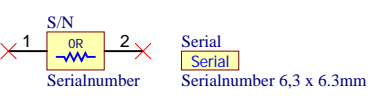
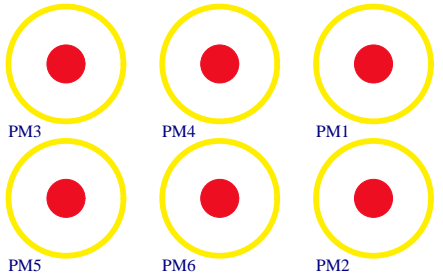
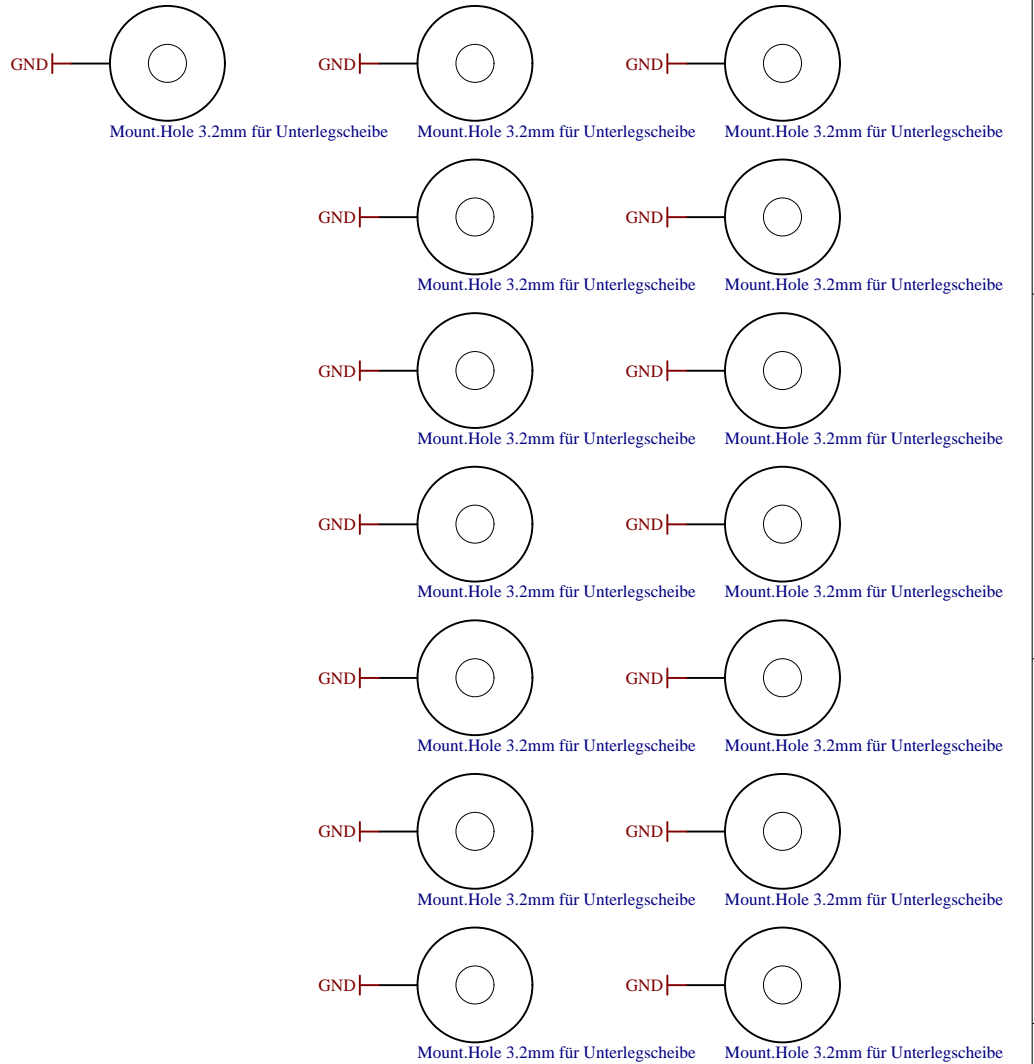


Ethernet Ethernet.SchDoc	U_USBP USB-PHY_SchDoc	U_SC_P SC_POWER.schdoc
U_SFP SFP.SchDoc	U_USBH USB3-HUB.SchDoc	U_POWER_OVERVIEW Power_overview.SchDoc
U_SSD SSD.SchDoc	U_CLK Clock.SchDoc	U_POWER_SEQ PowerUpSequence.SchDoc
U_FrontPanel FrontPanel.SchDoc	U_I2C I2C_system.schdoc	
U_USB USB.SchDoc	U_eMMC eMMC.SchDoc	
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	

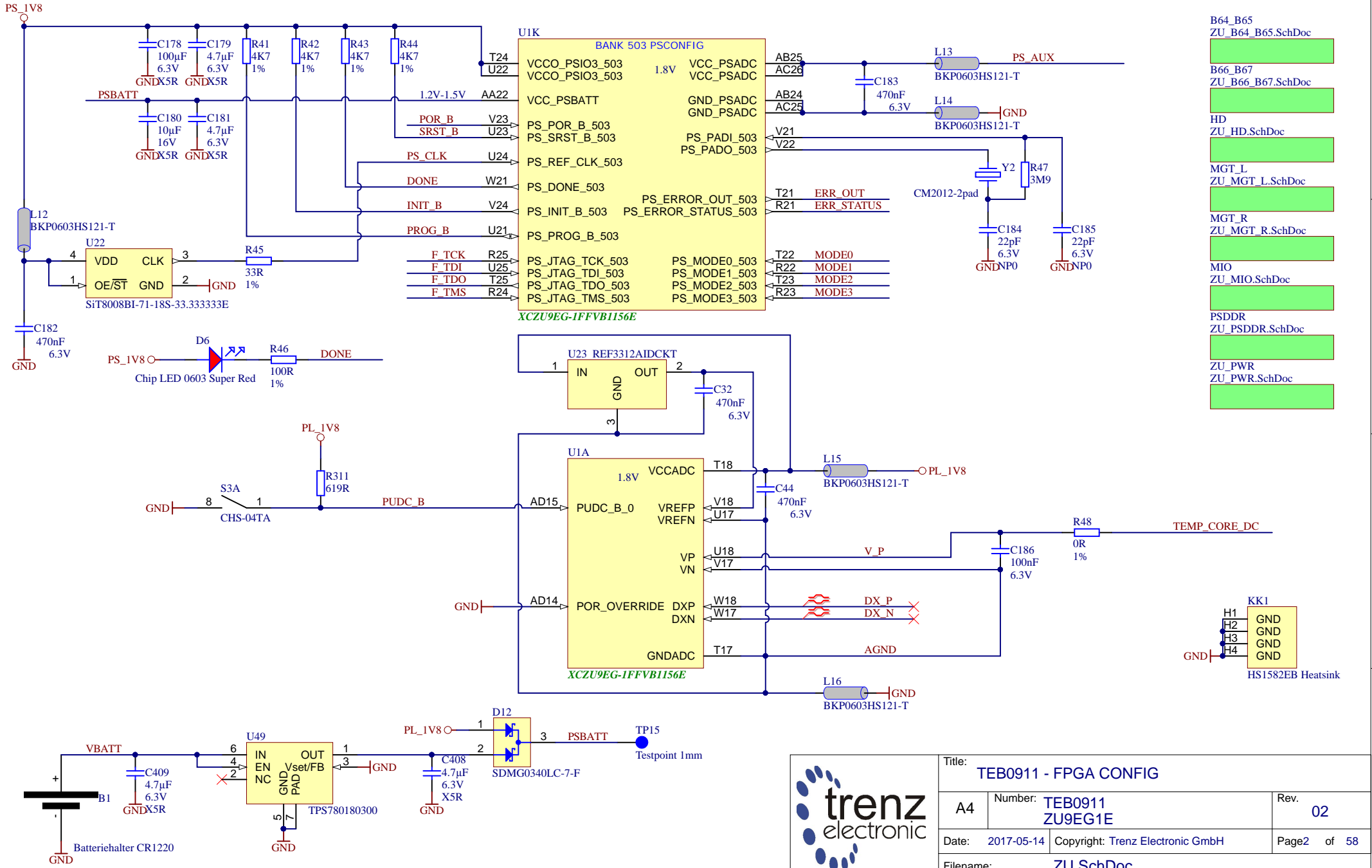


LOGO1  
TE Logo PRINT Layer  
LOGO PRINT



	Title: <b>TEB0911</b>	
	A4	Number: <b>TEB0911 ZU9EG1E</b>
	Date: 2017-05-14	Copyright: Trenz Electronic GmbH
	Filename: <b>TEB0911.SchDoc</b>	

Rev. **02**  
Page1 of 58



- 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 ZU9EG1E	Rev. 02
Date: 2017-05-14	Copyright: Trenz Electronic GmbH	Page2 of 58
Filename: ZU.SchDoc		



A

A

B

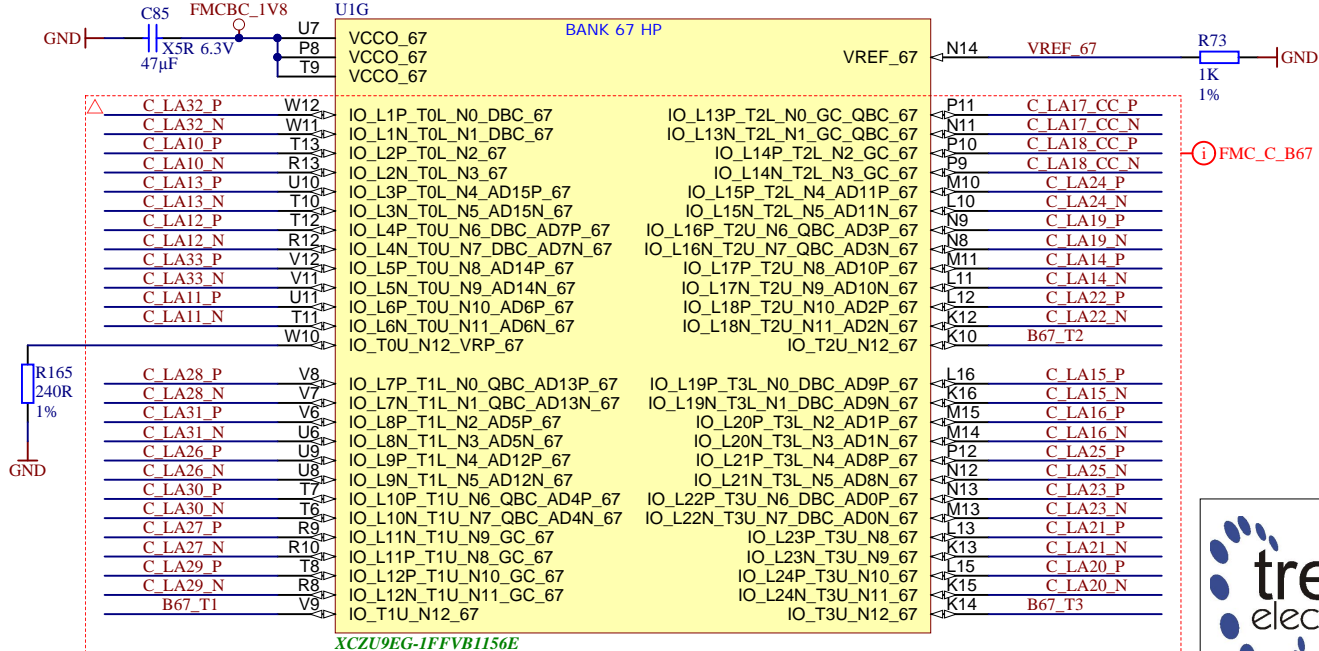
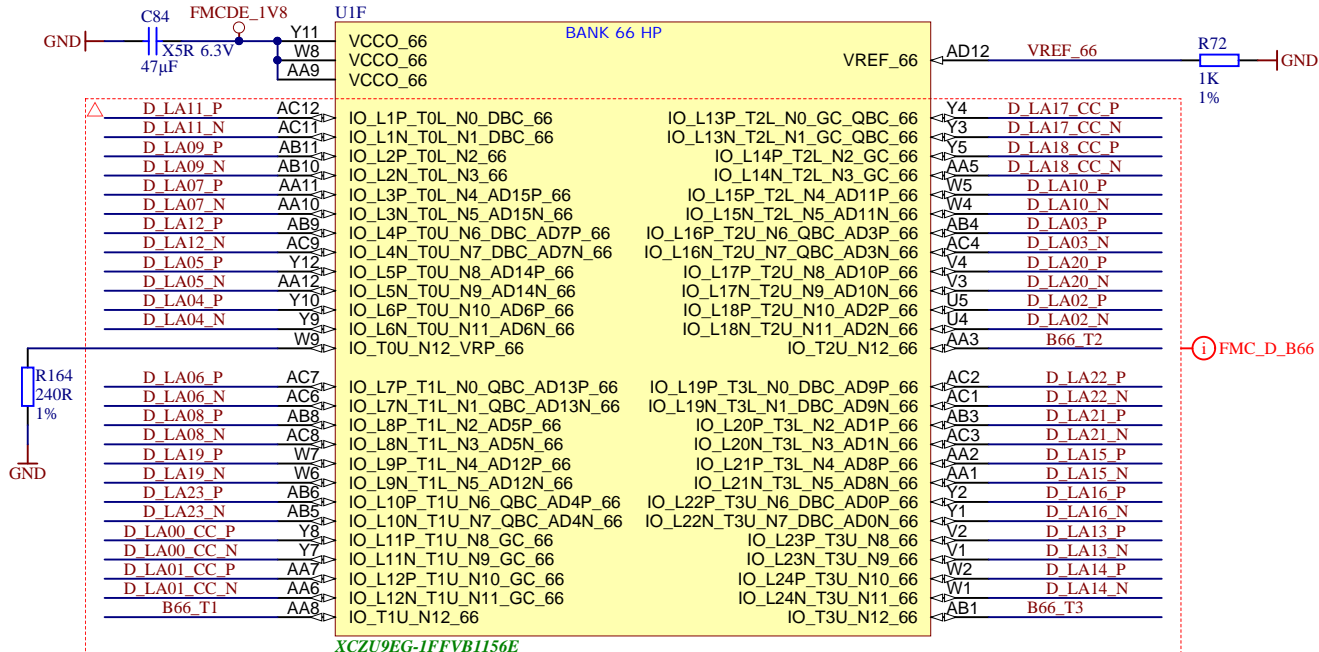
B

C

C

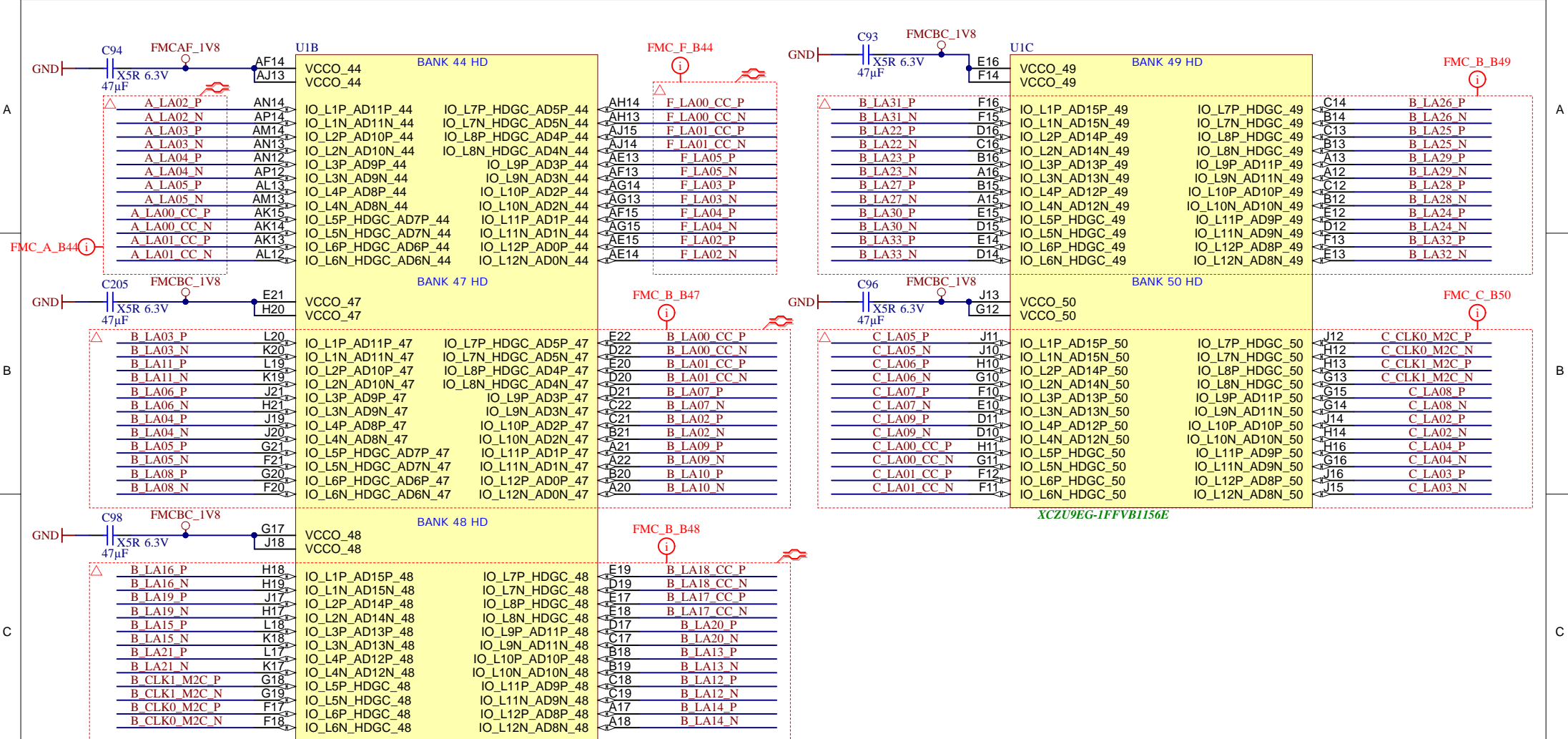
D

D




Title: TEB0911 - FPGA B66 B67		
A4	Number: TEB0911 ZU9EG1E	Rev. 02
Date: 2017-05-14	Copyright: Trenz Electronic GmbH	Page4 of 58
Filename: ZU_B66_B67.SchDoc		





XCZU9EG-1FFVB1156E

		Title: TEB0911 - FPGA B44 B47-50	
		A4	Number: TEB0911 ZU9EG1E
Date: 2017-05-14		Copyright: Trenz Electronic GmbH	Rev. 02
Filename: ZU_HD.SchDoc		Page 5 of 58	

A

A

B

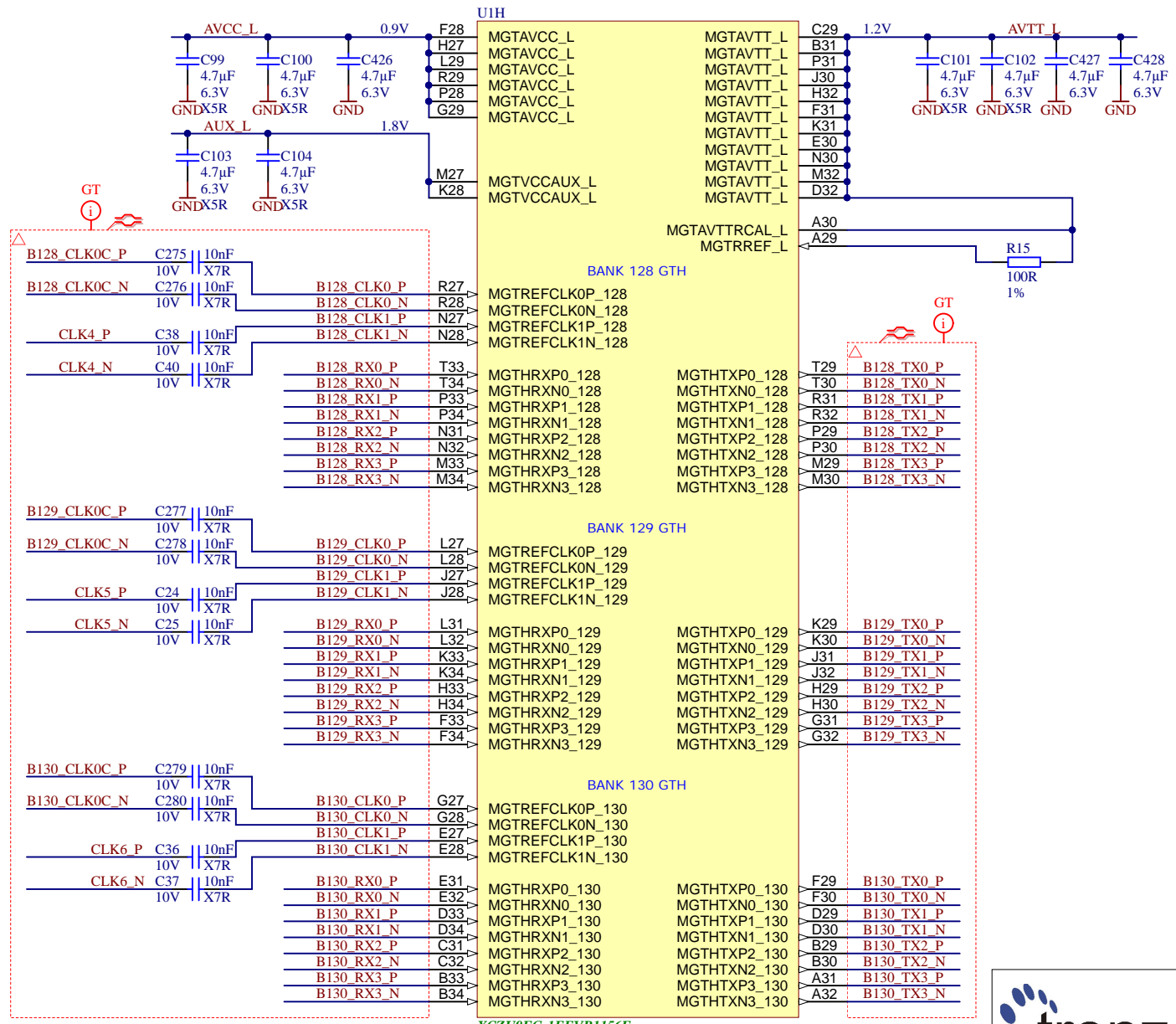
B

C

C

D

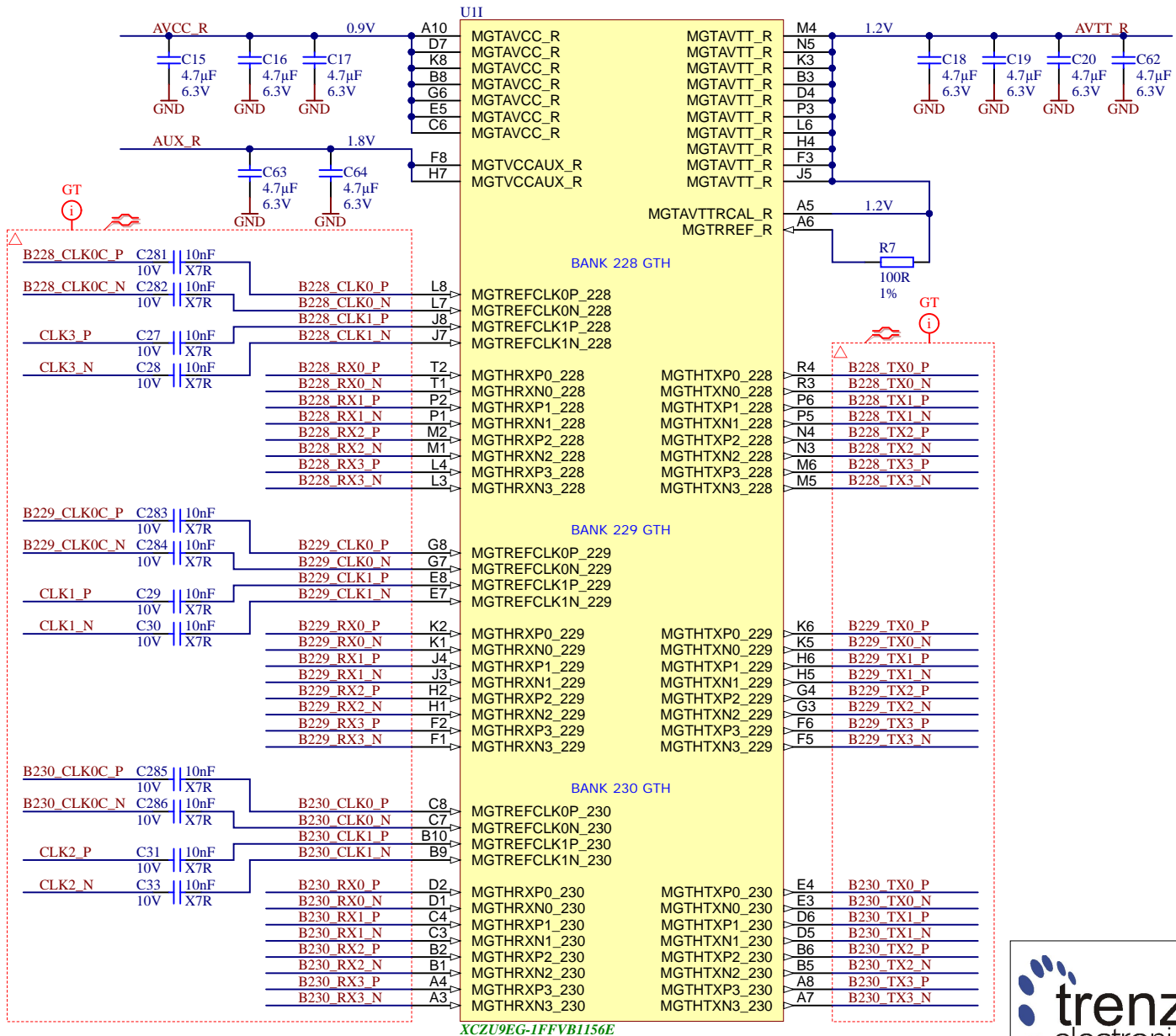
D



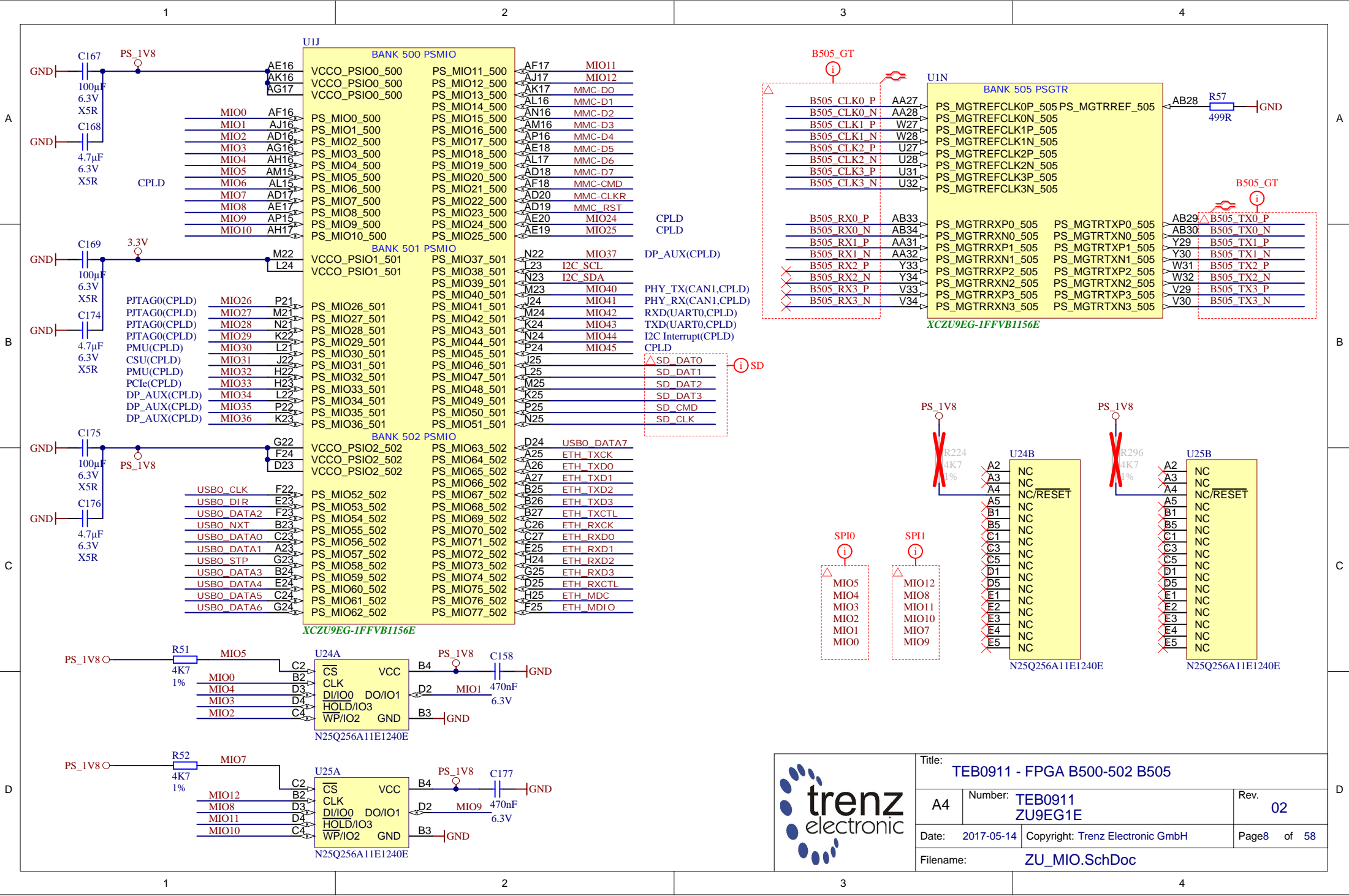
XCZU9EG-1FFVB1156E



Title: TEB0911 - FPGA B128-130		
A4	Number: TEB0911 ZU9EG1E	Rev. 02
Date: 2017-05-14	Copyright: Trenz Electronic GmbH	Page6 of 58
Filename: ZU_MGT_L.SchDoc		

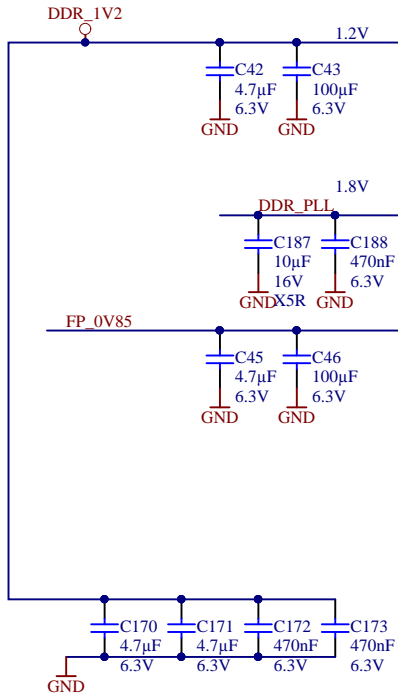


Title: <b>TEB0911 - FPGA B228-230</b>		
A4	Number: <b>TEB0911 ZU9EG1E</b>	Rev. <b>02</b>
Date: <b>2017-05-14</b>	Copyright: <b>Trenz Electronic GmbH</b>	
Filename: <b>ZU_MGT_R.SchDoc</b>		Page <b>7</b> of <b>58</b>



Title: <b>TEB0911 - FPGA B500-502 B505</b>		
A4	Number: <b>TEB0911 ZU9EG1E</b>	Rev. <b>02</b>
Date: <b>2017-05-14</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>8</b> of <b>58</b>
Filename: <b>ZU_MIO.SchDoc</b>		





**U1L**

**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
AL24	VCCO_PSDDR_504			
AJ24	VCCO_PSDDR_504	PS_DDR_CK1_504	AL26	DDR4-CLK1_P
AJ28	VCCO_PSDDR_504	PS_DDR_CK_N1_504	AL27	DDR4-CLK1_N
	VCCO_PSDDR_504	PS_DDR_CKE1_504	AJ27	DDR4-CKE1
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
AE25	VCC_PSINTFP_DDR	PS_DDR_A3_504	AP27	DDR4-A3
AE24	VCC_PSINTFP_DDR	PS_DDR_A4_504	AP25	DDR4-A4
AD24	VCC_PSINTFP_DDR	PS_DDR_A5_504	AN24	DDR4-A5
	0.85V	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

**U1M**

**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
		PS_DDR_DQ66_504	PS_DDR_DQ67_504	AP31	CB1
		PS_DDR_DQ68_504	PS_DDR_DQ69_504	AP32	CB2
		PS_DDR_DQ70_504	PS_DDR_DQ71_504	AP33	CB3
		PS_DDR_DQ72_504	PS_DDR_DQ73_504	AM31	CB4
		PS_DDR_DQ74_504	PS_DDR_DQ75_504	AM33	CB5
		PS_DDR_DQ76_504	PS_DDR_DQ77_504	AM34	CB6
		PS_DDR_DQ78_504	PS_DDR_DQ79_504	AL33	CB7
		PS_DDR_DQ80_504	PS_DDR_DQ81_504		
		PS_DDR_DQ82_504	PS_DDR_DQ83_504	AN17	DDR4-DM0
		PS_DDR_DQ84_504	PS_DDR_DQ85_504	AM21	DDR4-DM1
		PS_DDR_DQ86_504	PS_DDR_DQ87_504	AK19	DDR4-DM2
		PS_DDR_DQ88_504	PS_DDR_DQ89_504	AH24	DDR4-DM3
		PS_DDR_DQ90_504	PS_DDR_DQ91_504	AH31	DDR4-DM4
		PS_DDR_DQ92_504	PS_DDR_DQ93_504	AE30	DDR4-DM5
		PS_DDR_DQ94_504	PS_DDR_DQ95_504	AJ31	DDR4-DM6
		PS_DDR_DQ96_504	PS_DDR_DQ97_504	AE34	DDR4-DM7
		PS_DDR_DQ98_504	PS_DDR_DQ99_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

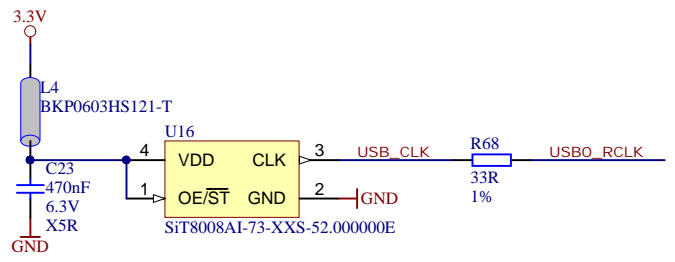
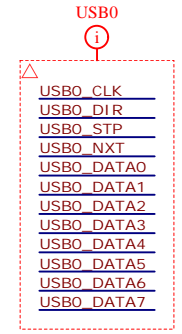
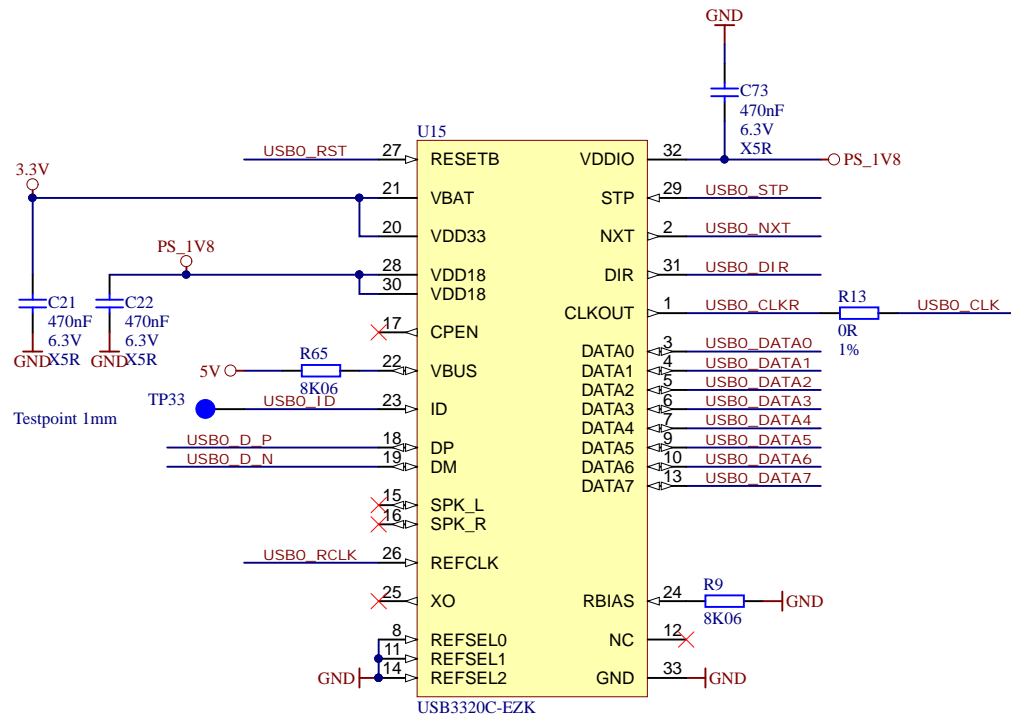
- LANE0: DQ[0..7], DDR4-DQS0\_P, DDR4-DQS0\_N, DDR4-DM0
- LANE2: DQ[16..23], DDR4-DQS2\_P, DDR4-DQS2\_N, DDR4-DM2
- LANE4: DQ[32..39], DDR4-DQS4\_P, DDR4-DQS4\_N, DDR4-DM4
- LANE6: DQ[48..55], DDR4-DQS6\_P, DDR4-DQS6\_N, DDR4-DM6
- LANE8: CB[0..7], DDR4-DQS8\_P, DDR4-DQS8\_N, DDR4-DM8
- LANE1: DQ[8..15], 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 ZU9EG1E	Rev. 02	
Date: 2017-05-14	Copyright: Trenz Electronic GmbH	Page9 of 58	
Filename: ZU_PSDDR.SchDoc			







Title: <b>TEB0911 - USB 2.0 PHY</b>		
A4	Number: <b>TEB0911 ZU9EG1E</b>	Rev. <b>02</b>
Date: <b>2017-05-14</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>11</b> of <b>58</b>
Filename: <b>USB-PHY.SchDoc</b>		

1

2

3

4

A

B

C

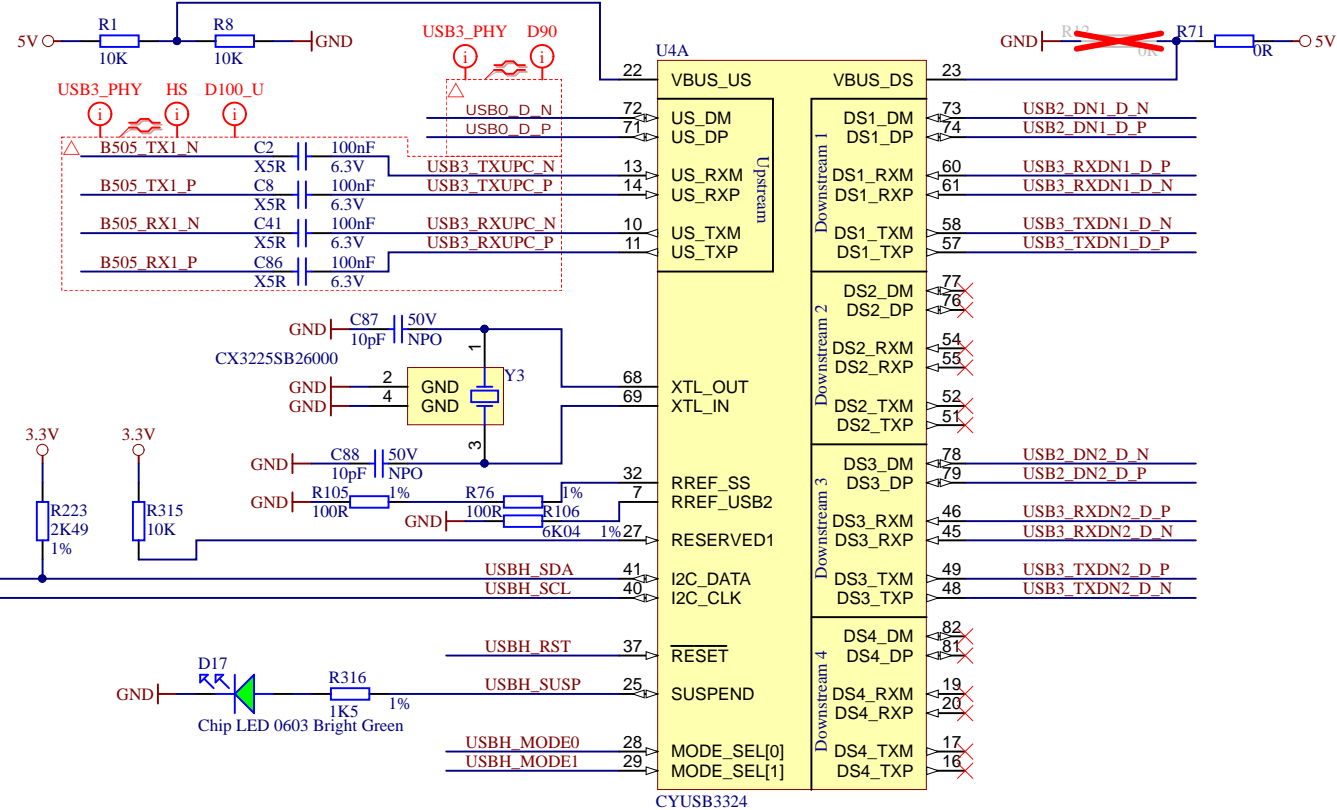
D

A

B

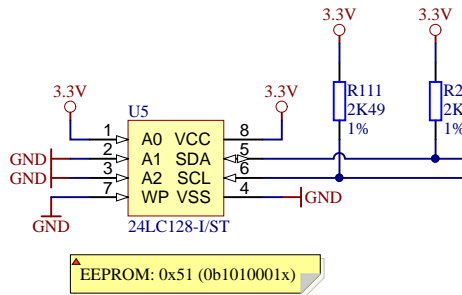
C

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.



EEPROM: 0x51 (0b1010001x)

ACA\_DOCK Disabled  
 All REMOVABLE  
 I2C\_DEV\_ID: I2C slave address 0x60  
 VID  
 PORT\_DISABLE All EN  
 All REMOVABLE  
 VID  
 VID  
 DSx\_CDP\_EN  
 DSx\_CDP\_EN  
 DSx\_CDP\_EN  
 DSx\_CDP\_EN

Active LOW

Active LOW

Power enable and overcurrent LOW

USB: 0x60 (or 0x58)



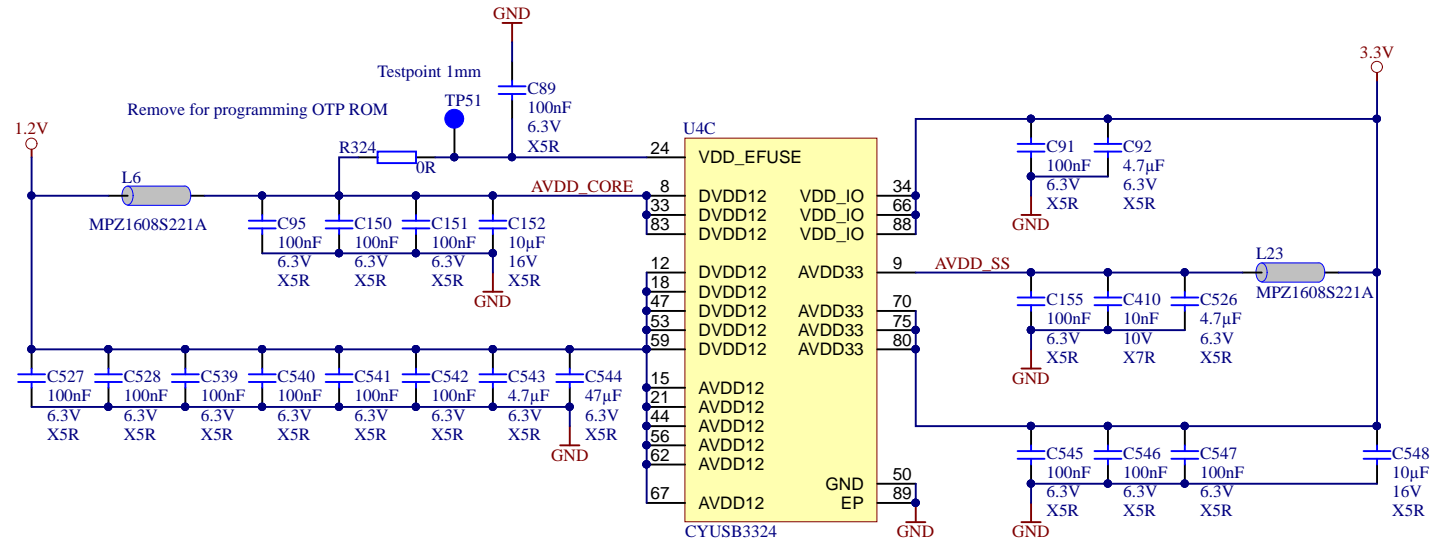
Title: TEB0911 - USB HUB		
A4	Number: TEB0911 ZU9EG1E	Rev. 02
Date: 2017-05-14	Copyright: Trenz Electronic GmbH	Page 12 of 58
Filename: USB3-HUB.SchDoc		


1

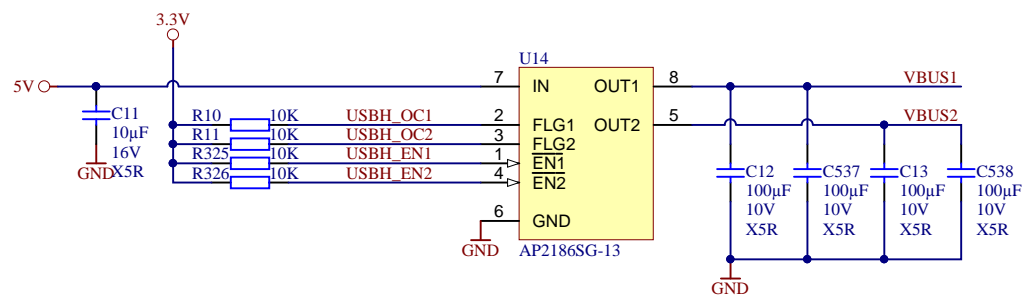
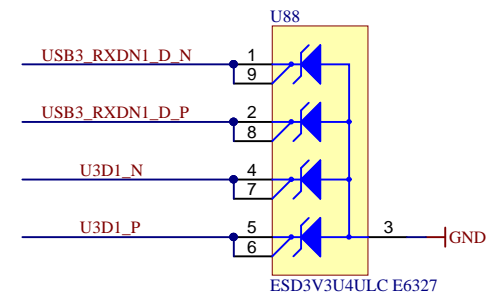
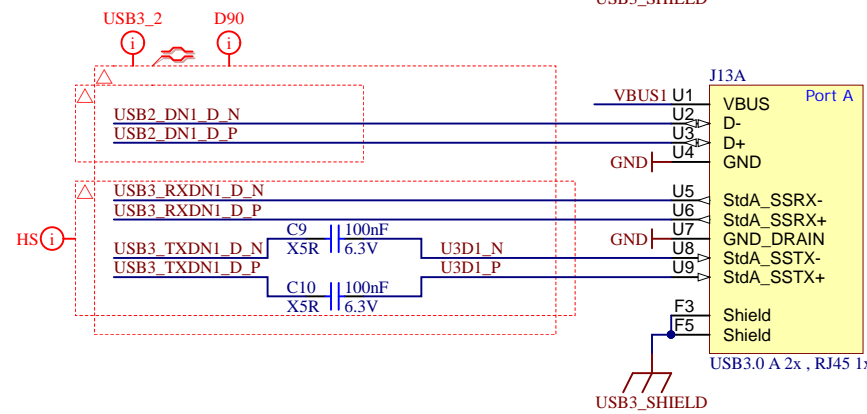
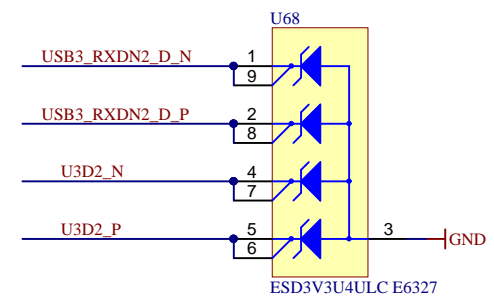
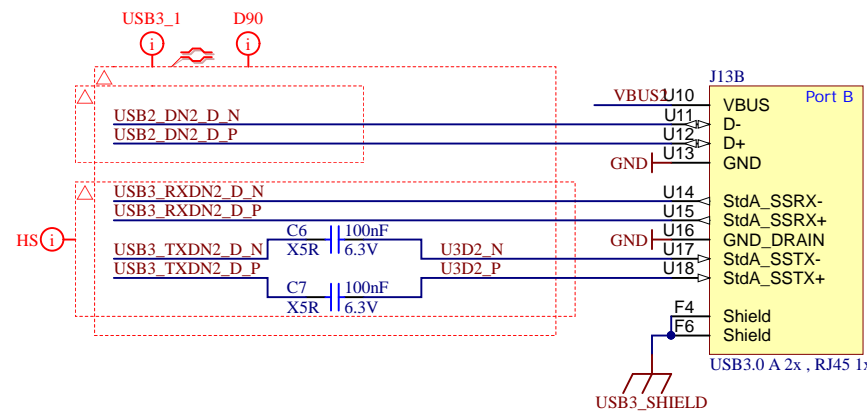
2

3

4

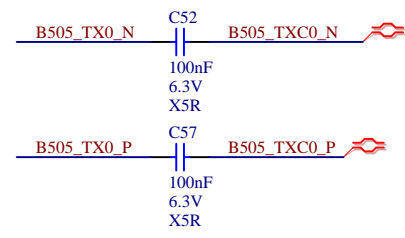
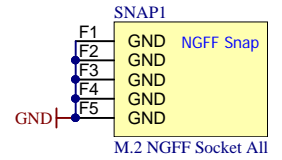
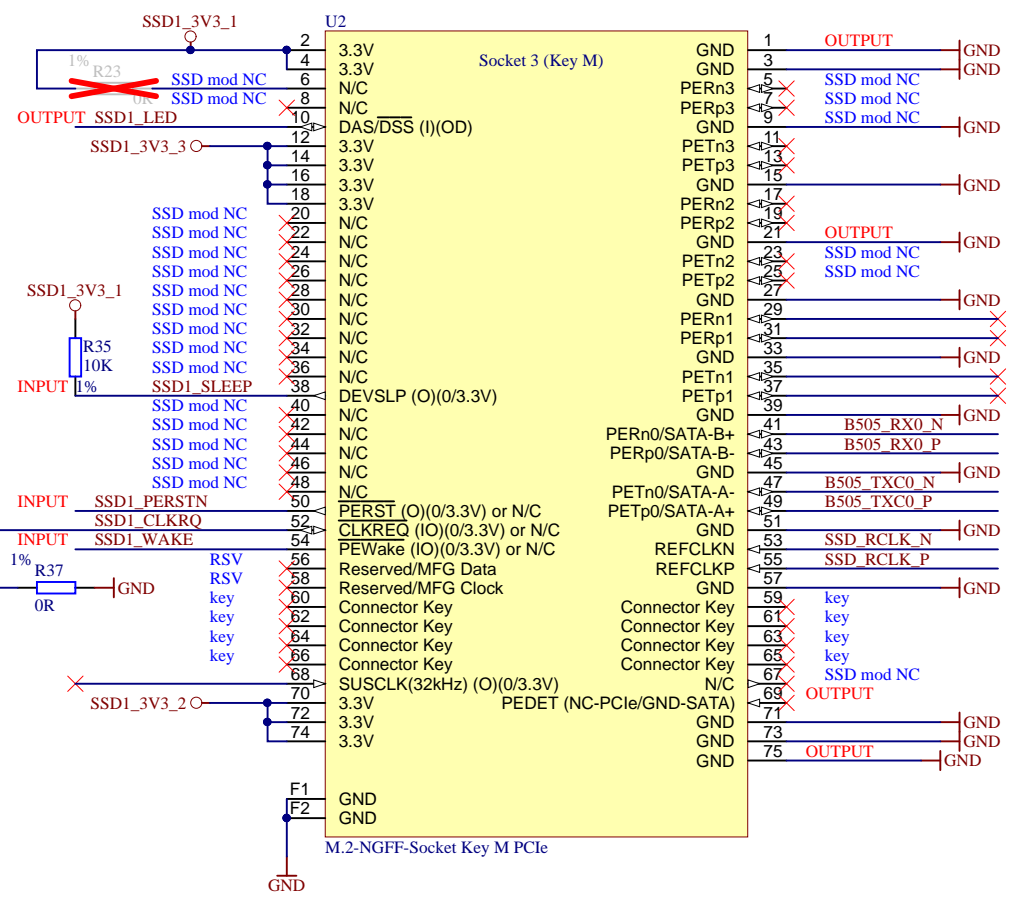


	Title: <b>TEB0911 - USB HUB</b>		
	A4	Number: <b>TEB0911 ZU9EG1E</b>	Rev. <b>02</b>
	Date: <b>2017-05-14</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>13</b> of <b>58</b>
	Filename: <b>USB3-HUB_PWR.SchDoc</b>		

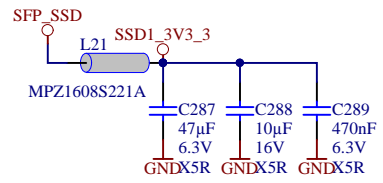
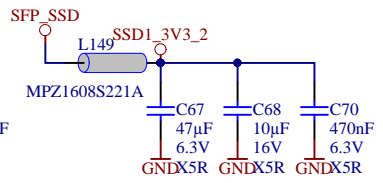
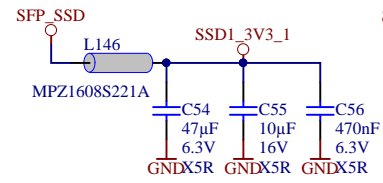


Title: <b>TEB0911 - USB CONNECTORS</b>		
A4	Number: <b>TEB0911 ZU9EG1E</b>	Rev. <b>02</b>
Date: <b>2017-05-14</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>14</b> of <b>58</b>
Filename: <b>USB.SchDoc</b>		



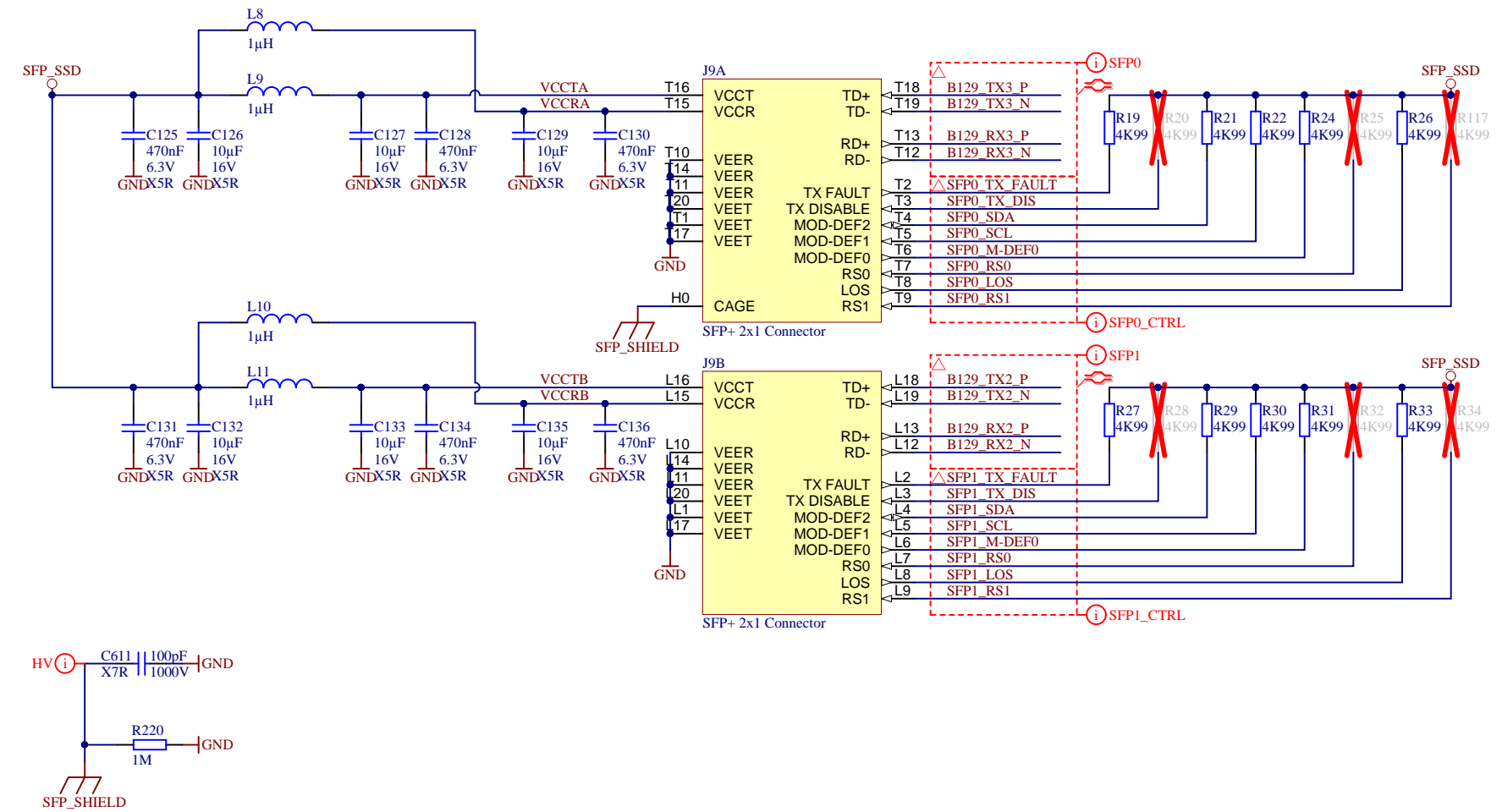


MECH1  
 M.2 NGFF SMD-Abstandsbolzen - M3 - 1.5mm

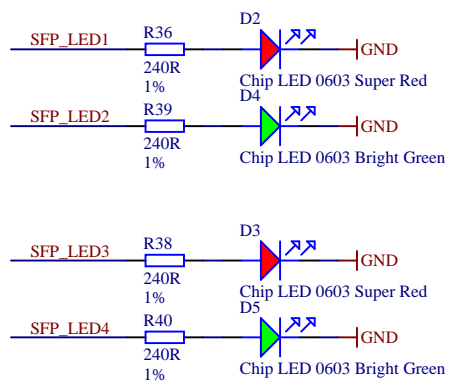
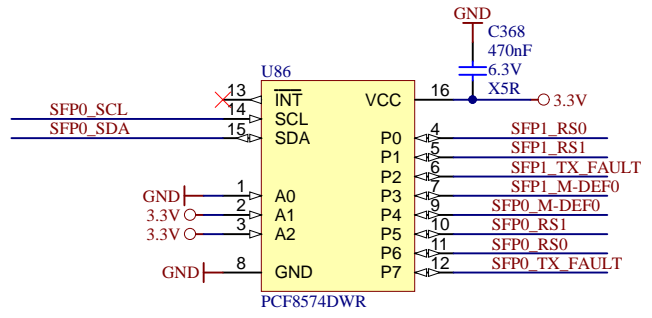


Title: TEB0911 - SSD		
A4	Number: TEB0911 ZU9EG1E	Rev. 02
Date: 2017-05-14	Copyright: Trenz Electronic GmbH	Page 16 of 58
Filename: SSD.SchDoc		

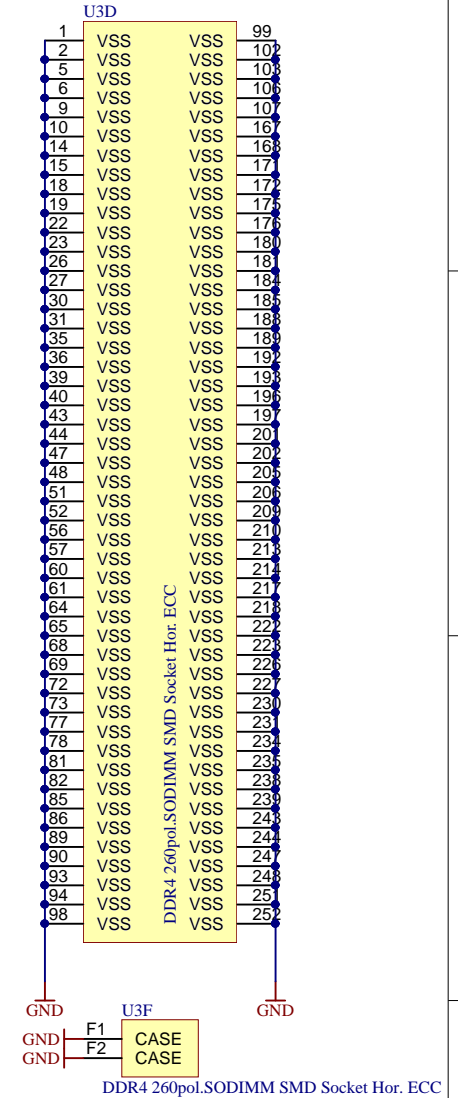
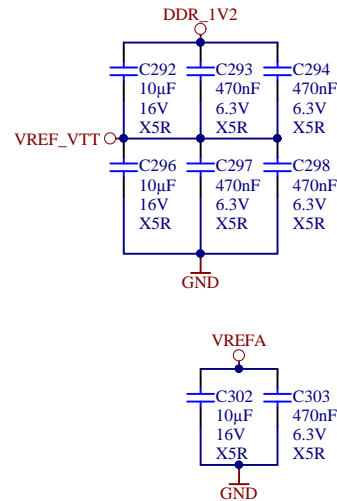
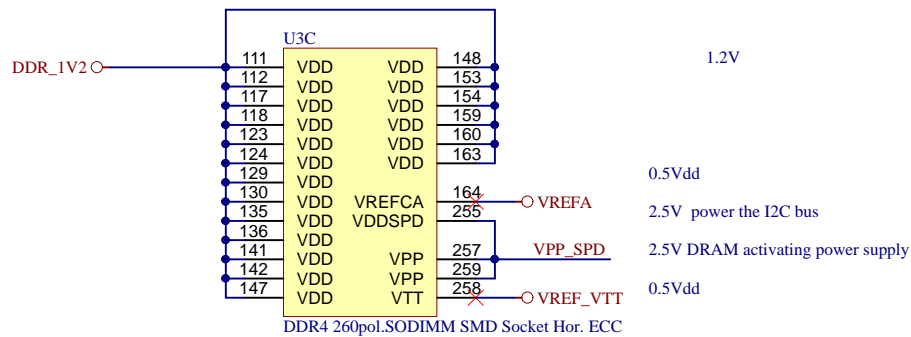
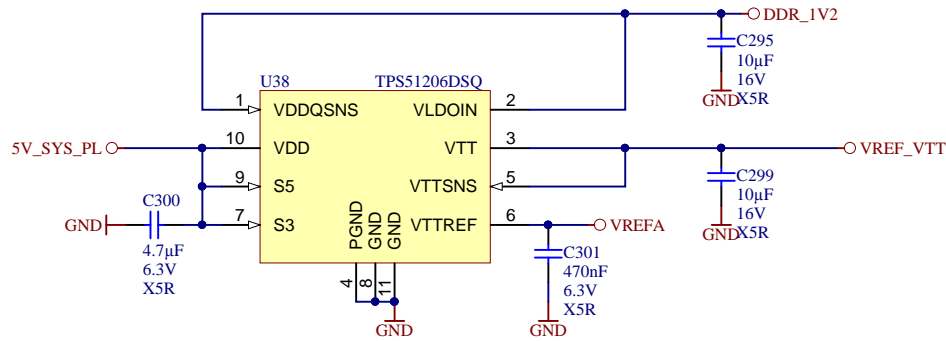
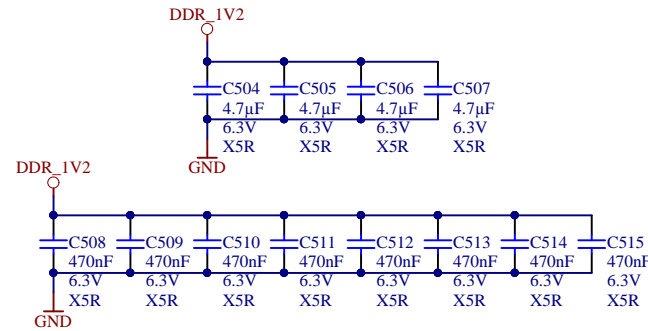
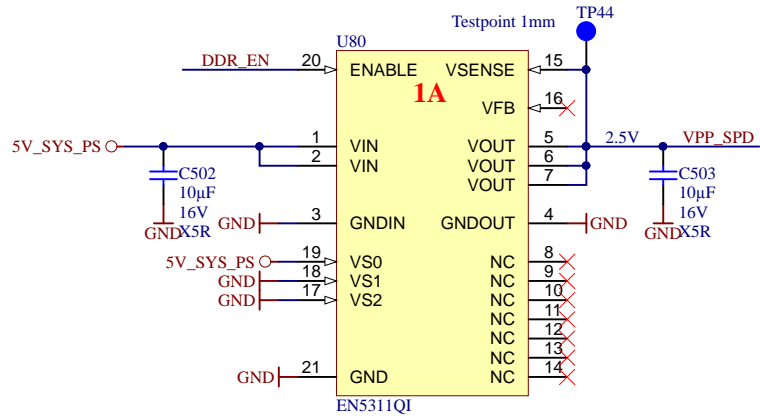




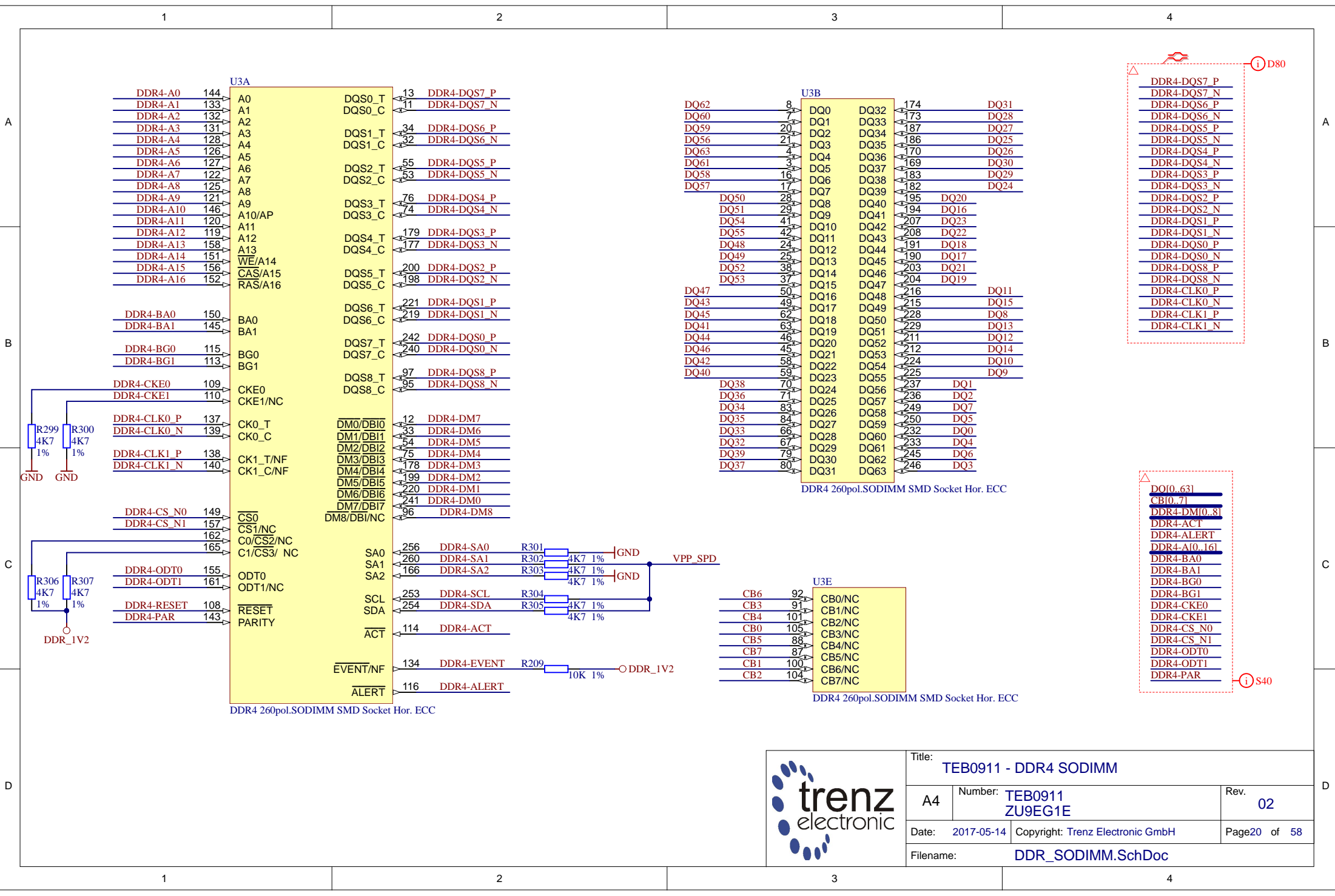
Title: <b>TEB0911 - SFP</b>		
A4	Number: <b>TEB0911 ZU9EG1E</b>	Rev. <b>02</b>
Date: <b>2017-05-14</b>	Copyright: Trenz Electronic GmbH	
Page 17 of 58		Page 17 of 58
Filename: <b>SFP.SchDoc</b>		



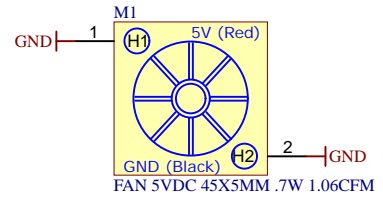
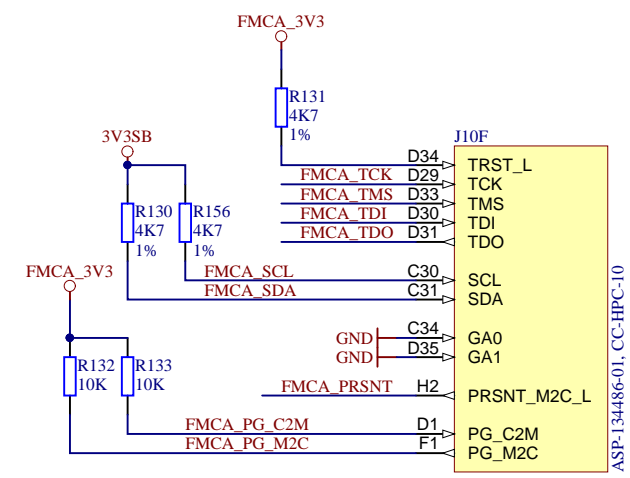
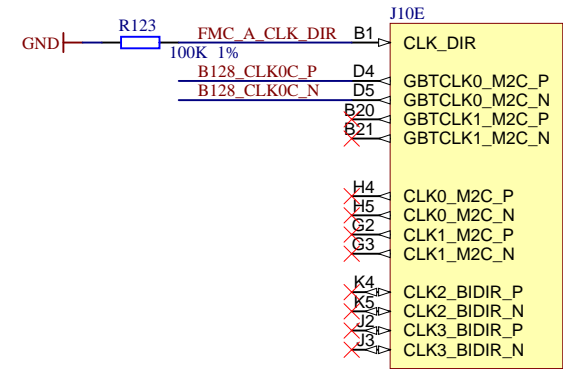
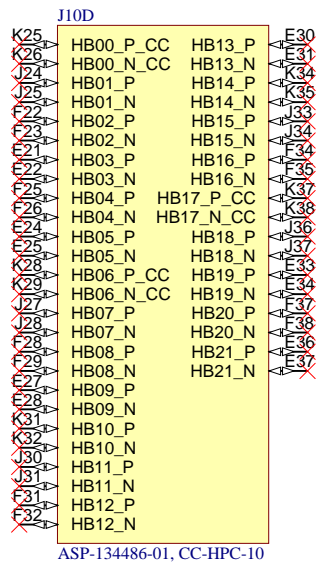
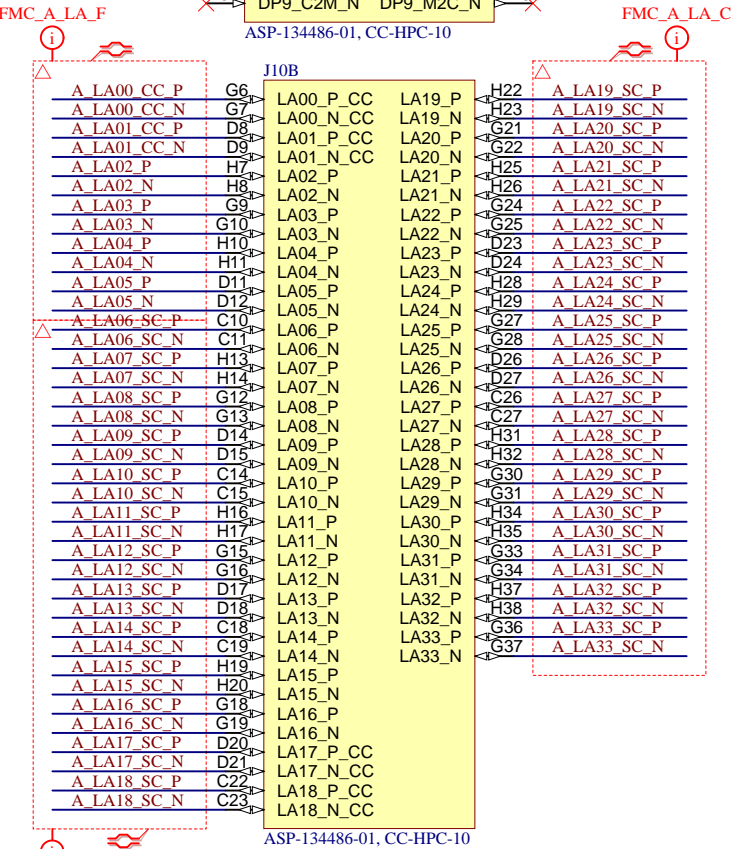
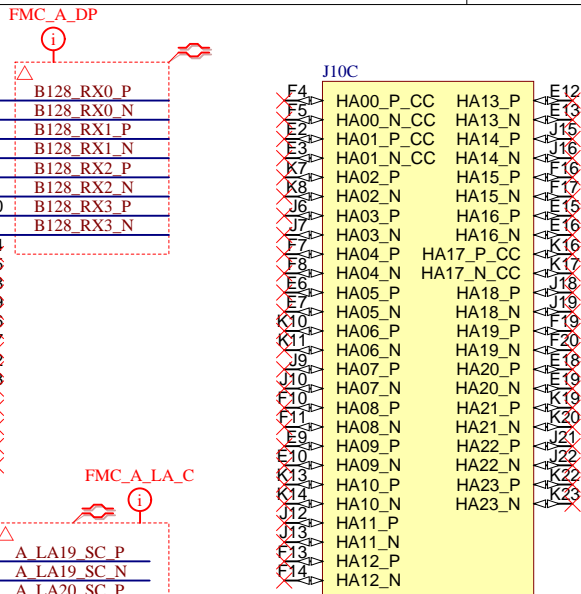
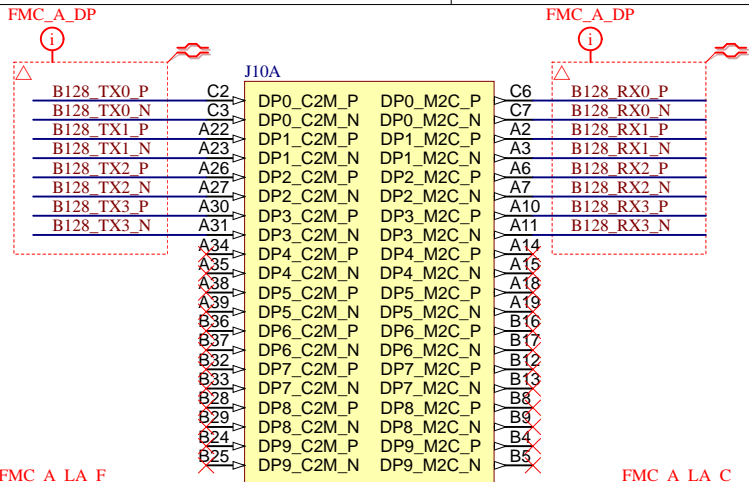
Title: TEB0911 - SFP		
A4	Number: TEB0911 ZU9EG1E	Rev. 02
Date: 2017-05-14	Copyright: Trenz Electronic GmbH	Page 18 of 58
Filename: SFP_CTRL.SchDoc		



Title: TEB0911 - DDR POWER		
A4	Number: TEB0911 ZU9EG1E	Rev. 02
Date: 2017-05-14	Copyright: Trenz Electronic GmbH	Page19 of 58
Filename: DDR_PWR.SchDoc		



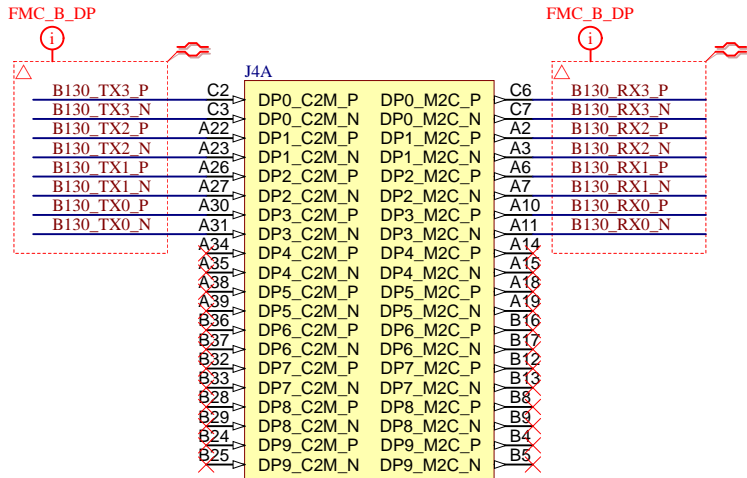
Title: <b>TEB0911 - DDR4 SODIMM</b>		
A4	Number: <b>TEB0911 ZU9EG1E</b>	Rev. <b>02</b>
Date: <b>2017-05-14</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>20</b> of <b>58</b>
Filename: <b>DDR_SODIMM.SchDoc</b>		



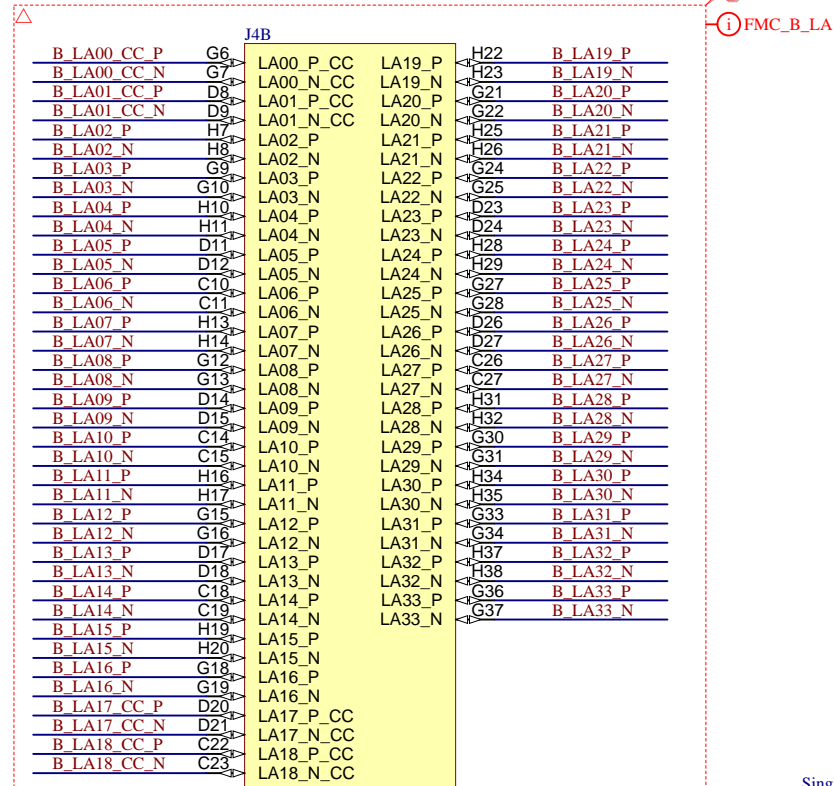
Title: <b>TEB0911 - FMC A</b>		
A4	Number: <b>TEB0911 ZU9EG1E</b>	Rev. <b>02</b>
Date: <b>2017-05-14</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>21</b> of <b>58</b>
Filename: <b>FMC_A.SchDoc</b>		



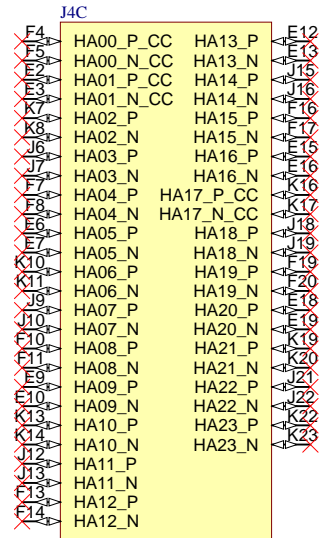
U10  
SNAP  
Single FMC Commercial Baseboard Snap



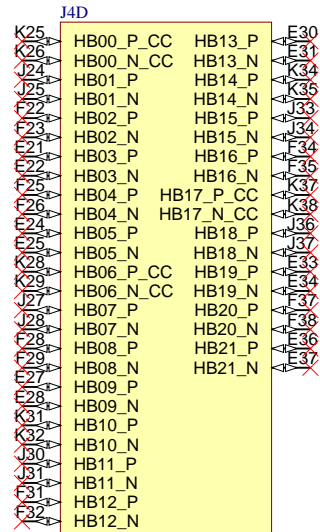
ASP-134486-01, CC-HPC-10



ASP-134486-01, CC-HPC-10



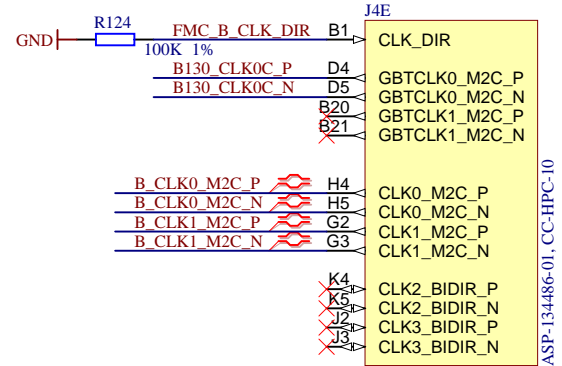
ASP-134486-01, CC-HPC-10



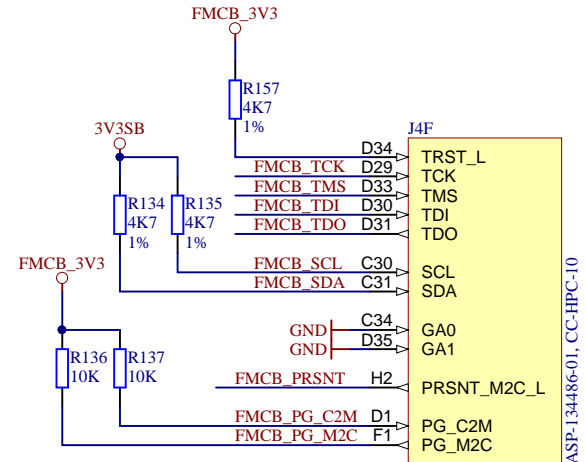
ASP-134486-01, CC-HPC-10



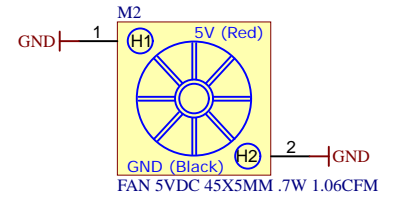
Single FMC Commercial Baseboard Snap



ASP-134486-01, CC-HPC-10

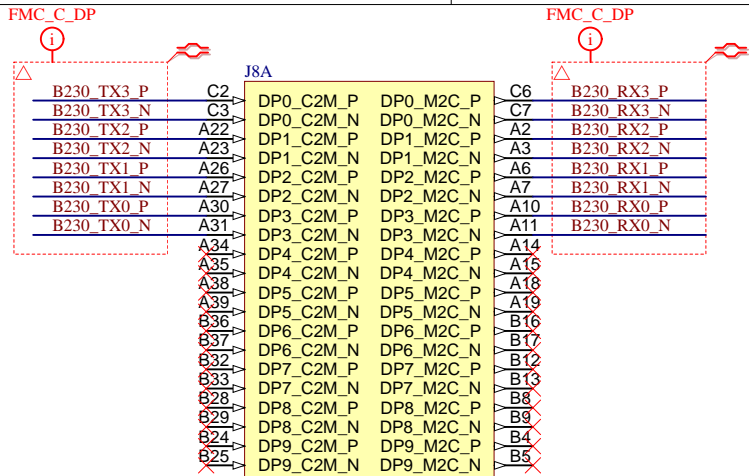


ASP-134486-01, CC-HPC-10

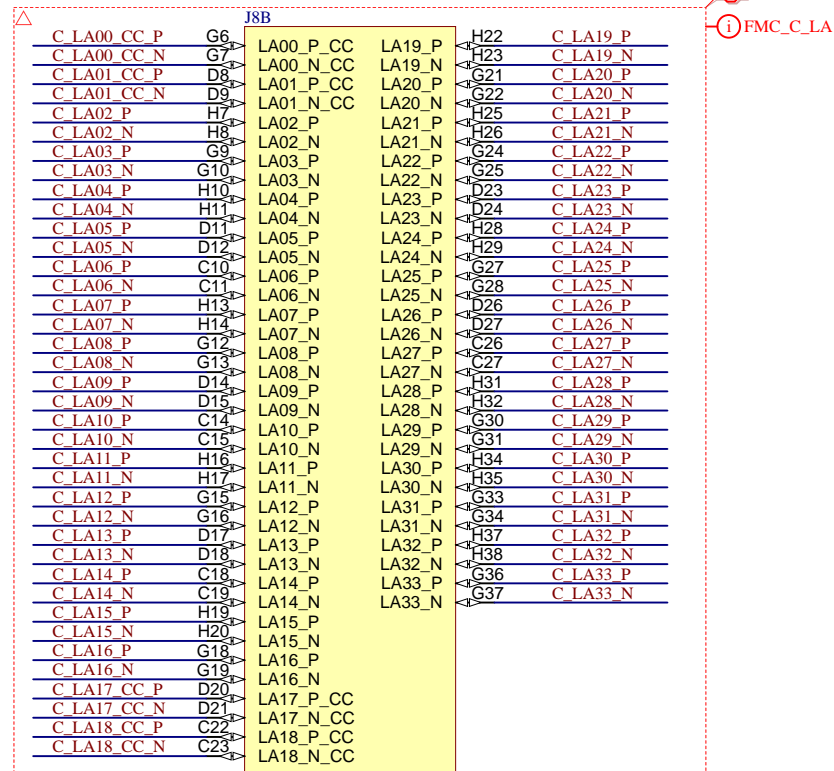


Title: <b>TEB0911 - FMC B</b>		
A4	Number: <b>TEB0911 ZU9EG1E</b>	Rev. <b>02</b>
Date: <b>2017-05-14</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>22</b> of <b>58</b>
Filename: <b>FMC_B.SchDoc</b>		

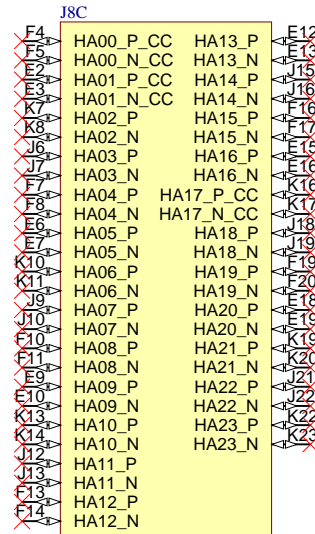




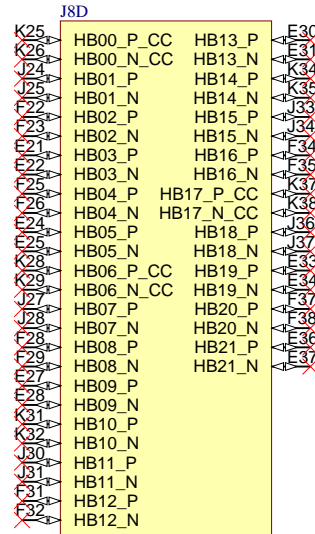
ASP-134486-01, CC-HPC-10



ASP-134486-01, CC-HPC-10



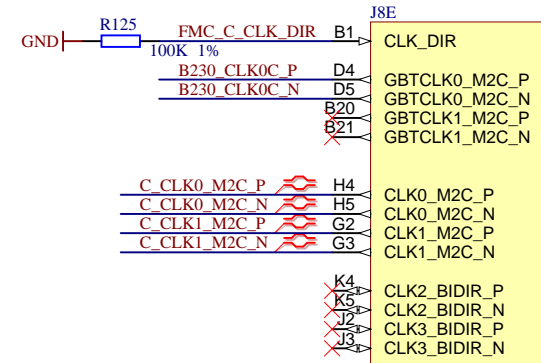
ASP-134486-01, CC-HPC-10



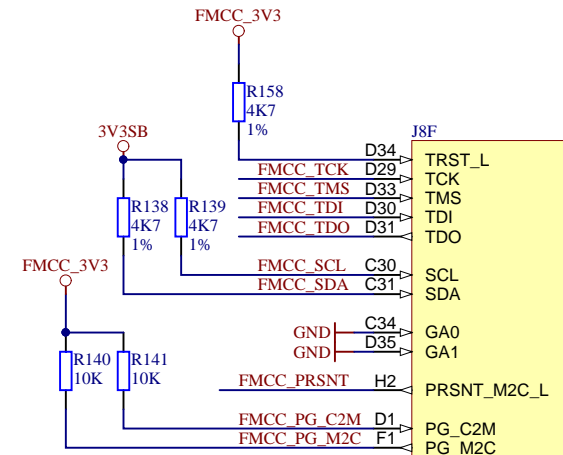
ASP-134486-01, CC-HPC-10



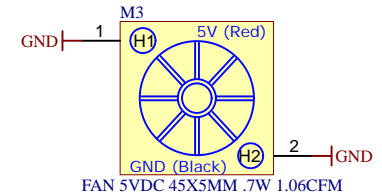
Single FMC Commercial Baseboard Snap



ASP-134486-01, CC-HPC-10



ASP-134486-01, CC-HPC-10

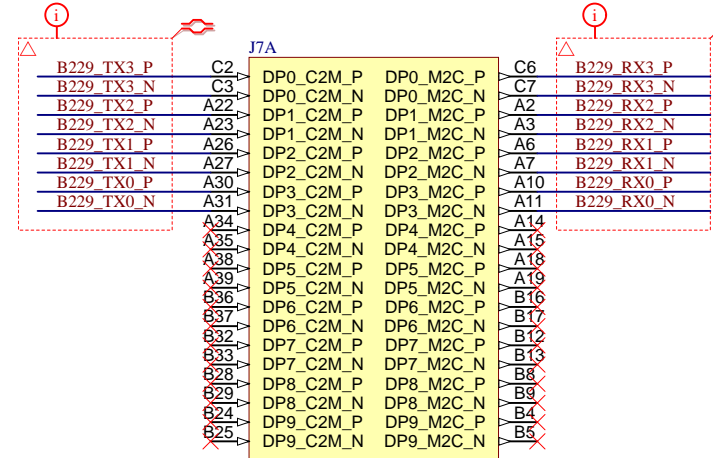


Title: <b>TEB0911 - FMC C</b>		
A4	Number: <b>TEB0911 ZU9EG1E</b>	Rev. <b>02</b>
Date: <b>2017-05-14</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>23</b> of <b>58</b>
Filename: <b>FMC_C.SchDoc</b>		

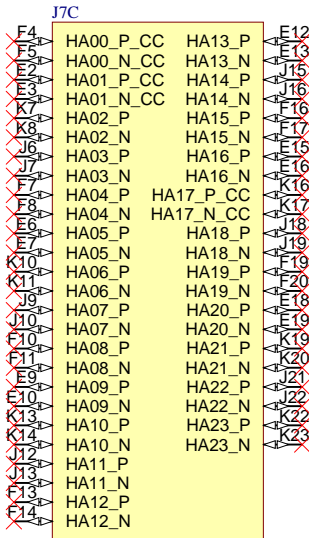


FMC\_D\_DP

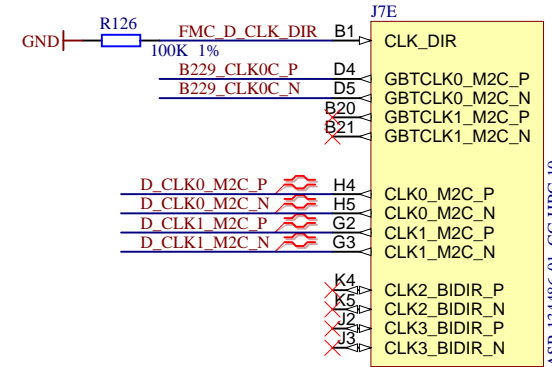
FMC\_D\_DP



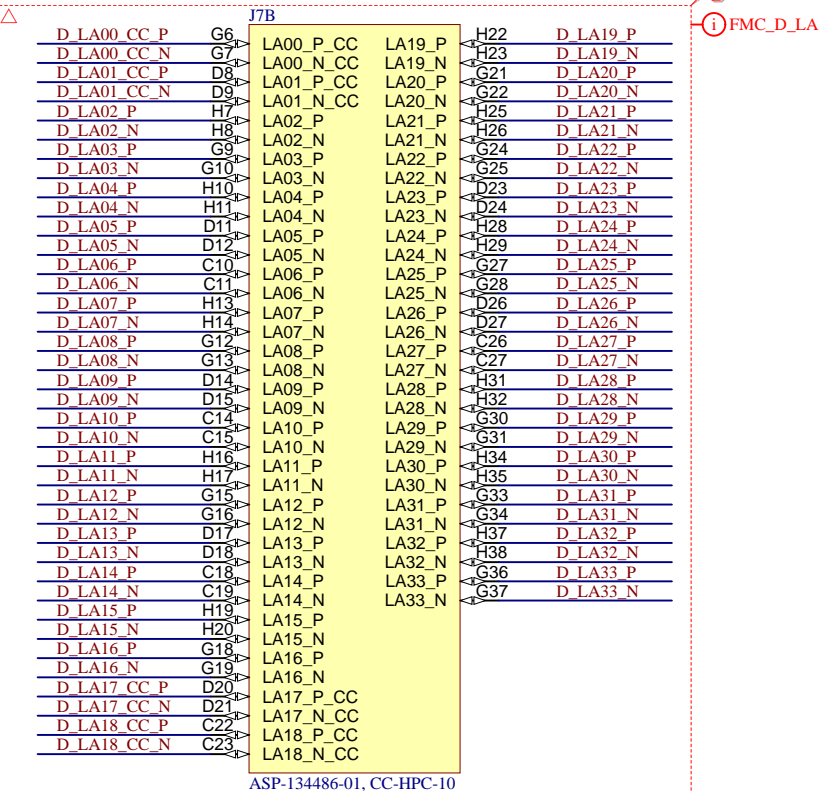
ASP-134486-01, CC-HPC-10



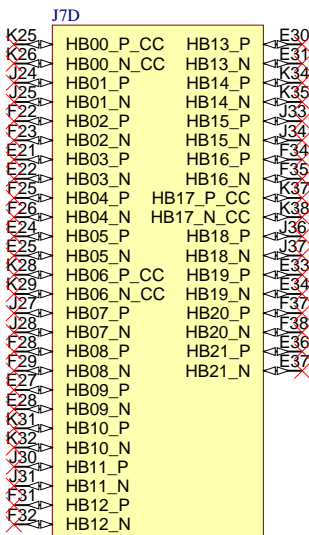
ASP-134486-01, CC-HPC-10



ASP-134486-01, CC-HPC-10



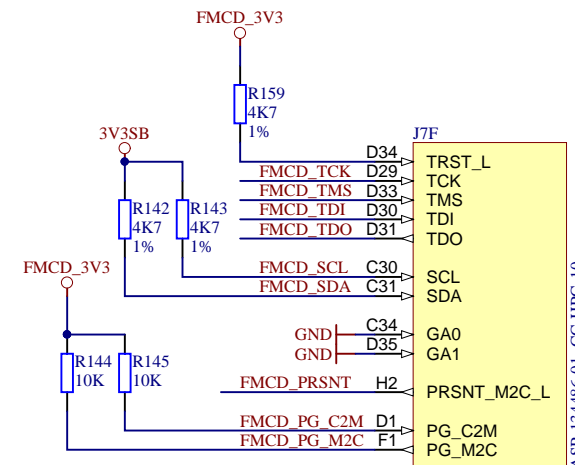
ASP-134486-01, CC-HPC-10



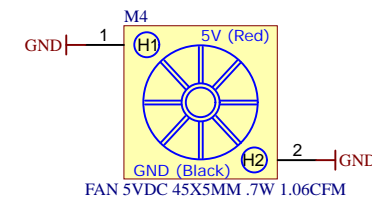
ASP-134486-01, CC-HPC-10



Single FMC Commercial Baseboard Snap



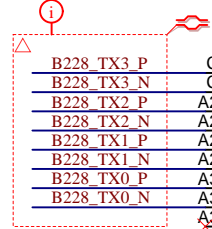
ASP-134486-01, CC-HPC-10



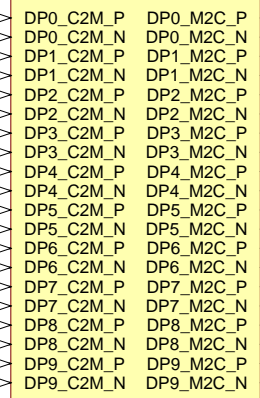
Title: TEB0911 - FMC D		
A4	Number: TEB0911 ZU9EG1E	Rev. 02
Date: 2017-05-14	Copyright: Trenz Electronic GmbH	Page24 of 58
Filename: FMC_D.SchDoc		



FMC\_E\_DP

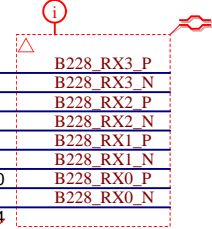


J6A

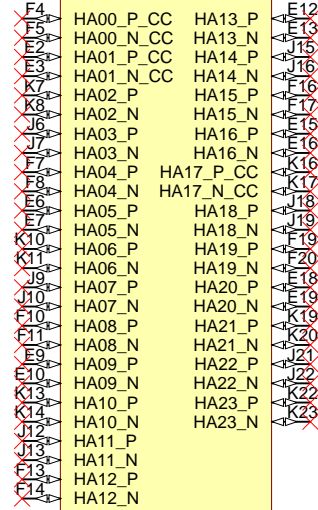


ASP-134486-01, CC-HPC-10

FMC\_E\_DP

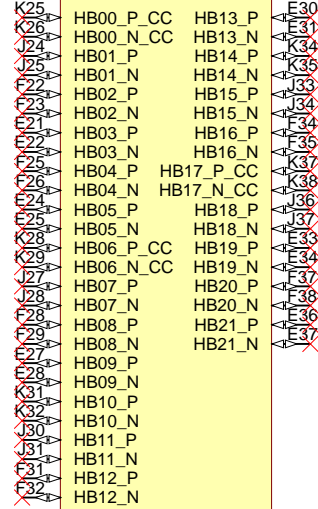


J6C



ASP-134486-01, CC-HPC-10

J6D

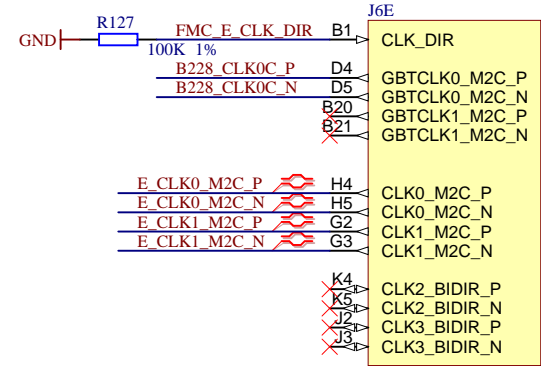


ASP-134486-01, CC-HPC-10

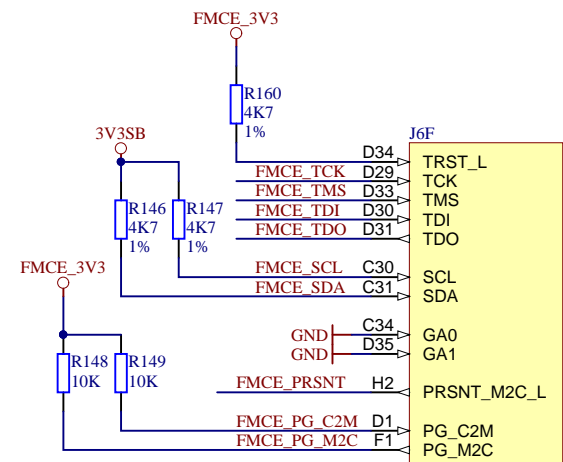
U7

SNAP

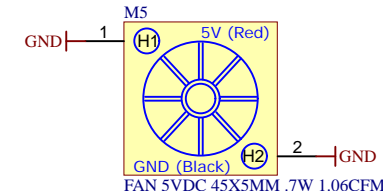
Single FMC Commercial Baseboard Snap



ASP-134486-01, CC-HPC-10



ASP-134486-01, CC-HPC-10



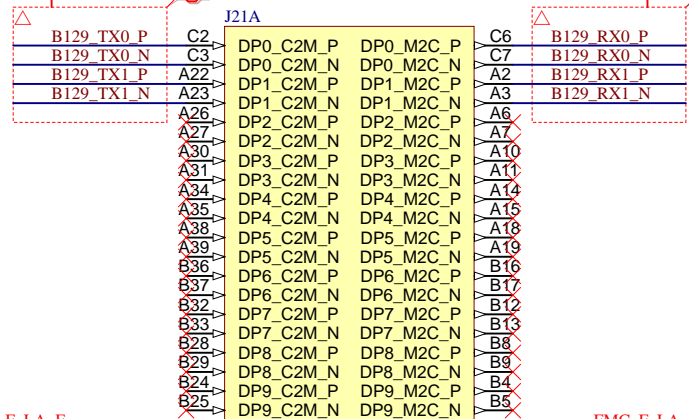
FAN 5VDC 45X5MM .7W 1.06CFM

Title: <b>TEB0911 - FMC E</b>		
A4	Number: <b>TEB0911 ZU9EG1E</b>	Rev. <b>02</b>
Date: <b>2017-05-14</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>25</b> of <b>58</b>
Filename: <b>FMC_E.SchDoc</b>		

ASP-134486-01, CC-HPC-10

FMC\_F\_DP

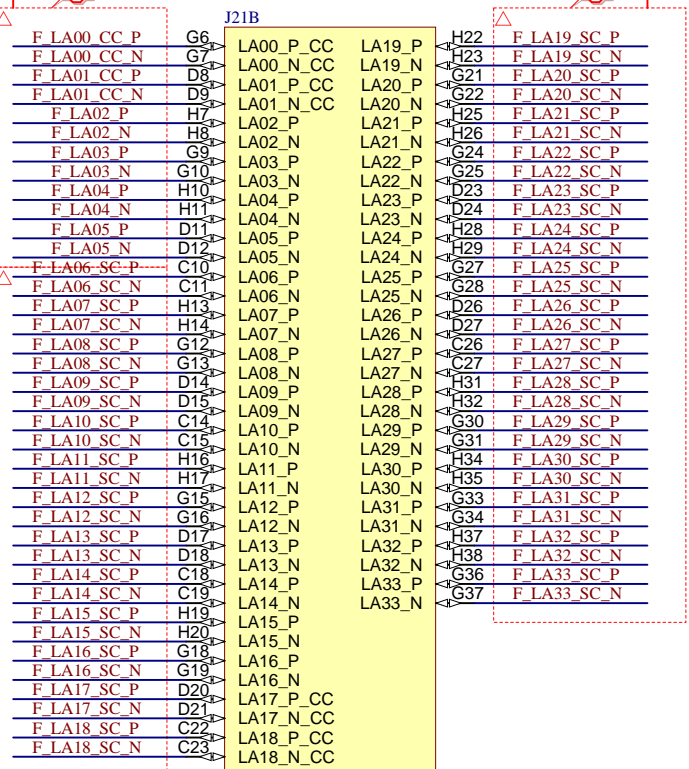
FMC\_F\_DP



ASP-134486-01, CC-HPC-10

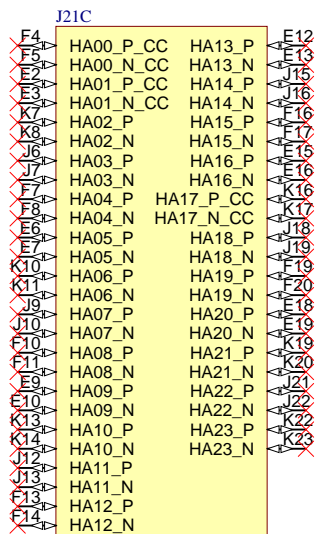
FMC\_F\_LA\_F

FMC\_F\_LA\_C

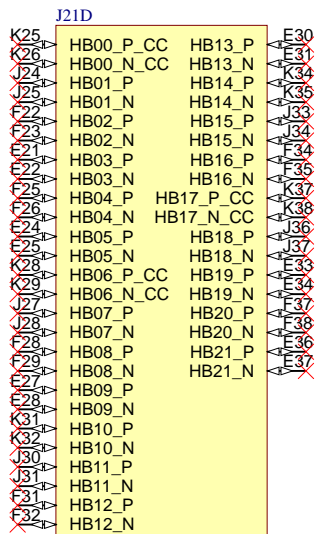


ASP-134486-01, CC-HPC-10

FMC\_F\_LA\_C



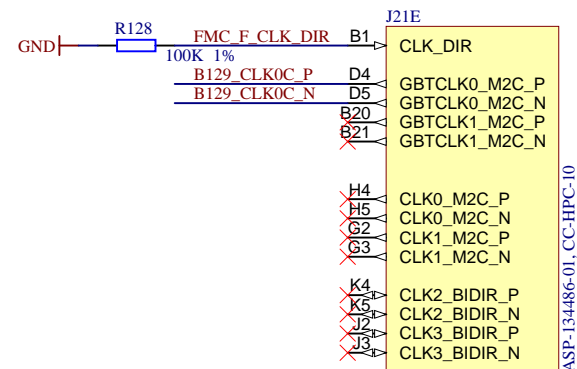
ASP-134486-01, CC-HPC-10



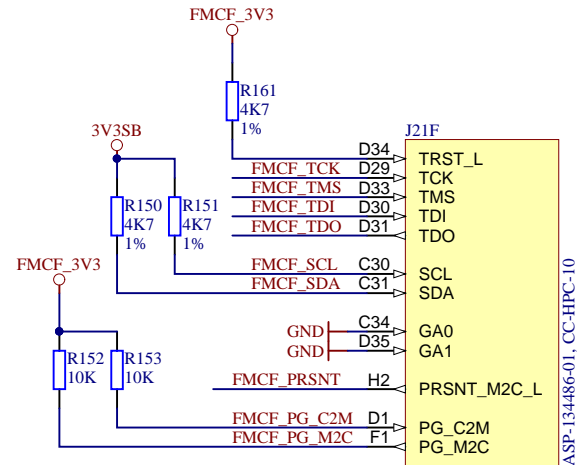
ASP-134486-01, CC-HPC-10



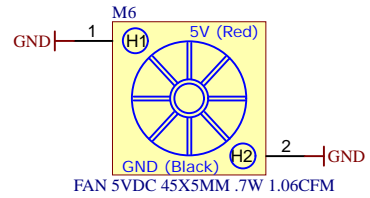
Single FMC Commercial Baseboard Snap



ASP-134486-01, CC-HPC-10

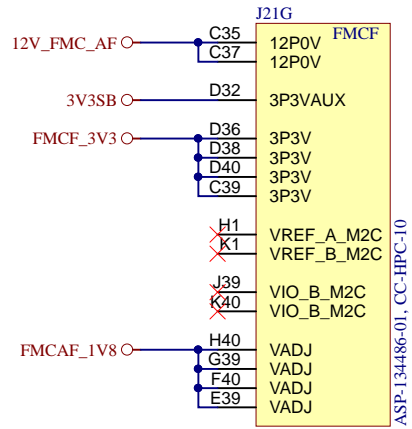


ASP-134486-01, CC-HPC-10

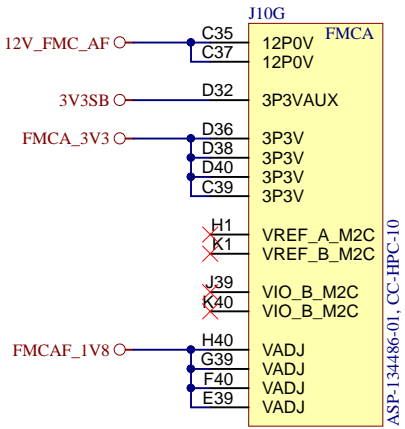


Title: TEB0911 - FMC F		
A4	Number: TEB0911 ZU9EG1E	Rev. 02
Date: 2017-05-14	Copyright: Trenz Electronic GmbH	Page 26 of 58
Filename: FMC_F.SchDoc		

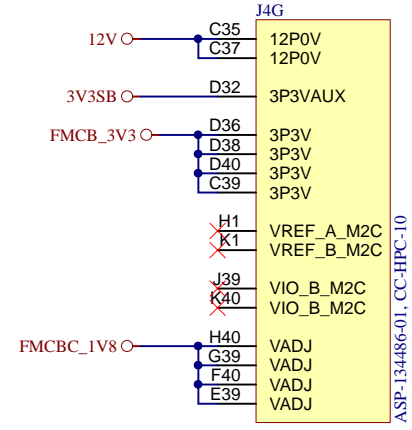




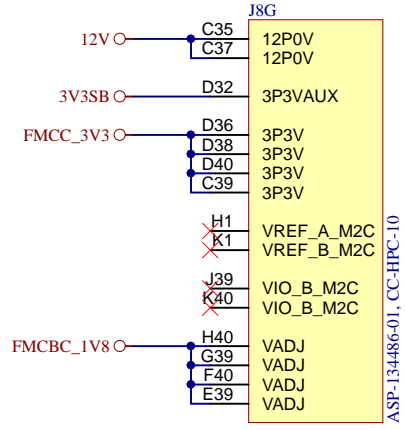
ASP-134486-01, CC-HPC-10



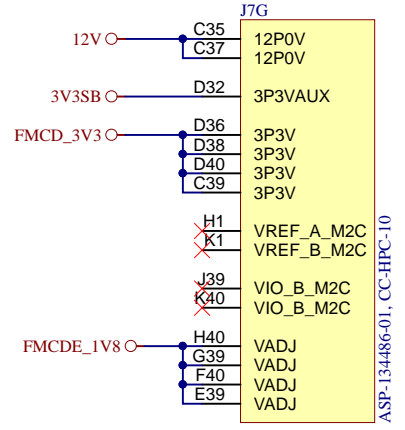
ASP-134486-01, CC-HPC-10



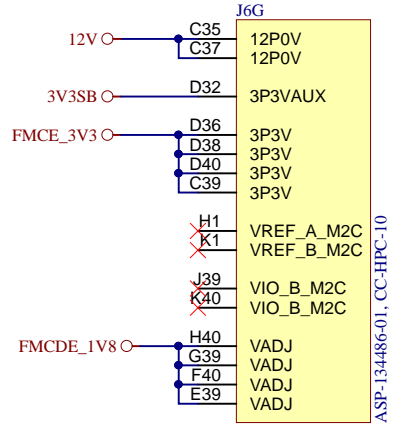
ASP-134486-01, CC-HPC-10



ASP-134486-01, CC-HPC-10



ASP-134486-01, CC-HPC-10

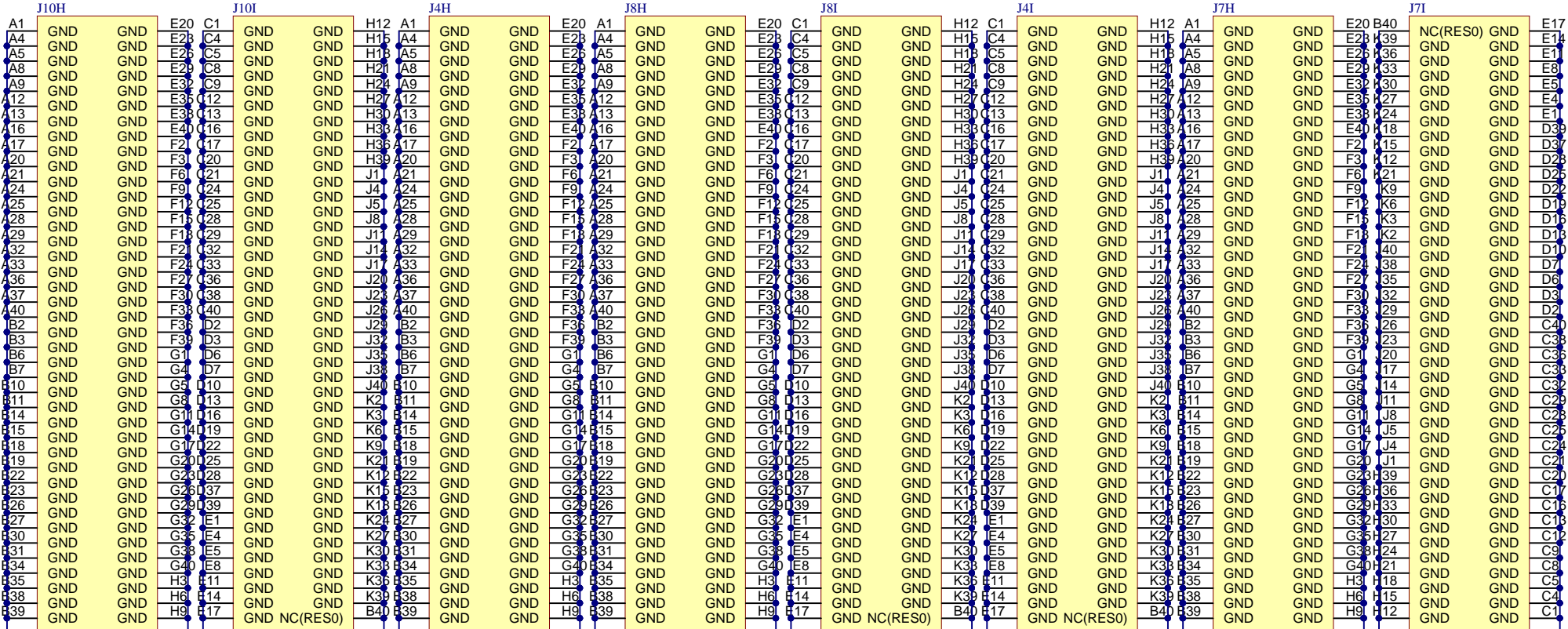


ASP-134486-01, CC-HPC-10

- FMC\_A
- FMC\_A.SchDoc
- FMC\_B
- FMC\_B.SchDoc
- FMC\_C
- FMC\_C.SchDoc
- FMC\_D
- FMC\_D.SchDoc
- FMC\_E
- FMC\_E.SchDoc
- FMC\_F
- FMC\_F.SchDoc
- FMC\_GND
- FMC\_GND.SchDoc
- FMC\_GND2
- FMC\_GND2.SchDoc
- FMC\_MECH
- FMC\_MECH.SchDoc



Title: <b>TEB0911 - FMC POWER</b>		
A4	Number: <b>TEB0911 ZU9EG1E</b>	Rev. <b>02</b>
Date: <b>2017-05-14</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>27</b> of <b>58</b>
Filename: <b>FMC PWR.SchDoc</b>		



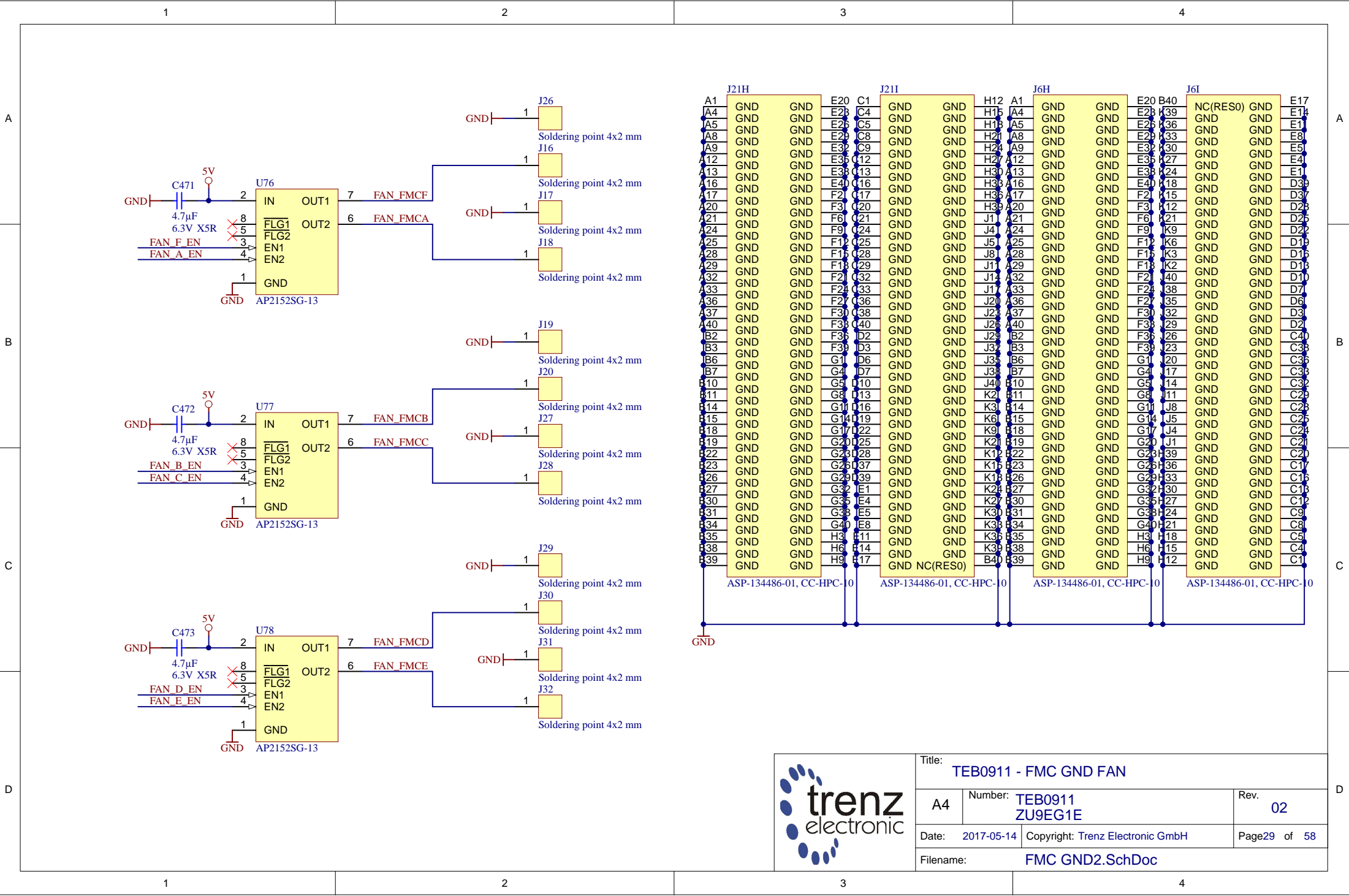
ASP-134486-01, CC-HPC-10    ASP-134486-01, CC-HPC-10    ASP-134486-01, CC-HPC-10    ASP-134486-01, CC-HPC-10    ASP-134486-01, CC-HPC-10    ASP-134486-01, CC-HPC-10    ASP-134486-01, CC-HPC-10    ASP-134486-01, CC-HPC-10

GND



Title: TEB0911 - FMC GND		
A4	Number: TEB0911 ZU9EG1E	Rev. 02
Date: 2017-05-14	Copyright: Trenz Electronic GmbH	Page 28 of 58
Filename: FMC_GND.SchDoc		





Title: **TEB0911 - FMC GND FAN**

A4	Number: <b>TEB0911 ZU9EG1E</b>	Rev. <b>02</b>
Date: 2017-05-14	Copyright: Trenz Electronic GmbH	Page 29 of 58
Filename: <b>FMC GND2.SchDoc</b>		

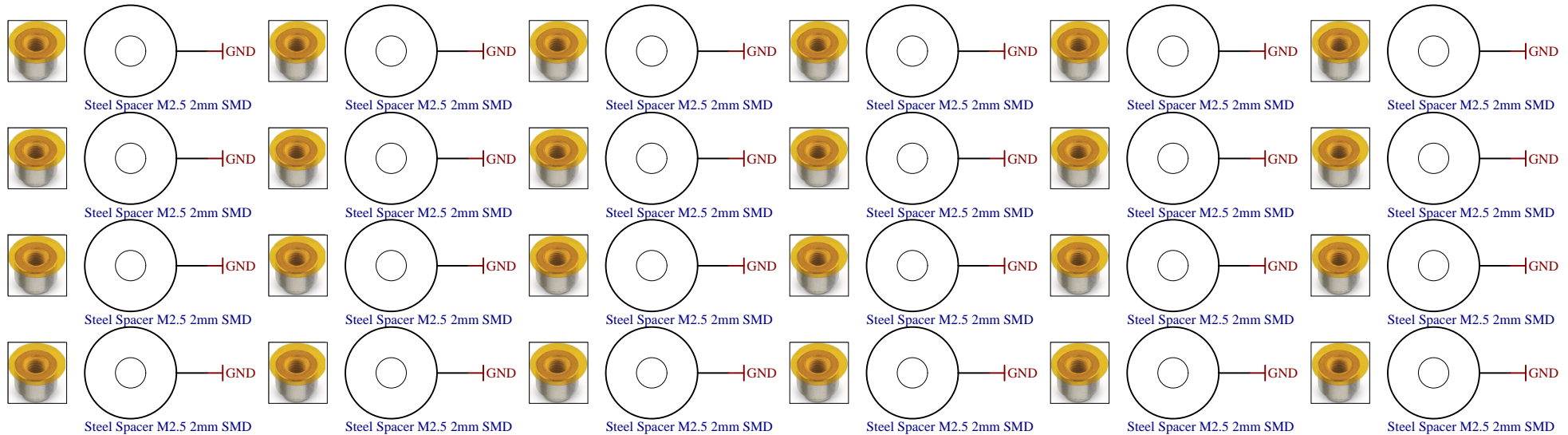
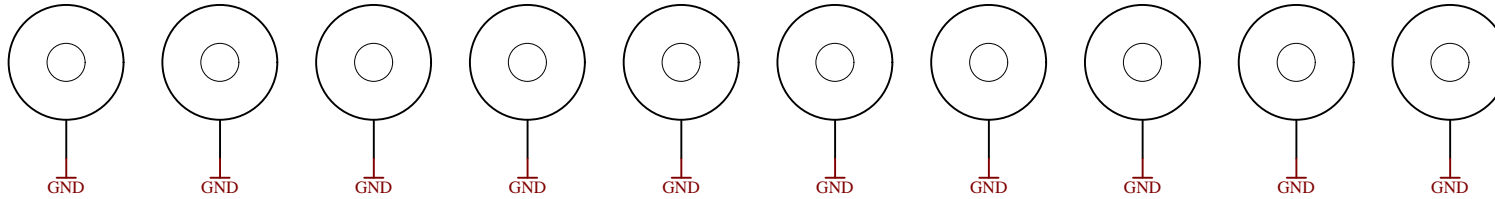
1


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: <b>TEB0911 - FMC MECH</b>		
	A4	Number: <b>TEB0911 ZU9EG1E</b>	Rev. <b>02</b>
	Date: <b>2017-05-14</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>30</b> of <b>58</b>
	Filename: <b>FMC_MECH.SchDoc</b>		

1

2

3

4

A

A

B

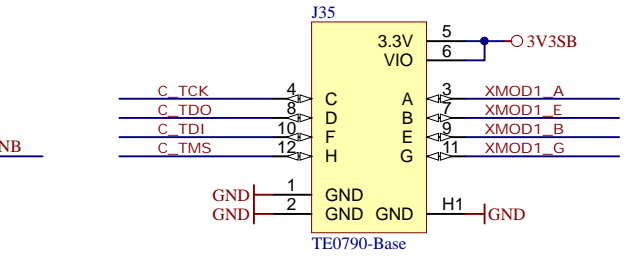
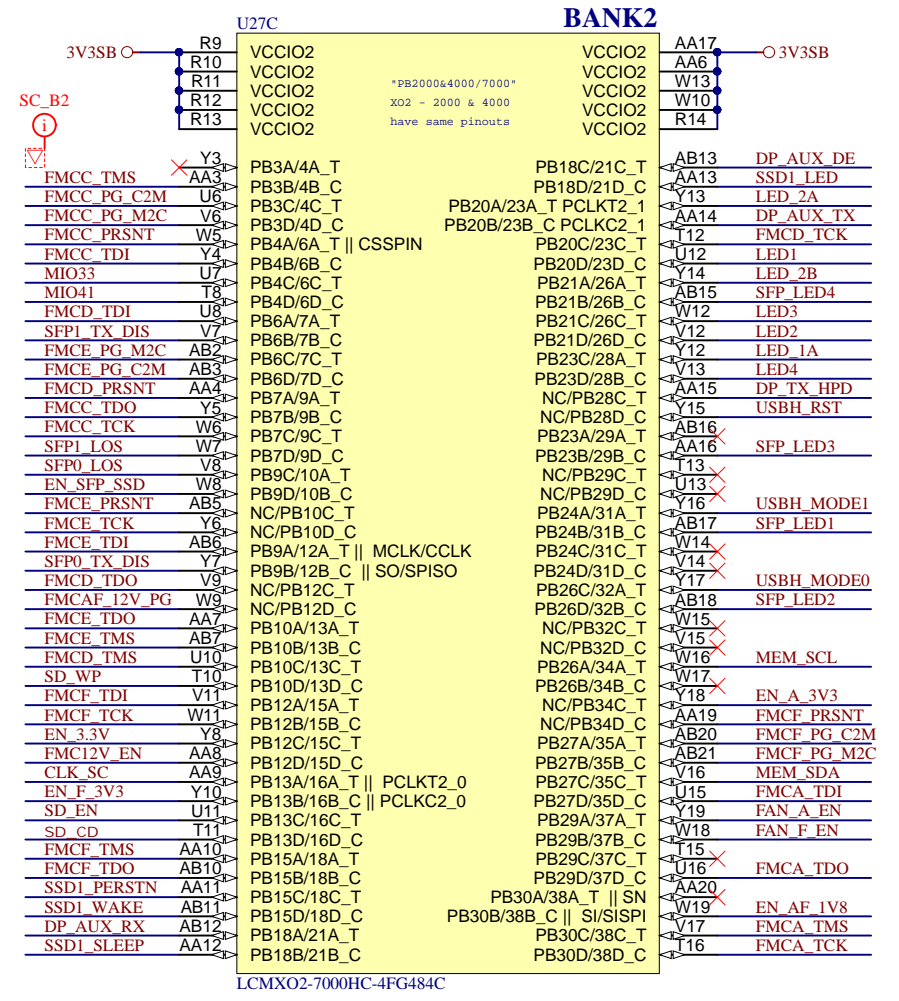
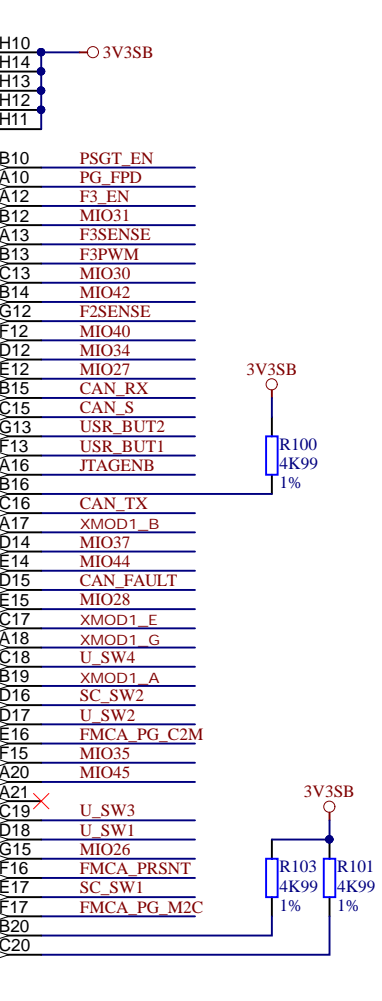
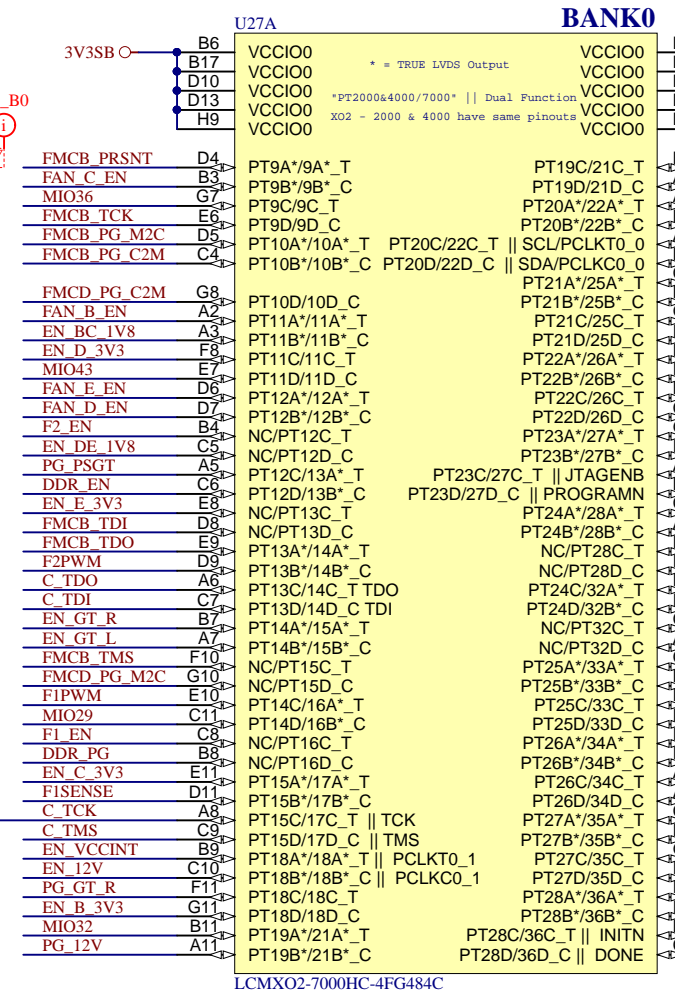
B

C

C

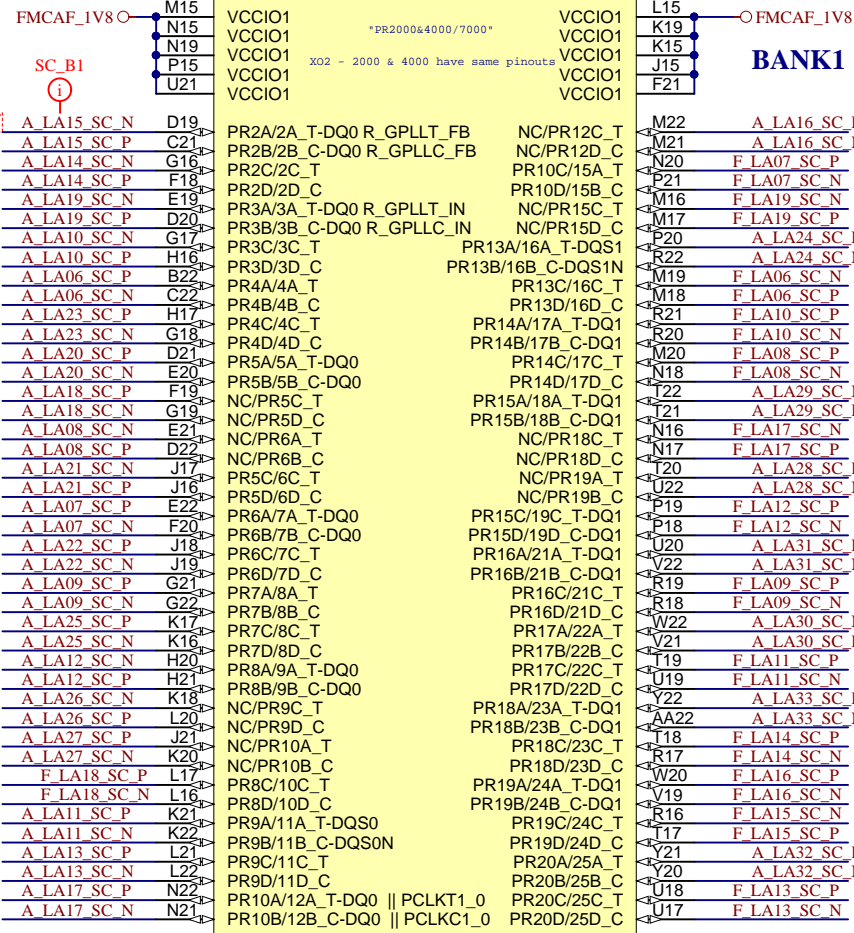
D

D



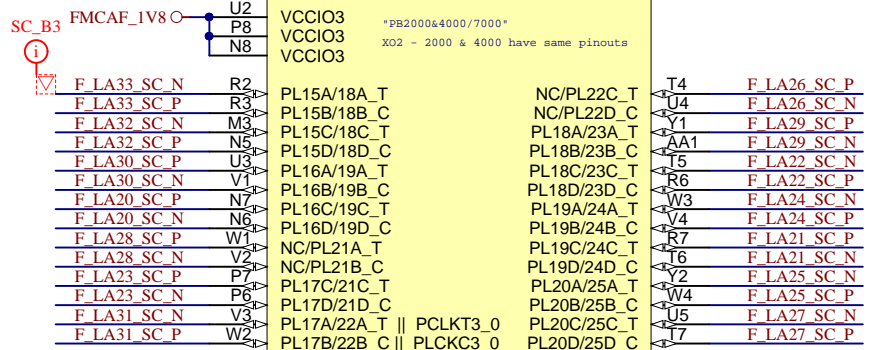
Title: TEB0911 - CPLD		
A4	Number: TEB0911 ZU9EG1E	Rev. 02
Date: 2017-05-14	Copyright: Trenz Electronic GmbH	Page31 of 58
Filename: SC.schdoc		

U27B



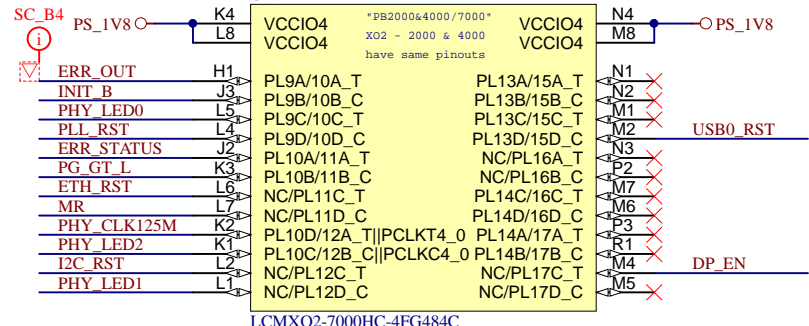
LCMX02-7000HC-4FG484C

U27D



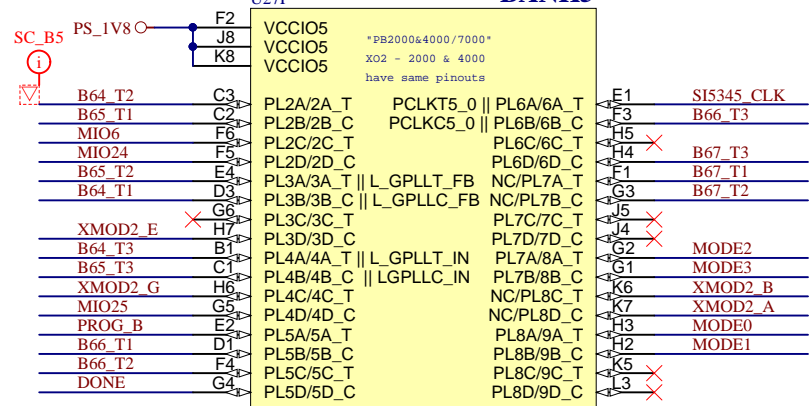
LCMX02-7000HC-4FG484C

U27E

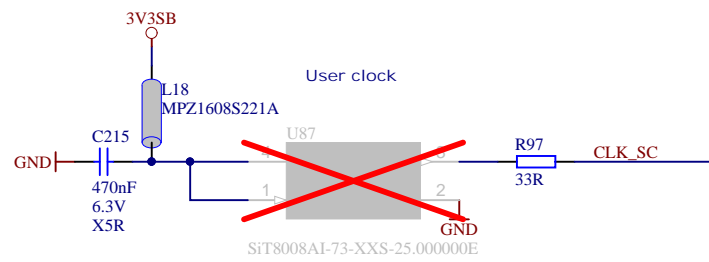


LCMX02-7000HC-4FG484C

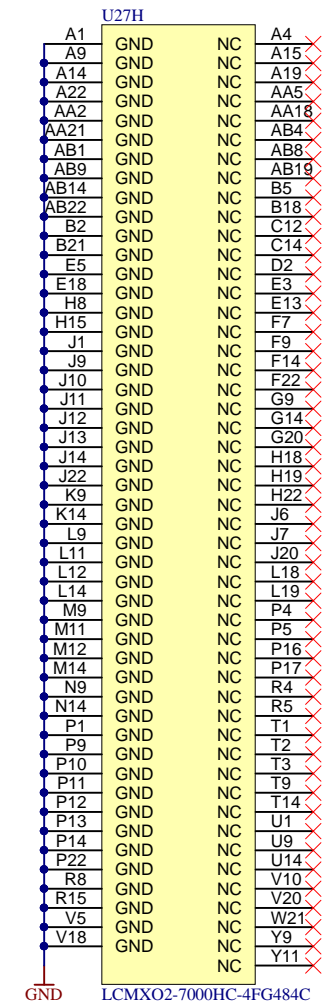
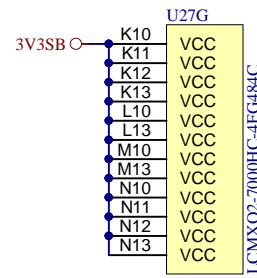
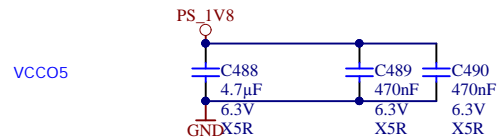
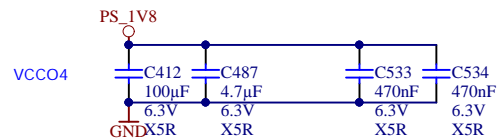
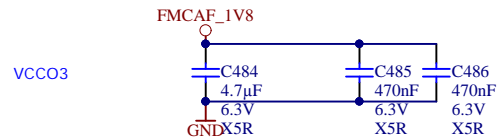
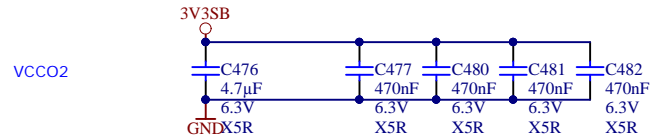
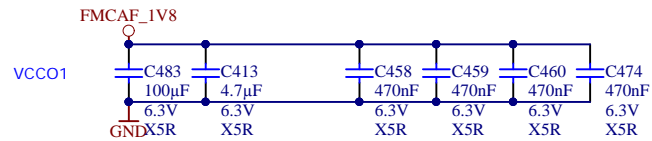
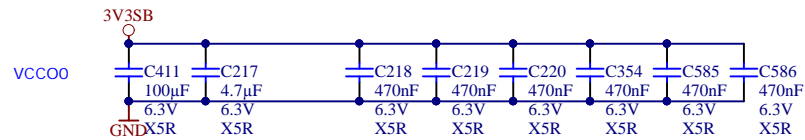
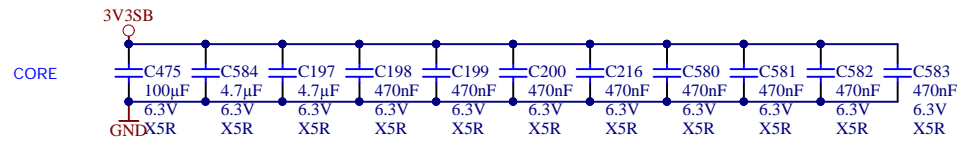
U27F



LCMX02-7000HC-4FG484C

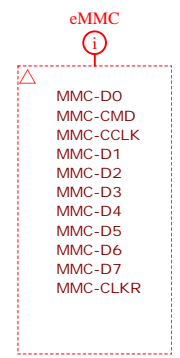
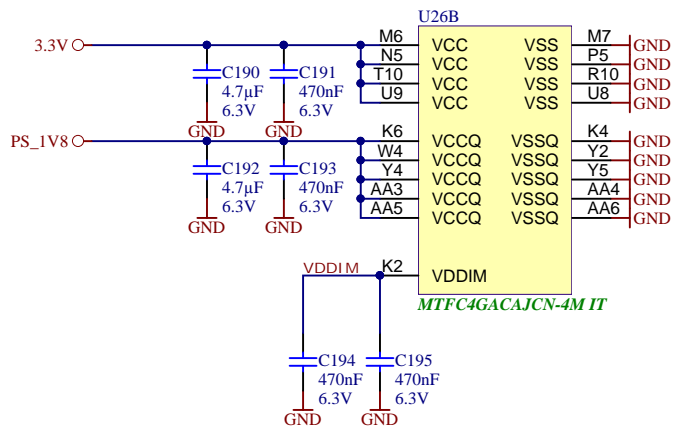
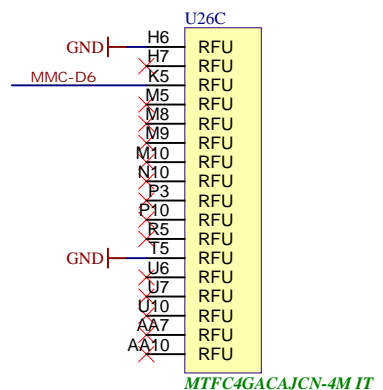
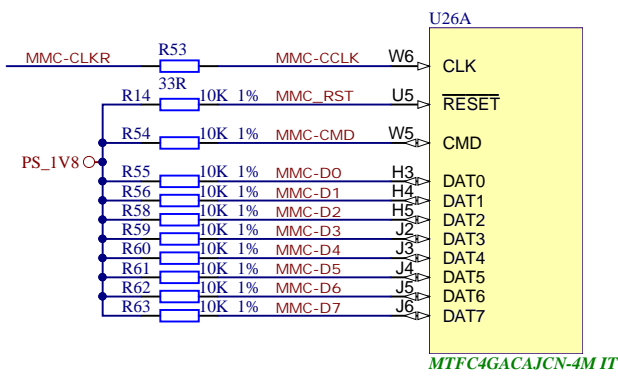
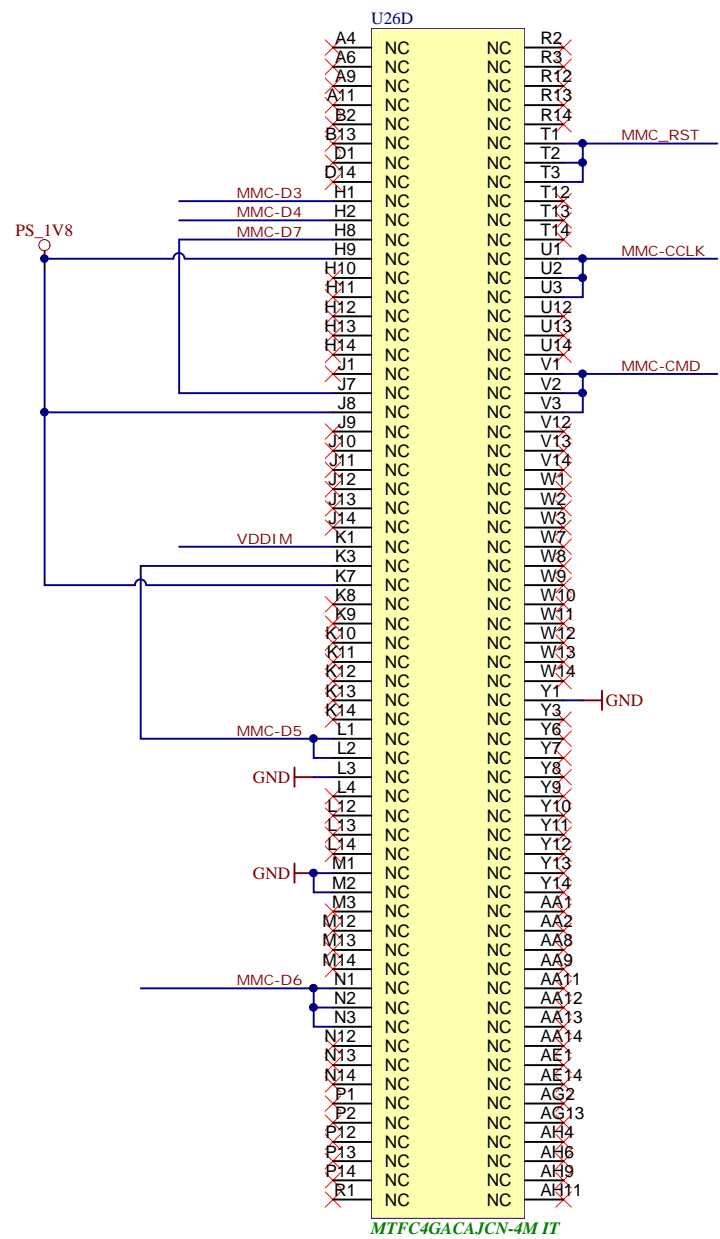


				Title: <b>TEB0911 - CPLD</b>	
				A4	Number: <b>TEB0911 ZU9EG1E</b>
Date: 2017-05-14		Copyright: Trenz Electronic GmbH		Page 32 of 58	
Filename: <b>SC2.schdoc</b>					

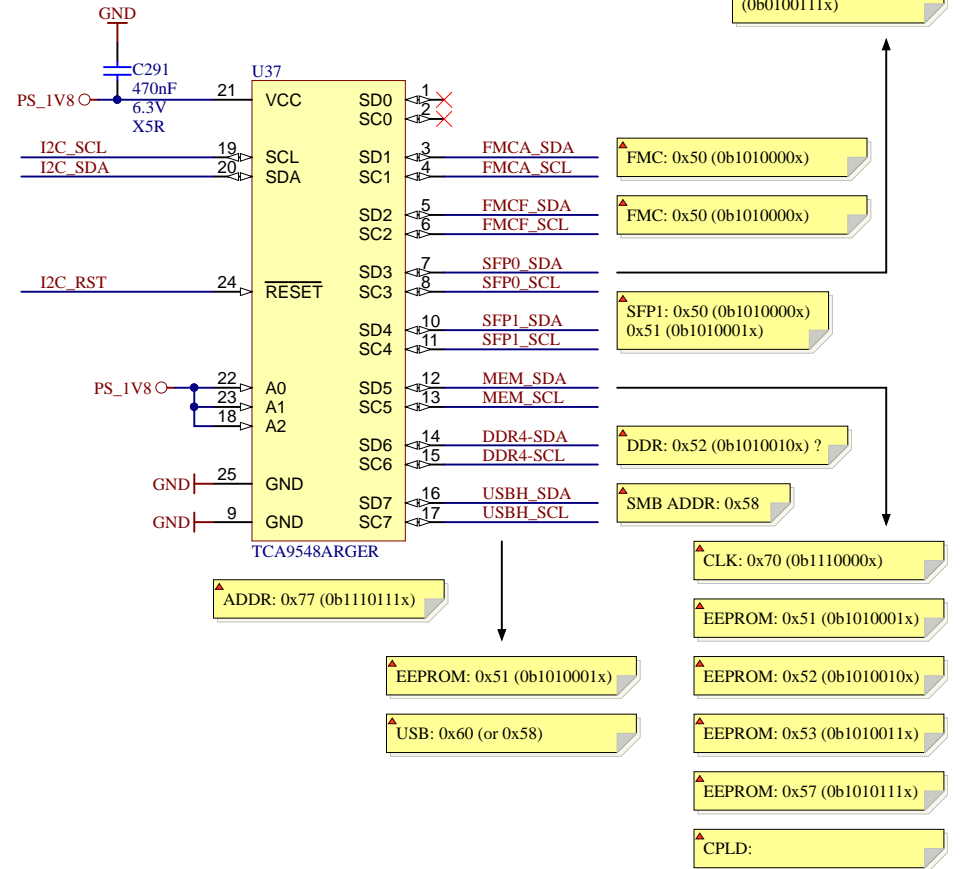
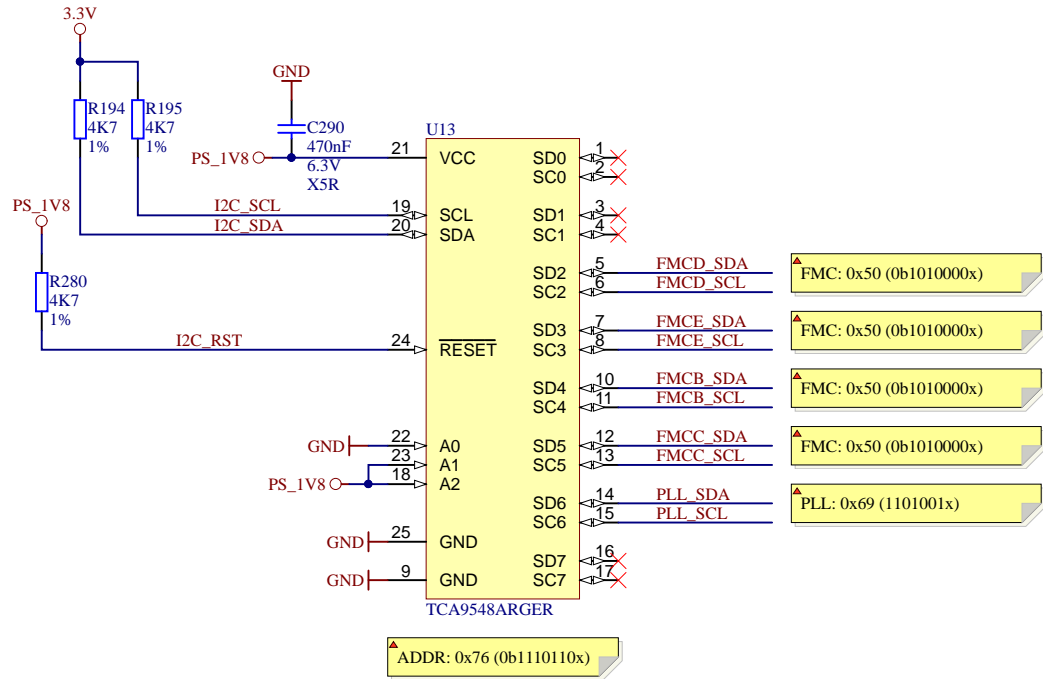


Title: <b>TEB0911 - CPLD</b>		
A4	Number: <b>TEB0911 ZU9EG1E</b>	Rev. <b>02</b>
Date: <b>2017-05-14</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>33</b> of <b>58</b>
Filename: <b>SC_POWER.schdoc</b>		



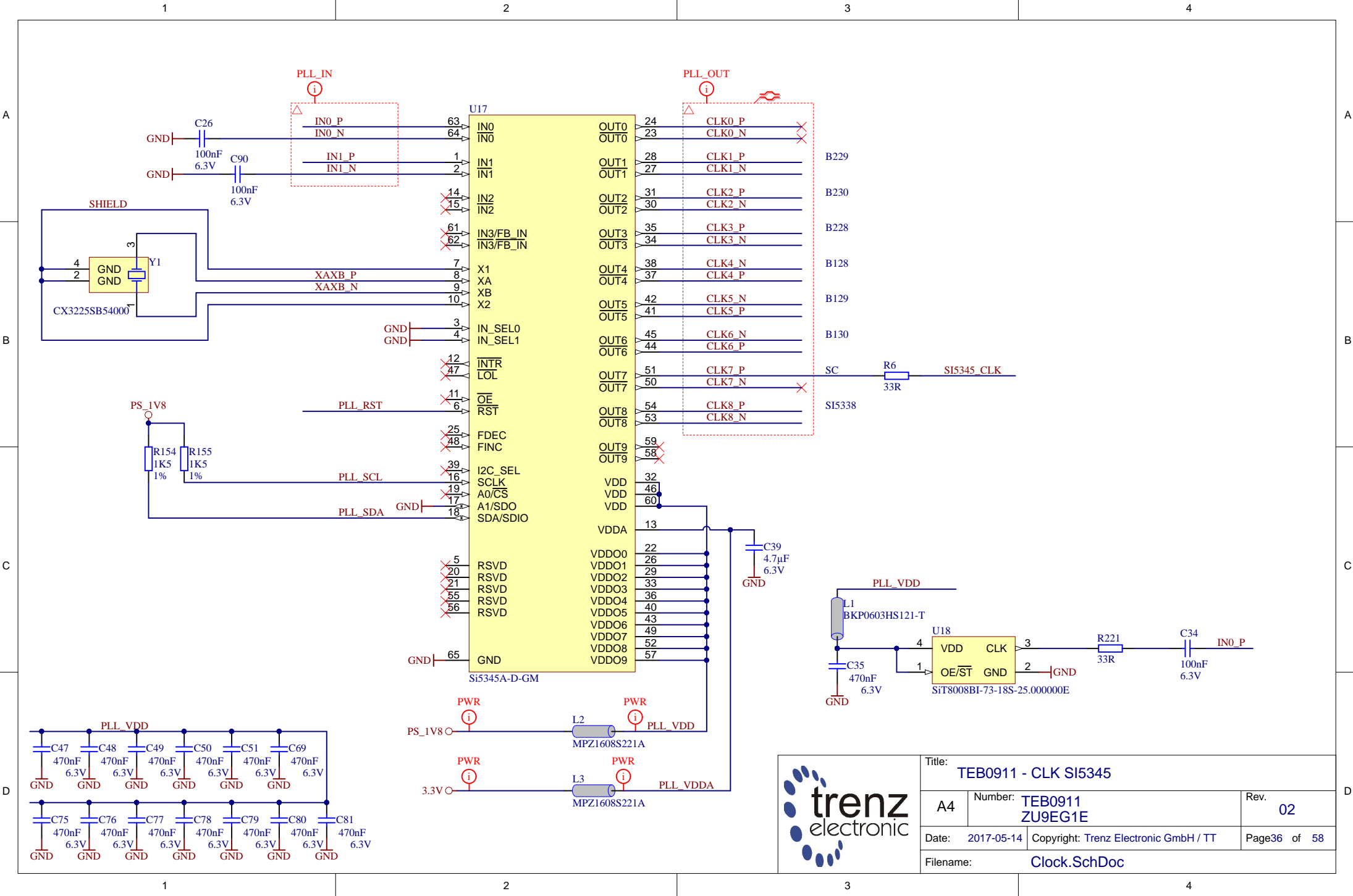


Title: TEB0911 - eMMC		
A4	Number: TEB0911 ZU9EG1E	Rev. 02
Date: 2017-05-14	Copyright: Trenz Electronic GmbH	Page 34 of 58
Filename: eMMC.SchDoc		

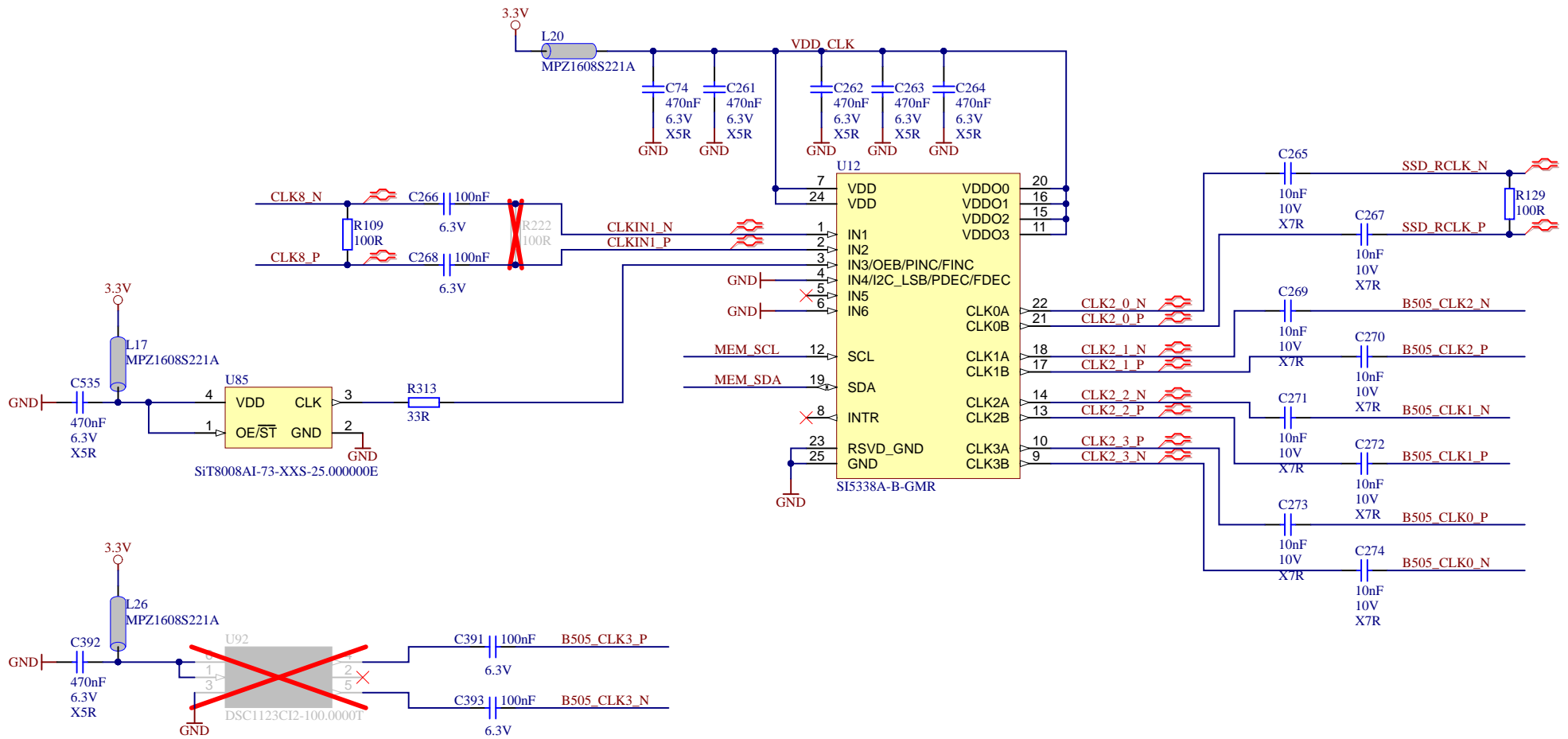



	Title: <b>TEB0911 - I2C System</b>	
	A4	Number: <b>TEB0911 ZU9EG1E</b>
	Date: 2017-05-14	Rev. <b>02</b>
	Copyright: Trenz Electronic GmbH	Page 35 of 58
Filename: <b>I2C_system.schdoc</b>		

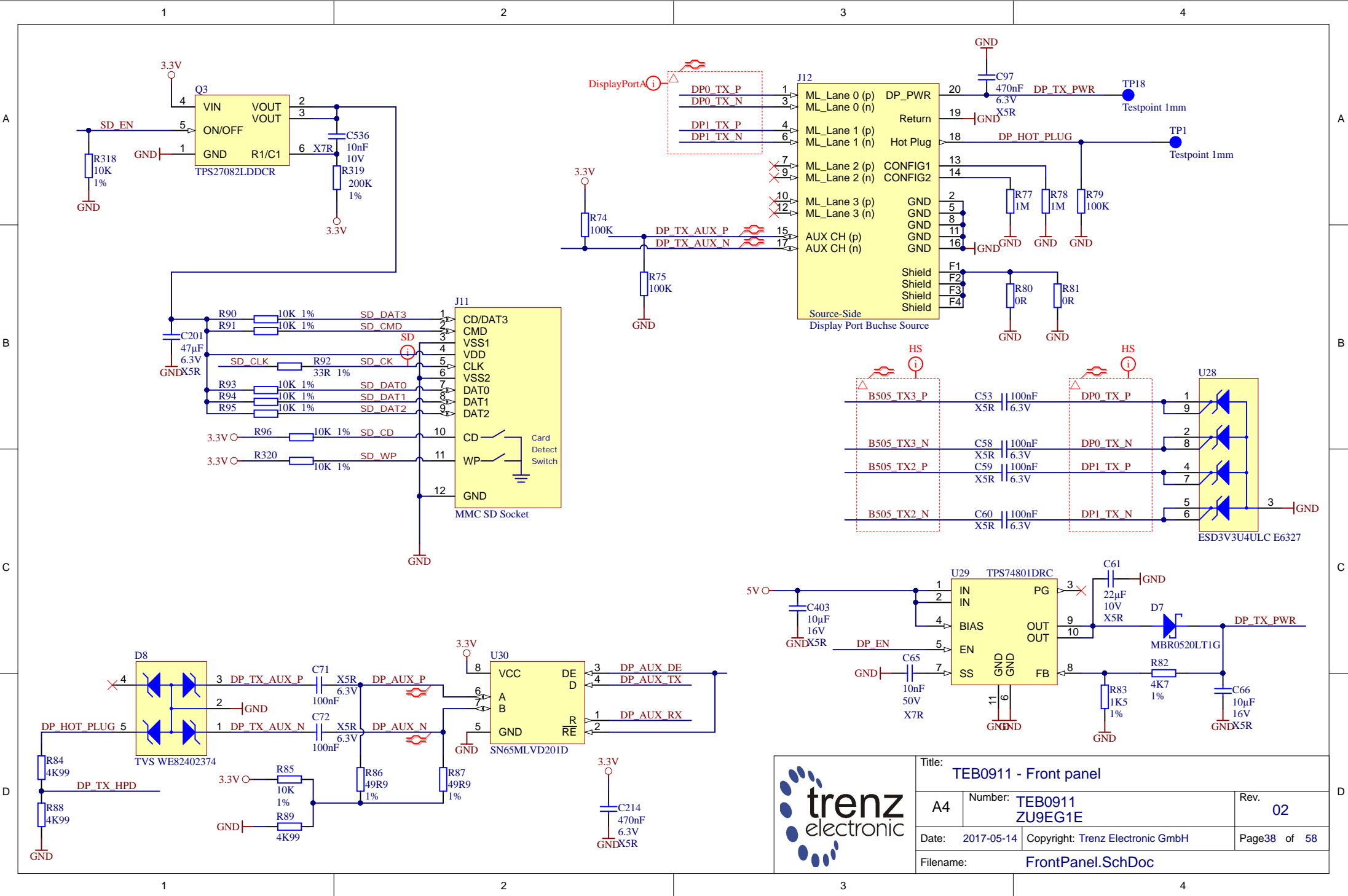




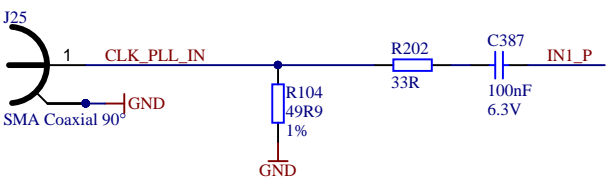
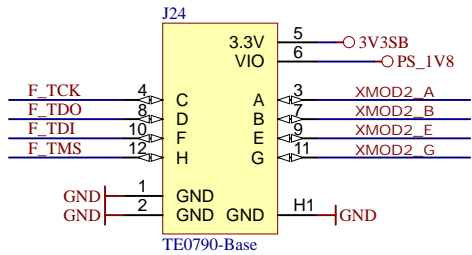
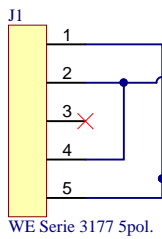
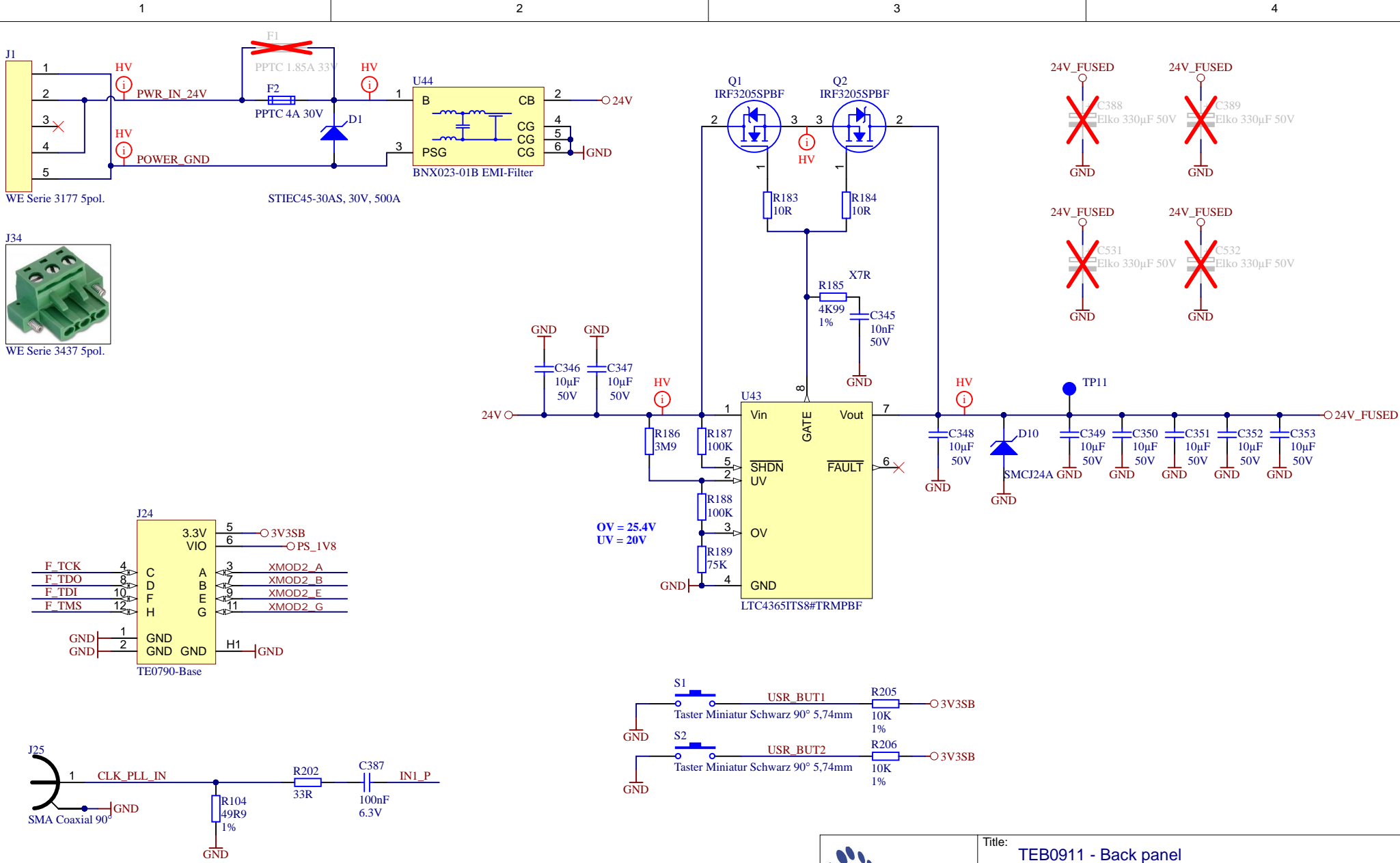
				Title: TEB0911 - CLK SI5345	
A4	Number: TEB0911 ZU9EG1E			Rev. 02	
Date: 2017-05-14		Copyright: Trenz Electronic GmbH / TT		Page 36 of 58	
Filename: Clock.SchDoc					



		Title: TEB0911 - CLK SI5338	
		A4	Number: TEB0911 ZU9EG1E
Date: 2017-05-14		Copyright: Trenz Electronic GmbH	
Filename: Clock2.SchDoc		Page 37 of 58	



Title: TEB0911 - Front panel		
A4	Number: TEB0911 ZU9EG1E	Rev. 02
Date: 2017-05-14	Copyright: Trenz Electronic GmbH	Page38 of 58
Filename: FrontPanel.SchDoc		



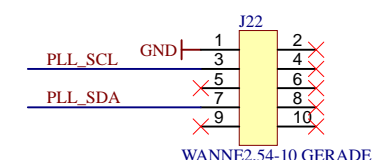
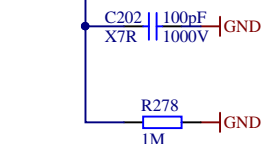
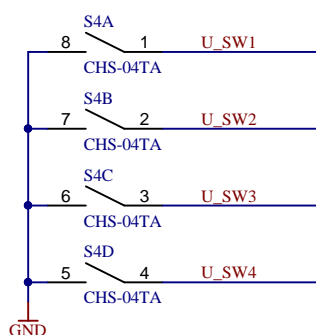
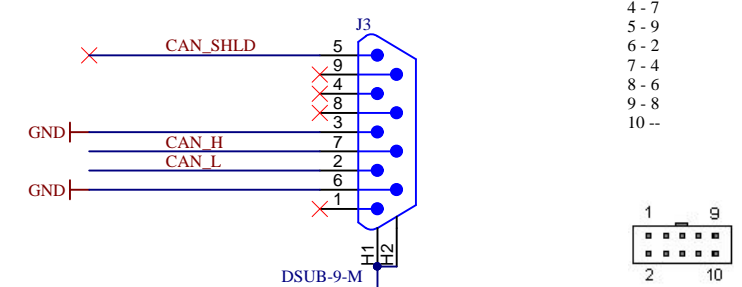
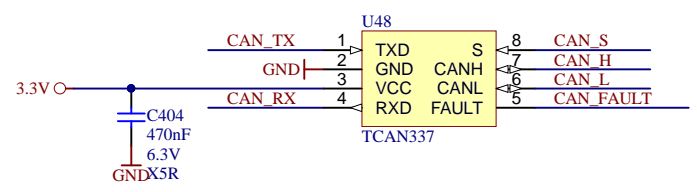
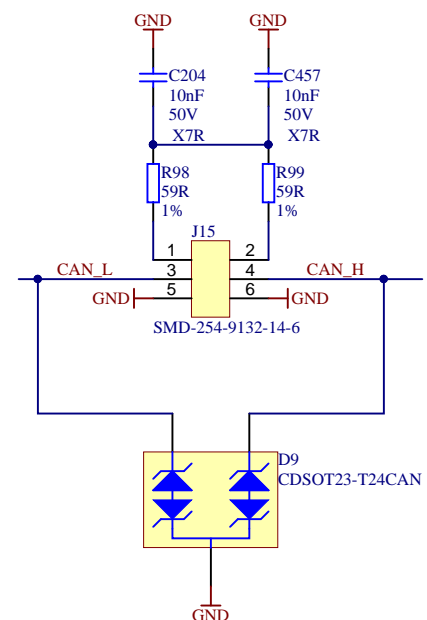
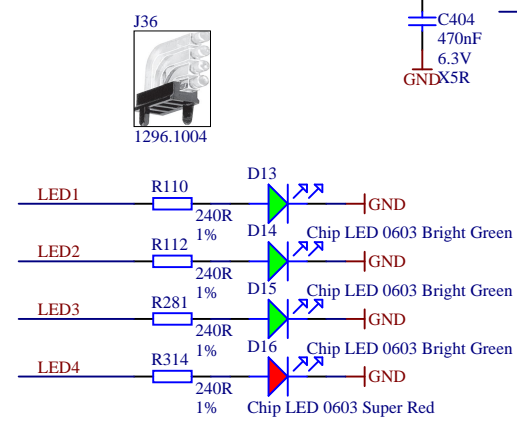
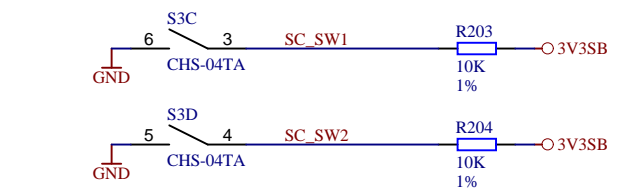
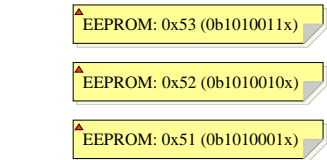
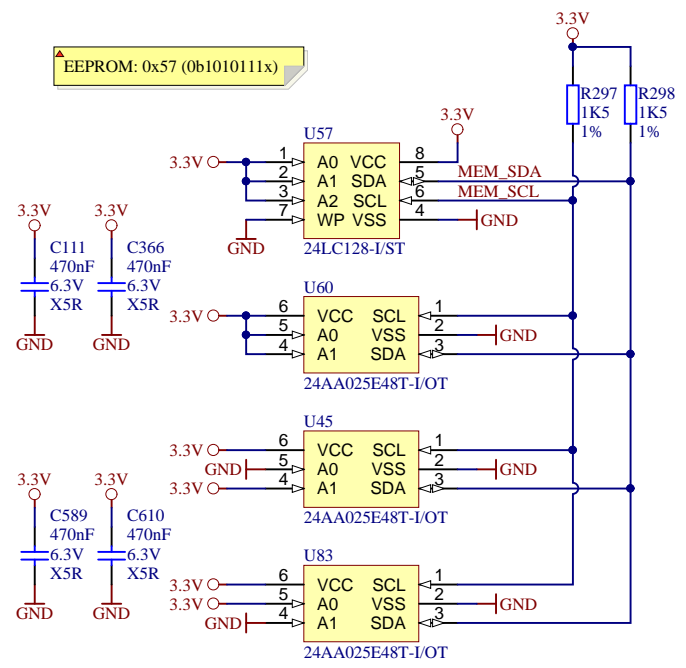
Title: TEB0911 - Back panel		
A4	Number: TEB0911 ZU9EG1E	Rev. 02
Date: 2017-05-14	Copyright: Trenz Electronic GmbH	Page 39 of 58
Filename: BackPanel.SchDoc		

A

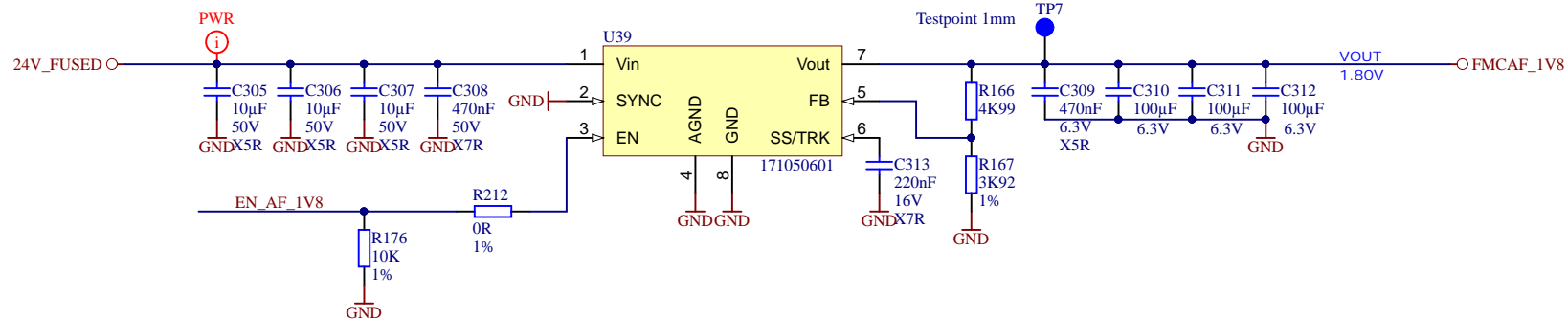
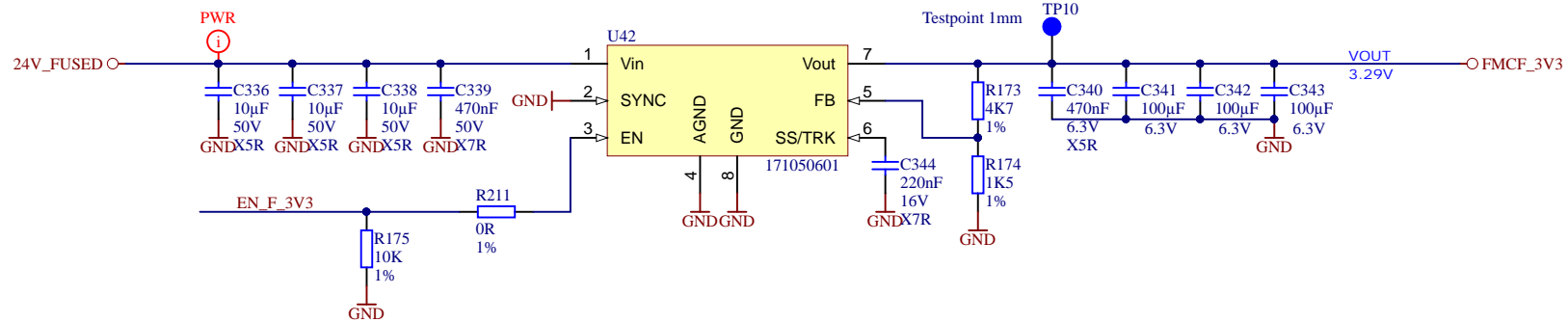
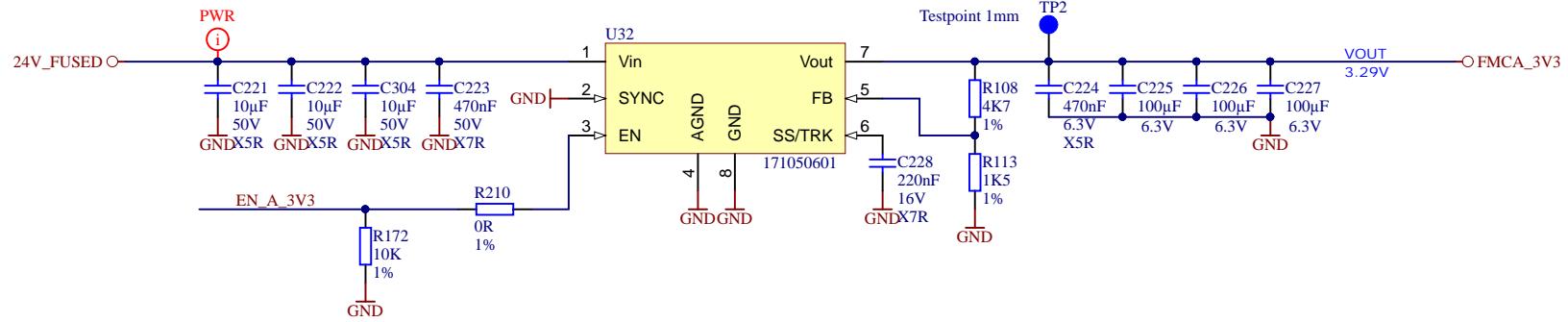
B


C

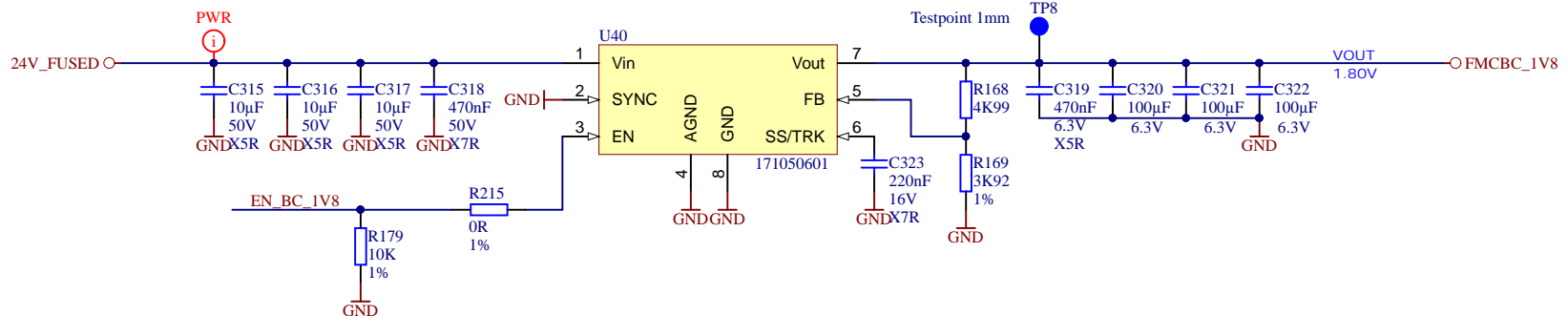
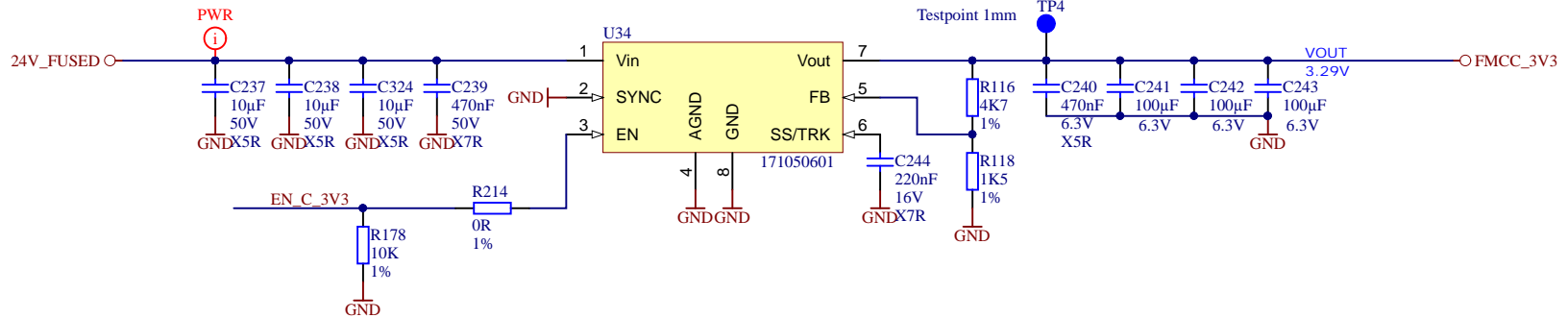
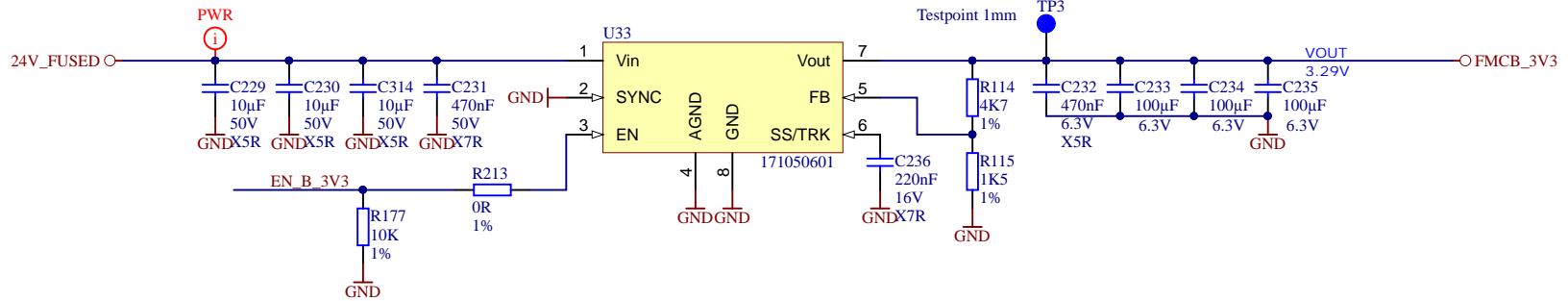
D




Title: TEB0911 - MISC		
A4	Number: TEB0911 ZU9EG1E	Rev. 02
Date: 2017-05-14	Copyright: Trenz Electronic GmbH	Page 40 of 58
Filename: MISC.schdoc		

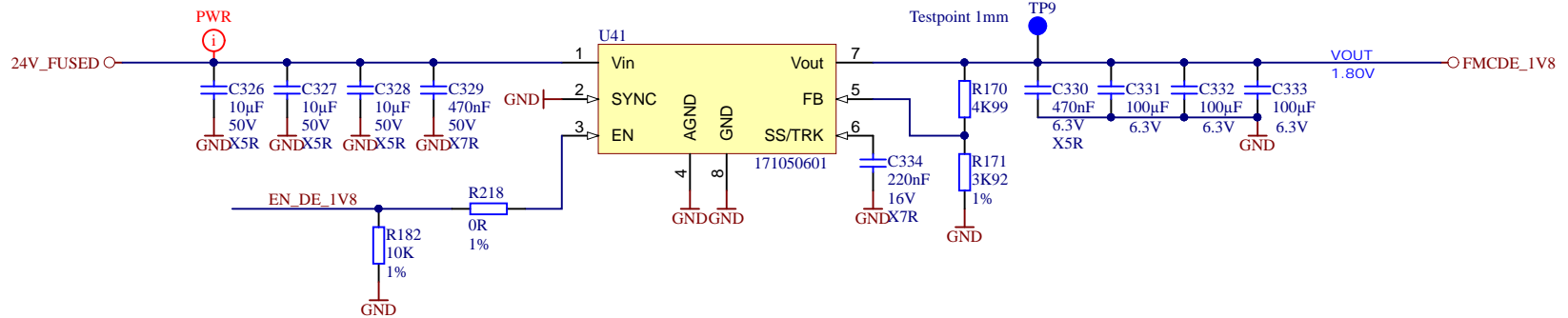
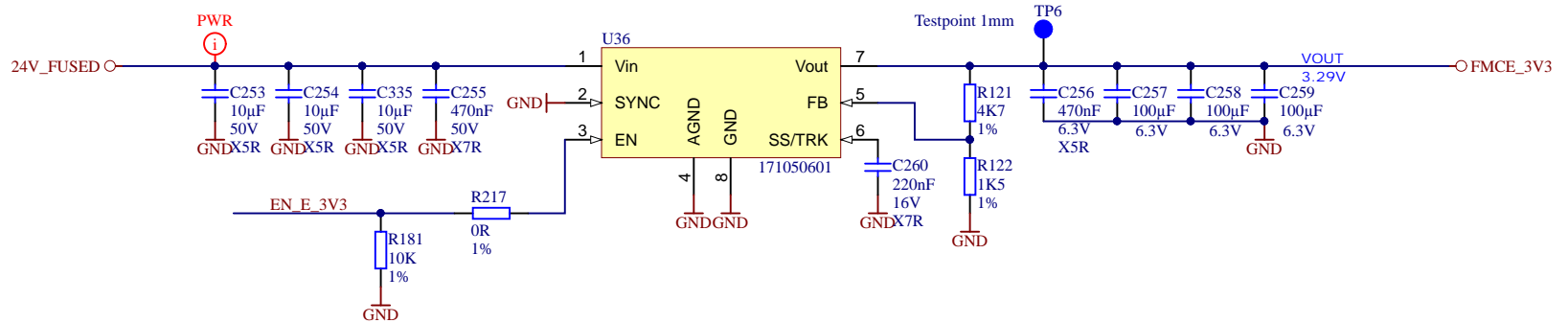
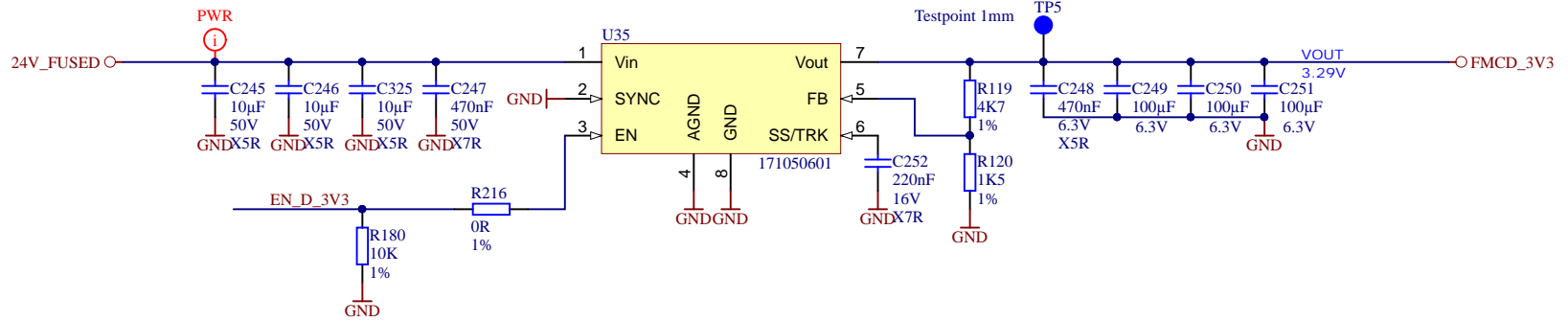



			Title: TEB0911 - POWER	
			A4	Number: TEB0911 ZU9EG1E
Date: 2017-05-14		Copyright: Trenz Electronic GmbH		Rev. 02
Filename: POWER_1.schdoc		Page 41 of 58		

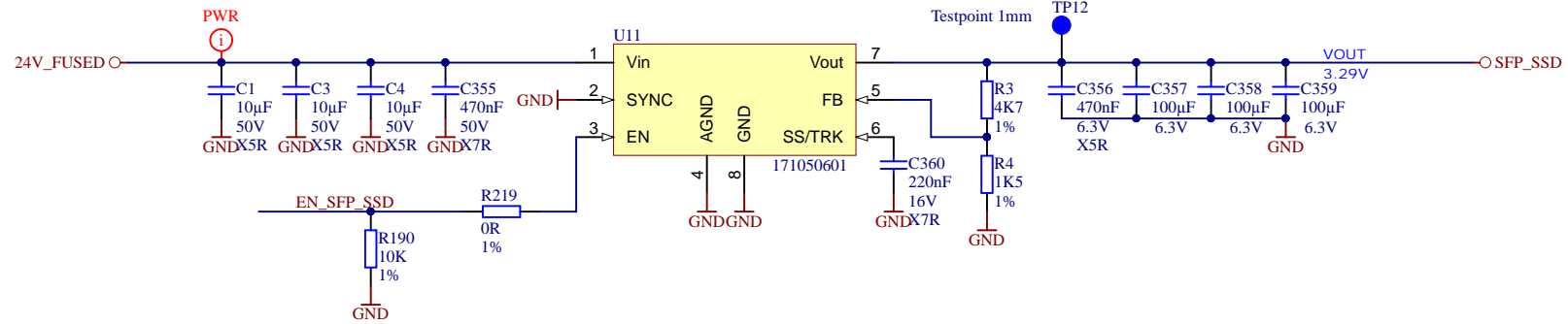



			Title: TEB0911 - POWER	
			A4	Number: TEB0911 ZU9EG1E
Date: 2017-05-14		Copyright: Trenz Electronic GmbH		Page 42 of 58
Filename: POWER_2.schdoc				

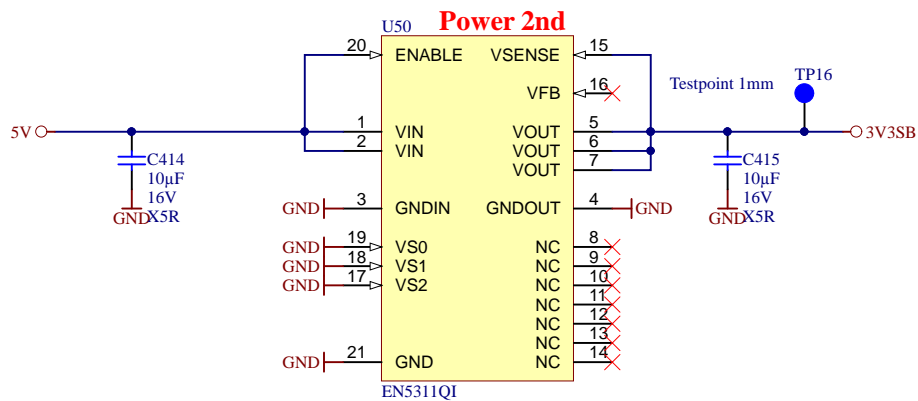
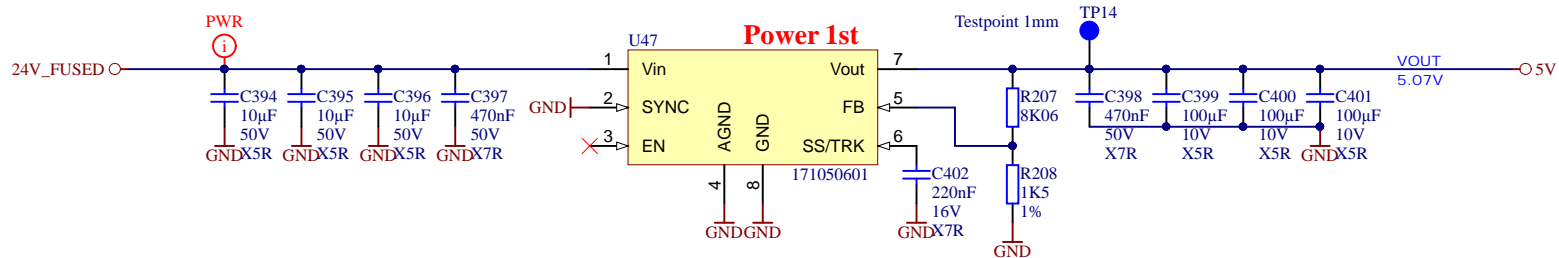





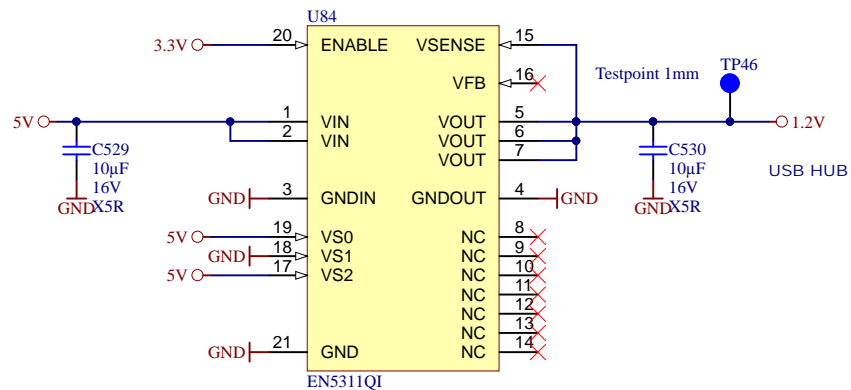
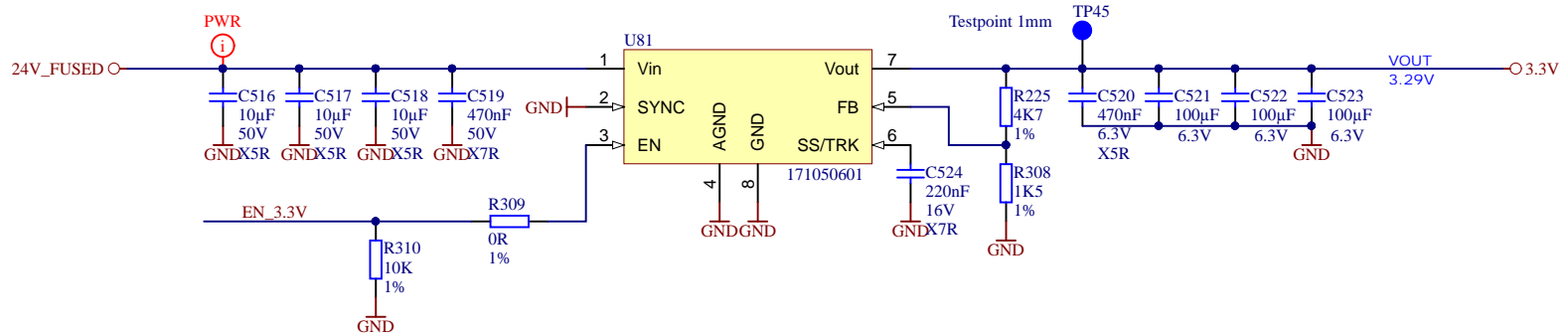
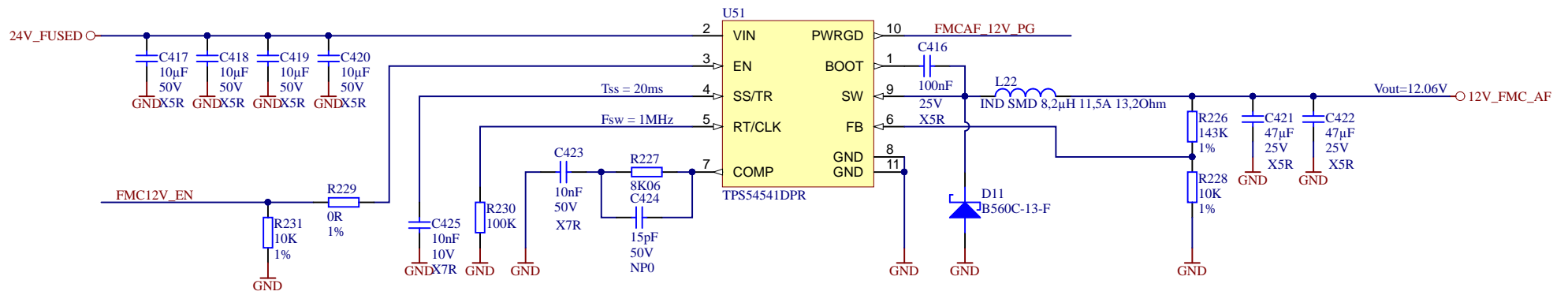
			Title: TEB0911 - POWER	
			A4	Number: TEB0911 ZU9EG1E
Date: 2017-05-14		Copyright: Trenz Electronic GmbH		Page 43 of 58
Filename: POWER_3.schdoc				




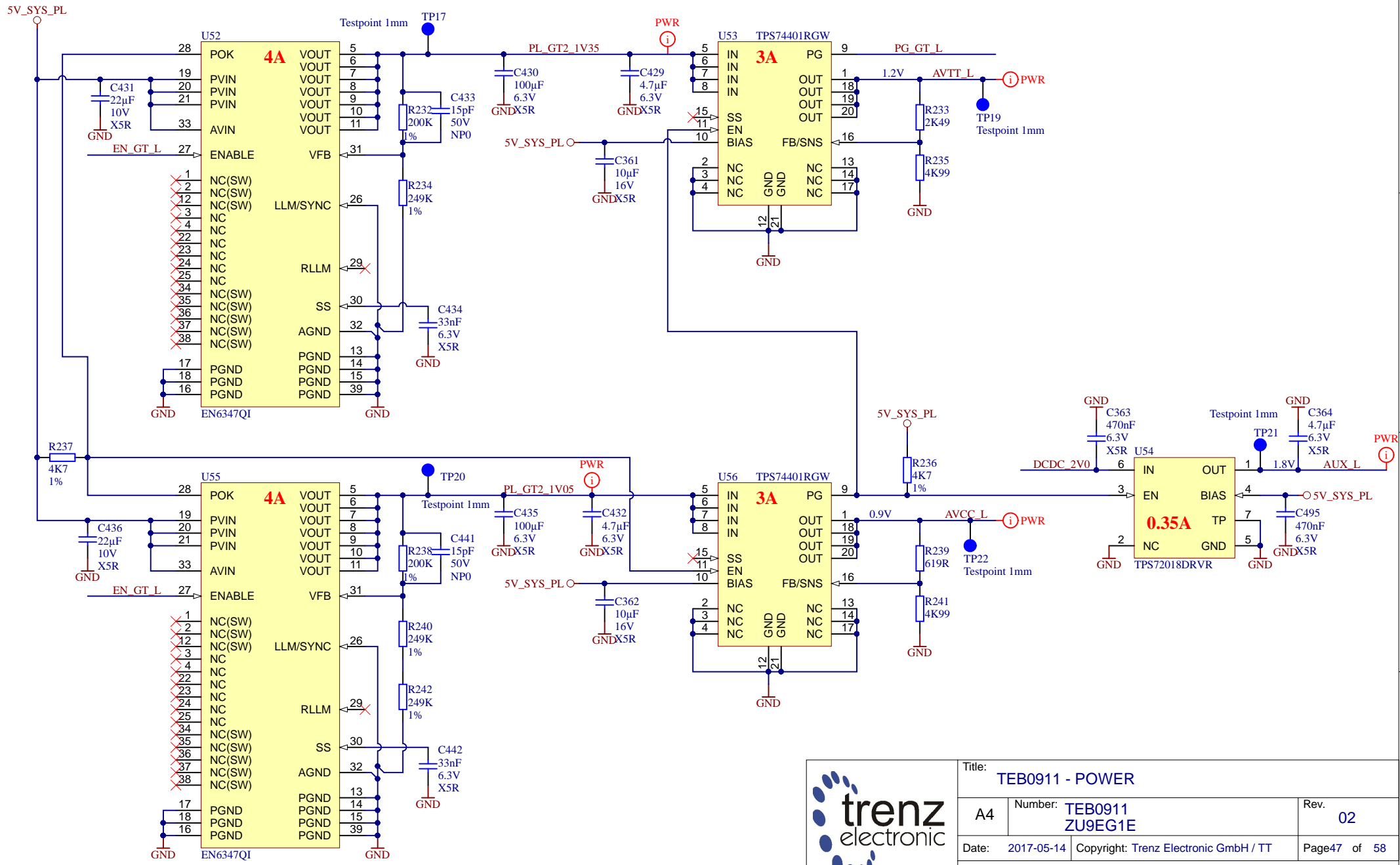
			Title: <b>TEB0911 - POWER</b>	
			A4	Number: <b>TEB0911 ZU9EG1E</b>
Date: 2017-05-14		Copyright: Trenz Electronic GmbH		Page 44 of 58
Filename: <b>POWER_4.schdoc</b>				



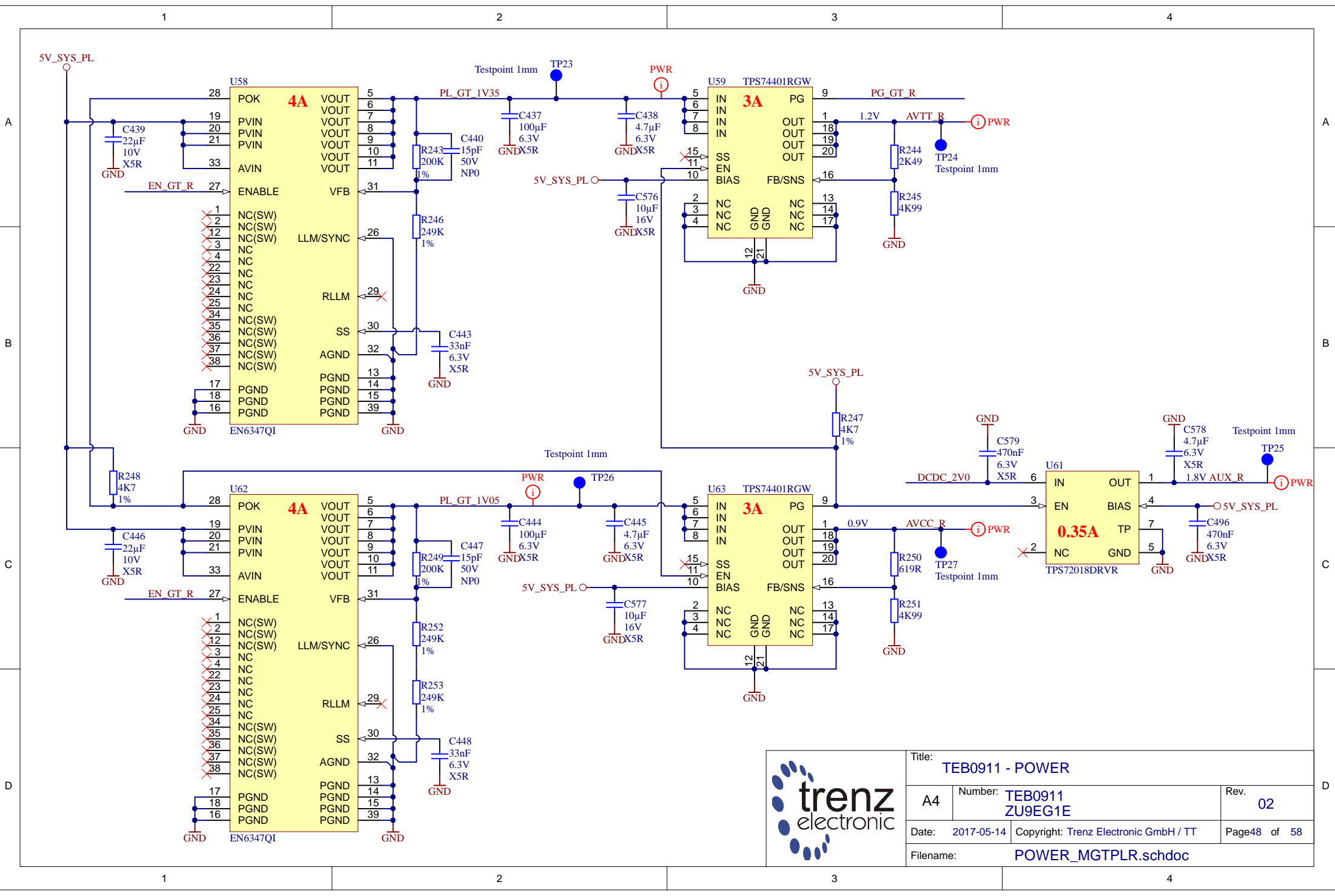
	Title: <b>TEB0911 - POWER</b>	
	A4	Number: <b>TEB0911 ZU9EG1E</b>
	Date: 2017-05-14	Copyright: Trenz Electronic GmbH
	Rev. <b>02</b>	Page 45 of 58
Filename: <b>POWER_5.schdoc</b>		



		Title: TEB0911 - POWER	
		A4	Number: TEB0911 ZU9EG1E
Date: 2017-05-14		Copyright: Trenz Electronic GmbH	
Filename: POWER_6.SchDoc		Page 46 of 58	

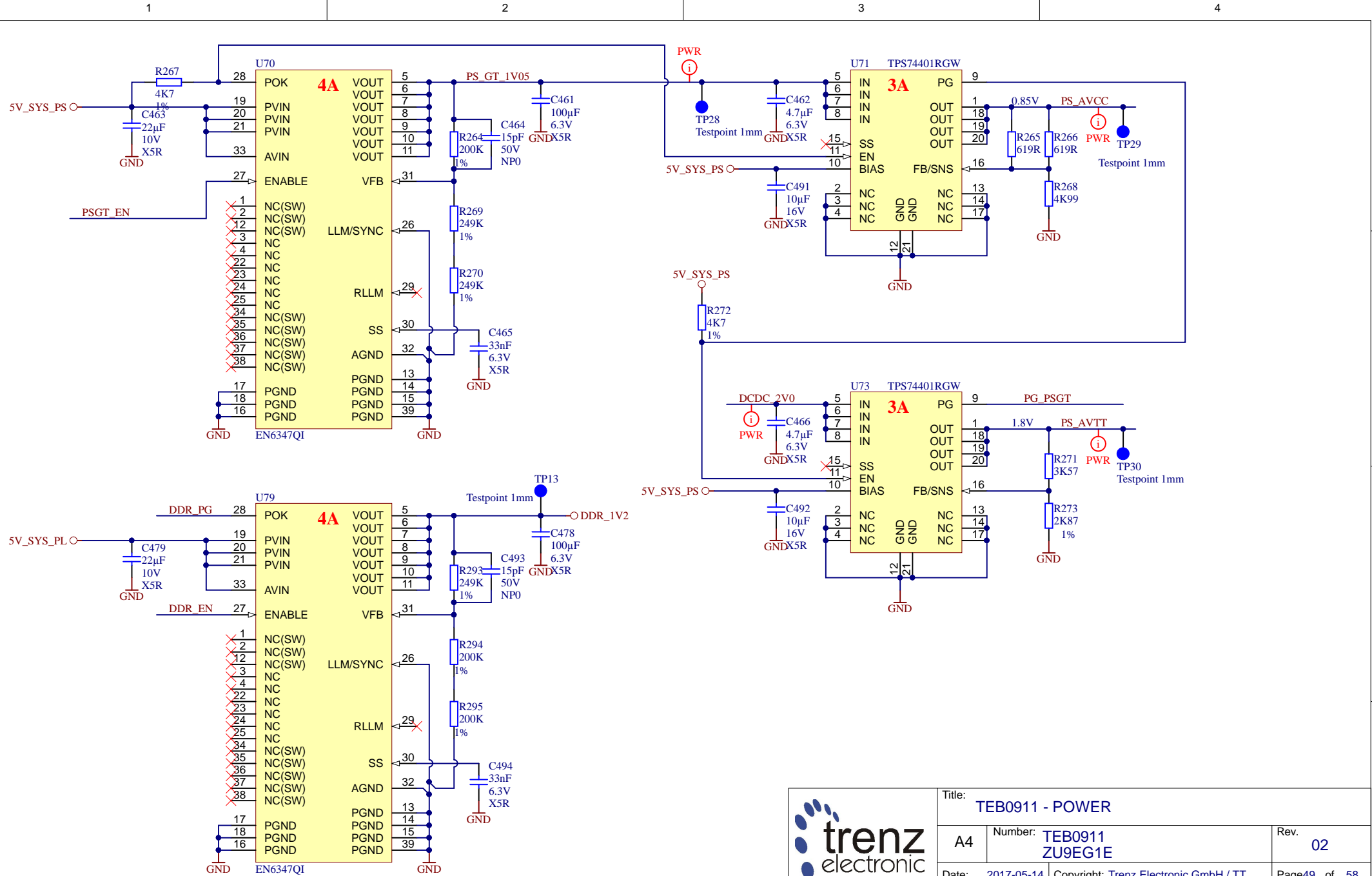


Title: TEB0911 - POWER		
A4	Number: TEB0911 ZU9EG1E	Rev. 02
Date: 2017-05-14	Copyright: Trenz Electronic GmbH / TT	Page 47 of 58
Filename: POWER_MGTPLL.schdoc		

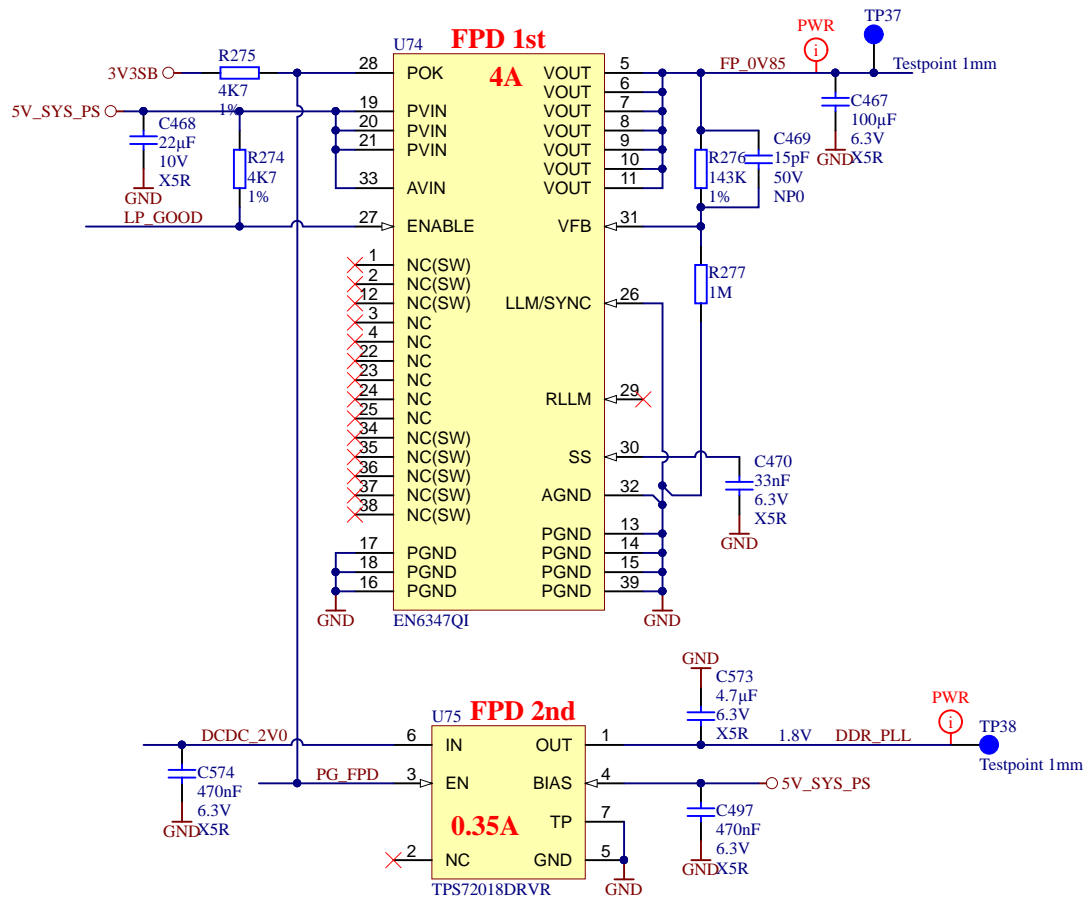



Title: <b>TEB0911 - POWER</b>		
A4	Number: <b>TEB0911 ZU9EG1E</b>	Rev. <b>02</b>
Date: <b>2017-05-14</b>	Copyright: <b>Trenz Electronic GmbH / TT</b>	Page <b>48</b> of <b>58</b>
Filename: <b>POWER_MGTPLR.schdoc</b>		

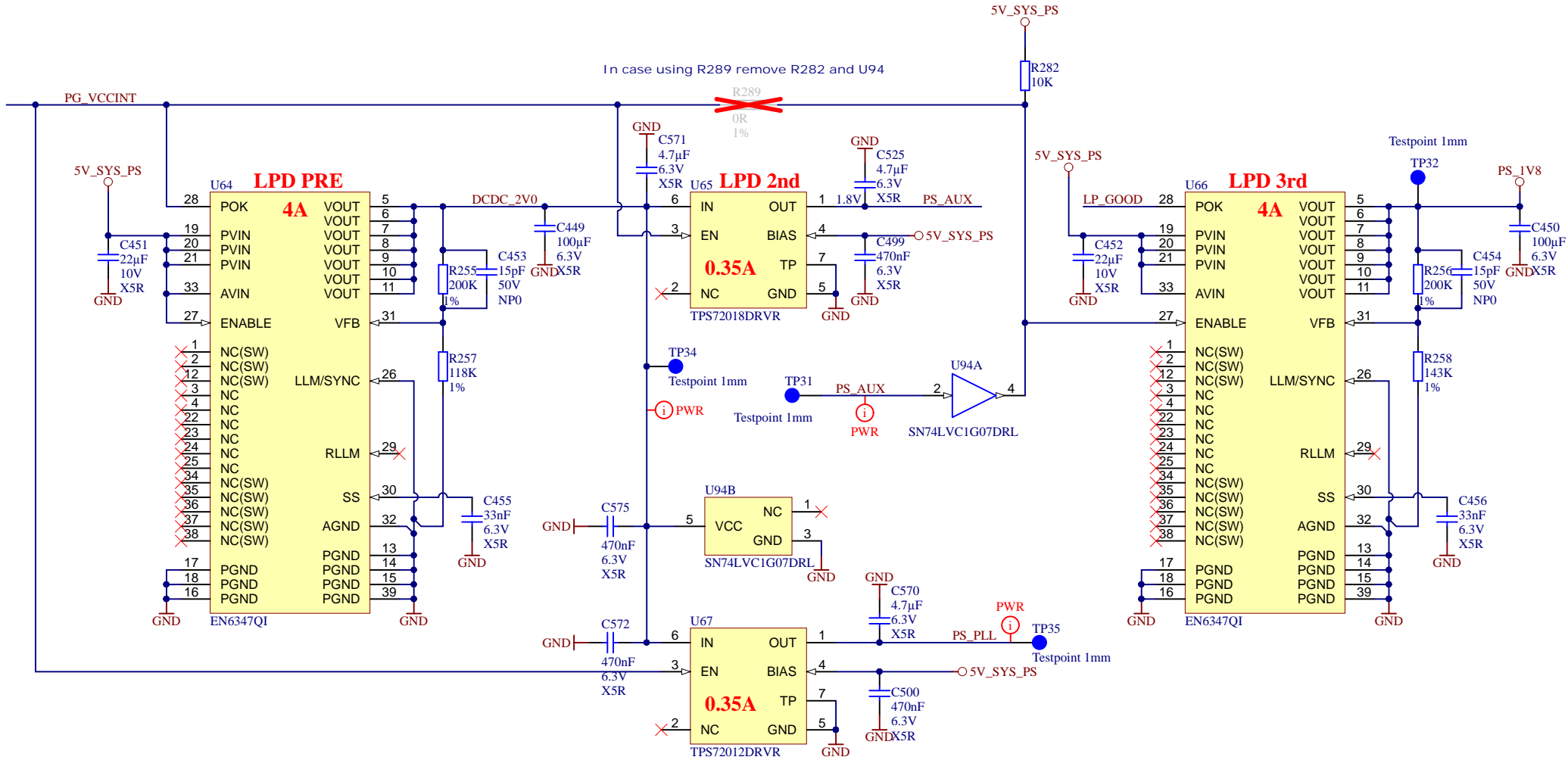




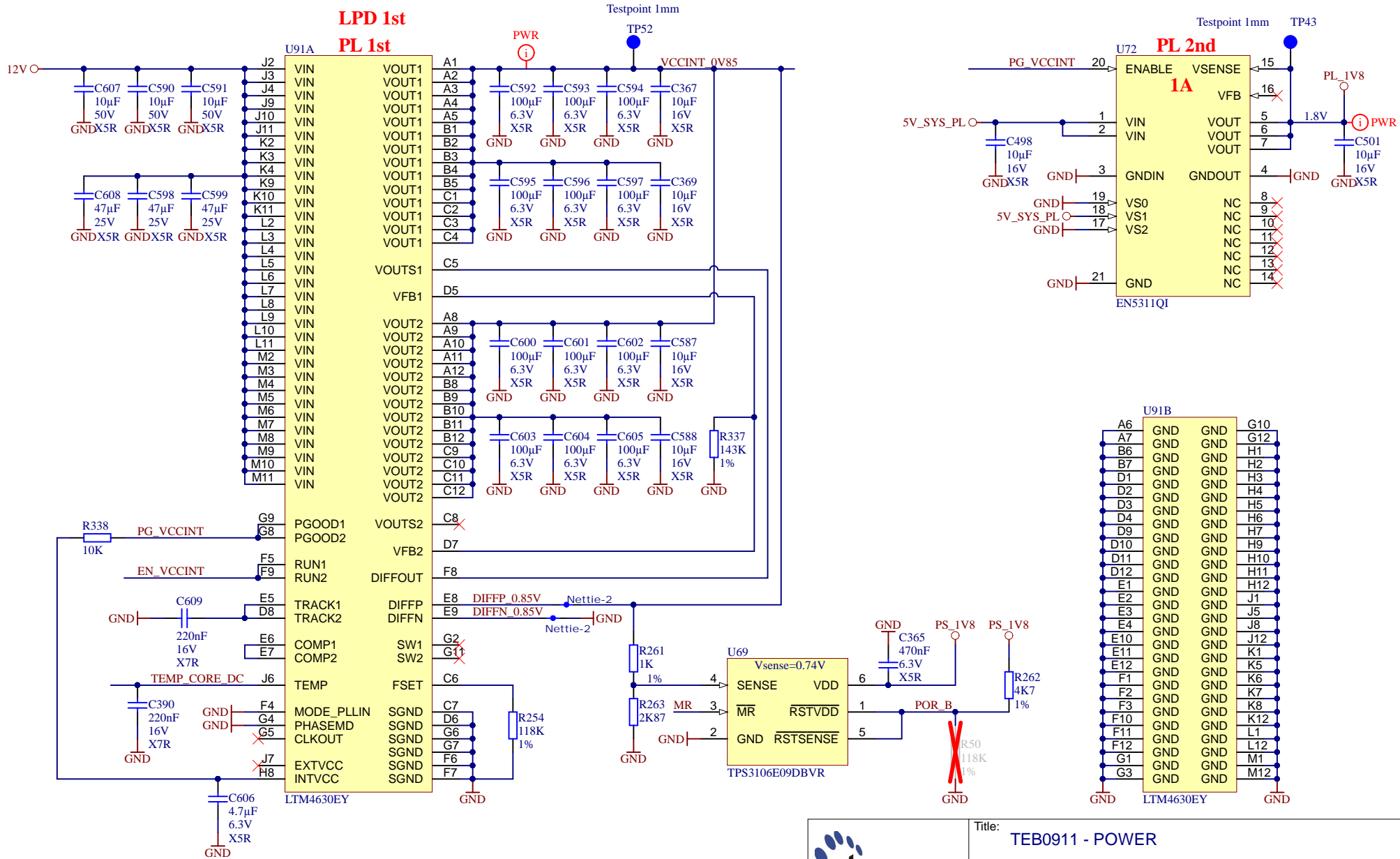
Title: TEB0911 - POWER		
A4	Number: TEB0911 ZU9EG1E	Rev. 02
Date: 2017-05-14	Copyright: Trenz Electronic GmbH / TT	Page 49 of 58
Filename: POWER_MGTPS.schdoc		



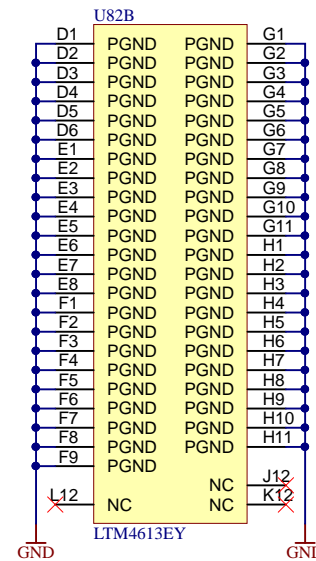
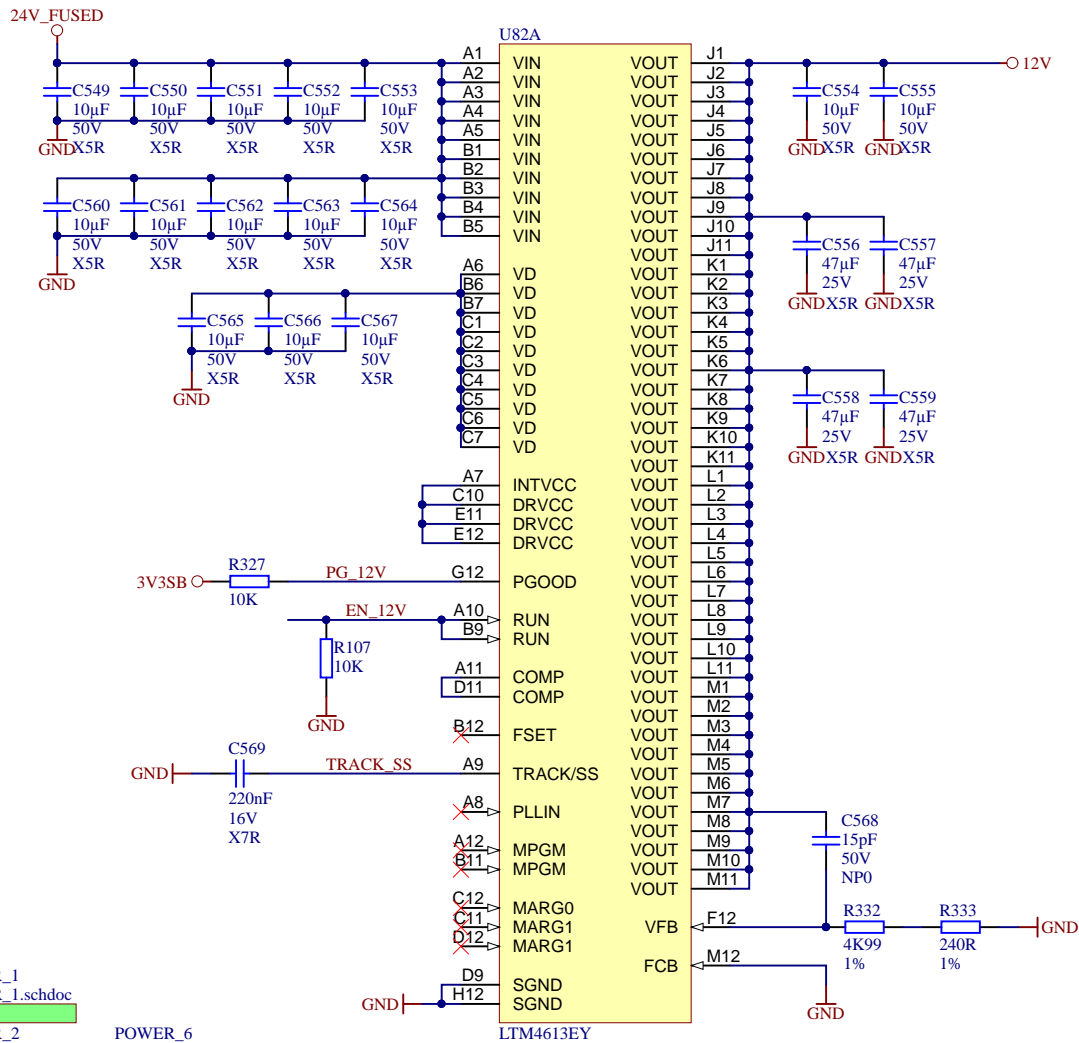
	Title: TEB0911 - POWER		
	A4	Number: TEB0911 ZU9EG1E	Rev. 02
	Date: 2017-05-14	Copyright: Trenz Electronic GmbH / TT	Page50 of 58
	Filename: POWER_PSFP.schdoc		



Title: <b>TEB0911 - POWER</b>		
A4	Number: <b>TEB0911 ZU9EG1E</b>	Rev. <b>02</b>
Date: <b>2017-05-14</b>	Copyright: <b>Trenz Electronic GmbH / TT</b>	Page <b>51</b> of <b>58</b>
Filename: <b>POWER_PSLP.schdoc</b>		



	Title: <b>TEB0911 - POWER</b>	
	A4	Number: <b>TEB0911 ZU9EG1E</b>
	Date: 2017-05-14	Copyright: Trenz Electronic GmbH
	Page 52 of 58	Rev. <b>02</b>
Filename: <b>PWR_CORE.SchDoc</b>		



- 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



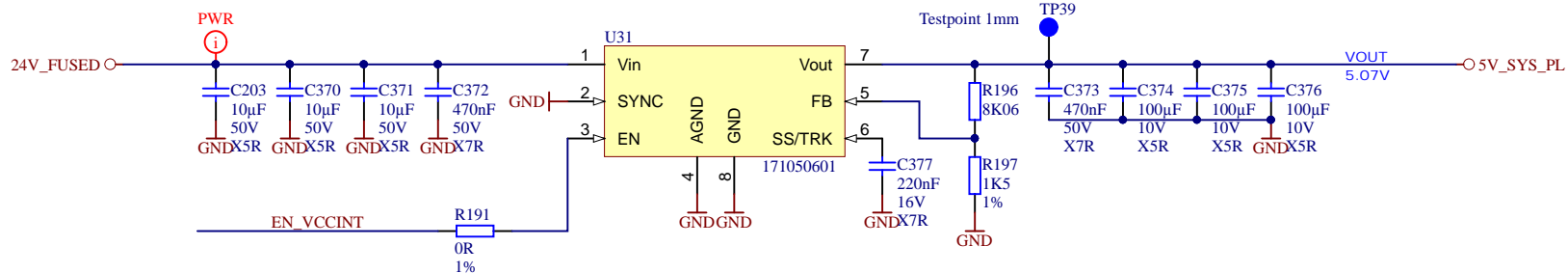
Title: TEB0911 - POWER		
A4	Number: TEB0911 ZU9EG1E	Rev. 02
Date: 2017-05-14	Copyright: Trenz Electronic GmbH	Page 53 of 58
Filename: PWR_IN.SchDoc		

1

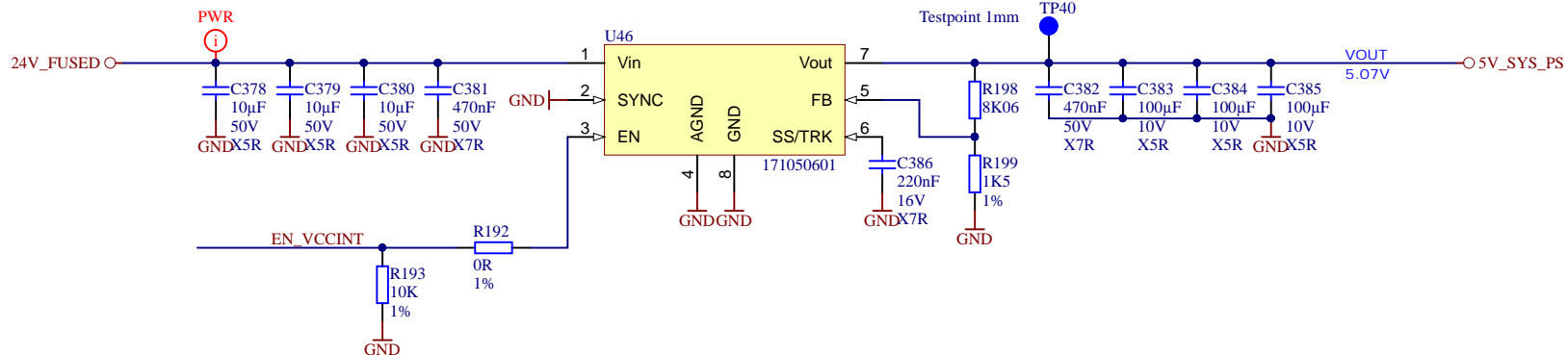
2

3

4



- POWER\_MGTPS  
POWER\_MGTPS.schdoc
- POWER\_MGTPLR  
POWER\_MGTPLR.schdoc
- POWER\_MGTPLL  
POWER\_MGTPLL.schdoc
- POWER\_PSF  
POWER\_PSF.schdoc
- POWER\_PSLP  
POWER\_PSLP.schdoc



Title: TEB0911 - POWER		
A4	Number: TEB0911 ZU9EG1E	Rev. 02
Date: 2017-05-14	Copyright: Trenz Electronic GmbH	Page 54 of 58
Filename: PWR_SYS.SchDoc		

1

2

3

4

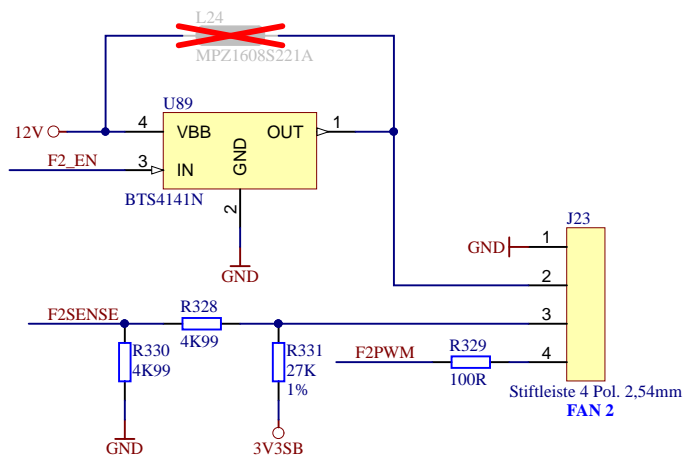
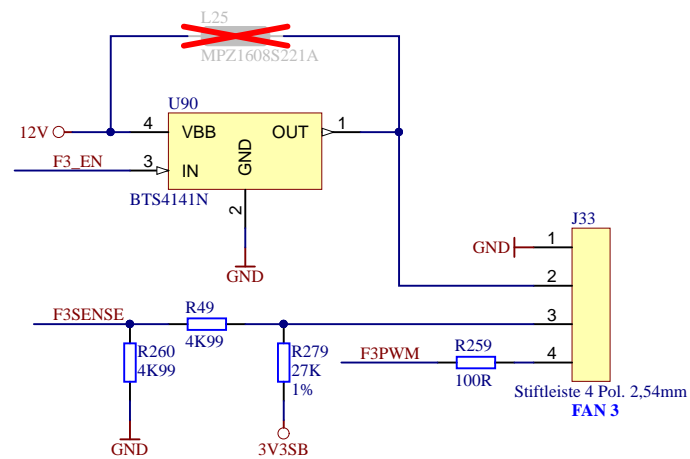
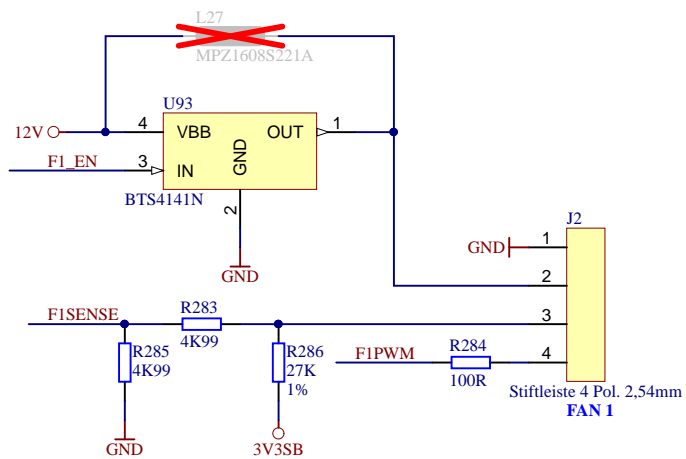


1

2

3

4



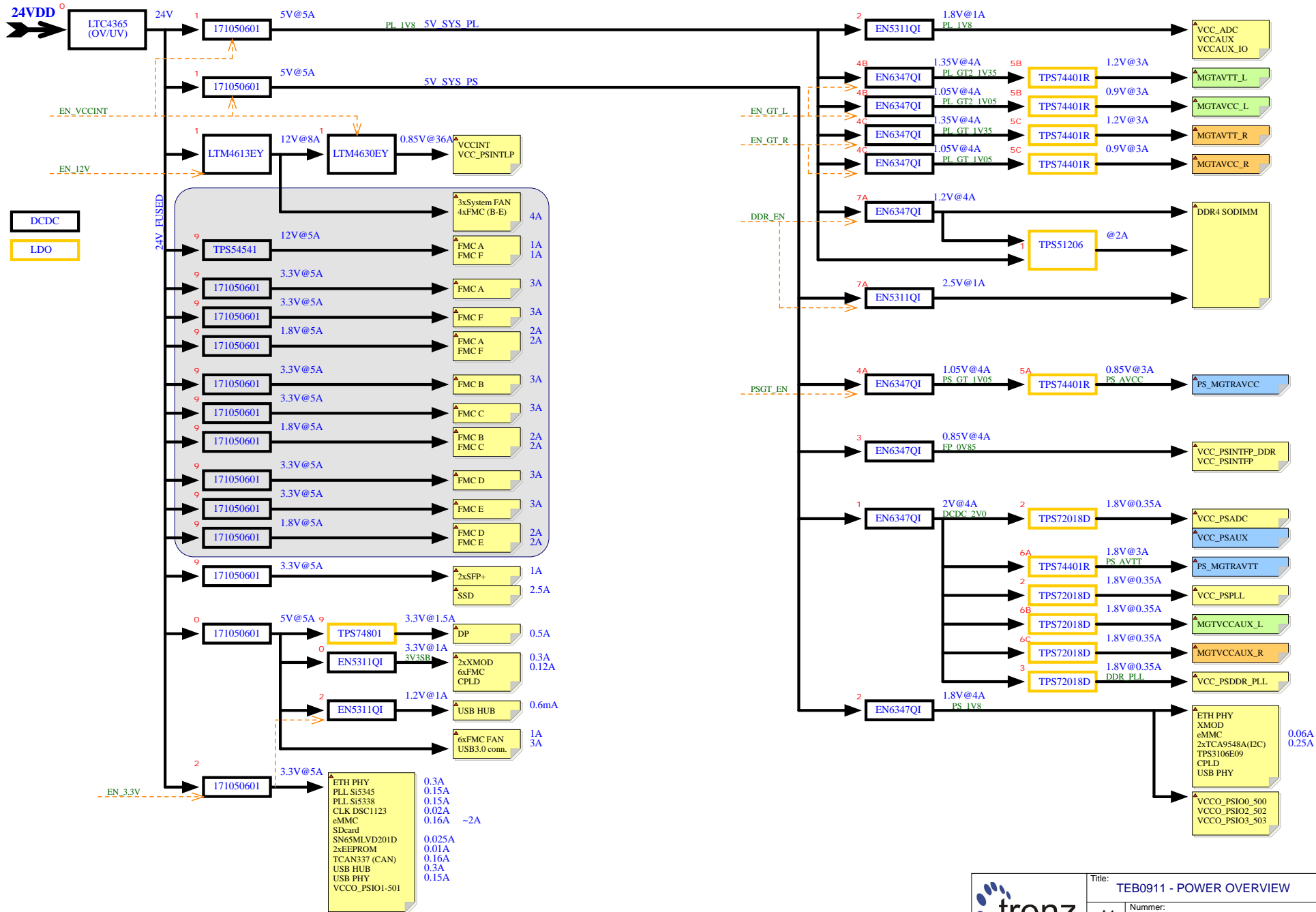
Title: TEB0911 - FAN connectors		
A4	Number: TEB0911 ZU9EG1E	Rev. 02
Date: 2017-05-14	Copyright: Trenz Electronic GmbH	Page55 of 58
Filename: FAN_CON.schdoc		

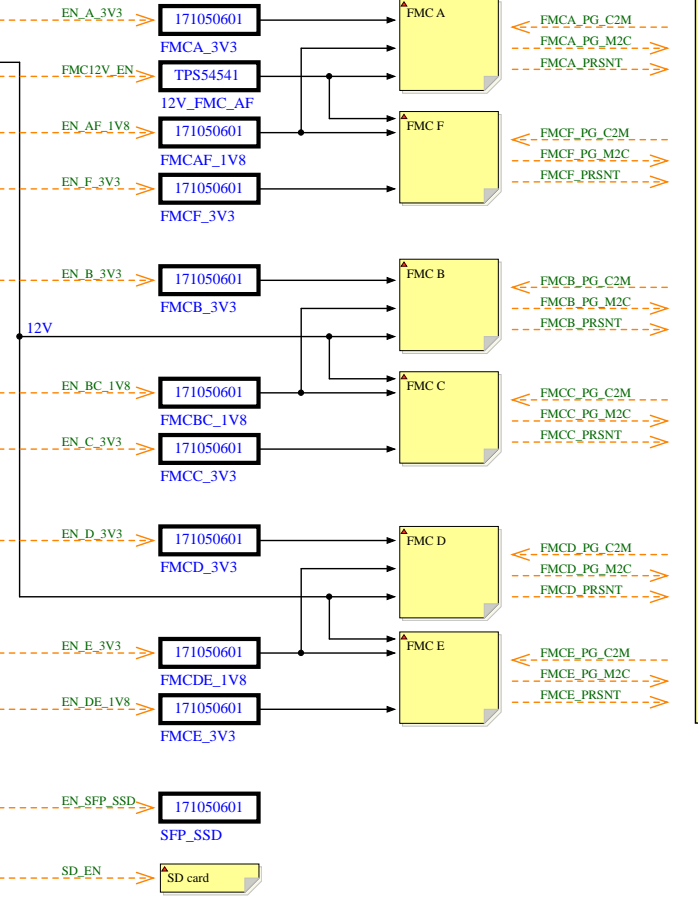
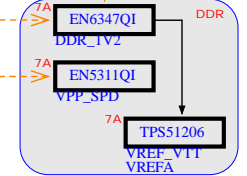
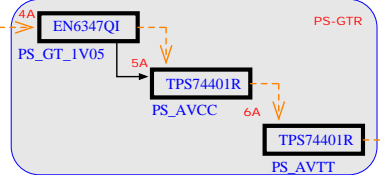
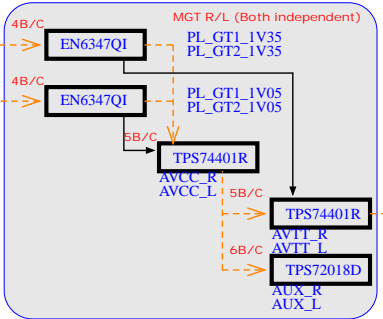
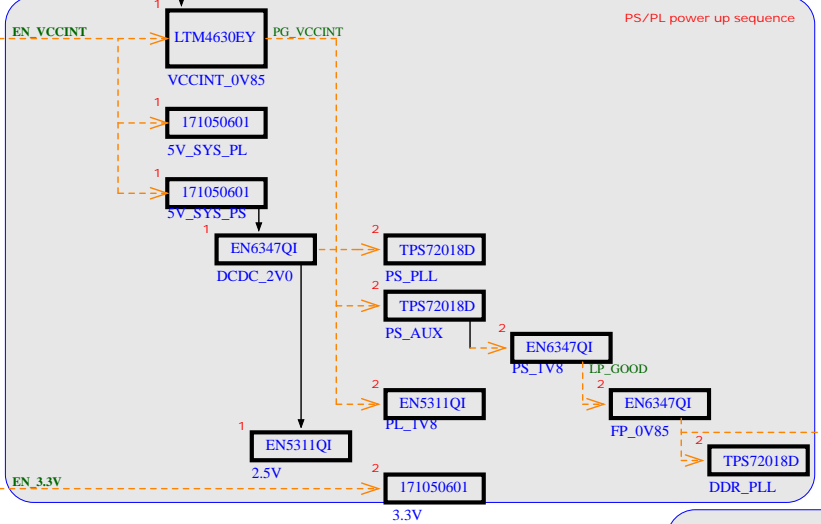
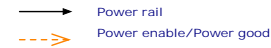
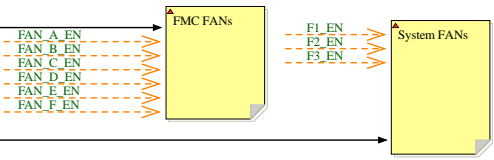
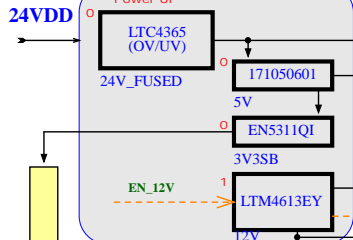
1

2

3

4





Title: TEB0911 - POWER UP SEQUENCE		
A4	Number: TEB0911	Rev. 02
Datum: 2017-05-14	Zeichner: Trenz Electronic GmbH	Blatt 57 von 58
Filename: PowerUpSequence.SchDoc		

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\_SEL0/1 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.

A

A

B


B

C

C

D

D

		Title: <b>TEB0911 - REVISION CHANGES</b>	
		A4	Number: <b>TEB0911 ZU9EG1E</b> Rev. <b>02</b>
Date: 2017-05-14		Copyright: Trenz Electronic GmbH	
Page 58 of 58		Filename: <b>Revision_changes.SchDoc</b>	