

1

2

3

4

A

A

B

B

C

C

D

D

U\_J1  
J1.SchDoc

U\_J2  
J2.SchDoc

U\_J3  
J3.SchDoc

U\_J4  
J4.SchDoc

U\_DDR4-TERM  
DDR4-TERM.SchDoc

U\_B64  
B64.SchDoc

U\_B65  
B65.SchDoc

U\_B66  
B66.SchDoc

U\_B\_GT  
B\_GT.SchDoc

U\_B\_PS\_GT  
B\_PS\_GT.SchDoc

U\_PS\_DDR  
PS\_DDR.SchDoc

U\_B\_MIO  
B\_MIO.SchDoc

U\_B\_HD  
B\_HD.SchDoc

U\_Clock  
Clock.SchDoc

U\_CONFIG  
CONFIG.SchDoc

U\_DDR4-RAM  
DDR4-RAM.SchDoc

U\_DDR4-RAM\_2  
DDR4-RAM\_2.SchDoc

U\_DDR4-RAM\_3  
DDR4-RAM\_3.SchDoc

U\_DDR4-RAM\_4  
DDR4-RAM\_4.SchDoc

U\_DDR4-TERM  
DDR4-TERM.SchDoc

U\_ZU\_POWER  
ZU\_POWER.SchDoc

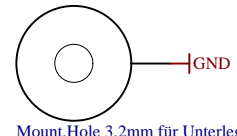
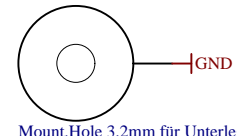
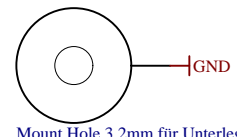
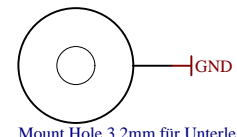
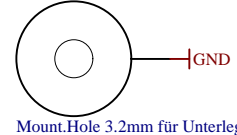
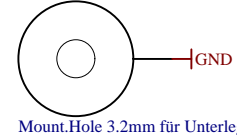
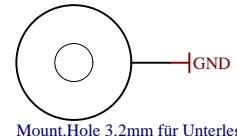
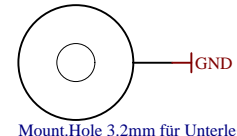
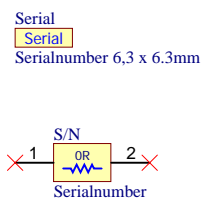
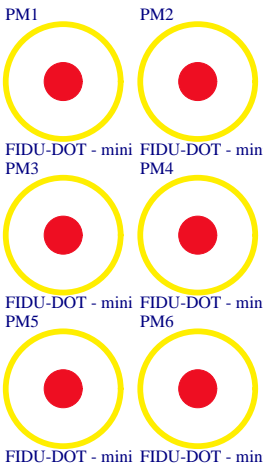
U\_ZU\_PS\_POWER  
ZU\_PS\_POWER.SchDoc

U\_POWER  
POWER.SchDoc

U\_POWER\_2  
POWER\_2.SchDoc

U\_POWER\_4  
POWER\_4.SchDoc

U\_REV\_CH  
Revision\_Changes.SchDoc



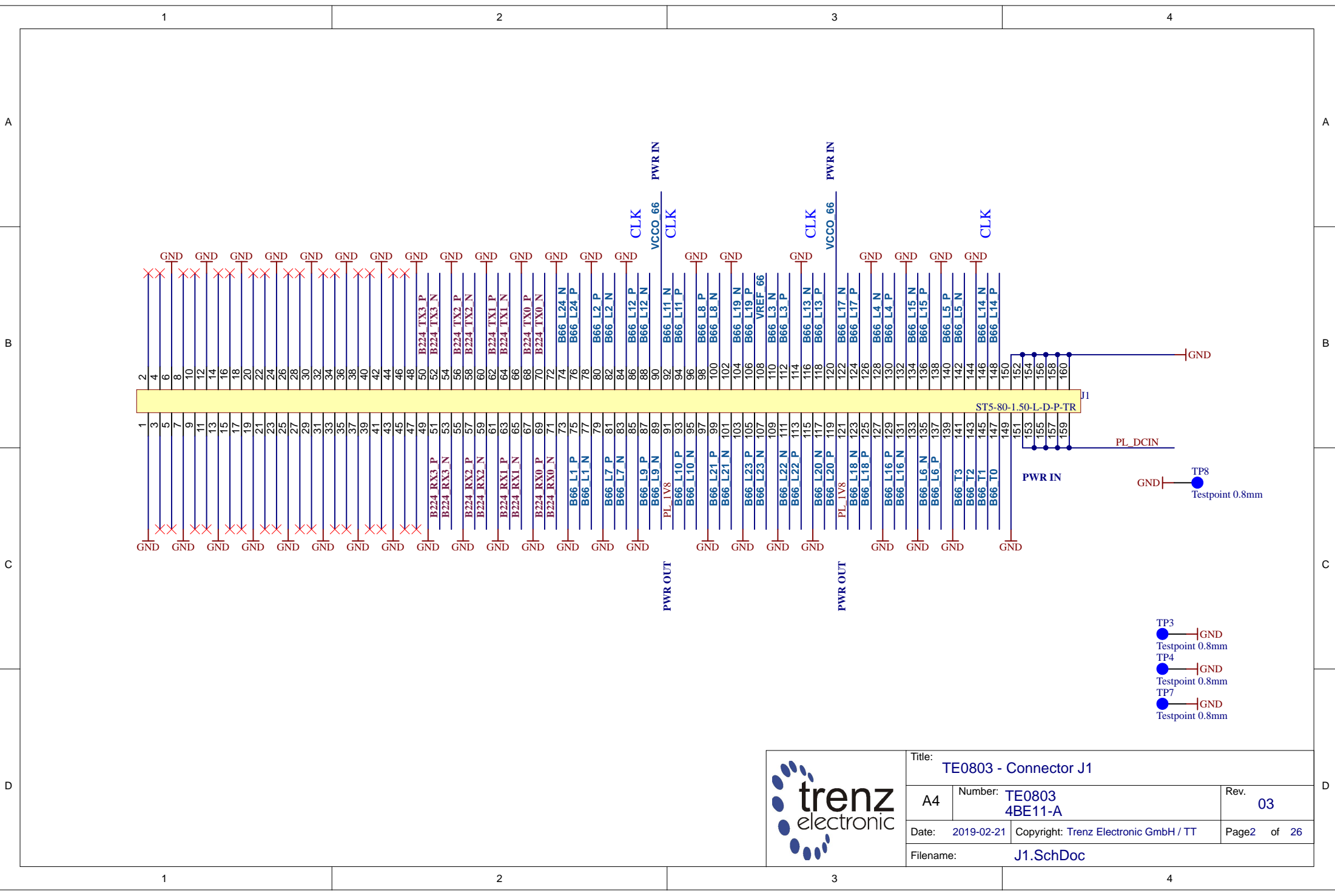
Title: <b>TE0803</b>		
A4	Number: <b>TE0803 4BE11-A</b>	Rev. <b>03</b>
Date: <b>2019-02-21</b>	Copyright: <b>Trenz Electronic GmbH / TT</b>	Page1 of 26
Filename: <b>TE0803.SchDoc</b>		

1

2

3

4



Title: TE0803 - Connector J1		
A4	Number: TE0803 4BE11-A	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page2 of 26
Filename: J1.SchDoc		

1

2

3

4

A

A

B

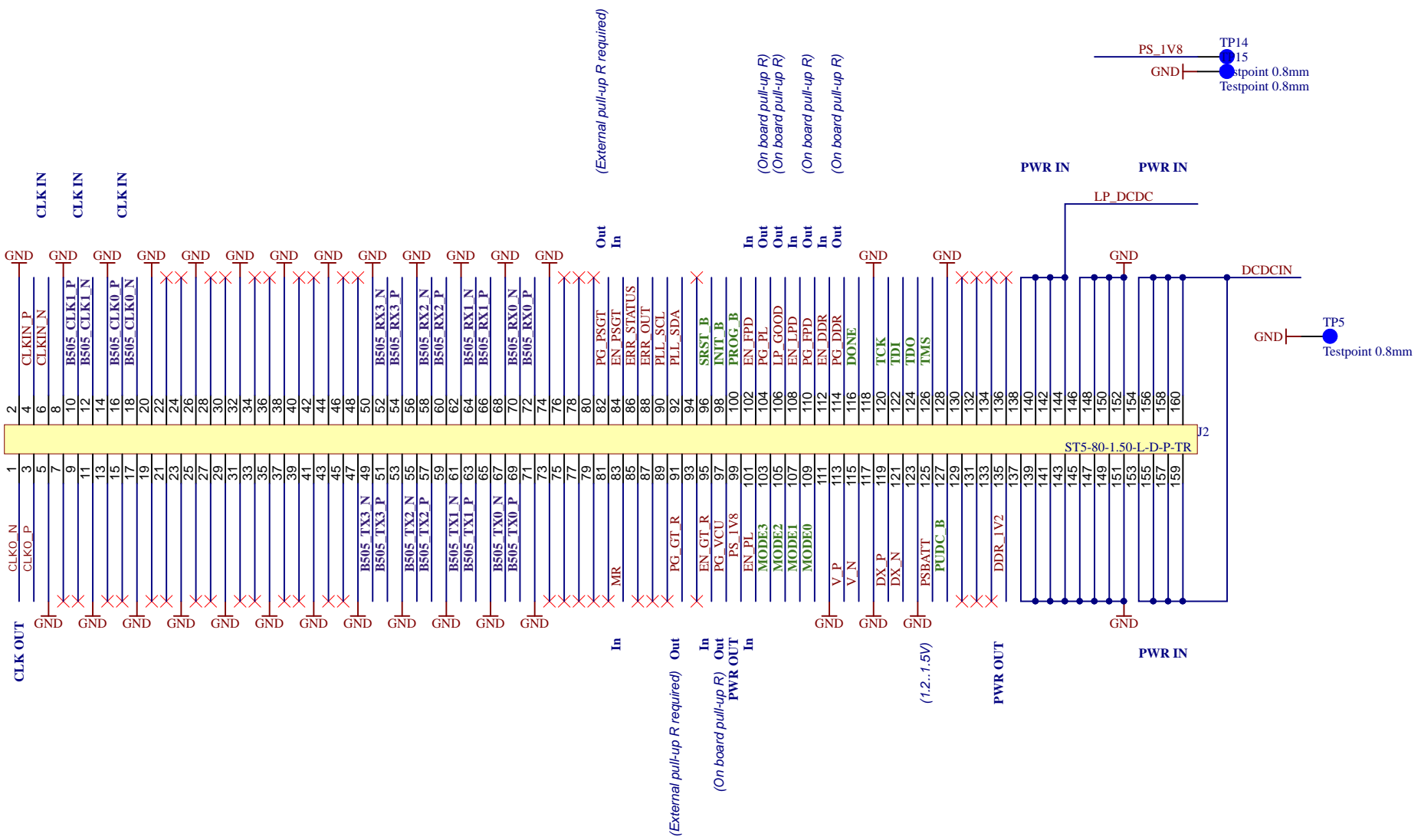
B


C

C

D

D



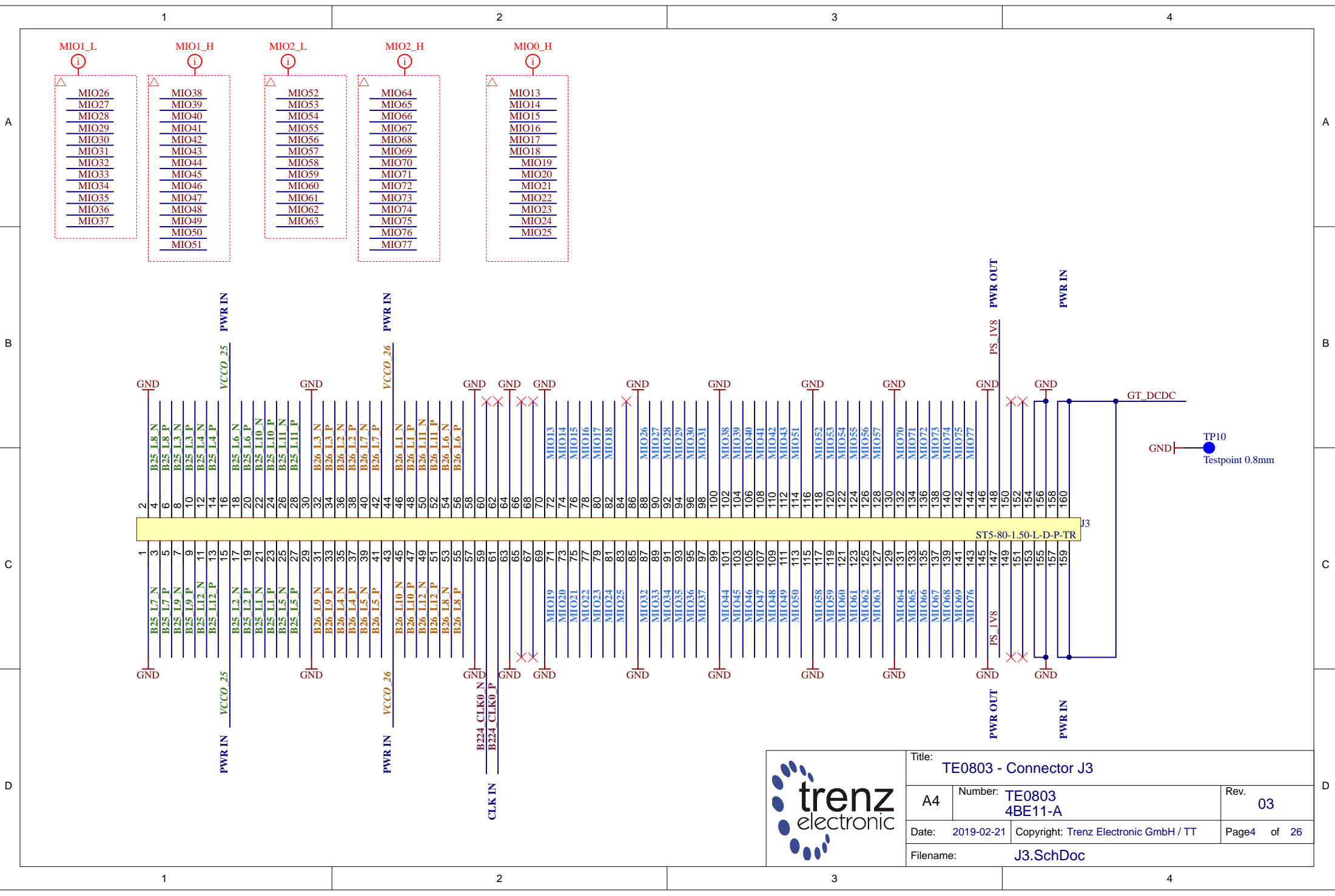
			Title: TE0803 - Connector J2	
			A4	Number: TE0803 4BE11-A
Date: 2019-02-21		Copyright: Trenz Electronic GmbH / TT		Page3 of 26
Filename: J2.SchDoc				


1

2

3

4



			Title: TE0803 - Connector J3	
			A4	Number: TE0803 4BE11-A
Date: 2019-02-21		Copyright: Trenz Electronic GmbH / TT		Page4 of 26
Filename: J3.SchDoc				

1

2

3

4

A

A

B

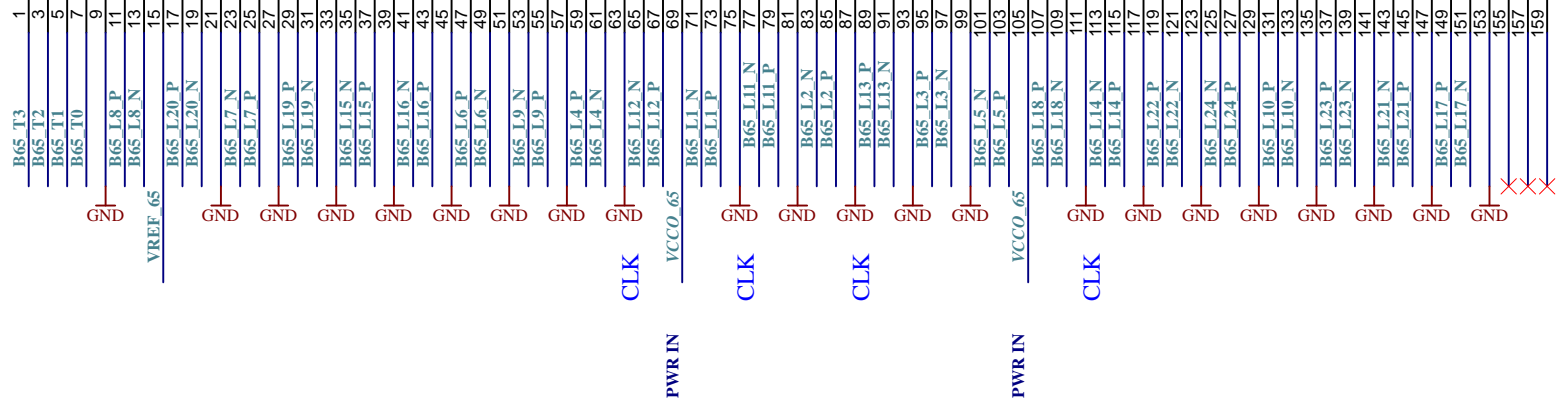

B

C

C

D

D

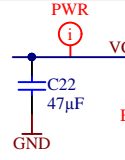
Title: TE0803 - Connector J4		
A4	Number: TE0803 4BE11-A	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page5 of 26
Filename: J4.SchDoc		

1

2

3

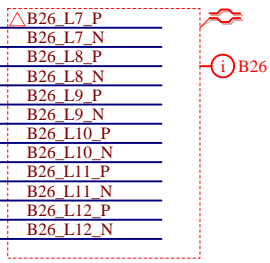
4



**U1C XCZU4EG-1SFVC784E**

**BANK 46 HD (ZU2/3 BANK 26 HD)**

F14	VCCO_46	B15	IO_L1P_AD11P_46	IO_L7P_HDGC_AD5P_46	G13	B26 L7 P
C15	VCCO_46	A15	IO_L1N_AD11N_46	IO_L7N_HDGC_AD5N_46	F13	B26 L7 N
		B14	IO_L2P_AD10P_46	IO_L8P_HDGC_AD4P_46	F15	B26 L8 P
		A14	IO_L2N_AD10N_46	IO_L8N_HDGC_AD4N_46	E15	B26 L8 N
		B13	IO_L3P_AD9P_46	IO_L9P_AD3P_46	G15	B26 L9 P
		A13	IO_L3N_AD9N_46	IO_L9N_AD3N_46	G14	B26 L9 N
		C14	IO_L4P_AD8P_46	IO_L10P_AD2P_46	H14	B26 L10 P
		C13	IO_L4N_AD8N_46	IO_L10N_AD2N_46	H13	B26 L10 N
		D15	IO_L5P_HDGC_AD7P_46	IO_L11P_AD1P_46	K14	B26 L11 P
		D14	IO_L5N_HDGC_AD7N_46	IO_L11N_AD1N_46	J14	B26 L11 N
		E14	IO_L6P_HDGC_AD6P_46	IO_L12P_AD0P_46	L14	B26 L12 P
		E13	IO_L6N_HDGC_AD6N_46	IO_L12N_AD0N_46	L13	B26 L12 N



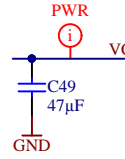
**BANK 43 HD (ZU2/3 BANK 44 HD)**

AC10	VCCO_43	AG10	IO_L1P_AD11P_43	IO_L7P_HDGC_AD5P_43	AD11	<del>AD11</del>
AG12	VCCO_43	AH10	IO_L1N_AD11N_43	IO_L7N_HDGC_AD5N_43	AD10	<del>AD10</del>
		AF11	IO_L2P_AD10P_43	IO_L8P_HDGC_AD4P_43	AB11	<del>AB11</del>
		AG11	IO_L2N_AD10N_43	IO_L8N_HDGC_AD4N_43	AC11	<del>AC11</del>
		AH12	IO_L3P_AD9P_43	IO_L9P_AD3P_43	AA11	<del>AA11</del>
		AH11	IO_L3N_AD9N_43	IO_L9N_AD3N_43	AA10	<del>AA10</del>
		AE10	IO_L4P_AD8P_43	IO_L10P_AD2P_43	W10	<del>W10</del>
		AF10	IO_L4N_AD8N_43	IO_L10N_AD2N_43	Y10	<del>Y10</del>
		AE12	IO_L5P_HDGC_AD7P_43	IO_L11P_AD1P_43	Y9	<del>Y9</del>
		AF12	IO_L5N_HDGC_AD7N_43	IO_L11N_AD1N_43	AA8	<del>AA8</del>
		AC13	IO_L6P_HDGC_AD6P_43	IO_L12P_AD0P_43	AB10	<del>AB10</del>
		AD12	IO_L6N_HDGC_AD6N_43	IO_L12N_AD0N_43	AB9	<del>AB9</del>

**U1B**

**BANK 44 HD (ZU2/3 BANK 24 HD)**

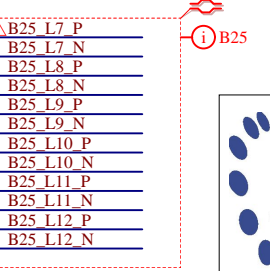
AA14	VCCO_44	AD13	IO_L1P_AD15P_44	IO_L7P_HDGC_44	AA13	<del>AA13</del>
	VCCO_44	AE15	IO_L1N_AD15N_44	IO_L7N_HDGC_44	AB13	<del>AB13</del>
		AG14	IO_L2P_AD14P_44	IO_L8P_HDGC_44	AB15	<del>AB15</del>
		AH11	IO_L2N_AD14N_44	IO_L8N_HDGC_44	AB14	<del>AB14</del>
		AG13	IO_L3P_AD13P_44	IO_L9P_AD11P_44	W14	<del>W14</del>
		AH13	IO_L3N_AD13N_44	IO_L9N_AD11N_44	W13	<del>W13</del>
		AE13	IO_L4P_AD12P_44	IO_L10P_AD10P_44	Y14	<del>Y14</del>
		AF13	IO_L4N_AD12N_44	IO_L10N_AD10N_44	Y13	<del>Y13</del>
		AD15	IO_L5P_HDGC_44	IO_L11P_AD9P_44	W12	<del>W12</del>
		AD14	IO_L5N_HDGC_44	IO_L11N_AD9N_44	W11	<del>W11</del>
		AC14	IO_L6P_HDGC_44	IO_L12P_AD8P_44	Y12	<del>Y12</del>
		AC13	IO_L6N_HDGC_44	IO_L12N_AD8N_44	AA12	<del>AA12</del>



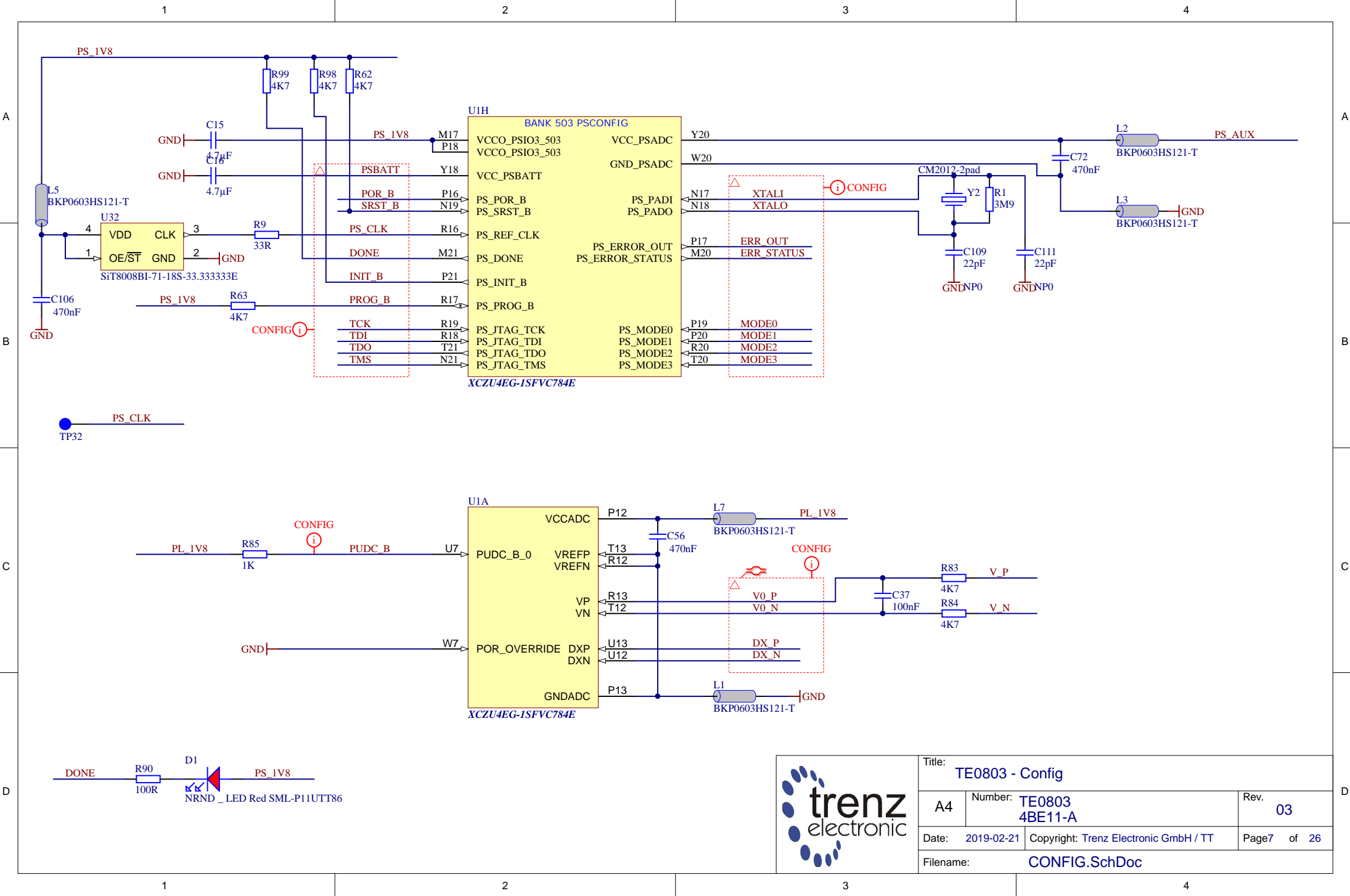
**XCZU4EG-1SFVC784E**

**BANK 45 HD (ZU2/3 BANK 25 HD)**

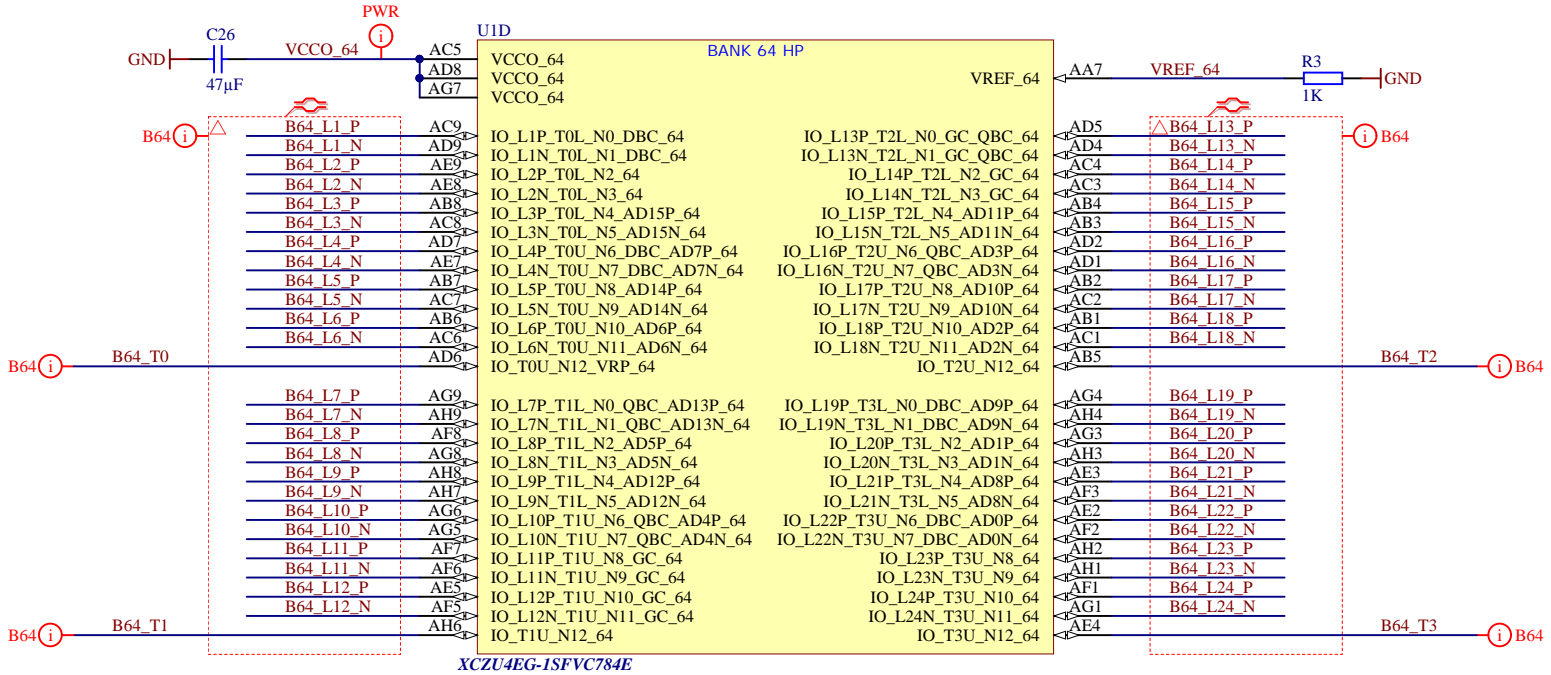
B12	VCCO_45	J11	IO_L1P_AD15P_45	IO_L7P_HDGC_45	E10	B25 L7 P
E11	VCCO_45	J10	IO_L1N_AD15N_45	IO_L7N_HDGC_45	D10	B25 L7 N
		K13	IO_L2P_AD14P_45	IO_L8P_HDGC_45	E12	B25 L8 P
		K12	IO_L2N_AD14N_45	IO_L8N_HDGC_45	D11	B25 L8 N
		H11	IO_L3P_AD13P_45	IO_L9P_AD11P_45	C11	B25 L9 P
		G10	IO_L3N_AD13N_45	IO_L9N_AD11N_45	B10	B25 L9 N
		J12	IO_L4P_AD12P_45	IO_L10P_AD10P_45	B11	B25 L10 P
		H12	IO_L4N_AD12N_45	IO_L10N_AD10N_45	A10	B25 L10 N
		G11	IO_L5P_HDGC_45	IO_L11P_AD9P_45	A12	B25 L11 P
		F11	IO_L5N_HDGC_45	IO_L11N_AD9N_45	A11	B25 L11 N
		F12	IO_L6P_HDGC_45	IO_L12P_AD8P_45	D12	B25 L12 P
		F11	IO_L6N_HDGC_45	IO_L12N_AD8N_45	C12	B25 L12 N



Title: TE0803 - HD Banks		
A4	Number: TE0803 4BE11-A	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page6 of 26
Filename: B_HD.SchDoc		

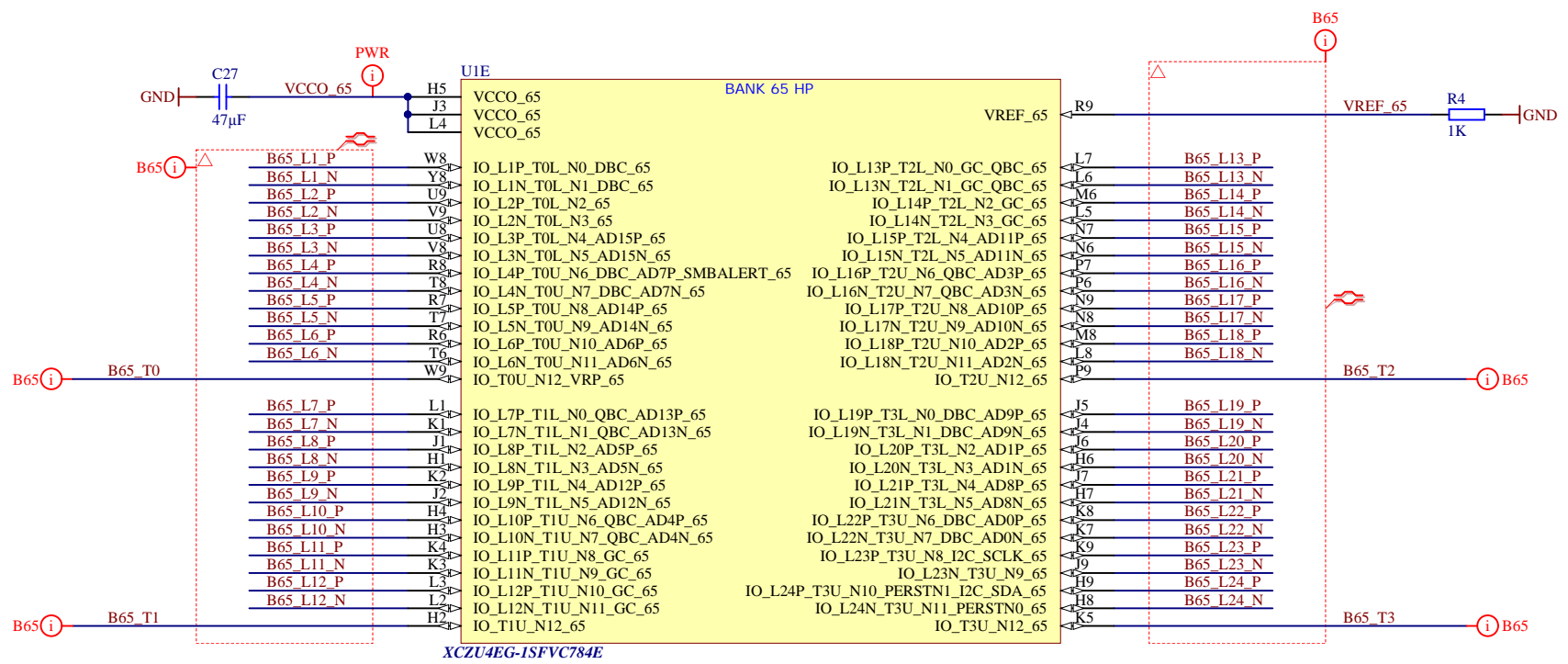


Title: TE0803 - Config		
A4	Number: TE0803 4BE11-A	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page 7 of 26
Filename: CONFIG.SchDoc		

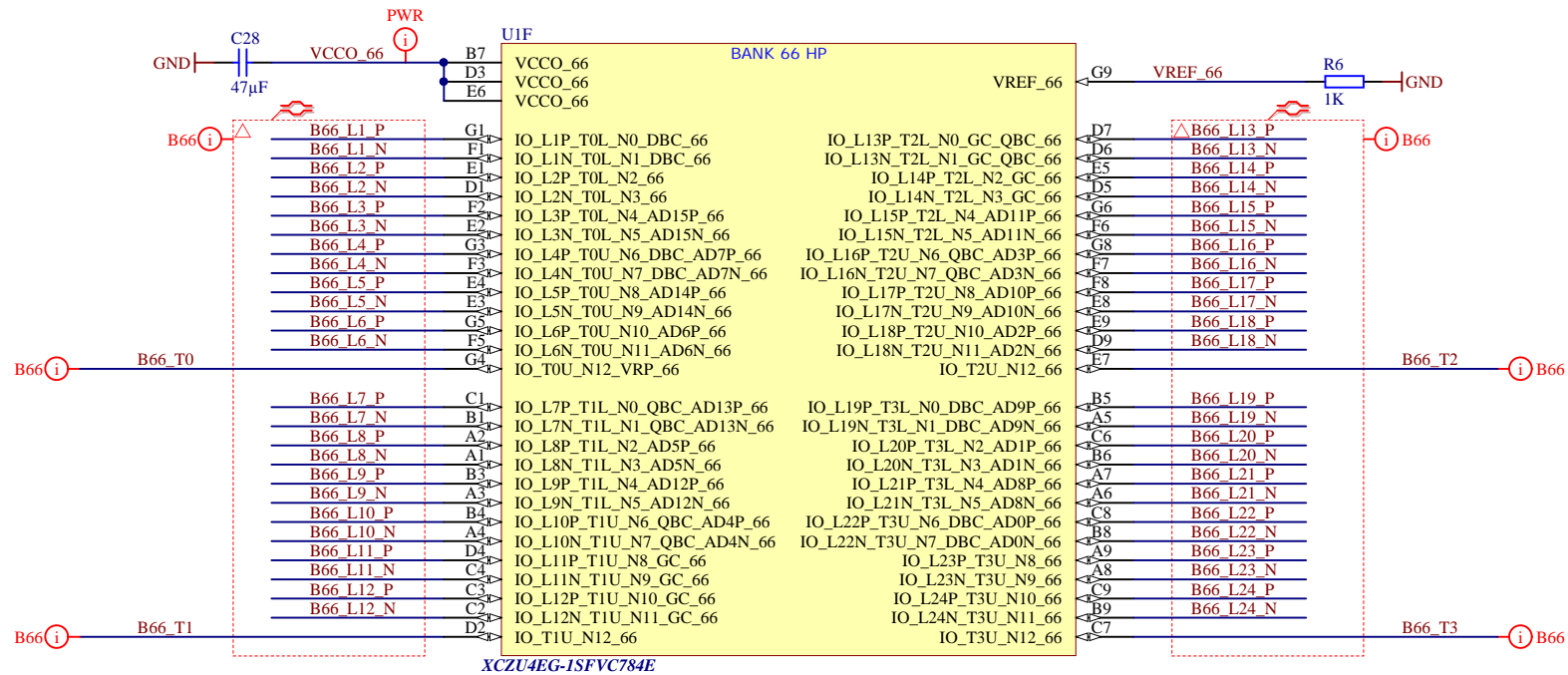


Title: <b>TE0803 - B64</b>		
A4	Number: <b>TE0803 4BE11-A</b>	Rev. <b>03</b>
Date: <b>2019-02-21</b>	Copyright: <b>Trenz Electronic GmbH / TT</b>	Page <b>8</b> of <b>26</b>
Filename: <b>B64.SchDoc</b>		

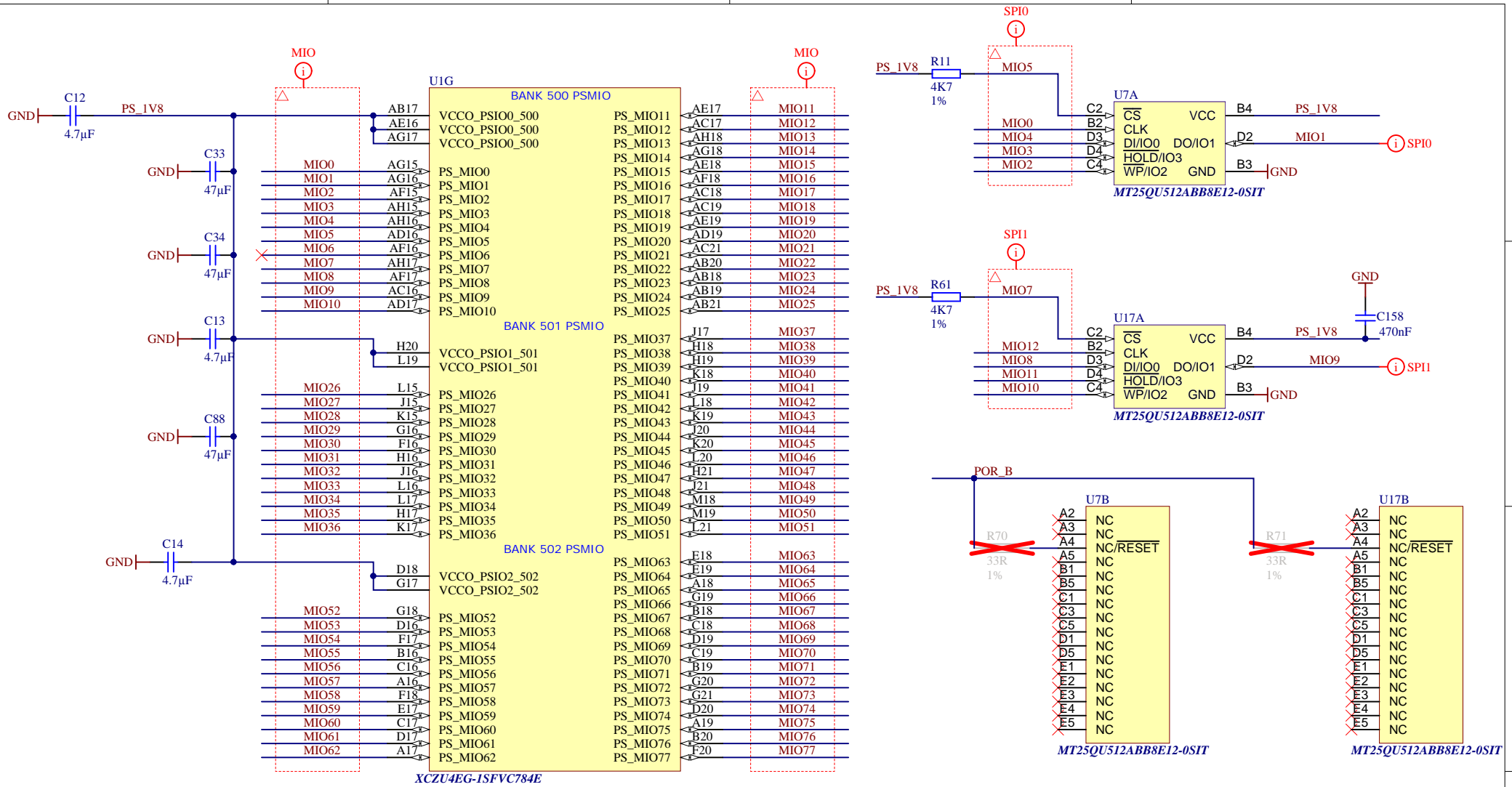





Title: TE0803 - B65		
A4	Number: TE0803 4BE11-A	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page9 of 26
Filename: B65.SchDoc		



Title: <b>TE0803 - B66</b>		
A4	Number: <b>TE0803 4BE11-A</b>	Rev. <b>03</b>
Date: <b>2019-02-21</b>	Copyright: <b>Trenz Electronic GmbH / TT</b>	Page <b>10</b> of <b>26</b>
Filename: <b>B66.SchDoc</b>		



			Title: TE0803 - MIO Banks	
			A4	Number: TE0803 4BE11-A
Date: 2019-02-21		Copyright: Trenz Electronic GmbH / TT		Page 11 of 26
Filename: B_MIO.SchDoc				

A

B

C

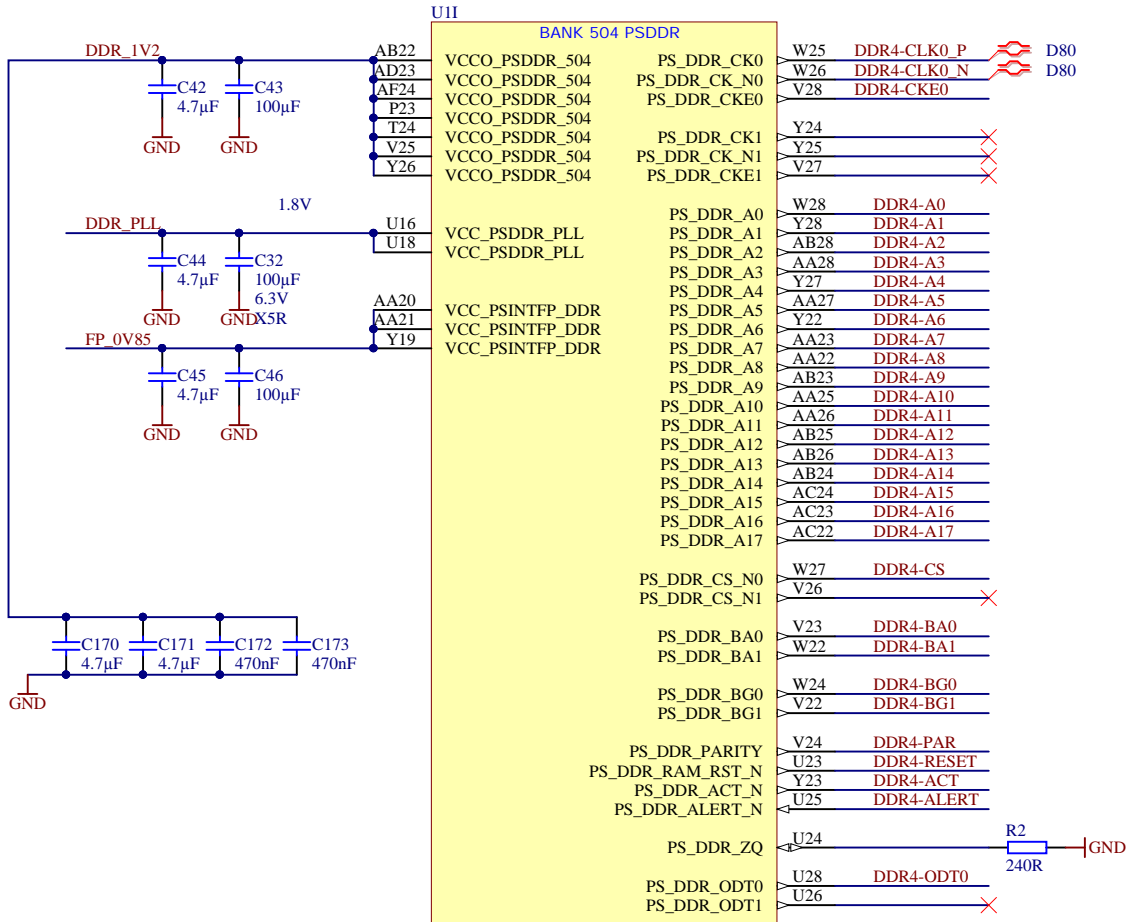
D

A

B

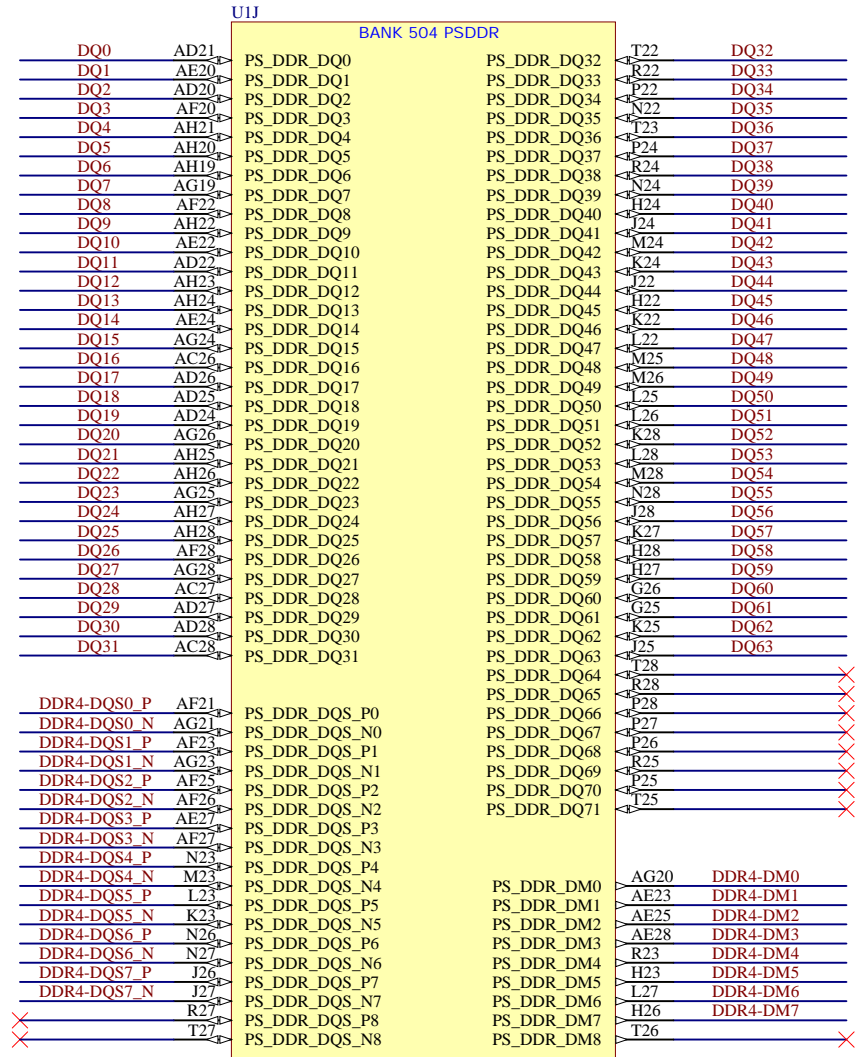
C

D



U11		BANK 504 PSDDR	
VCCO_PSDDR_504	PS_DDR_CLK0	W25	DDR4-CLK0 P
VCCO_PSDDR_504	PS_DDR_CLK_N0	W26	DDR4-CLK0 N
VCCO_PSDDR_504	PS_DDR_CKE0	V28	DDR4-CKE0
VCCO_PSDDR_504	PS_DDR_CK1	Y24	
VCCO_PSDDR_504	PS_DDR_CK_N1	Y25	
VCCO_PSDDR_504	PS_DDR_CKE1	V27	
VCC_PSDDR_PLL	PS_DDR_A0	W28	DDR4-A0
VCC_PSDDR_PLL	PS_DDR_A1	Y28	DDR4-A1
VCC_PSDDR_PLL	PS_DDR_A2	AB28	DDR4-A2
VCC_PSDDR_PLL	PS_DDR_A3	AA28	DDR4-A3
VCC_PSDDR_PLL	PS_DDR_A4	Y27	DDR4-A4
VCC_PSDDR_PLL	PS_DDR_A5	AA27	DDR4-A5
VCC_PSINTFP_DDR	PS_DDR_A6	Y22	DDR4-A6
VCC_PSINTFP_DDR	PS_DDR_A7	AA23	DDR4-A7
VCC_PSINTFP_DDR	PS_DDR_A8	AA22	DDR4-A8
VCC_PSINTFP_DDR	PS_DDR_A9	AB23	DDR4-A9
VCC_PSINTFP_DDR	PS_DDR_A10	AA25	DDR4-A10
VCC_PSINTFP_DDR	PS_DDR_A11	AA26	DDR4-A11
VCC_PSINTFP_DDR	PS_DDR_A12	AB25	DDR4-A12
VCC_PSINTFP_DDR	PS_DDR_A13	AB26	DDR4-A13
VCC_PSINTFP_DDR	PS_DDR_A14	AB24	DDR4-A14
VCC_PSINTFP_DDR	PS_DDR_A15	AC24	DDR4-A15
VCC_PSINTFP_DDR	PS_DDR_A16	AC23	DDR4-A16
VCC_PSINTFP_DDR	PS_DDR_A17	AC22	DDR4-A17
PS_DDR_CS_N0	PS_DDR_CS_N1	W27	DDR4-CS
PS_DDR_CS_N0	PS_DDR_CS_N1	V26	
PS_DDR_BA0	PS_DDR_BA1	V23	DDR4-BA0
PS_DDR_BA0	PS_DDR_BA1	W22	DDR4-BA1
PS_DDR_BG0	PS_DDR_BG1	W24	DDR4-BG0
PS_DDR_BG0	PS_DDR_BG1	V22	DDR4-BG1
PS_DDR_PARITY	PS_DDR_RESET	Y24	DDR4-PAR
PS_DDR_RAM_RST_N	PS_DDR_ACT_N	U23	DDR4-RESET
PS_DDR_RAM_RST_N	PS_DDR_ACT_N	Y23	DDR4-ACT
PS_DDR_ALERT_N	PS_DDR_ALERT_N	U25	DDR4-ALERT
PS_DDR_ALERT_N	PS_DDR_ALERT_N	U25	DDR4-ALERT
PS_DDR_ZQ	PS_DDR_ZQ	U24	
PS_DDR_ODT0	PS_DDR_ODT1	U28	DDR4-ODT0
PS_DDR_ODT0	PS_DDR_ODT1	U26	

*XCZU4EG-1SFVC784E*



*XCZU4EG-1SFVC784E*



Title: <b>TE0803 - PS_DDR</b>		
A4	Number: <b>TE0803 4BE11-A</b>	Rev. <b>03</b>
Date: <b>2019-02-21</b>	Copyright: <b>Trenz Electronic GmbH / TT</b>	Page <b>12</b> of <b>26</b>
Filename: <b>PS_DDR.SchDoc</b>		

1

2

3

4

A

A

B

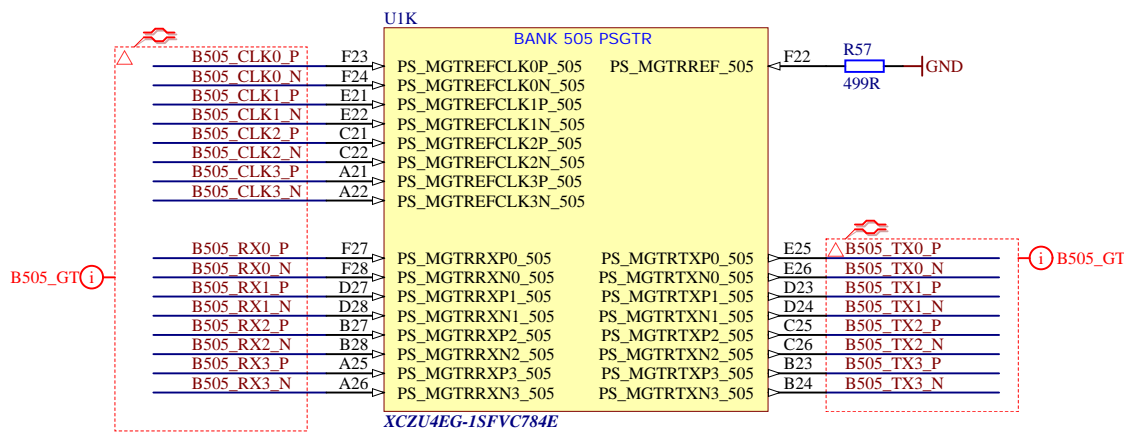
B

C

C

D

D



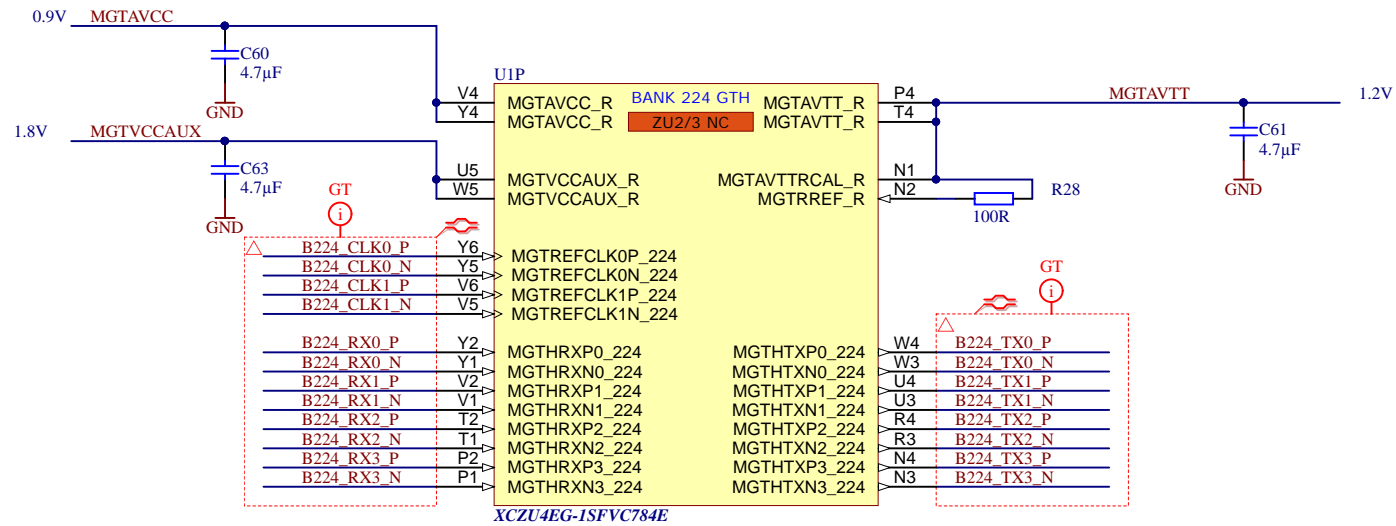
	Title: <b>TE0803 - PS_GT</b>		
	A4	Number: <b>TE0803 4BE11-A</b>	Rev. <b>03</b>
	Date: <b>2019-02-21</b>	Copyright: <b>Trenz Electronic GmbH / TT</b>	Page <b>13</b> of <b>26</b>
	Filename: <b>B_PS_GT.SchDoc</b>		


1

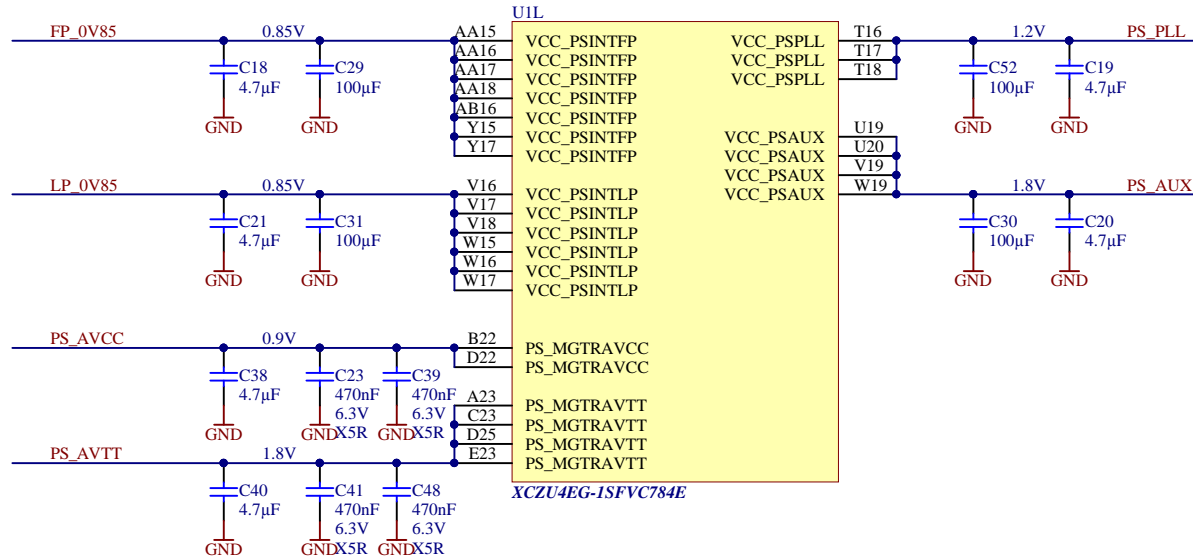
2


3

4



		Title: TE0803 - B224GTH	
		A4	Number: TE0803 4BE11-A
Date: 2019-02-21		Copyright: Trenz Electronic GmbH / TT	
Filename: B_GT.SchDoc		Page 14 of 26	



	Title: TE0803 - ZU_PS_POWER	
	A4	Number: TE0803 4BE11-A
	Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT
	Filename: ZU_PS_POWER.SchDoc	
	Rev. 03	Page 15 of 26

1

2

3

4

A

A

B

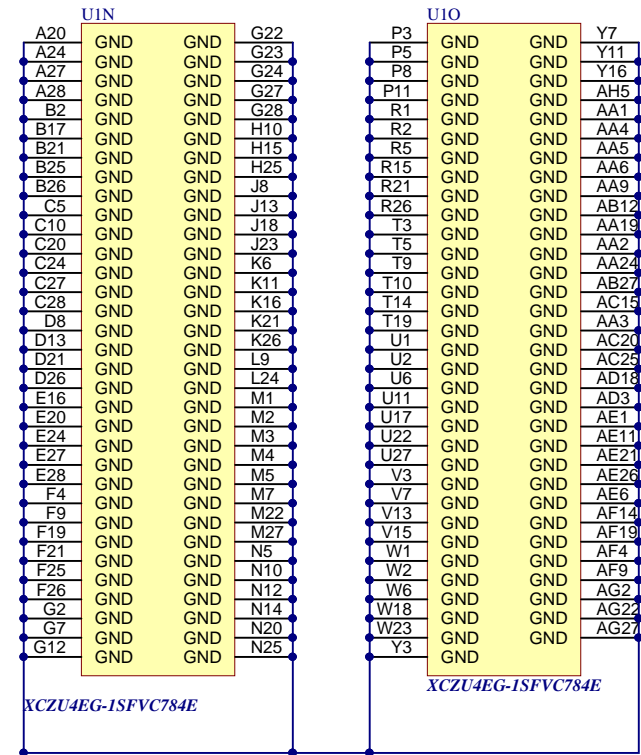
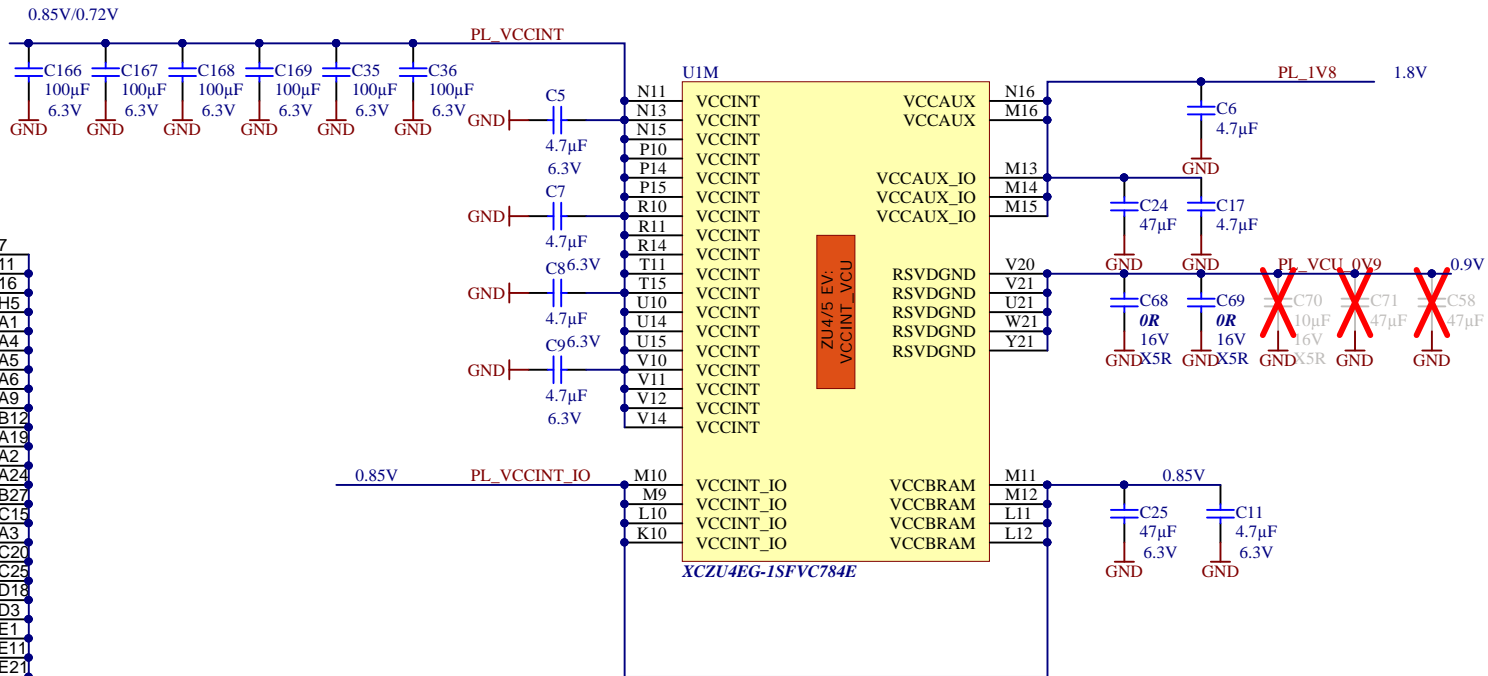
B


C

C

D

D



		Title: TE0803 - ZU_POWER	
		A4	Number: TE0803 4BE11-A
Date: 2019-02-21		Copyright: Trenz Electronic GmbH / TT	
Filename: ZU_POWER.SchDoc		Page 16 of 26	

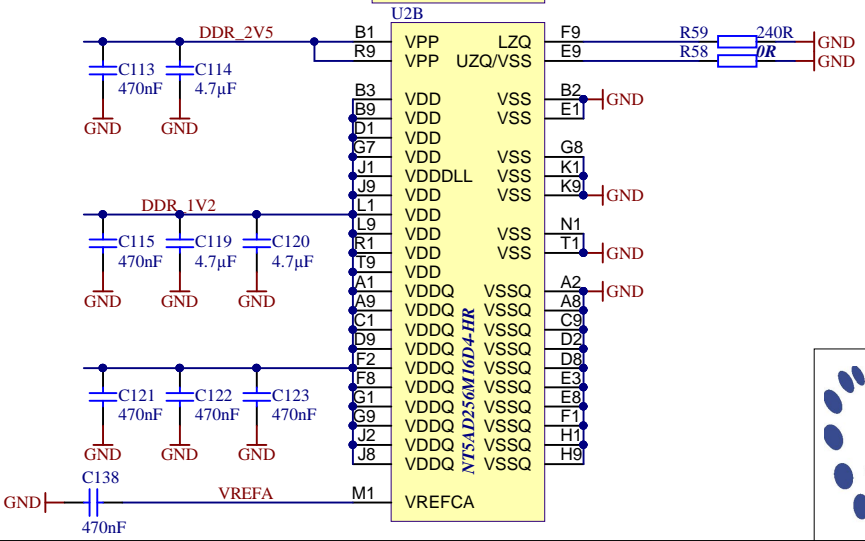
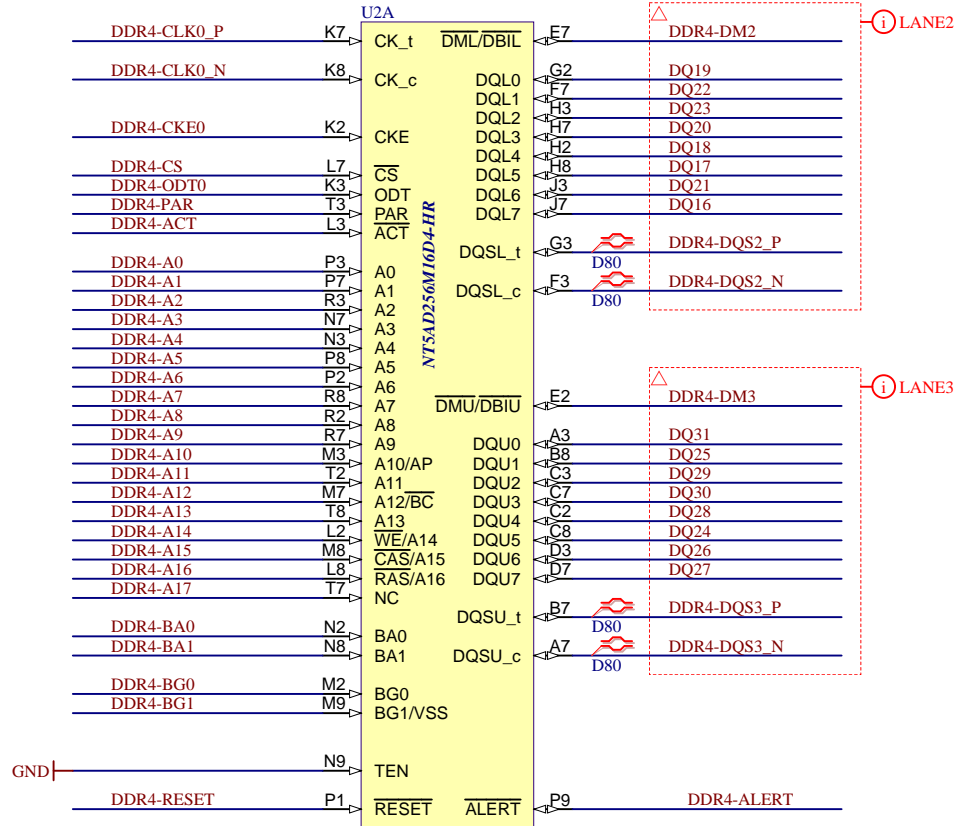
1

2

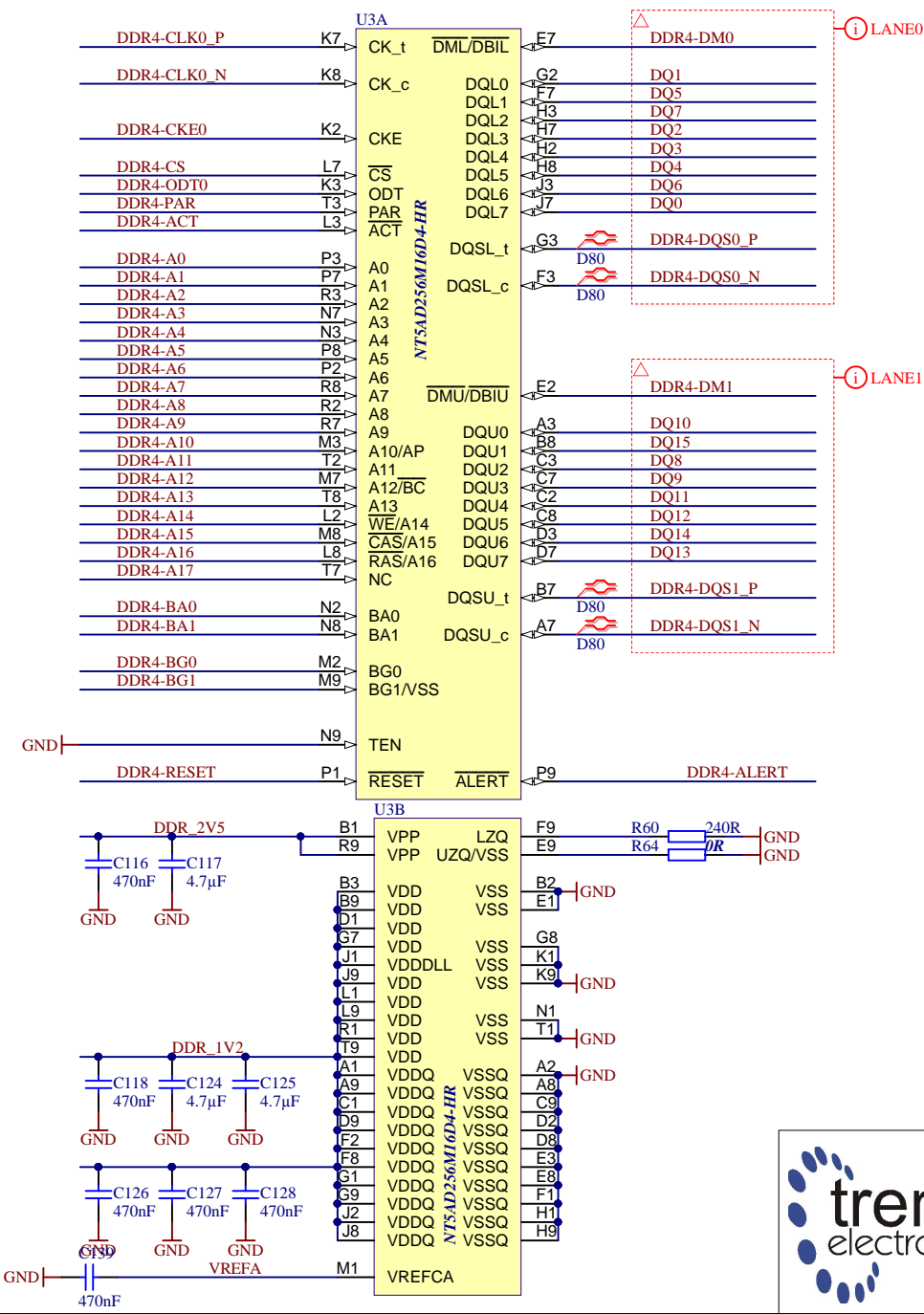
3

4

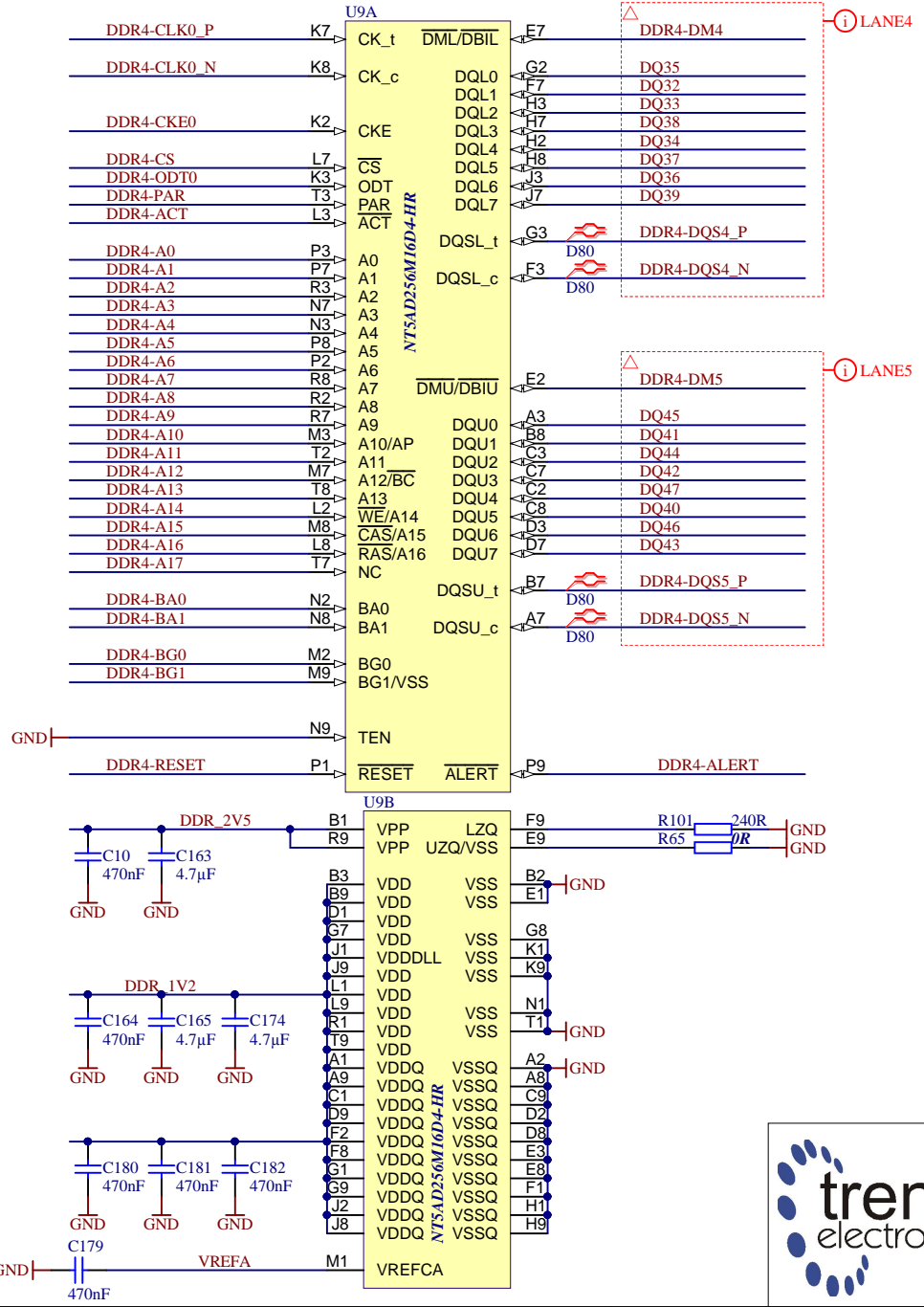




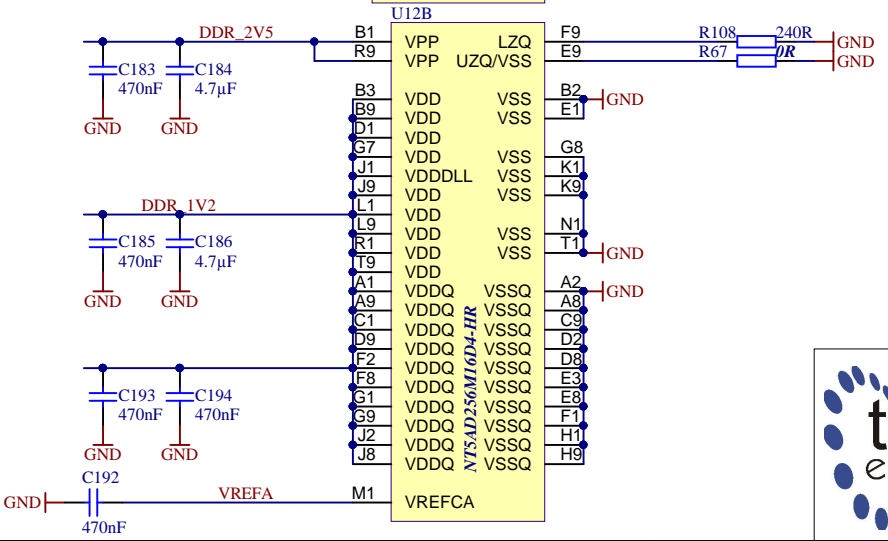
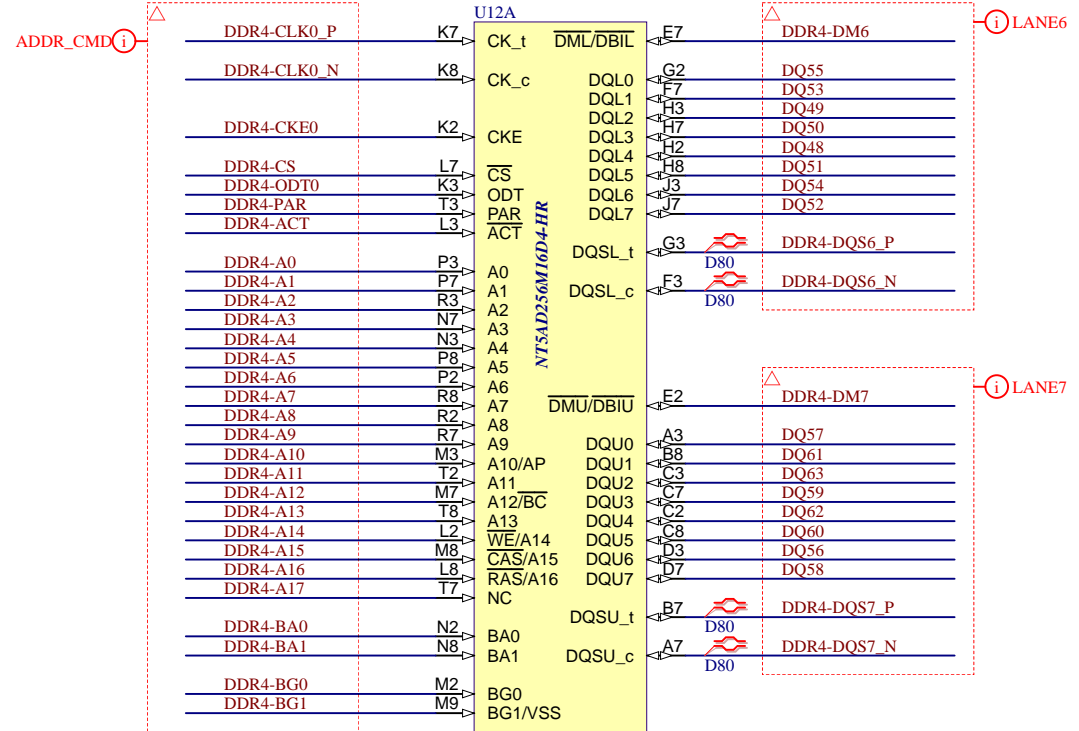

Title: TE0803 - DDR4_1_RAM		
A4	Number: TE0803 4BE11-A	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page 17 of 26
Filename: DDR4-RAM.SchDoc		



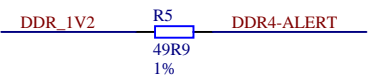
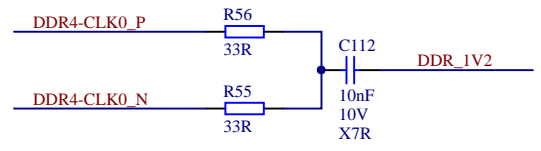
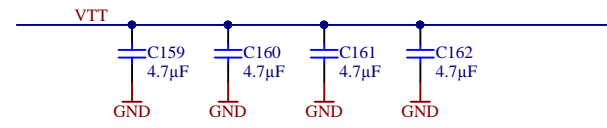
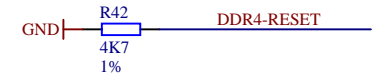
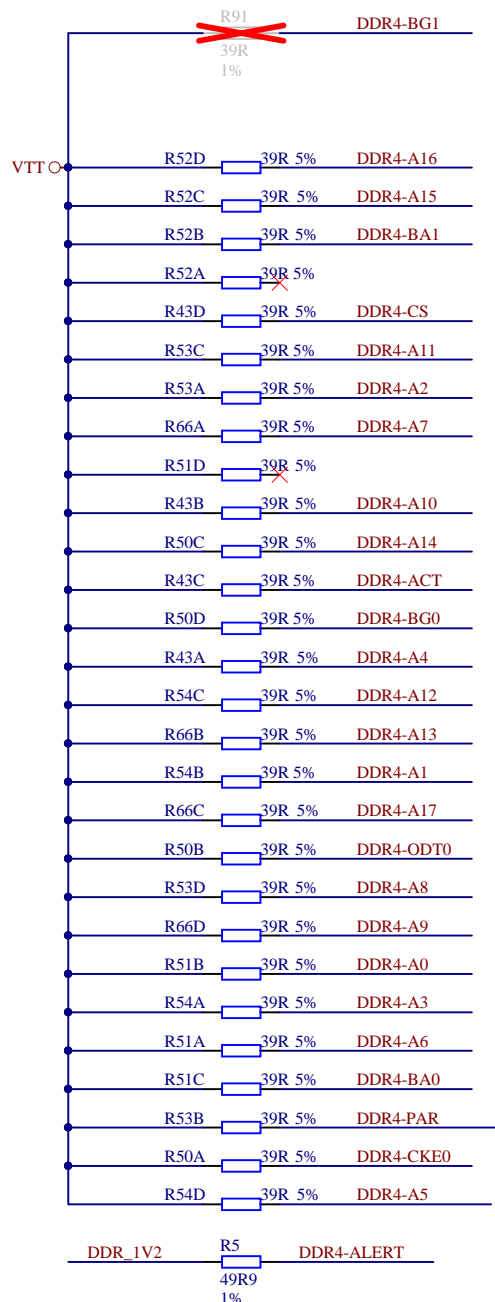
Title: TE0803 - DDR4_2_RAM		
A4	Number: TE0803 4BE11-A	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page18 of 26
Filename: DDR4-RAM_2.SchDoc		



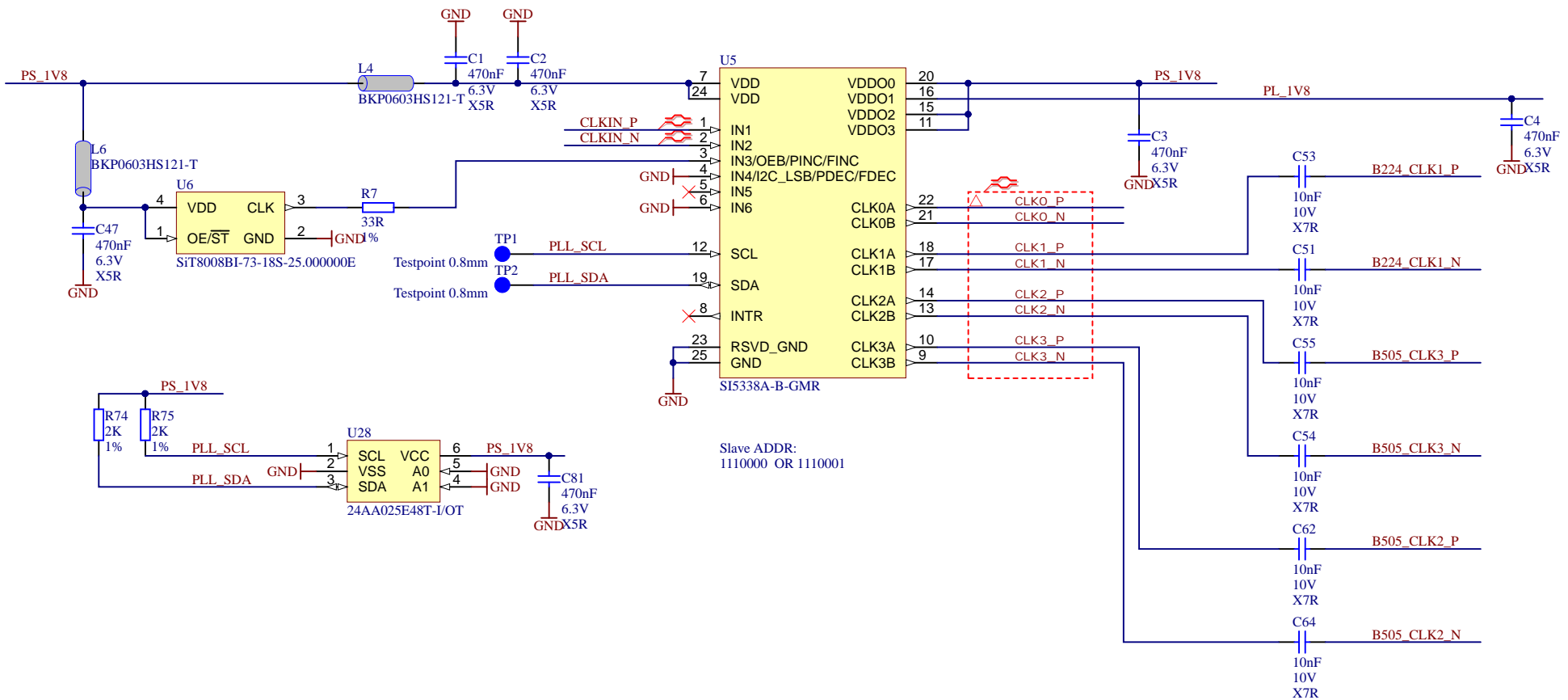
Title: TE0803 - DDR4_3_RAM		
A4	Number: TE0803 4BE11-A	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page 19 of 26
Filename: DDR4-RAM_3.SchDoc		





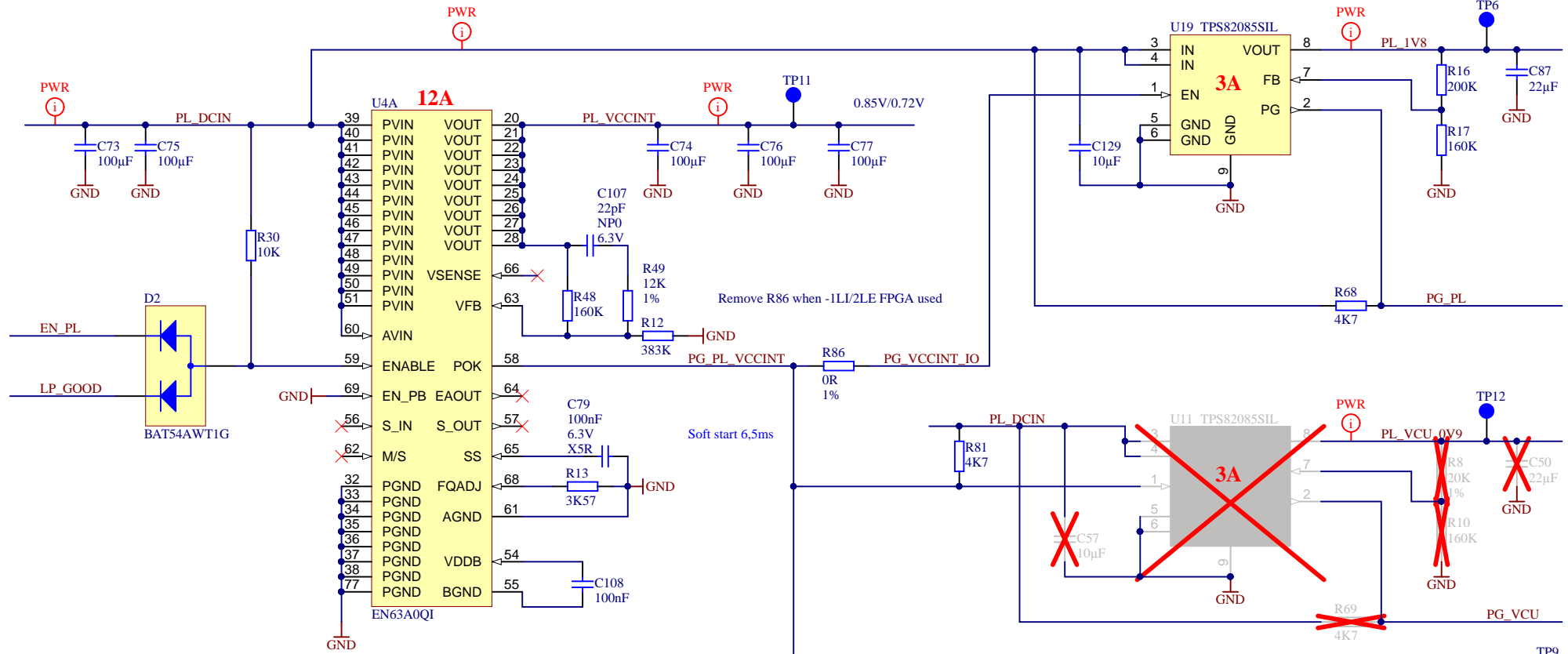
Title: TE0803 - DDR4_4_RAM		
A4	Number: TE0803 4BE11-A	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page20 of 26
Filename: DDR4-RAM_4.SchDoc		



Title: TE0803 - DDR4_TERM		
A4	Number: TE0803 4BE11-A	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page 21 of 26
Filename: DDR4-TERM.SchDoc		



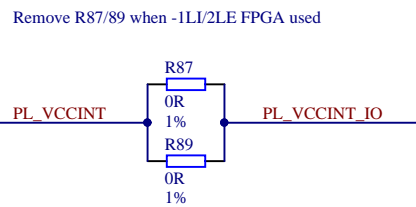
		Title: TE0803 - CLOCK	
		A4	Number: TE0803 4BE11-A
Date: 2019-02-21		Copyright: Trenz Electronic GmbH / TT	
Filename: Clock.SchDoc		Page 22 of 26	



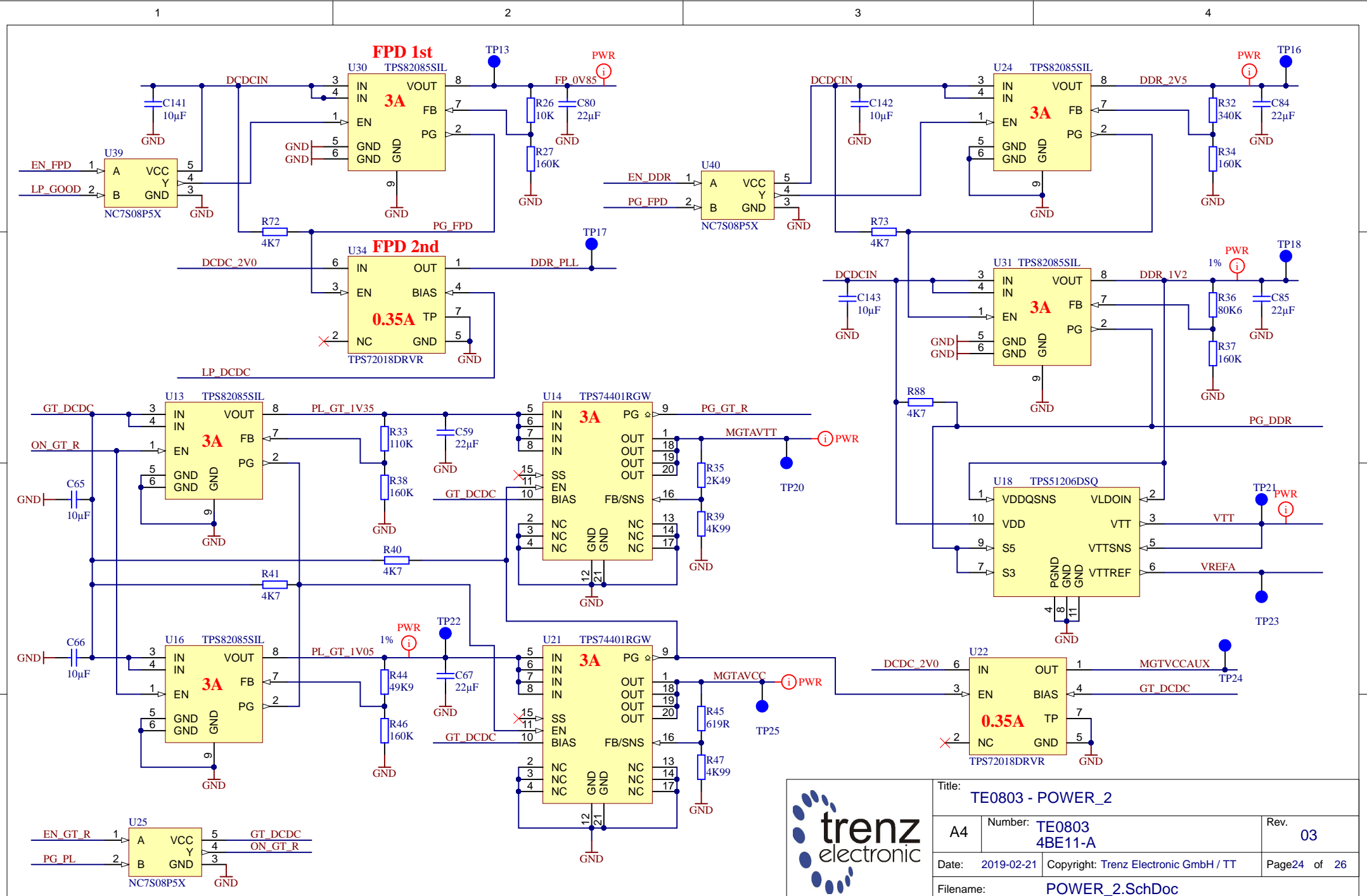
U4B

1	NC	NC	17
2	NC	NC	18
3	NC	NC	19
4	NC	NC	29
5	NC	NC	30
6	NC	NC(SW)	31
7	NC	NC(SW)	52
8	NC	NC	53
9	NC	NC	67
10	NC	NC	70
11	NC	NC(SW)	71
12	NC	NC(SW)	72
13	NC	NC	73
14	NC	NC	74
15	NC	NC	75
16	NC	NC	76

EN63A0QI

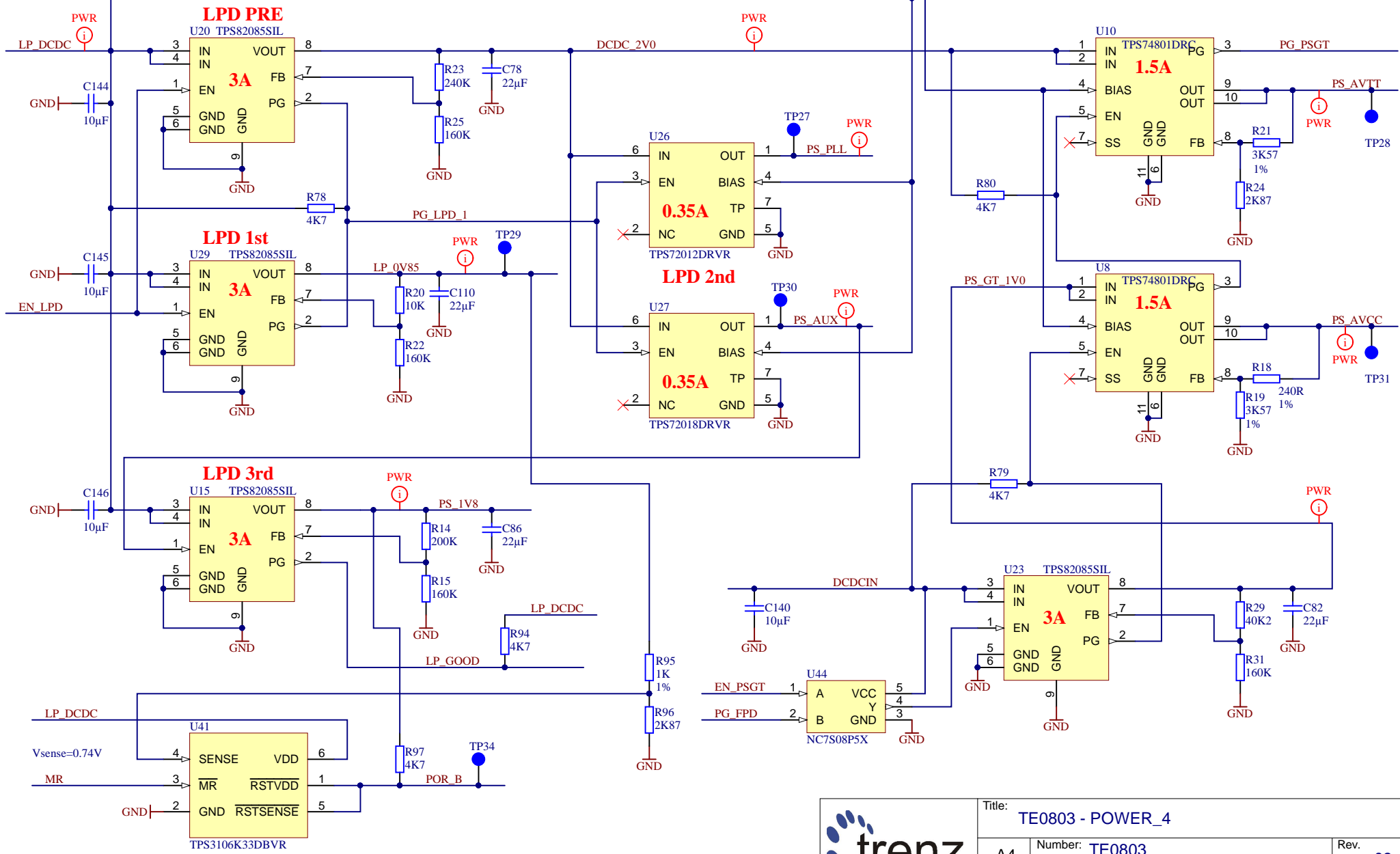


Title: TE0803 - POWER		
A4	Number: TE0803 4BE11-A	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page 23 of 26
Filename: POWER.SchDoc		



Title: <b>TE0803 - POWER_2</b>		
A4	Number: <b>TE0803 4BE11-A</b>	Rev. <b>03</b>
Date: <b>2019-02-21</b>	Copyright: <b>Trenz Electronic GmbH / TT</b>	Page <b>24</b> of <b>26</b>
Filename: <b>POWER_2.SchDoc</b>		





Title: TE0803 - POWER_4		
A4	Number: TE0803 4BE11-A	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page 25 of 26
Filename: POWER_4.SchDoc		

1

2

3

4

CHANGES REV01a (20.11.2017):

- 1) VCU voltage set to 0.9V, R20 changed to 40K , PL\_VCU\_1V0 renamed to PL\_VCU\_0V9.

CHANGES REV02 (20.06.2018):

- 1) Added LDO to DDR\_PLL
- 2) All differential pairs wath length matched with tollerance 0.1mm (excluding package delays)
- 3) Added MAC EEPROM U28
- 4) VPS\_MGTRAVCC set to 0.85V
- 5) Added pull-up resistors R68,R69

CHANGES REV03 (21.02.2019):

- 1) Added support of DDP DDR4
- 2) Added support of Low power FPGA (-L1/L2).
- 3) Revised testpoints
- 4) Revised J1-J4 connectors net label style

A

A

B


B

C

C

D

D

	Title: TE0803 - Changes list		
	A4	Number: TE0803 4BE11-A	Rev. 03
	Date: 2019-02-21	Copyright: Trenz Electronic GmbH	Page26 of 26
	Filename: Revision_Changes.SchDoc		

1

2

3

4