

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

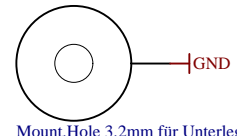
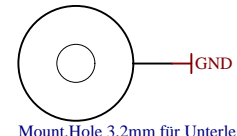
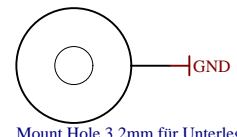
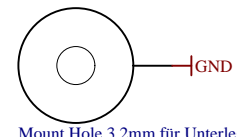
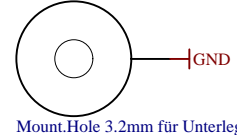
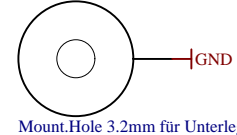
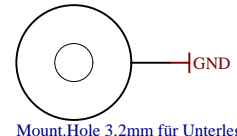
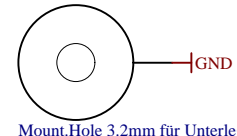
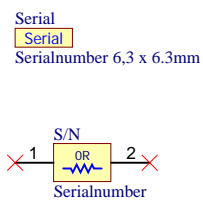
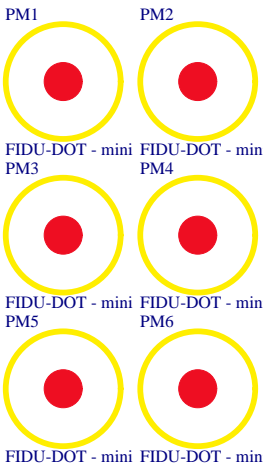
U_ZU_PS_POWER
ZU_PS_POWER.SchDoc

U_POWER
POWER.SchDoc

U_POWER_2
POWER_2.SchDoc

U_POWER_4
POWER_4.SchDoc

U_REV_CH
Revision_Changes.SchDoc



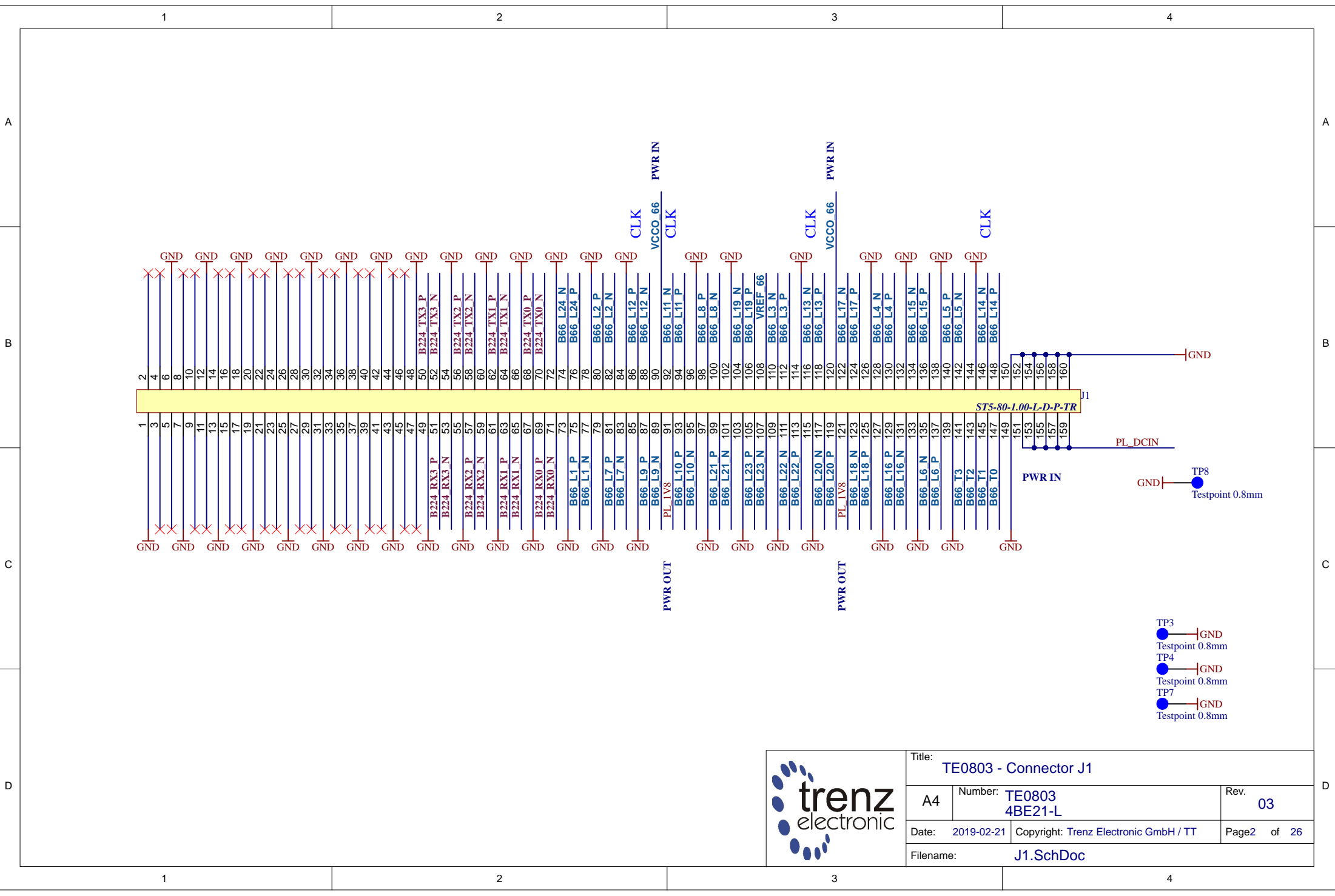
Title: TE0803		
A4	Number: TE0803 4BE21-L	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page1 of 26
Filename: TE0803.SchDoc		

1

2

3

4



Title: TE0803 - Connector J1		
A4	Number: TE0803 4BE21-L	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page2 of 26
Filename: J1.SchDoc		

1

2

3

4

A

A

B

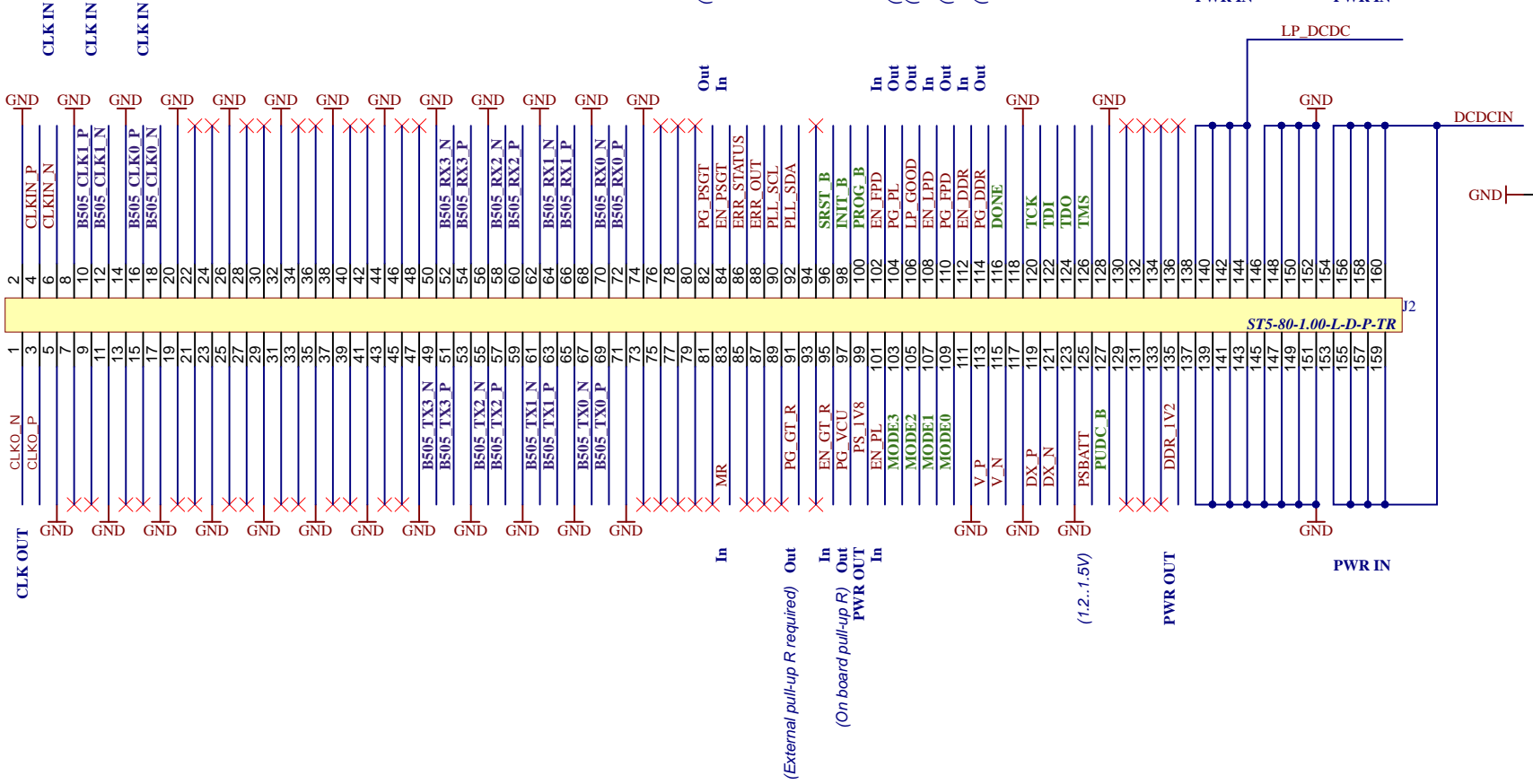

B

C

C

D

D

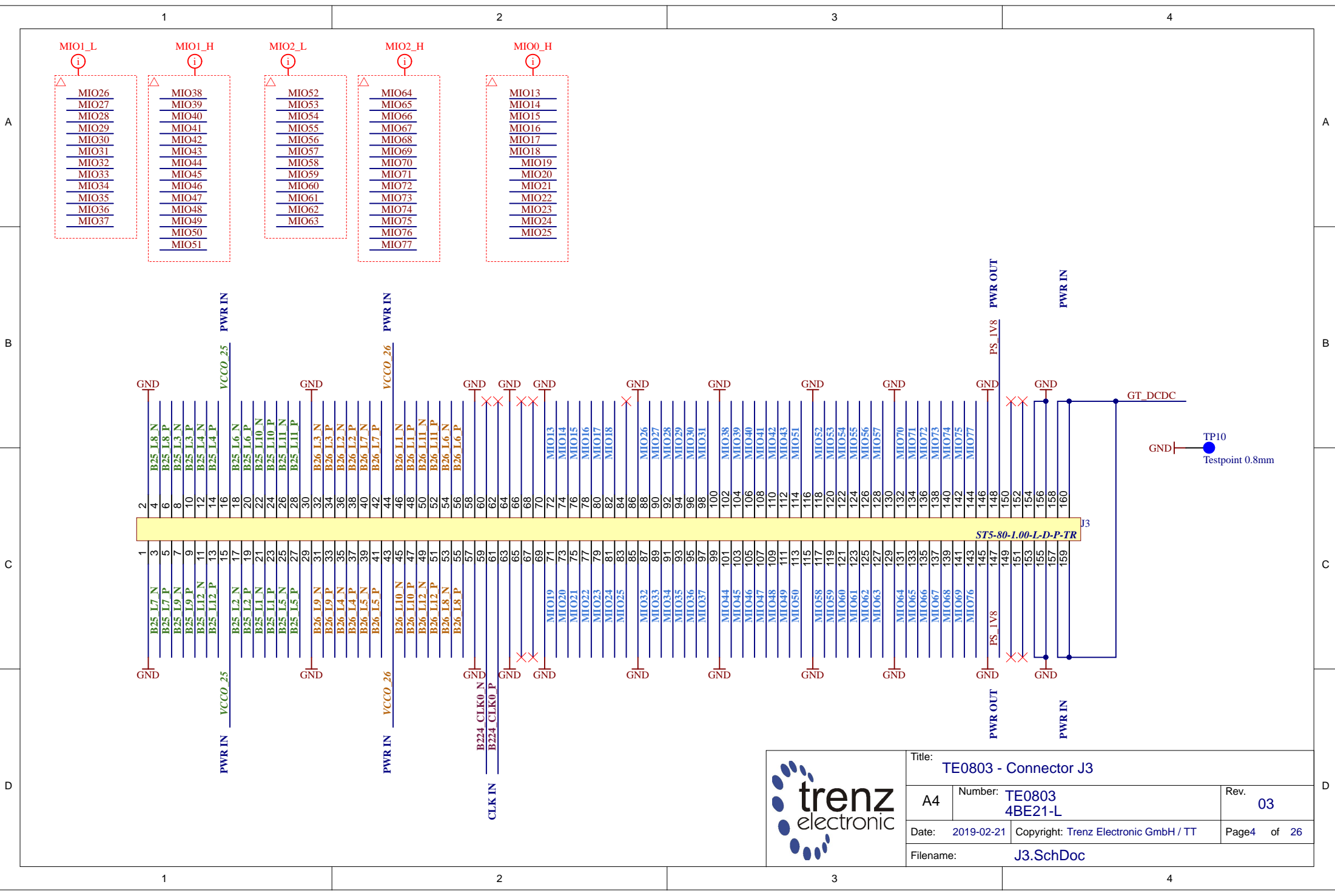

Title: TE0803 - Connector J2		
A4	Number: TE0803 4BE21-L	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page3 of 26
Filename: J2.SchDoc		

1

2

3

4

Title: TE0803 - Connector J3		
A4	Number: TE0803 4BE21-L	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page4 of 26
Filename: J3.SchDoc		

1

2

3

4

A

A

B

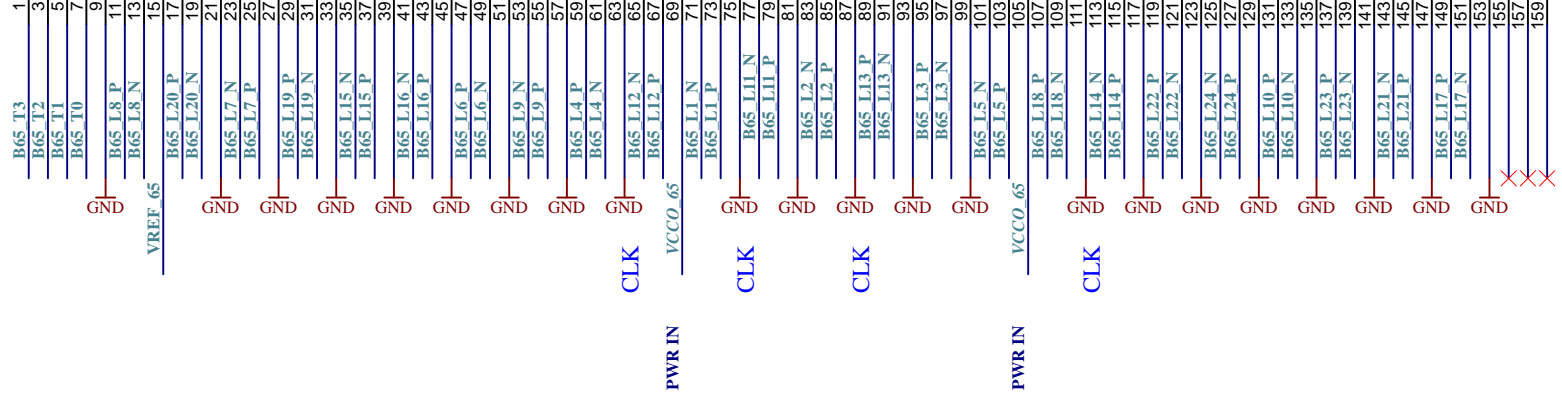
B

C

C

D

D




1

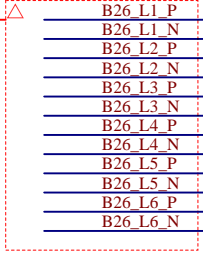
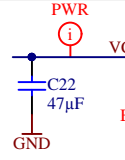
2

3

4



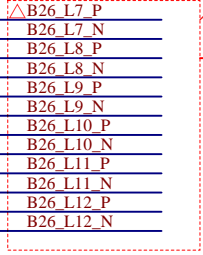
Title: TE0803 - Connector J4		
A4	Number: TE0803 4BE21-L	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page5 of 26
Filename: J4.SchDoc		



U1C XCZU4EG-1SFVC784E

BANK 46 HD (ZU2/3 BANK 26 HD)

VCCO_46	F14	VCCO_46
VCCO_46	C15	VCCO_46
IO_L1P_AD11P_46	B15	IO_L7P_HDGC_AD5P_46
IO_L1N_AD11N_46	A15	IO_L7N_HDGC_AD5N_46
IO_L2P_AD10P_46	B14	IO_L8P_HDGC_AD4P_46
IO_L2N_AD10N_46	A14	IO_L8N_HDGC_AD4N_46
IO_L3P_AD9P_46	B13	IO_L9P_AD3P_46
IO_L3N_AD9N_46	A13	IO_L9N_AD3N_46
IO_L4P_AD8P_46	C14	IO_L10P_AD2P_46
IO_L4N_AD8N_46	C13	IO_L10N_AD2N_46
IO_L5P_HDGC_AD7P_46	D15	IO_L11P_AD1P_46
IO_L5N_HDGC_AD7N_46	D14	IO_L11N_AD1N_46
IO_L6P_HDGC_AD6P_46	E14	IO_L12P_AD0P_46
IO_L6N_HDGC_AD6N_46	E13	IO_L12N_AD0N_46



BANK 43 HD (ZU2/3 BANK 44 HD)

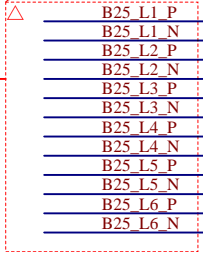
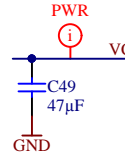
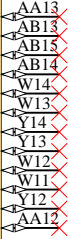
VCCO_43	AC10	VCCO_43
VCCO_43	AG12	VCCO_43
IO_L1P_AD11P_43	AG10	IO_L7P_HDGC_AD5P_43
IO_L1N_AD11N_43	AH10	IO_L7N_HDGC_AD5N_43
IO_L2P_AD10P_43	AF11	IO_L8P_HDGC_AD4P_43
IO_L2N_AD10N_43	AG11	IO_L8N_HDGC_AD4N_43
IO_L3P_AD9P_43	AH12	IO_L9P_AD3P_43
IO_L3N_AD9N_43	AH11	IO_L9N_AD3N_43
IO_L4P_AD8P_43	AE10	IO_L10P_AD2P_43
IO_L4N_AD8N_43	AF10	IO_L10N_AD2N_43
IO_L5P_HDGC_AD7P_43	AE12	IO_L11P_AD1P_43
IO_L5N_HDGC_AD7N_43	AF12	IO_L11N_AD1N_43
IO_L6P_HDGC_AD6P_43	AC13	IO_L12P_AD0P_43
IO_L6N_HDGC_AD6N_43	AD12	IO_L12N_AD0N_43



U1B

BANK 44 HD (ZU2/3 BANK 24 HD)

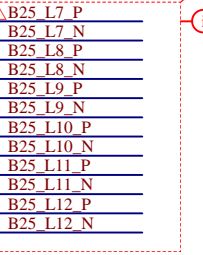
VCCO_44	AA14	VCCO_44
VCCO_44	AD13	VCCO_44
IO_L1P_AD15P_44	AE15	IO_L7P_HDGC_44
IO_L1N_AD15N_44	AE14	IO_L7N_HDGC_44
IO_L2P_AD14P_44	AG14	IO_L8P_HDGC_44
IO_L2N_AD14N_44	AH14	IO_L8N_HDGC_44
IO_L3P_AD13P_44	AG13	IO_L9P_AD11P_44
IO_L3N_AD13N_44	AH13	IO_L9N_AD11N_44
IO_L4P_AD12P_44	AE13	IO_L10P_AD10P_44
IO_L4N_AD12N_44	AF13	IO_L10N_AD10N_44
IO_L5P_HDGC_44	AD15	IO_L11P_AD9P_44
IO_L5N_HDGC_44	AD14	IO_L11N_AD9N_44
IO_L6P_HDGC_44	AC14	IO_L12P_AD8P_44
IO_L6N_HDGC_44	AC13	IO_L12N_AD8N_44



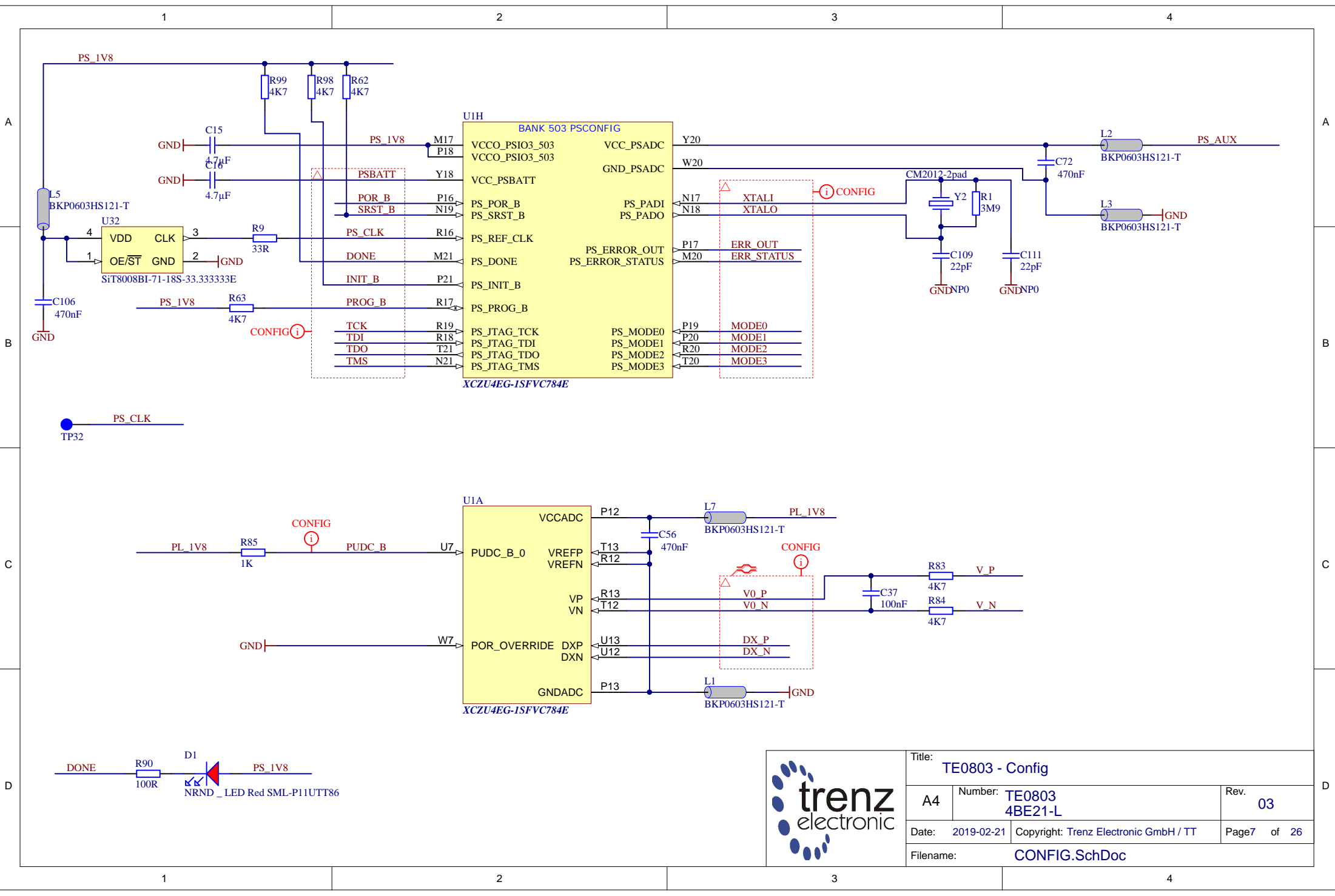
XCZU4EG-1SFVC784E

BANK 45 HD (ZU2/3 BANK 25 HD)

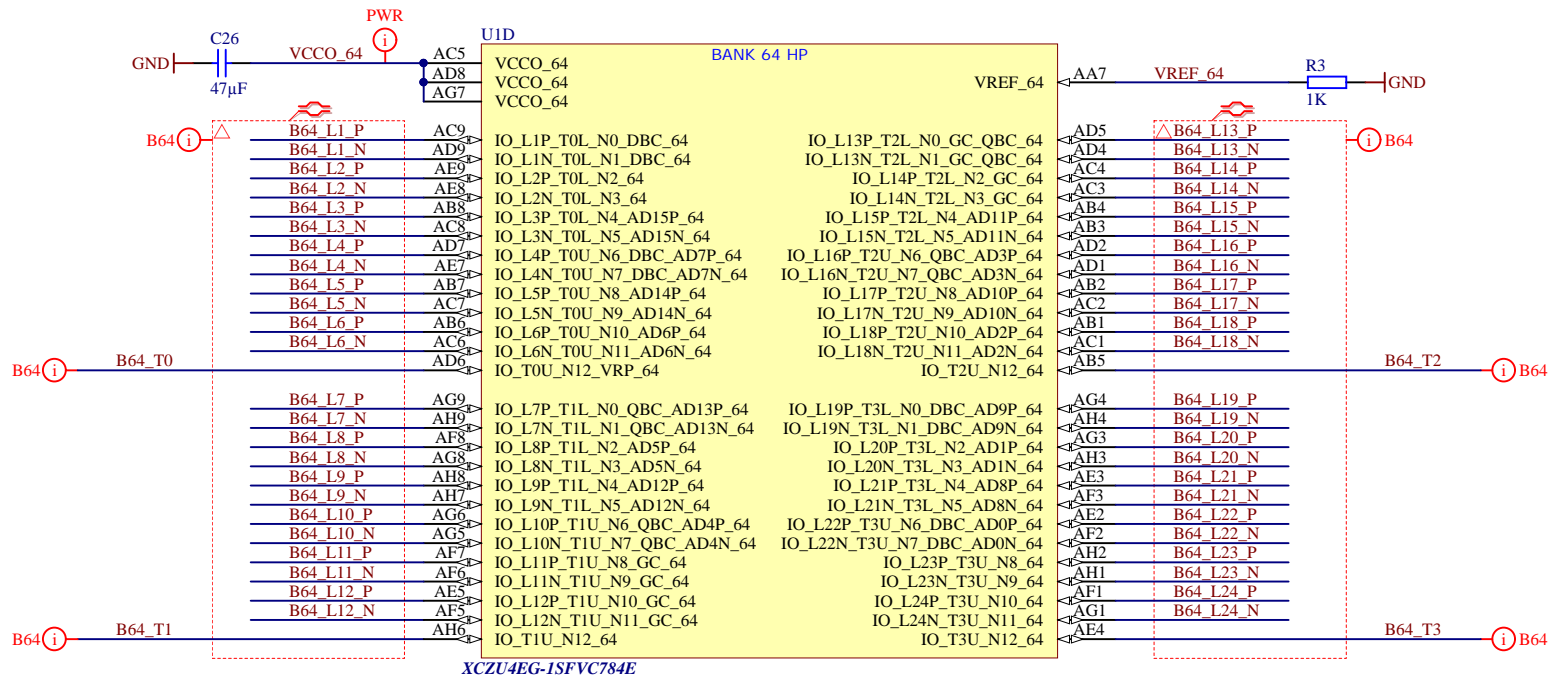
VCCO_45	B12	VCCO_45
VCCO_45	E11	VCCO_45
IO_L1P_AD15P_45	J11	IO_L7P_HDGC_45
IO_L1N_AD15N_45	J10	IO_L7N_HDGC_45
IO_L2P_AD14P_45	K13	IO_L8P_HDGC_45
IO_L2N_AD14N_45	K12	IO_L8N_HDGC_45
IO_L3P_AD13P_45	H11	IO_L9P_AD11P_45
IO_L3N_AD13N_45	G10	IO_L9N_AD11N_45
IO_L4P_AD12P_45	J12	IO_L10P_AD10P_45
IO_L4N_AD12N_45	H12	IO_L10N_AD10N_45
IO_L5P_HDGC_45	G11	IO_L11P_AD9P_45
IO_L5N_HDGC_45	F11	IO_L11N_AD9N_45
IO_L6P_HDGC_45	F12	IO_L12P_AD8P_45
IO_L6N_HDGC_45	F11	IO_L12N_AD8N_45



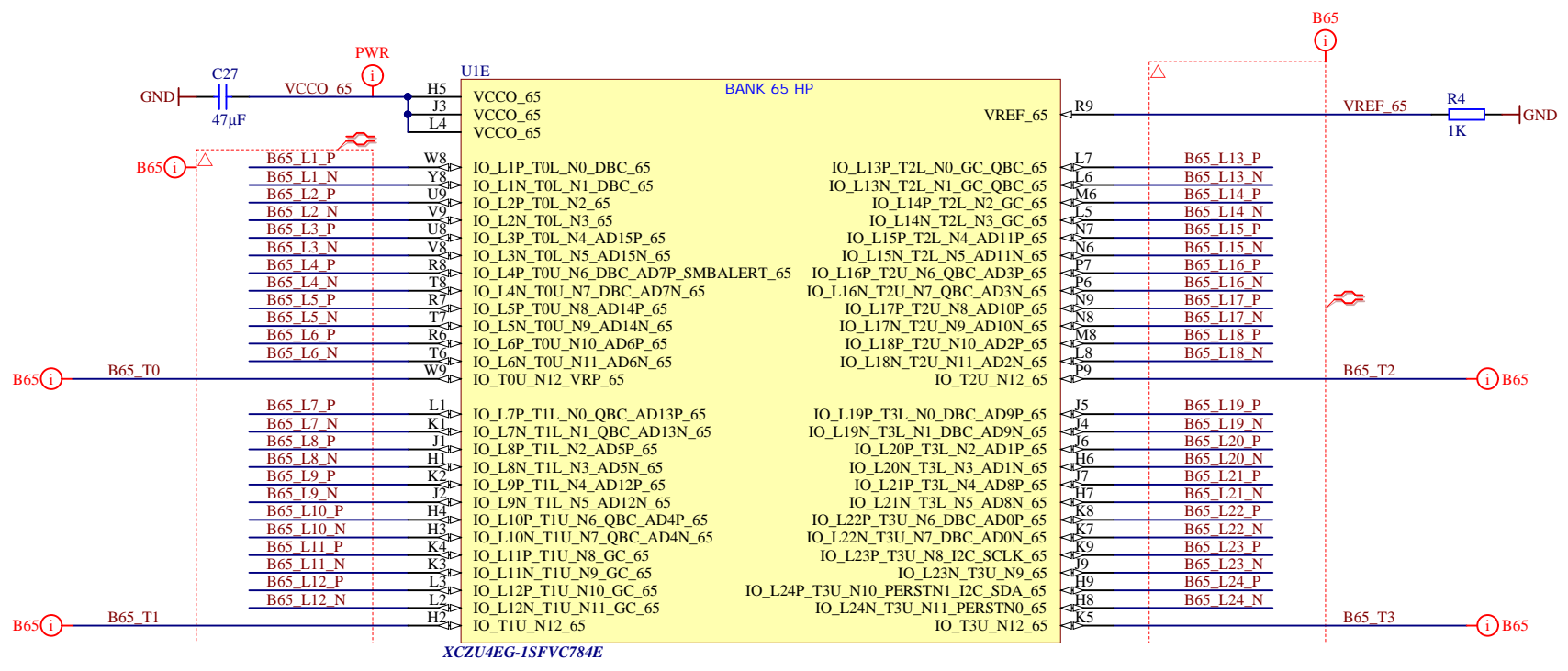
Title: TE0803 - HD Banks		
A4	Number: TE0803 4BE21-L	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page 6 of 26
Filename: B_HD.SchDoc		



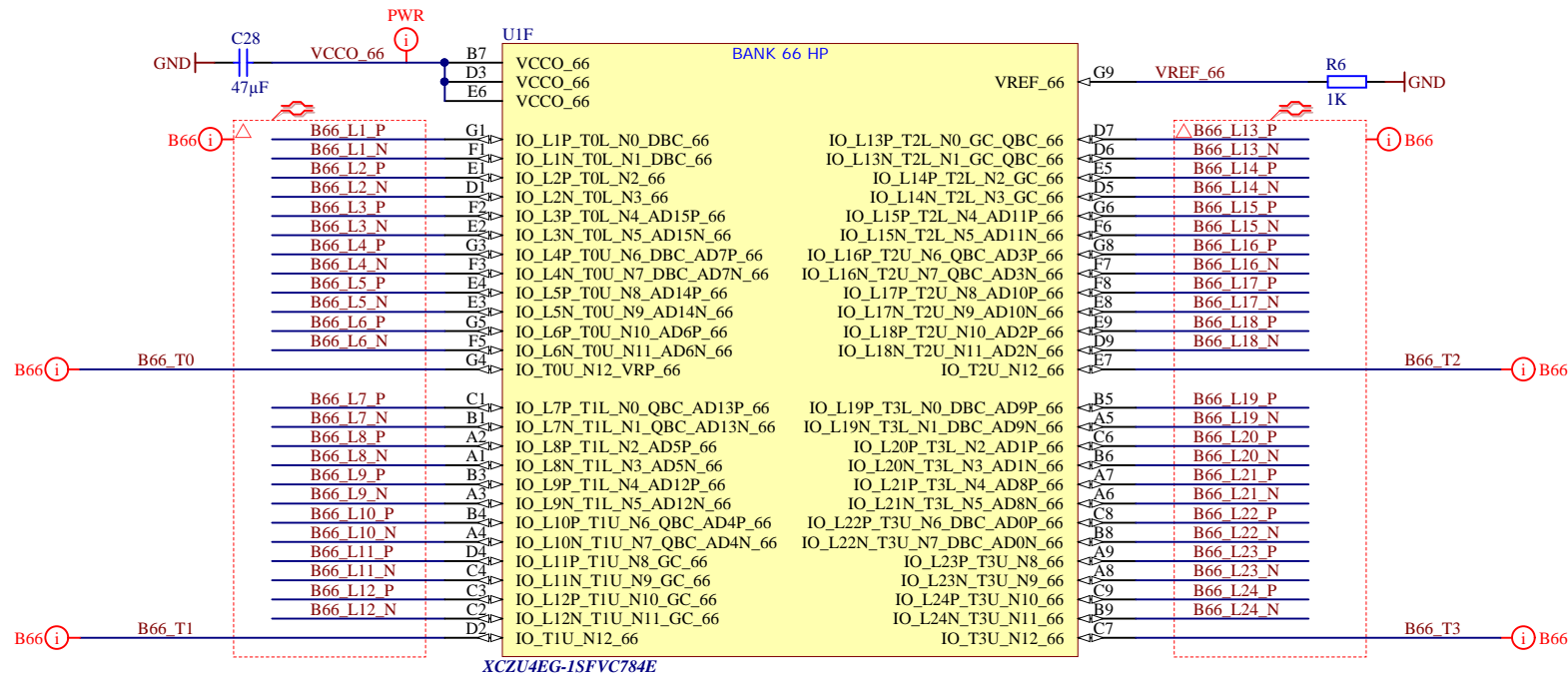
Title: TE0803 - Config		
A4	Number: TE0803 4BE21-L	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page 7 of 26
Filename: CONFIG.SchDoc		




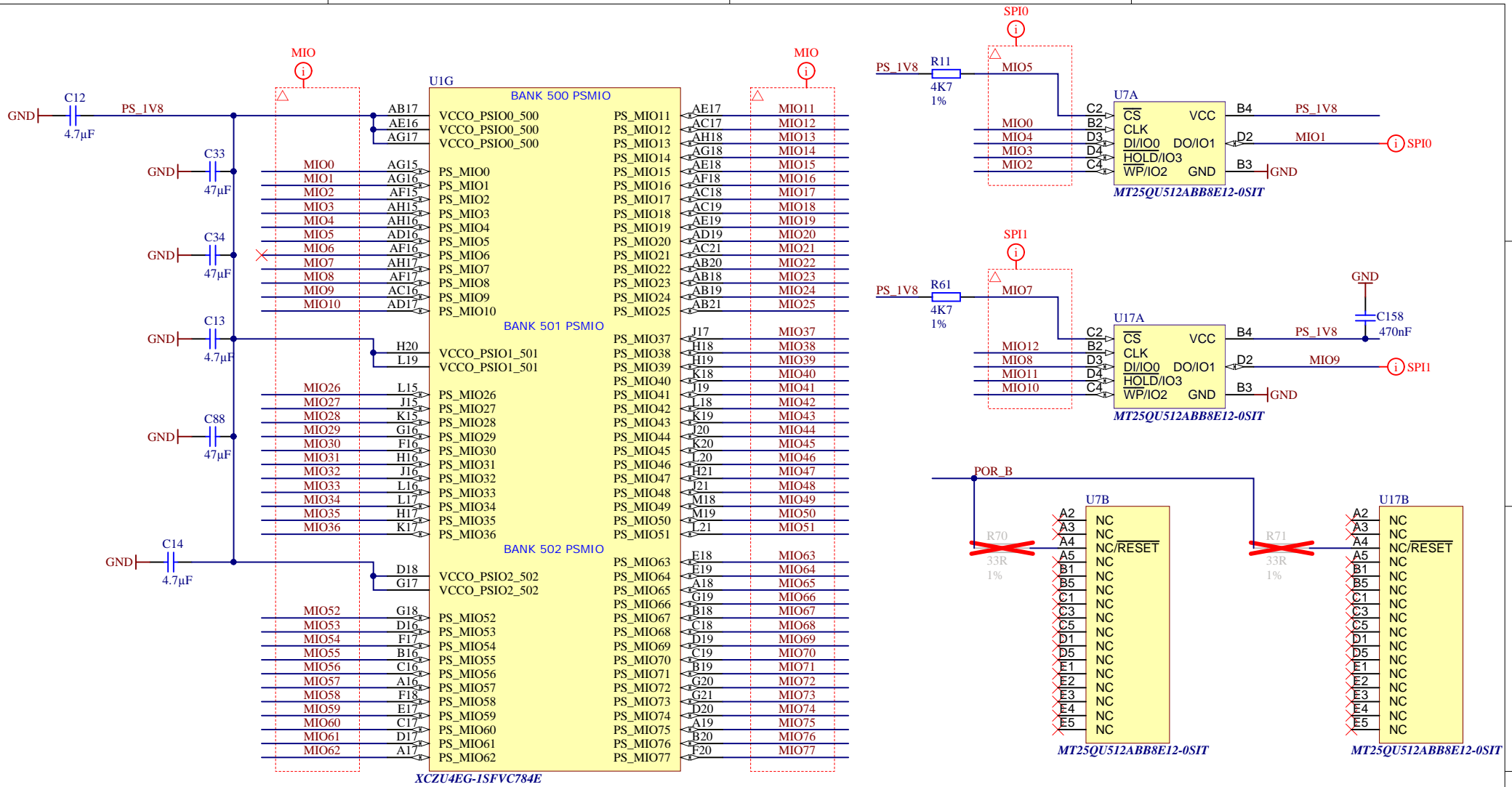
Title: TE0803 - B64		
A4	Number: TE0803 4BE21-L	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page 8 of 26
Filename: B64.SchDoc		



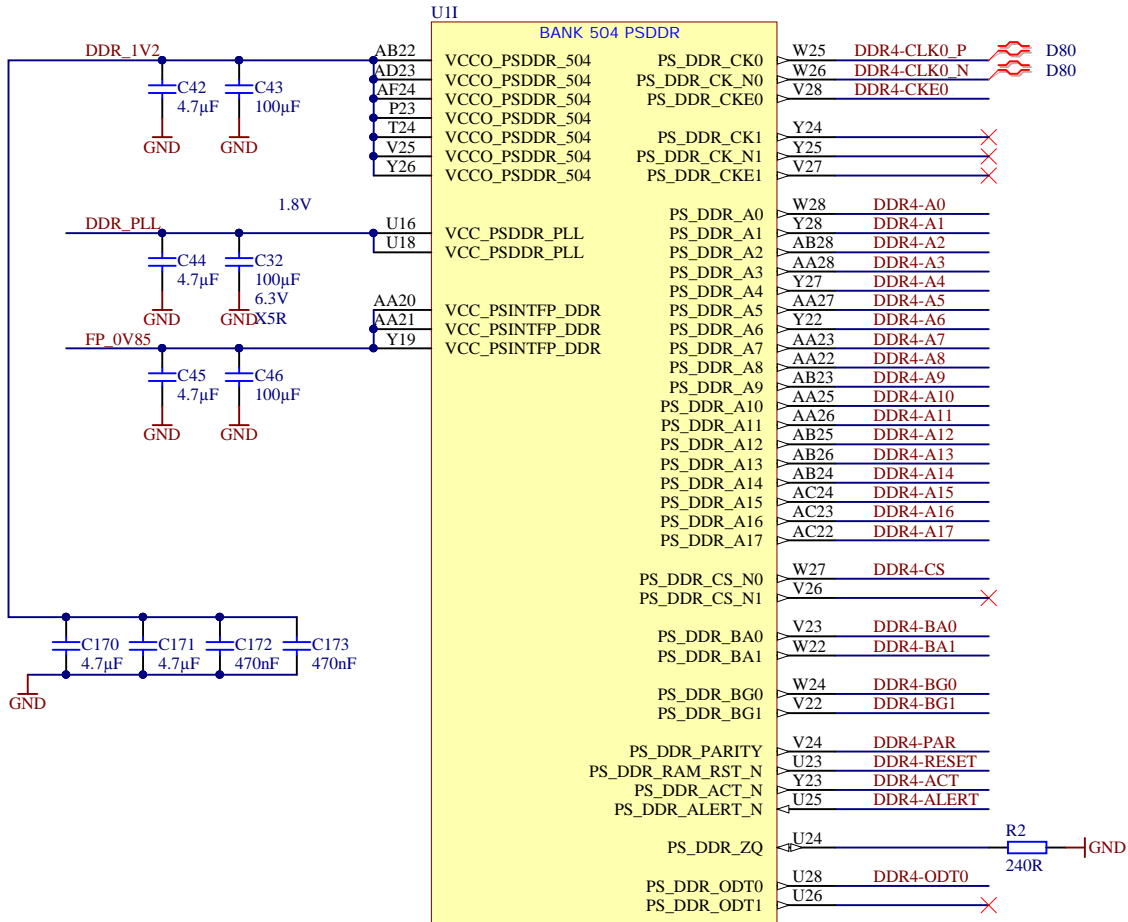
Title: TE0803 - B65		
A4	Number: TE0803 4BE21-L	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page 9 of 26
Filename: B65.SchDoc		



		Title: TE0803 - B66	
		A4	Number: TE0803 4BE21-L
Date: 2019-02-21		Copyright: Trenz Electronic GmbH / TT	
Filename: B66.SchDoc		Page 10 of 26	

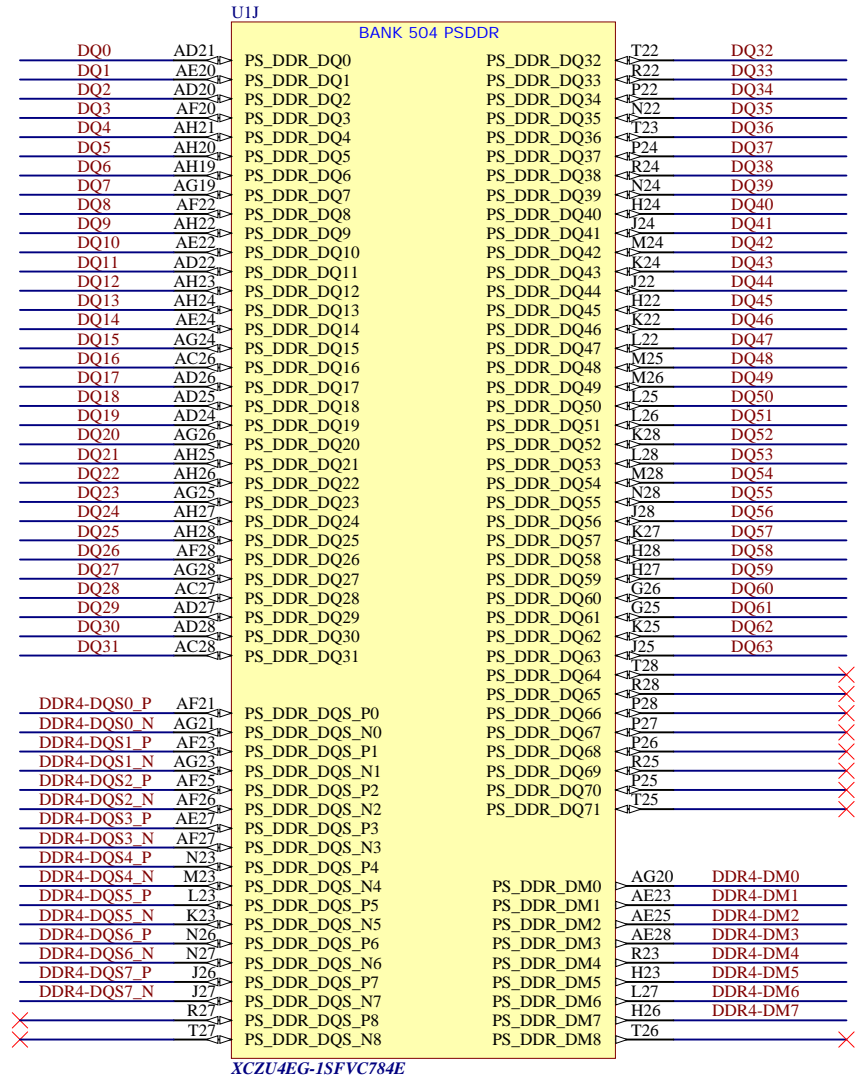


	Title: TE0803 - MIO Banks		
	A4	Number: TE0803 4BE21-L	Rev. 03
	Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	
	Filename: B_MIO.SchDoc	Page 11 of 26	



U11		BANK 504 PSDDR	
VCCO_PSDDR_504	PS_DDR_CK0	W25	DDR4-CLK0 P
VCCO_PSDDR_504	PS_DDR_CK_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_PSDDR_PLL	PS_DDR_A6	Y22	DDR4-A6
VCC_PSDDR_PLL	PS_DDR_A7	AA23	DDR4-A7
VCC_PSDDR_PLL	PS_DDR_A8	AA22	DDR4-A8
VCC_PSDDR_PLL	PS_DDR_A9	AB23	DDR4-A9
VCC_PSDDR_PLL	PS_DDR_A10	AA25	DDR4-A10
VCC_PSDDR_PLL	PS_DDR_A11	AA26	DDR4-A11
VCC_PSDDR_PLL	PS_DDR_A12	AB25	DDR4-A12
VCC_PSDDR_PLL	PS_DDR_A13	AB26	DDR4-A13
VCC_PSDDR_PLL	PS_DDR_A14	AB24	DDR4-A14
VCC_PSDDR_PLL	PS_DDR_A15	AC24	DDR4-A15
VCC_PSDDR_PLL	PS_DDR_A16	AC23	DDR4-A16
VCC_PSDDR_PLL	PS_DDR_A17	AC22	DDR4-A17
VCC_PSINTFP_DDR	PS_DDR_CS_N0	W27	DDR4-CS
VCC_PSINTFP_DDR	PS_DDR_CS_N1	V26	
VCC_PSINTFP_DDR	PS_DDR_BA0	V23	DDR4-BA0
VCC_PSINTFP_DDR	PS_DDR_BA1	W22	DDR4-BA1
VCC_PSINTFP_DDR	PS_DDR_BG0	W24	DDR4-BG0
VCC_PSINTFP_DDR	PS_DDR_BG1	V22	DDR4-BG1
VCC_PSINTFP_DDR	PS_DDR_PARITY	V24	DDR4-PAR
VCC_PSINTFP_DDR	PS_DDR_RAM_RST_N	U23	DDR4-RESET
VCC_PSINTFP_DDR	PS_DDR_ACT_N	Y23	DDR4-ACT
VCC_PSINTFP_DDR	PS_DDR_ALERT_N	U25	DDR4-ALERT
VCC_PSINTFP_DDR	PS_DDR_ZQ	U24	
VCC_PSINTFP_DDR	PS_DDR_ODT0	U28	DDR4-ODT0
VCC_PSINTFP_DDR	PS_DDR_ODT1	U26	

XCZU4EG-1SFVC784E



XCZU4EG-1SFVC784E



Title: TE0803 - PS_DDR		
A4	Number: TE0803 4BE21-L	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page 12 of 26
Filename: PS_DDR.SchDoc		

1

2

3

4

A

A

B

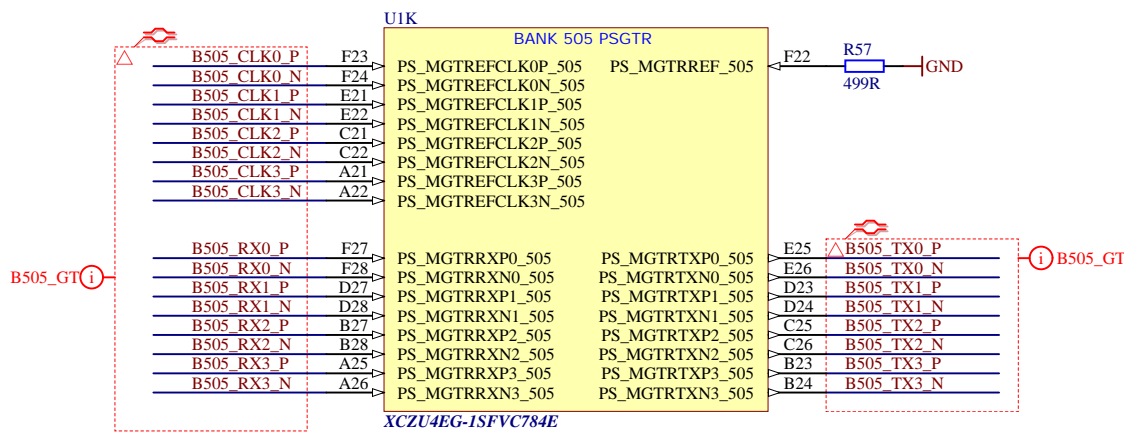
B

C

C

D

D



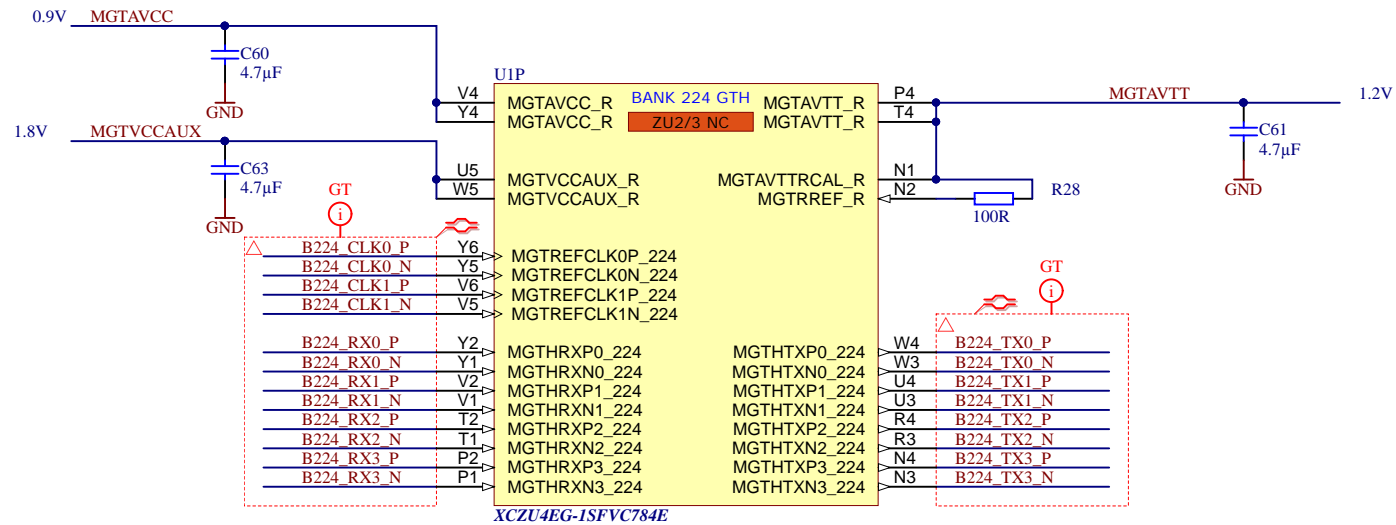
Title: TE0803 - PS_GT		
A4	Number: TE0803 4BE21-L	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page 13 of 26
Filename: B_PS_GT.SchDoc		


1

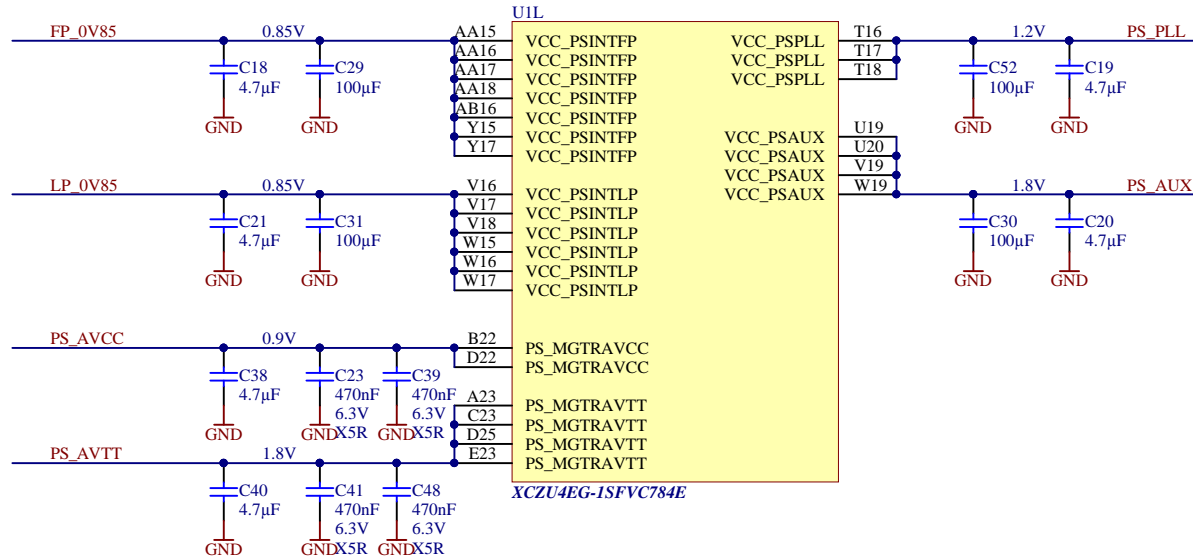
2


3

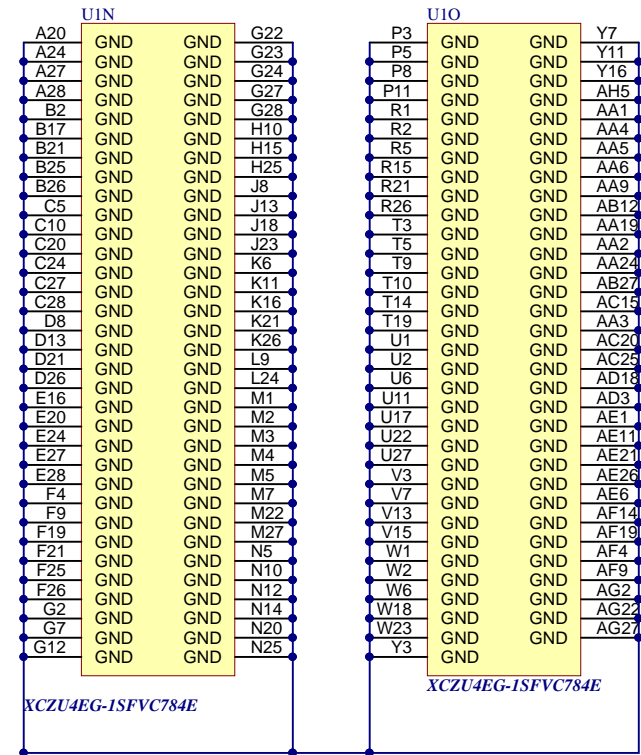
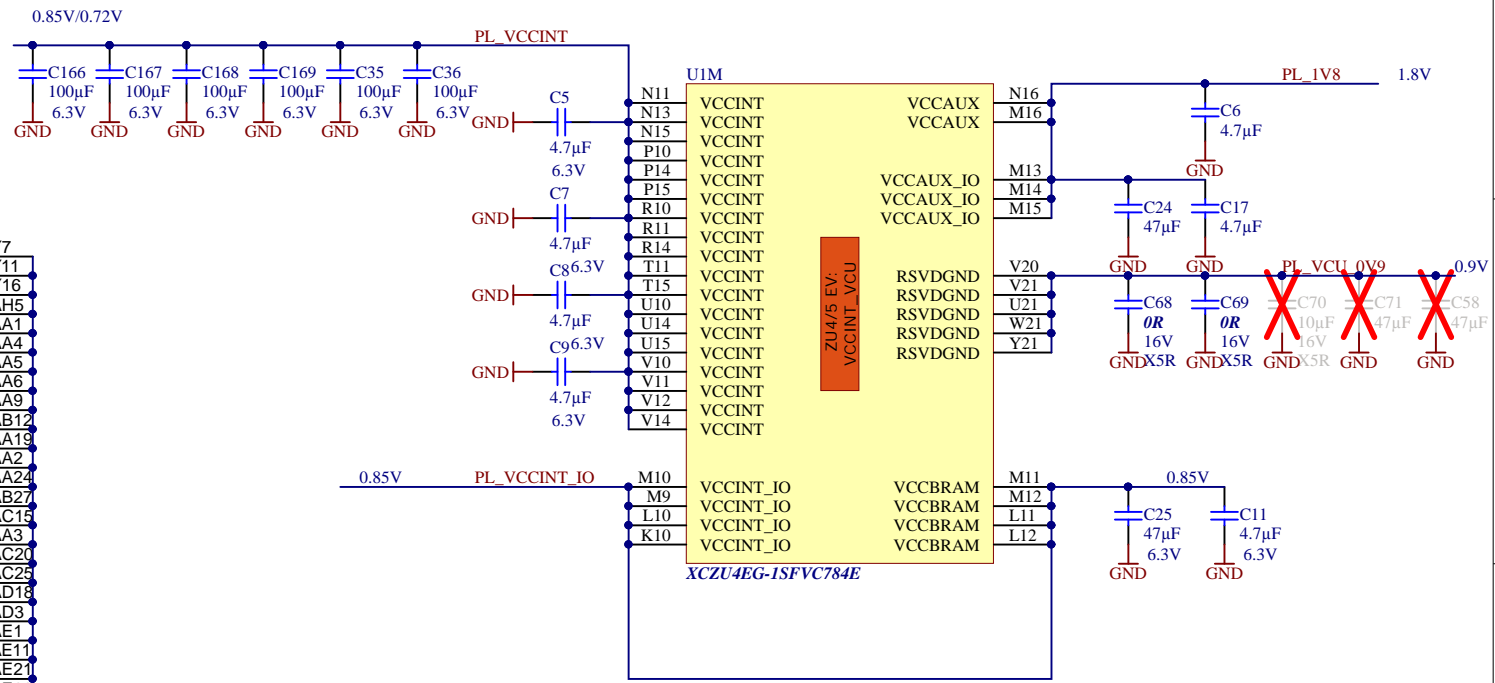
4




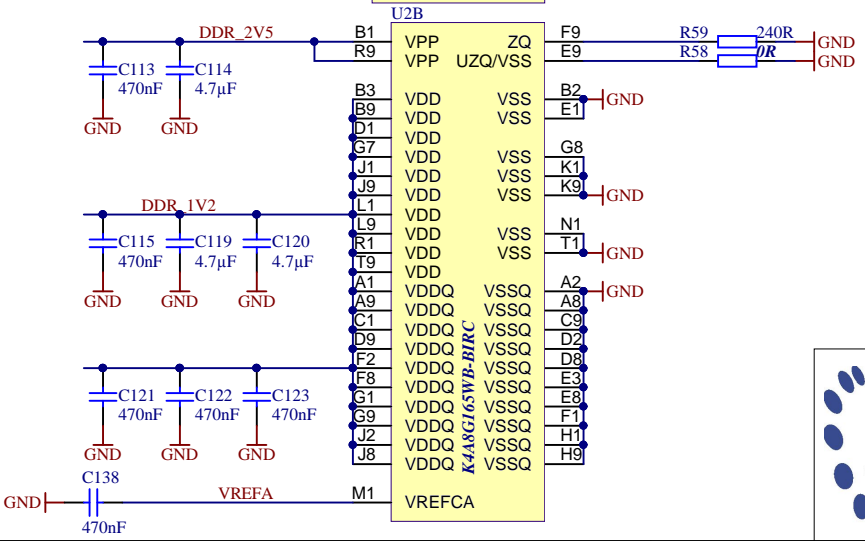
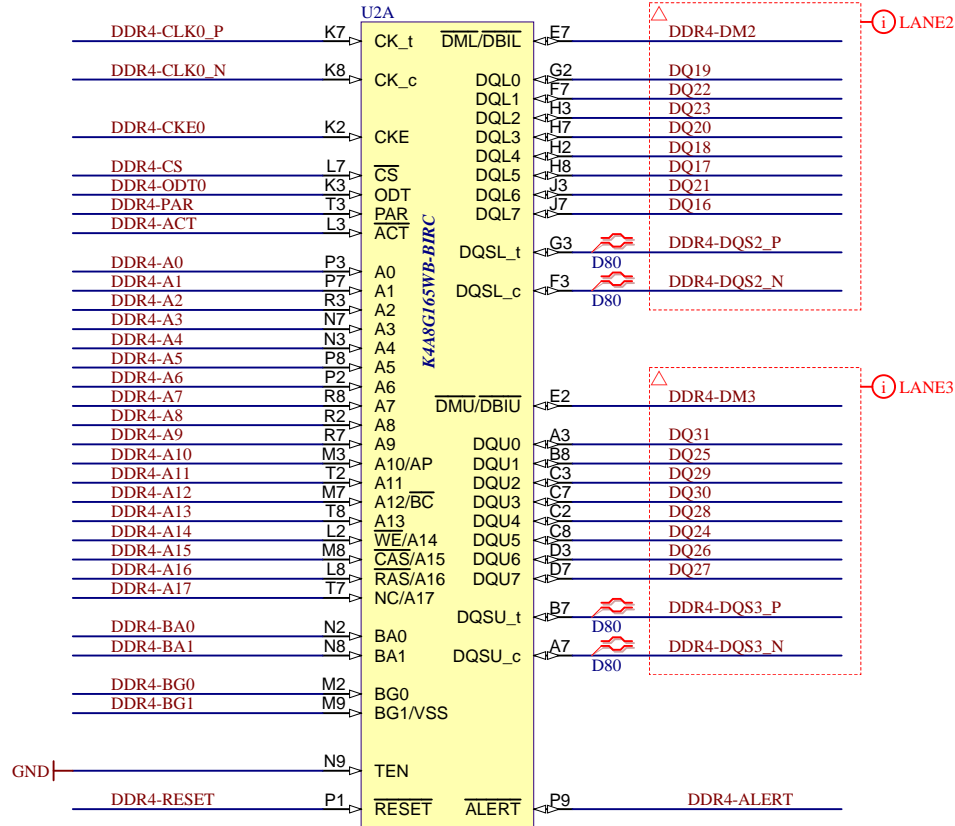

		Title: TE0803 - B224GTH	
		A4	Number: TE0803 4BE21-L
Date: 2019-02-21		Copyright: Trenz Electronic GmbH / TT	
Filename: B_GT.SchDoc		Page 14 of 26	



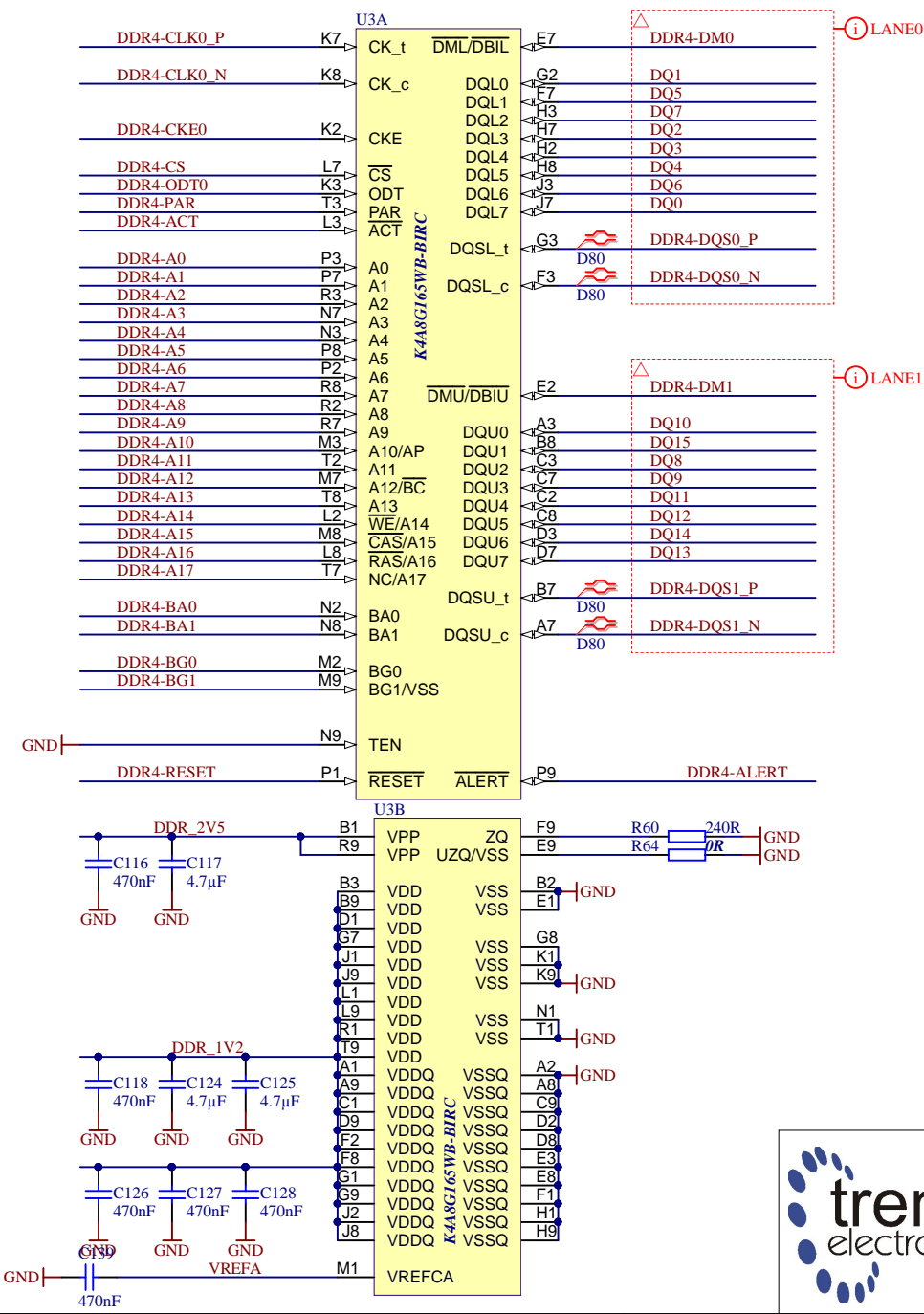

	Title: TE0803 - ZU_PS_POWER		
	A4	Number: TE0803 4BE21-L	Rev. 03
	Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page 15 of 26
	Filename: ZU_PS_POWER.SchDoc		



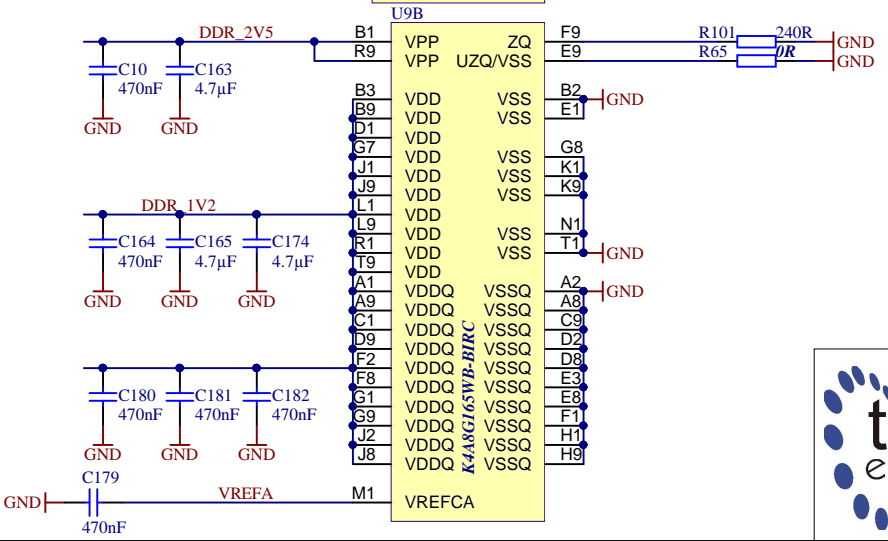
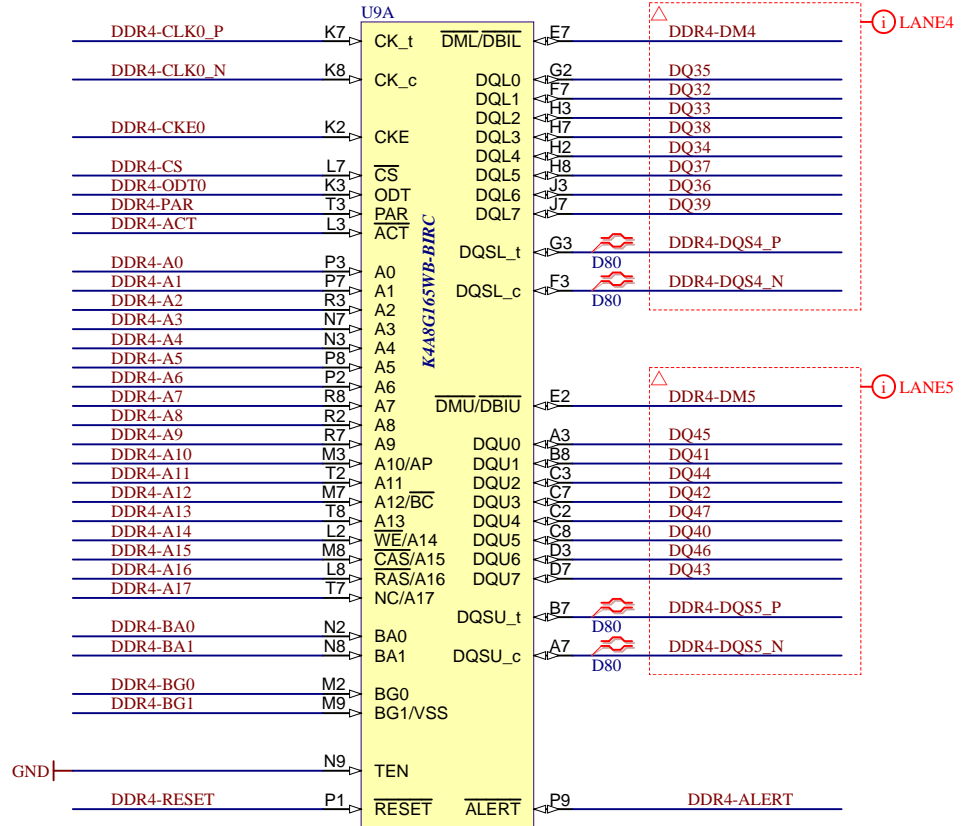

		Title: TE0803 - ZU_POWER	
		A4	Number: TE0803 4BE21-L
Date: 2019-02-21		Copyright: Trenz Electronic GmbH / TT	
Filename: ZU_POWER.SchDoc		Page 16 of 26	

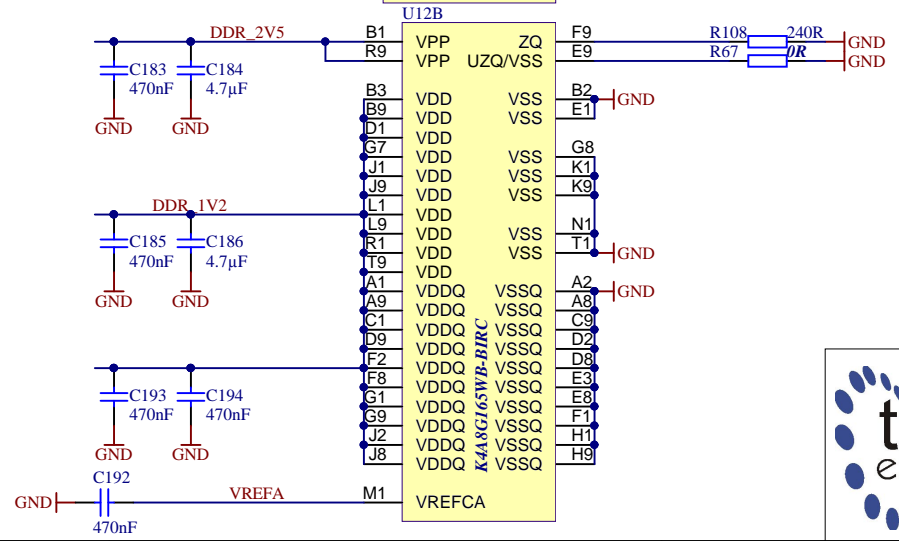
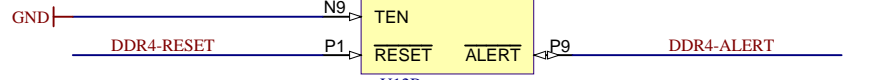
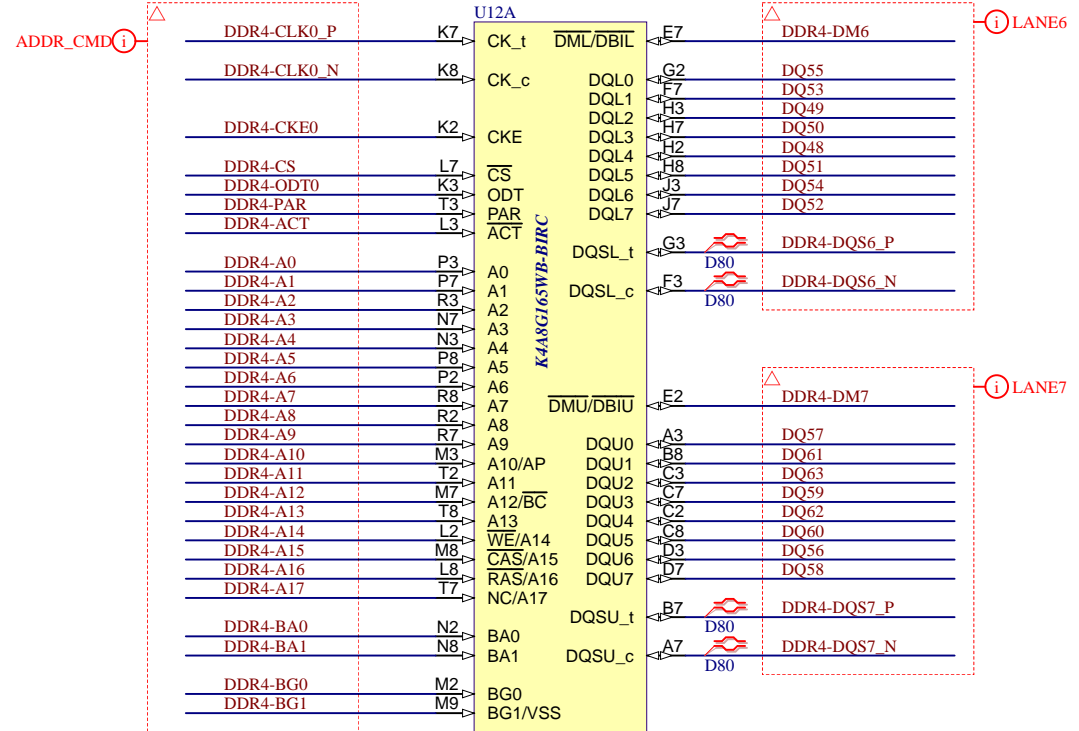

Title: TE0803 - DDR4_1_RAM		
A4	Number: TE0803 4BE21-L	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page 17 of 26
Filename: DDR4-RAM.SchDoc		

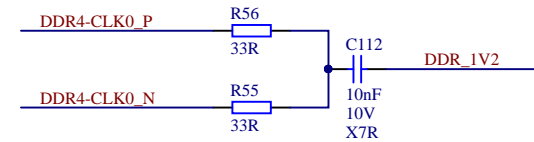
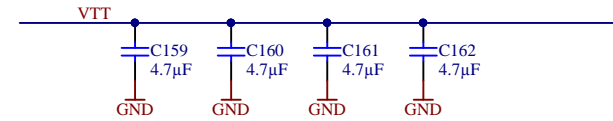
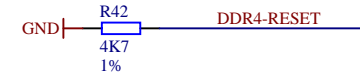
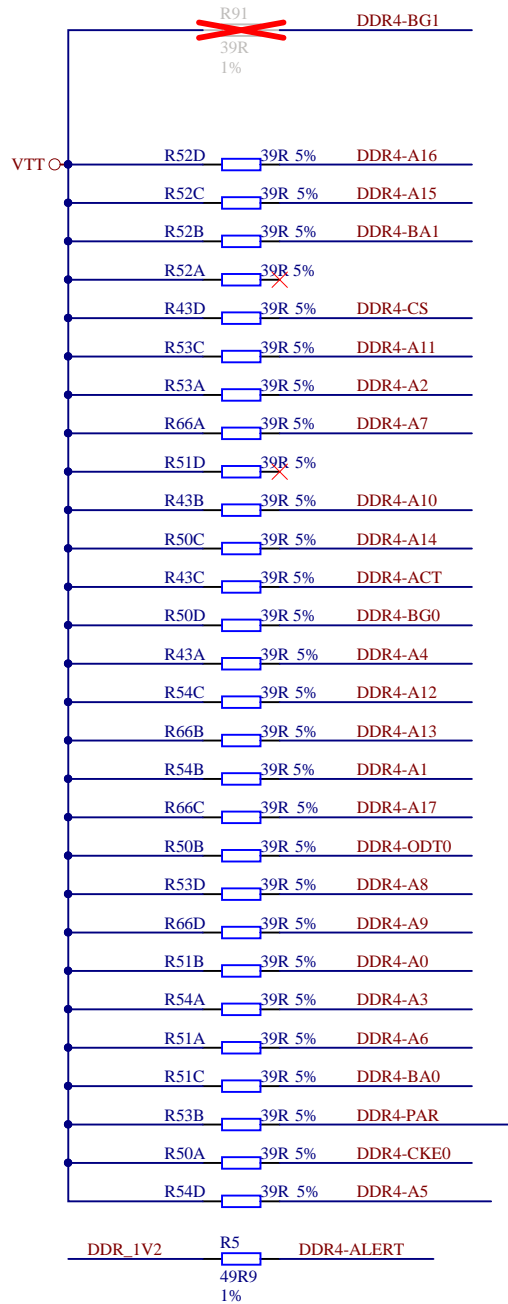
Title: TE0803 - DDR4_2_RAM		
A4	Number: TE0803 4BE21-L	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page 18 of 26
Filename: DDR4-RAM_2.SchDoc		

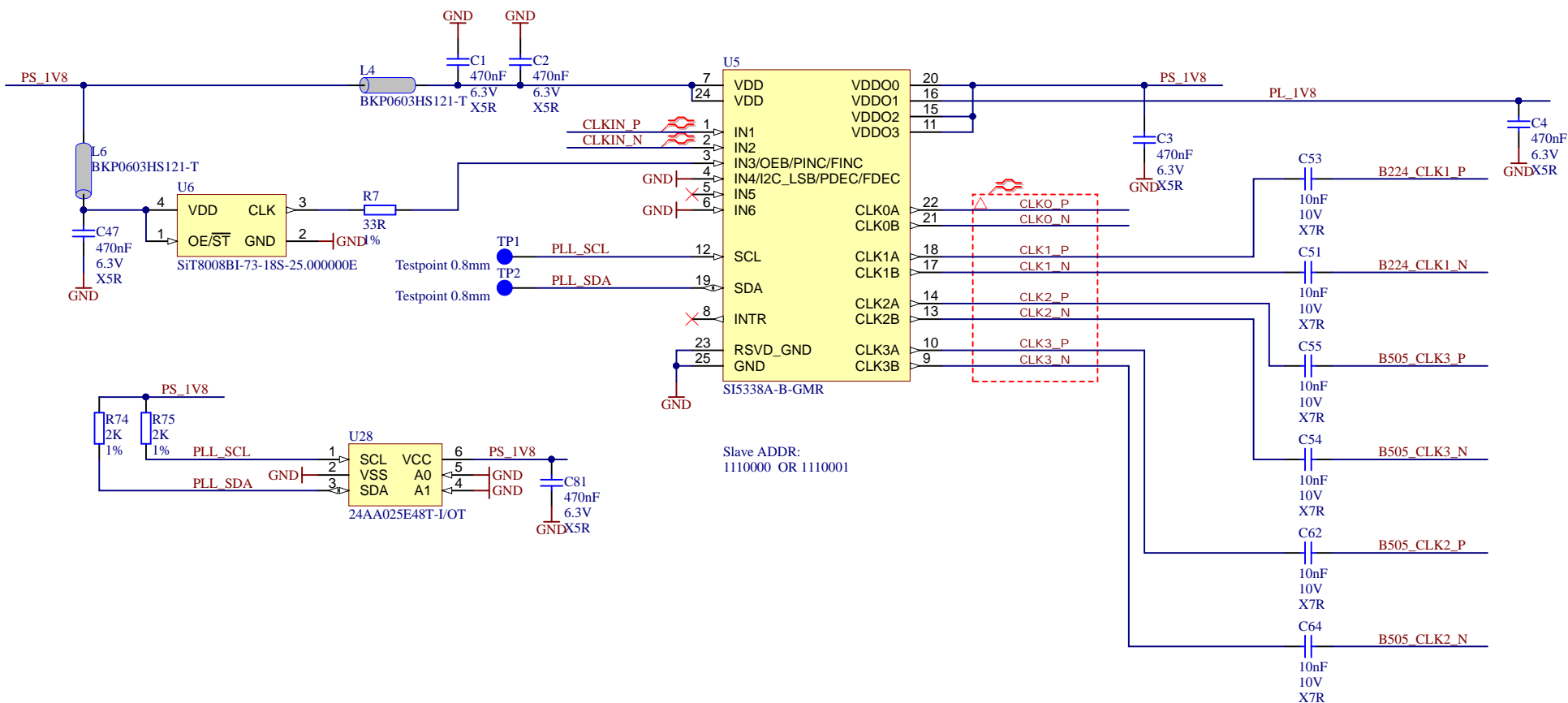
Title: TE0803 - DDR4_3_RAM		
A4	Number: TE0803 4BE21-L	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page 19 of 26
Filename: DDR4-RAM_3.SchDoc		





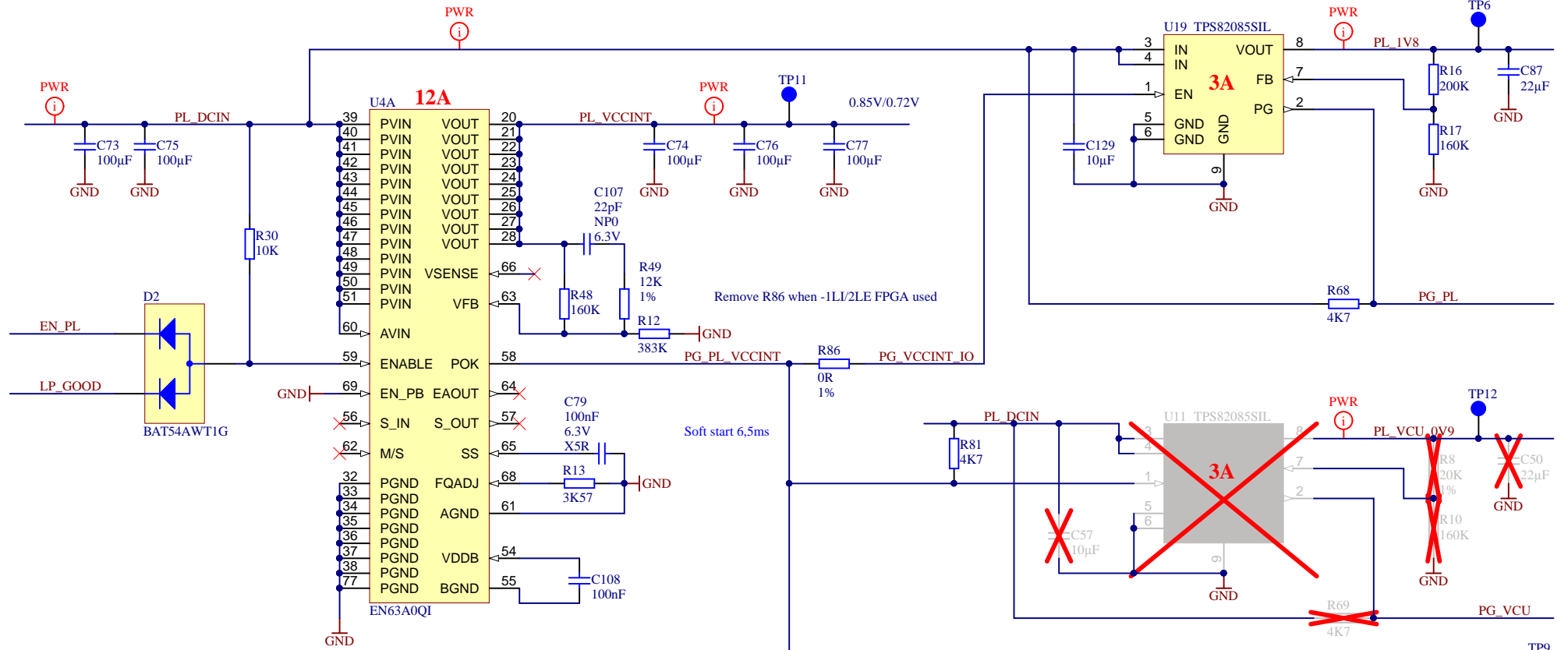
Title: TE0803 - DDR4_4_RAM		
A4	Number: TE0803 4BE21-L	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page20 of 26
Filename: DDR4-RAM_4.SchDoc		



	Title: TE0803 - DDR4_TERM		
	A4	Number: TE0803 4BE21-L	Rev. 03
	Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page 21 of 26
	Filename: DDR4-TERM.SchDoc		



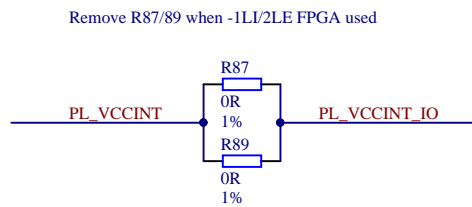
			Title: TE0803 - CLOCK	
			A4	Number: TE0803 4BE21-L
Date: 2019-02-21		Copyright: Trenz Electronic GmbH / TT		Page 22 of 26
Filename: Clock.SchDoc				



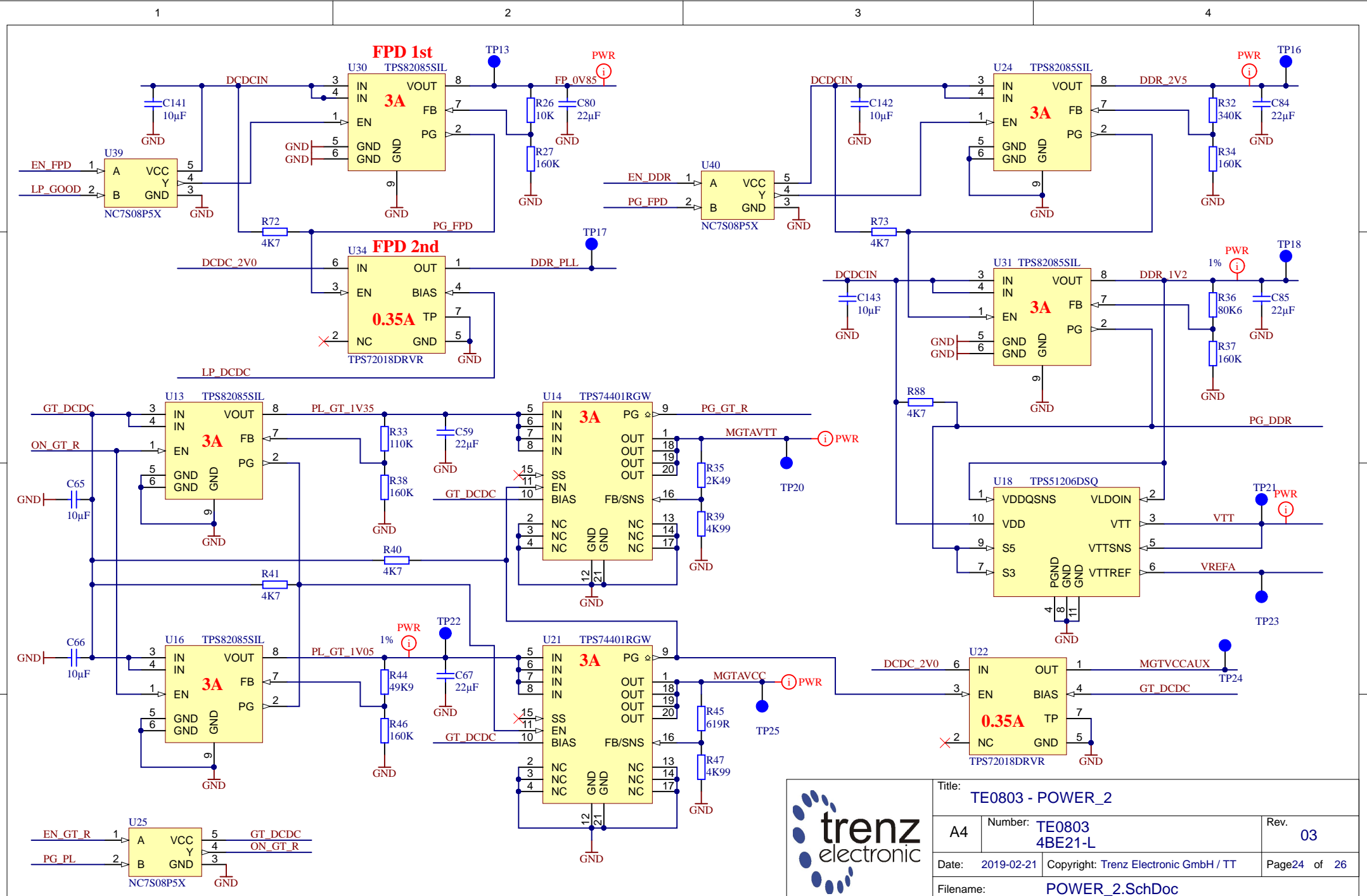
U4B

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

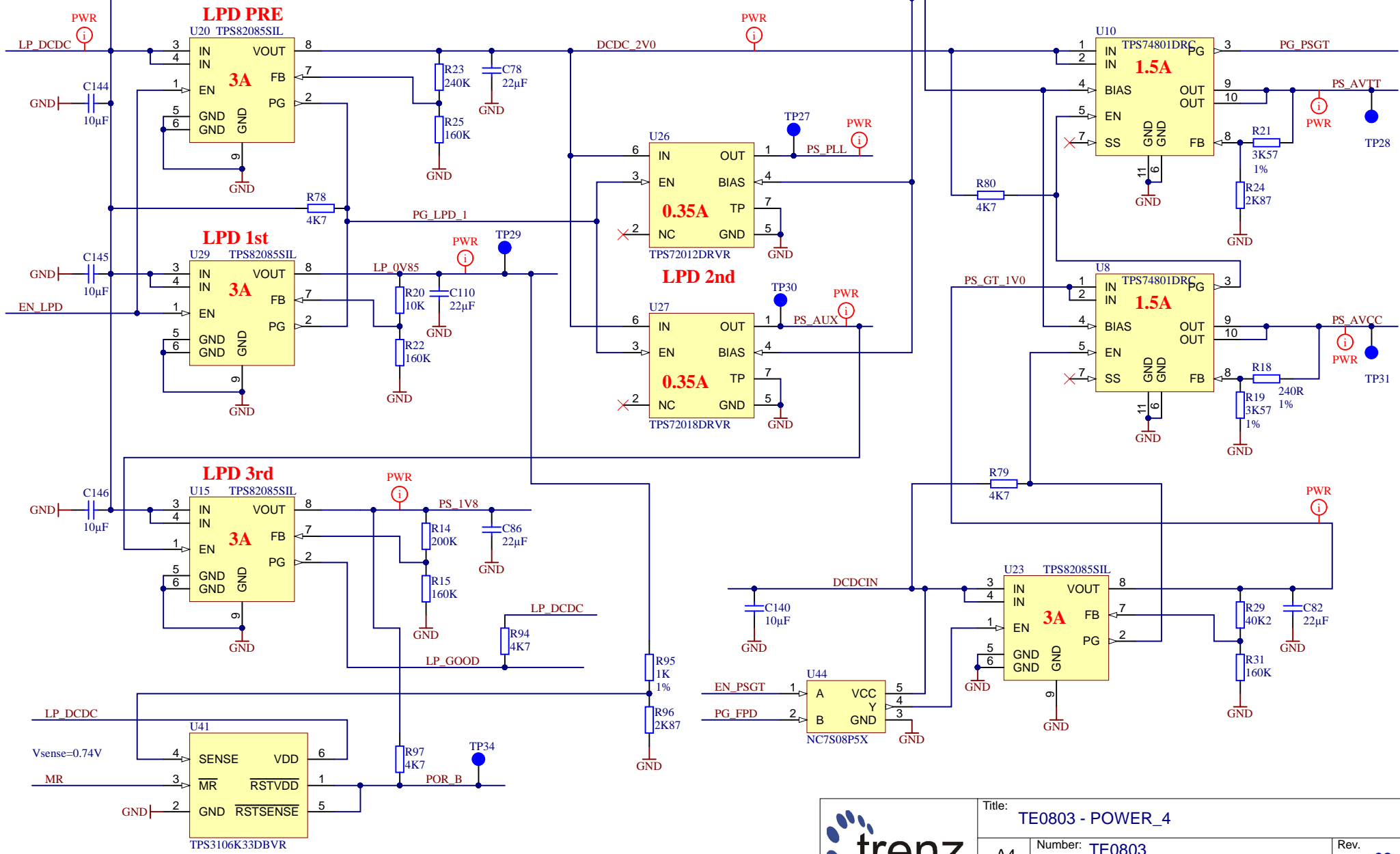
EN63A0QI



Title: TE0803 - POWER		
A4	Number: TE0803 4BE21-L	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page 23 of 26
Filename: POWER.SchDoc		



Title: TE0803 - POWER_2		
A4	Number: TE0803 4BE21-L	Rev. 03
Date: 2019-02-21	Copyright: Trenz Electronic GmbH / TT	Page24 of 26
Filename: POWER_2.SchDoc		



Title: TE0803 - POWER_4		
A4	Number: TE0803 4BE21-L	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 4BE21-L	Rev. 03
	Date: 2019-02-21	Copyright: Trenz Electronic GmbH	Page26 of 26
	Filename: Revision_Changes.SchDoc		

1

2

3

4