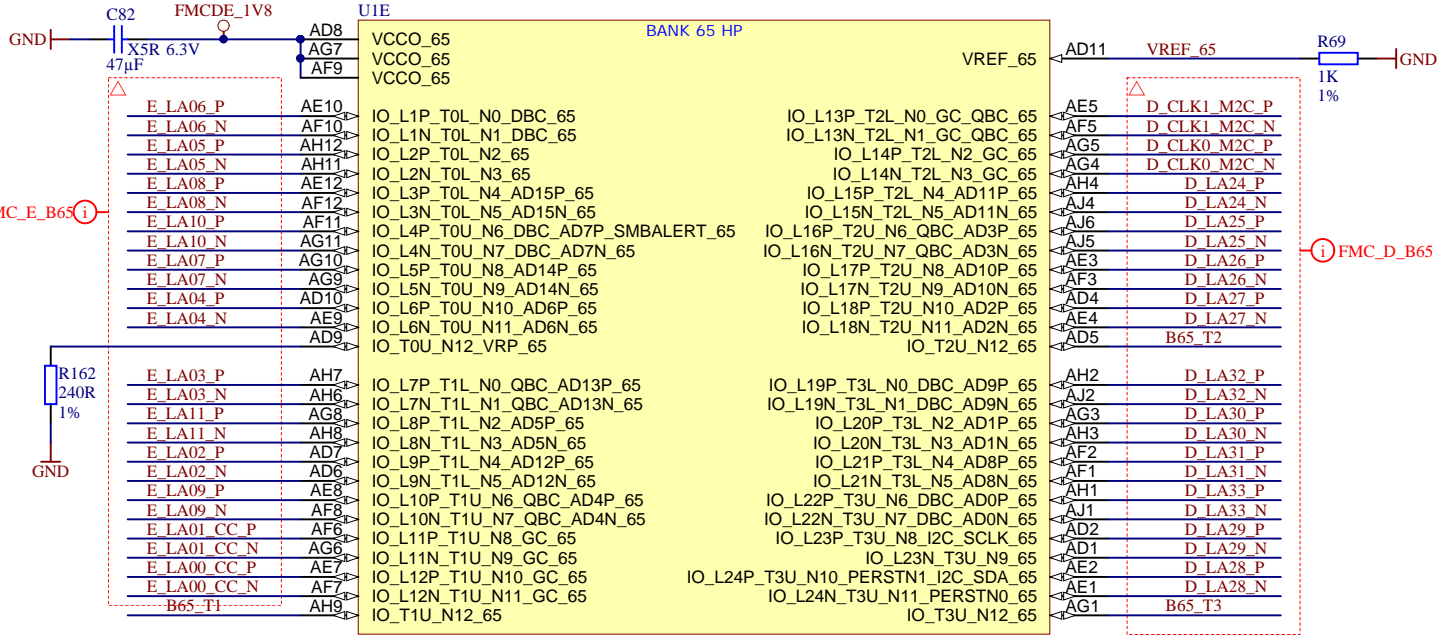
D

A

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Title: TEB0911 - FPGA B64 B65		
A4	Number: TEB0911 9BEX1FA	Rev. 04
Date: 18.09.2018	Copyright: Trenz Electronic GmbH	Page 3 of 58
Filename: ZU_B64_B65.SchDoc		

A

A

B

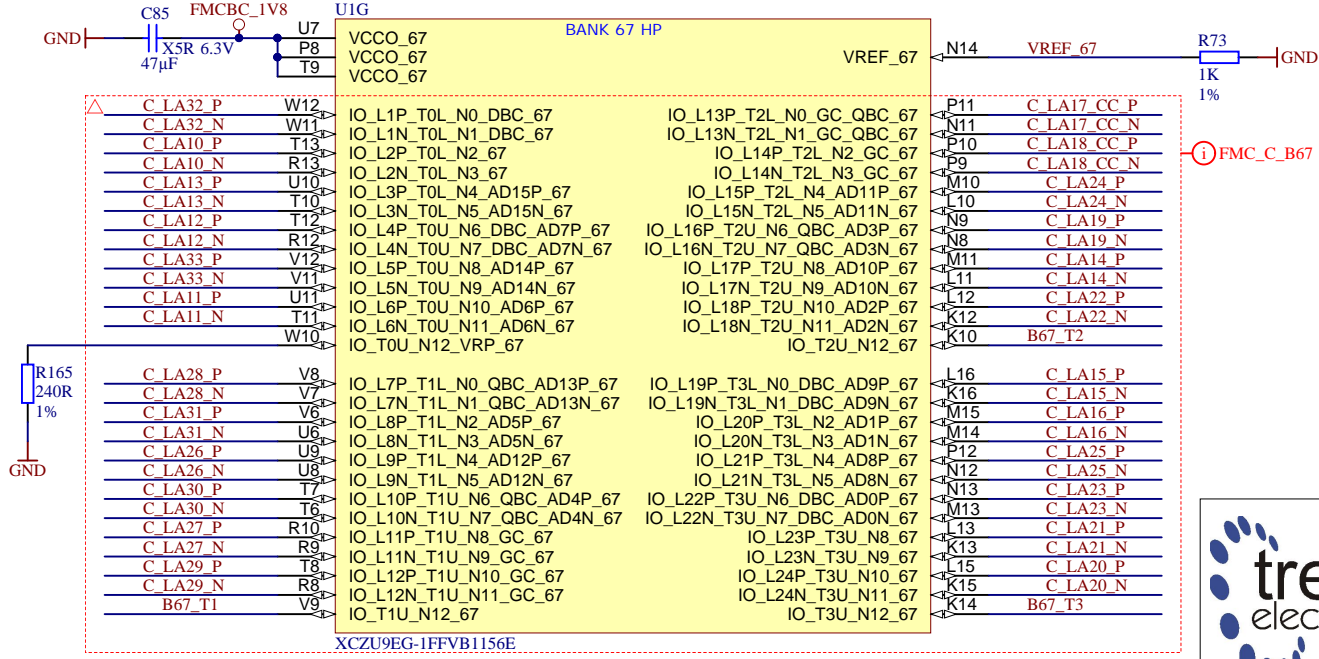
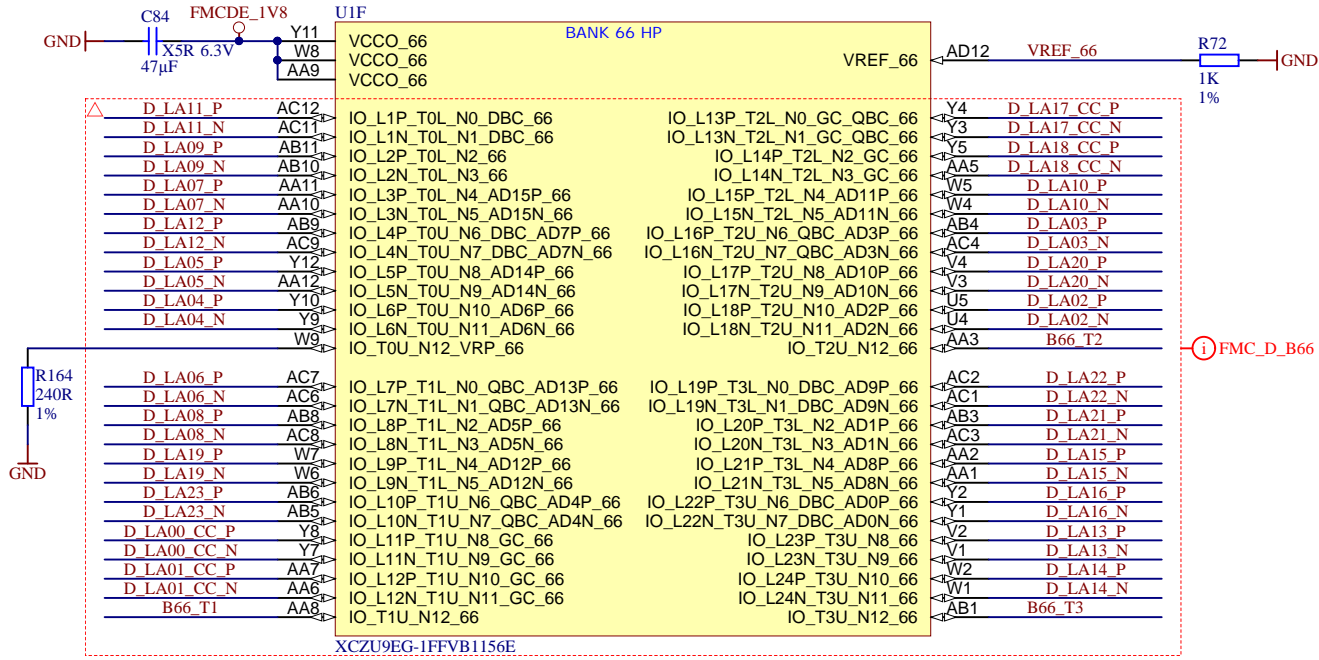
B

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C

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D



Title: TEB0911 - FPGA B66 B67		
A4	Number: TEB0911 9BEX1FA	Rev. 04
Date: 18.09.2018	Copyright: Trenz Electronic GmbH	Page 4 of 58
Filename: ZU_B66_B67.SchDoc		

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XCZU9EG-1FFVB1156E

XCZU9EG-1FFVB1156E



Title: TEB0911 - FPGA B44 B47-50		
A4	Number: TEB0911 9BEX1FA	Rev. 04
Date: 18.09.2018	Copyright: Trenz Electronic GmbH	Page5 of 58
Filename: ZU_HD.SchDoc		

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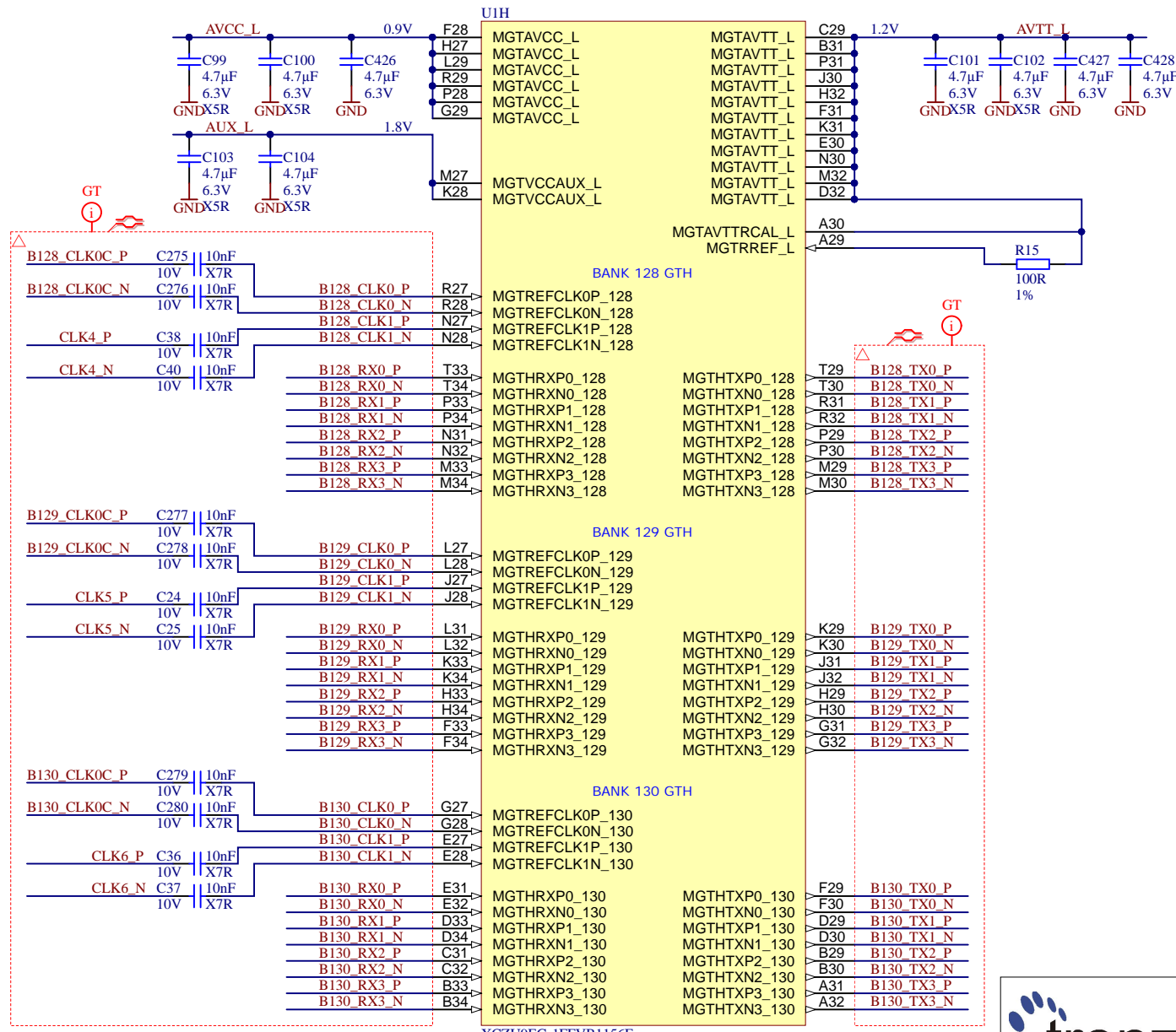
D

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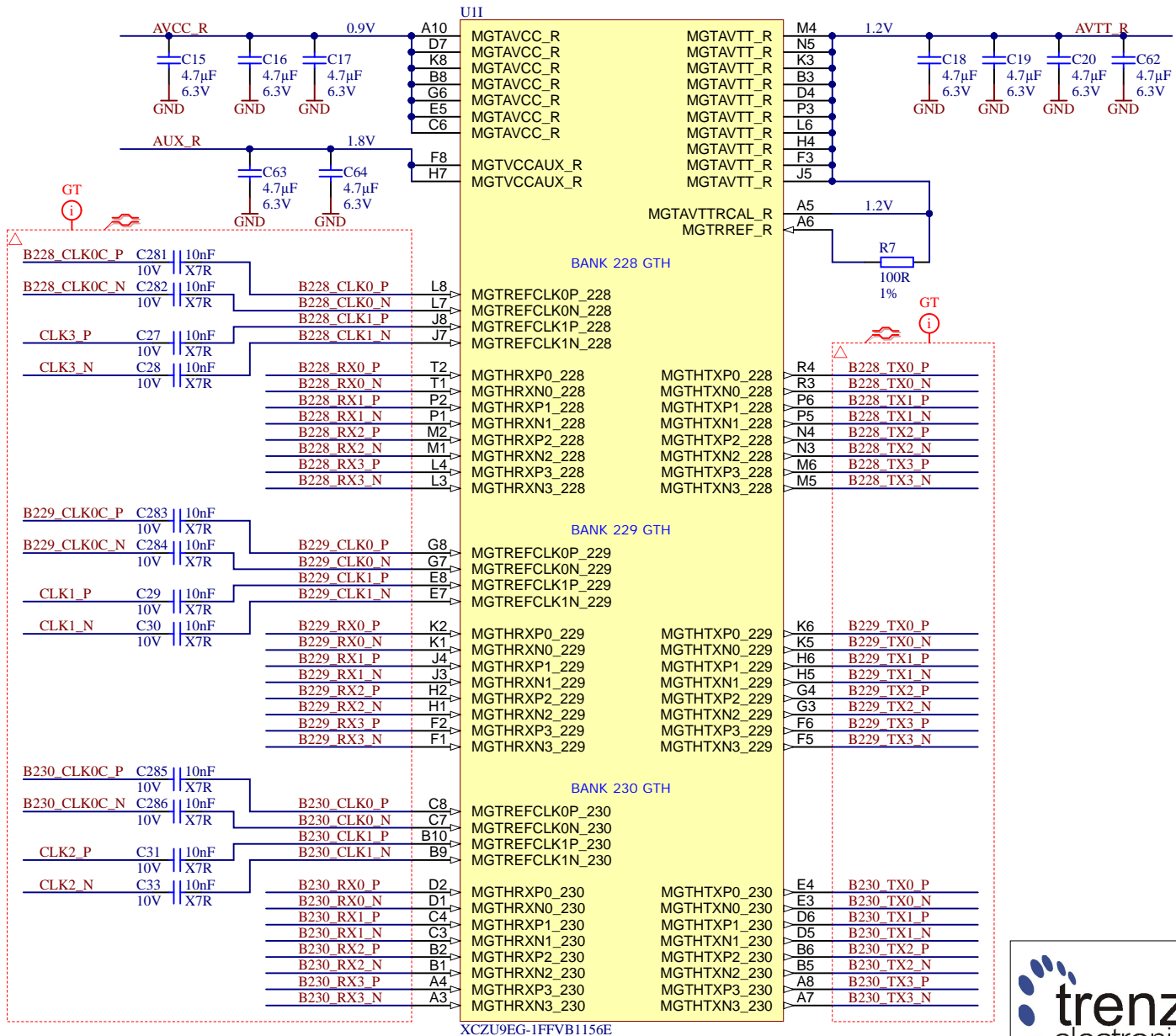
D



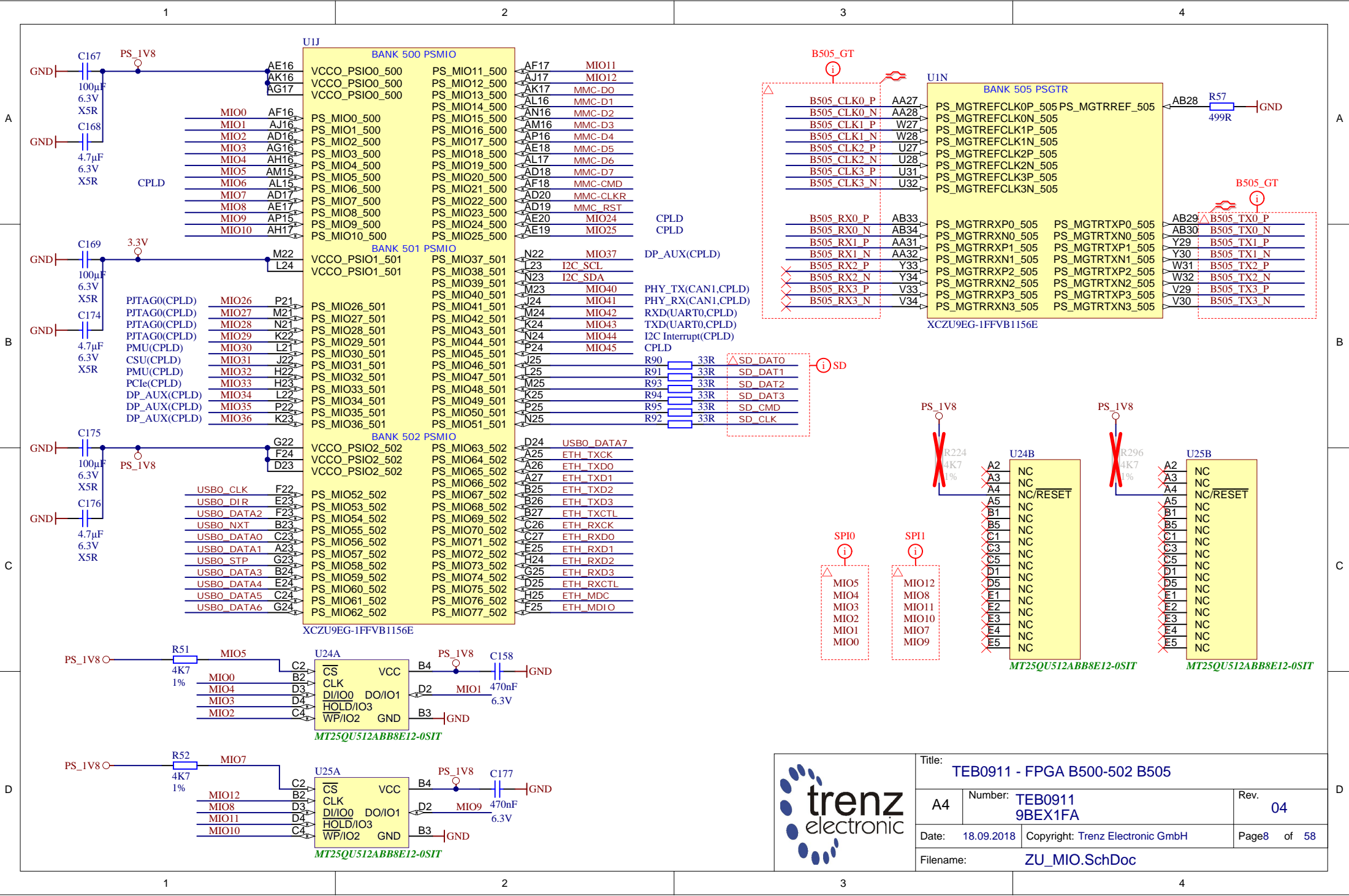
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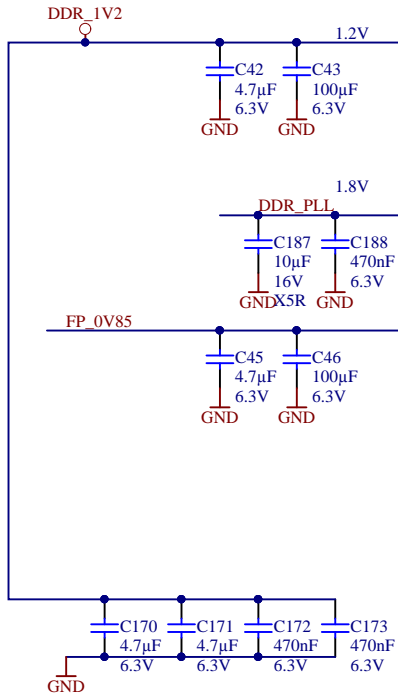
Title: TEB0911 - FPGA B128-130		
A4	Number: TEB0911 9BEX1FA	Rev. 04
Date: 18.09.2018	Copyright: Trenz Electronic GmbH	Page 6 of 58
Filename: ZU_MGT_L.SchDoc		



Title: TEB0911 - FPGA B228-230		
A4	Number: TEB0911 9BEX1FA	Rev. 04
Date: 18.09.2018	Copyright: Trenz Electronic GmbH	Page 7 of 58
Filename: ZU_MGT_R.SchDoc		



Title: TEB0911 - FPGA B500-502 B505		
A4	Number: TEB0911 9BEX1FA	Rev. 04
Date: 18.09.2018	Copyright: Trenz Electronic GmbH	Page 8 of 58
Filename: ZU_MIO.SchDoc		



UIL

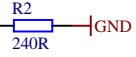
BANK 504 PSDDR

AN30	VCCO_PSDDR_504	PS_DDR_CK0_504	AN26	DDR4-CLK0_P
AG27	VCCO_PSDDR_504	PS_DDR_CK_NO_504	AN27	DDR4-CLK0_N
AN25	VCCO_PSDDR_504	PS_DDR_CKE0_504	AN29	DDR4-CKE0
AL29	VCCO_PSDDR_504			
AL24	VCCO_PSDDR_504	PS_DDR_CK1_504	AL26	DDR4-CLK1_P
VCCO_PSDDR_504		PS_DDR_CK1_504	AL27	DDR4-CLK1_N
AJ24	VCCO_PSDDR_504	PS_DDR_CK_N1_504	AJ27	DDR4-CKE1
AJ28	VCCO_PSDDR_504	PS_DDR_CKE1_504		
Y24	VCC_PSDDR_PLL	PS_DDR_A0_504	AP29	DDR4-A0
Y25	VCC_PSDDR_PLL	PS_DDR_A1_504	AP30	DDR4-A1
		PS_DDR_A2_504	AP26	DDR4-A2
		PS_DDR_A3_504	AP27	DDR4-A3
AE25	VCC_PSINTFP_DDR	PS_DDR_A4_504	AP25	DDR4-A4
AE24	VCC_PSINTFP_DDR	PS_DDR_A5_504	AN24	DDR4-A5
AD24	VCC_PSINTFP_DDR	PS_DDR_A6_504	AM29	DDR4-A6
		PS_DDR_A7_504	AM28	DDR4-A7
		PS_DDR_A8_504	AM26	DDR4-A8
		PS_DDR_A9_504	AM25	DDR4-A9
		PS_DDR_A10_504	AL28	DDR4-A10
		PS_DDR_A11_504	AK27	DDR4-A11
		PS_DDR_A12_504	AJ25	DDR4-A12
		PS_DDR_A13_504	AL25	DDR4-A13
		PS_DDR_A14_504	AK25	DDR4-A14
		PS_DDR_A15_504	AK24	DDR4-A15
		PS_DDR_A16_504	AM24	DDR4-A16
		PS_DDR_A17_504	AF25	DDR4-A17
		PS_DDR_CS_N0_504	AN28	DDR4-CS_N0
		PS_DDR_CS_N1_504	AL30	DDR4-CS_N1
		PS_DDR_BA0_504	AH26	DDR4-BA0
		PS_DDR_BA1_504	AG26	DDR4-BA1
		PS_DDR_BG0_504	AK28	DDR4-BG0
		PS_DDR_BG1_504	AH27	DDR4-BG1
		PS_DDR_PARITY_504	AF20	DDR4-PAR
		PS_DDR_RAM_RST_N_504	AF21	DDR4-RESET
		PS_DDR_ACT_N_504	AG25	DDR4-ACT
		PS_DDR_ALERT_N_504	AF22	DDR4-ALERT
		PS_DDR_ZQ_504	AF23	
		PS_DDR_ODT0_504	AM30	DDR4-ODT0
		PS_DDR_ODT1_504	AJ26	DDR4-ODT1

UIM

BANK 504 PSDDR

DQ0	AP20	PS_DDR_DQ0_504	PS_DDR_DQ32_504	AG31	DQ32
DQ1	AP18	PS_DDR_DQ1_504	PS_DDR_DQ33_504	AG30	DQ33
DQ2	AP19	PS_DDR_DQ2_504	PS_DDR_DQ34_504	AG29	DQ34
DQ3	AP17	PS_DDR_DQ3_504	PS_DDR_DQ35_504	AG28	DQ35
DQ4	AM20	PS_DDR_DQ4_504	PS_DDR_DQ36_504	AJ30	DQ36
DQ5	AM19	PS_DDR_DQ5_504	PS_DDR_DQ37_504	AK29	DQ37
DQ6	AM18	PS_DDR_DQ6_504	PS_DDR_DQ38_504	AK30	DQ38
DQ7	AL18	PS_DDR_DQ7_504	PS_DDR_DQ39_504	AJ29	DQ39
DQ8	AP22	PS_DDR_DQ8_504	PS_DDR_DQ40_504	AE27	DQ40
DQ9	AP21	PS_DDR_DQ9_504	PS_DDR_DQ41_504	AF28	DQ41
DQ10	AP24	PS_DDR_DQ10_504	PS_DDR_DQ42_504	AF30	DQ42
DQ11	AM23	PS_DDR_DQ11_504	PS_DDR_DQ43_504	AF31	DQ43
DQ12	AL21	PS_DDR_DQ12_504	PS_DDR_DQ44_504	AD28	DQ44
DQ13	AL22	PS_DDR_DQ13_504	PS_DDR_DQ45_504	AD27	DQ45
DQ14	AM23	PS_DDR_DQ14_504	PS_DDR_DQ46_504	AD29	DQ46
DQ15	AL23	PS_DDR_DQ15_504	PS_DDR_DQ47_504	AD30	DQ47
DQ16	AL20	PS_DDR_DQ16_504	PS_DDR_DQ48_504	AH33	DQ48
DQ17	AK20	PS_DDR_DQ17_504	PS_DDR_DQ49_504	AJ34	DQ49
DQ18	AJ20	PS_DDR_DQ18_504	PS_DDR_DQ50_504	AH34	DQ50
DQ19	AK18	PS_DDR_DQ19_504	PS_DDR_DQ51_504	AH32	DQ51
DQ20	AG20	PS_DDR_DQ20_504	PS_DDR_DQ52_504	AK34	DQ52
DQ21	AH18	PS_DDR_DQ21_504	PS_DDR_DQ53_504	AK33	DQ53
DQ22	AG19	PS_DDR_DQ22_504	PS_DDR_DQ54_504	AL32	DQ54
DQ23	AG18	PS_DDR_DQ23_504	PS_DDR_DQ55_504	AL31	DQ55
DQ24	AG21	PS_DDR_DQ24_504	PS_DDR_DQ56_504	AG33	DQ56
DQ25	AH21	PS_DDR_DQ25_504	PS_DDR_DQ57_504	AG34	DQ57
DQ26	AG24	PS_DDR_DQ26_504	PS_DDR_DQ58_504	AF32	DQ58
DQ27	AG23	PS_DDR_DQ27_504	PS_DDR_DQ59_504	AF33	DQ59
DQ28	AK22	PS_DDR_DQ28_504	PS_DDR_DQ60_504	AD31	DQ60
DQ29	AJ21	PS_DDR_DQ29_504	PS_DDR_DQ61_504	AD32	DQ61
DQ30	AJ22	PS_DDR_DQ30_504	PS_DDR_DQ62_504	AD34	DQ62
DQ31	AK23	PS_DDR_DQ31_504	PS_DDR_DQ63_504	AD33	DQ63
		PS_DDR_DQ64_504	PS_DDR_DQ65_504	AN31	CB0
DDR4-DQS0_P	AN18	PS_DDR_DQS_P0_504	PS_DDR_DQ66_504	AP31	CB1
DDR4-DQS0_N	AN19	PS_DDR_DQS_N0_504	PS_DDR_DQ67_504	AP32	CB2
DDR4-DQS1_P	AN21	PS_DDR_DQS_P1_504	PS_DDR_DQ68_504	AP33	CB3
DDR4-DQS1_N	AN22	PS_DDR_DQS_N1_504	PS_DDR_DQ69_504	AM31	CB4
DDR4-DQS2_P	AH19	PS_DDR_DQS_P2_504	PS_DDR_DQ70_504	AM33	CB5
DDR4-DQS2_N	AJ19	PS_DDR_DQS_N2_504	PS_DDR_DQ71_504	AM34	CB6
DDR4-DQS3_P	AH22	PS_DDR_DQS_P3_504		AL33	CB7
DDR4-DQS3_N	AH23	PS_DDR_DQS_N3_504			
DDR4-DQS4_P	AH28	PS_DDR_DQS_P4_504			
DDR4-DQS4_N	AH29	PS_DDR_DQS_N4_504	PS_DDR_DM0_504	AN17	DDR4-DM0
DDR4-DQS5_P	AE28	PS_DDR_DQS_P5_504	PS_DDR_DM1_504	AM21	DDR4-DM1
DDR4-DQS5_N	AE29	PS_DDR_DQS_N5_504	PS_DDR_DM2_504	AK19	DDR4-DM2
DDR4-DQS6_P	AJ32	PS_DDR_DQS_P6_504	PS_DDR_DM3_504	AH24	DDR4-DM3
DDR4-DQS6_N	AK32	PS_DDR_DQS_N6_504	PS_DDR_DM4_504	AH31	DDR4-DM4
DDR4-DQS7_P	AE32	PS_DDR_DQS_P7_504	PS_DDR_DM5_504	AE30	DDR4-DM5
DDR4-DQS7_N	AE33	PS_DDR_DQS_N7_504	PS_DDR_DM6_504	AJ31	DDR4-DM6
DDR4-DQS8_P	AN32	PS_DDR_DQS_P8_504	PS_DDR_DM7_504	AE34	DDR4-DM7
DDR4-DQS8_N	AN33	PS_DDR_DQS_N8_504	PS_DDR_DM8_504	AN34	DDR4-DM8



XCZU9EG-1FFVB1156E

XCZU9EG-1FFVB1156E

- ADDR_CMD_CTRL
- DDR4-A[0..16]
 - DDR4-CS_N0
 - DDR4-CS_N1
 - DDR4-BA0
 - DDR4-BA1
 - DDR4-BG0
 - DDR4-BG1
 - DDR4-PAR
 - DDR4-ACT
 - DDR4-ODT0
 - DDR4-ODT1
 - DDR4-CKE0
 - DDR4-CKE1
 - DDR4-CLK0_P
 - DDR4-CLK0_N
 - DDR4-CLK1_P
 - DDR4-CLK1_N

- LANE0: DQ[0..7], DDR4-DQS0_P, DDR4-DQS0_N, DDR4-DM0
- LANE2: DQ[16..23], DDR4-DQS2_P, DDR4-DQS2_N, DDR4-DM2
- LANE4: DQ[32..39], DDR4-DQS4_P, DDR4-DQS4_N, DDR4-DM4
- LANE6: DQ[48..55], DDR4-DQS6_P, DDR4-DQS6_N, DDR4-DM6
- LANE8: CB[0..7], DDR4-DQS8_P, DDR4-DQS8_N, DDR4-DM8
- LANE1: DQ[8..15], DDR4-DQS3_P, DDR4-DQS3_N, DDR4-DM1
- LANE3: DQ[24..31], DDR4-DQS3_P, DDR4-DQS3_N, DDR4-DM3
- LANE5: DQ[40..47], DDR4-DQS5_P, DDR4-DQS5_N, DDR4-DM5
- LANE7: DQ[56..63], DDR4-DQS7_P, DDR4-DQS7_N, DDR4-DM7



Title: TEB0911 - FPGA B504		
A4	Number: TEB0911 9BEX1FA	Rev. 04
Date: 18.09.2018	Copyright: Trenz Electronic GmbH	Page9 of 58
Filename: ZU_PSDDR.SchDoc		

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A

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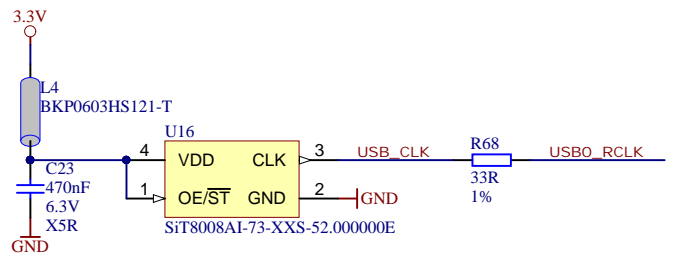
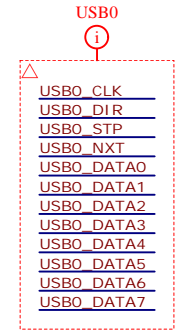
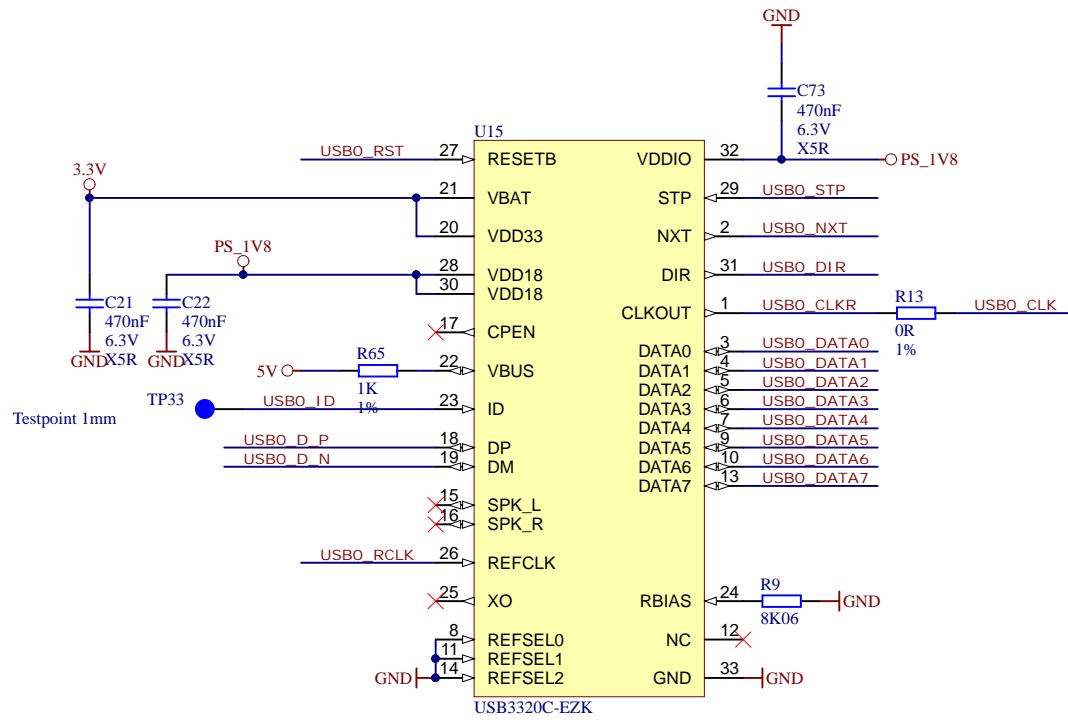
B

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Title: TEB0911 - USB 2.0 PHY		
A4	Number: TEB0911 9BEX1FA	Rev. 04
Date: 18.09.2018	Copyright: Trenz Electronic GmbH	Page 11 of 58
Filename: USB-PHY.SchDoc		

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A

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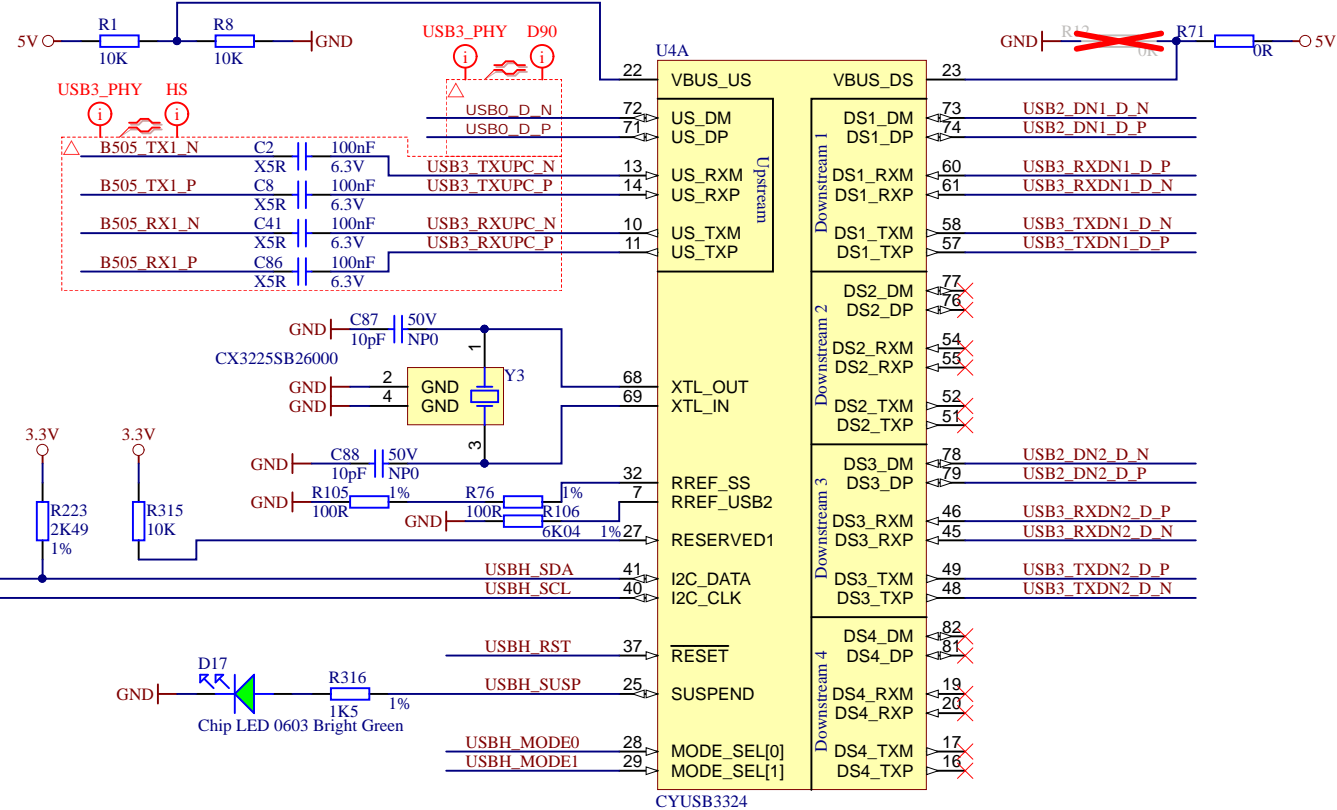
B

C

C

D

D



LAYOUT NOTES:
 Each member of a High-Speed differential pair should be no more than 1.25 mm

Each member of a SuperSpeed differential pair should be no more than 0.13 mm

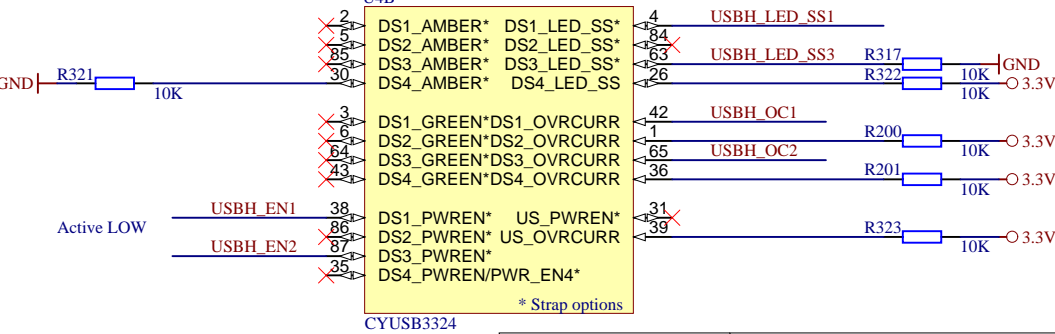
RESETN pin should be held LOW until both supplies become stable.

ACA_DOCK Disabled
 All REMOVABLE

I2C_DEV_ID: I2C slave address 0x60
 VID

PORT_DISABLE All EN
 All REMOVABLE
 VID

DSx_CDP_EN
 DSx_CDP_EN
 DSx_CDP_EN
 DSx_CDP_EN



PORT_DISABLE All EN
 PWR_EN_SEL Individual
 PIN_STRAP config

Active LOW

Power enable and overcurrent LOW

USB: 0x60 (or 0x58)



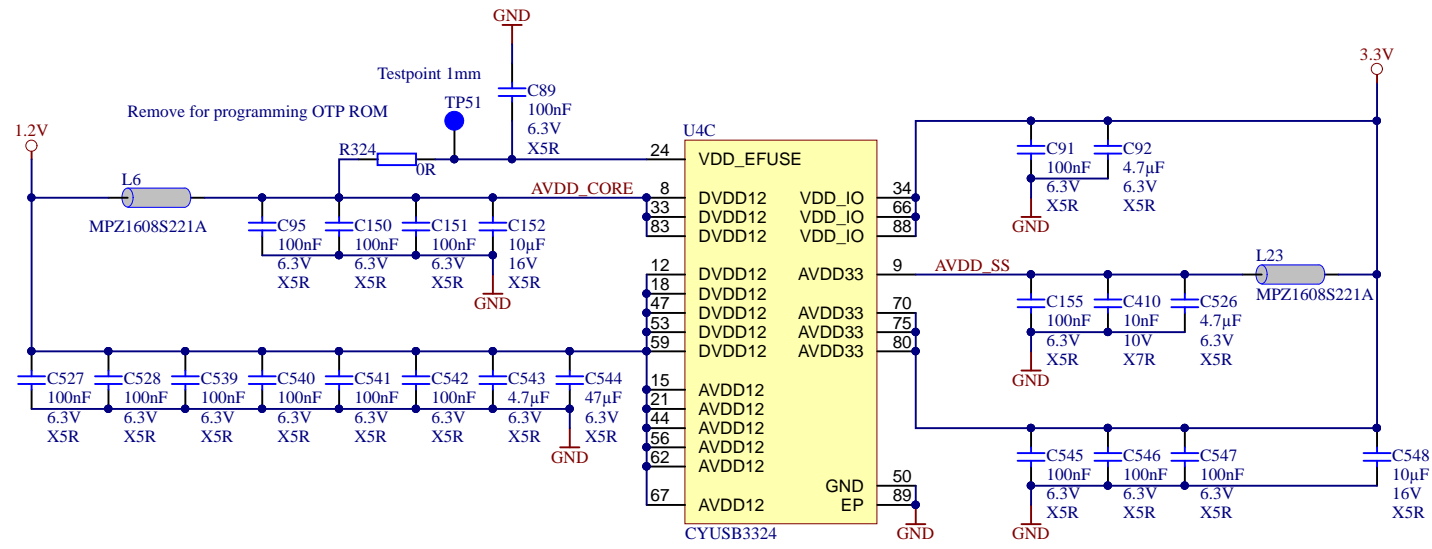
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A4	Number: TEB0911 9BEX1FA	Rev. 04
Date: 18.09.2018	Copyright: Trenz Electronic GmbH	Page 12 of 58
Filename: USB3-HUB.SchDoc		


1

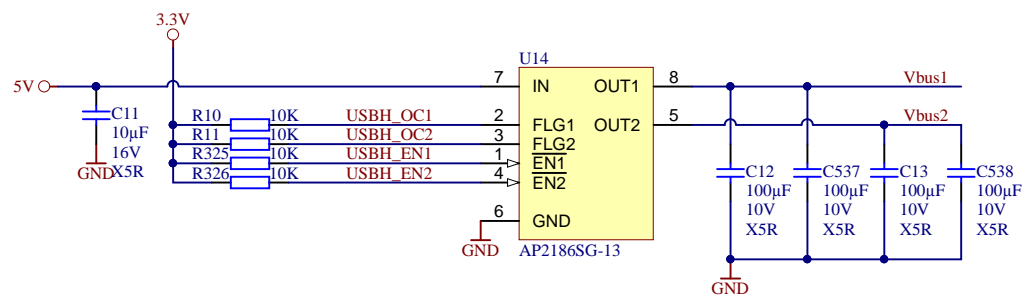
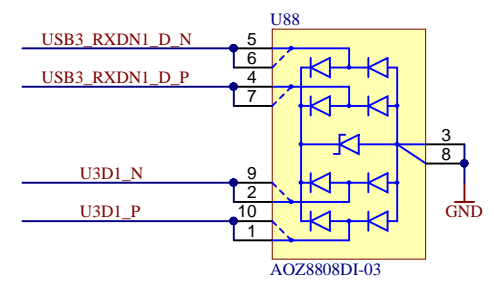
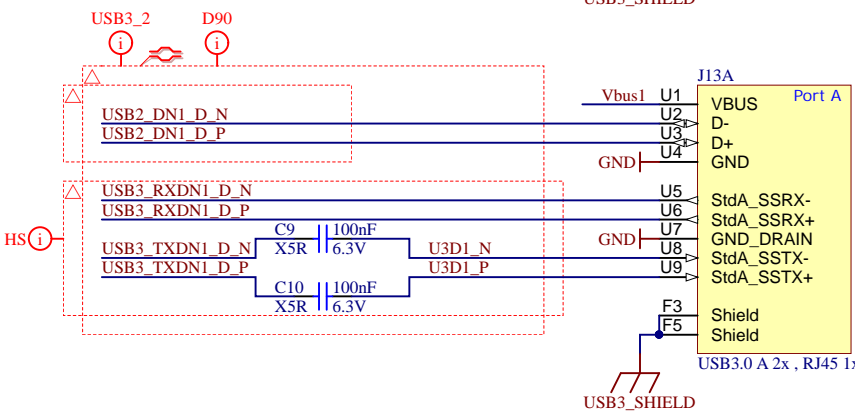
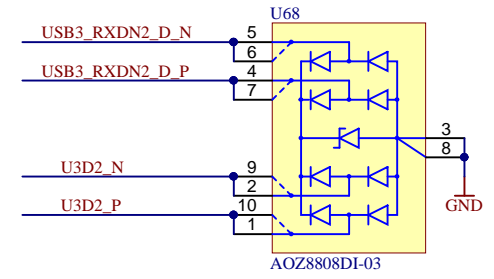
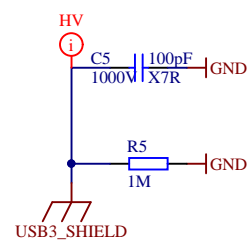
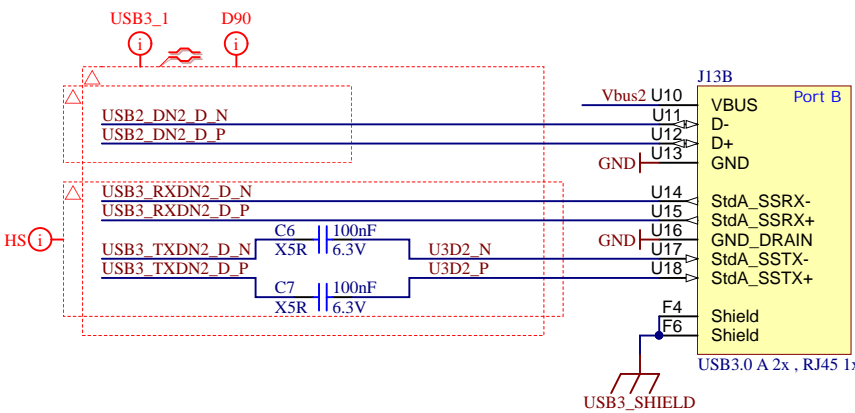
2

3

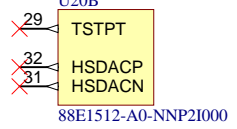
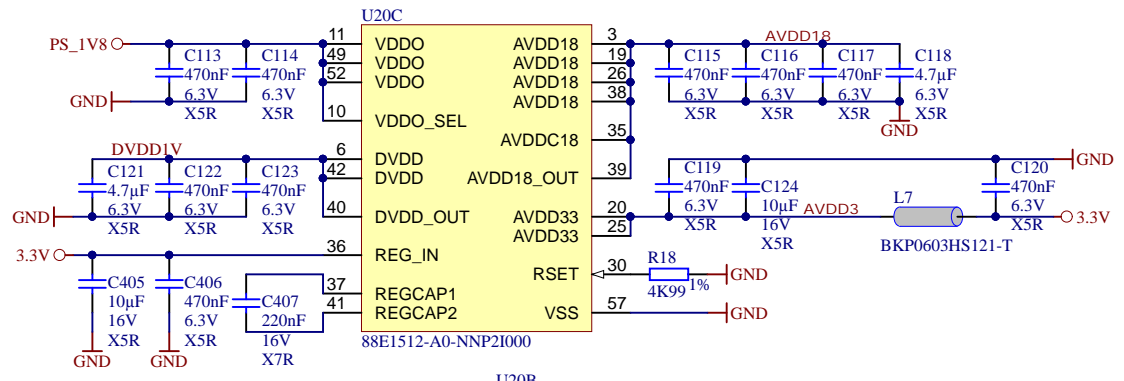
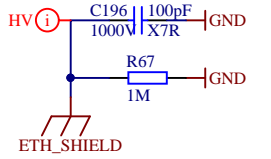
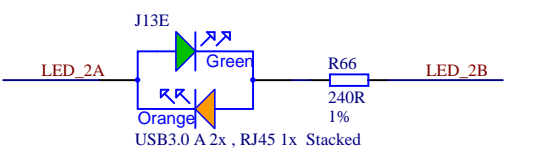
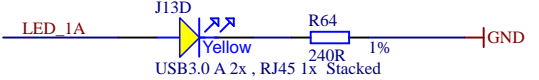
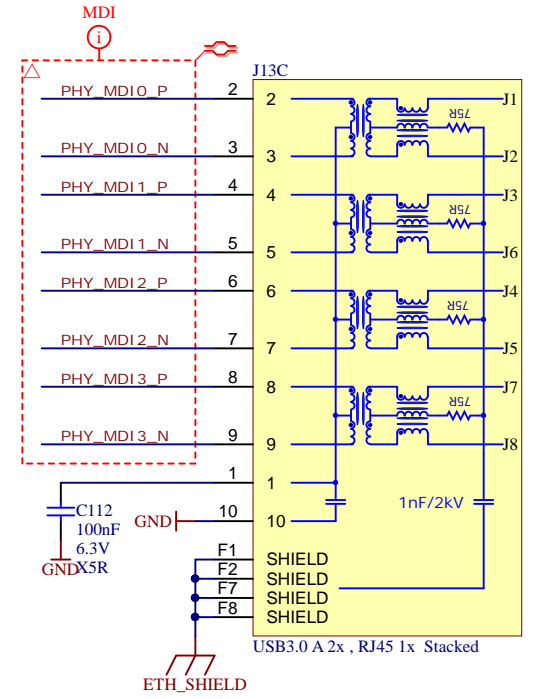
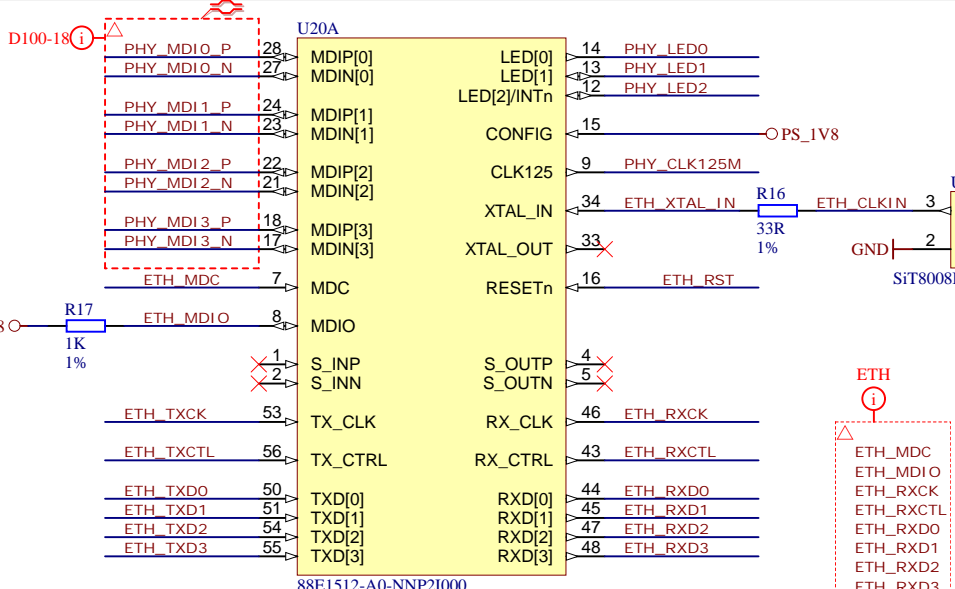
4



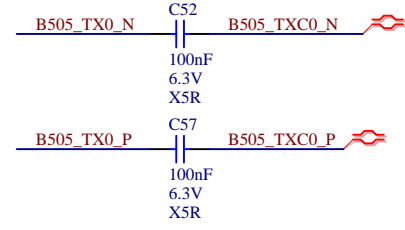
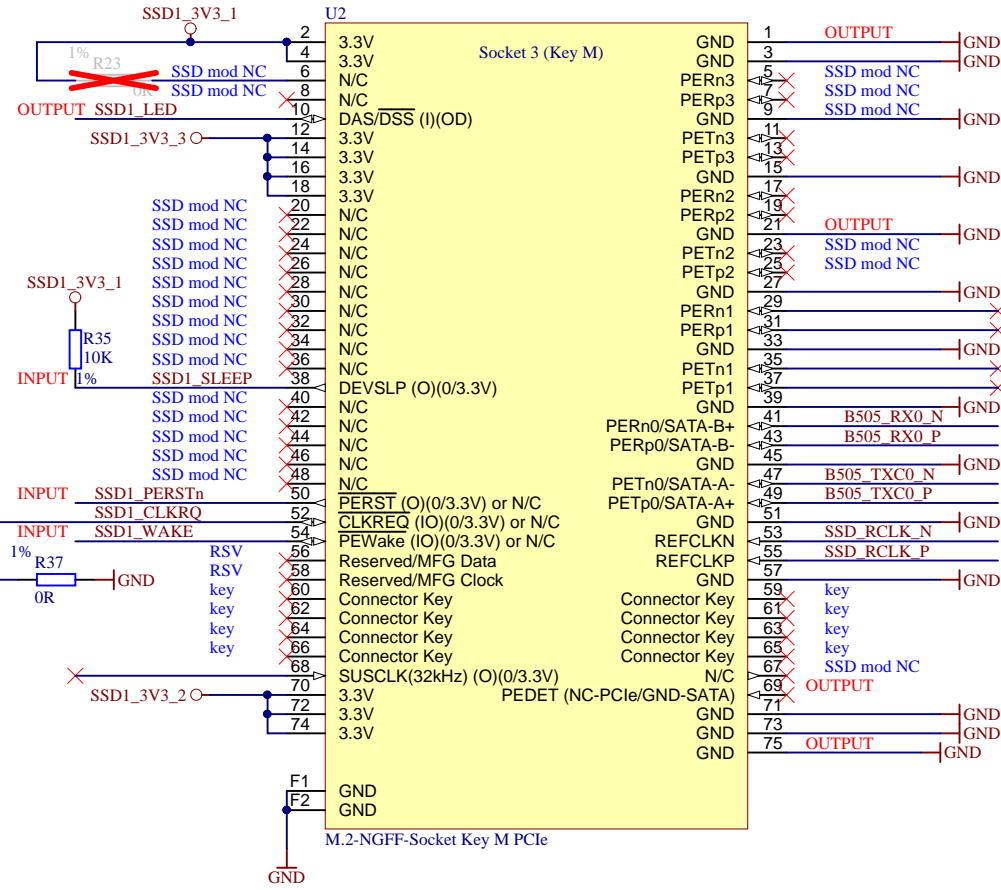
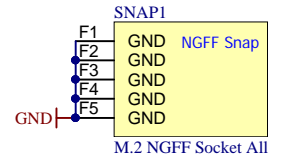
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	A4	Number: TEB0911 9BEX1FA	Rev. 04
	Date: 18.09.2018	Copyright: Trenz Electronic GmbH	Page 13 of 58
	Filename: USB3-HUB_PWR.SchDoc		



Title: TEB0911 - USB CONNECTORS		
A4	Number: TEB0911 9BEX1FA	Rev. 04
Date: 18.09.2018	Copyright: Trenz Electronic GmbH	Page 14 of 58
Filename: USB.SchDoc		

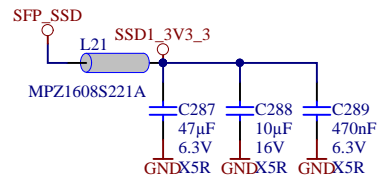
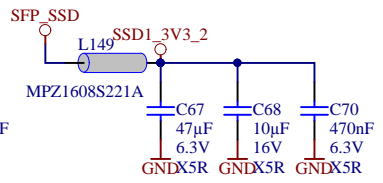
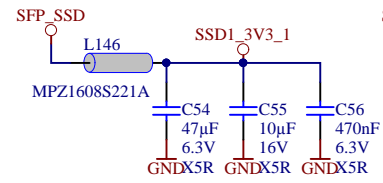


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A4	Number: TEB0911 9BEX1FA	Rev. 04
Date: 18.09.2018	Copyright: Trenz Electronic GmbH	Page 15 of 58
Filename: Ethernet.SchDoc		

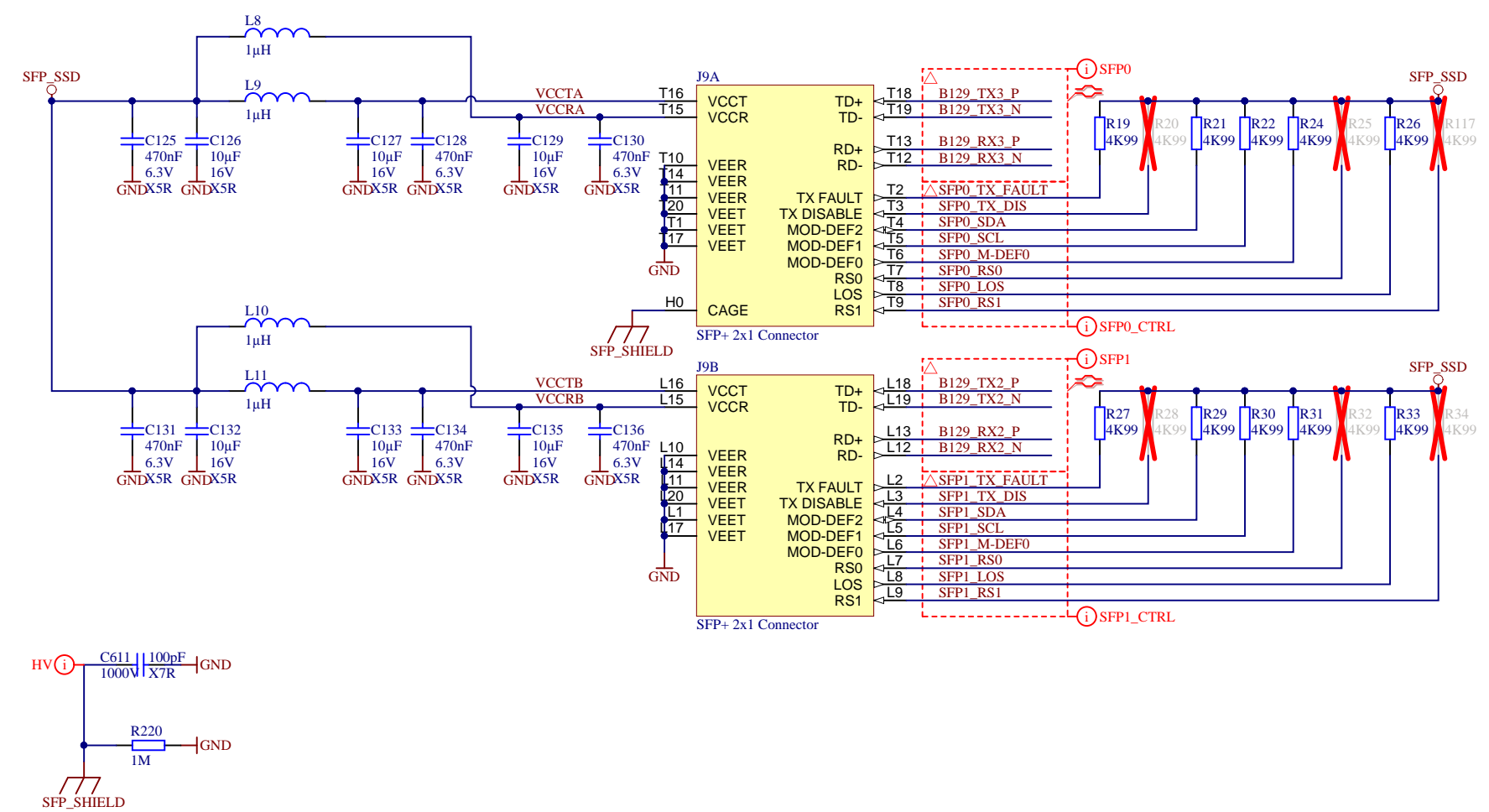



MECH1

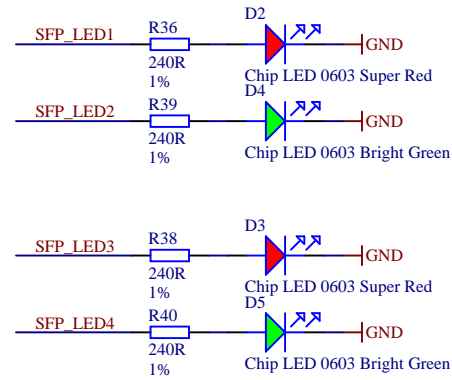
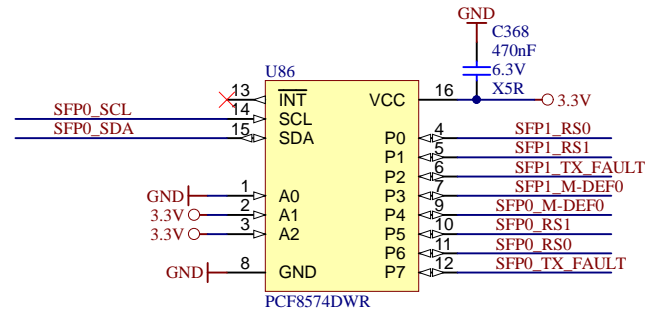
 M.2 NGFF SMD-Abstandsbolzen - M3 - 1.5mm




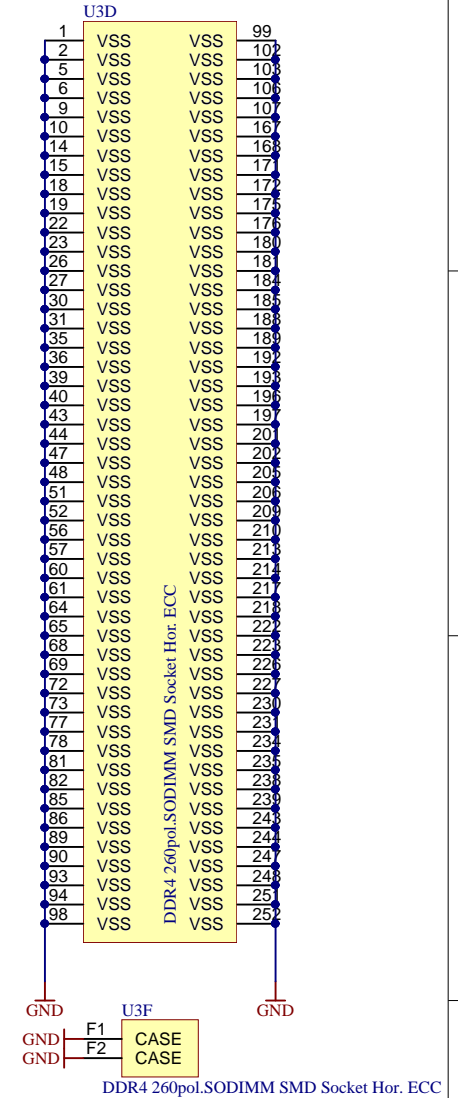
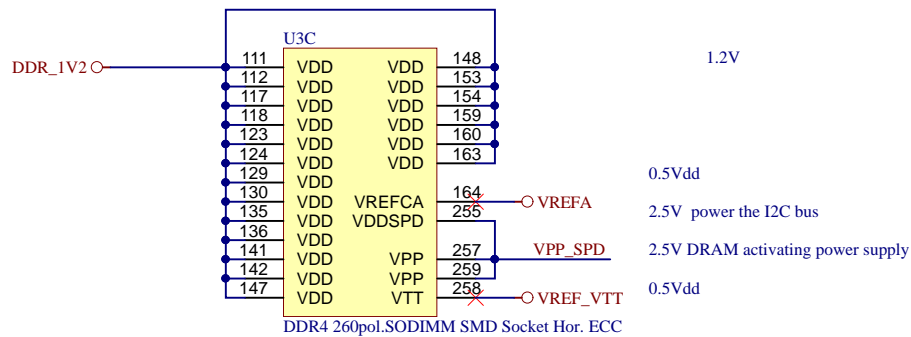
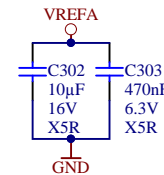
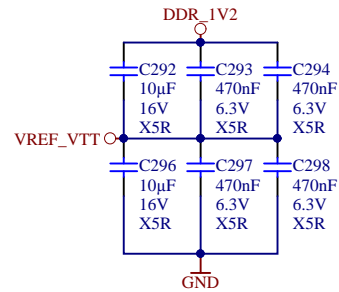
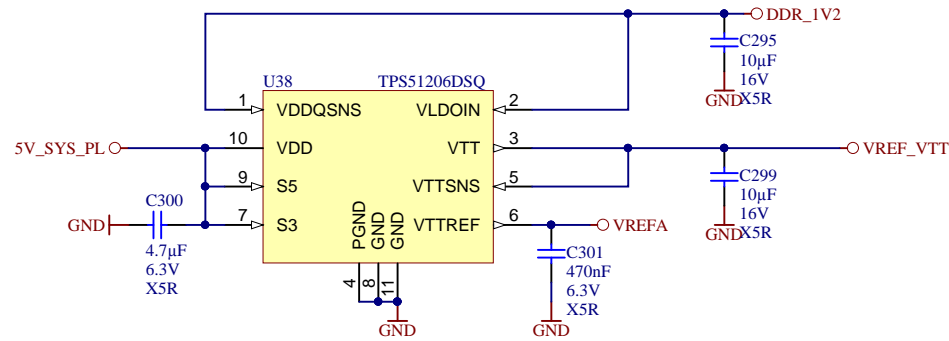
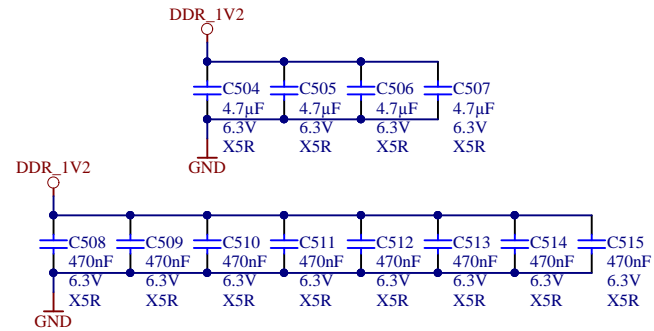
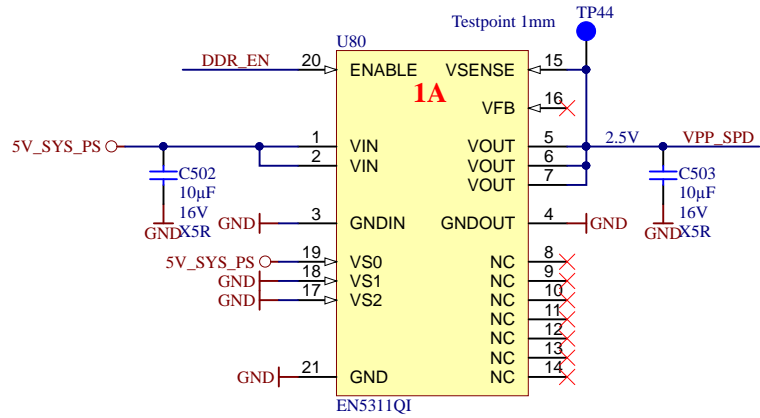
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Date: 18.09.2018	Copyright: Trenz Electronic GmbH	Page 16 of 58
Filename: SSD.SchDoc		



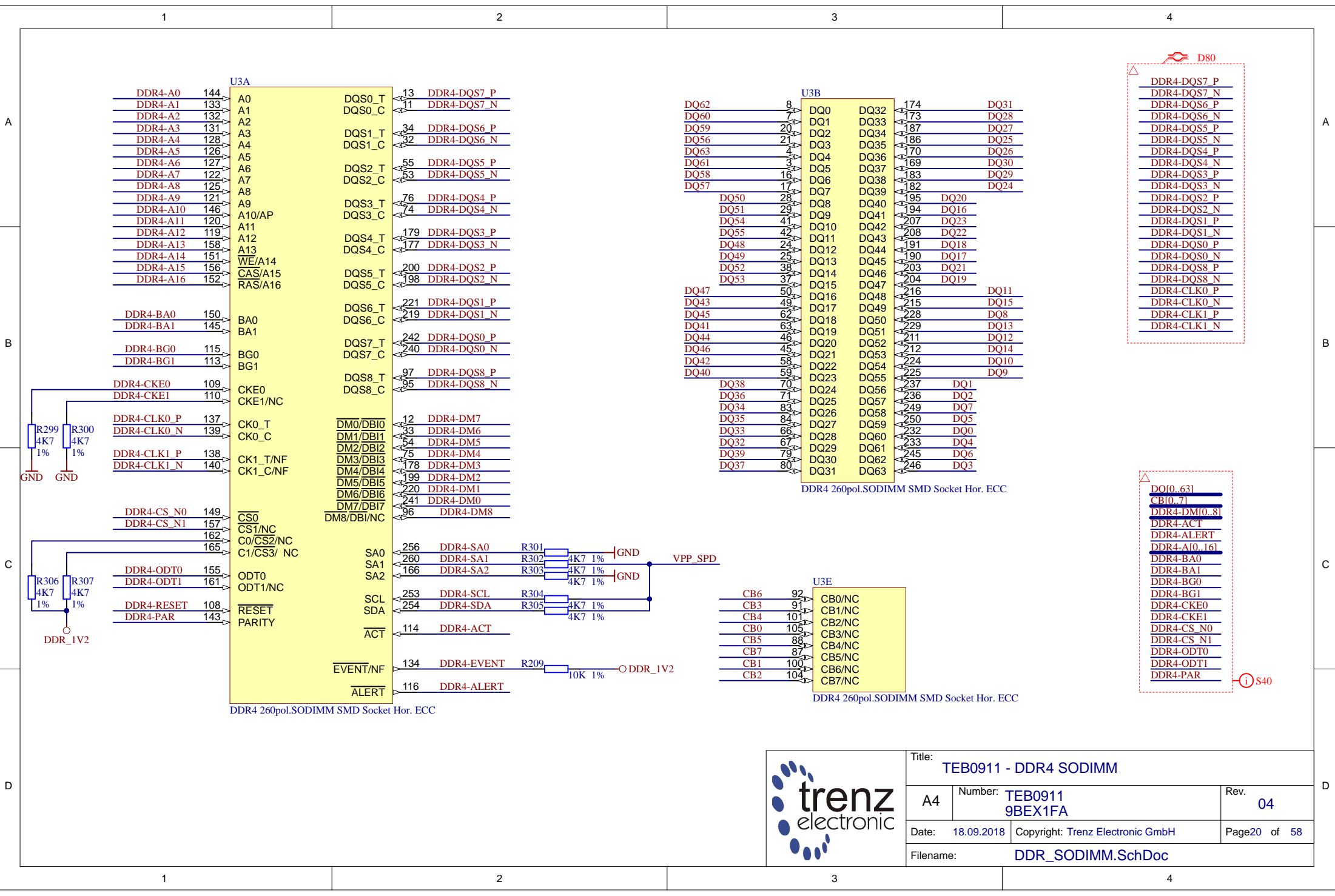
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			A4	Number: TEB0911 9BEX1FA
Date: 18.09.2018		Copyright: Trenz Electronic GmbH		Page 17 of 58
Filename: SFP.SchDoc				



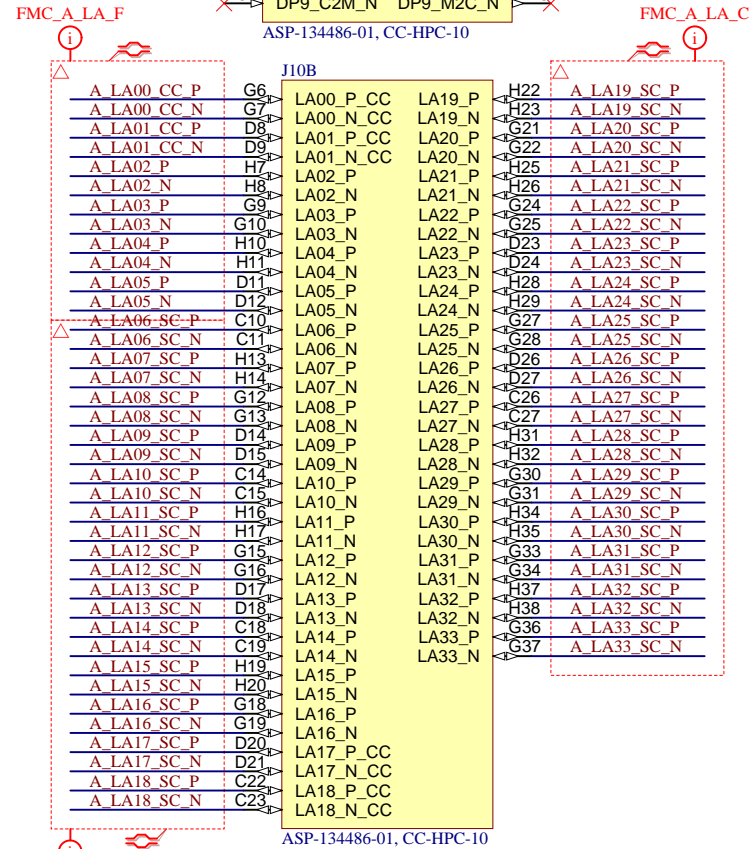
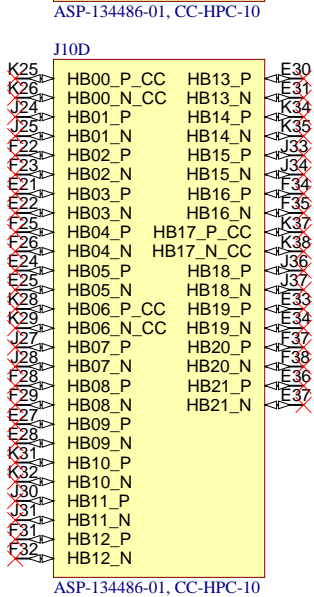
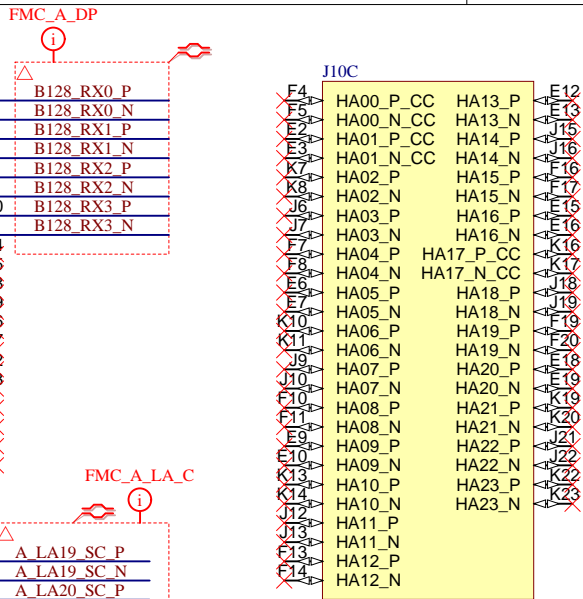
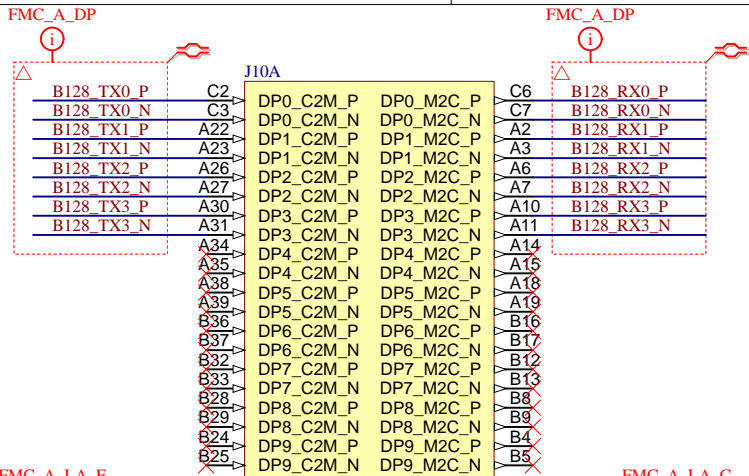
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	A4	Number: TEB0911 9BEX1FA	Rev. 04
	Date: 18.09.2018	Copyright: Trenz Electronic GmbH	Page 18 of 58
	Filename: SFP_CTRL.SchDoc		



Title: TEB0911 - DDR POWER		
A4	Number: TEB0911 9BEX1FA	Rev. 04
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Filename: DDR_PWR.SchDoc		



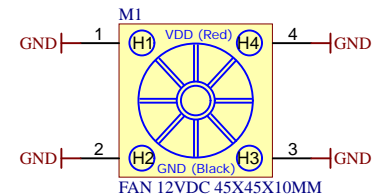
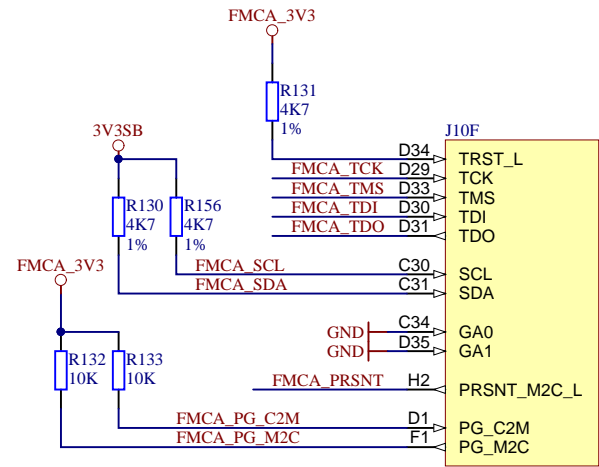
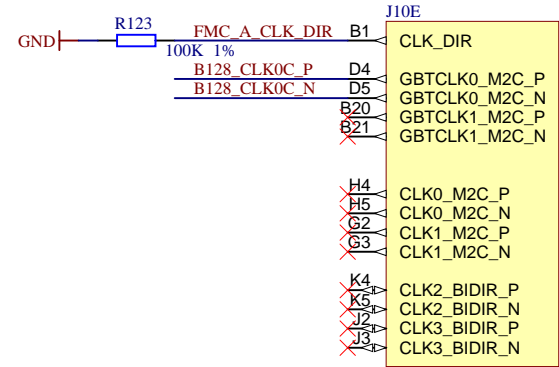
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A4	Number: TEB0911 9BEX1FA	Rev. 04
Date: 18.09.2018	Copyright: Trenz Electronic GmbH	Page20 of 58
Filename: DDR_SODIMM.SchDoc		



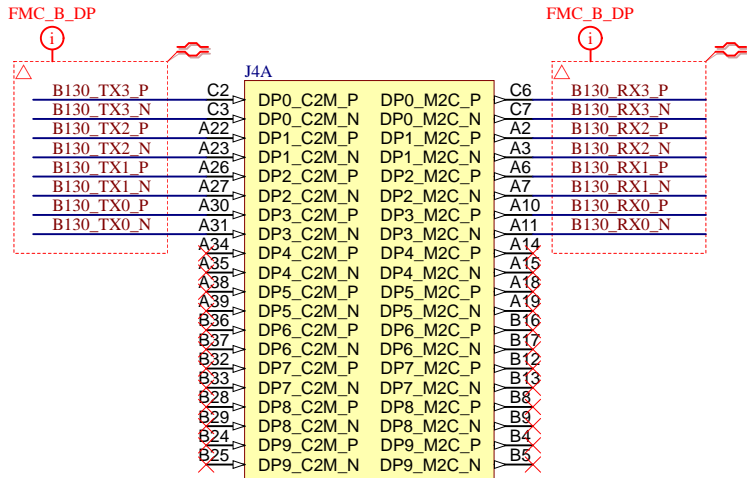
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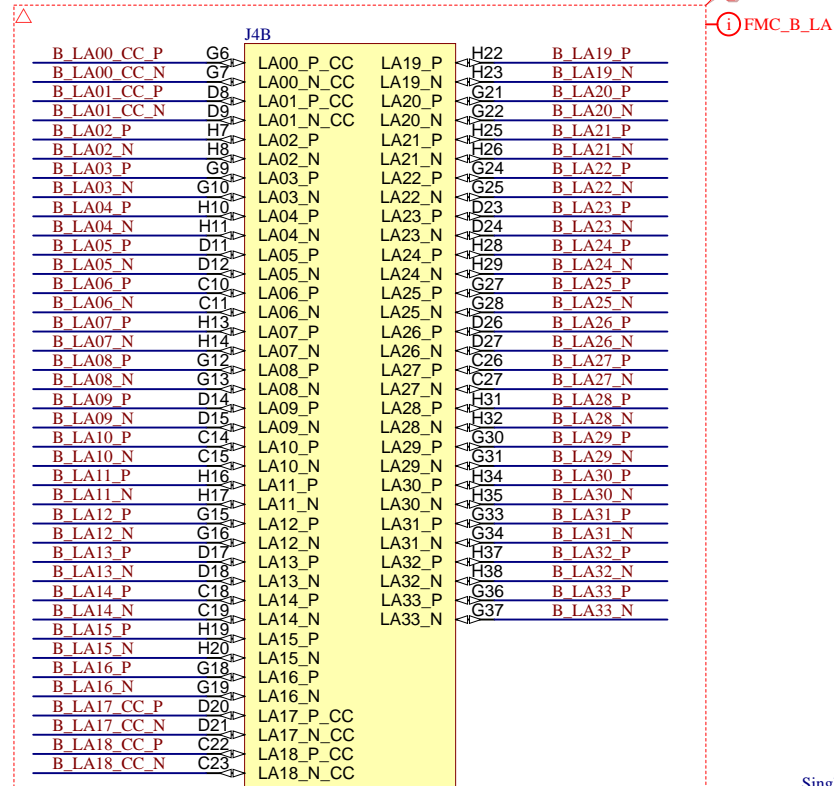
Single FMC Commercial Baseboard Snap



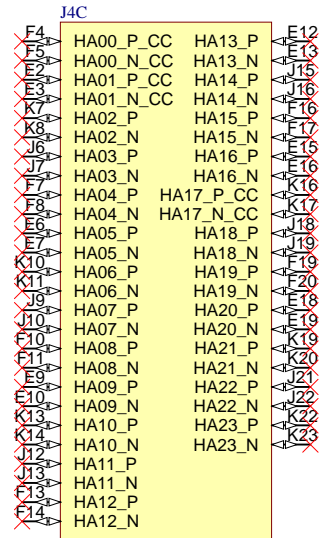
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Date: 18.09.2018	Copyright: Trenz Electronic GmbH	Page 21 of 58
Filename: FMC_A.SchDoc		



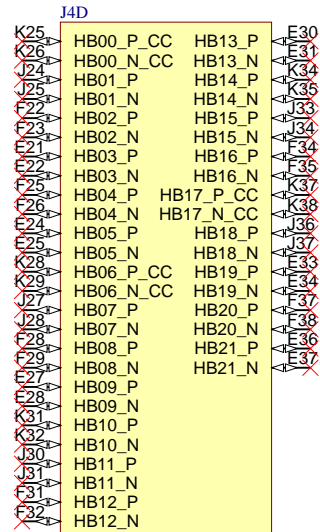
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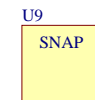
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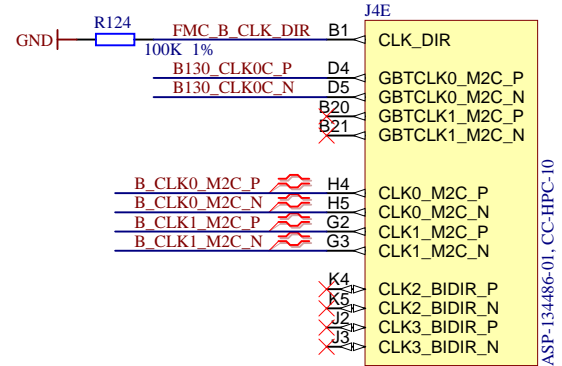
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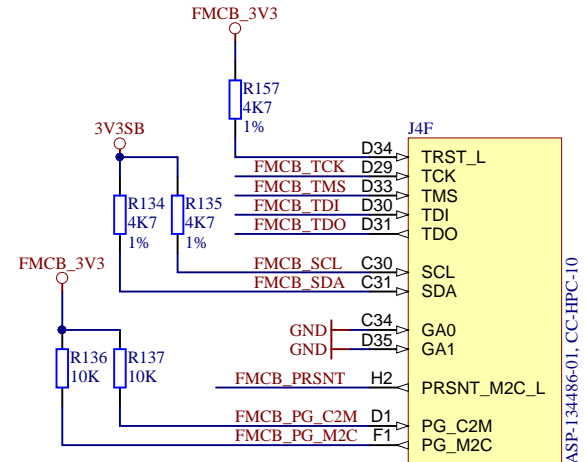
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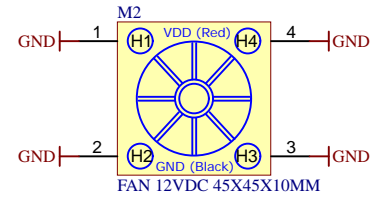
Single FMC Commercial Baseboard Snap



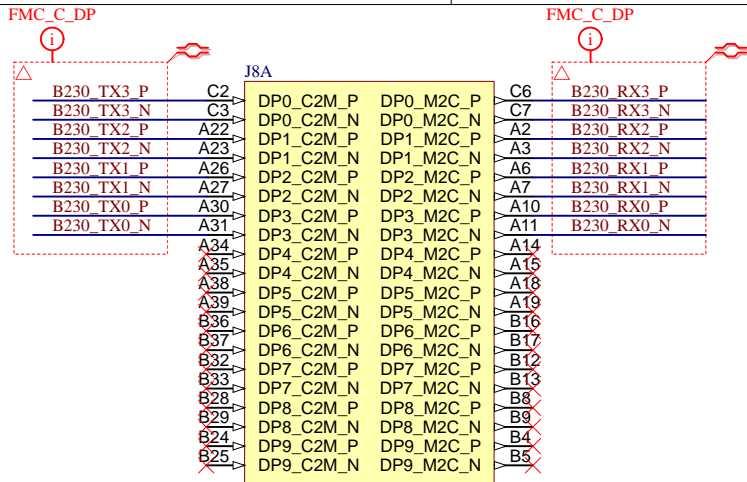
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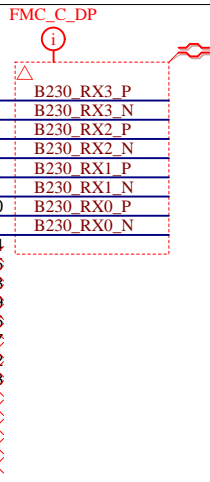
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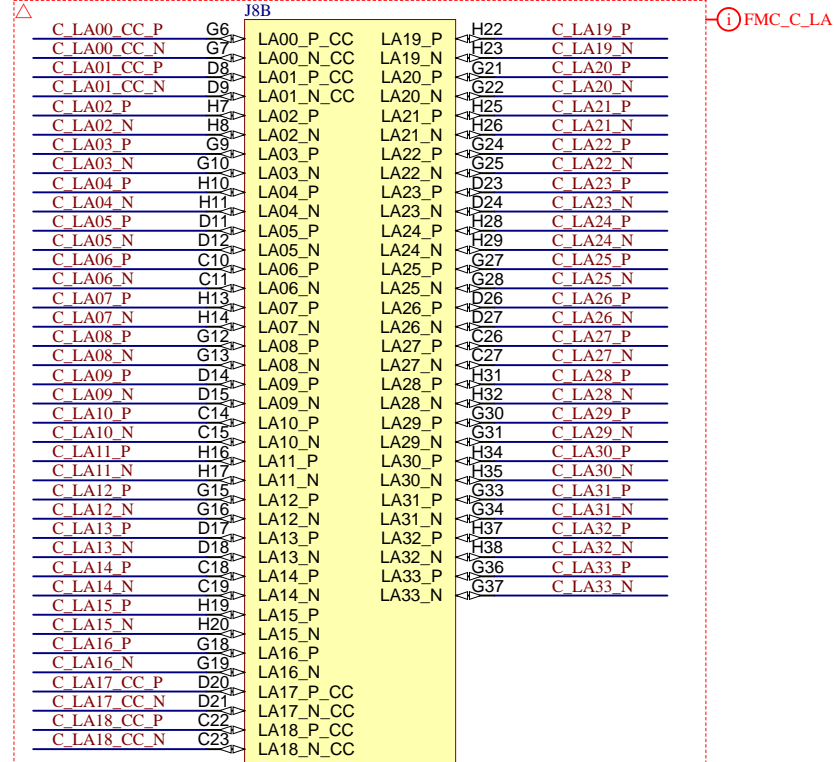
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A4	Number: TEB0911 9BEX1FA	Rev. 04
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Filename: FMC_B.SchDoc		



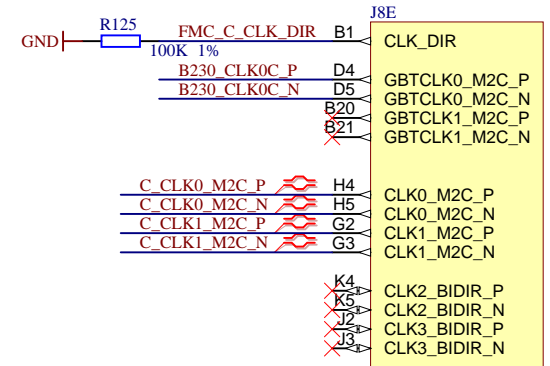
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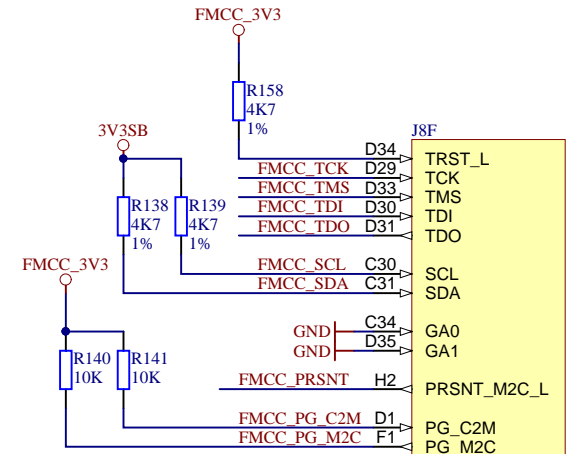
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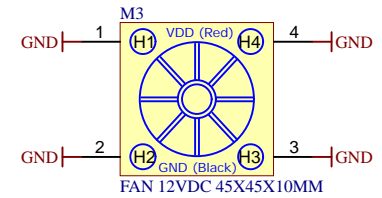
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ASP-134486-01, CC-HPC-10



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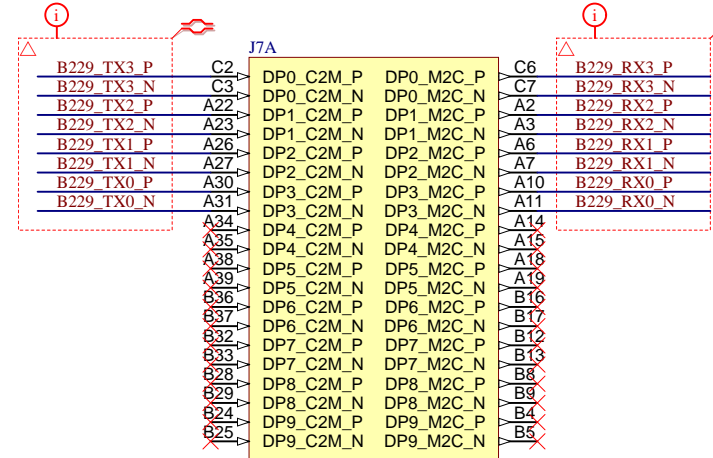


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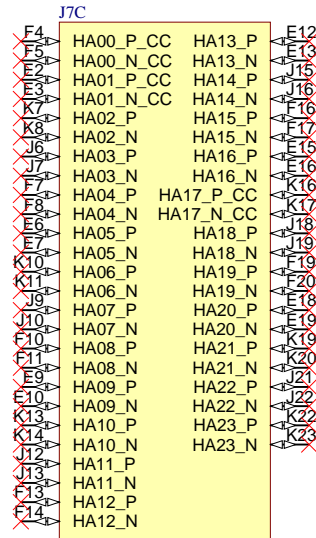
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A4	Number: TEB0911 9BEX1FA	Rev. 04
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Filename: FMC_C.SchDoc		

FMC_D_DP

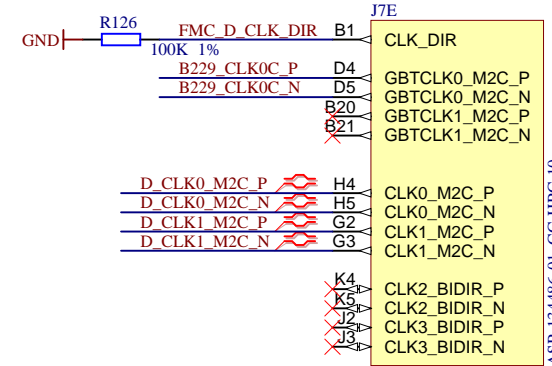
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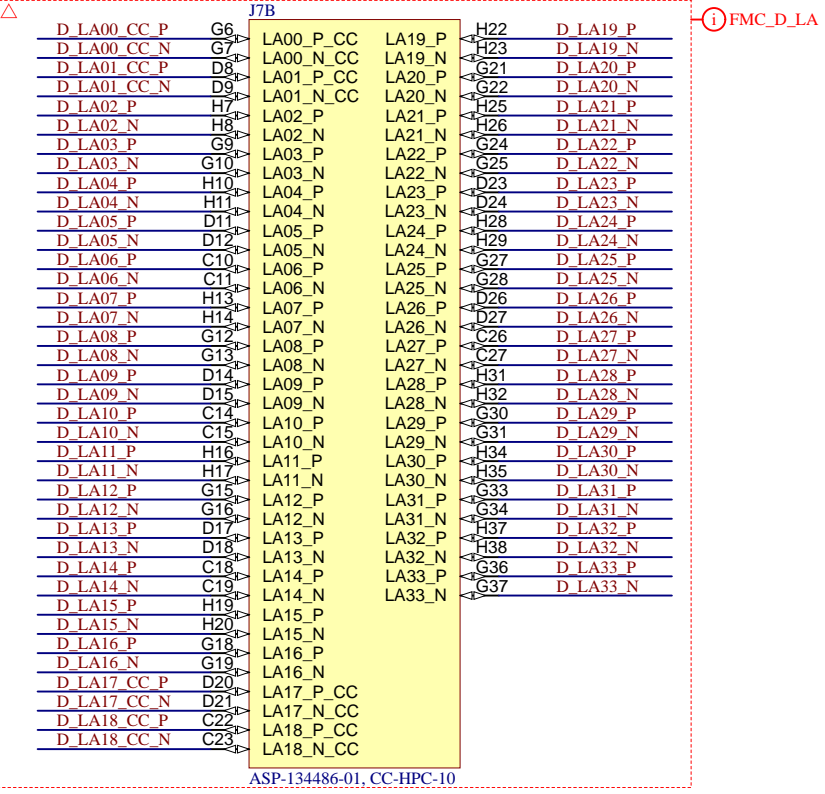
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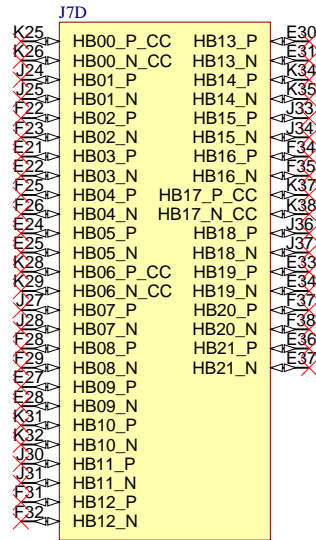
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ASP-134486-01, CC-HPC-10



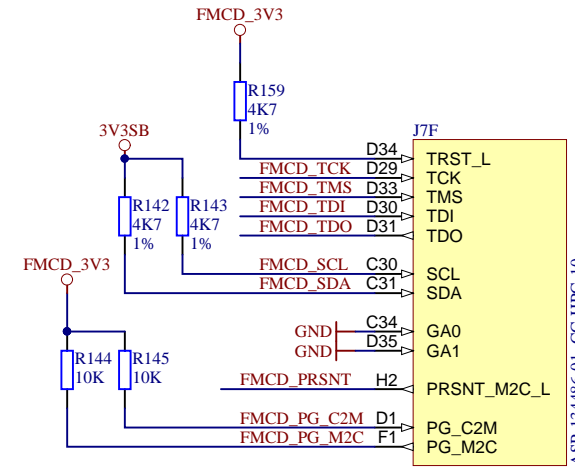
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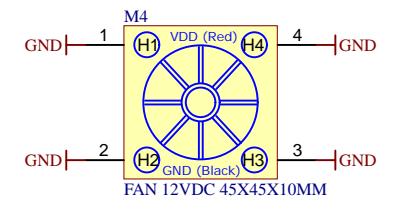
ASP-134486-01, CC-HPC-10



Single FMC Commercial Baseboard Snap

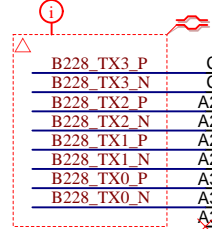


ASP-134486-01, CC-HPC-10

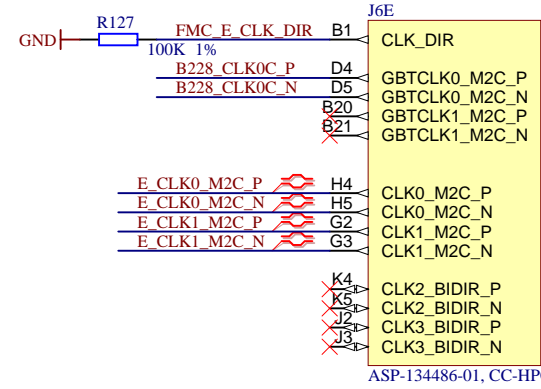
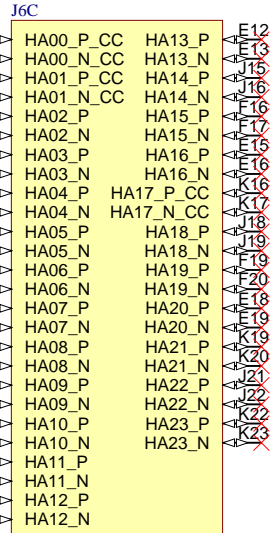
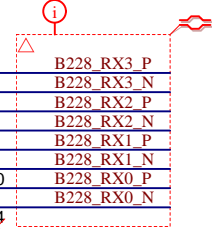


Title: TEB0911 - FMC D		
A4	Number: TEB0911 9BEX1FA	Rev. 04
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Filename: FMC_D.SchDoc		

FMC_E_DP

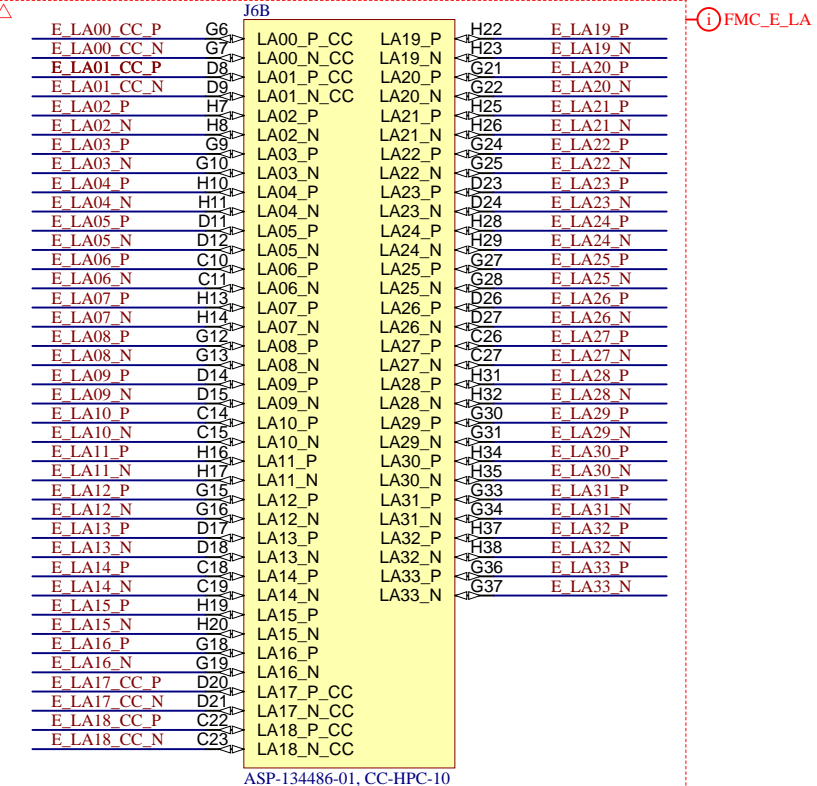


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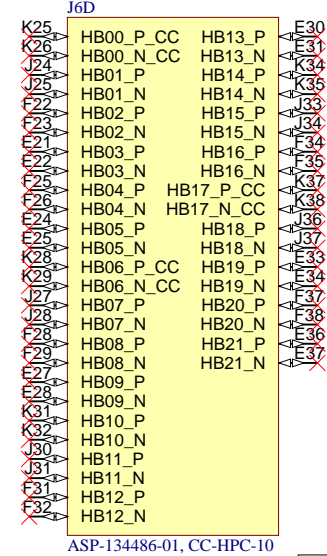
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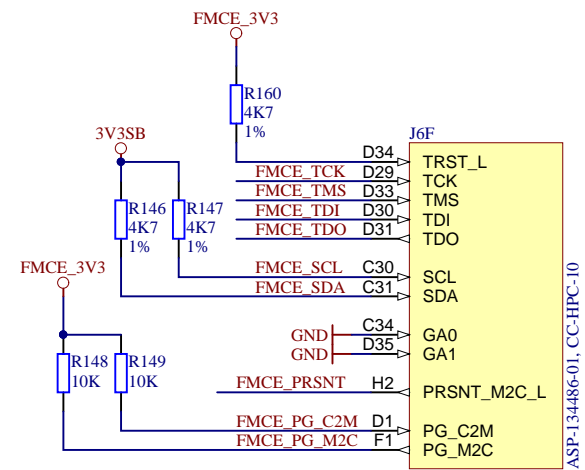


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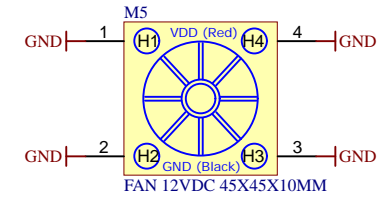
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ASP-134486-01, CC-HPC-10



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U7 SNAP

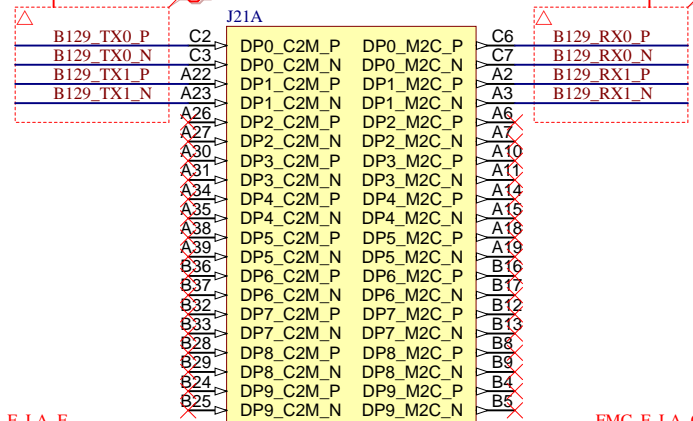
Single FMC Commercial Baseboard Snap



Title: TEB0911 - FMC E		
A4	Number: TEB0911 9BEX1FA	Rev. 04
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Filename: FMC_E.SchDoc		

FMC_F_DP

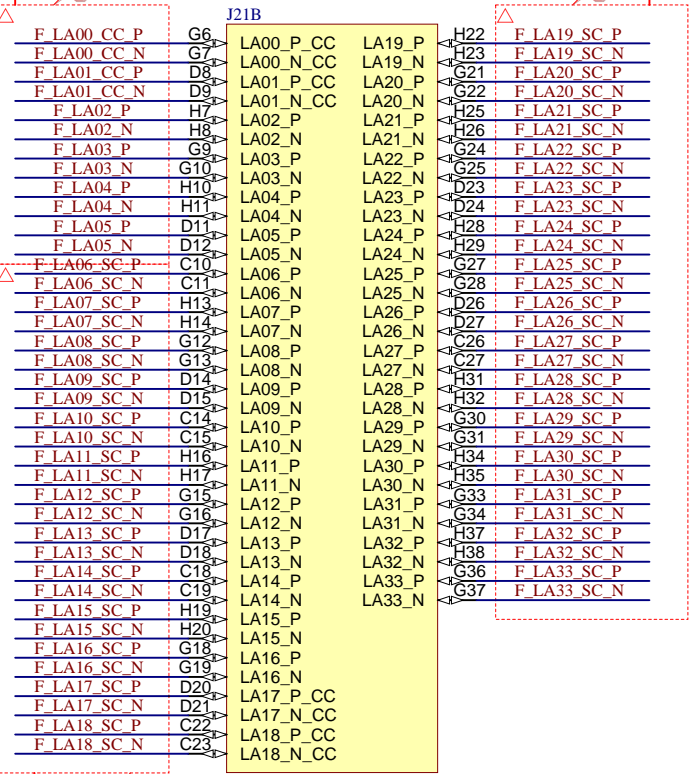
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ASP-134486-01, CC-HPC-10

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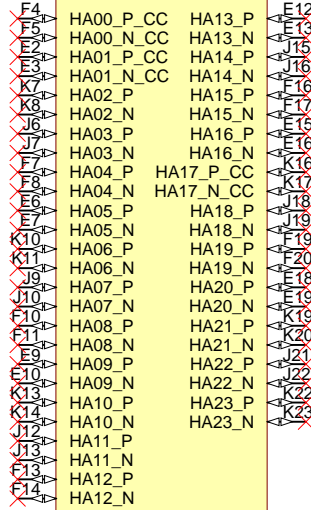
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ASP-134486-01, CC-HPC-10

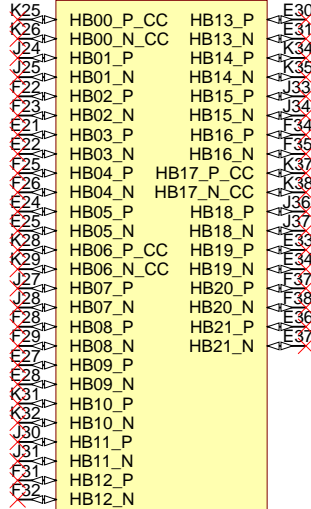
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J21C



ASP-134486-01, CC-HPC-10

J21D

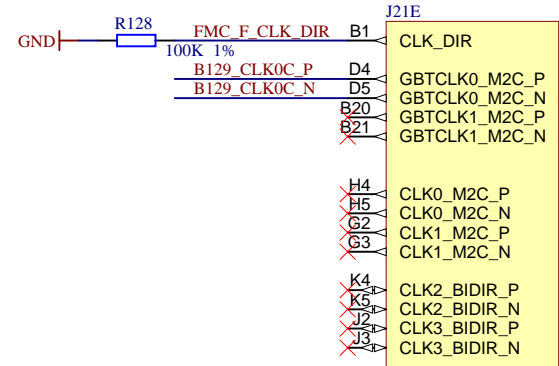


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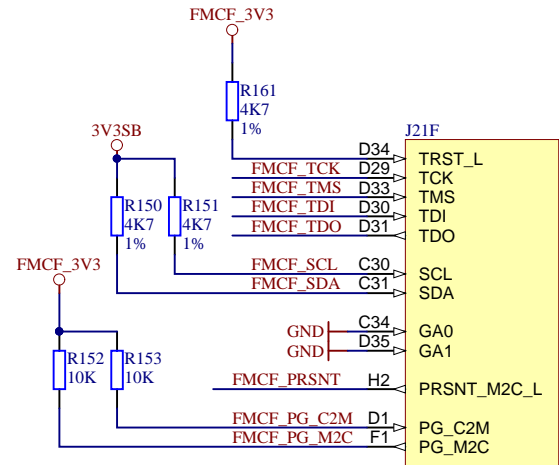
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SNAP

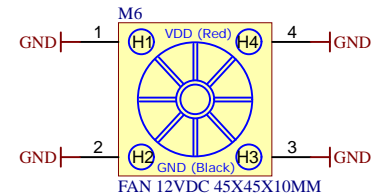
Single FMC Commercial Baseboard Snap



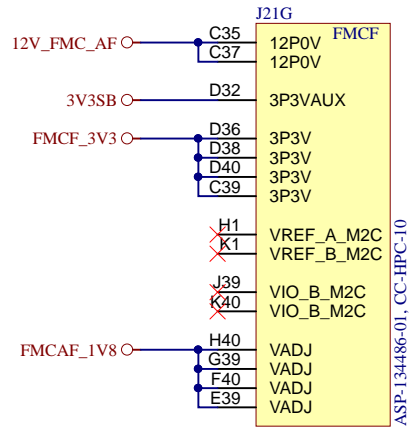
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ASP-134486-01, CC-HPC-10



Title: TEB0911 - FMC F		
A4	Number: TEB0911 9BEX1FA	Rev. 04
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Filename: FMC_F.SchDoc		



ASP-134486-01, CC-HPC-10

ASP-134486-01, CC-HPC-10

ASP-134486-01, CC-HPC-10

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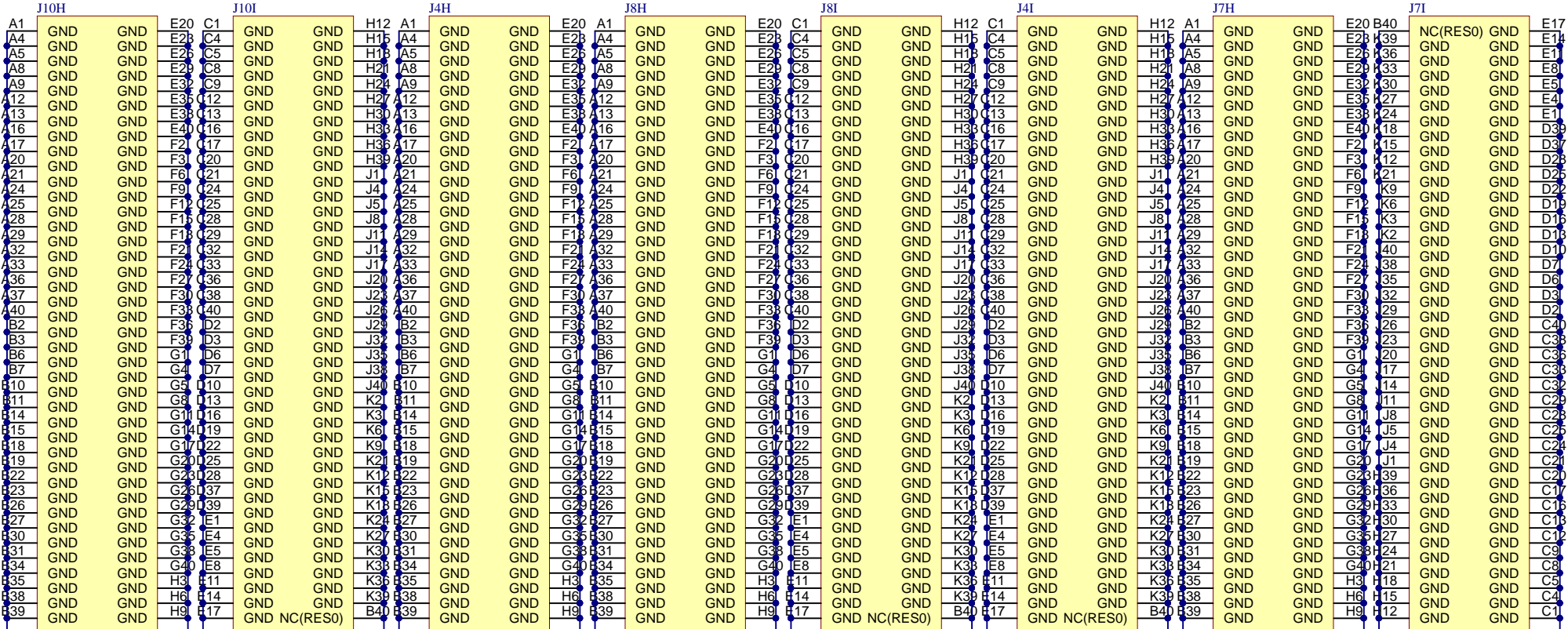
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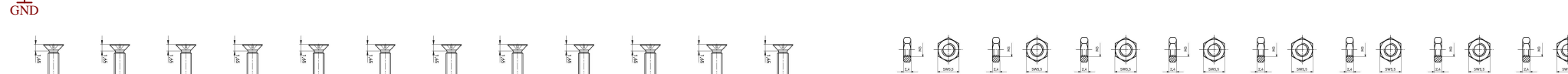
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ASP-134486-01, CC-HPC-10 ASP-134486-01, CC-HPC-10 ASP-134486-01, CC-HPC-10 ASP-134486-01, CC-HPC-10 ASP-134486-01, CC-HPC-10 ASP-134486-01, CC-HPC-10 ASP-134486-01, CC-HPC-10



Screw M3x6 C.Head Screw M3x6 C.Head Screw M3x6 C.Head Screw M3x6 C.Head Screw M3x6 C.Head Screw M3x6 C.Head Screw M3x6 C.Head Screw M3x6 C.Head Screw M3x6 C.Head Screw M3x6 C.Head Screw M3x6 C.Head Screw M3x6 C.Head Screw M3x6 C.Head Screw M3x6 C.Head

Screw M3x6 C.Head Screw M3x6 C.Head Screw M3x6 C.Head Screw M3x6 C.Head Screw M3x6 C.Head Screw M3x6 C.Head Screw M3x6 C.Head Screw M3x6 C.Head Screw M3x6 C.Head Screw M3x6 C.Head Screw M3x6 C.Head Screw M3x6 C.Head Screw M3x6 C.Head Screw M3x6 C.Head

Nut M3 Nut M3 Nut M3 Nut M3 Nut M3 Nut M3 Nut M3 Nut M3 Nut M3 Nut M3 Nut M3 Nut M3 Nut M3 Nut M3



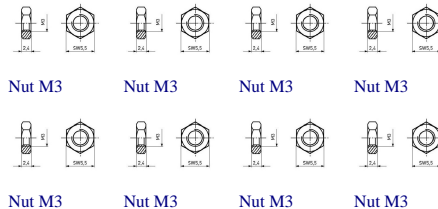
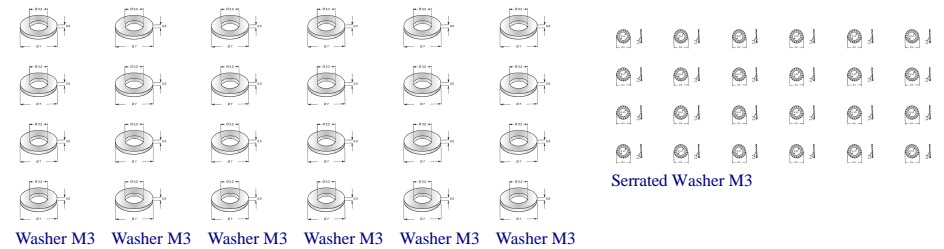
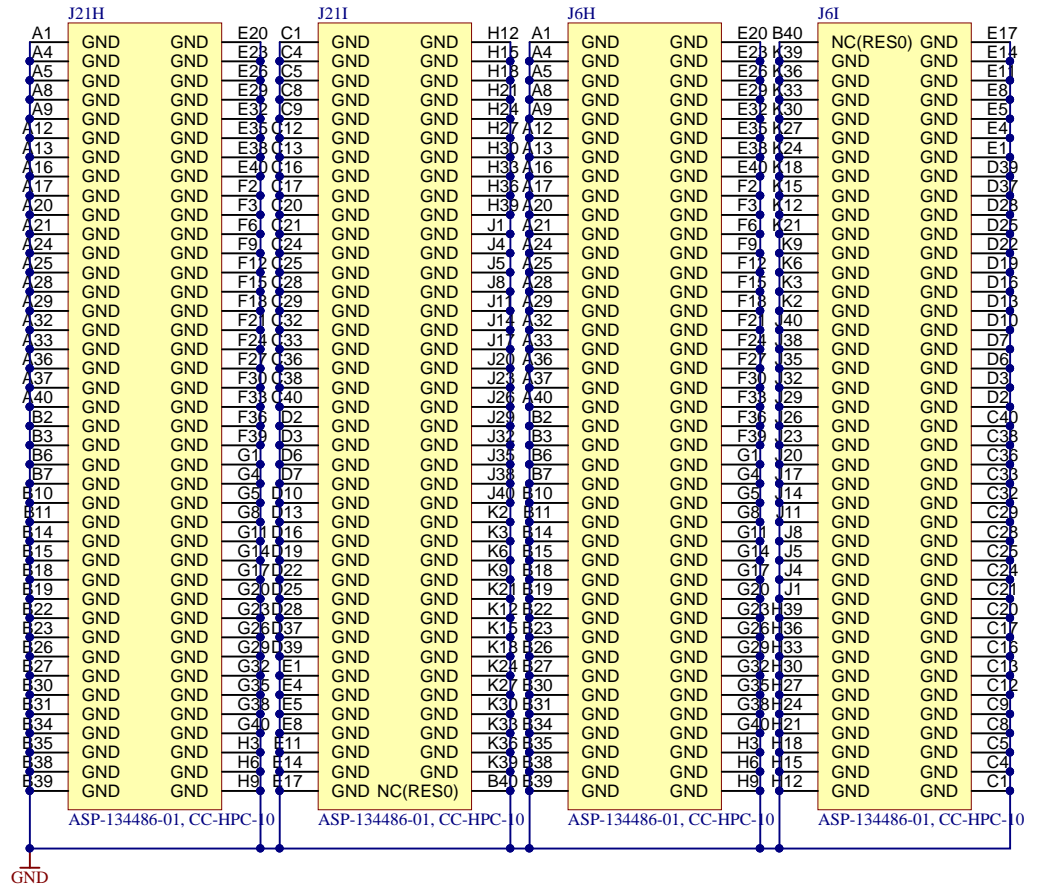
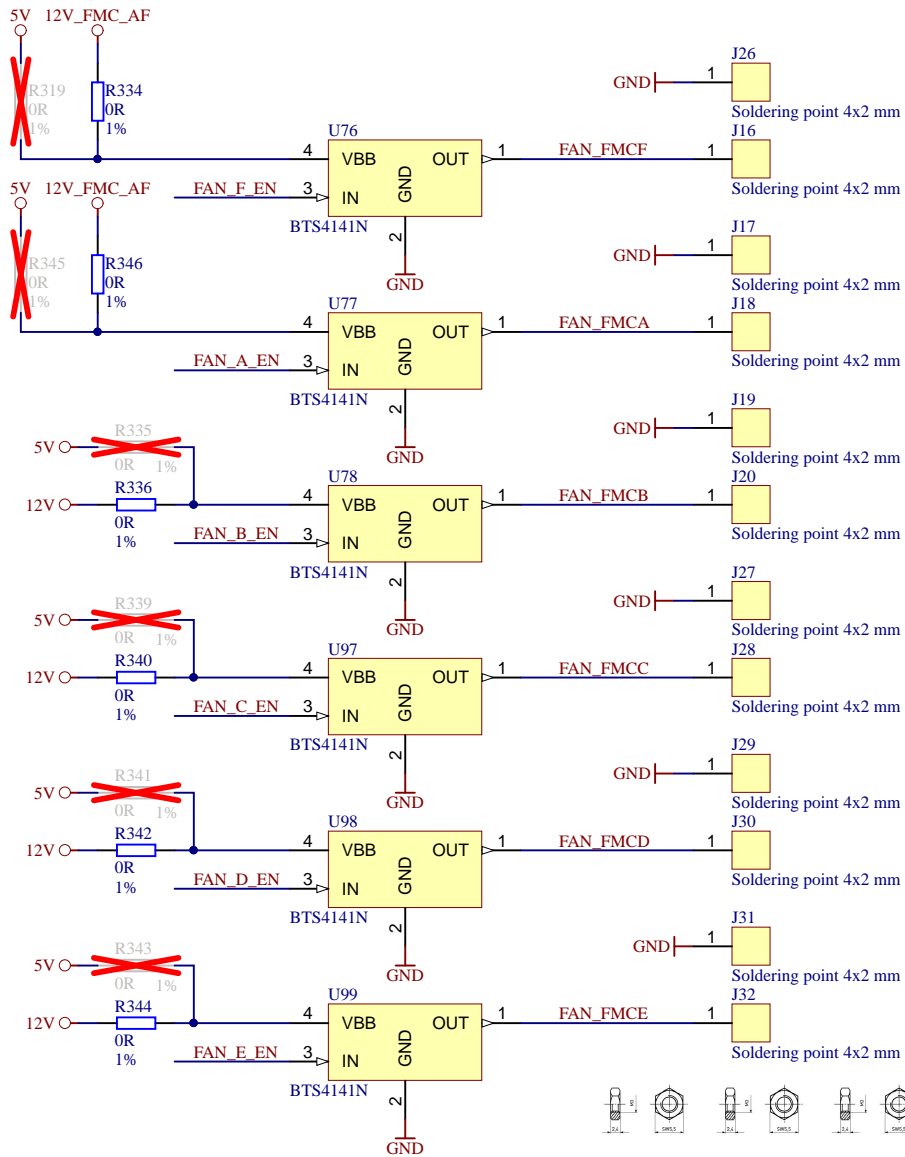
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A4	Number: TEB0911 9BEX1FA	Rev. 04
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Filename: FMC_GND.SchDoc		

1

2

3

4



Title: TEB0911 - FMC GND FAN		
A4	Number: TEB0911 9BEX1FA	Rev. 04
Date: 18.09.2018	Copyright: Trenz Electronic GmbH	Page 29 of 58
Filename: FMC GND2.SchDoc		

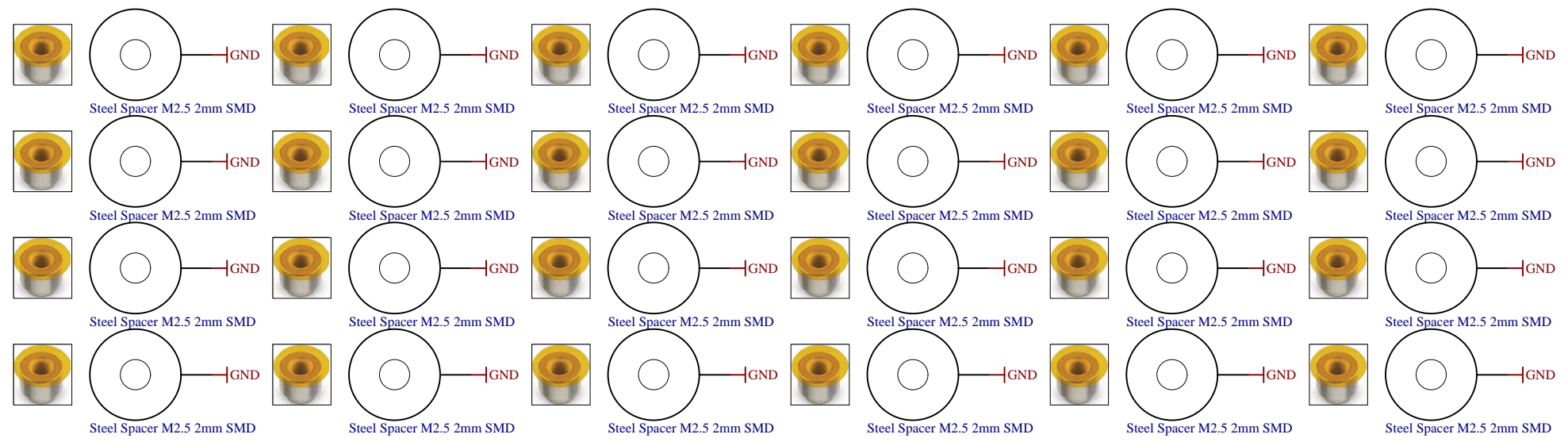
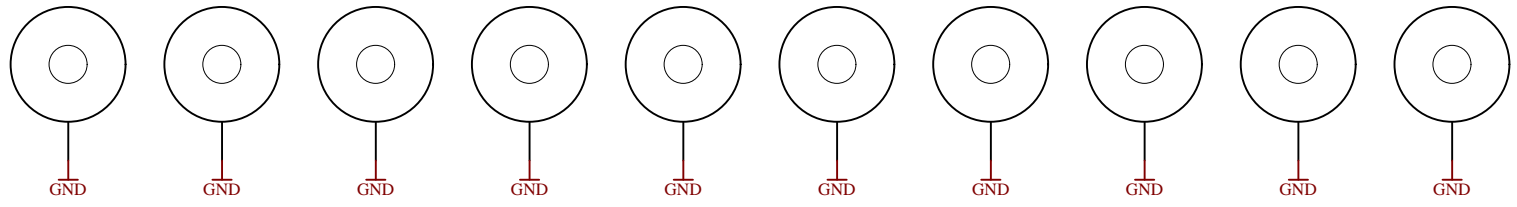
1


2

3

4

Mount.Hole 3.2mm Mount.Hole 3.2mm Mount.Hole 3.2mm Mount.Hole 3.2mm Mount.Hole 3.2mm Mount.Hole 3.2mm Mount.Hole 3.2mm Mount.Hole 3.2mm Mount.Hole 3.2mm Mount.Hole 3.2mm



	Title: TEB0911 - FMC MECH		
	A4	Number: TEB0911 9BEX1FA	Rev. 04
	Date: 18.09.2018	Copyright: Trenz Electronic GmbH	Page 30 of 58
	Filename: FMC_MECH.SchDoc		

1

2

3

4

A

B

C

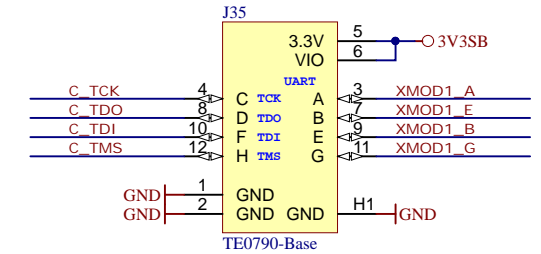
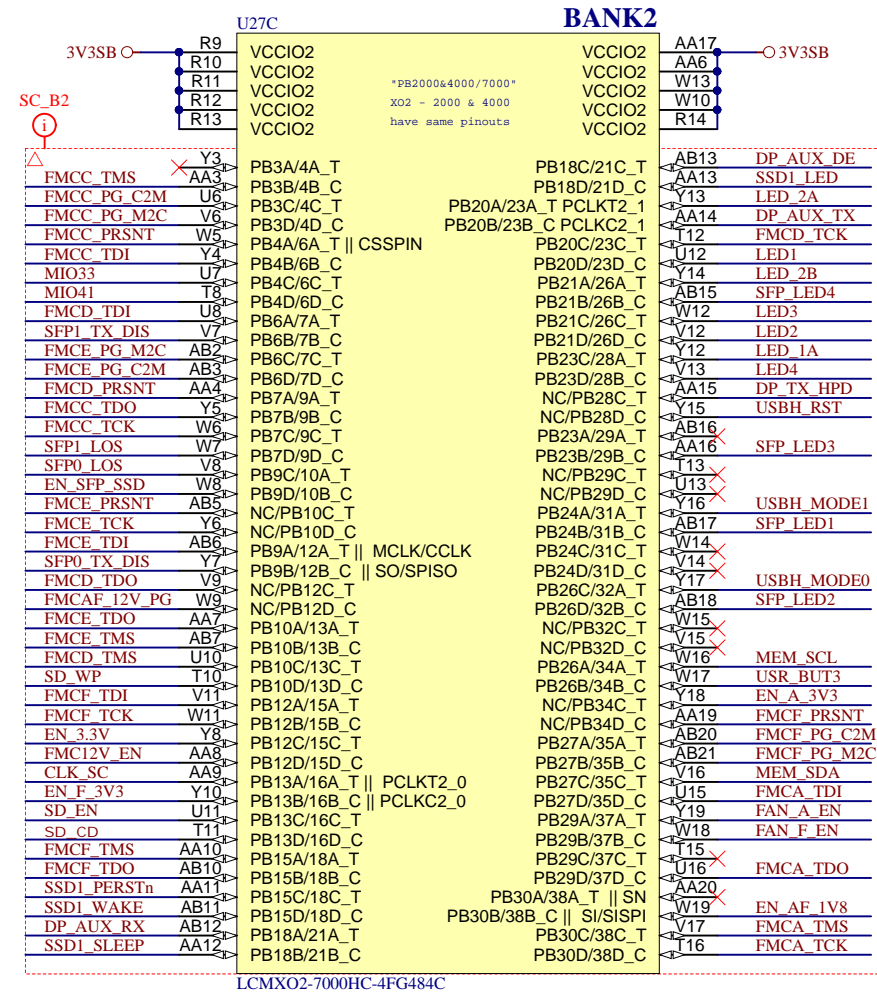
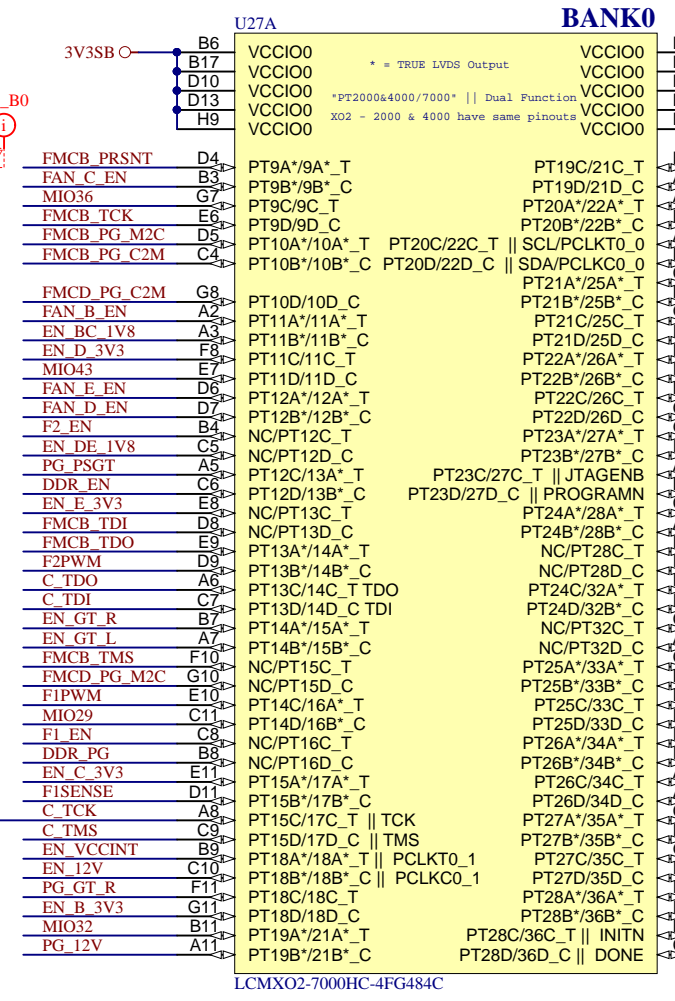
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A

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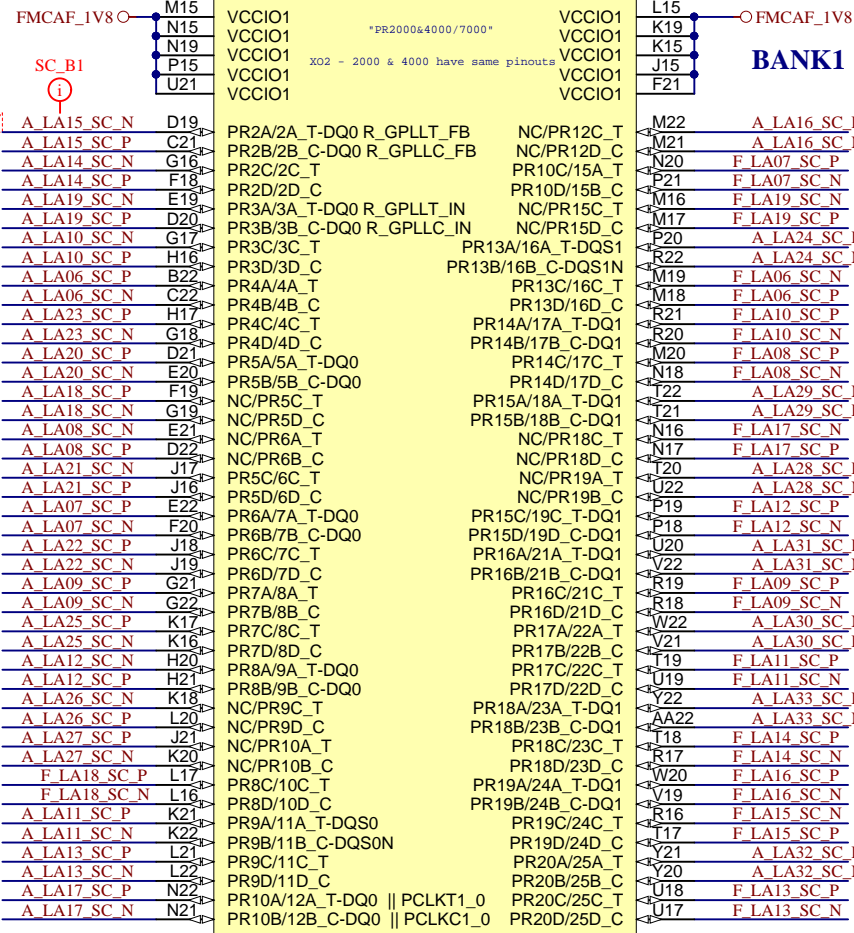
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D



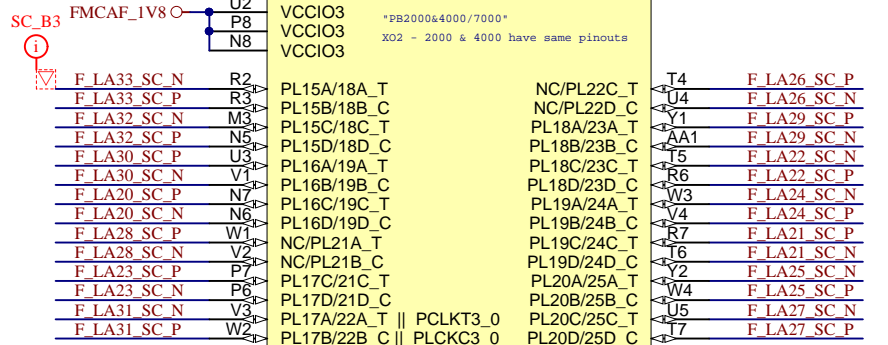
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A4	Number: TEB0911 9BEX1FA	Rev. 04
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Filename: SC.schdoc		

U27B



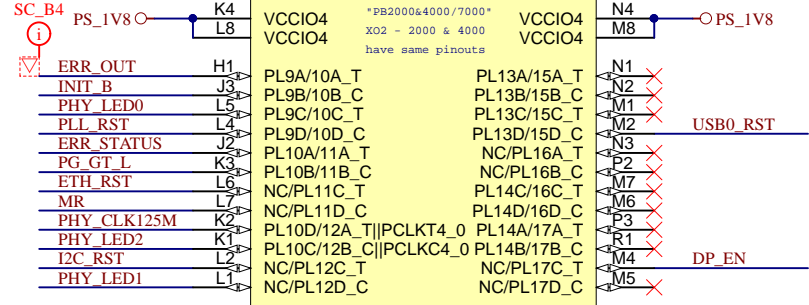
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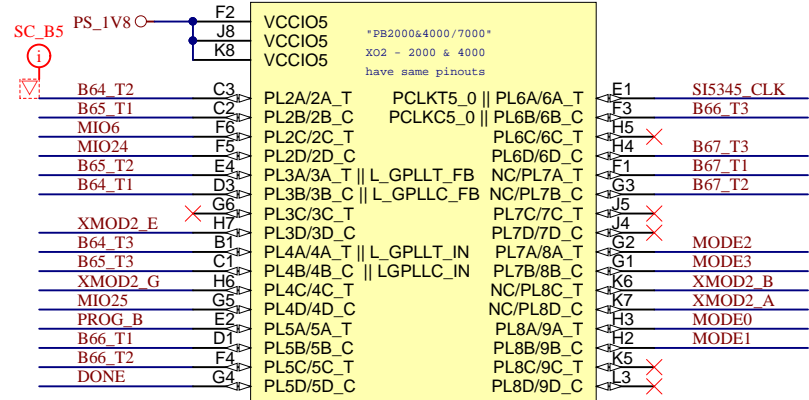
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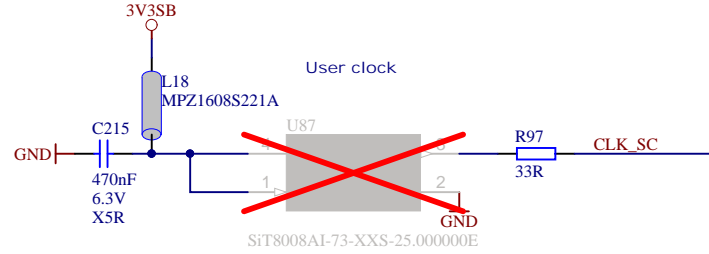


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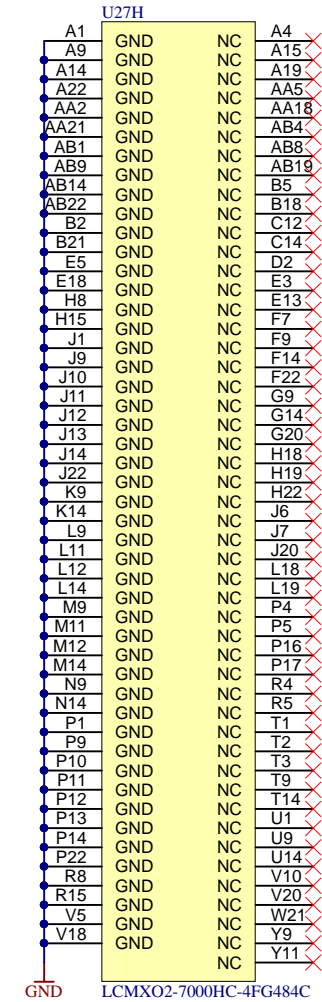
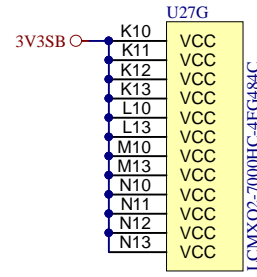
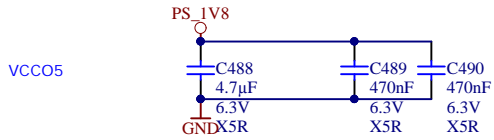
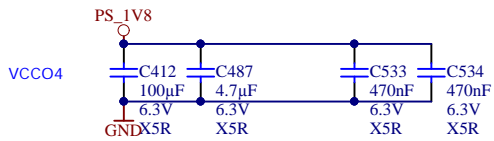
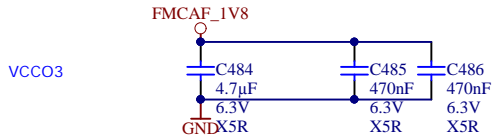
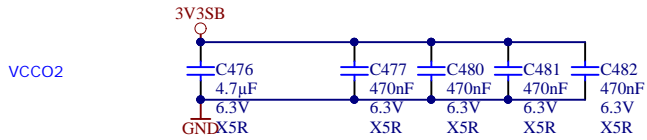
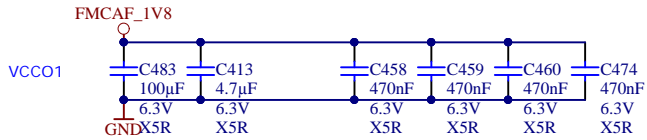
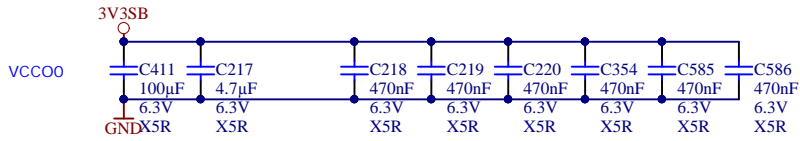
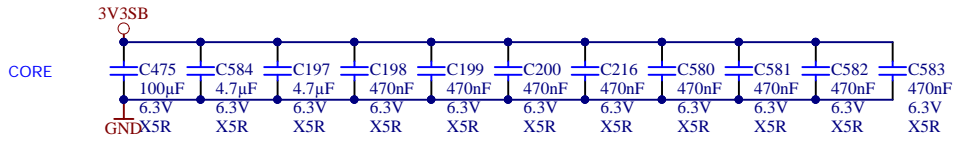
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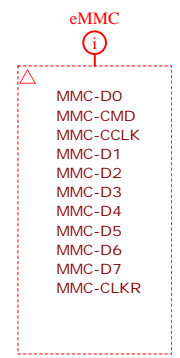
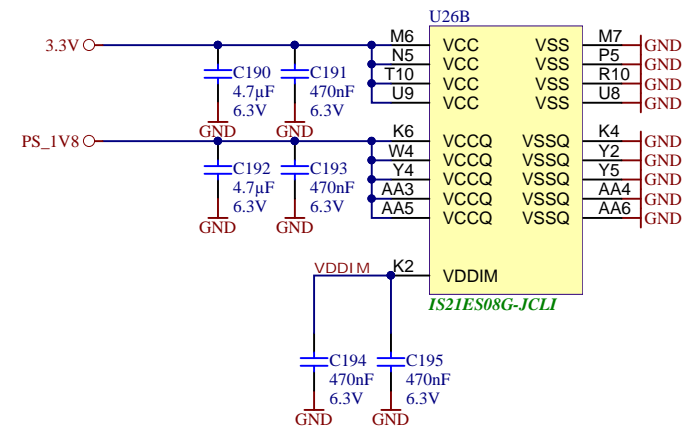
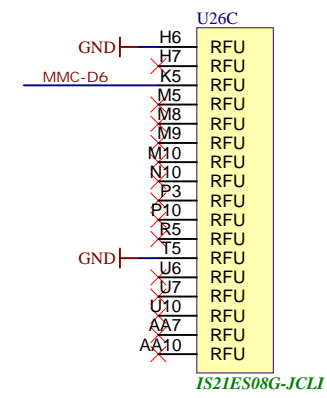
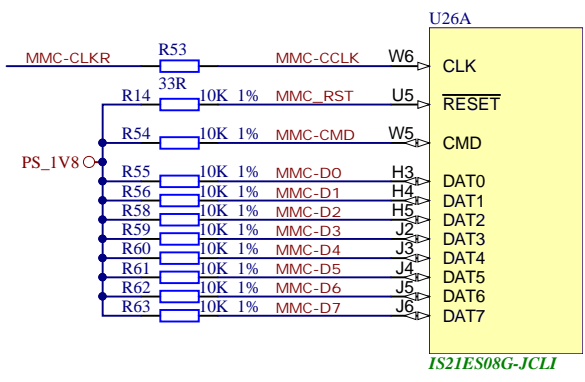
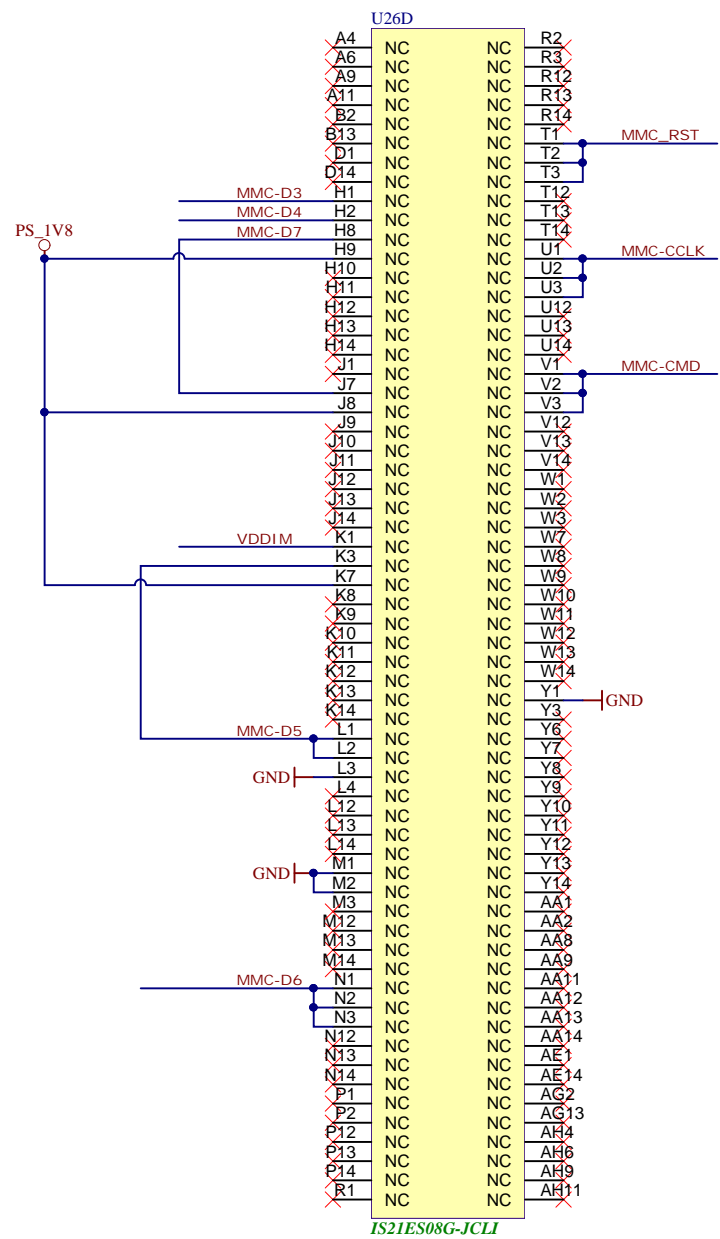
trenz electronic

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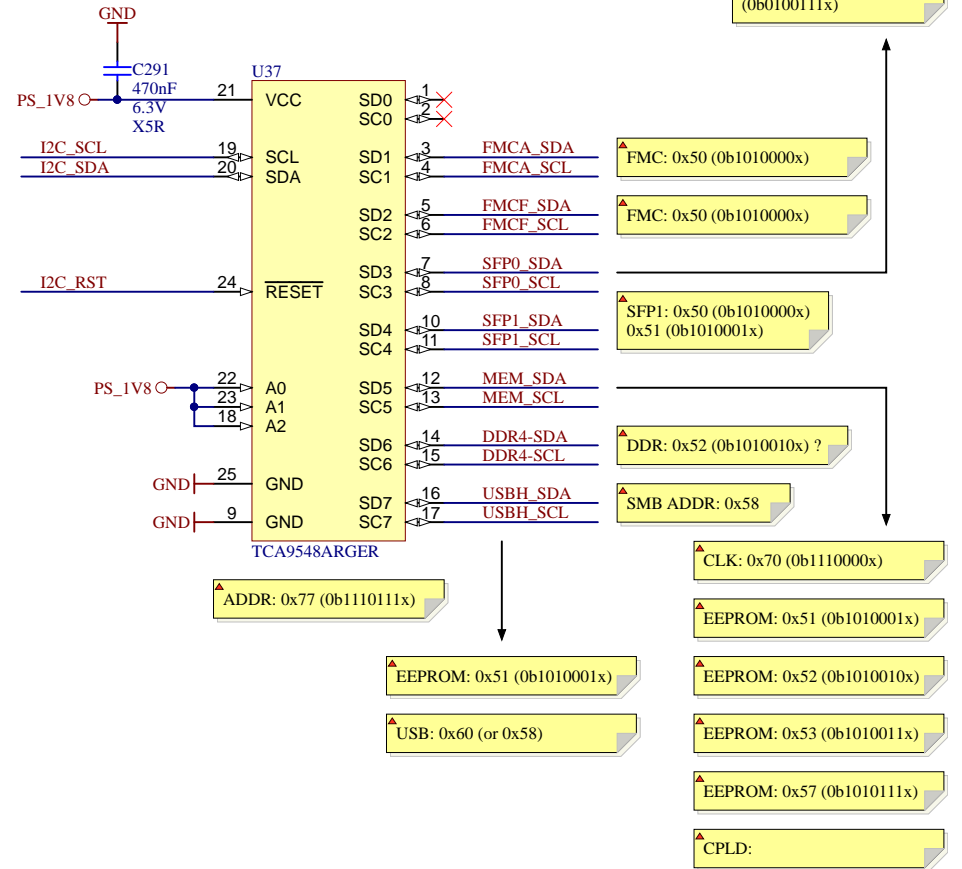
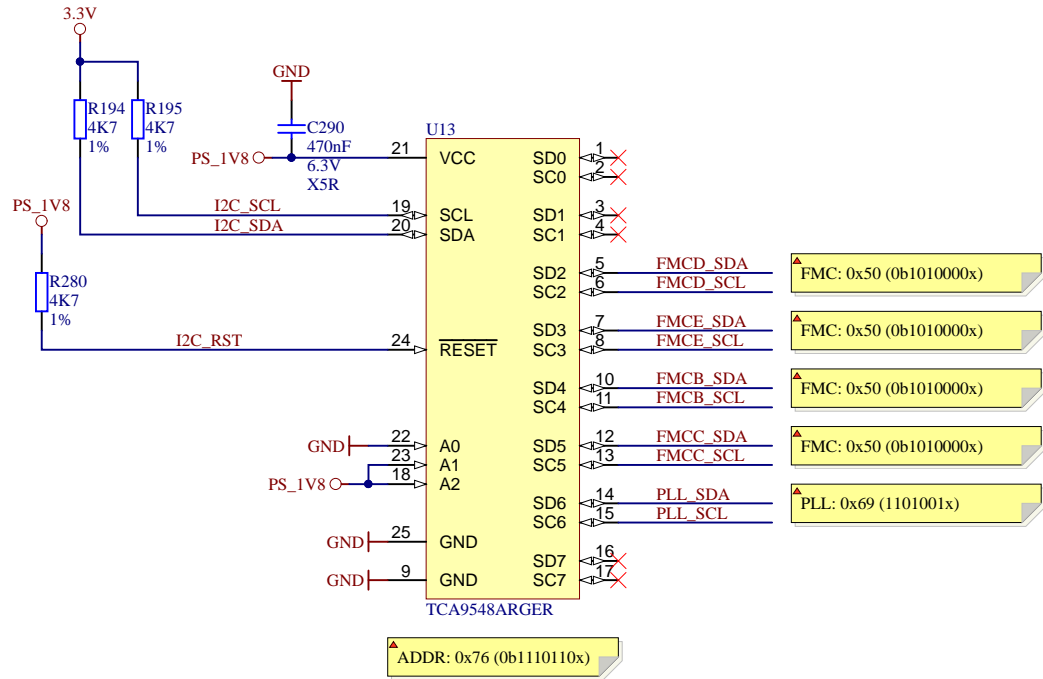
A4	Number: TEB0911 9BEX1FA	Rev. 04
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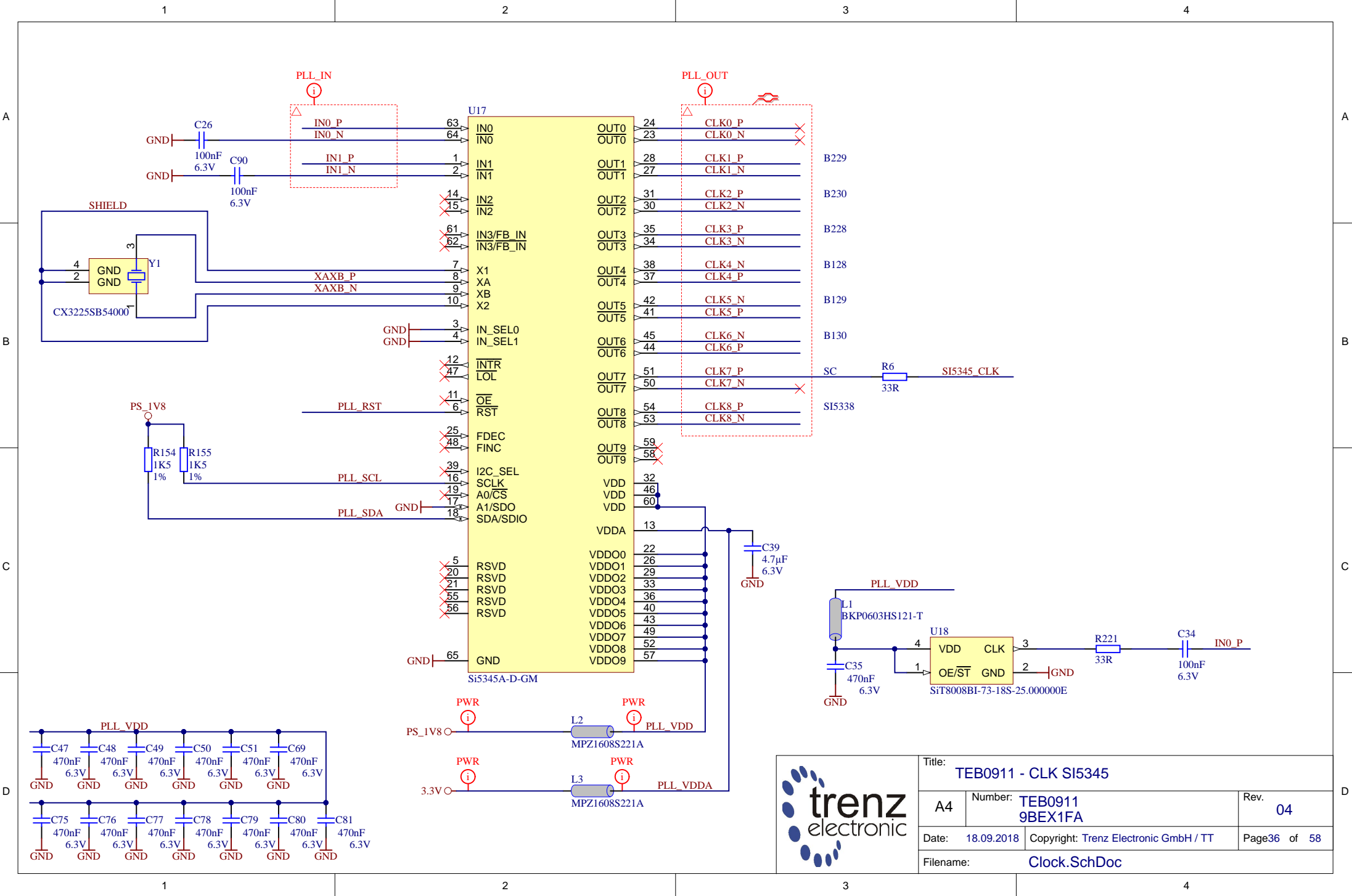
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A4	Number: TEB0911 9BEX1FA	Rev. 04
Date: 18.09.2018	Copyright: Trenz Electronic GmbH	Page 33 of 58
Filename: SC_POWER.schdoc		



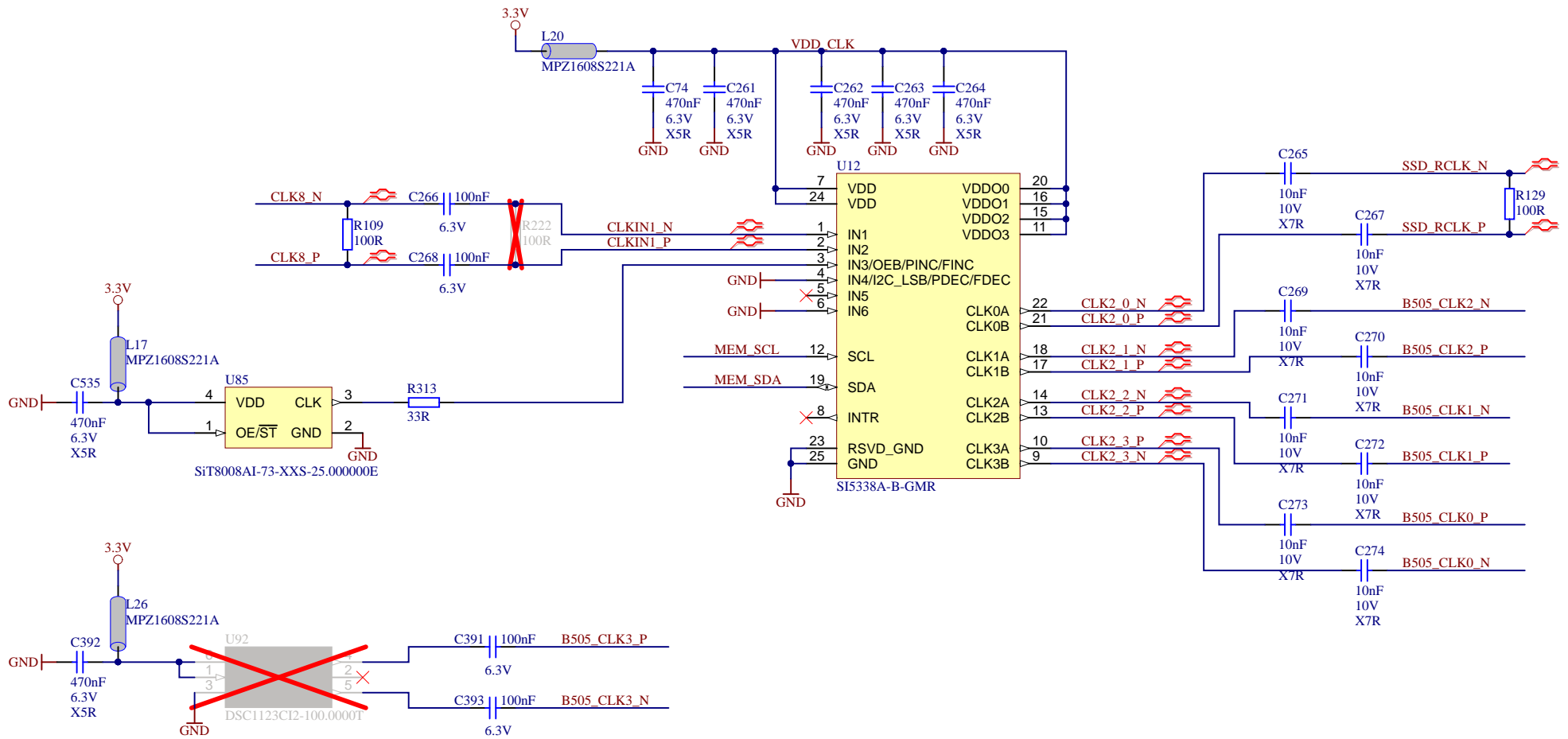
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A4	Number: TEB0911 9BEX1FA	Rev. 04
Date: 18.09.2018	Copyright: Trenz Electronic GmbH	Page 34 of 58
Filename: eMMC.SchDoc		




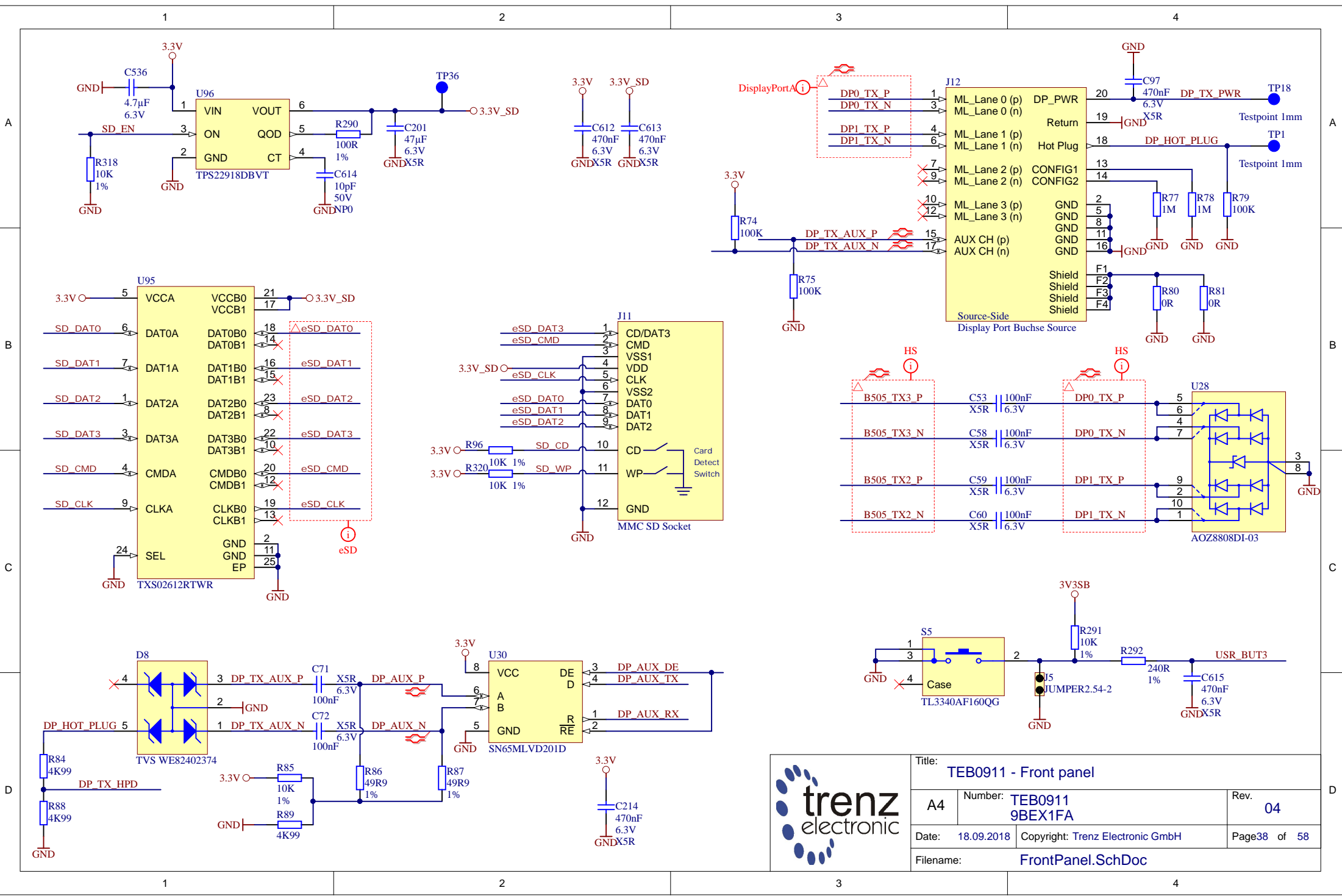
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	A4	Number: TEB0911 9BEX1FA	Rev. 04
	Date: 18.09.2018	Copyright: Trenz Electronic GmbH	Page 35 of 58
	Filename: I2C_system.schdoc		




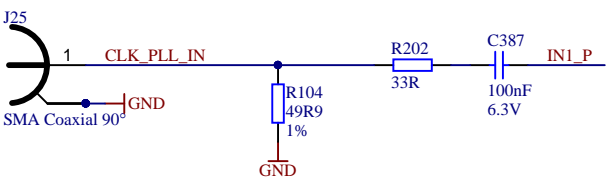
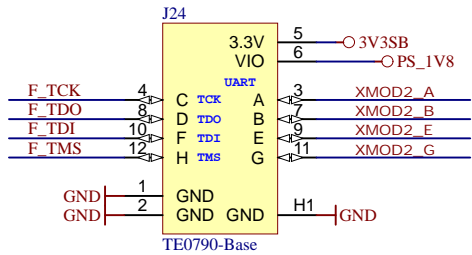
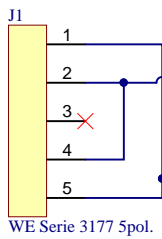
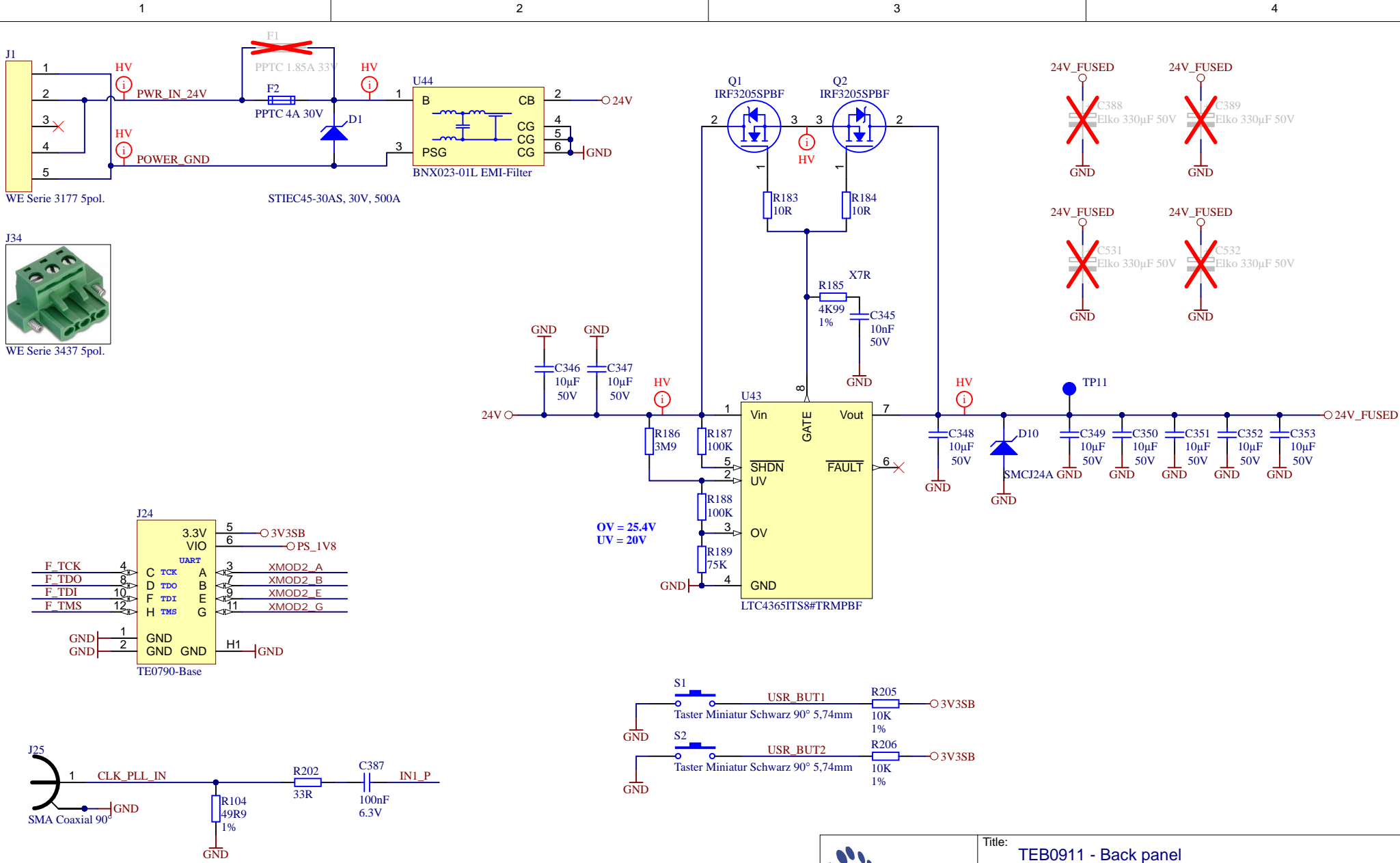
			
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Date: 18.09.2018	Copyright: Trenz Electronic GmbH / TT	Page 36 of 58	
Filename: Clock.SchDoc			



		Title: TEB0911 - CLK SI5338	
		A4	Number: TEB0911 9BEX1FA
Date: 18.09.2018		Copyright: Trenz Electronic GmbH	
Filename: Clock2.SchDoc		Page 37 of 58	



			Title: TEB0911 - Front panel	
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Date: 18.09.2018		Copyright: Trenz Electronic GmbH		Page 38 of 58
Filename: FrontPanel.SchDoc				



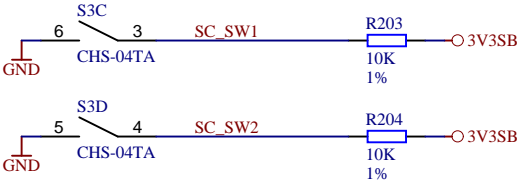
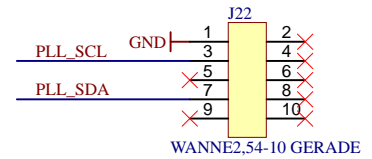
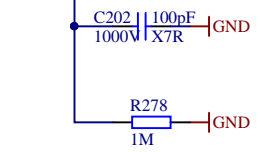
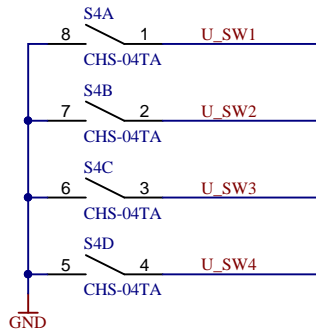
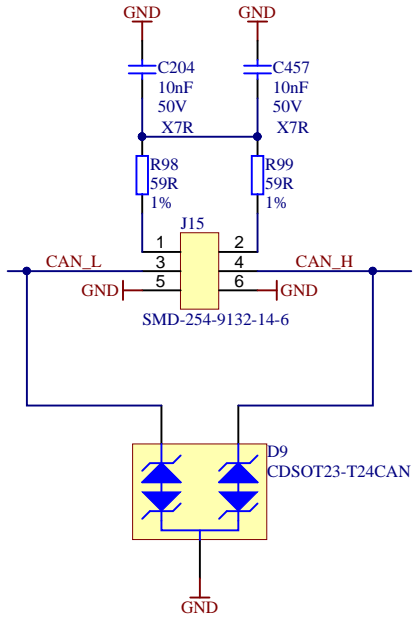
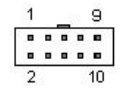
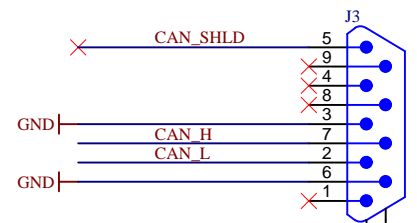
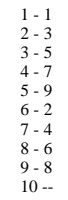
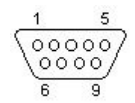
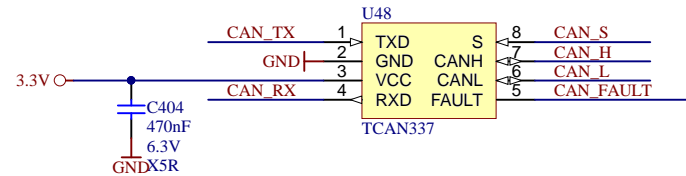
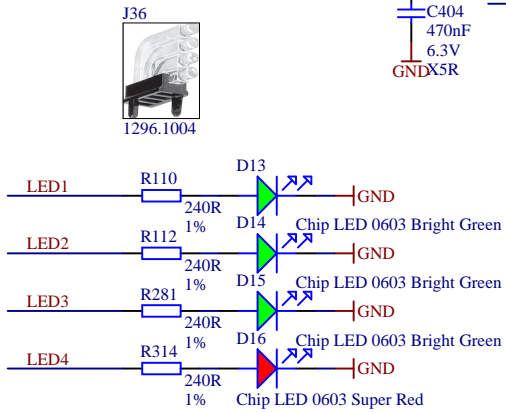
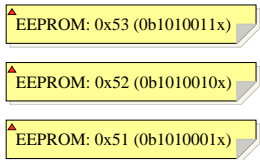
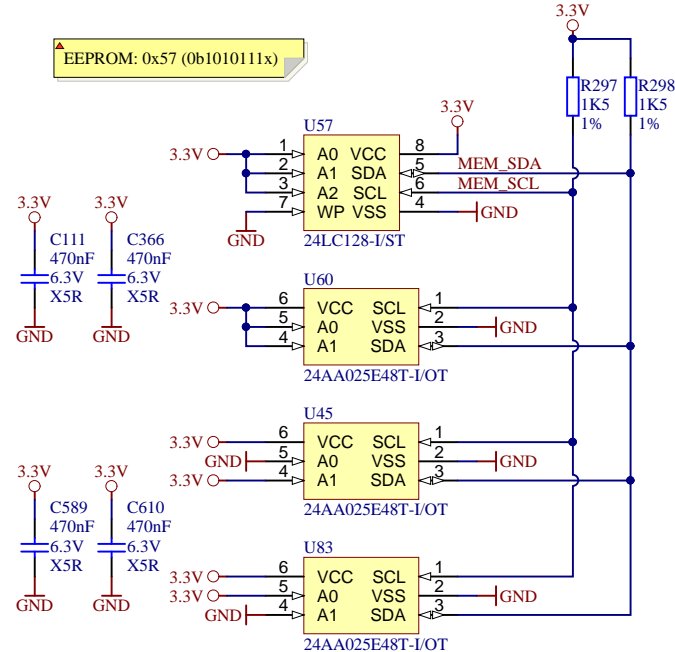
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Filename: BackPanel.SchDoc		

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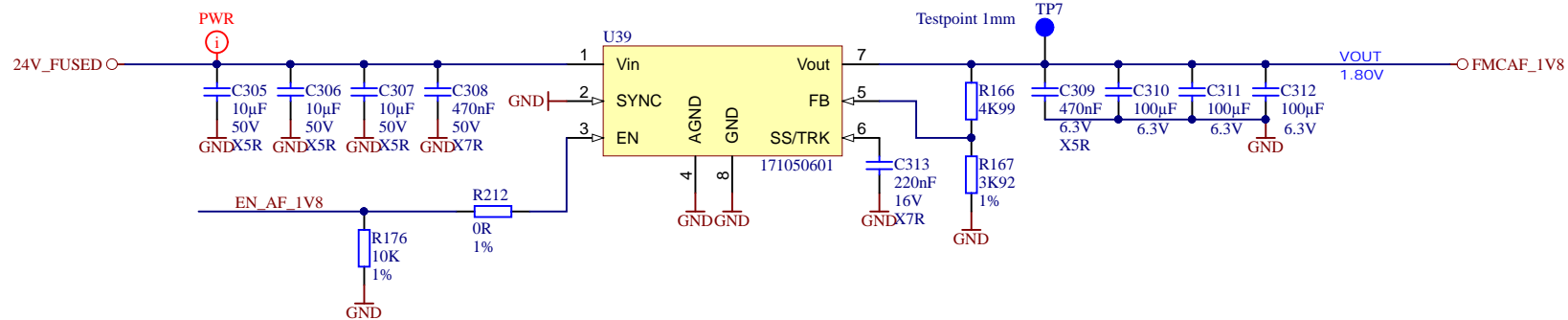
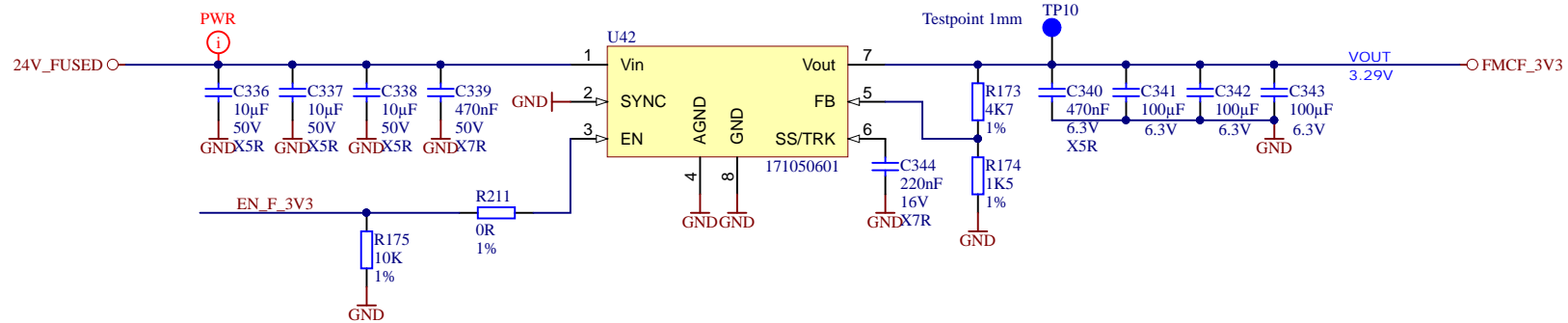
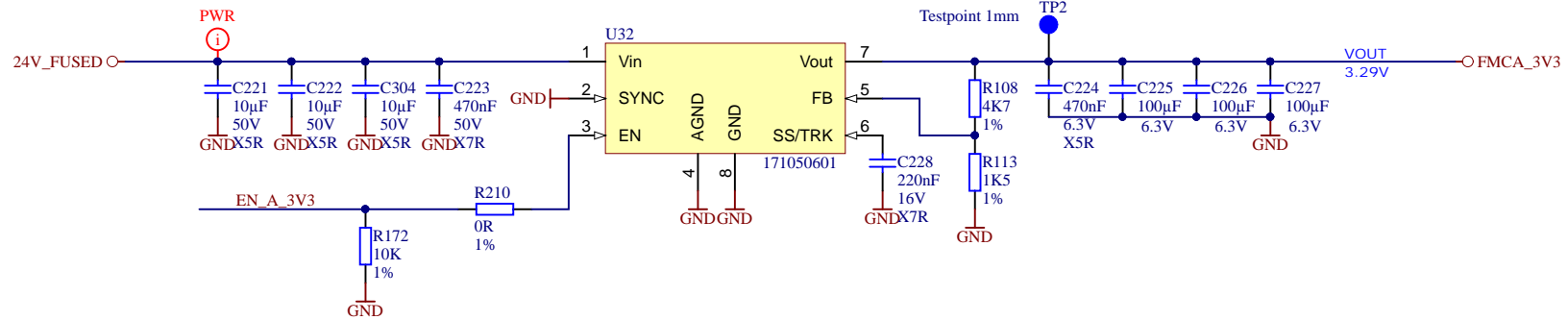
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C

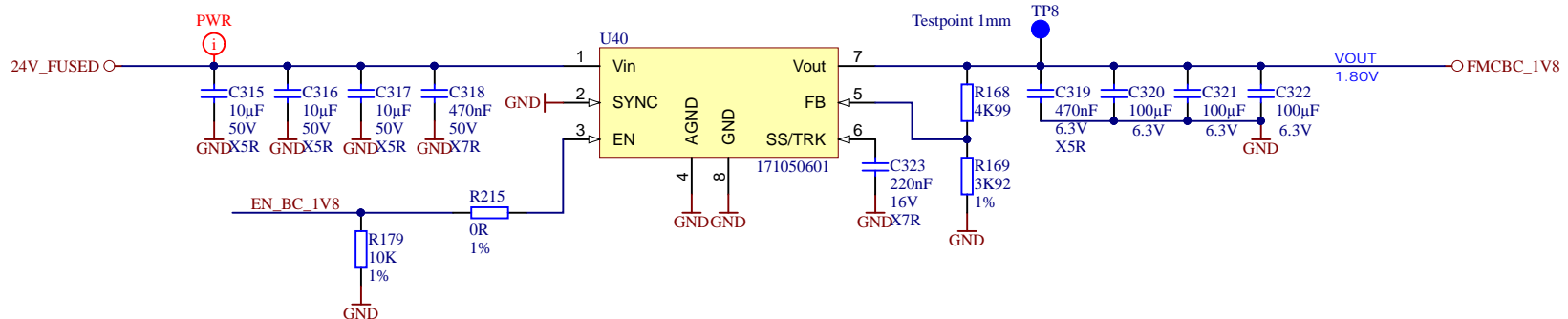
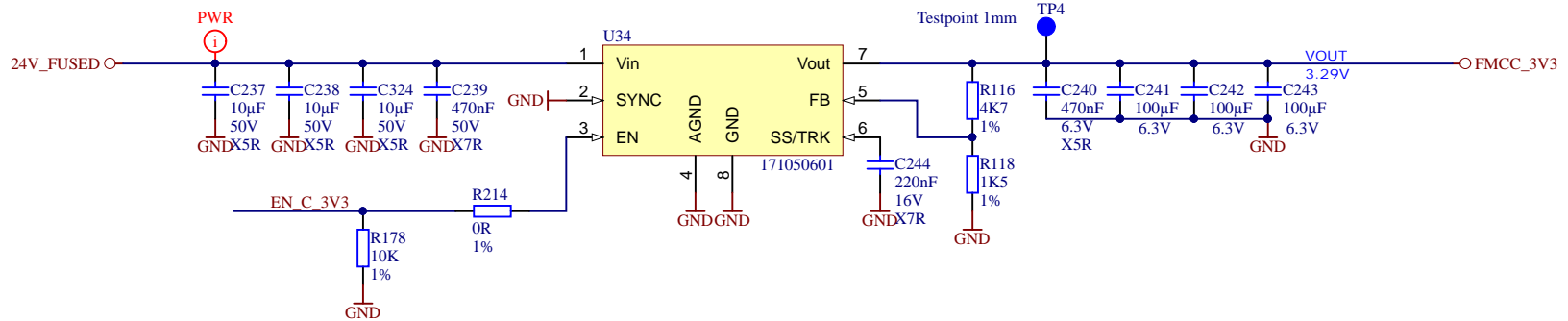
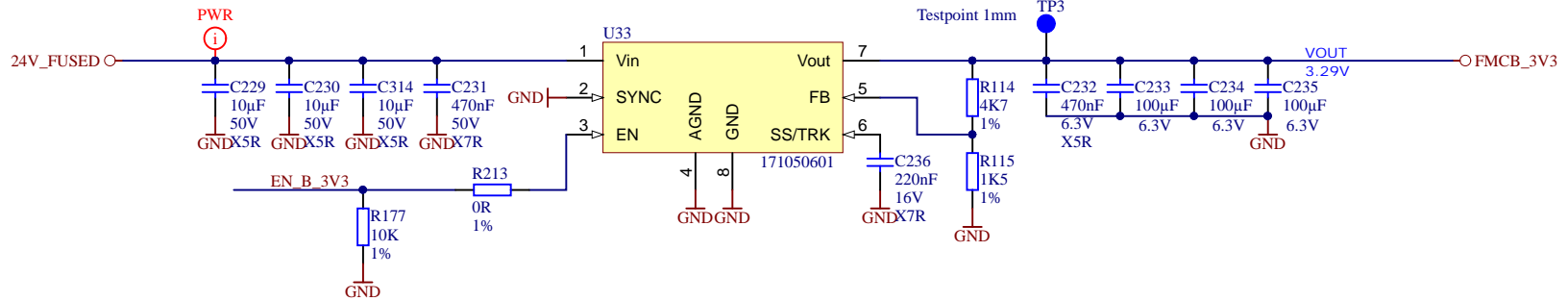
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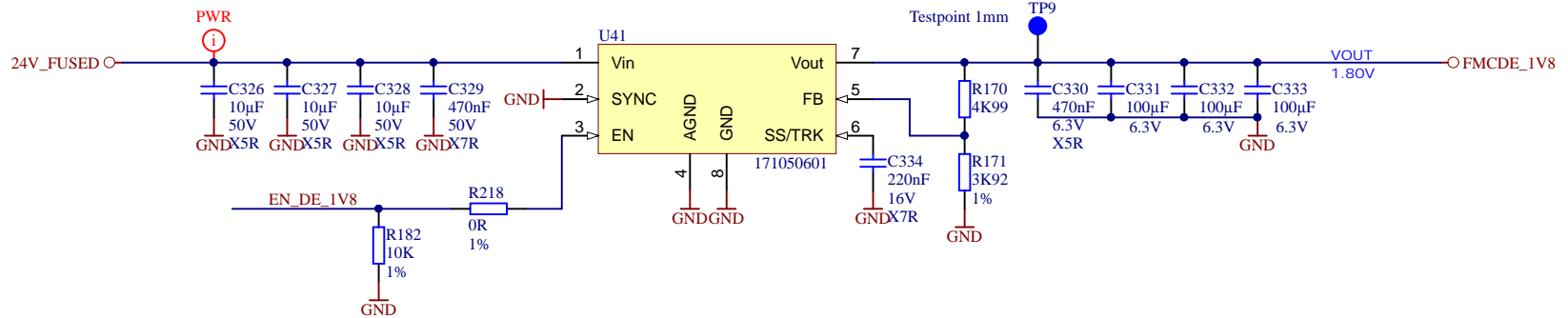
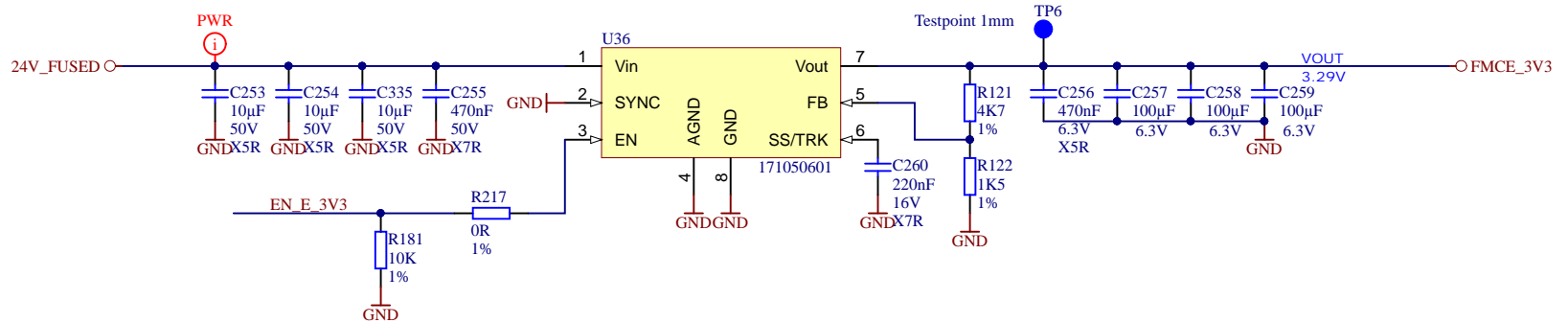
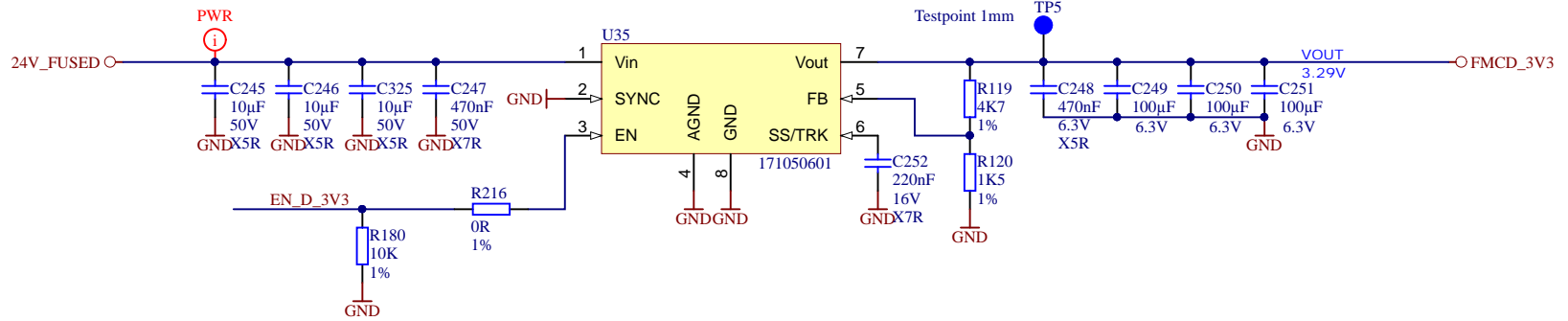
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Date: 18.09.2018	Copyright: Trenz Electronic GmbH	Page 40 of 58
Filename: MISC.schdoc		




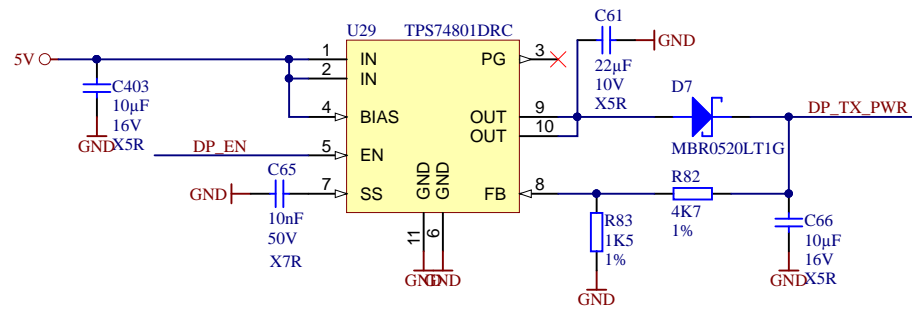
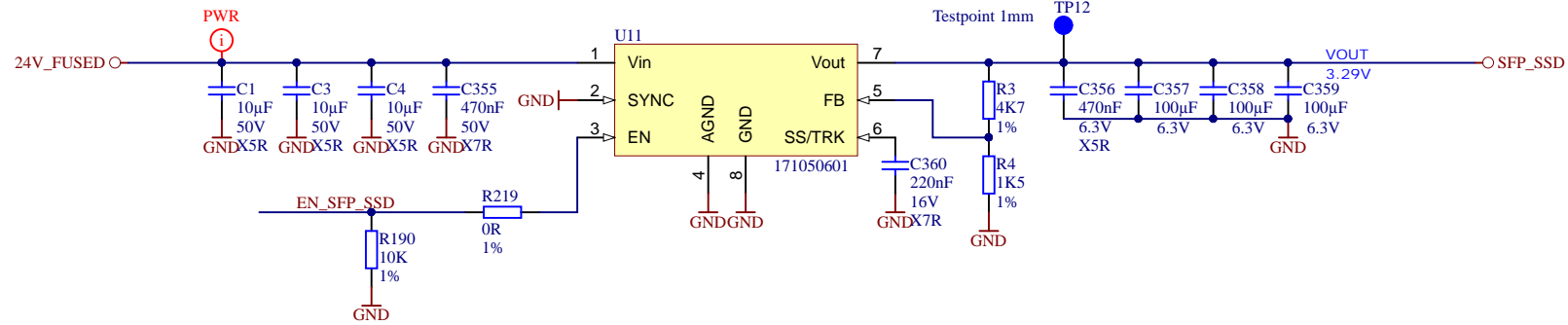
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Date: 18.09.2018		Copyright: Trenz Electronic GmbH		Page 41 of 58
Filename: POWER_1.schdoc				




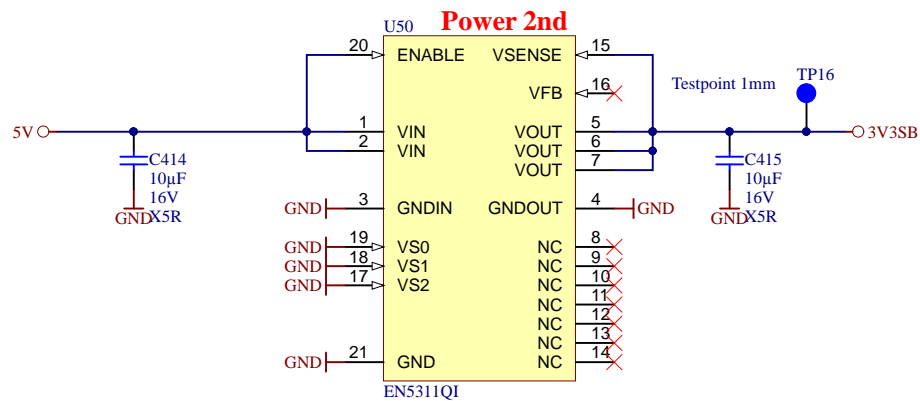
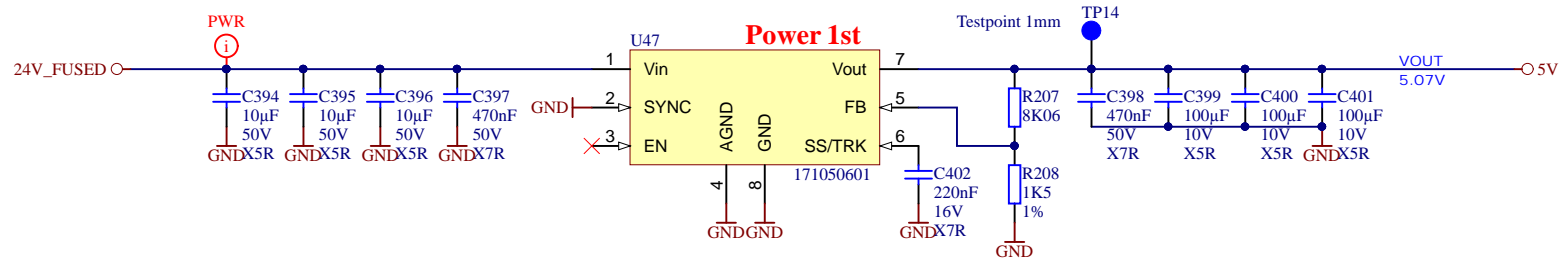
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	A4	Number: TEB0911 9BEX1FA	Rev. 04
	Date: 18.09.2018	Copyright: Trenz Electronic GmbH	Page 42 of 58
	Filename: POWER_2.schdoc		




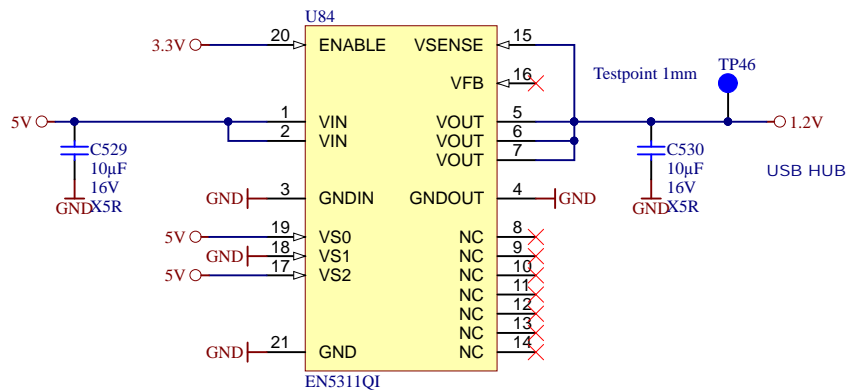
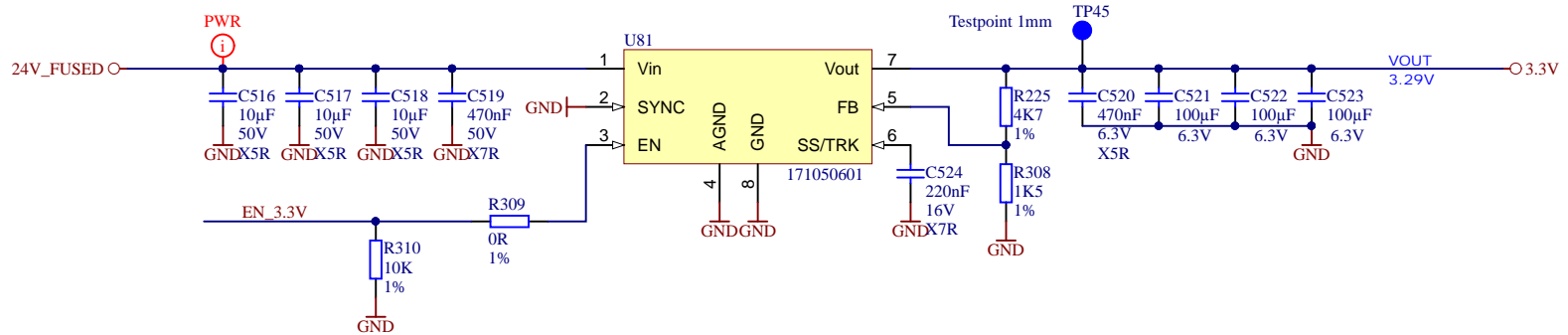
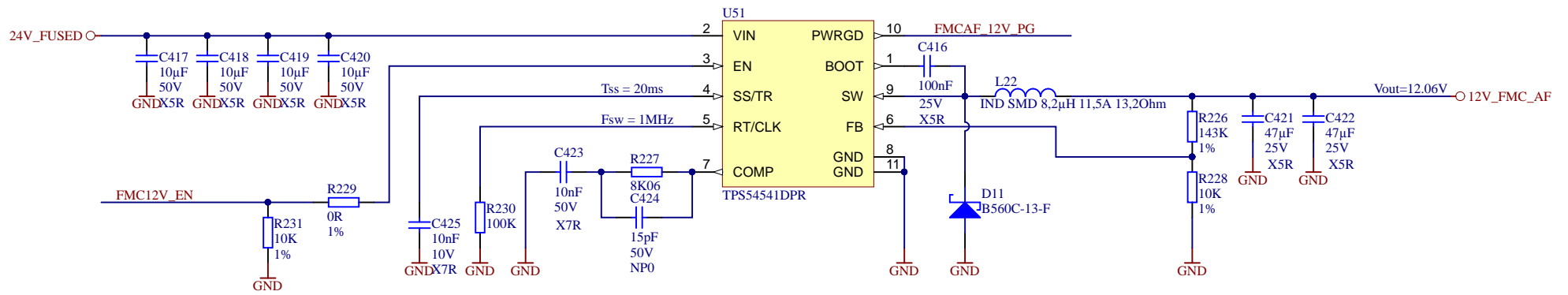
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Date: 18.09.2018		Copyright: Trenz Electronic GmbH		Page 43 of 58
Filename: POWER_3.schdoc				



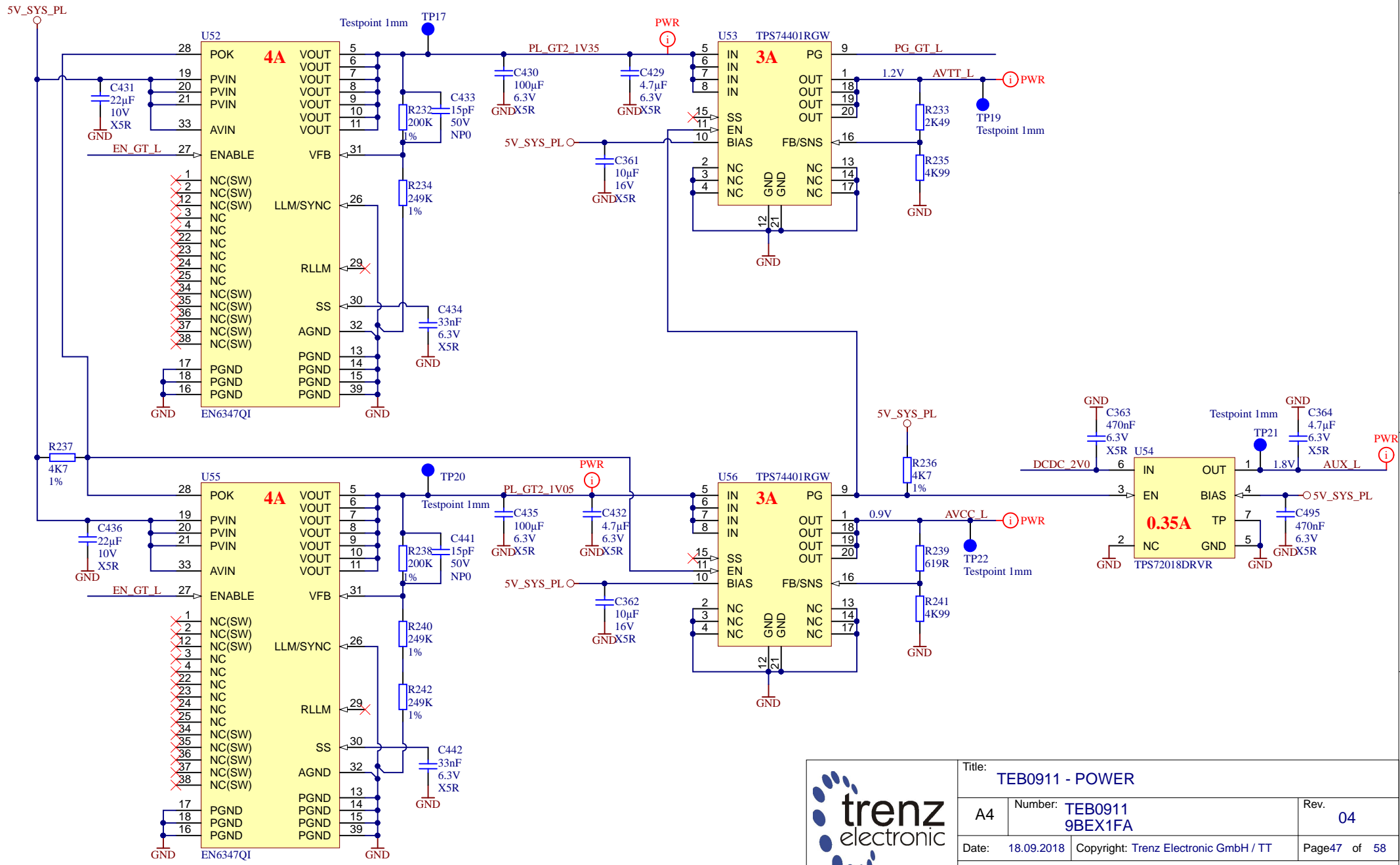
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Date: 18.09.2018		Copyright: Trenz Electronic GmbH		Page 44 of 58
Filename: POWER_4.schdoc				



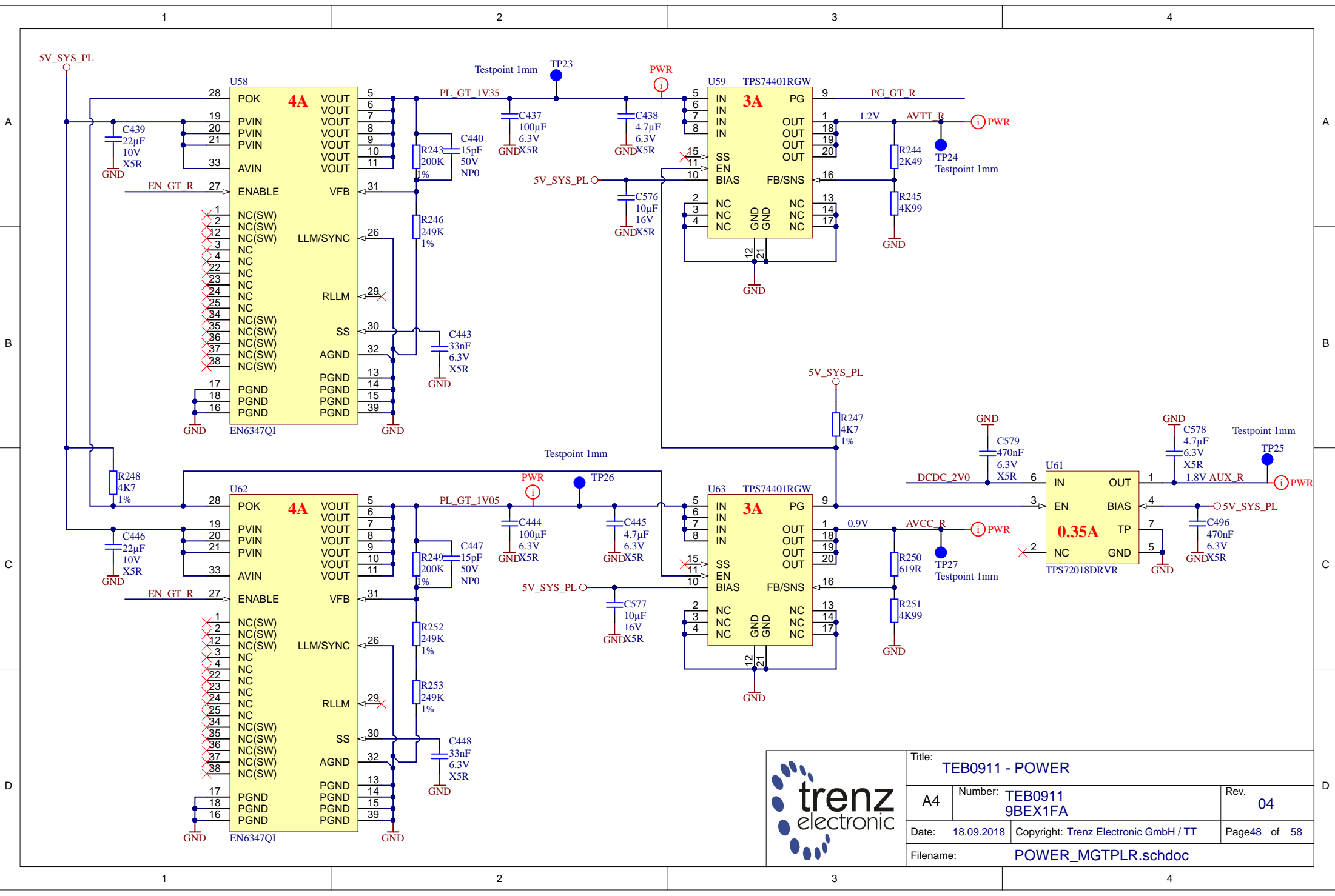
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	Date: 18.09.2018	Copyright: Trenz Electronic GmbH	Page 45 of 58
	Filename: POWER_5.schdoc		



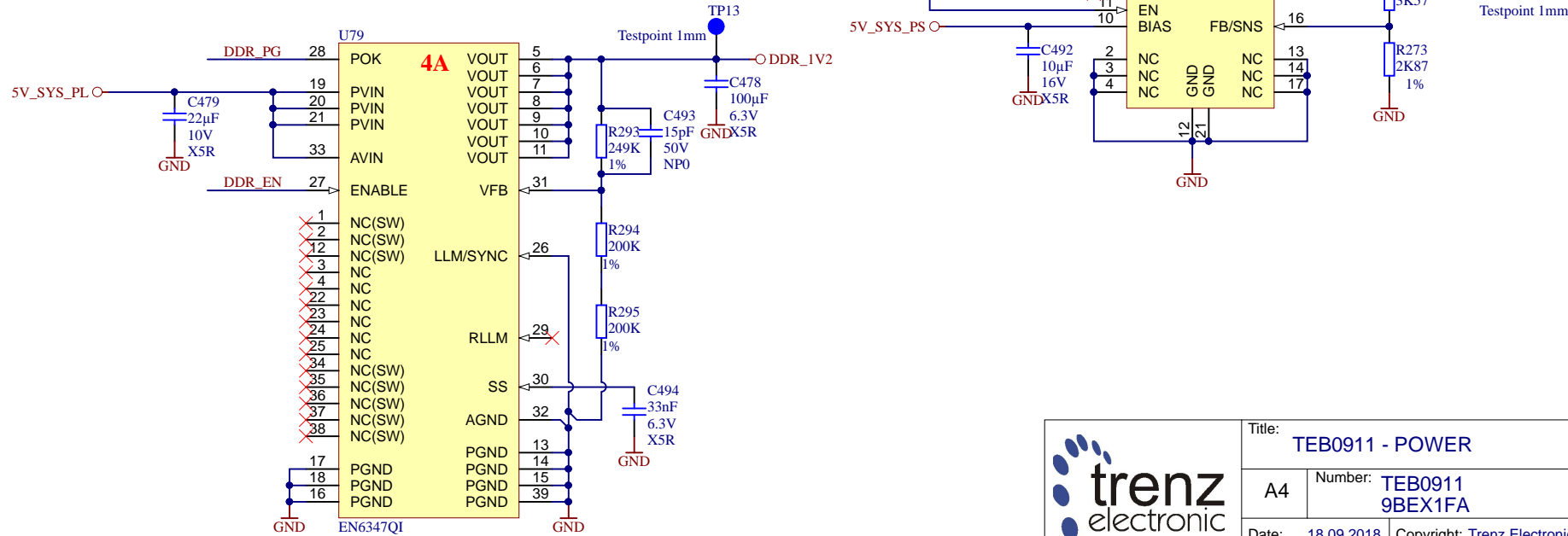
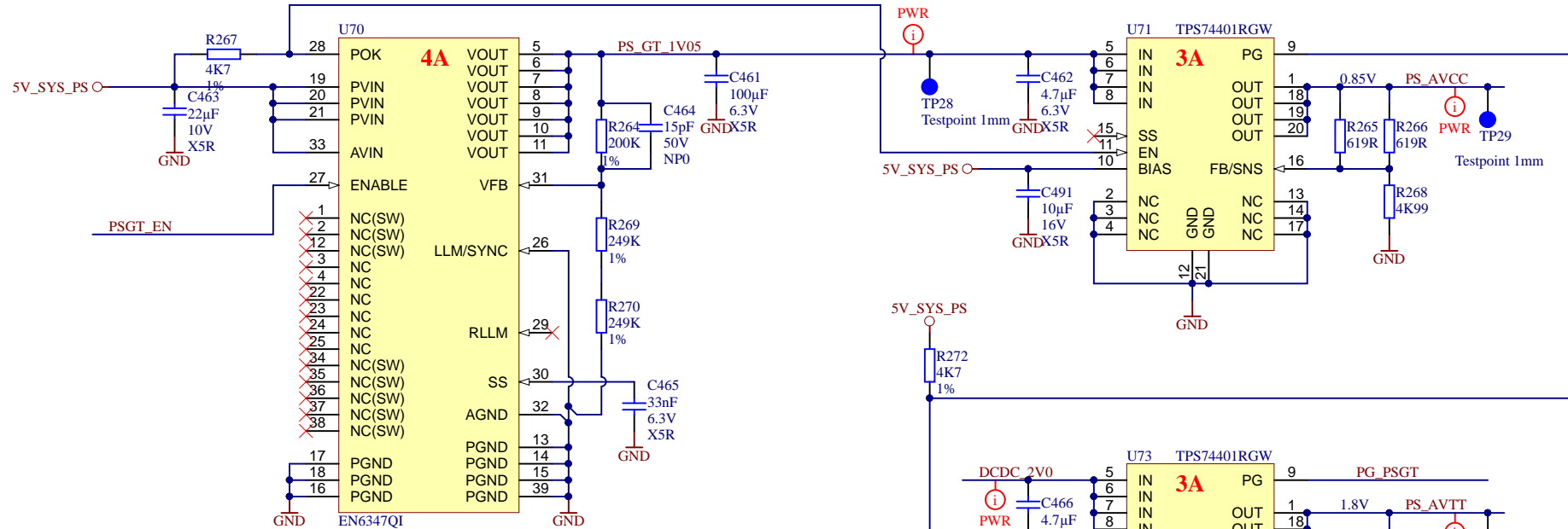
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A4	Number: TEB0911 9BEX1FA	Rev. 04
Date: 18.09.2018	Copyright: Trenz Electronic GmbH	Page 46 of 58
Filename: POWER_6.SchDoc		



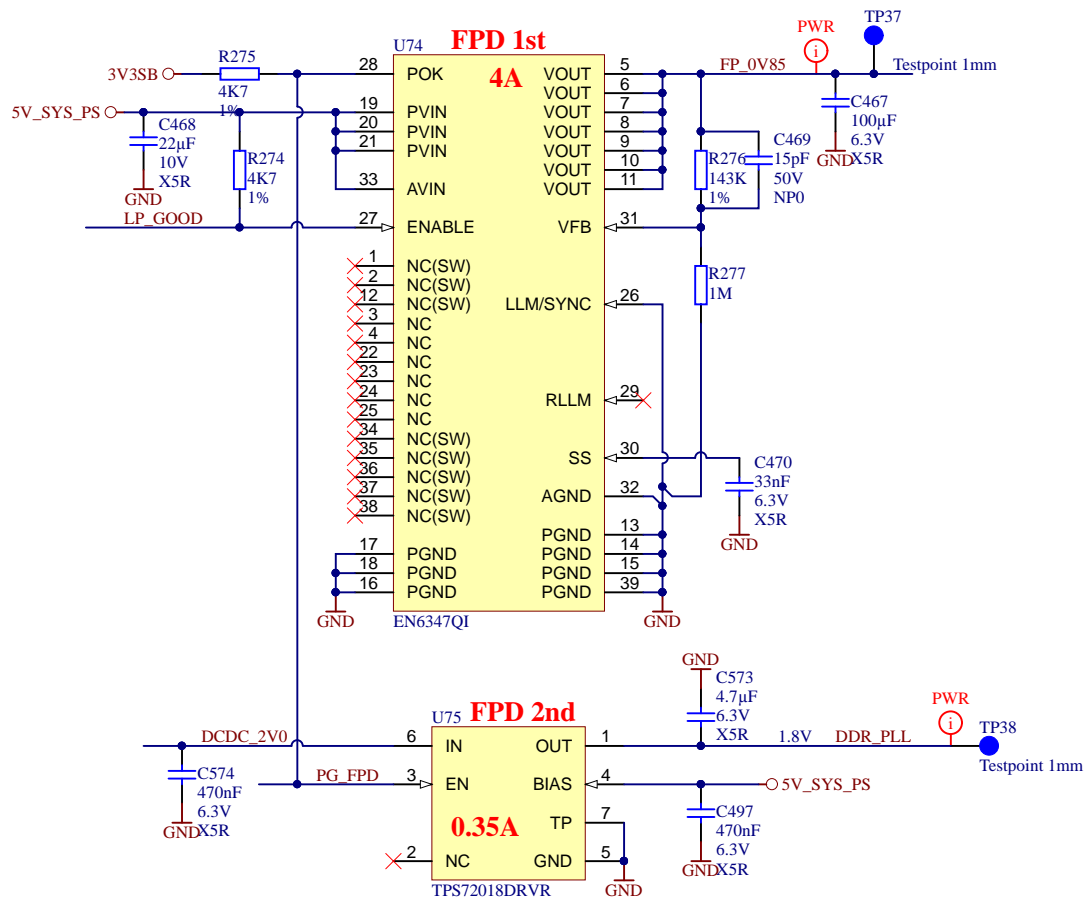
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Date: 18.09.2018	Copyright: Trenz Electronic GmbH / TT	Page 47 of 58
Filename: POWER_MGTPLL.schdoc		



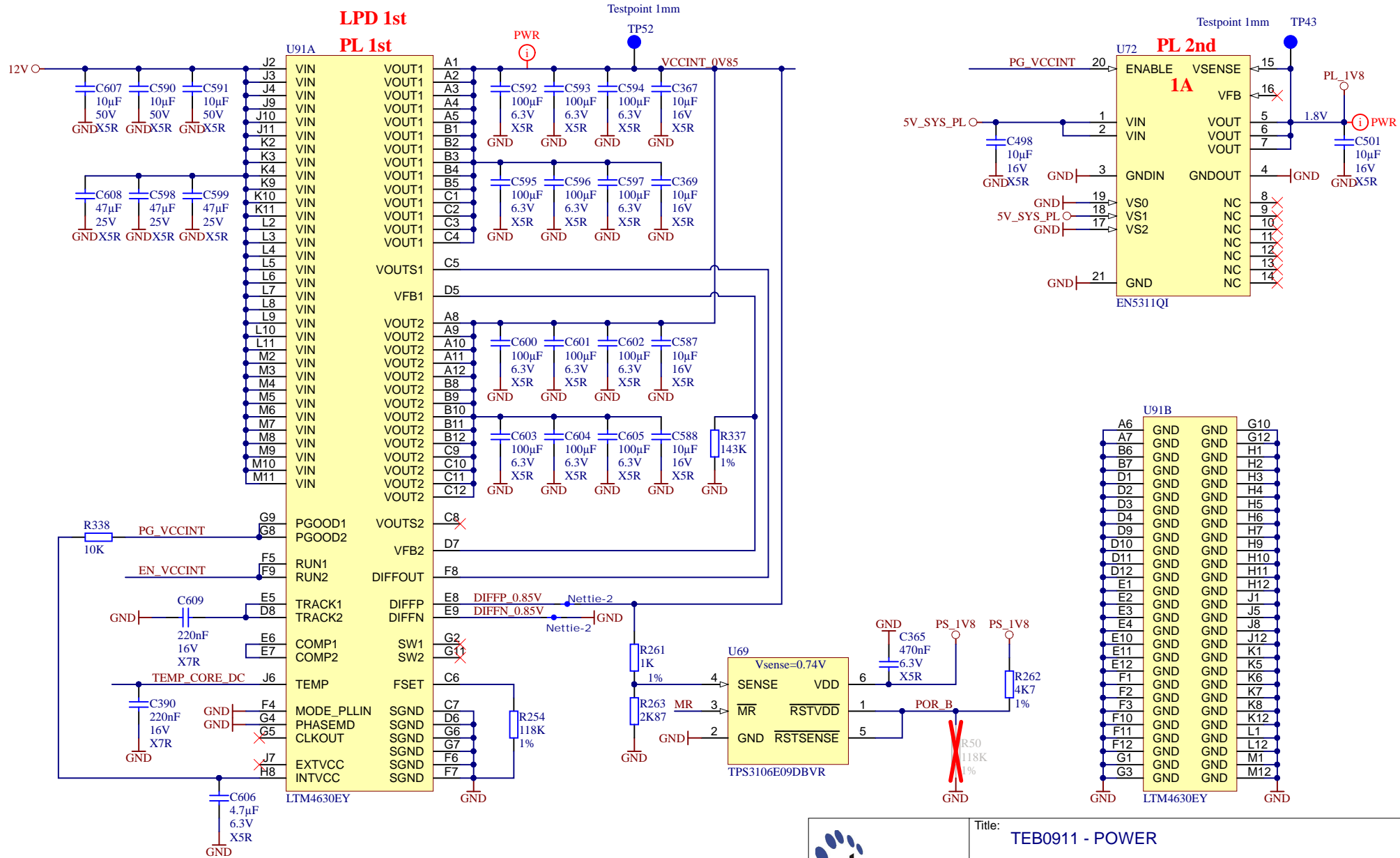
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A4	Number: TEB0911 9BEX1FA	Rev. 04
Date: 18.09.2018	Copyright: Trenz Electronic GmbH / TT	
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Filename: POWER_MGTPLR.schdoc		



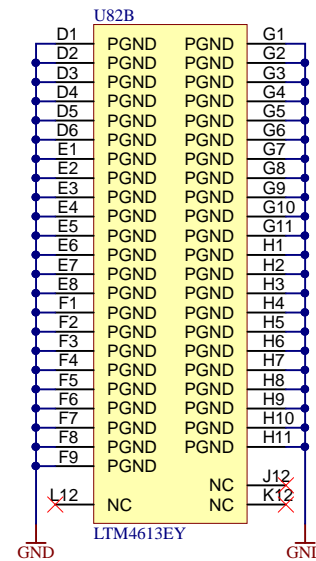
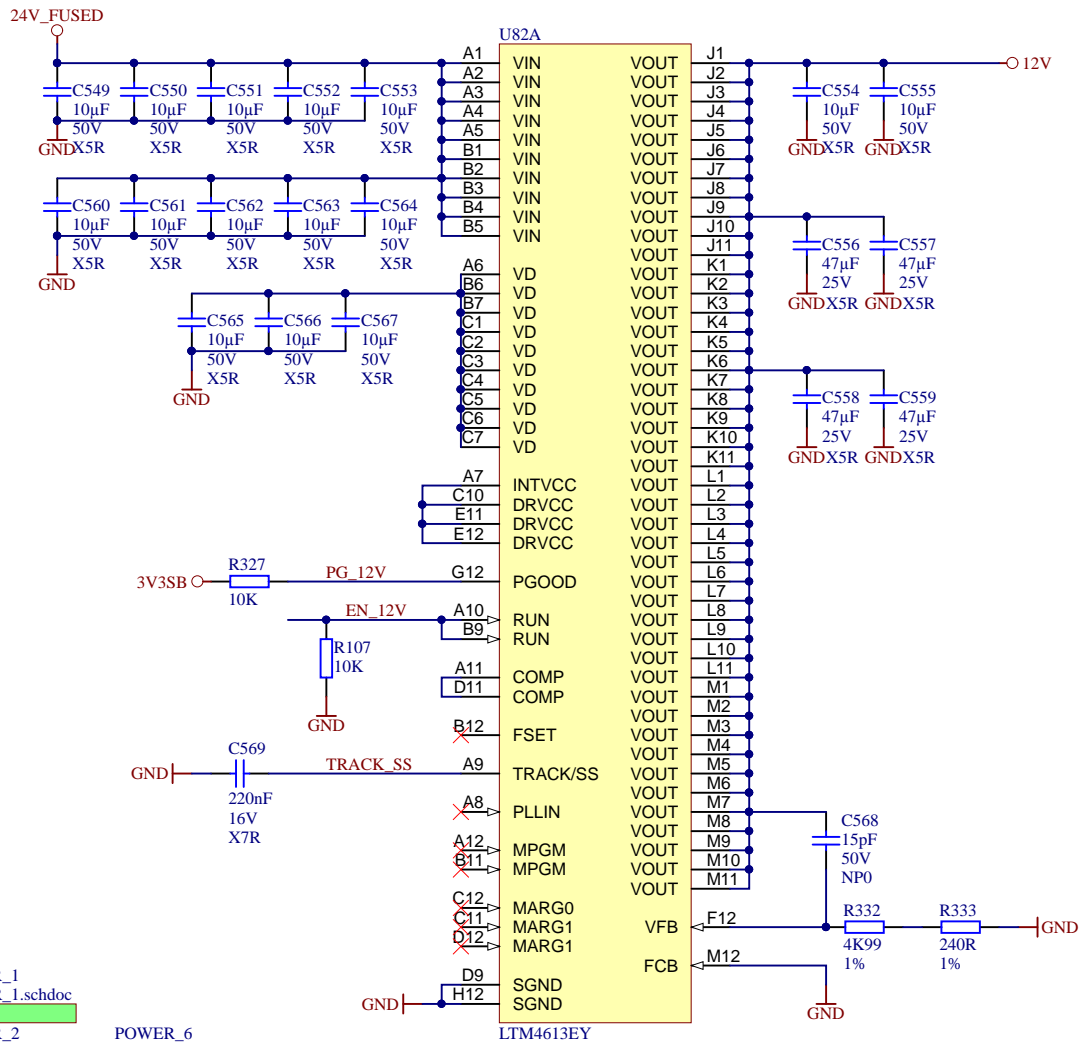
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- POWER_1
POWER_1.schdoc
- POWER_2
POWER_2.schdoc
- POWER_3
POWER_3.schdoc
- POWER_4
POWER_4.schdoc
- POWER_5
POWER_5.schdoc
- POWER_6
POWER_6.schdoc
- PWR_SYS
PWR_SYS.SchDoc
- PWR_CORE
PWR_CORE.SchDoc



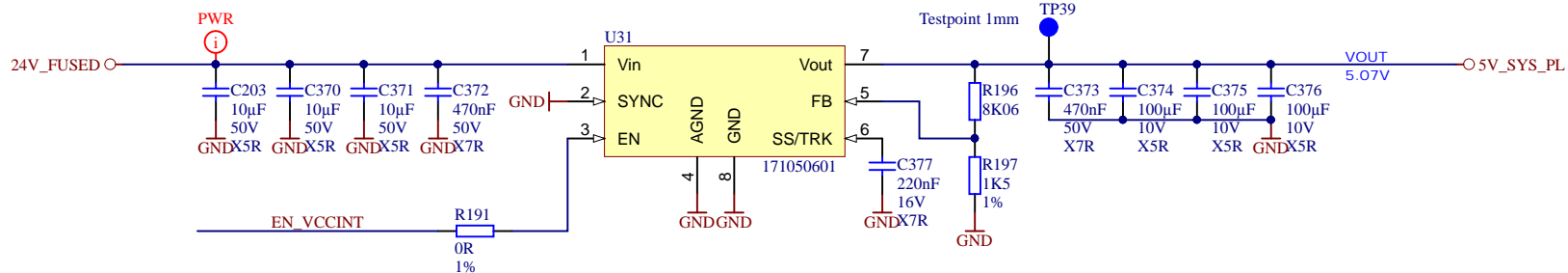
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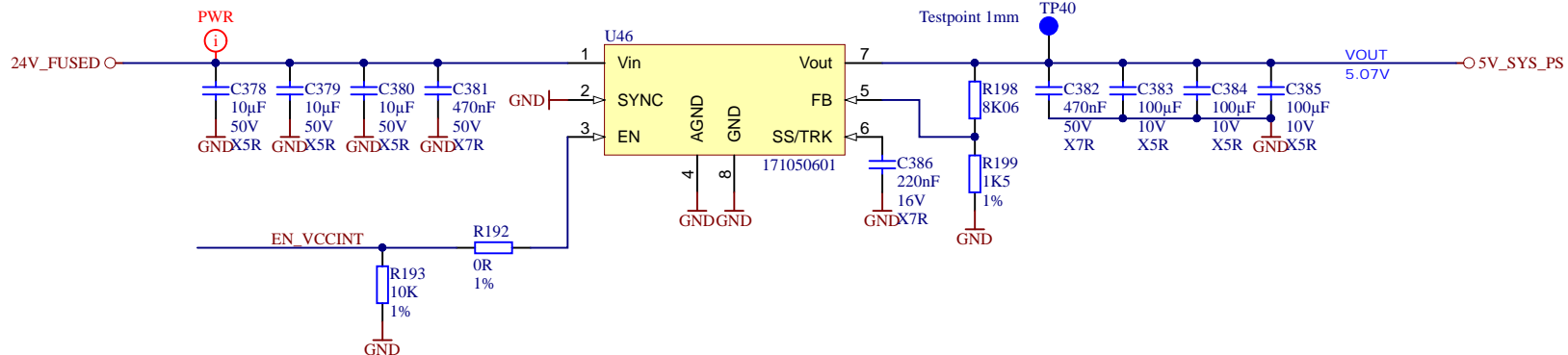
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- POWER_MGTPS
POWER_MGTPS.schdoc
- POWER_MGTPLR
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- POWER_MGTPLL
POWER_MGTPLL.schdoc
- POWER_PSF P
POWER_PSF P.schdoc
- POWER_PSLP
POWER_PSLP.schdoc



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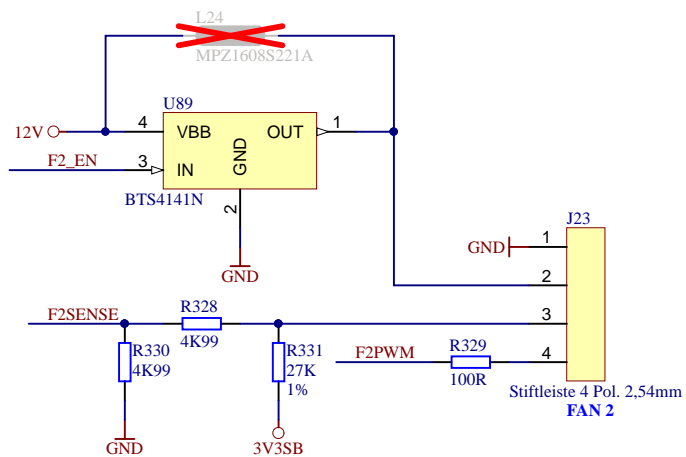
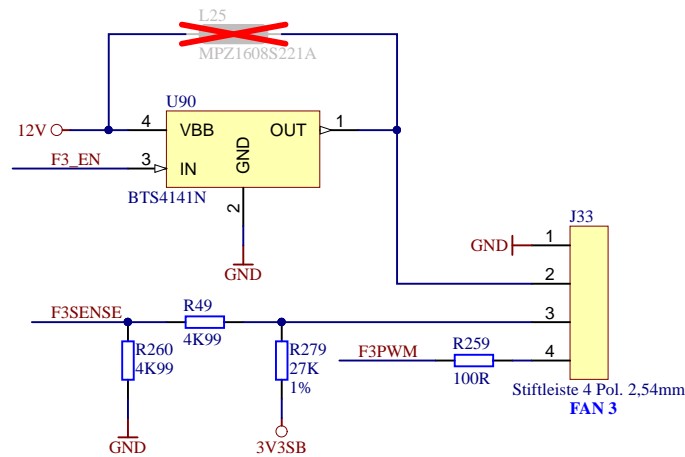
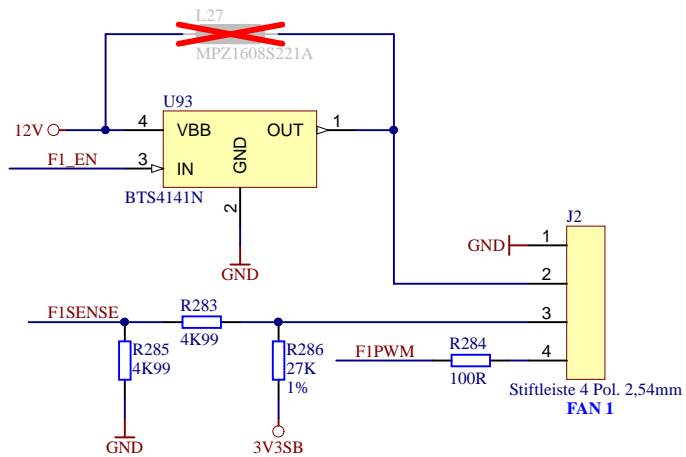
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Title: TEB0911 - FAN connectors		
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REV02:

- 1. 2 CPLDs replaced with LCMXO2-7000HC-4FG484C (U27)
- 2. Single SFP connector removed. MGT lanes B129_TX/RX_1 connected to FMC F
- 3. DCDC U45 (power supply of 2xSFP and 1xSFP connectors) removed. 2xSFP powered by U11.
- 4. HDMI: lane B505_TX2 connected to DP1_TX and lane B505_TX3 to DP0_TX.
- 5. Supervisor U69 TPS3106E33 replaced with TPS3106E09
- 6. U17 (SI5345): IN_SELO/1 disconnected from CPLD and connected to GND
- 7. Added new clock source U87 (SiT8008AI-73-XXS-25.000000E). Connected to CPLD. Not fitted
- 8. I2C pull-ups R154/R155: changed from 4.7k to 1.5kOhm
- 9. FAN: R285, R330, R260 changed to 27K (F*SENSE)
- 10. Added fuse F2 (4A). Fuse F1 (1.85A) "not fitted"
- 11. C354 (PWR_IN_24V/GND) deleted
- 12. Removed clock loop-back OUT9P/N - IN2P/N (U17, SI5345)
- 13. OUT7 (P) of U17 (clock source SI5345) connected to CPLD U27 Bank 5.
- 14. Signal SD Card detect SD_CD connected to CPLD, MIO45 connected to CPLD
- 15. Signals FMC*_PG_C2M(M2C) pulled-up to 3V3SB (was FMC*_3V3)
- 16. CLK_OUT U15 (USB PHY), serial resistor value R13 changed from 33 to 0 Ohm
- 17. EN5311QI: Cout value changed from 22uF to 10uF
- 18. BOM optimization
- 19. Added connections from CPLD to FMC A and F (x_LA06_SC - x_LA33_SC)
- 20. Net EN_VCCINT connected also to DCDC U31 (5V_SYS_PL) and U46 (5V_SYS_PS)
- 21. Added 2 2kb EEPROM (U45/U43)
- 22. Added power-up sequencing
- 23. MIO6 connected to CPLD
- 24. Signals EN_SFP was renamed to EN_SFP_SSD, 12V_FMC was renamed to 12V_FMC_AF, FMC12V_PG to FMCAF_12V_PG
- 25. Nets names F_LA02/03/04 was swapped.

REV03:

- 1. Signals C_LA27_P/N swapped: C_LA27_P connected to pin R10 (IO_L11P_TIU_N8_GC_67), C_LA27_N connected to R9 (IO_L11N_TIU_N9_GC_67) of U1 (XCZU9EG-1FFVB1156)

REV03a (17.11.2017):


- 1. Flash N25Q256A11E1240E changed to N25Q512A11G1240E.

REV04:

- 1. Added SDIO level translator TXS02612RTWR (U95) and 33Ω series resistors on SDIO lines from FPGA side.
- 2. Added user button S5 and jumper J5 (connected to U27 pin W17).
- 3. New FAN switches U76-78/U97-99: BTS4141N.
- 4. New FANs: AFB04512MA. Was added an option to use 5V or 12V (default) power rail.
- 5. Replaced EOL components:
 - TPS27082LDDCR -> TPS22918DBVT (U96)
 - ESD3V3U4ULCE6327XTSA1 -> AOZ8808DI-03 (U28)
- 6. New SFP+ connector: 2007492-5 instead of 1-2007492-5

REV04a (30.08.2019):

- 1. Resistor R65 (USB VBUS) replaced by 1K.

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