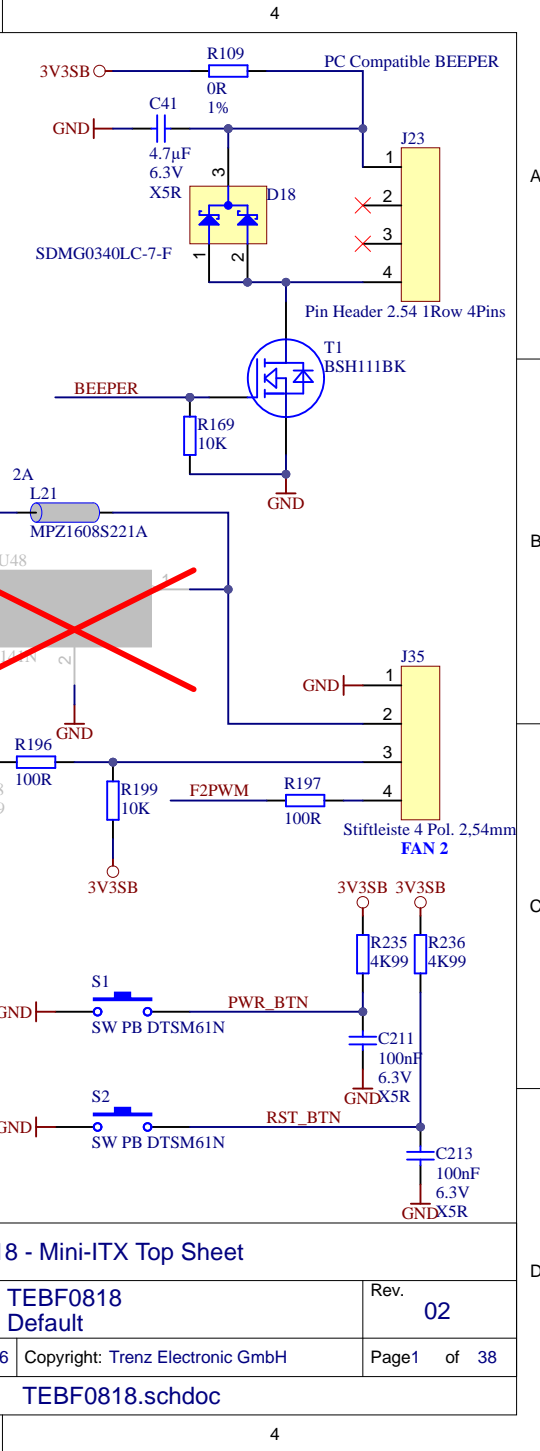
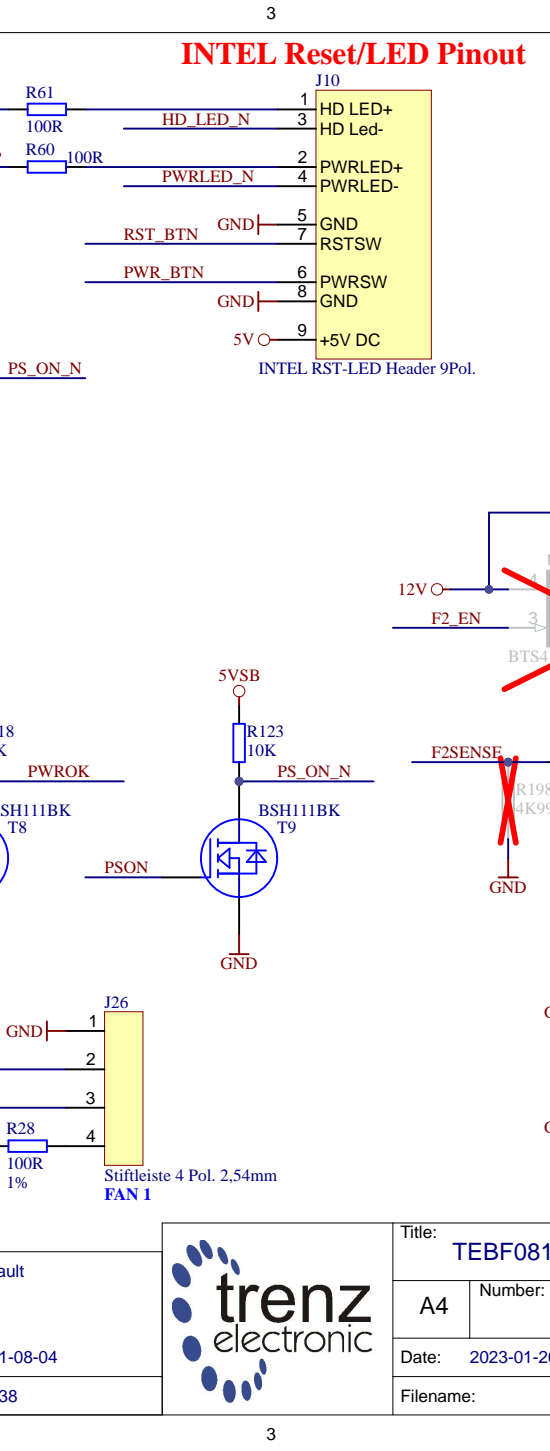
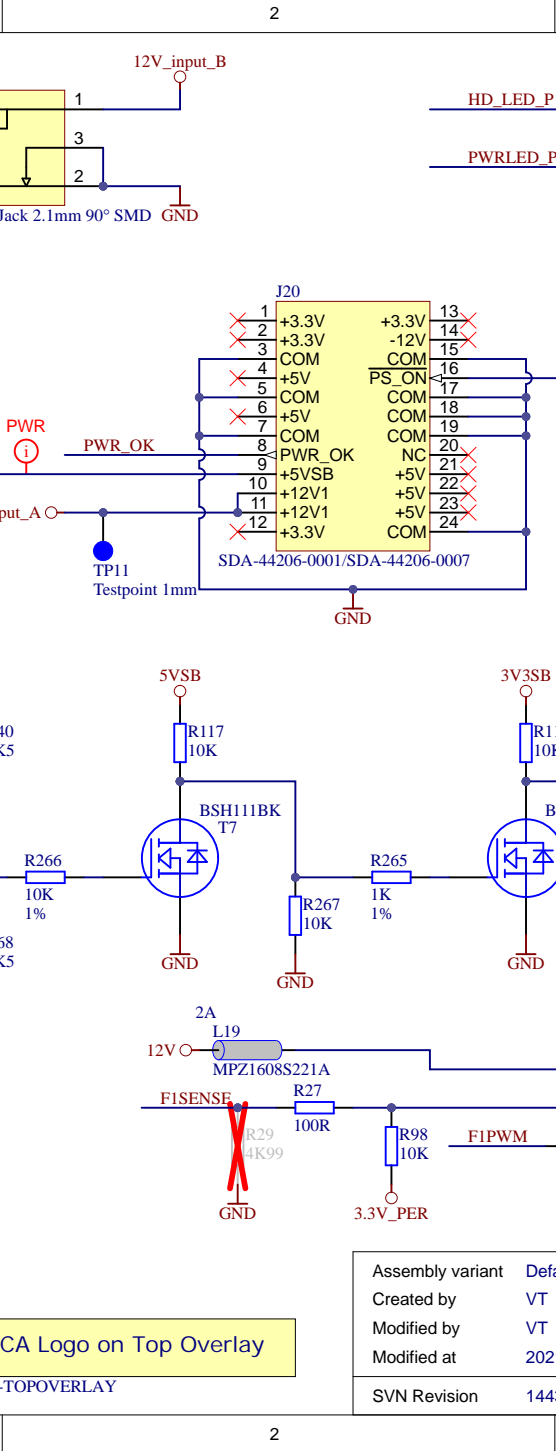


U_B2B B2B.schdoc	U_DP_PS DP_PS.schdoc
U_USB3-HUB USB3-HUB.SchDoc	U_SATA SATA.schdoc
U_PCIe PCIe.schdoc	U_USB-CONN USB-CONN.schdoc
U_SFP SFP.schdoc	U_USB USB.schdoc
U_SC SC.schdoc	U_USB-PHY USB-PHY.SchDoc
U_SC2 SC2.schdoc	U_ETH-PHY ETH-PHY.SchDoc
U_PMOD PMODE.schdoc	U_I2C_system I2C_system.schdoc
U_XMOD XMOD.schdoc	U_CLK CLK.schdoc
U_Power Power.SchDoc	U_CLK_MUX CLK_MUX.schdoc
U_SD SD.schdoc	U_FMC PWR FMC PWR.SchDoc
U_EMMC eMMC.SchDoc	U_FMC FMC.SchDoc
U_FMC MISC FMC_MISC.SchDoc	U_BD BD.SchDoc
U_RC Revision_Changes.SchDoc	U_Audio Audio.SchDoc
U_MISC MISC.schdoc	U_FIREFLY FireFly.SchDoc
U_PowerOverview PowerOverview.SchDoc	
LOGO1 TE Logo PRINT Layer	
LOGO PRINT MECH5 TE Address Overlay	
LOGO ADDRESS FIDU-DOT - mini FIDU-DOT - mini FIDU-DOT - mini	
PM3	PM4
PM5	PM6
PM1	PM2
UKCA UKCA Logo on Top Overlay	
UKCA-TOOVERLAY	



Assembly variant	Default
Created by	VT
Modified by	VT
Modified at	2021-08-04
SVN Revision	14438



Title: <b>TEBF0818 - Mini-ITX Top Sheet</b>		
A4	Number: <b>TEBF0818 Default</b>	Rev. <b>02</b>
Date: 2023-01-26	Copyright: Trenz Electronic GmbH	Page1 of 38
Filename: <b>TEBF0818.schdoc</b>		

1

2

3

4

A

A

B

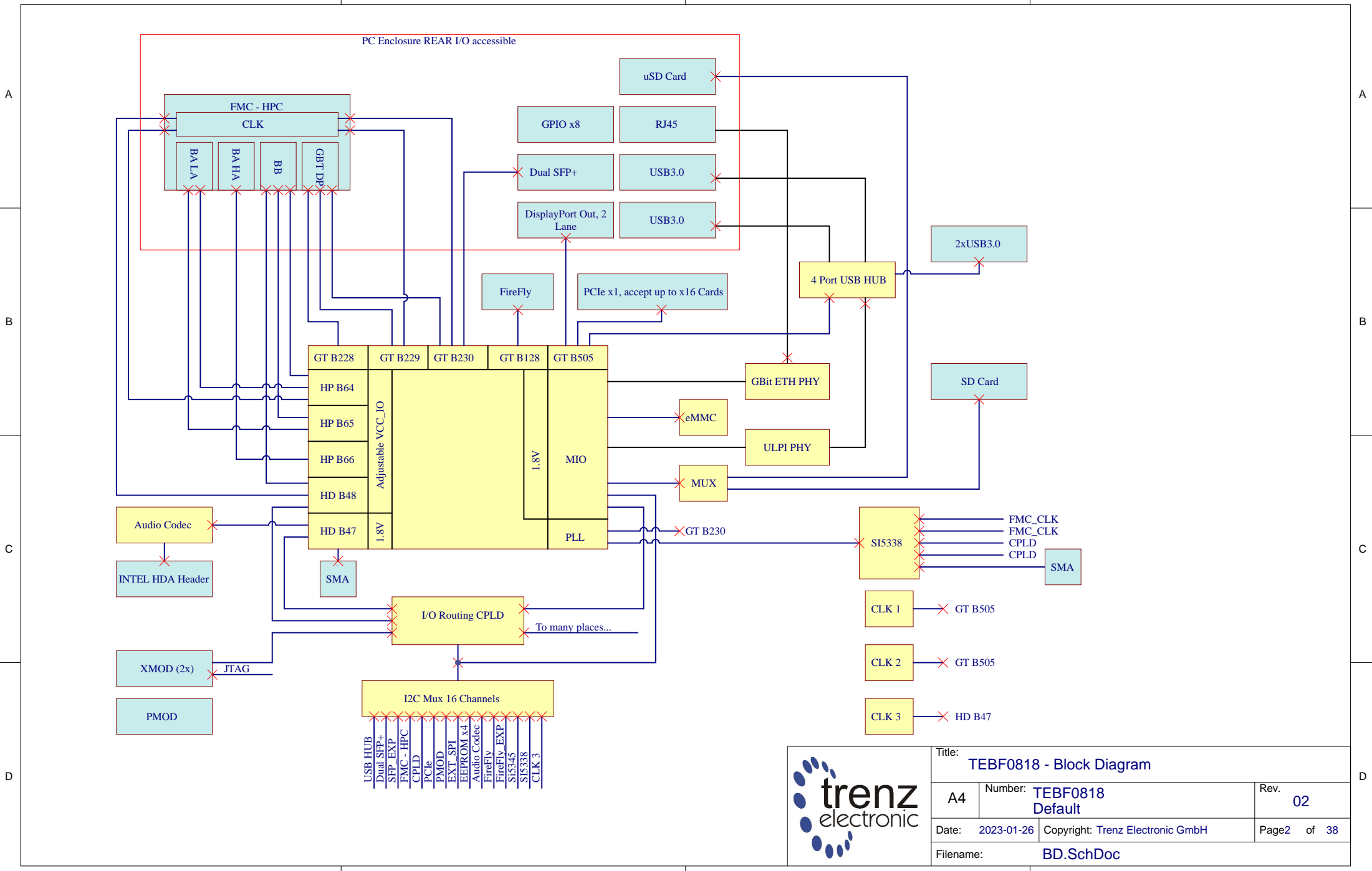
B

C

C

D

D



- USB HUB
- Dual SFP+
- SFP\_EXP
- FMC - HPC
- CPLD
- PCle
- PMOD
- EXT\_SPI
- EEPROM x4
- Audio Codec
- FireFly
- SI5345
- SI5338
- CLK 3



Title: TEBF0818 - Block Diagram		
A4	Number: TEBF0818 Default	Rev. 02
Date: 2023-01-26	Copyright: Trenz Electronic GmbH	Page2 of 38
Filename: BD.SchDoc		

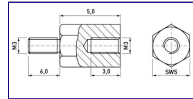
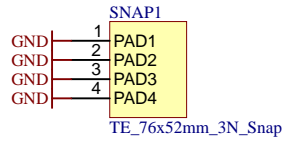
1

2

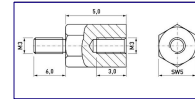
3

4

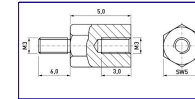
U\_J1  
J1.schdoc  
U\_J2  
J2.schdoc  
U\_J3  
J3.schdoc  
U\_J4  
J4.schdoc



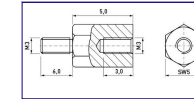
Distance Holder M3x5 Male/Female



Distance Holder M3x5 Male/Female



Distance Holder M3x5 Male/Female



Distance Holder M3x5 Male/Female



Washer M3



Washer M3



Washer M3



Washer M3



Serrated Washer M3



Serrated Washer M3



Serrated Washer M3



Serrated Washer M3



Nut M3



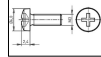
Nut M3



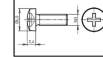
Nut M3



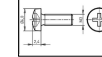
Nut M3



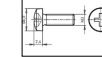
Screw M3x4



Screw M3x4

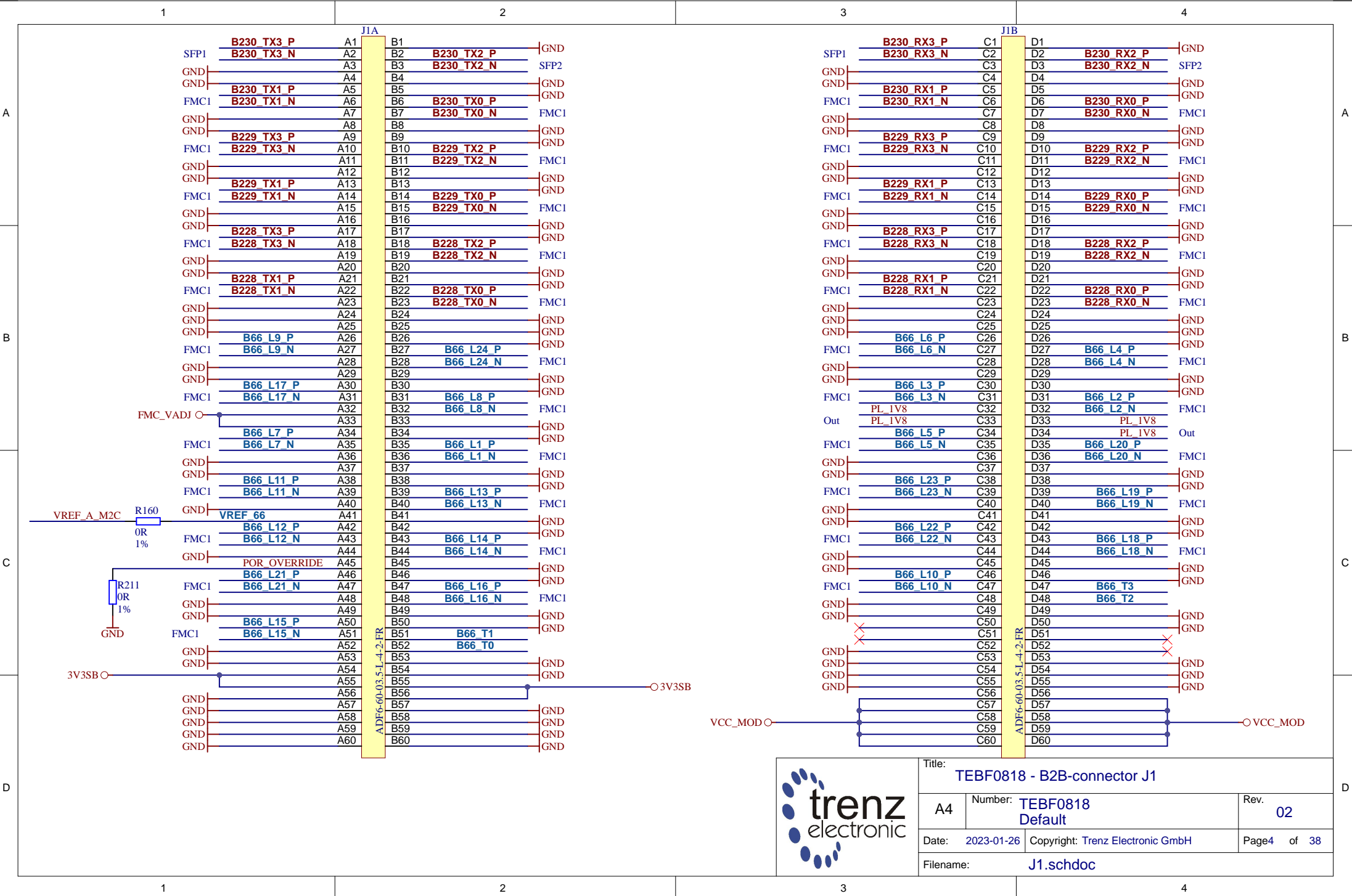


Screw M3x4



Screw M3x4

	Title: <b>TEBF0818 - B2B-connectors</b>		
	A4	Number: <b>TEBF0818 Default</b>	Rev. <b>02</b>
	Date: <b>2023-01-26</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>3</b> of <b>38</b>
	Filename: <b>B2B.schdoc</b>		



Title: <b>TEBF0818 - B2B-connector J1</b>		
A4	Number: <b>TEBF0818 Default</b>	Rev. <b>02</b>
Date: <b>2023-01-26</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>4</b> of <b>38</b>
Filename: <b>J1.schdoc</b>		

1

2

3

4

A

A

B

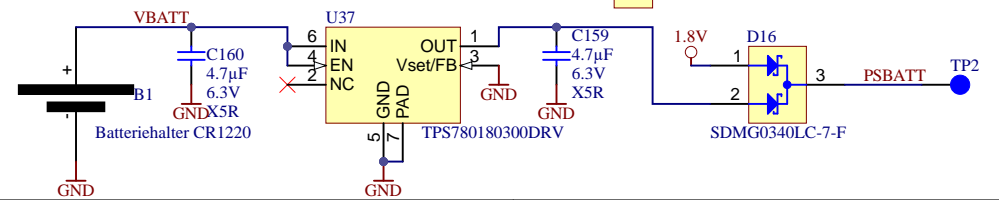
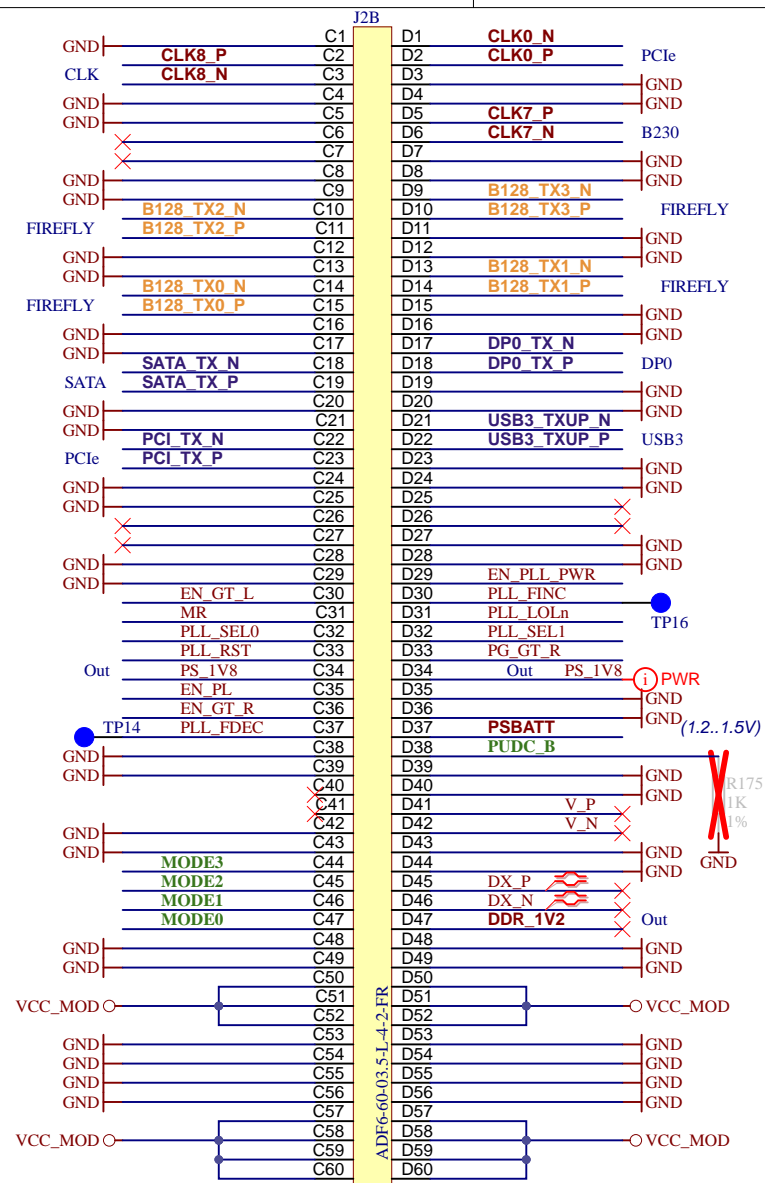
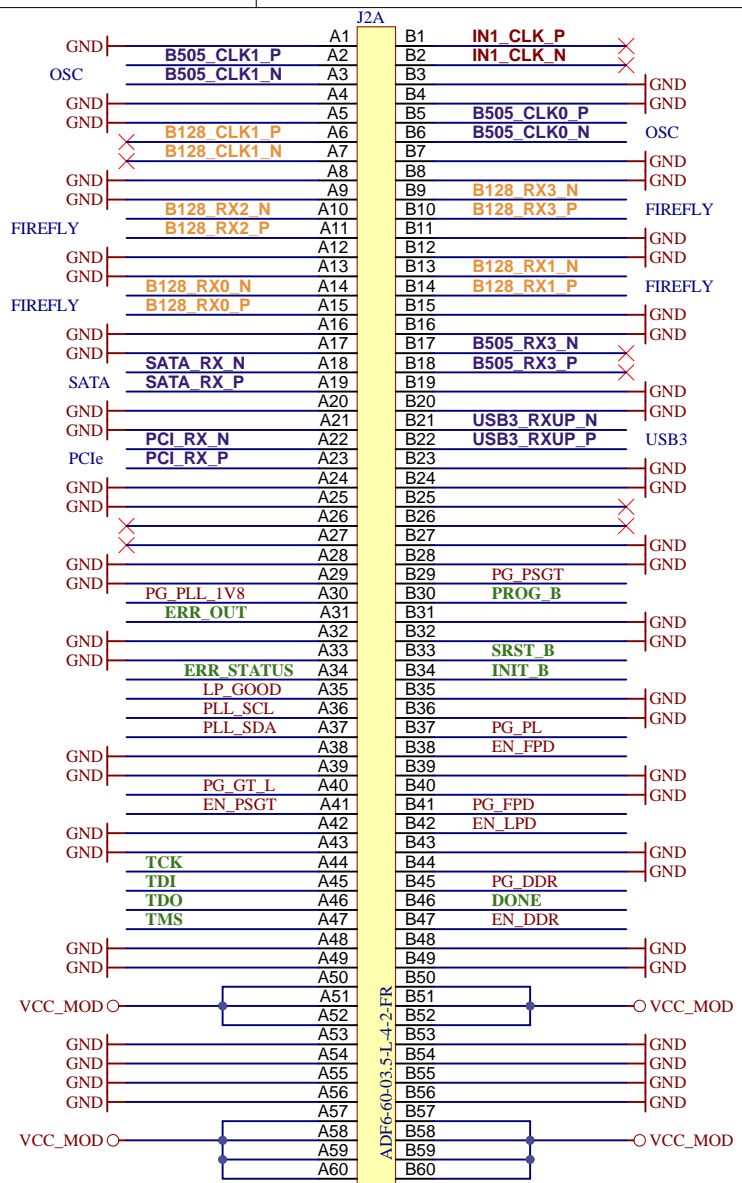
B

C

C

D

D



Title: <b>TEBF0818 - B2B-connector J2</b>		
A4	Number: <b>TEBF0818 Default</b>	Rev. <b>02</b>
Date: <b>2023-01-26</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>5</b> of <b>38</b>
Filename: <b>J2.schdoc</b>		

1

2

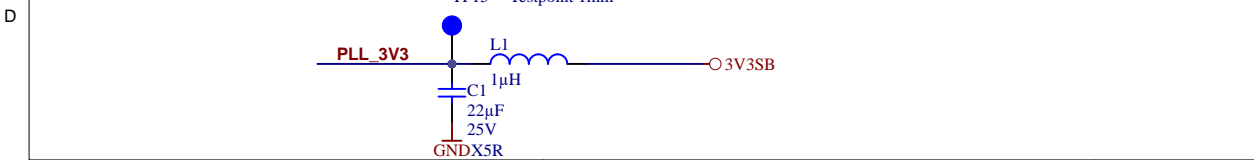
3

4



B48 --> B25 for TE0813

- Testpoint 1mm
- TP28
- Testpoint 1mm
- TP29
- Testpoint 1mm
- TP30
- Testpoint 1mm
- TP31
- Testpoint 1mm
- TP32



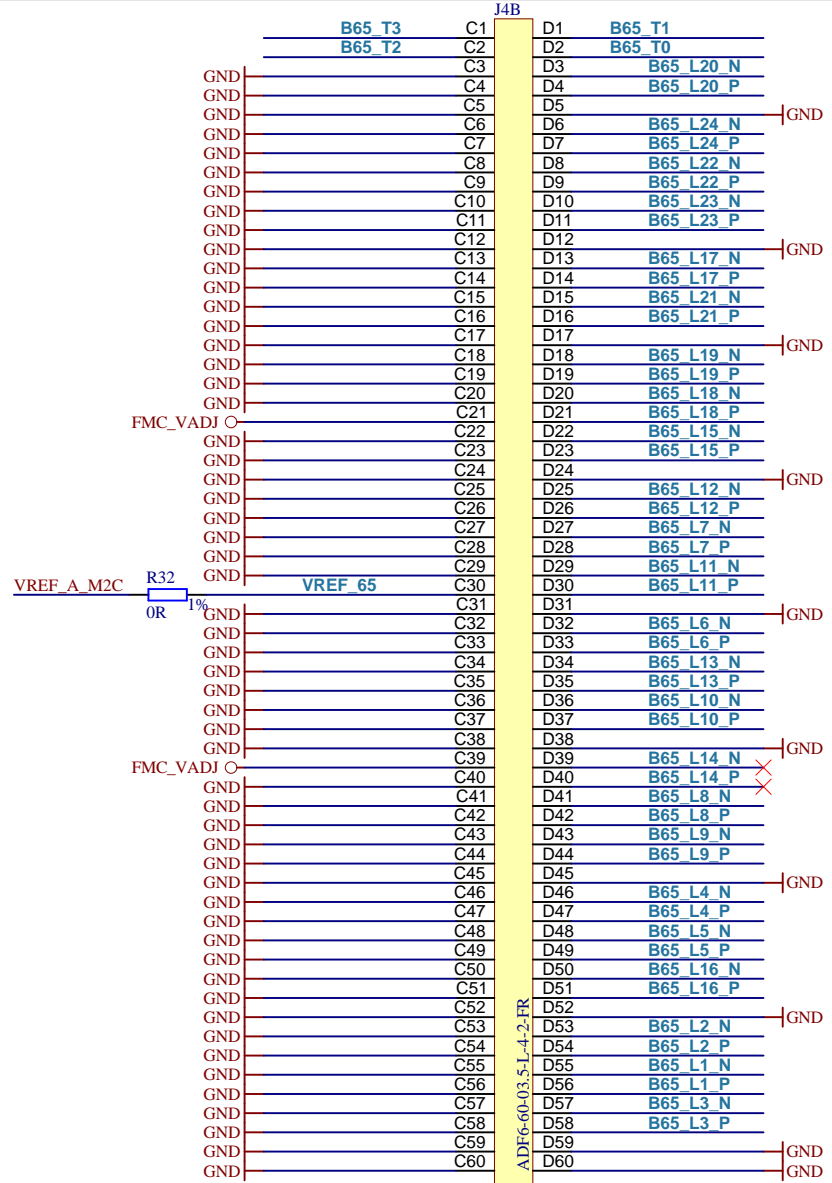
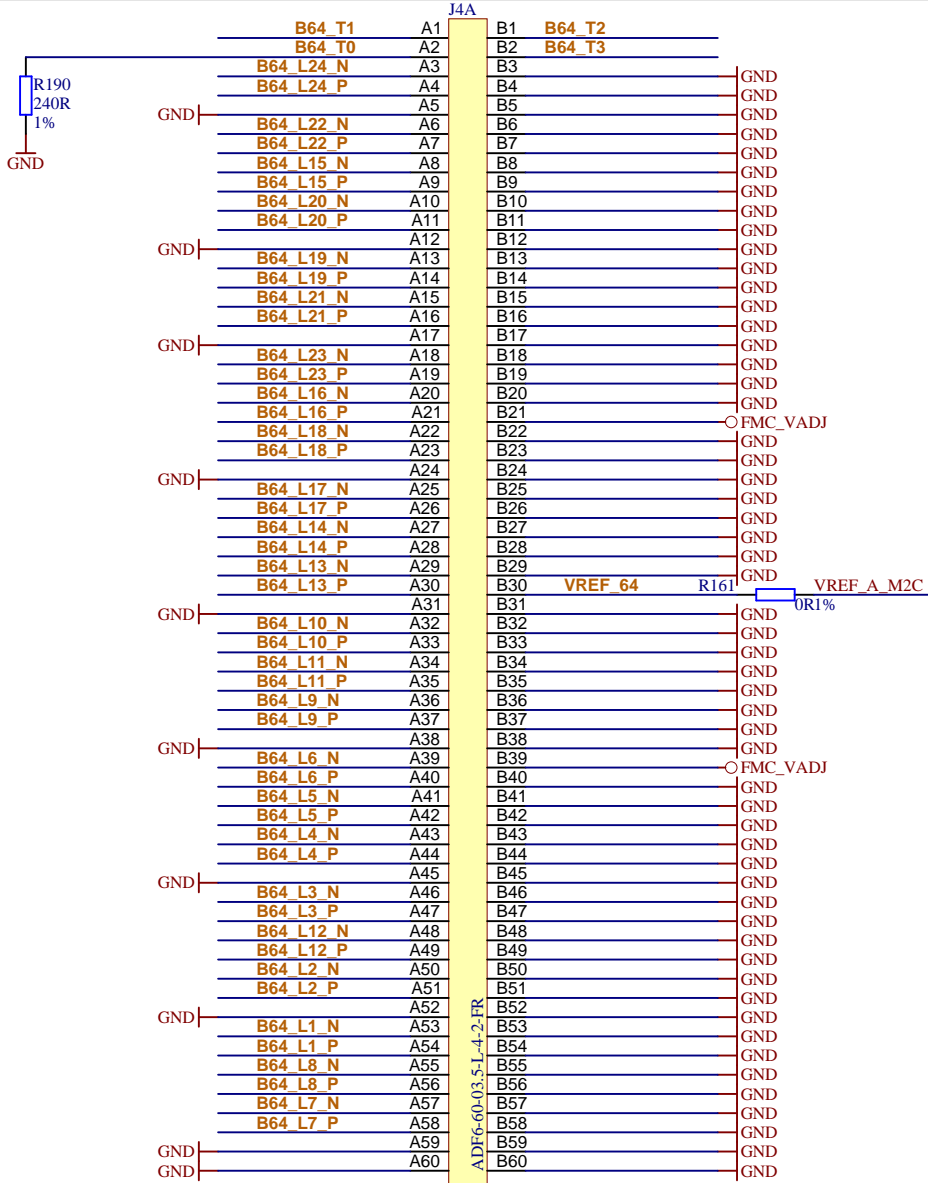
Title: <b>TEBF0818 - B2B-connector J3</b>		
A4	Number: <b>TEBF0818 Default</b>	Rev. <b>02</b>
Date: <b>2023-01-26</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>6</b> of <b>38</b>
Filename: <b>J3.schdoc</b>		

1

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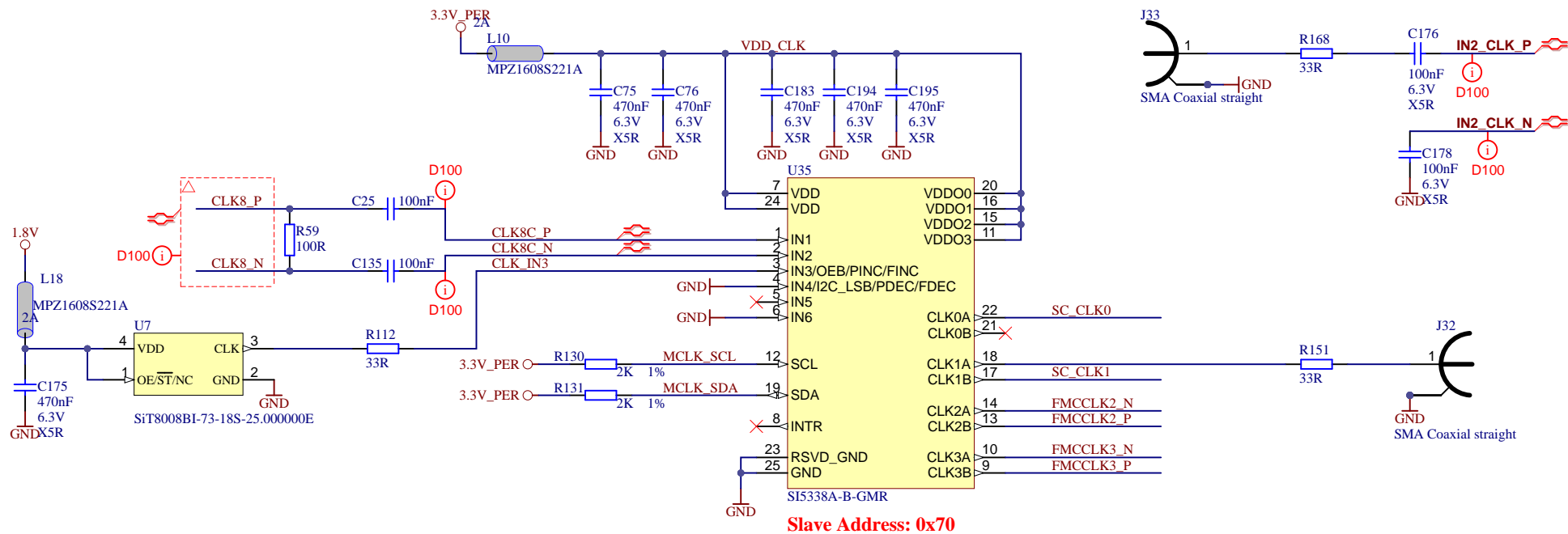
Title: <b>TEBF0818 - B2B-connector J4</b>		
A4	Number: <b>TEBF0818 Default</b>	Rev. <b>02</b>
Date: <b>2023-01-26</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>7</b> of <b>38</b>
Filename: <b>J4.schdoc</b>		

1


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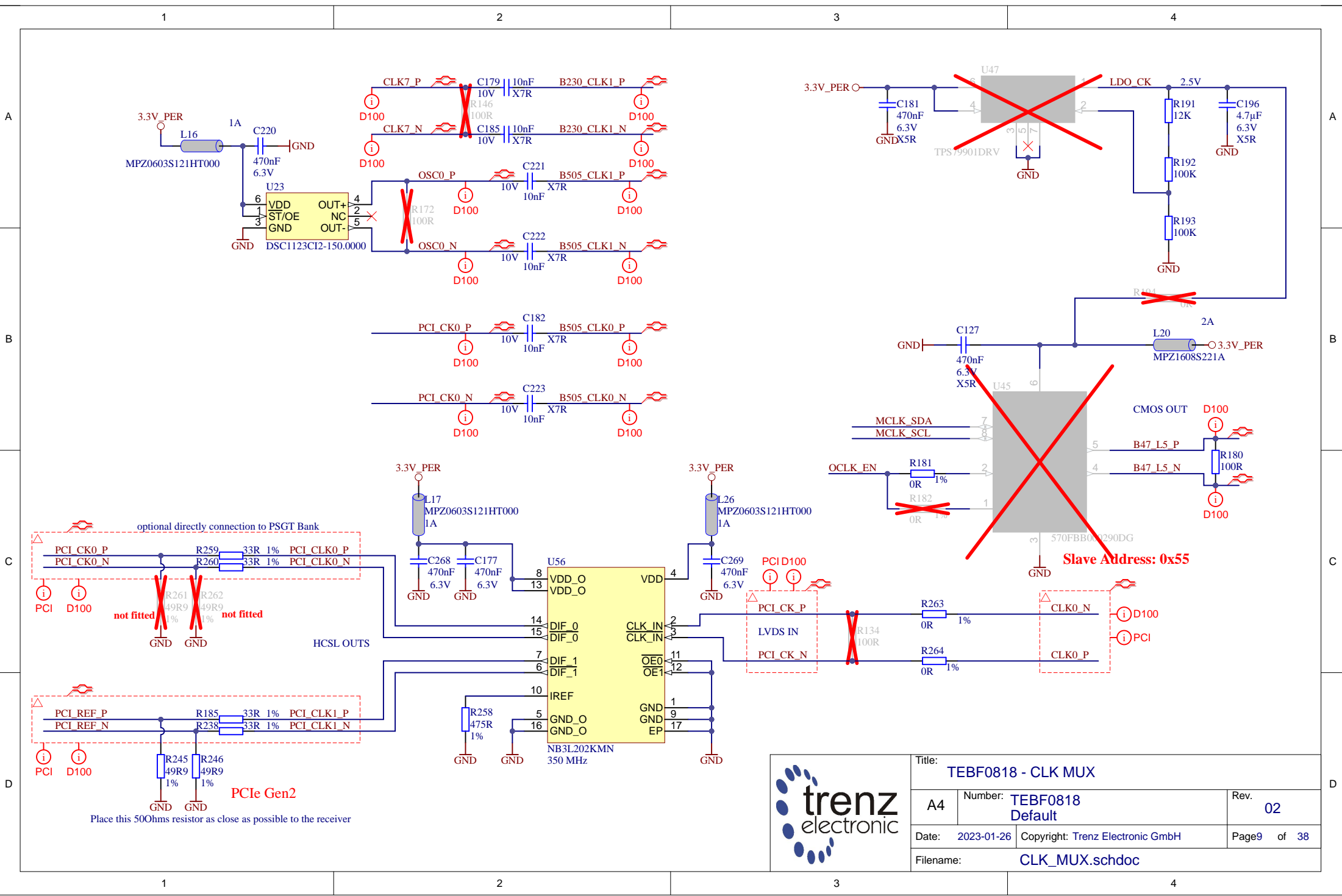
4



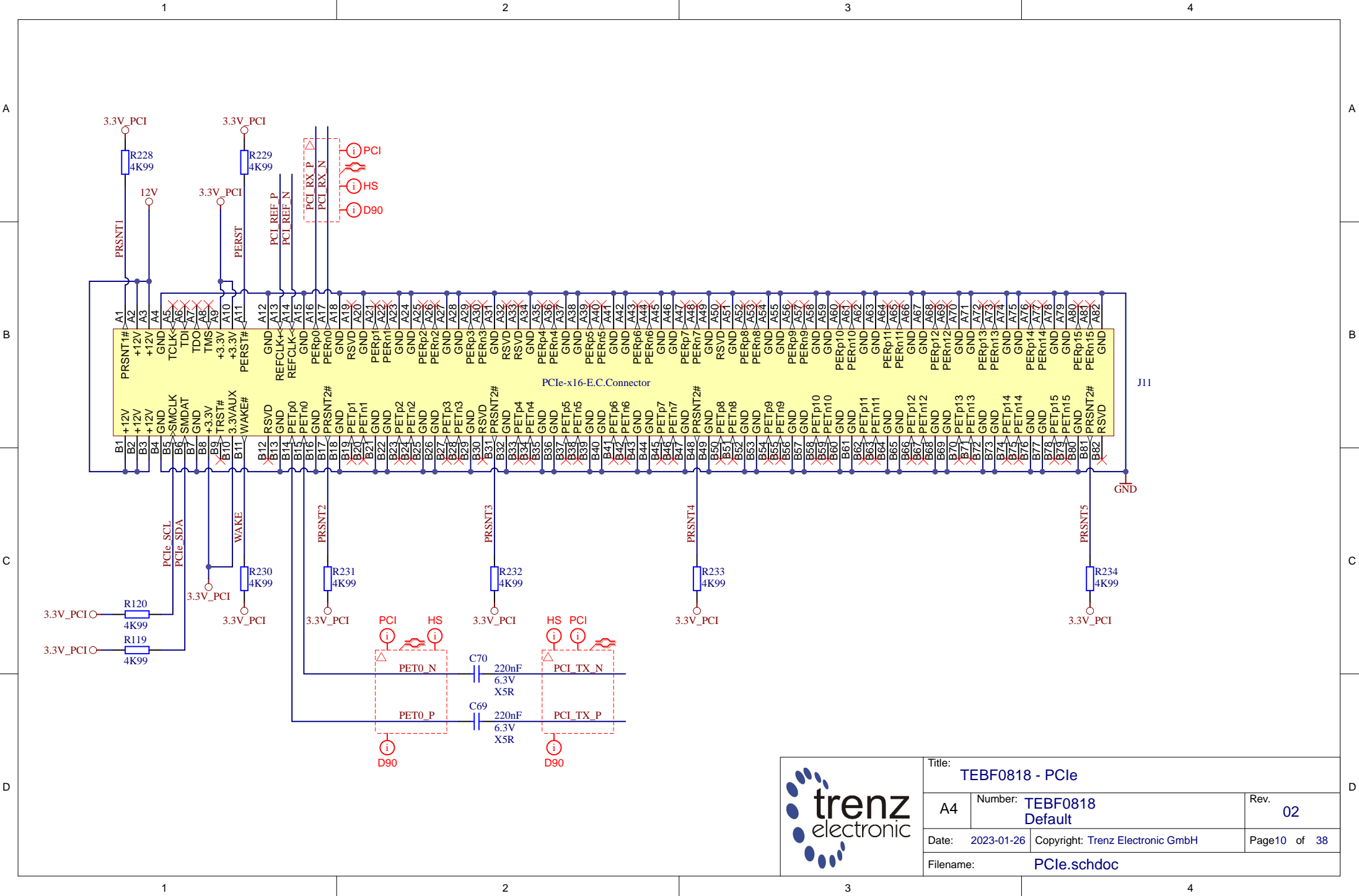
**Slave Address: 0x70**

		Title: <b>TEBF0818 - CLK</b>	
		A4	Number: <b>TEBF0818 Default</b>
Date: 2023-01-26		Copyright: Trenz Electronic GmbH	
Page 8		of 38	
Filename: <b>CLK.schdoc</b>			

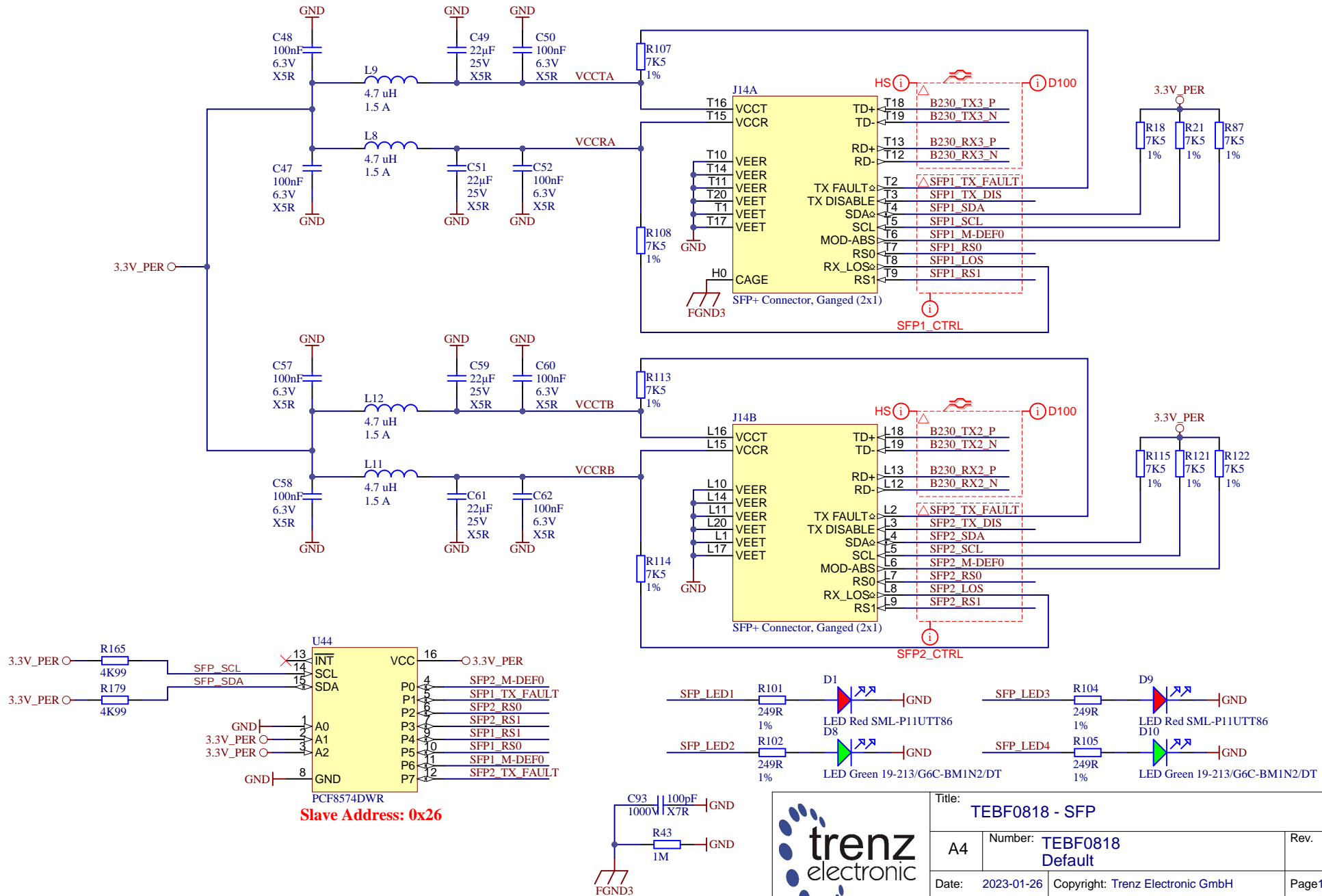




Title: <b>TEBF0818 - CLK MUX</b>		
A4	Number: <b>TEBF0818 Default</b>	Rev. <b>02</b>
Date: <b>2023-01-26</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>9</b> of <b>38</b>
Filename: <b>CLK_MUX.schdoc</b>		



Title: <b>TEBF0818 - PCIe</b>		
A4	Number: <b>TEBF0818 Default</b>	Rev. <b>02</b>
Date: <b>2023-01-26</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>10</b> of <b>38</b>
Filename: <b>PCIe.schdoc</b>		



Slave Address: 0x26



Title: <b>TEBF0818 - SFP</b>		
A4	Number: <b>TEBF0818 Default</b>	Rev. <b>02</b>
Date: 2023-01-26	Copyright: Trenz Electronic GmbH	Page 11 of 38
Filename: <b>SFP.schdoc</b>		

1

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A

A

B

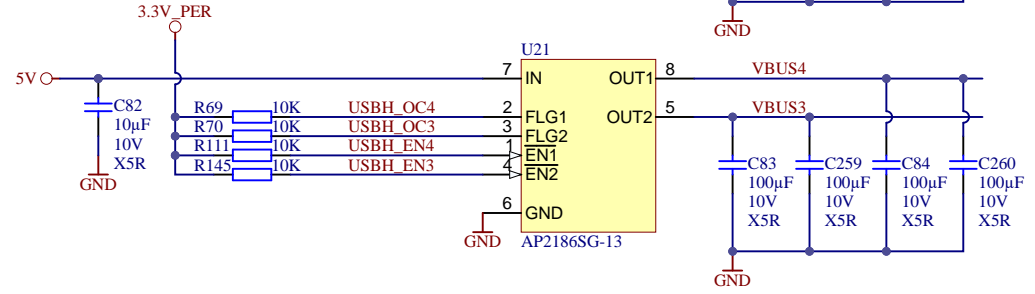
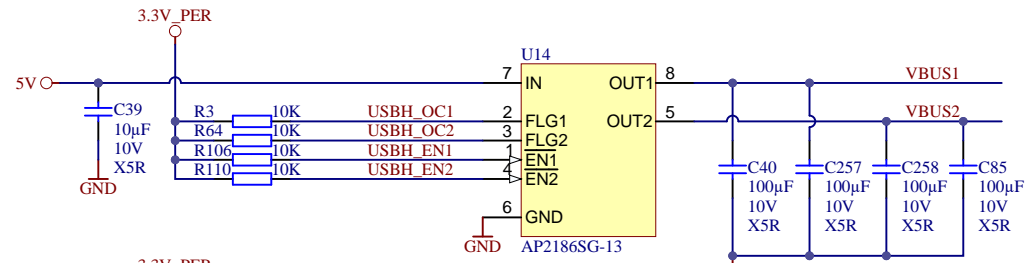
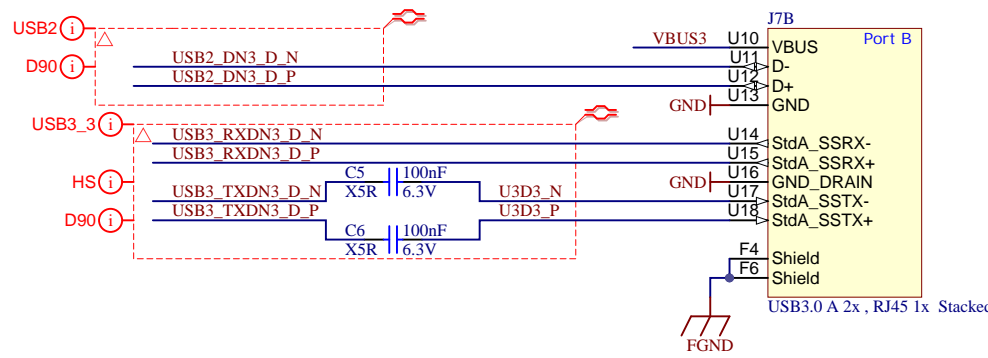
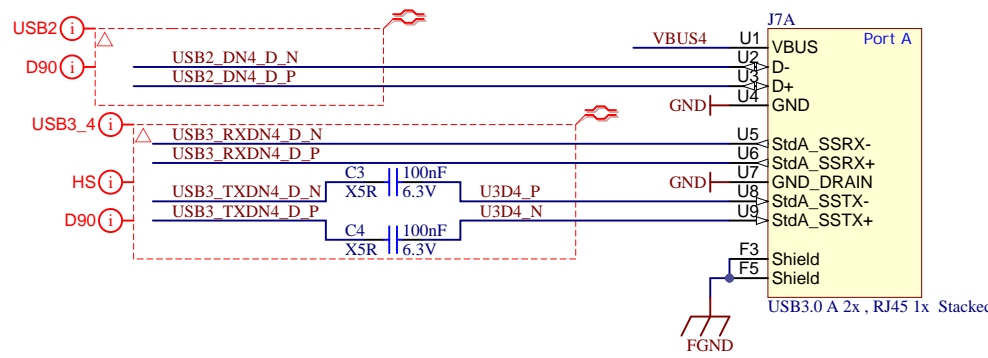
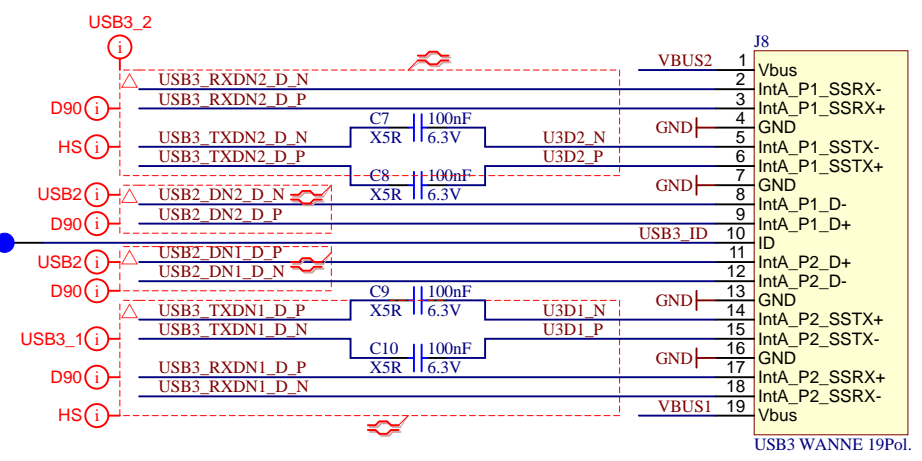
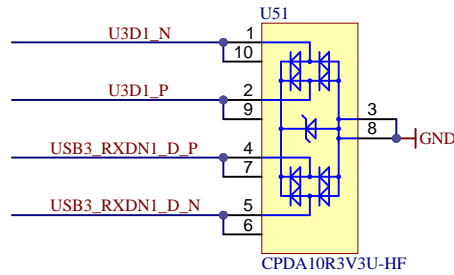
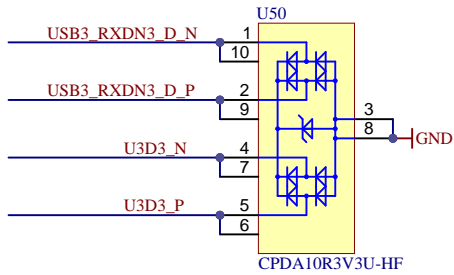
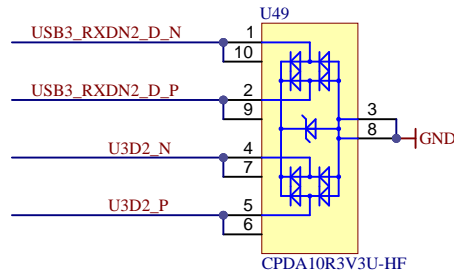
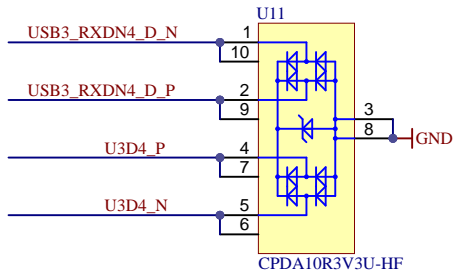
B

C

C

D

D



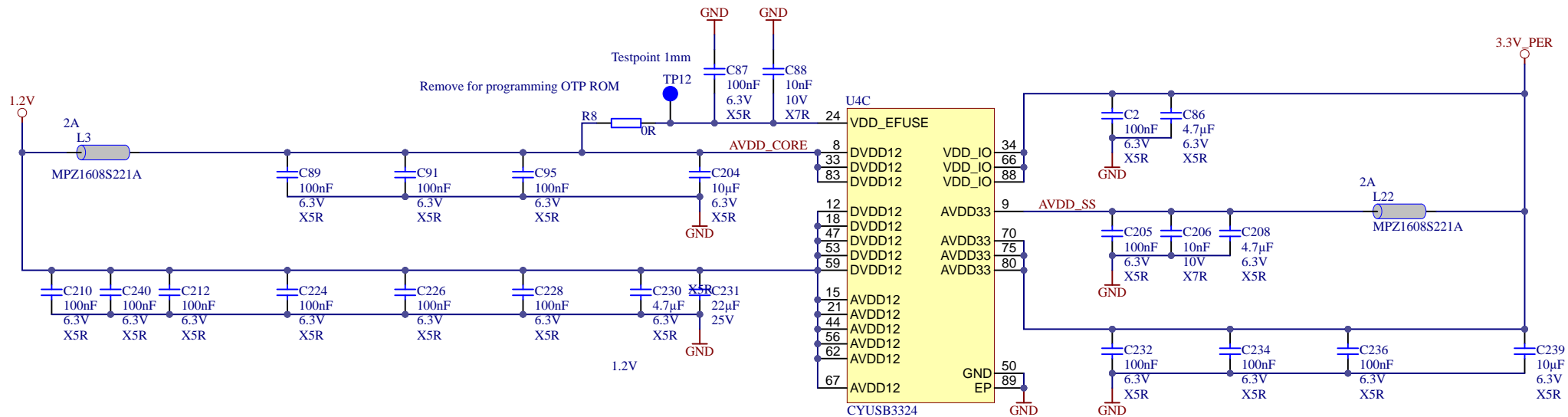
Title: <b>TEBF0818 - USB Connectors</b>		
A4	Number: <b>TEBF0818 Default</b>	Rev. <b>02</b>
Date: <b>2023-01-26</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>12</b> of <b>38</b>
Filename: <b>USB-CONN.schdoc</b>		


1

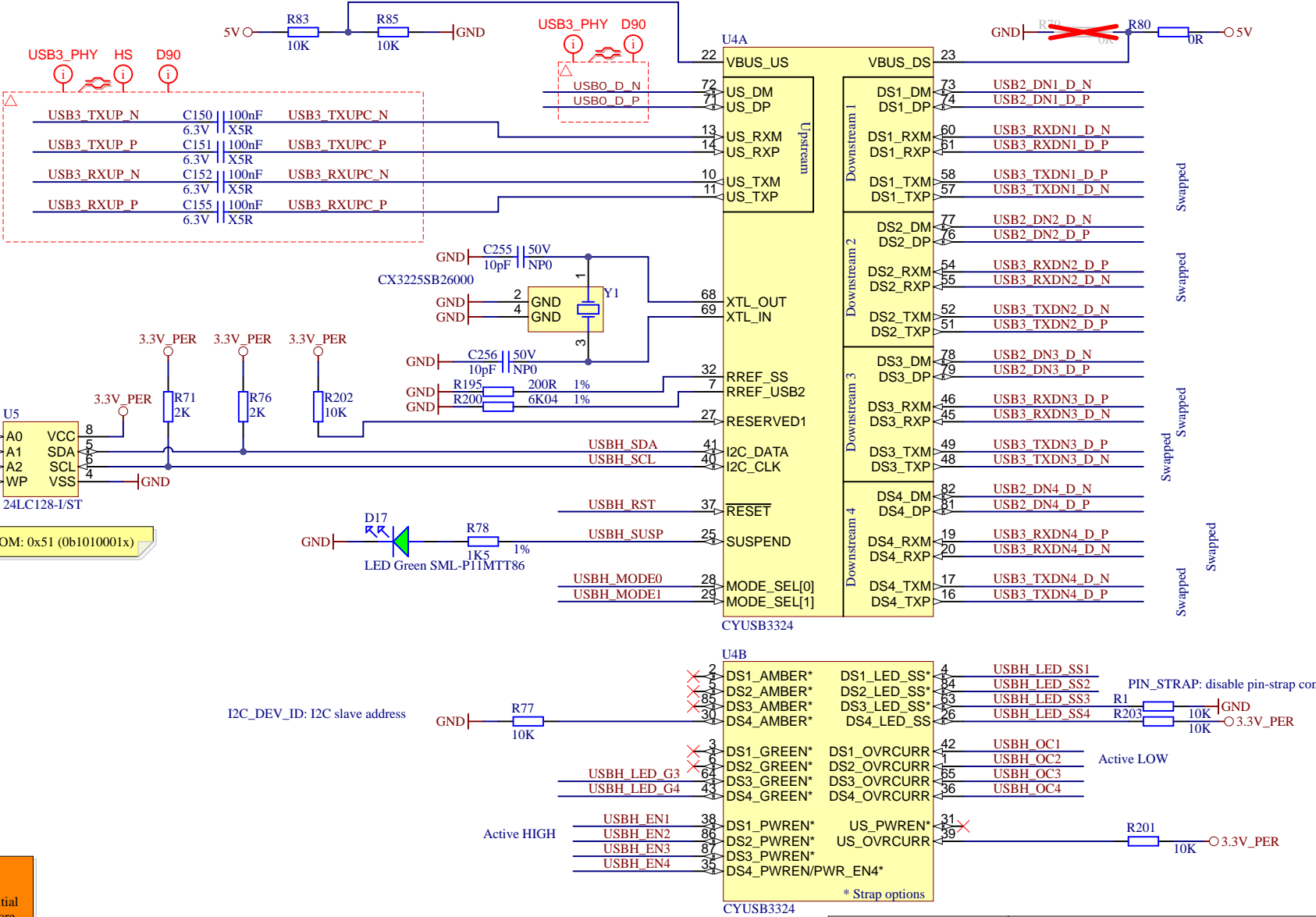
2

3

4



			Title: <b>TEBF0818 - USB</b>	
			A4	Number: <b>TEBF0818 Default</b>
Date: 2023-01-26		Copyright: Trenz Electronic GmbH		Page13 of 38
Filename: <b>USB.schdoc</b>				



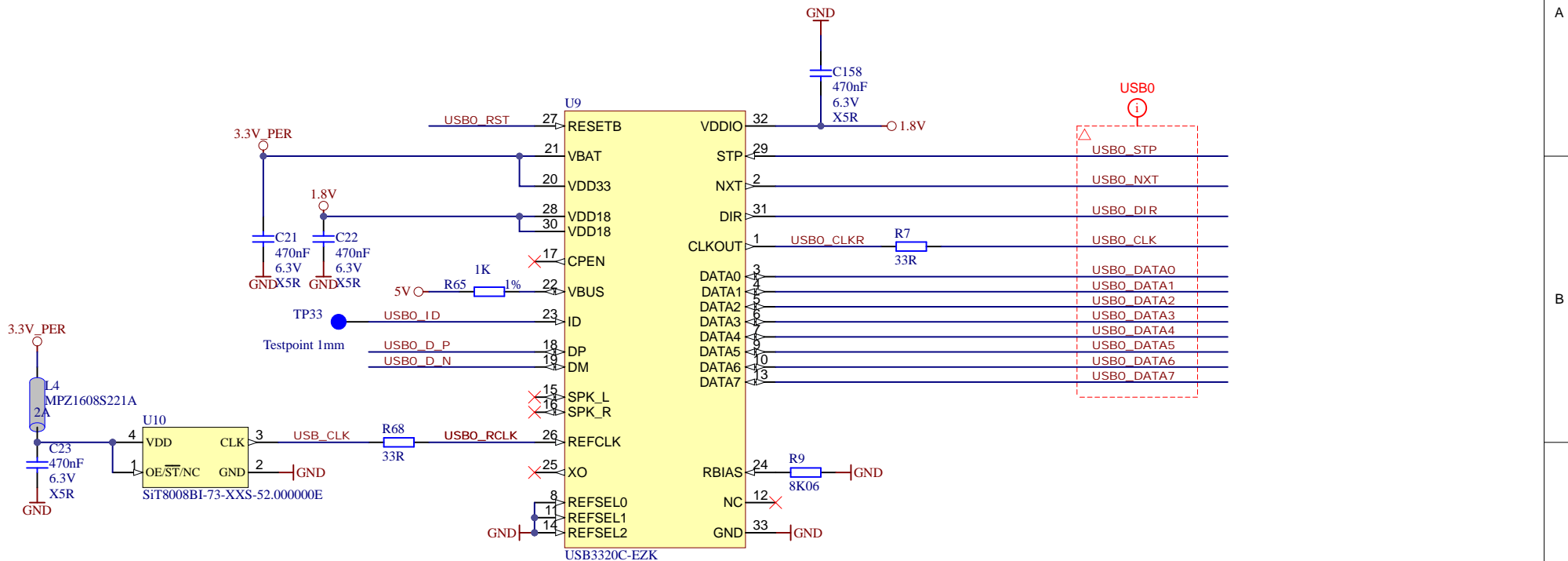
**LAYOUT NOTES:**  
 Each member of a High-Speed differential pair should be no more than 1.25 mm  
 Each member of a SuperSpeed differential pair should be no more than 0.13 mm


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

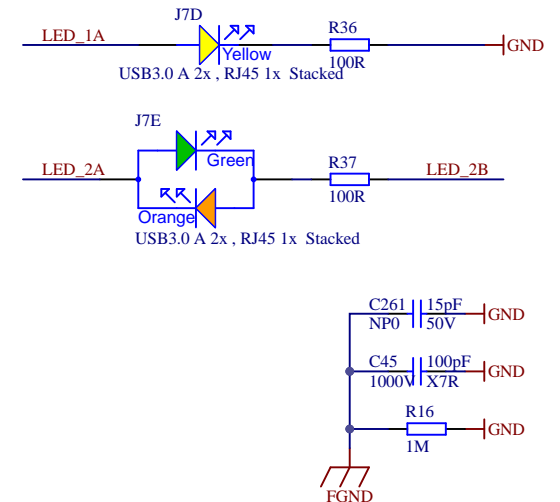
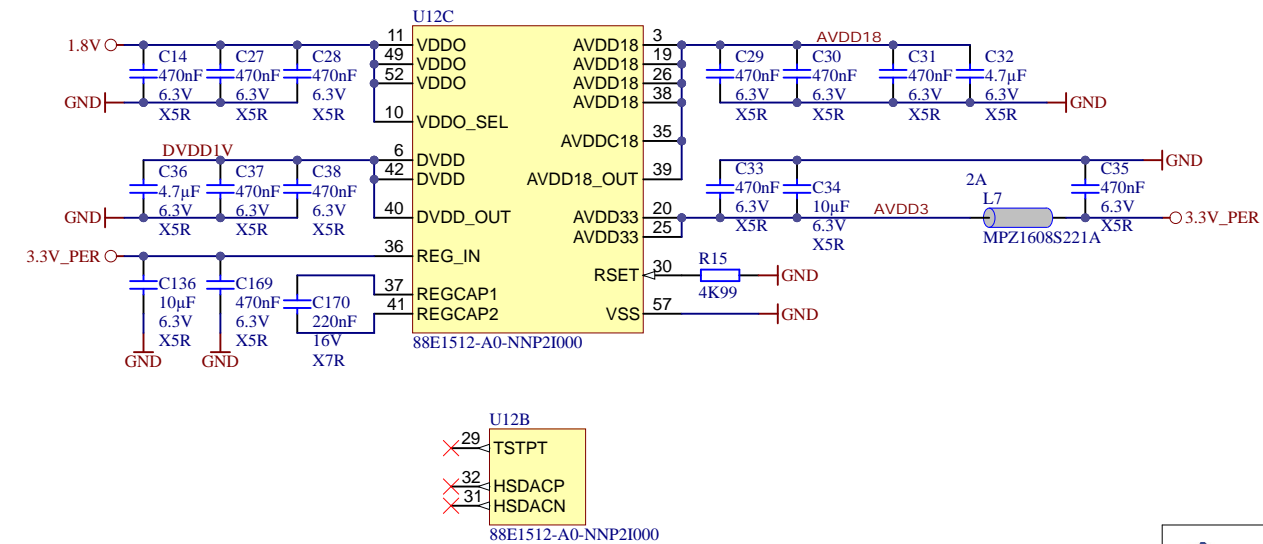
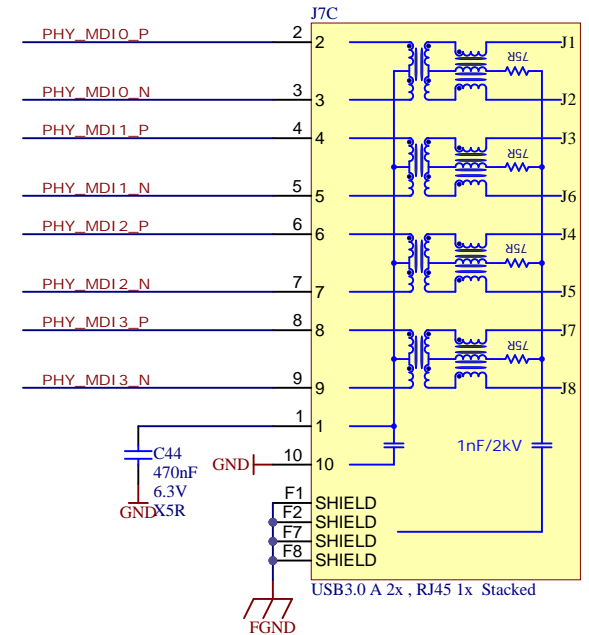
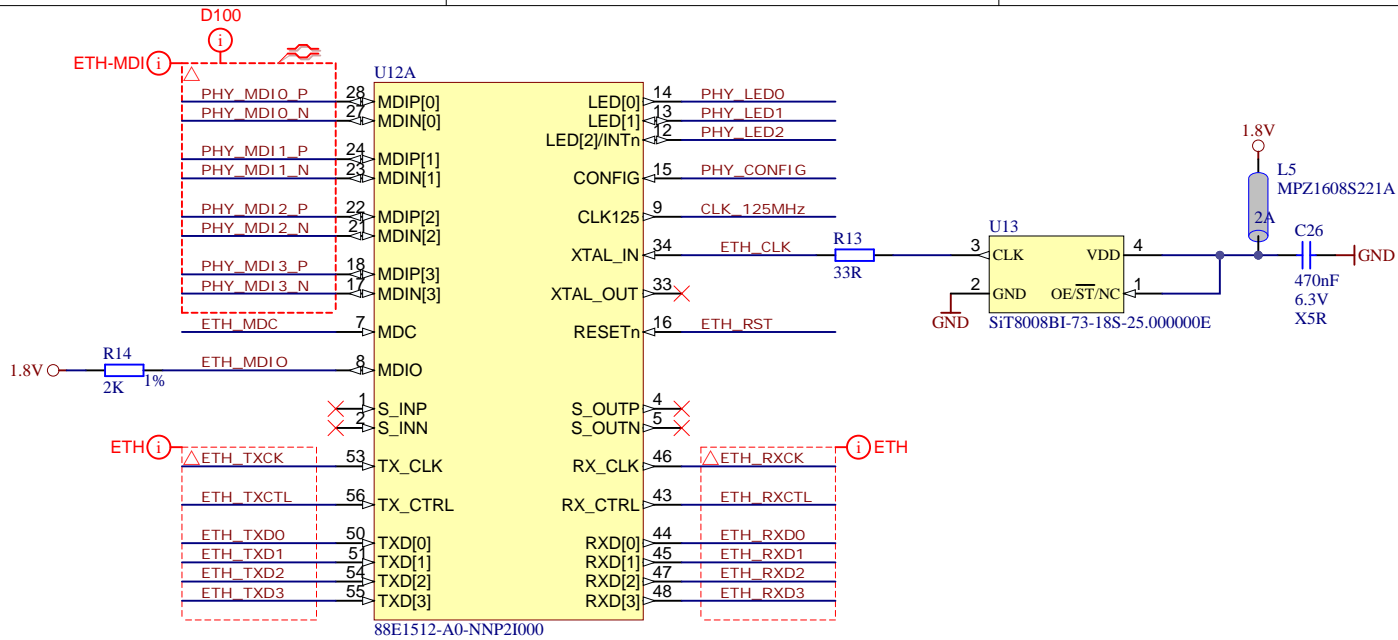
CLK: 0x60 (or 0x58)



Title: <b>TEBF0818 - USB</b>		
A4	Number: <b>TEBF0818 Default</b>	Rev. <b>02</b>
Date: <b>2023-01-26</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>14</b> of <b>38</b>
Filename: <b>USB3-HUB.SchDoc</b>		

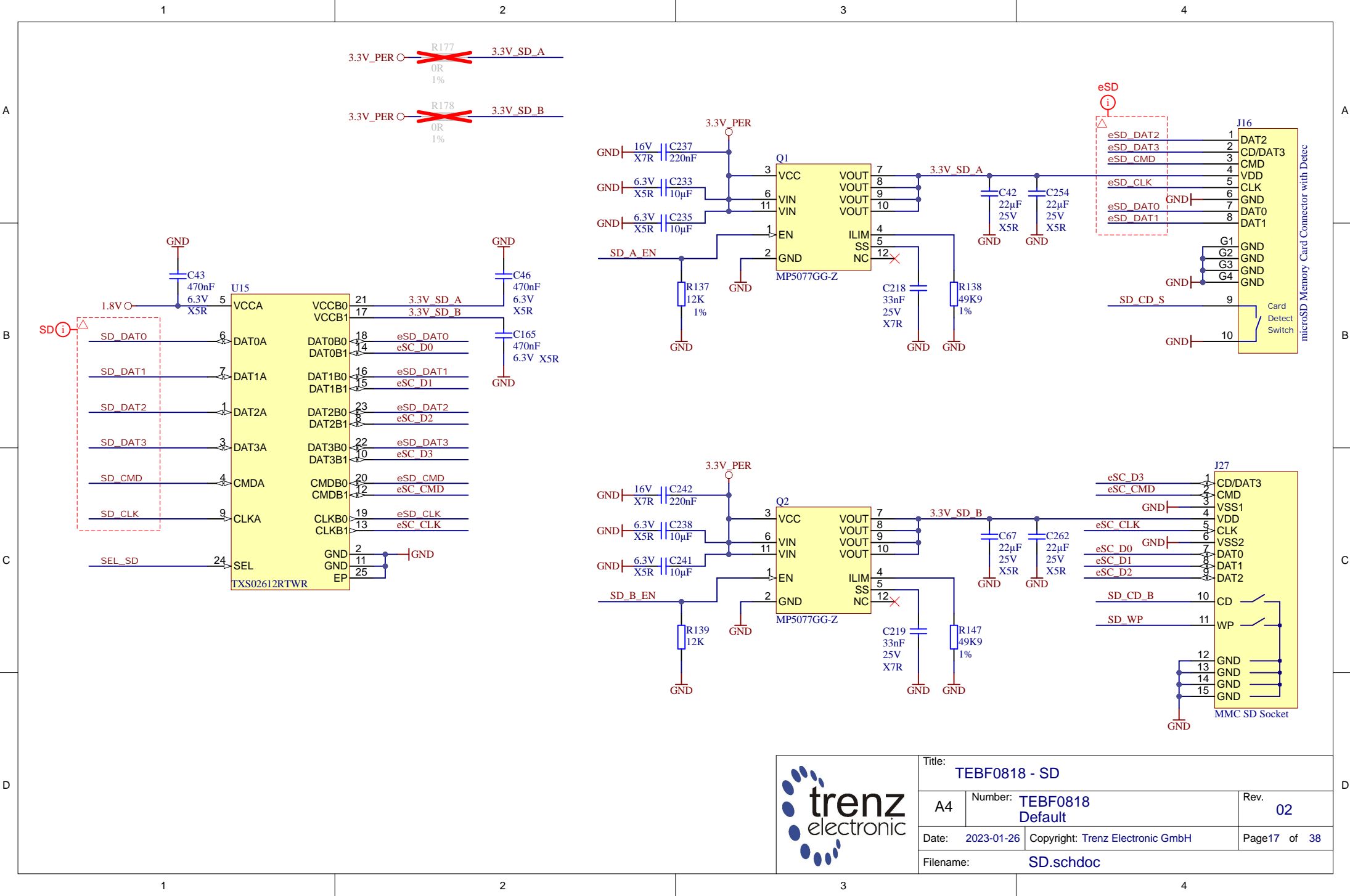


		Title: <b>TEBF0818 - USB</b>	
		A4	Number: <b>TEBF0818 Default</b>
Date: 2023-01-26		Copyright: Trenz Electronic GmbH	
Date: 2023-01-26		Page 15 of 38	
Filename: <b>USB-PHY.SchDoc</b>			



Title: <b>TEBF0818 - ETHERNET</b>		
A4	Number: <b>TEBF0818 Default</b>	Rev. <b>02</b>
Date: <b>2023-01-26</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>16</b> of <b>38</b>
Filename: <b>ETH-PHY.SchDoc</b>		





	Title: <b>TEBF0818 - SD</b>	
	A4	Number: <b>TEBF0818 Default</b>
	Date: 2023-01-26	Copyright: Trenz Electronic GmbH
	Filename: <b>SD.schdoc</b>	Page 17 of 38

A

B

C

D

A

B

C

D

1

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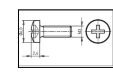
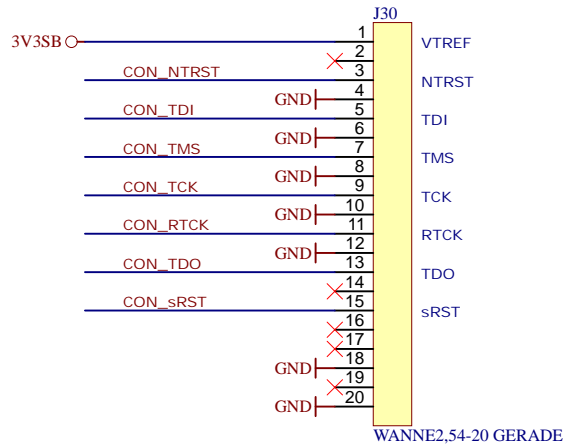
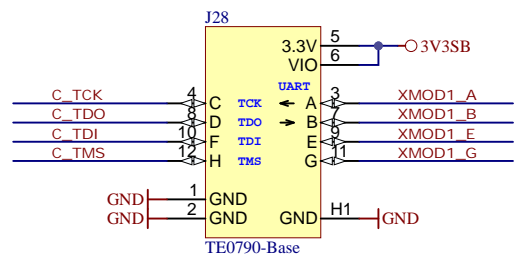
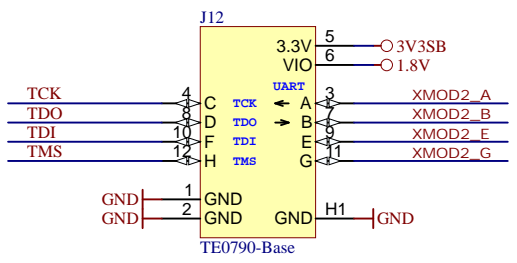
4

1

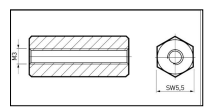
2

3

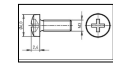
4



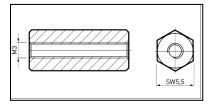
Screw M3x6



Standoff M3x10 II



Screw M3x6



Standoff M3x10 II



Title: <b>TEBF0818 - XMOD JTAG</b>		
A4	Number: <b>TEBF0818 Default</b>	Rev. <b>02</b>
Date: <b>2023-01-26</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>18</b> of <b>38</b>
Filename: <b>XMOD.schdoc</b>		

A

A

B

B

C

C

D

D

FMC\_DP D100

B228 TX0 P	C2
B228 TX0 N	C3
B228 TX1 P	A22
B228 TX1 N	A23
B228 TX2 P	A26
B228 TX2 N	A27
B228 TX3 P	A30
B228 TX3 N	A31
B229 TX0 P	A34
B229 TX0 N	A35
B229 TX1 P	A38
B229 TX1 N	A39
B229 TX2 P	B36
B229 TX2 N	B37
B229 TX3 P	B33
B229 TX3 N	B34
B230 TX0 P	B28
B230 TX0 N	B29
B230 TX1 P	B24
B230 TX1 N	B25

J5A

DP0_C2M_P	DP0_M2C_P	C6
DP0_C2M_N	DP0_M2C_N	C7
DP1_C2M_P	DP1_M2C_P	A2
DP1_C2M_N	DP1_M2C_N	A3
DP2_C2M_P	DP2_M2C_P	A6
DP2_C2M_N	DP2_M2C_N	A7
DP3_C2M_P	DP3_M2C_P	A10
DP3_C2M_N	DP3_M2C_N	A11
DP4_C2M_P	DP4_M2C_P	A14
DP4_C2M_N	DP4_M2C_N	A15
DP5_C2M_P	DP5_M2C_P	A18
DP5_C2M_N	DP5_M2C_N	A19
DP6_C2M_P	DP6_M2C_P	B16
DP6_C2M_N	DP6_M2C_N	B17
DP7_C2M_P	DP7_M2C_P	B12
DP7_C2M_N	DP7_M2C_N	B13
DP8_C2M_P	DP8_M2C_P	B8
DP8_C2M_N	DP8_M2C_N	B9
DP9_C2M_P	DP9_M2C_P	B4
DP9_C2M_N	DP9_M2C_N	B5

ASP-134486-01, CC-HPC-10

FMC\_DP D100

B228 RX0 P	C6
B228 RX0 N	C7
B228 RX1 P	A2
B228 RX1 N	A3
B228 RX2 P	A6
B228 RX2 N	A7
B228 RX3 P	A10
B228 RX3 N	A11
B229 RX0 P	A14
B229 RX0 N	A15
B229 RX1 P	A18
B229 RX1 N	A19
B229 RX2 P	B16
B229 RX2 N	B17
B229 RX3 P	B12
B229 RX3 N	B13
B230 RX0 P	B8
B230 RX0 N	B9
B230 RX1 P	B4
B230 RX1 N	B5

ASP-134486-01, CC-HPC-10

CLK1  
CLK1  
CLK1  
CLK1

LA D100

B64 L12 P	G6
B64 L12 N	G7
B64 L11 P	D8
B64 L11 N	D9
B64 L7_P	H7
B64 L7_P	H8
B64 L8_P	G9
B64 L8_N	G10
B64 L2_P	H11
B64 L2_N	H12
B64 L3_P	D11
B64 L3_N	D12
B64 L1_P	C10
B64 L1_N	C11
B64 L9_P	H13
B64 L9_N	H14
B64 L4_P	G12
B64 L4_P	G13
B64 L6_P	D14
B64 L6_N	D15
B64 L5_N	C14
B64 L5_P	C15
B64 L10_P	H16
B64 L10_N	H17
B64 L16_P	G15
B64 L16_N	G16
B64 L18_N	D17
B64 L18_P	D18
B64 L17_N	C18
B64 L17_P	C19
B64 L15_N	H19
B64 L15_P	H20
B64 L19_P	G18
B64 L19_N	G19
B65 L13_P	D20
B65 L13_N	D21
B65 L12_P	C22
B65 L12_N	C23

J5B

LA00_P_CC	LA19_P	H22
LA00_N_CC	LA19_N	H23
LA01_P_CC	LA20_P	G21
LA01_N_CC	LA20_N	G22
LA02_P	LA21_P	H25
LA02_N	LA21_N	H26
LA03_P	LA22_P	G24
LA03_N	LA22_N	G25
LA04_P	LA23_P	H23
LA04_N	LA23_N	H24
LA05_P	LA24_P	H28
LA05_N	LA24_N	H29
LA06_P	LA25_P	G27
LA06_N	LA25_N	G28
LA07_P	LA26_P	H26
LA07_N	LA26_N	H27
LA08_P	LA27_P	C26
LA08_N	LA27_N	C27
LA09_P	LA28_P	H31
LA09_N	LA28_N	H32
LA10_P	LA29_P	G30
LA10_N	LA29_N	G31
LA11_P	LA30_P	H34
LA11_N	LA30_N	H35
LA12_P	LA31_P	G33
LA12_N	LA31_N	G34
LA13_P	LA32_P	H37
LA13_N	LA32_N	H38
LA14_P	LA33_P	G36
LA14_N	LA33_N	G37
LA15_P	LA17_P_CC	
LA15_N	LA17_N_CC	
LA16_P	LA18_P_CC	
LA16_N	LA18_N_CC	

ASP-134486-01, CC-HPC-10

HA D100

B66 L11 P	F4
B66 L11 N	F5
B66 L13 P	F6
B66 L13 N	F7
B66 L5_P	K7
B66 L5_N	K8
B66 L6_P	J6
B66 L6_N	J7
B66 L7_P	F8
B66 L7_N	F9
B66 L9_P	E6
B66 L9_N	E7
B66 L3_N	K10
B66 L3_P	K11
B66 L4_N	J9
B66 L4_P	J10
B66 L23_N	F10
B66 L23_P	F11
B66 L21_N	E9
B66 L21_P	E10
B66 L17_P	K13
B66 L17_N	K14
B66 L2_N	J12
B66 L2_P	J13
B66 L16_N	F13
B66 L16_P	F14

J5C Bank A

HA00_P_CC	HA13_P	E12
HA00_N_CC	HA13_N	E13
HA01_P_CC	HA14_P	E15
HA01_N_CC	HA14_N	E16
HA02_P	HA15_P	E17
HA02_N	HA15_N	E17
HA03_P	HA16_P	E16
HA03_N	HA16_N	E16
HA04_P	HA17_P_CC	K16
HA04_N	HA17_N_CC	K17
HA05_P	HA18_P	E19
HA05_N	HA18_N	E19
HA06_P	HA19_P	E20
HA06_N	HA19_N	E20
HA07_P	HA20_P	E19
HA07_N	HA20_N	E19
HA08_P	HA21_P	E20
HA08_N	HA21_N	E20
HA09_P	HA22_P	E21
HA09_N	HA22_N	E22
HA10_P	HA23_P	E23
HA10_N	HA23_N	E23
HA11_P		
HA11_N		
HA12_P		
HA12_N		

ASP-134486-01, CC-HPC-10

HB D100

B64 L13 P	K25
B64 L13 N	K26
B64 L23_P	J23
B64 L23_N	J24
B64 L22_P	F23
B64 L22_N	F24
B64 L20_P	E23
B64 L20_N	E24
B64 L24_P	F26
B64 L24_N	F27
B64 L21_N	E23
B64 L21_P	E24
B65 L11_P	K28
B65 L11_N	K29
B65 L21_N	J23
B65 L21_P	J24
B65 L20_P	F28
B65 L20_N	F29
B65 L23_P	E27
B65 L23_N	E28
B65 L24_N	K31
B65 L24_P	K32
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B65 L22_P	J31
B48 L1_N	F31
B48 L1_P	F32

J5D Bank B

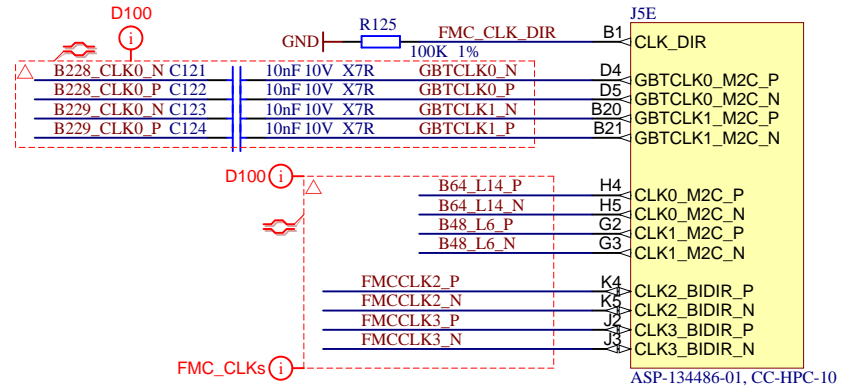
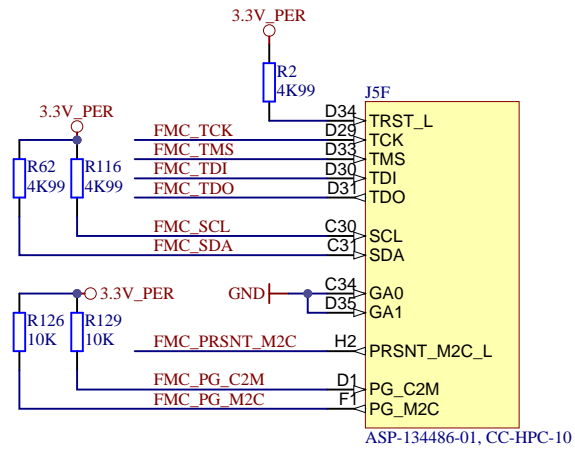
HB00_P_CC	HB13_P	E30
HB00_N_CC	HB13_N	E31
HB01_P	HB14_P	K34
HB01_N	HB14_N	K35
HB02_P	HB15_P	K33
HB02_N	HB15_N	K34
HB03_P	HB16_P	E34
HB03_N	HB16_N	E35
HB04_P	HB17_P_CC	K37
HB04_N	HB17_N_CC	K38
HB05_P	HB18_P	E36
HB05_N	HB18_N	E37
HB06_P_CC	HB19_P	E33
HB06_N_CC	HB19_N	E34
HB07_P	HB20_P	E37
HB07_N	HB20_N	E38
HB08_P	HB21_P	E36
HB08_N	HB21_N	E37
HB09_P		
HB09_N		
HB10_P		
HB10_N		
HB11_P		
HB11_N		
HB12_P		
HB12_N		

ASP-134486-01, CC-HPC-10



Title: TEBF0818 - FMC

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Filename: FMC.SchDoc		



	Title: <b>TEBF0818 - FMC</b>		
	A4	Number: <b>TEBF0818 Default</b>	Rev. <b>02</b>
	Date: <b>2023-01-26</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>20</b> of <b>38</b>
	Filename: <b>FMC_MISC.SchDoc</b>		

A

A

B

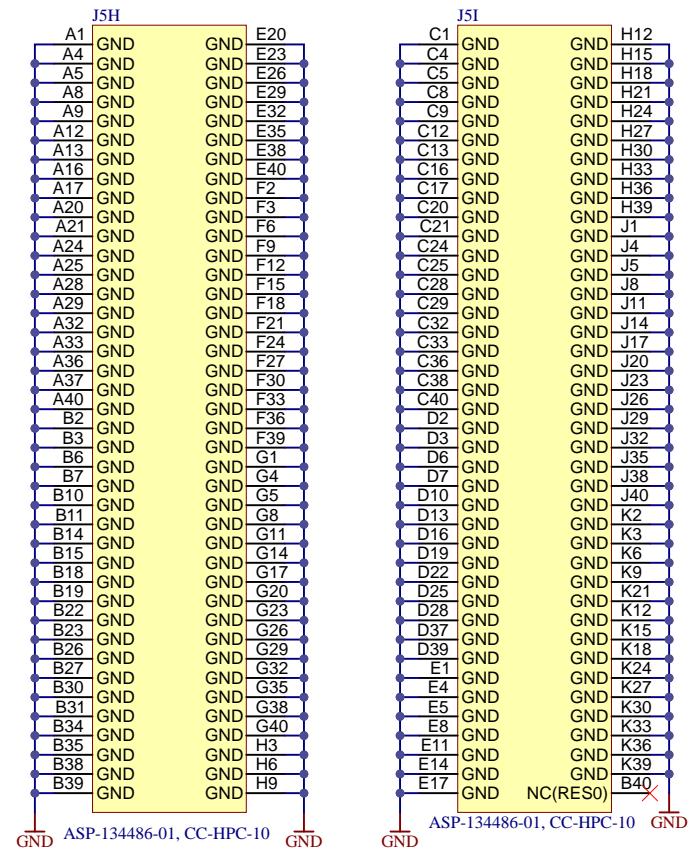
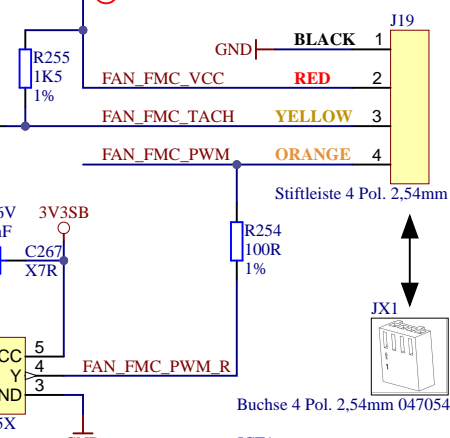
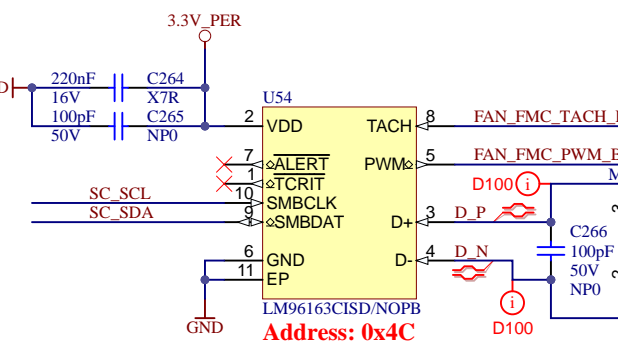
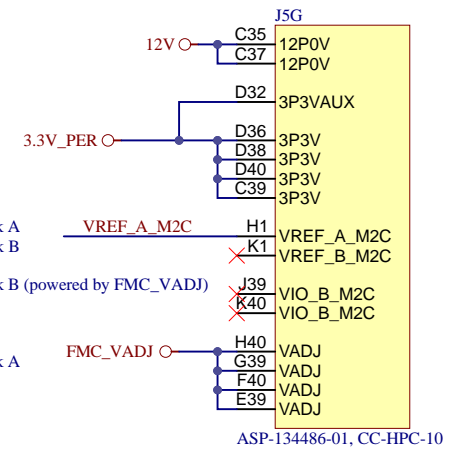
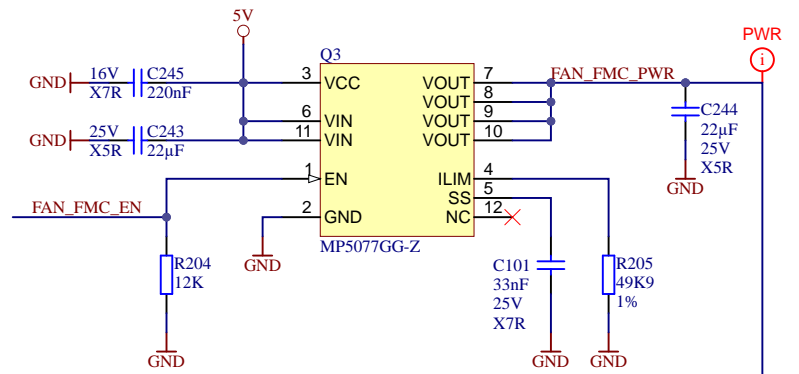
B

C

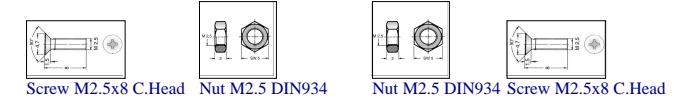
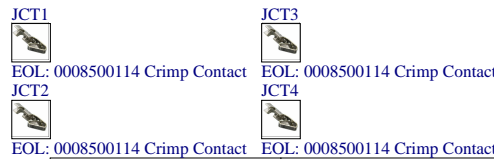
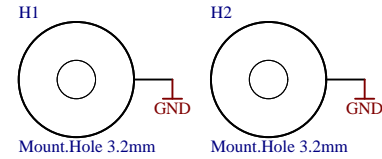
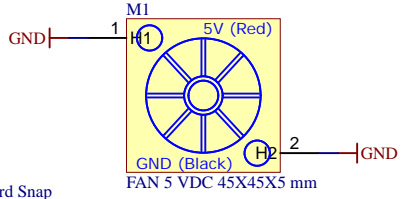
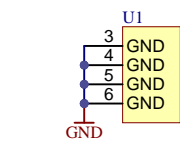
C

D

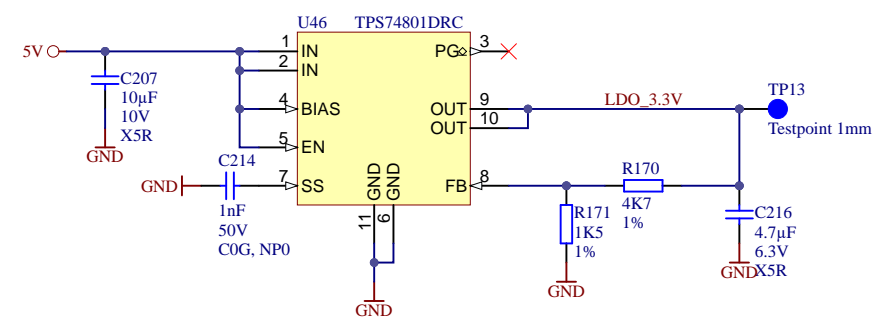
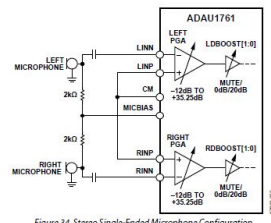
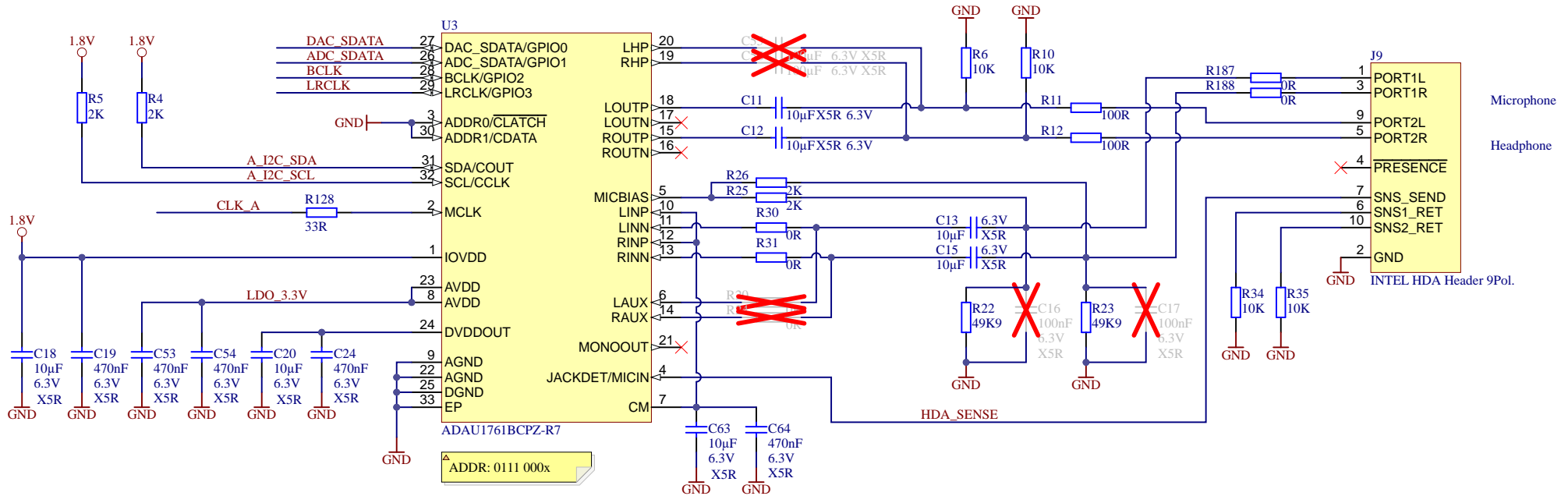
D



**JX1 COLOR CABLES**  
 BLACK : PIN 1  
 RED : PIN 2  
 YELLOW : PIN 3  
 ORANGE : PIN 4

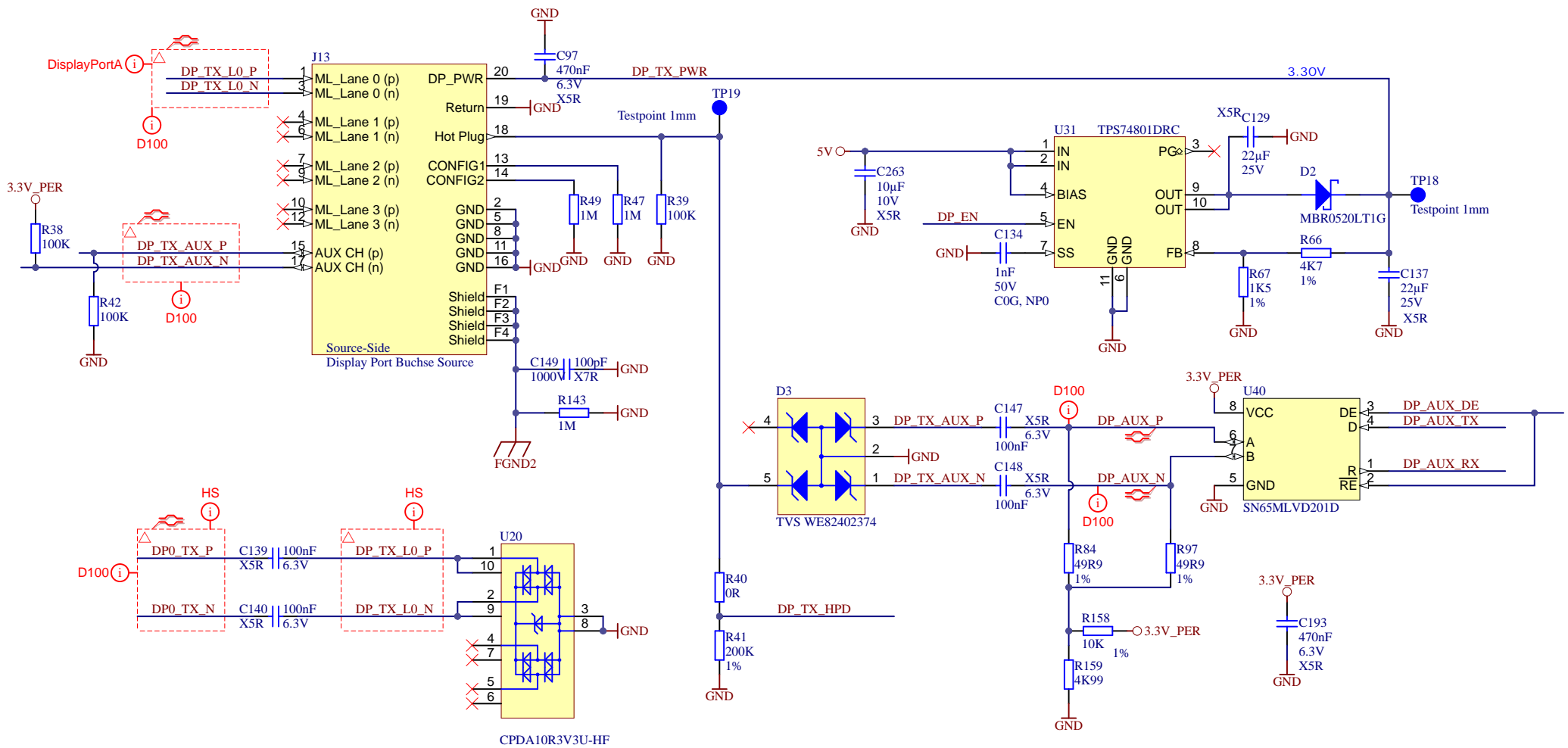



Title: <b>TEBF0818 - FMC</b>		
A4	Number: <b>TEBF0818 Default</b>	Rev. <b>02</b>
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Filename: <b>FMC_PWR.SchDoc</b>		

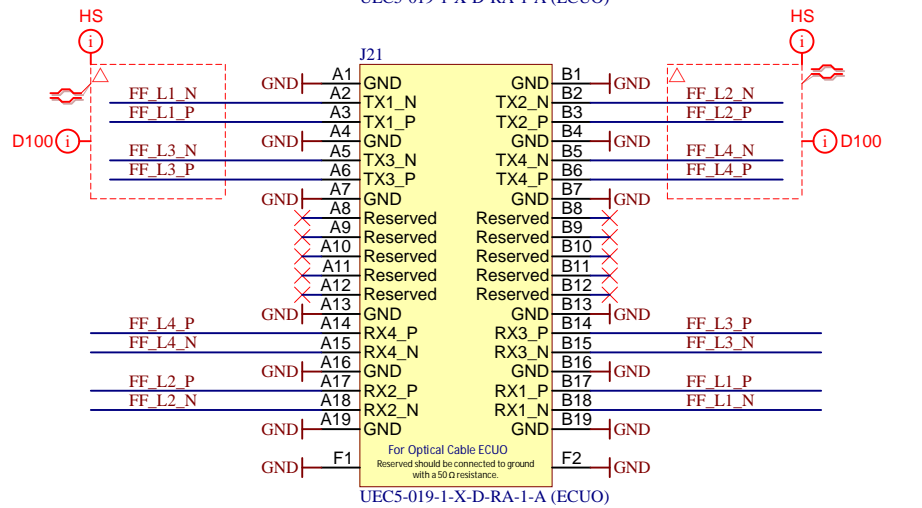
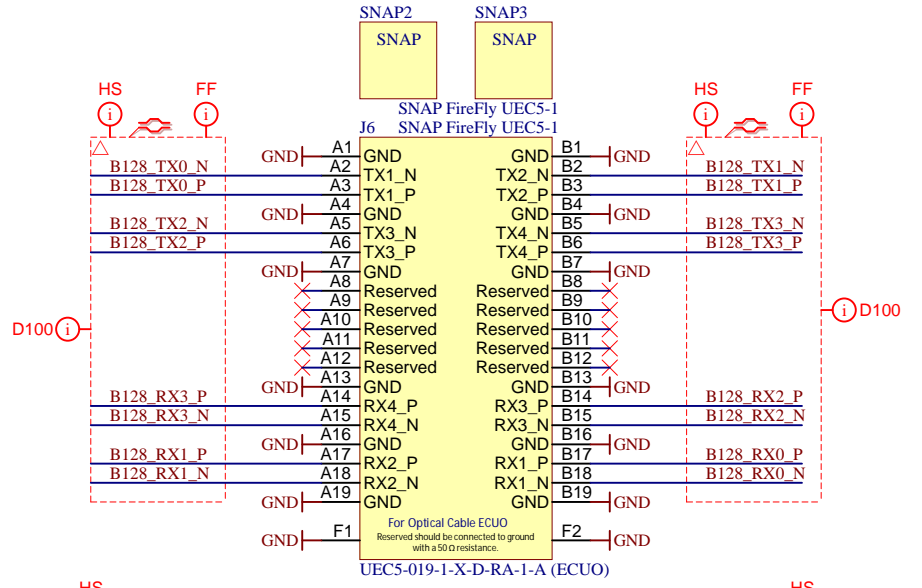
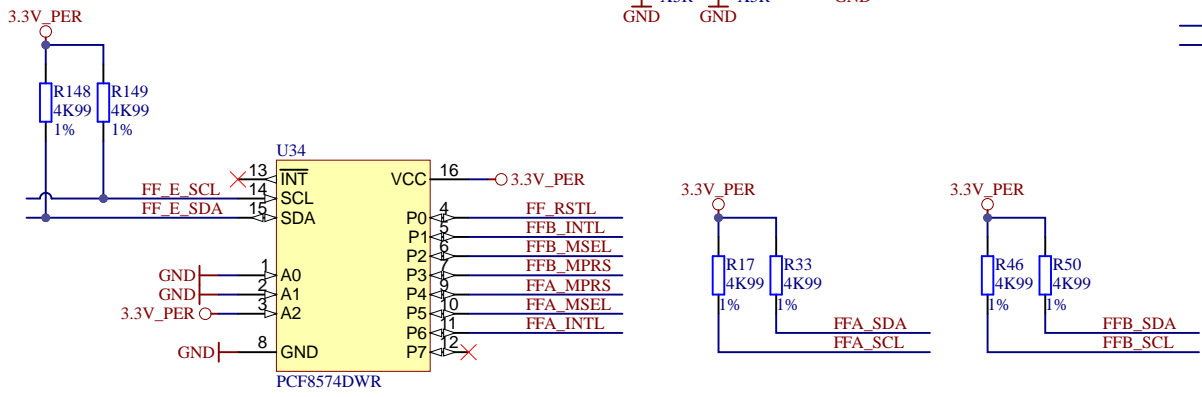
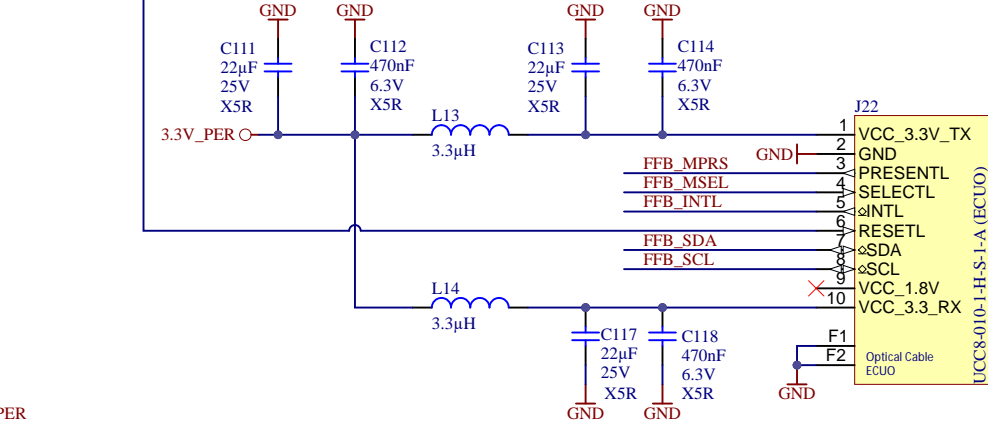
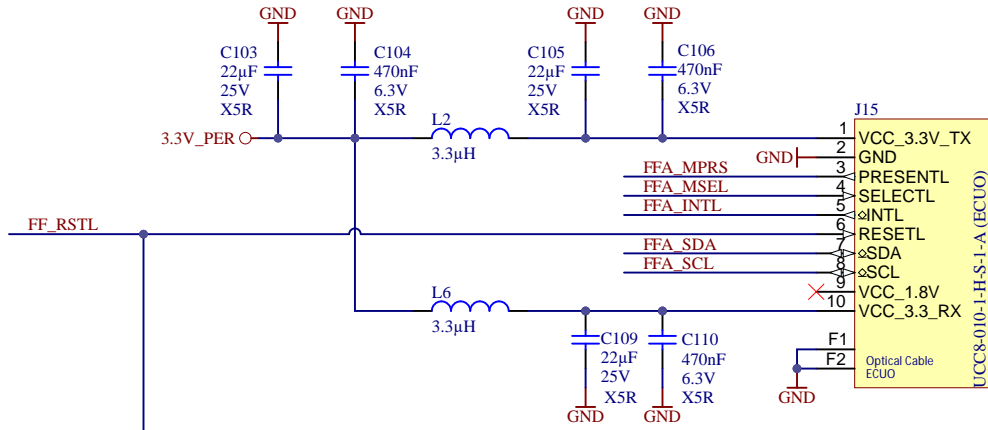


Title: <b>TEBF0818 - Audio</b>		
A4	Number: <b>TEBF0818 Default</b>	Rev. <b>02</b>
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Filename: <b>Audio.SchDoc</b>		





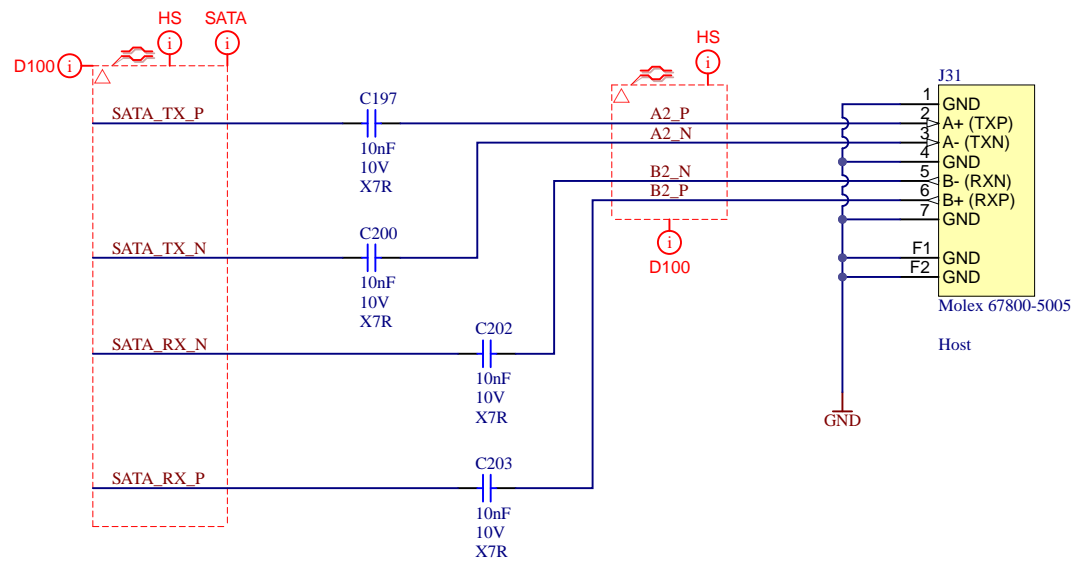
			Title: TEBF0818 - DisplayPort	
			A4	Number: TEBF0818 Default
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Filename: DP_PS.schdoc				




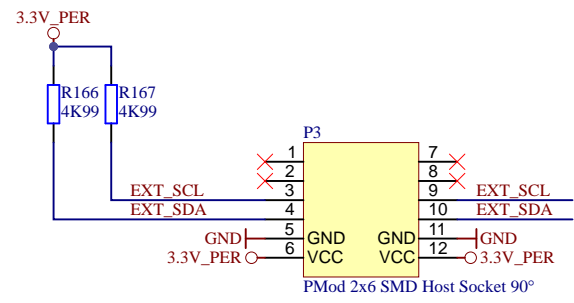
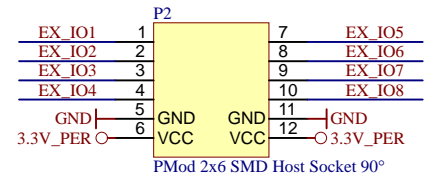
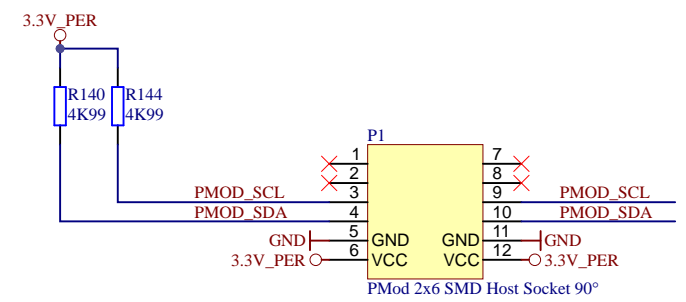
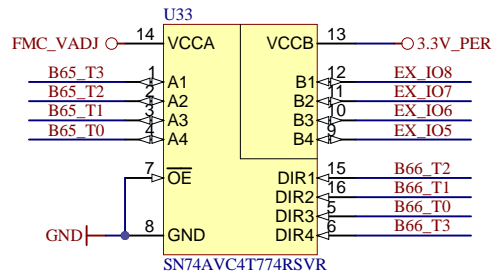
Title: <b>TEBF0818 - FireFly</b>		
A4	Number: <b>TEBF0818 Default</b>	Rev. <b>02</b>
Date: <b>2023-01-26</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>24</b> of <b>38</b>
Filename: <b>FireFly.SchDoc</b>		








	Title: <b>TEBF0818 - SATA</b>		
	A4	Number: <b>TEBF0818 Default</b>	Rev. <b>02</b>
	Date: <b>2023-01-26</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>26</b> of <b>38</b>
	Filename: <b>SATA.schdoc</b>		



		Title: <b>TEBF0818 - MISC</b>	
		A4	Number: <b>TEBF0818 Default</b>
Date: <b>2023-01-26</b>		Copyright: <b>Trenz Electronic GmbH</b>	
Filename: <b>PMODE.schdoc</b>		Page <b>27</b> of <b>38</b>	

1

2

3

4

A

A

B

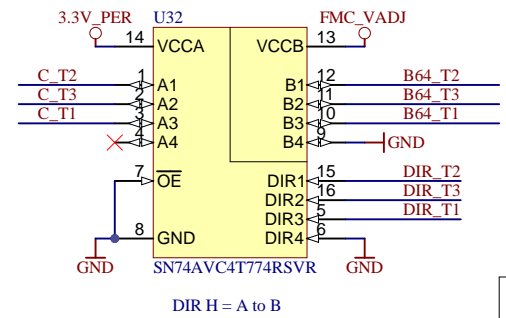
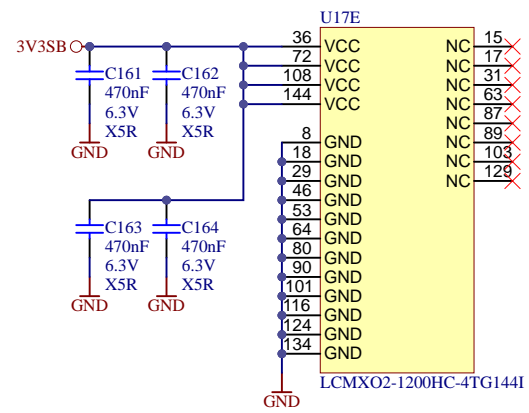
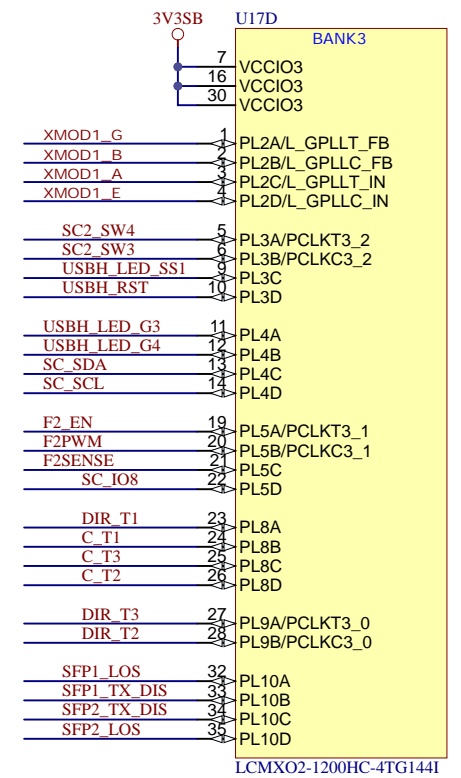
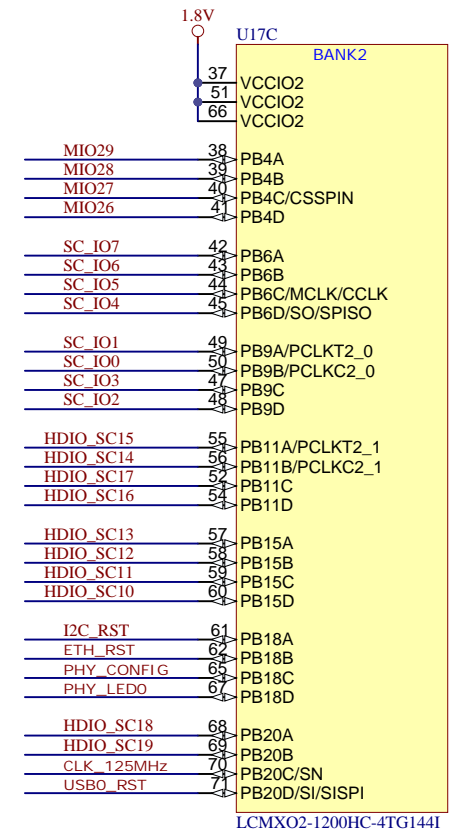
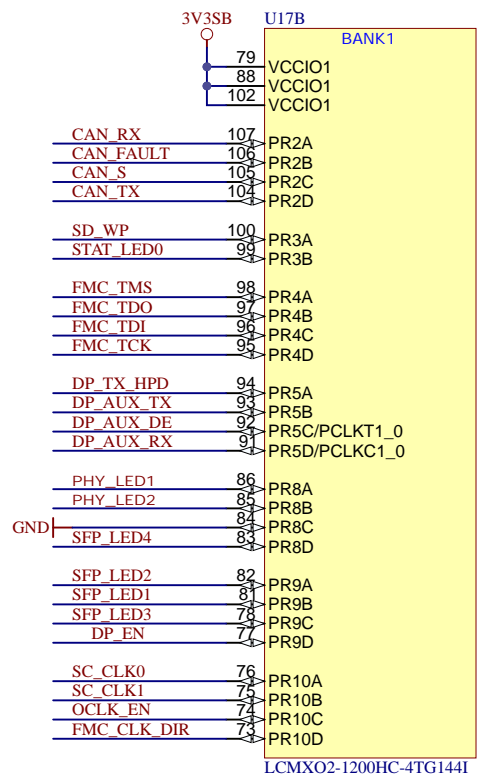
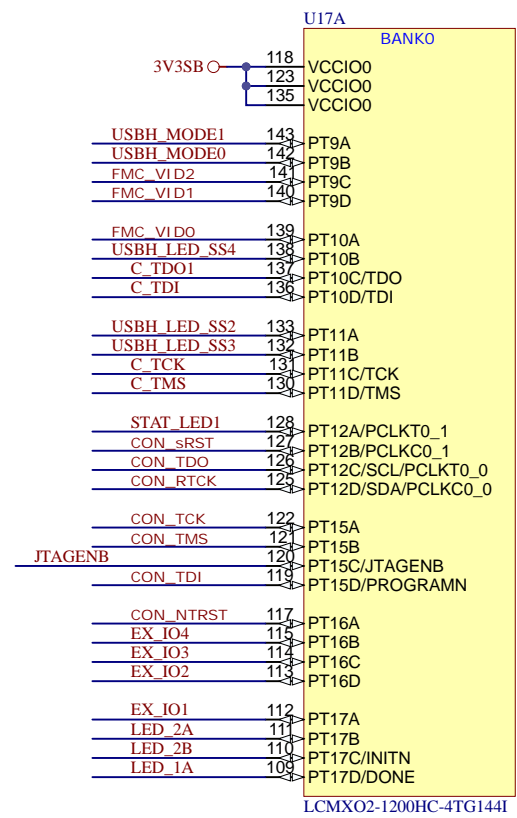
B

C


C

D

D



Pin 84 PR8C "GND": REV04



Title: <b>TEBF0818 - CPLD</b>		
A4	Number: <b>TEBF0818 Default</b>	Rev. <b>02</b>
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Filename: <b>SC.schdoc</b>		

1

2

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1

2

3

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A

A

B

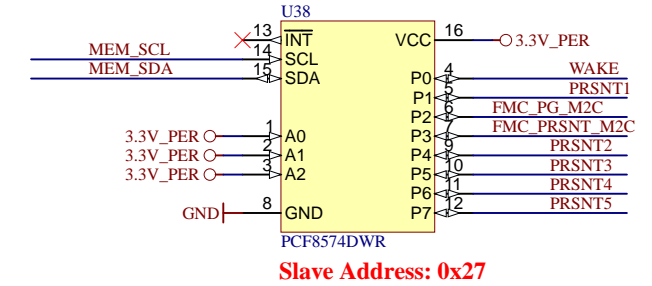
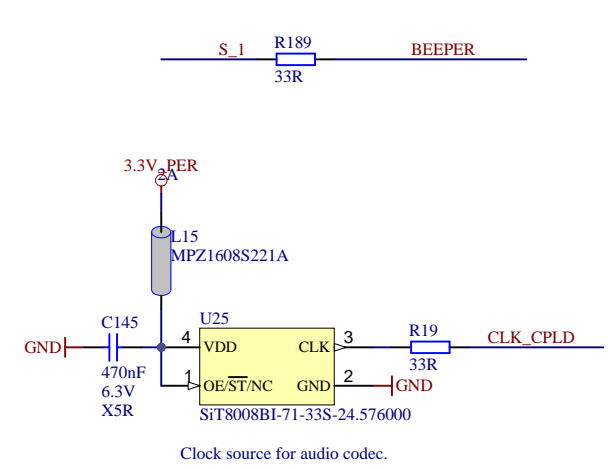
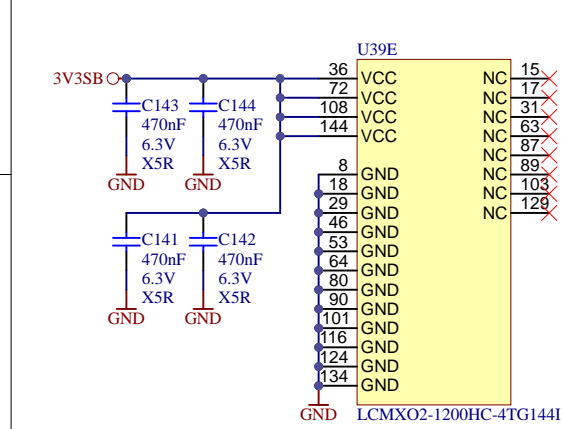
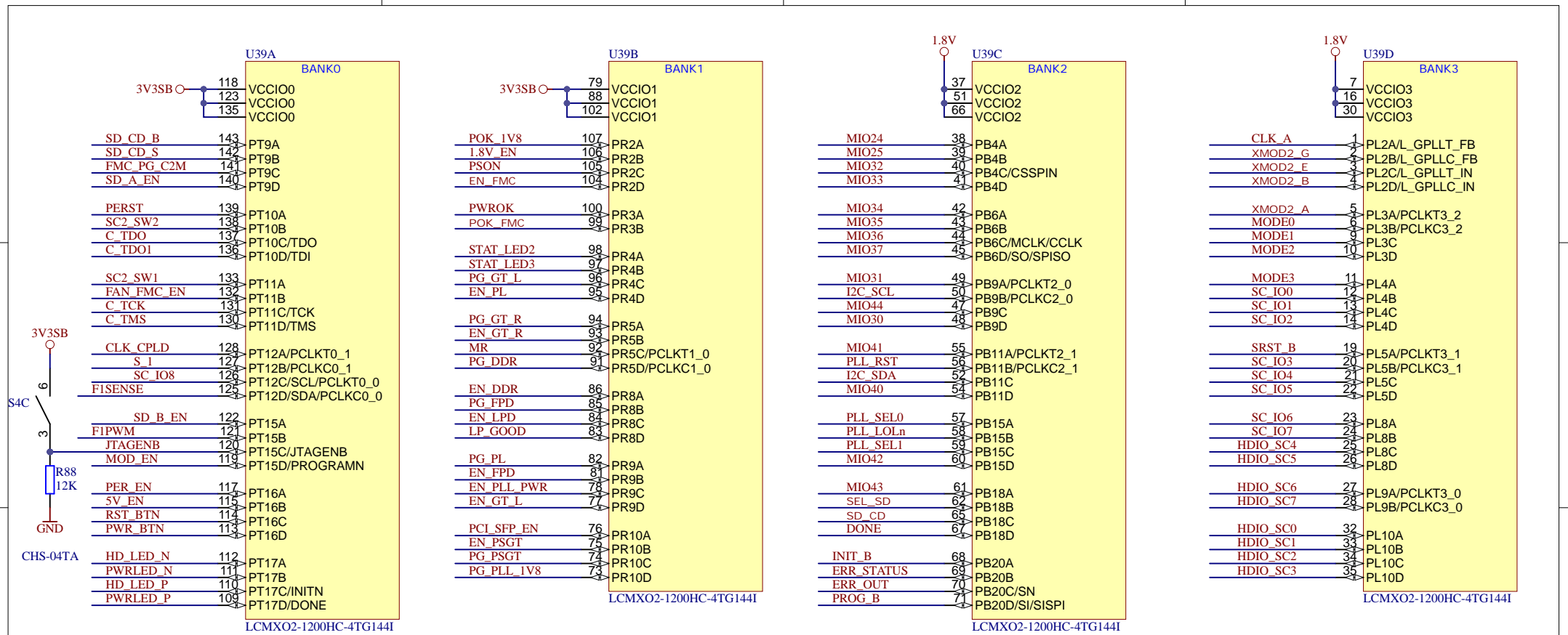
B

C

C

D

D



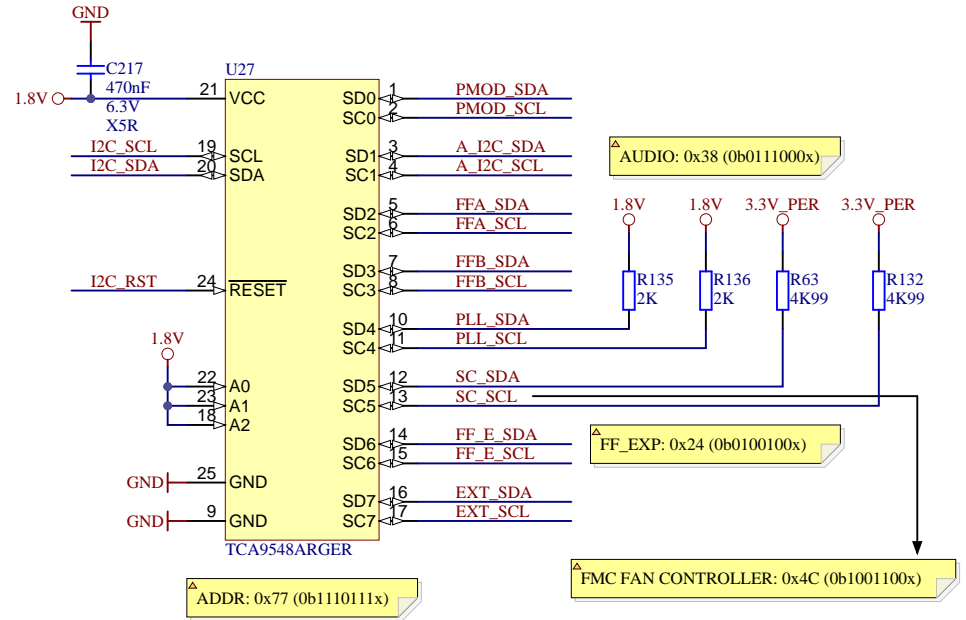
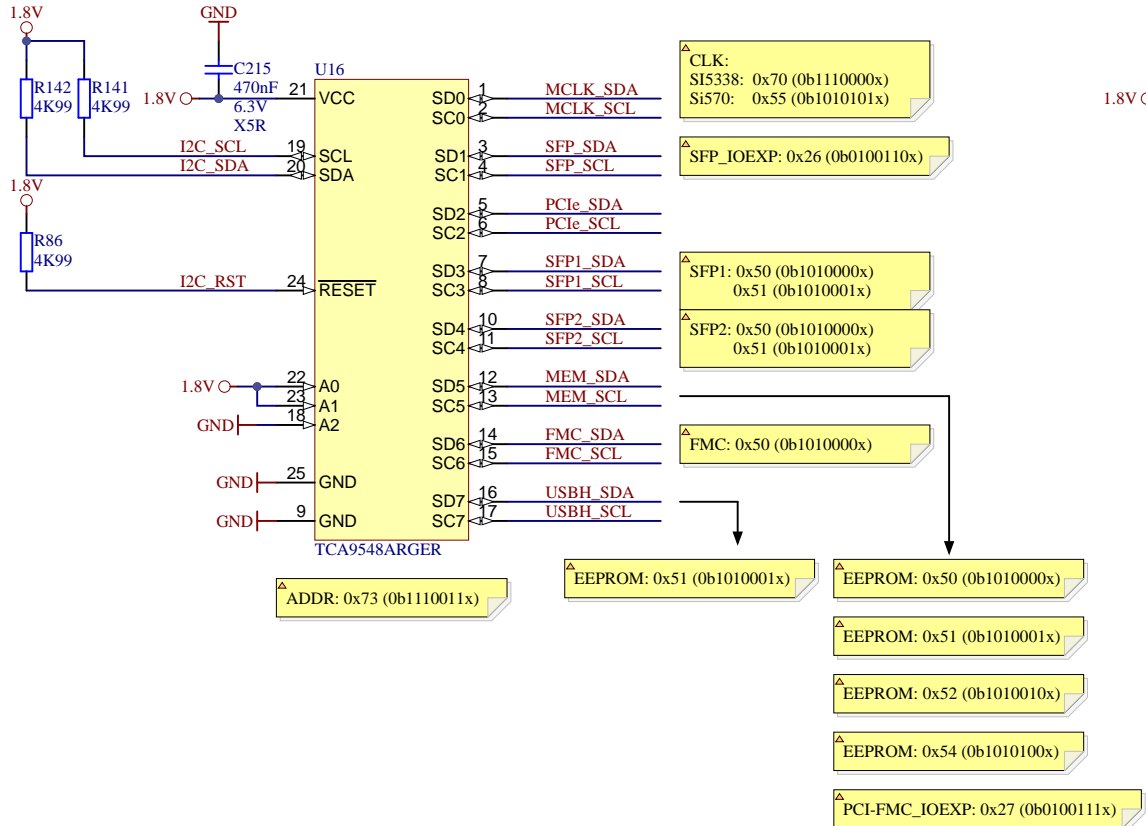
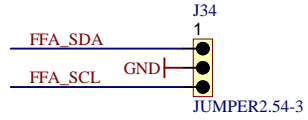
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A4	Number: <b>TEBF0818 Default</b>	Rev. <b>02</b>
Date: <b>2023-01-26</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>29</b> of <b>38</b>
Filename: <b>SC2.schdoc</b>		

1

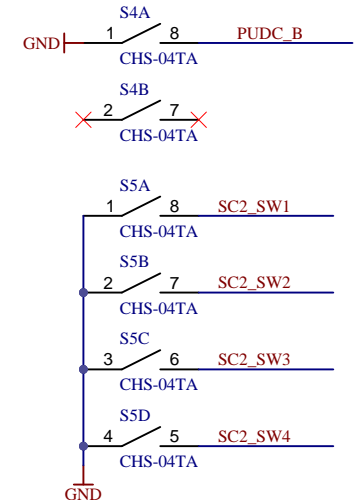
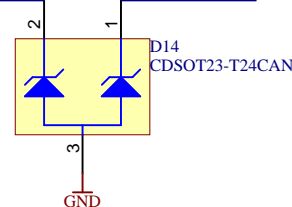
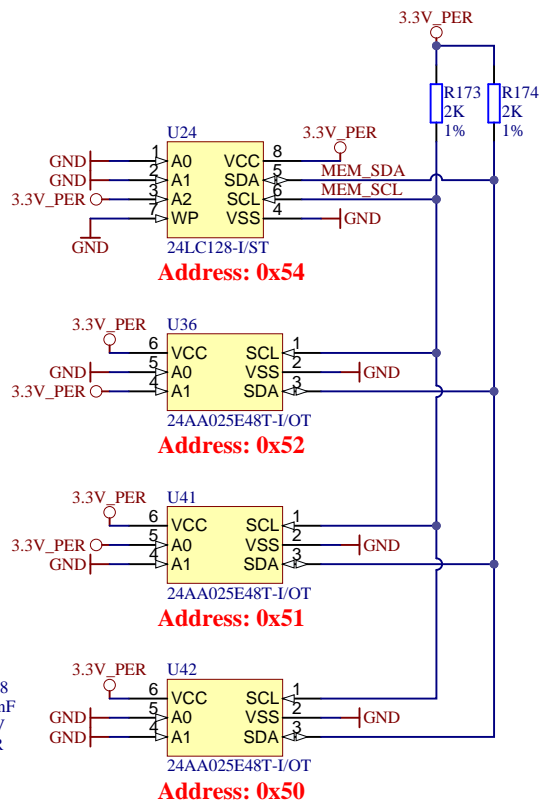
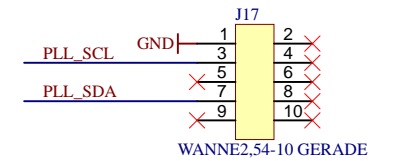
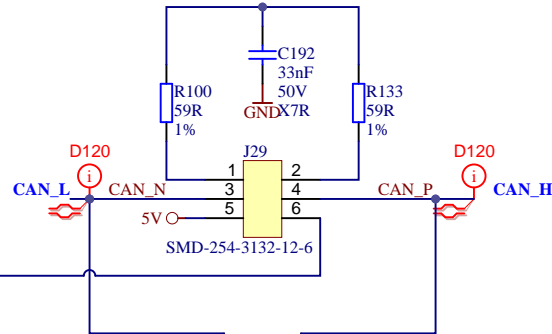
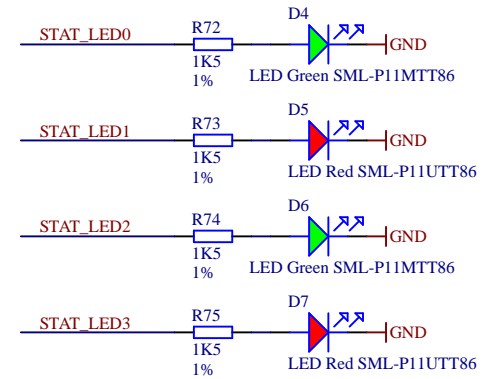
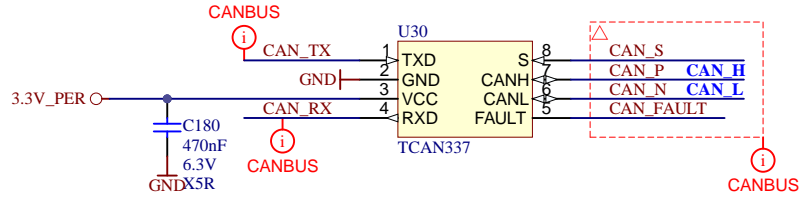
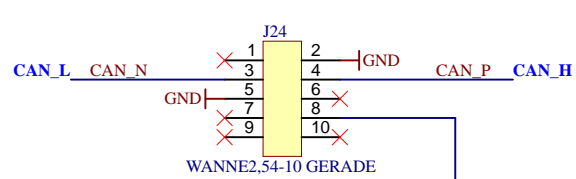
2

3

4

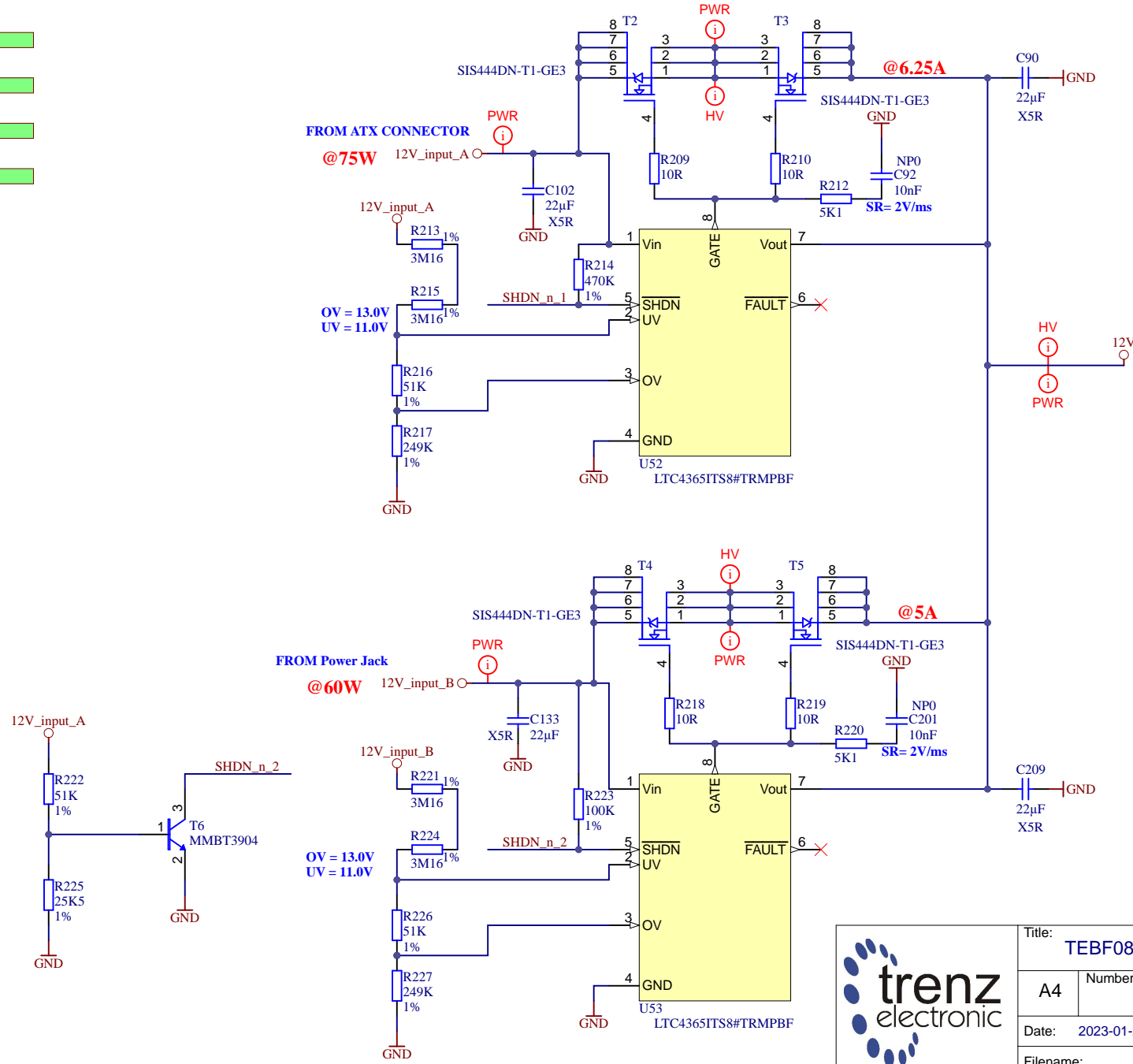


Title: <b>TEBF0818 - I2C System</b>		
A4	Number: <b>TEBF0818 Default</b>	Rev. <b>02</b>
Date: <b>2023-01-26</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>30</b> of <b>38</b>
Filename: <b>I2C_system.schdoc</b>		



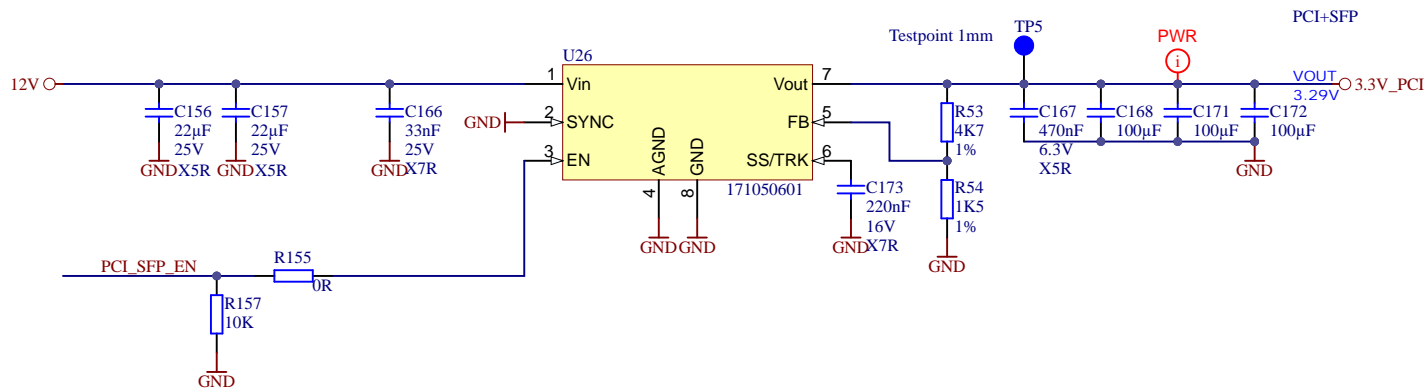
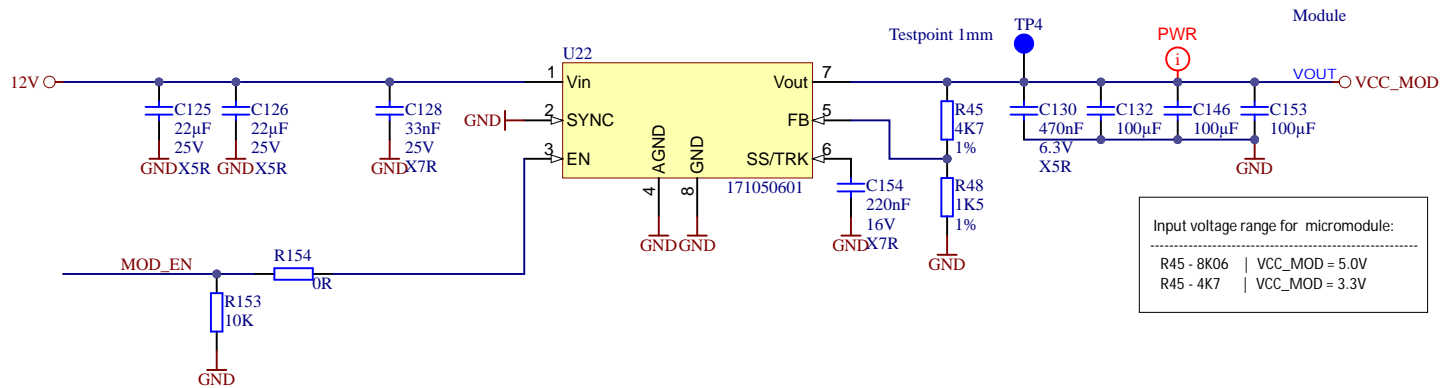
Title: <b>TEBF0818 - MISC</b>		
A4	Number: <b>TEBF0818 Default</b>	Rev. <b>02</b>
Date: <b>2023-01-26</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>31</b> of <b>38</b>
Filename: <b>MISC.schdoc</b>		


- U\_Power1
- Power\_1.schdoc
- U\_Power2
- Power\_2.schdoc
- U\_Power3
- Power\_3.schdoc
- U\_Power4
- Power\_4.schdoc

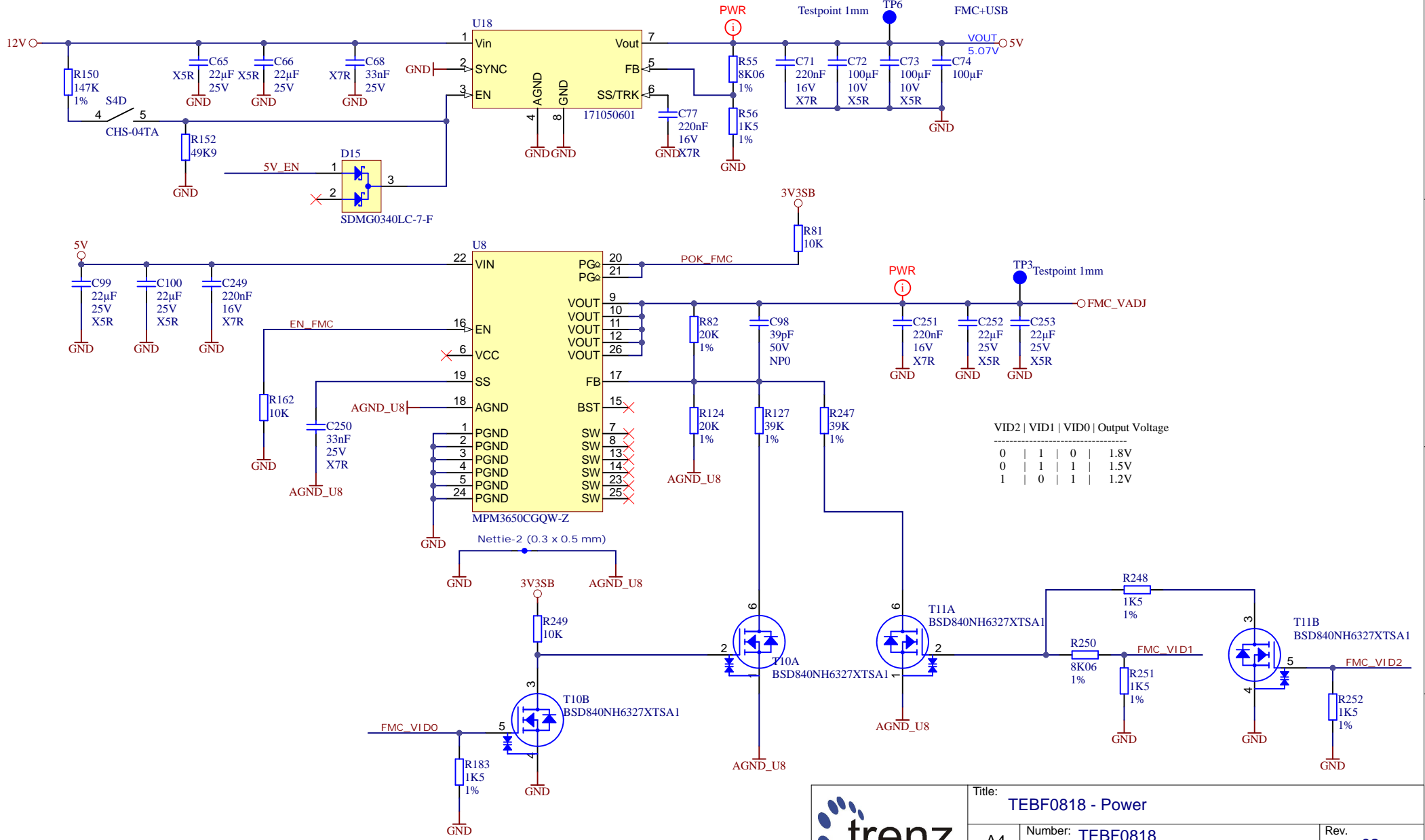


Title: <b>TEBF0818 - POWER</b>		
A4	Number: <b>TEBF0818 Default</b>	Rev. <b>02</b>
Date: 2023-01-26	Copyright: Trenz Electronic GmbH	Page 32 of 38
Filename: <b>Power.SchDoc</b>		

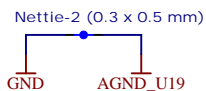
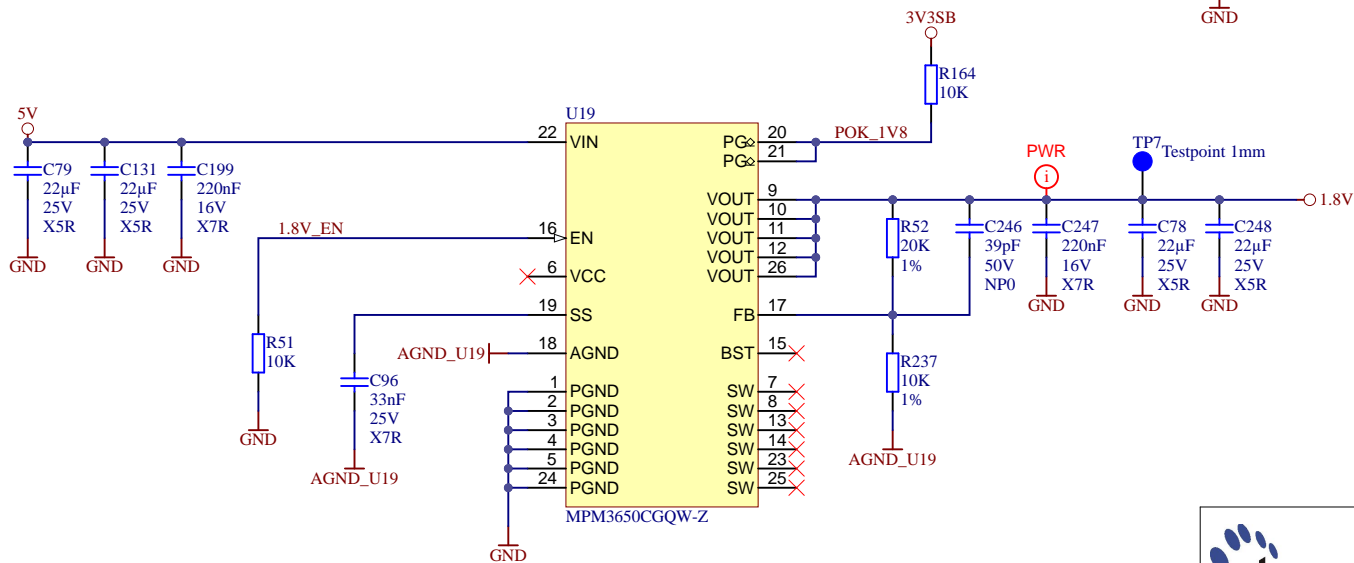
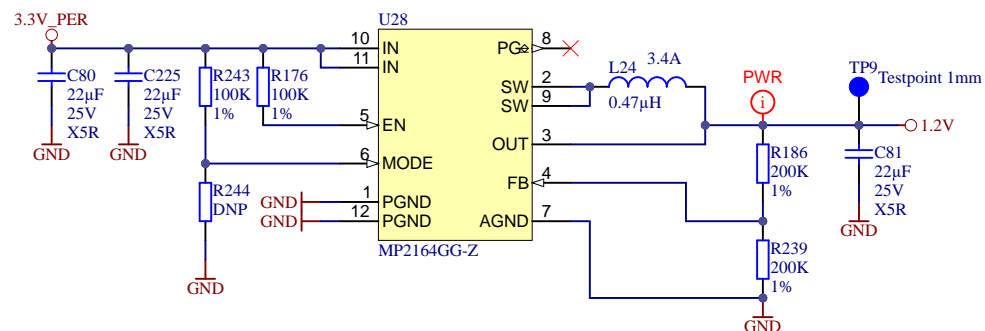
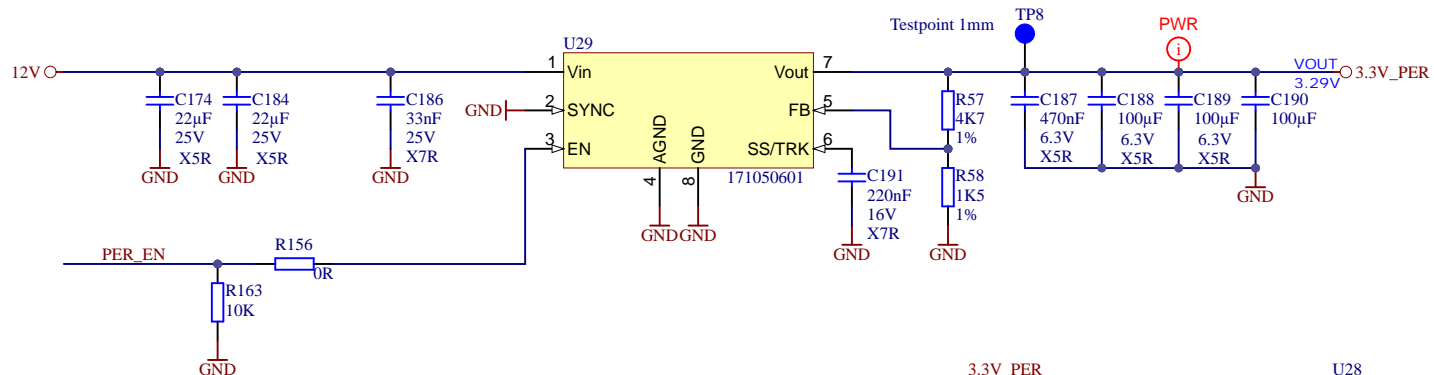




		Title: <b>TEBF0818 - Power</b>	
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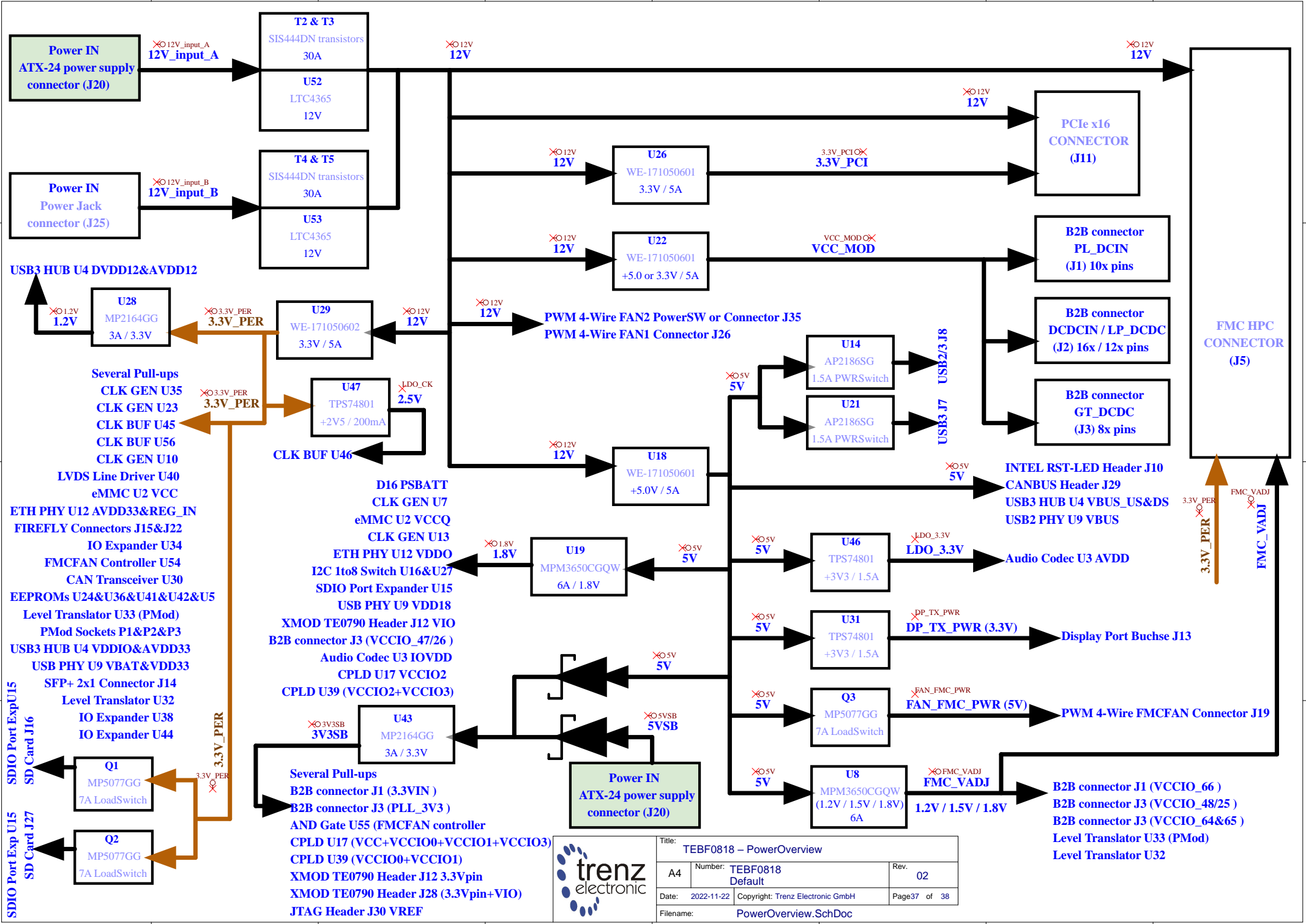


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**USB3 HUB U4 DVDD12&AVDD12**

- Several Pull-ups
- CLK GEN U35
- CLK GEN U23
- CLK BUF U45
- CLK BUF U56
- CLK GEN U10
- LVDS Line Driver U40
- eMMC U2 VCC
- ETH PHY U12 AVDD33&REG\_IN
- FIREFLY Connectors J15&J22
- IO Expander U34
- FMC Fan Controller U54
- CAN Transceiver U30
- EEPROMs U24&U36&U41&U42&U5
- Level Translator U33 (PMod)
- PMod Sockets P1&P2&P3
- USB3 HUB U4 VDDIO&AVDD33
- USB PHY U9 VBAT&VDD33
- SFP+ 2x1 Connector J14
- Level Translator U32
- IO Expander U38
- IO Expander U44

SDIO Port Exp U15  
SD Card J16

- Q1 MP5077GG 7A LoadSwitch
- Q2 MP5077GG 7A LoadSwitch

SDIO Port Exp U15  
SD Card J16

**T2 & T3**  
SIS444DN transistors  
30A

**U2**  
LTC4365  
12V

**T4 & T5**  
SIS444DN transistors  
30A

**U3**  
LTC4365  
12V

**U28**  
MP2164GG  
3A / 3.3V

**U29**  
WE-171050602  
3.3V / 5A

**U7**  
TPS74801  
+2V5 / 200mA

**U47**  
TPS74801  
+2V5 / 200mA

**U43**  
MP2164GG  
3A / 3.3V

- Several Pull-ups
- B2B connector J1 (3.3VIN)
- B2B connector J3 (PLL\_3V3)
- AND Gate U55 (FMC Fan controller)
- CPLD U17 (VCC+VCCIO0+VCCIO1+VCCIO3)
- CPLD U39 (VCCIO0+VCCIO1)
- XMOD TE0790 Header J12 3.3Vpin
- XMOD TE0790 Header J28 (3.3Vpin+VIO)
- JTAG Header J30 VREF



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**PCIe x16 CONNECTOR (J11)**

**B2B connector PL\_DCIN (J1) 10x pins**

**B2B connector DCDCIN / LP\_DCDC (J2) 16x / 12x pins**

**B2B connector GT\_DCDC (J3) 8x pins**

**FMC HPC CONNECTOR (J5)**

**INTEL RST-LED Header J10**

**CANBUS Header J29**

**USB3 HUB U4 VBUS\_US&DS**

**USB2 PHY U9 VBUS**

**Audio Codec U3 AVDD**

**Display Port Buchse J13**

**PWM 4-Wire FMC Fan Connector J19**

3.3V\_PER  
FMC\_VADJ

- B2B connector J1 (VCCIO\_66)
- B2B connector J3 (VCCIO\_48/25)
- B2B connector J3 (VCCIO\_64&65)
- Level Translator U33 (PMod)
- Level Translator U32

A

A

B

B

C

C

D

D

REV	Description	VT
-01	Initial revision	VT
-02	<p>1) Q1, Q2 and Q3 changed to MP5077GG (previous Load Switch is EOL), and their external components added.  2) U2 changed to SDINBDG4-8G-XI2 (previous eMMC is EOL).  3) R14 changed to 2KΩ.  4) J1, J2, J3 and J4 Connectors changed to ADF6-60-03.5-L-4-2-FR.  5) D8 and D10 updated (previous LEDs are EOL).  6) FAN M1 changed to HY45T-05A (previous FAN is EOL).  7) U54 (new) FAN Controller LM96163CISD/NOPB and its external components added.  8) Hardware (screws and nuts) for new FMC FAN updated.  9) J19 Connector changed to 4 Position type 2,54mm pitch.  10) Module orientation mark placed in Silkscreen Top Side.  11) R164 pull-up resistor on PGood of U19 added.  12) R41 changed to 200K and made it fitted in Default and A variants.  13) C93/C94 Capacitors changed to 0R Resistors (now R263/R264).  14) U56 (new) Differential 1:2 LVDS to HCSSL Buffer NB3L202KMN and its peripheral components added.  15) One U56 Buffered PCIe REFCLK Output connected to PS-GT BANK input MGTCCLKREF in modules.  16) C179, C182, C185, C221, C222 and C223 Multipurpose MGT CLKs capacitors changed to 10nF.  17) C69 and C70 changed to 220nF.  18) T12 added as a Temperature Sensor and connected to U54.  19) L25 added.  20) U55 added.  21) C207, C39 and C82 changed to 10µF and 10V Voltage Rating.  22) U8 (FMC_VADJ) changed to MPM3650CGQW-Z (previous Regulator is EOL).  23) U19 (1.8V) changed to MPM3650CGQW-Z (previous Regulator is EOL).  24) U28 (1.2V) changed to MP2164GG (previous Regulator is EOL).  25) U43 (3V3SB) changed to MP2164GG (previous Regulator is EOL).  26) VID circuit for U8 (FMC_VADJ) implemented for 1.2V, 1.5V and 1.8V selection only.  27) Differential Pair Impedance Directive D90 set in PCIe RX and TX signal paths.  28) C121, C122, C123 and C124 FMC MGT CLKs capacitors changed to 10nF.  29) C197, C200, C202 and C203 SATA Capacitors changed to 10nF.  30) C72 and C73 changed to capacitors with a minimum of 10V Voltage Rating.  31) C263 capacitor added.  32) R175 set as not fitted in all variants.  33) R65 changed to 1KΩ.  34) Power overview added.  35) I2C net (SC_SDA, SC_SCL) for FMC FAN Controller connected to U27 and its slave address label added.  36) L8, L9, L11 and L12 changed to 4.7uH.  37) C47, C48, C50, C52, C57, C58, C60 and C62 changed to 100nF.  38) C49, C51, C59 and C61 changed to 22uF.  39) J14 SFP+ connector and its pull-ups resistors, now sourced from 3.3V_PER.  40) Differential Pair Impedance Directive D100 set where applicable.  41) CAN Bus Differential Pair Impedance Directive set to 120Ohms (H and L netnames modified to match).  42) R107 and R108 set as fitted in all variants.  43) C16 and C17 set as not fitted in all variants.  44) J6 pin connections updated 1-to-1 as follows: RX1P/N #NAME? B128_RX0_P/N, RX2P/N #NAME? B128_RX1_P/N, RX3P/N #NAME? B128_RX2_P/N, RX4P/N #NAME? B128_RX3_P/N, TX1P/N #NAME? B128_TX0_P/N, TX2P/N #NAME? B128_TX1_P/N, TX3P/N #NAME? B128_TX2_P/N, TX4P/N #NAME? B128_TX3_P/N.  45) J21 pin connections updated 1-to-1 as follows: FF_L1_TX to FF_L1_RX, FF_L2_TX to FF_L2_RX, FF_L3_TX to FF_L3_RX, FF_L4_TX to FF_L4_RX.  46) Pullups on T7 changed to 5VSB.  47) Serie Rgate and gate pull-down Resistor added to T7 and T8.  48) Shield of all J7 connectors (USB and ETH) tied together to FGND net.  49) Shield of J13 connected to FGND2 net.  50) Cage of J14 connected to FGND3 net.  51) PCB Rules updated.  52) Signals layout updated.  53) LayerStack improved.  54) Polygons updated.  55) UKCA marking added.</p>	GHC, VT



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