

1

2

3

4

A

A

B

B

C

C

D

D

LOGO1
TE Logo PRINT Layer

LOGO PRINT

POWER

SC1

SC2

U_ClocksOverview

U_Legal Notices Modules

U_PowerOverview

U_Reset-InterruptsOverview

U_Revision_Changes

ETH-PHY

eMMC

USBPHY

XCZU

PS

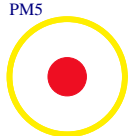
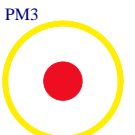
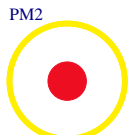
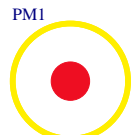
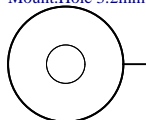
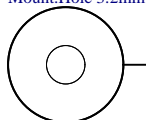
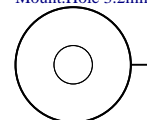
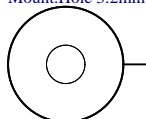
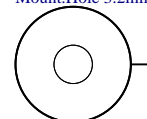
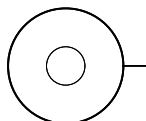
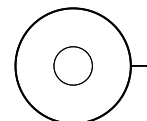
DDR4-PS

MISC

B2B_Connectors

PL

DDR4-PL



Special notes:

~~Serial1~~

Serialnummer 6,3 x 6,3mm

Serial2

Serial

Serialnummer 6,3 x 6,3mm
AD only



Title: TE0865 Main		
A4	Number: 1 ABI21MA	Rev. 02
Date: 04.12.2023	Copyright: Trenz Electronic GmbH	Page 1 of 51
Filename: TE0865.schdoc		

1

2

3

4

1

2

3

4

A

A

XCZU_Config

XCZU_88_89_90_91_93_94_HD

XCZU_500_501_502_MIO

XCZU_POWER



XCZU_64_65_HP

XCZU_128_129_130_131_MGT

XCZU_504_PSDDR

XCZU_GND



B

B

XCZU_66_67_HP

XCZU_224_225_226_227_MGT

XCZU_505_MGT



XCZU_68_69_HP

XCZU_228_229_230_231_MGT



C

C

XCZU_70_71_HP



D


D

1

2

3

4

			Title: TE0865 – XCZU		
			A4	Number: 2 ABI21MA	Rev. 02
Date: 11.10.2021		Copyright: Trenz Electronic GmbH		Page 2 of 51	
Filename: XCZU.schdoc					

A

B

C

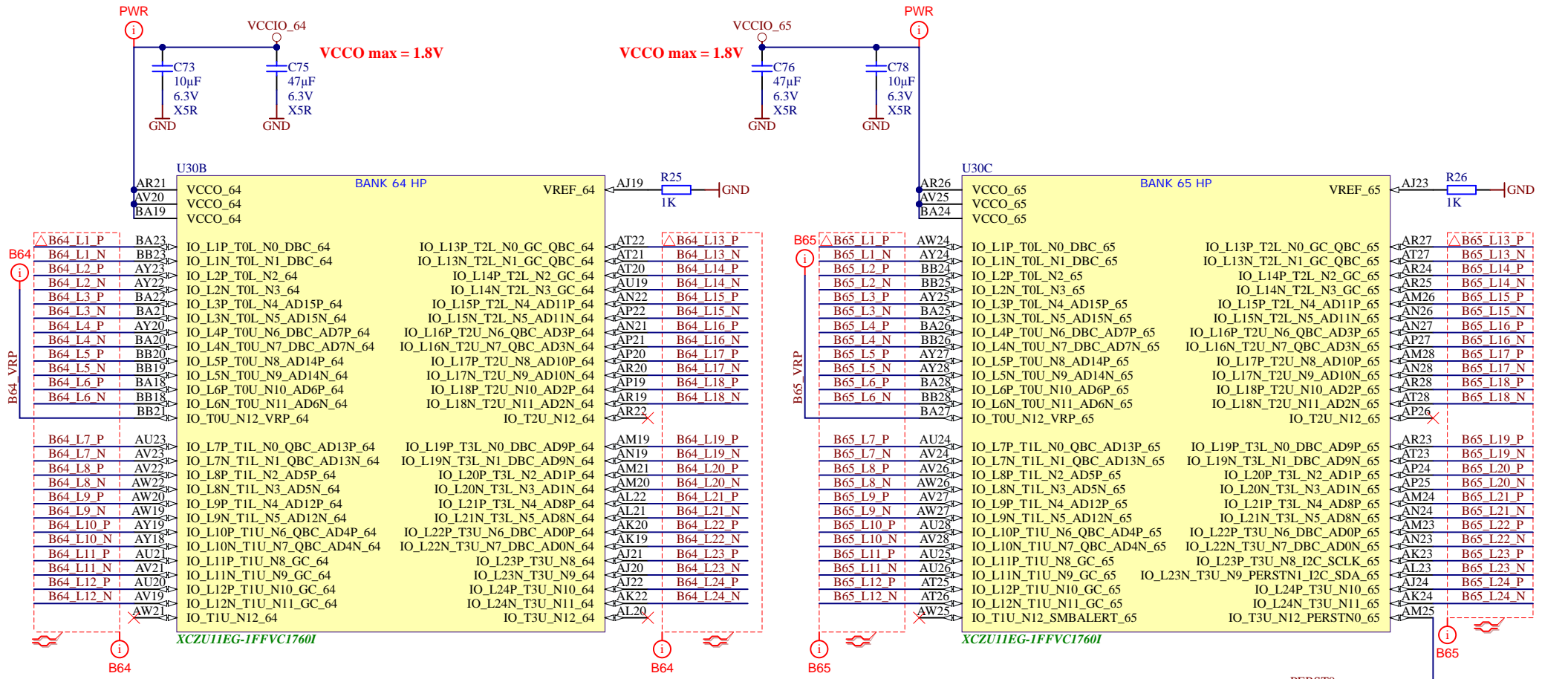
D

A

B

C

D



Title: TE0865 – XZU_64_65_HP		
A4	Number: 3 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 3 of 51
Filename: XZU_64_65_HP.schdoc		

A

A

B

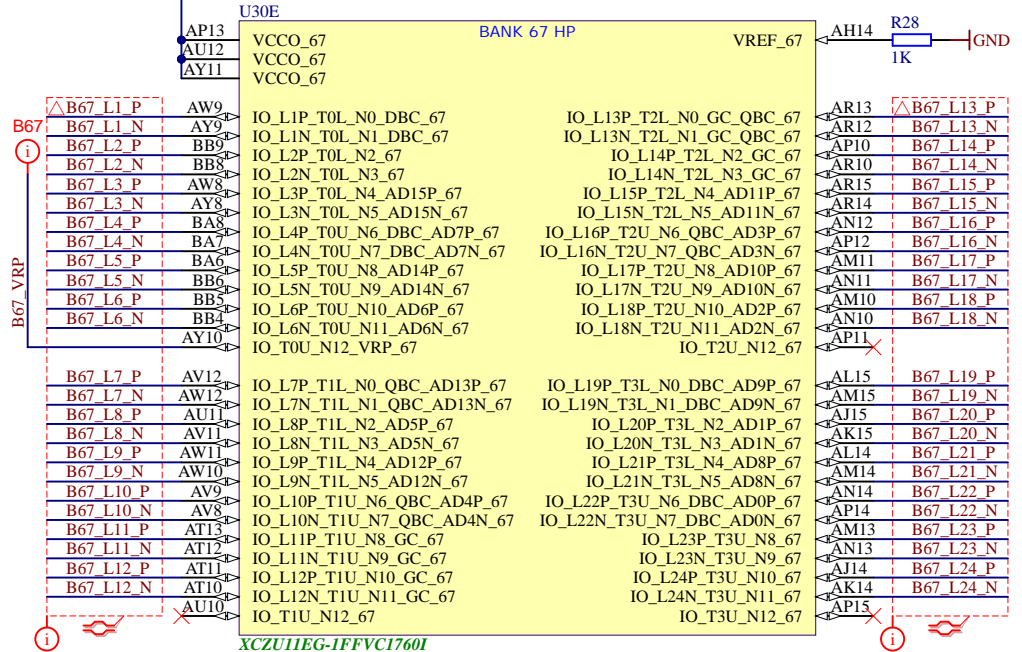
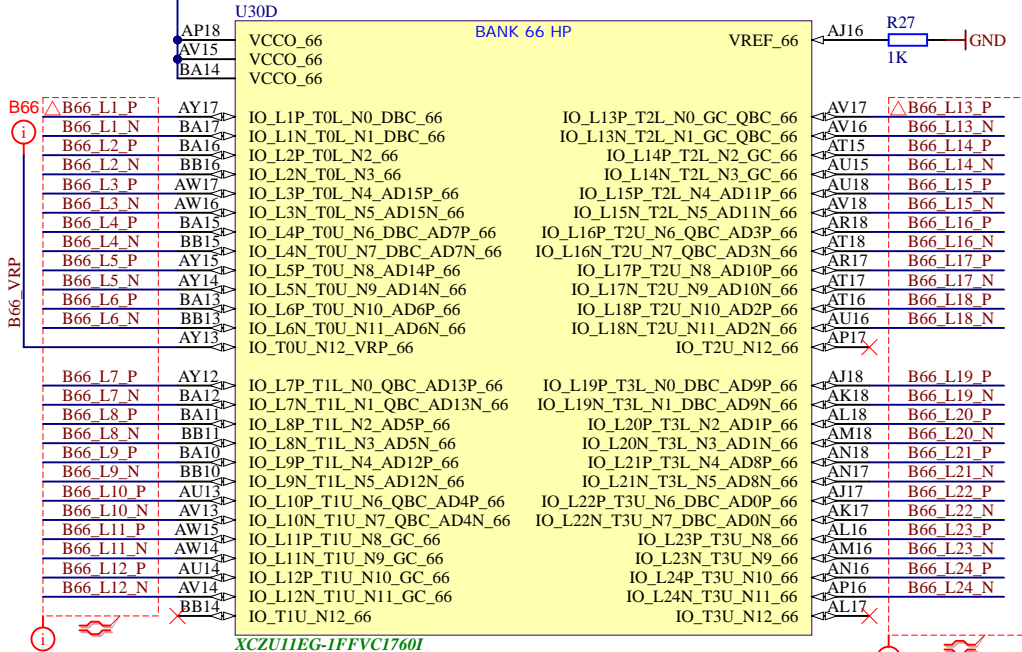
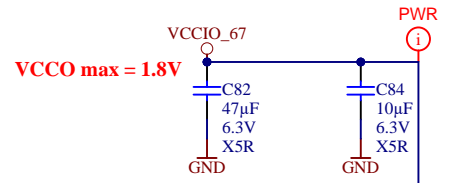
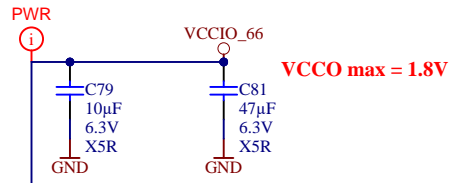
B

C


C

D

D



B66 XCZU11EG-1FFVC17601 B66 B67 XCZU11EG-1FFVC17601 B67



Title: TE0865 – XCZU_66_67_HP

A4	Number: 4 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 4 of 51
Filename: XCZU_66_67_HP.schdoc		

A

A

B

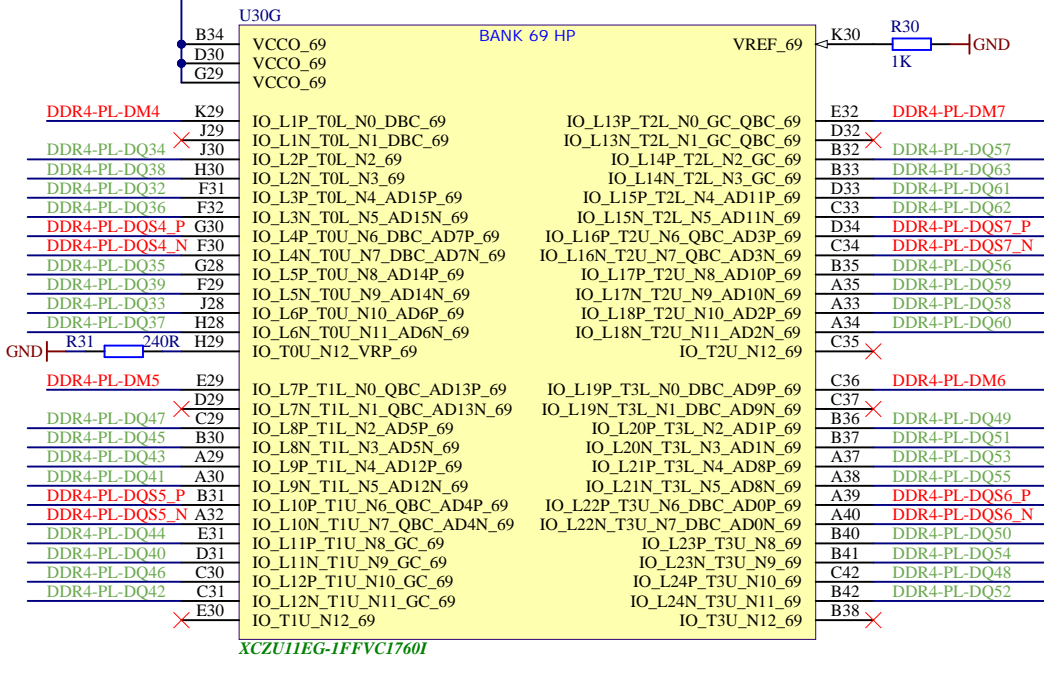
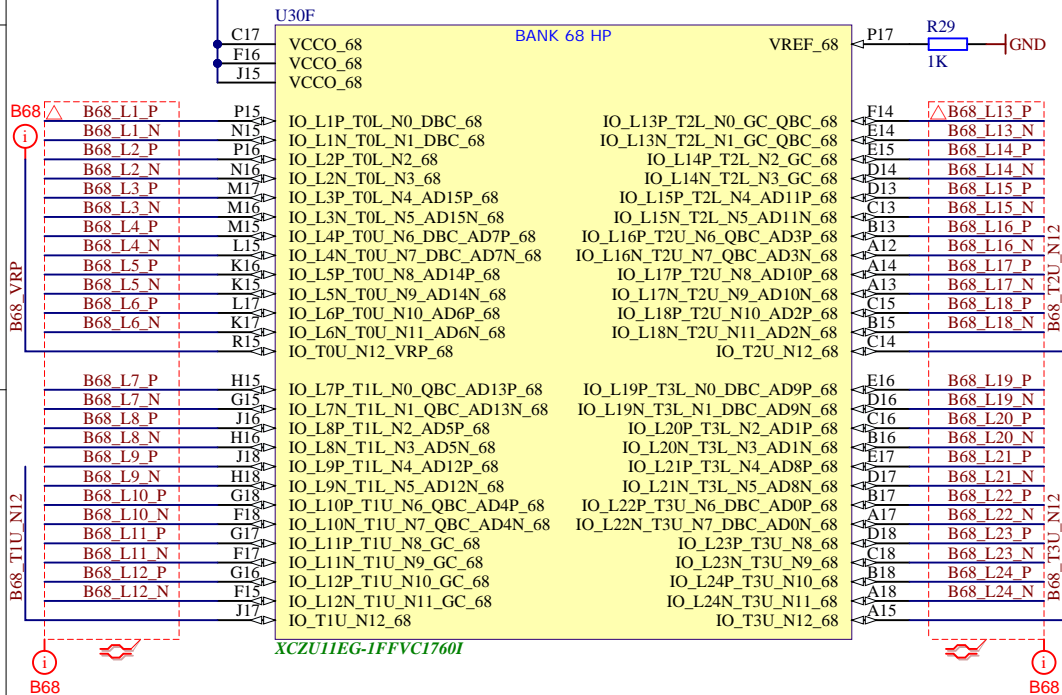
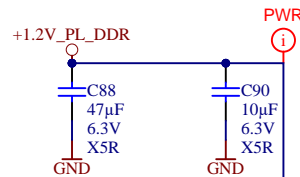
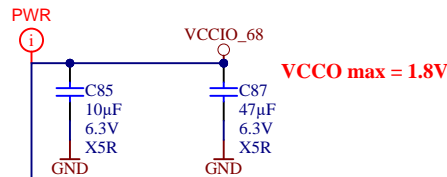
B

C

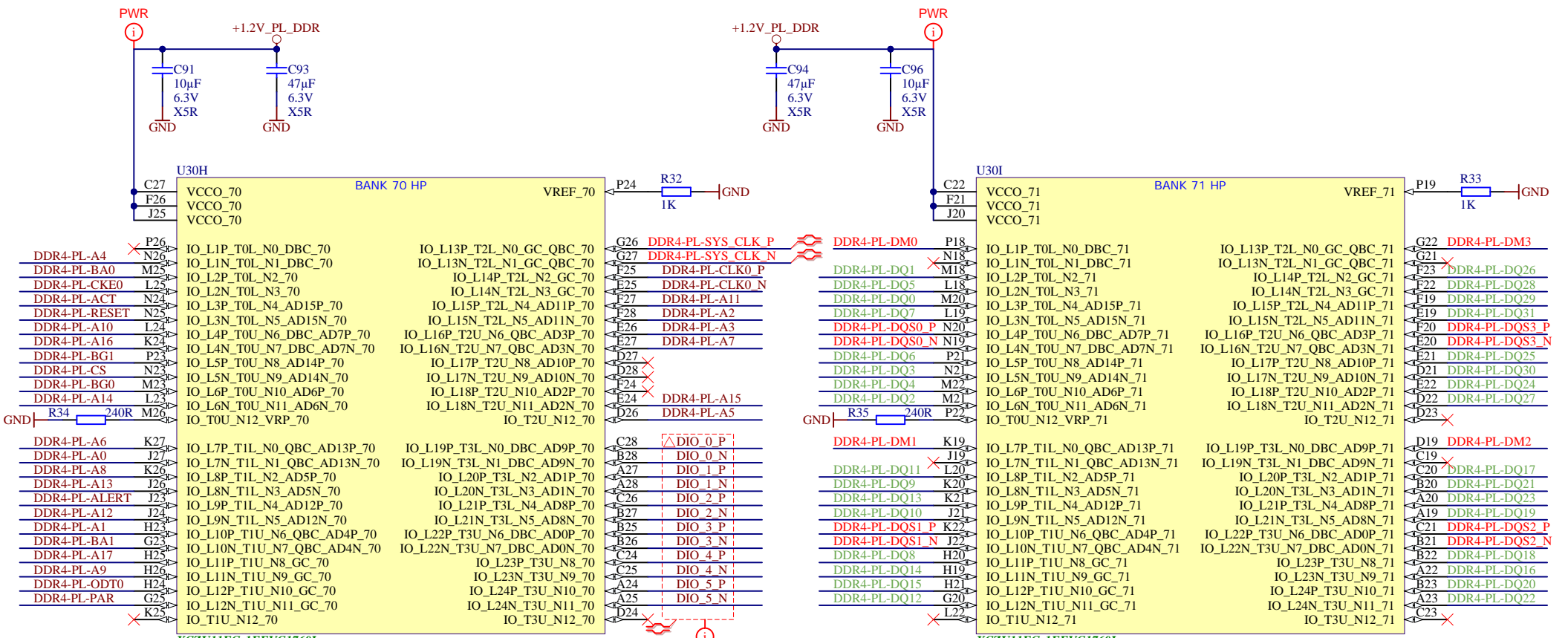
C

D

D

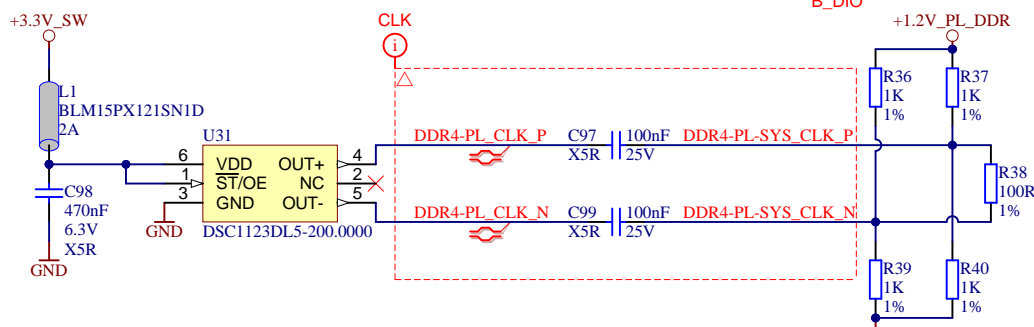


Title: TE0865 – XCZU_68_69_HP		
A4	Number: 5 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 5 of 51
Filename: XCZU_68_69_HP.schdoc		



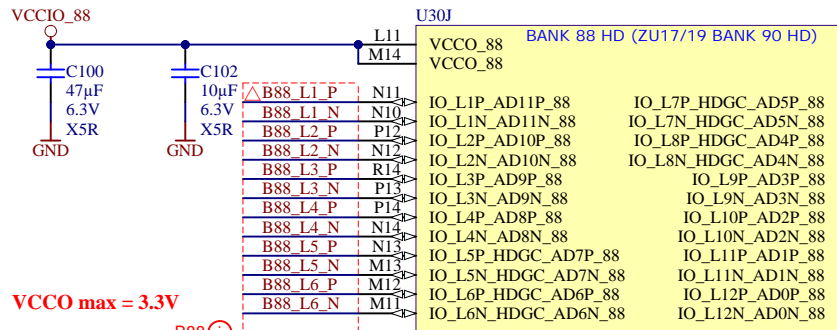
XCZU11EG-1FFVC1760I

XCZU11EG-1FFVC1760I

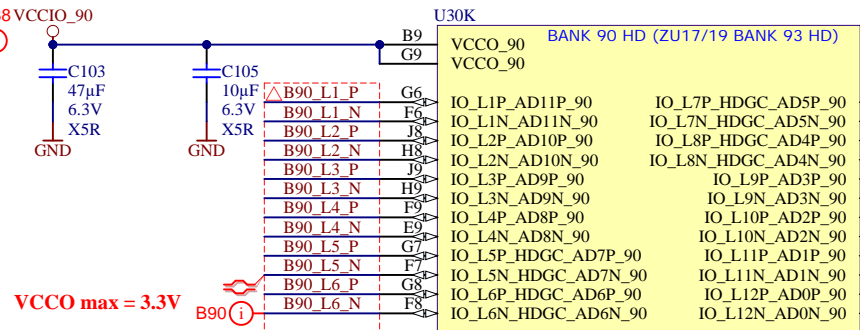


Title: TE0865 – XCZU_70_71_HP		
A4	Number: 6 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 6 of 51
Filename: XCZU_70_71_HP.schdoc		

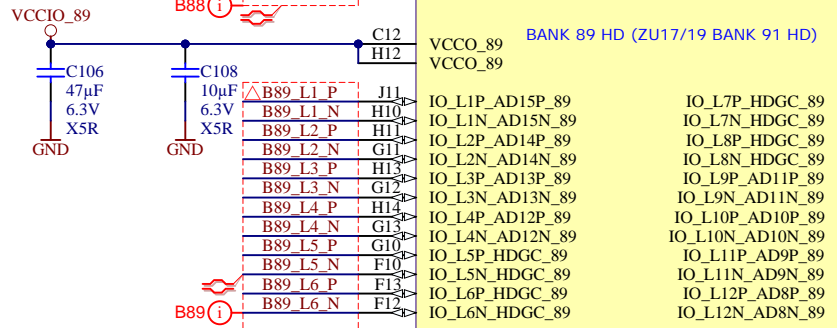
VCCO max = 3.3V



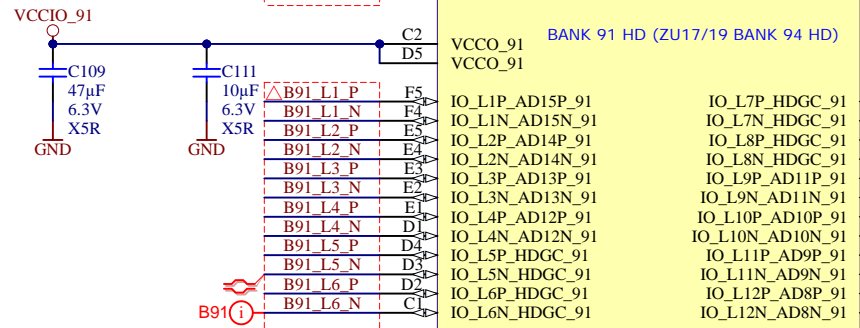
VCCO max = 3.3V



VCCO max = 3.3V



VCCO max = 3.3V

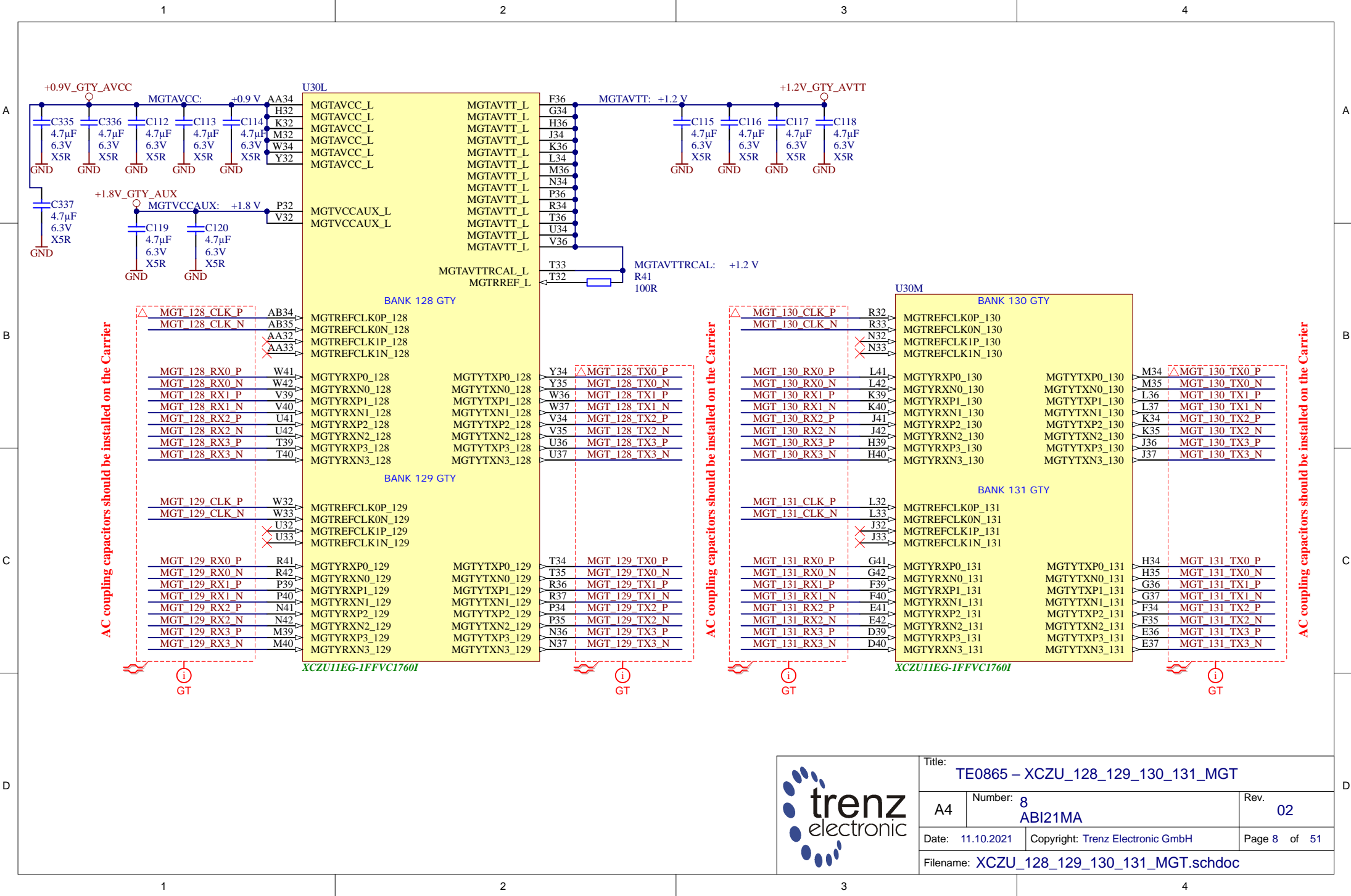



XCZU11EG-1FFVC1760I

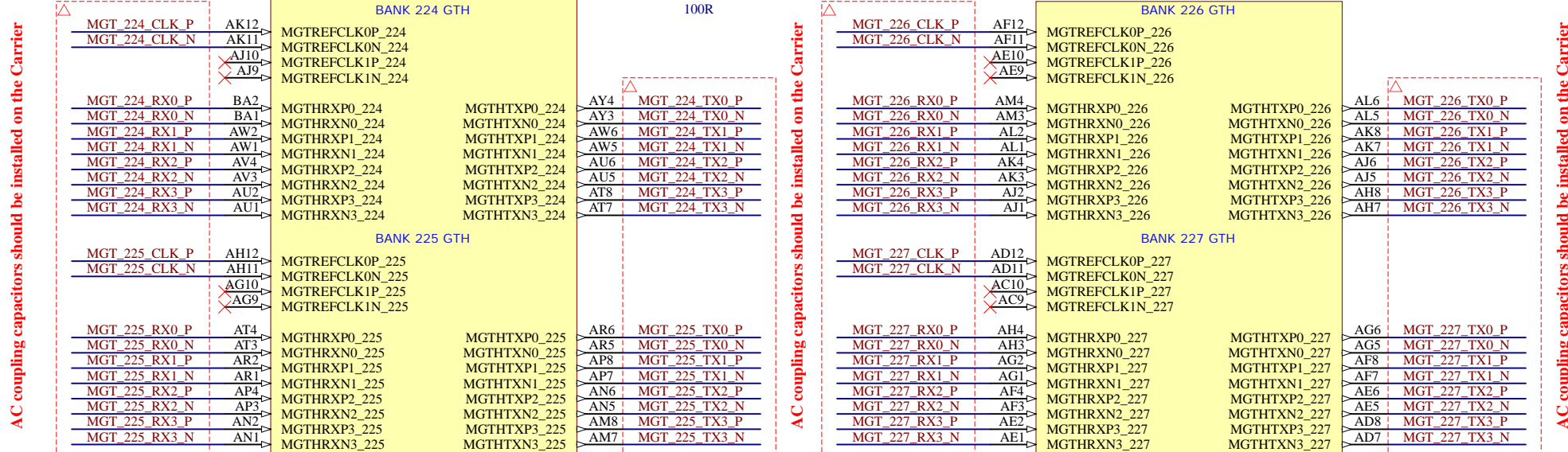
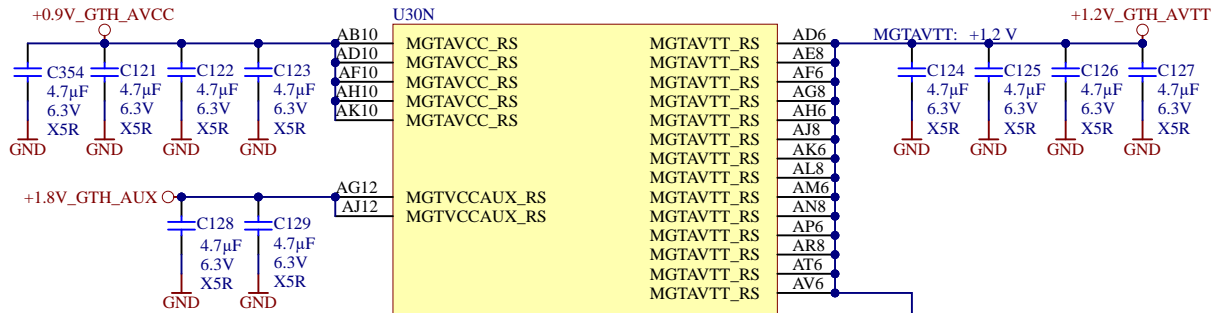
XCZU11EG-1FFVC1760I



Title: TE0865 - XCZU_88_89_90_91_93_94_HD		
A4	Number: 7 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 7 of 51
Filename: XCZU_88_89_90_91_93_94_HD.schdoc		



			Title: TE0865 – XCZU_128_129_130_131_MGT	
			A4	Number: 8 ABI21MA
Date: 11.10.2021		Copyright: Trenz Electronic GmbH		Page 8 of 51
Filename: XCZU_128_129_130_131_MGT.schdoc				

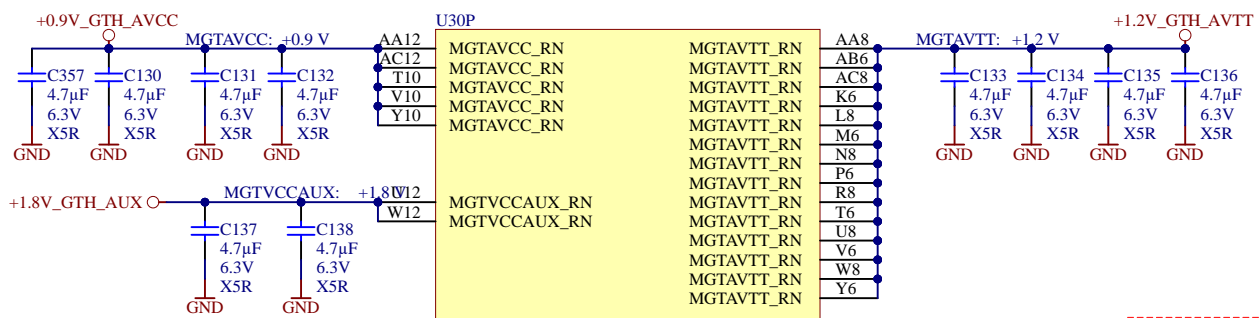


trenz electronic

Title: TE0865 – XCZU_224_225_226_227_MGT		
A4	Number: 9 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 9 of 51
Filename: XCZU_224_225_226_227_MGT.schdoc		

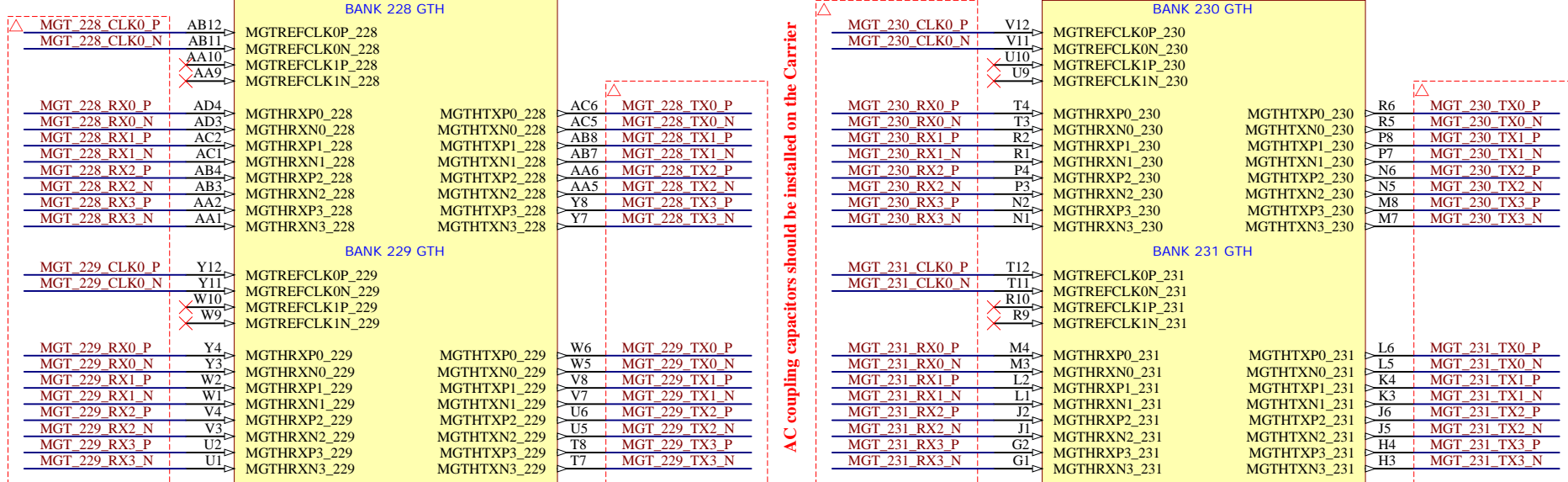
A

A



B

B



AC coupling capacitors should be installed on the Carrier

AC coupling capacitors should be installed on the Carrier

AC coupling capacitors should be installed on the Carrier


C

C



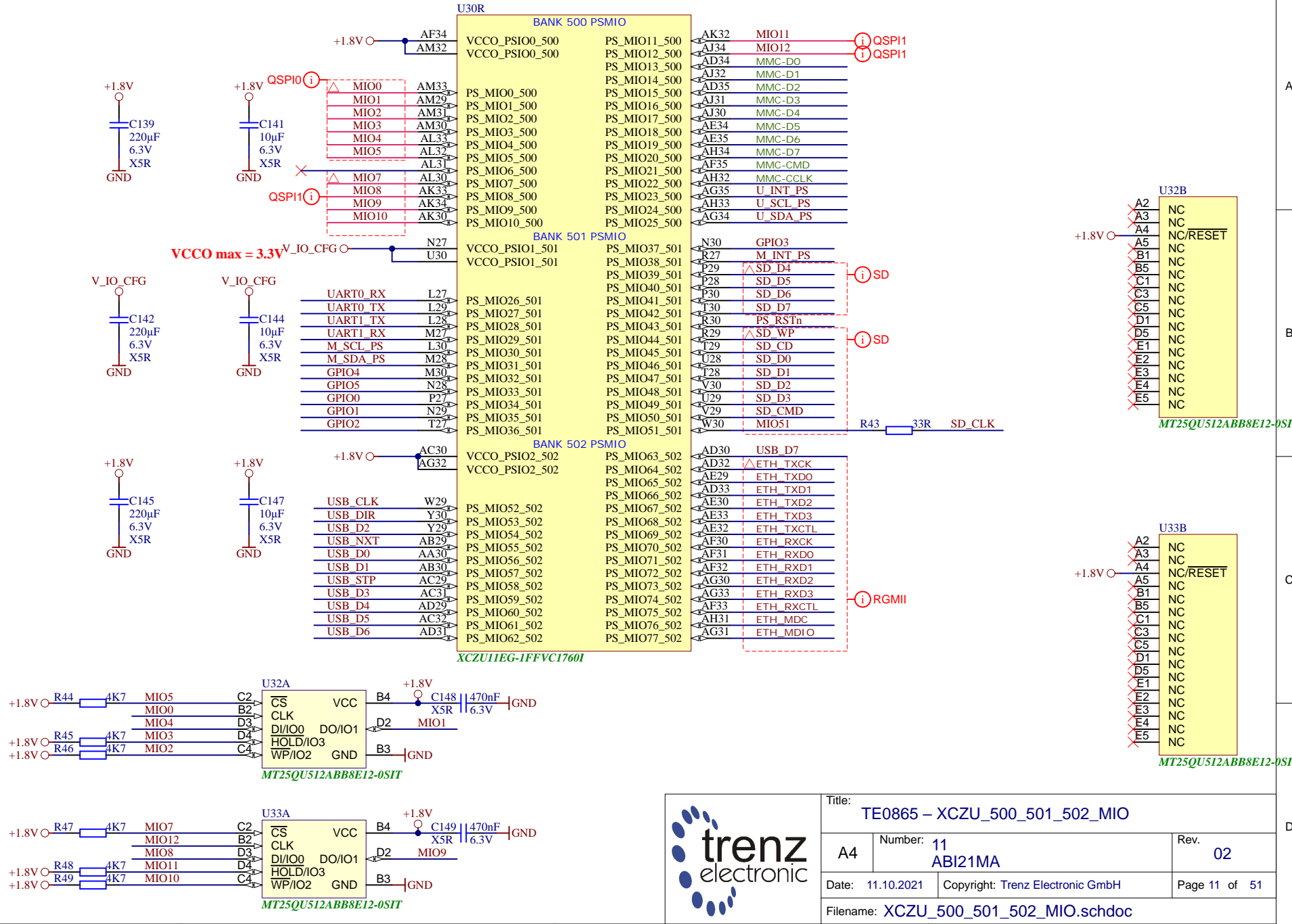
D

D



Title: TE0865 – XCZU_228_229_230_231_MGT

A4	Number: 10 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 10 of 51
Filename: XCZU_228_229_230_231_MGT.schdoc		



Title: TE0865 - XCZU_500_501_502_MIO			
A4	Number: 11 ABI21MA	Rev. 02	
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 11 of 51	
Filename: XCZU_500_501_502_MIO.schdoc			

A

A

B

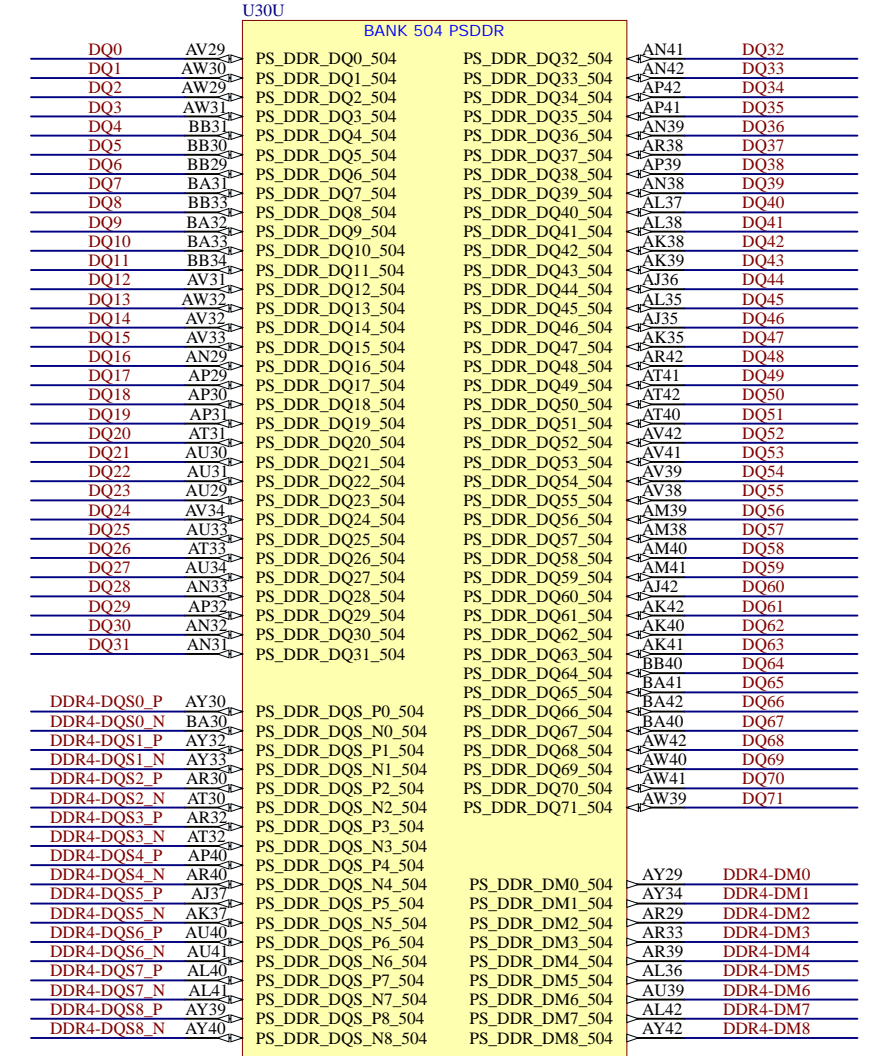
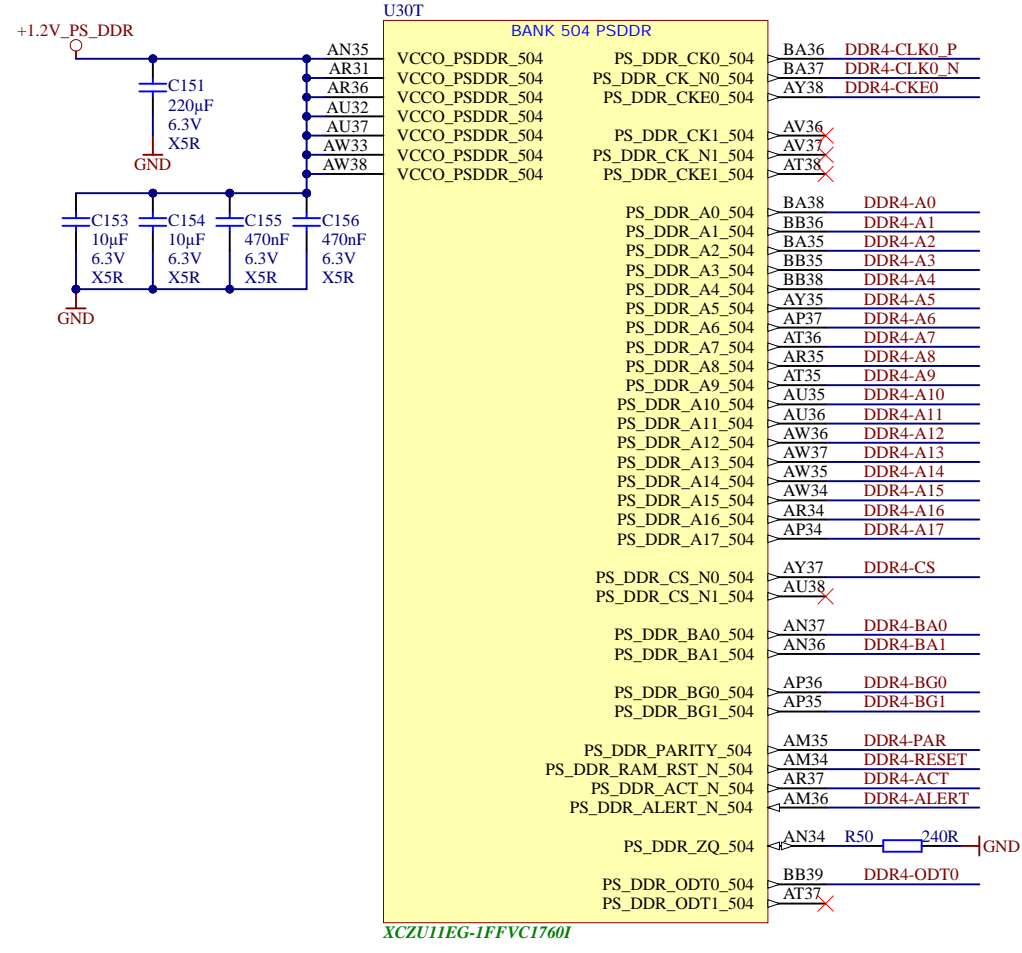
B

C

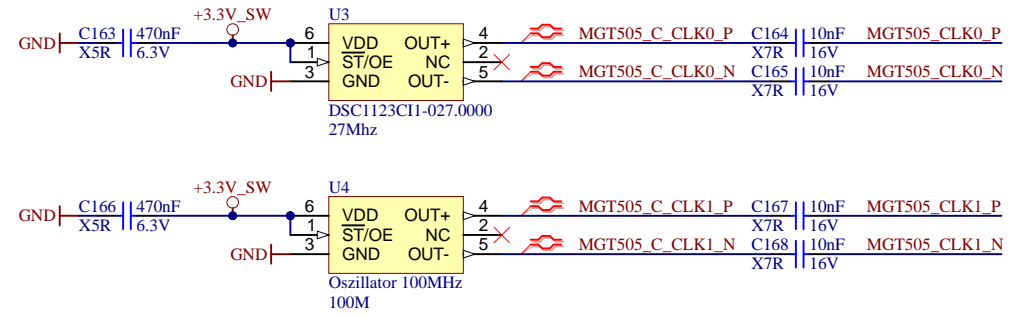
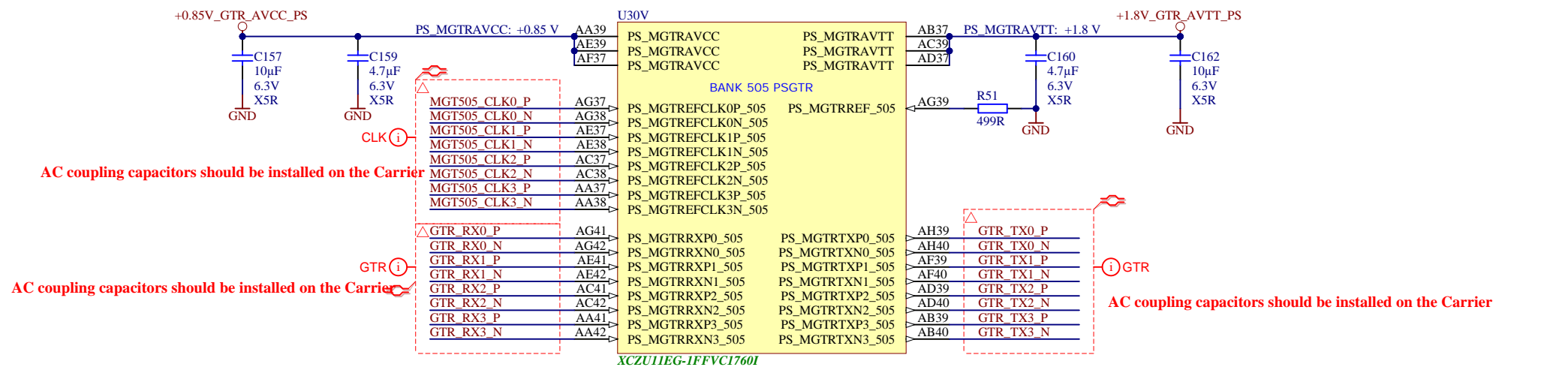
C

D

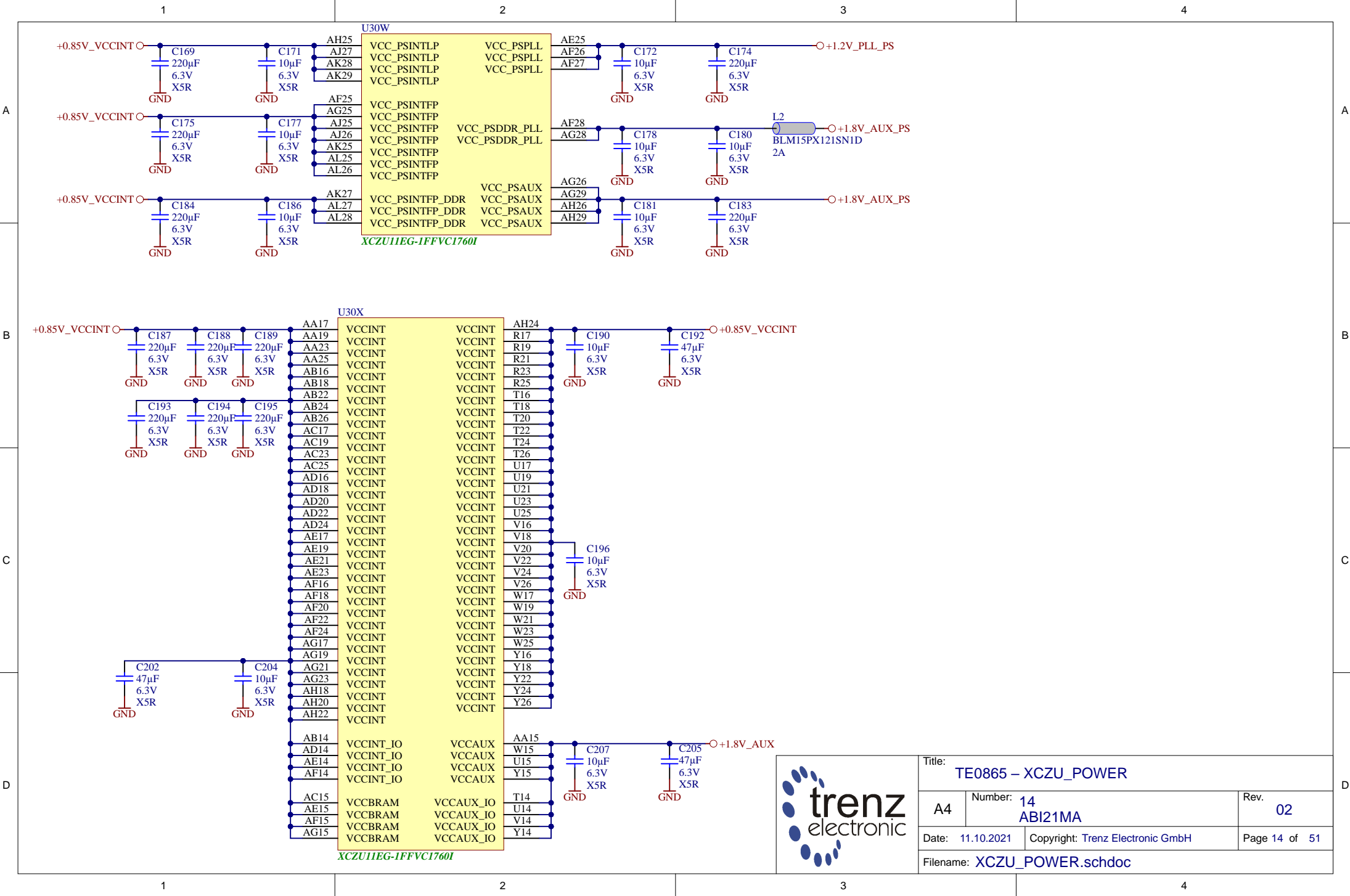
D



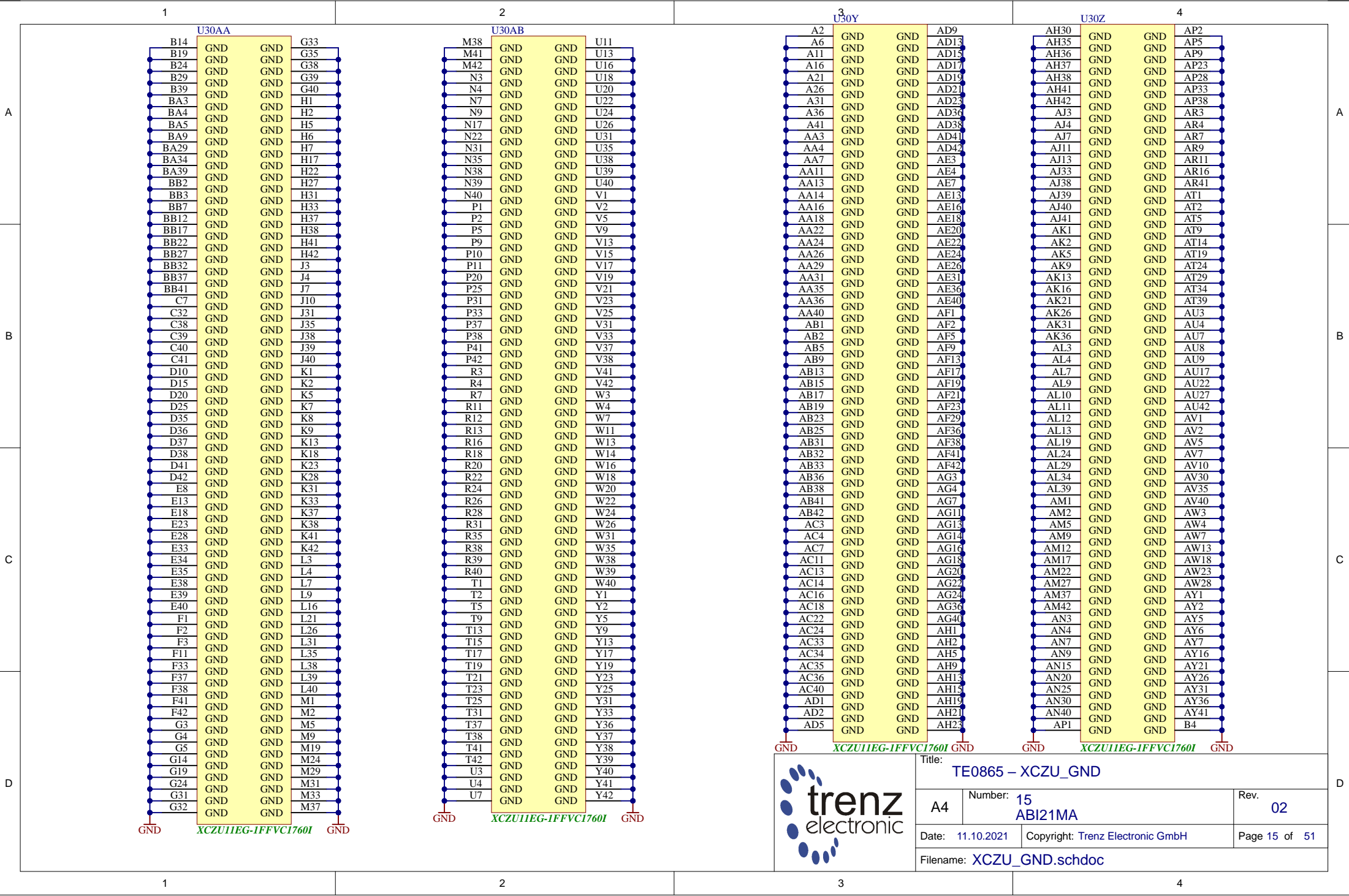
Title: TE0865 – XCZU_504_PSDDR		
A4	Number: 12 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 12 of 51
Filename: XCZU_504_PSDDR.schdoc		



Title: TE0865 – XCZU_505_MGT		
A4	Number: 13 ABI21MA	Rev. 02
Date: 27.12.2022	Copyright: Trenz Electronic GmbH	
Page 13 of 51		
Filename: XCZU_505_MGT.schdoc		



Title: TE0865 – XCZU_POWER		
A4	Number: 14 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 14 of 51
Filename: XCZU_POWER.schdoc		



A

A

B

B

C

C

D

D



Title: TE0865 – XCZU_GND		
A4	Number: 15 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 15 of 51
Filename: XCZU_GND.schdoc		

1

2

3
U30Y

U30Z

4

U30AA

U30AB

B14	GND	GND	G33
B19	GND	GND	G35
B24	GND	GND	G38
B29	GND	GND	G39
B39	GND	GND	G40
BA3	GND	GND	H1
BA4	GND	GND	H2
BA5	GND	GND	H5
BA9	GND	GND	H6
BA29	GND	GND	H7
BA34	GND	GND	H17
BA39	GND	GND	H22
BB2	GND	GND	H27
BB3	GND	GND	H31
BB7	GND	GND	H33
BB12	GND	GND	H37
BB17	GND	GND	H38
BB22	GND	GND	H41
BB27	GND	GND	H42
BB32	GND	GND	J3
BB37	GND	GND	J4
BB41	GND	GND	J7
C7	GND	GND	J10
C32	GND	GND	J31
C38	GND	GND	J35
C39	GND	GND	J38
C40	GND	GND	J39
C41	GND	GND	J40
D10	GND	GND	K1
D15	GND	GND	K2
D20	GND	GND	K5
D25	GND	GND	K7
D35	GND	GND	K8
D36	GND	GND	K9
D37	GND	GND	K13
D38	GND	GND	K18
D41	GND	GND	K23
D42	GND	GND	K28
E8	GND	GND	K31
E13	GND	GND	K33
E18	GND	GND	K37
E23	GND	GND	K38
E28	GND	GND	K41
E33	GND	GND	K42
E34	GND	GND	L3
E35	GND	GND	L4
E38	GND	GND	L7
E39	GND	GND	L9
E40	GND	GND	L16
F1	GND	GND	L21
F2	GND	GND	L26
F3	GND	GND	L31
F11	GND	GND	L35
F33	GND	GND	L38
F37	GND	GND	L39
F38	GND	GND	L40
F41	GND	GND	M1
F42	GND	GND	M2
G3	GND	GND	M5
G4	GND	GND	M9
G5	GND	GND	M19
G14	GND	GND	M24
G19	GND	GND	M29
G24	GND	GND	M31
G31	GND	GND	M33
G32	GND	GND	M37

GND XCZU11EG-1FFVC17601 GND

M38	GND	GND	U11
M41	GND	GND	U13
M42	GND	GND	U16
N3	GND	GND	U18
N4	GND	GND	U20
N7	GND	GND	U22
N9	GND	GND	U24
N17	GND	GND	U26
N22	GND	GND	U31
N22	GND	GND	U35
N31	GND	GND	U38
N35	GND	GND	U39
N38	GND	GND	U40
N39	GND	GND	V1
N40	GND	GND	V2
P1	GND	GND	V5
P2	GND	GND	V9
P5	GND	GND	V13
P9	GND	GND	V15
P10	GND	GND	V17
P11	GND	GND	V19
P25	GND	GND	V21
P31	GND	GND	V23
P33	GND	GND	V25
P37	GND	GND	V31
P38	GND	GND	V33
P41	GND	GND	V37
P42	GND	GND	V38
R3	GND	GND	V41
R4	GND	GND	V42
R7	GND	GND	W3
R11	GND	GND	W4
R12	GND	GND	W7
R13	GND	GND	W11
R16	GND	GND	W13
R18	GND	GND	W14
R20	GND	GND	W16
R22	GND	GND	W18
R24	GND	GND	W20
R26	GND	GND	W22
R28	GND	GND	W24
R31	GND	GND	W26
R35	GND	GND	W31
R38	GND	GND	W35
R39	GND	GND	W38
R40	GND	GND	W39
T1	GND	GND	W40
T2	GND	GND	Y1
T5	GND	GND	Y2
T9	GND	GND	Y9
T13	GND	GND	Y13
T15	GND	GND	Y17
T17	GND	GND	Y19
T19	GND	GND	Y23
T21	GND	GND	Y25
T23	GND	GND	Y31
T25	GND	GND	Y33
T31	GND	GND	Y36
T37	GND	GND	Y37
T38	GND	GND	Y38
T41	GND	GND	Y39
T42	GND	GND	Y40
U3	GND	GND	Y41
U4	GND	GND	Y42
U7	GND	GND	

GND XCZU11EG-1FFVC17601 GND

A2	GND	GND	AD9
A6	GND	GND	AD13
A11	GND	GND	AD15
A16	GND	GND	AD17
A21	GND	GND	AD19
A26	GND	GND	AD21
A31	GND	GND	AD23
A36	GND	GND	AD36
AA1	GND	GND	AD38
AA3	GND	GND	AD41
AA4	GND	GND	AD42
AA7	GND	GND	AE3
AA11	GND	GND	AE4
AA13	GND	GND	AE7
AA14	GND	GND	AE13
AA16	GND	GND	AE16
AA18	GND	GND	AE18
AA22	GND	GND	AE20
AA24	GND	GND	AE22
AA26	GND	GND	AE24
AA29	GND	GND	AE26
AA31	GND	GND	AE31
AA35	GND	GND	AE36
AA36	GND	GND	AE40
AA40	GND	GND	AF1
AB1	GND	GND	AF2
AB2	GND	GND	AF5
AB5	GND	GND	AF9
AB9	GND	GND	AF13
AB13	GND	GND	AF17
AB15	GND	GND	AF19
AB17	GND	GND	AF21
AB19	GND	GND	AF23
AB23	GND	GND	AF29
AB25	GND	GND	AF36
AB31	GND	GND	AF38
AB32	GND	GND	AF41
AB33	GND	GND	AF42
AB36	GND	GND	AG3
AB38	GND	GND	AG4
AB41	GND	GND	AG7
AB42	GND	GND	AG11
AC3	GND	GND	AG13
AC4	GND	GND	AG14
AC7	GND	GND	AG16
AC11	GND	GND	AG18
AC13	GND	GND	AG20
AC14	GND	GND	AG22
AC16	GND	GND	AG24
AC18	GND	GND	AG36
AC22	GND	GND	AG40
AC24	GND	GND	AH1
AC33	GND	GND	AH2
AC34	GND	GND	AH5
AC35	GND	GND	AH9
AC36	GND	GND	AH13
AC40	GND	GND	AH15
AD1	GND	GND	AH19
AD2	GND	GND	AH21
AD5	GND	GND	AH23

GND XCZU11EG-1FFVC17601 GND

AH30	GND	GND	AP2
AH35	GND	GND	AP5
AH36	GND	GND	AP9
AH37	GND	GND	AP23
AH38	GND	GND	AP28
AH41	GND	GND	AP33
AH42	GND	GND	AP38
AJ3	GND	GND	AR3
AJ4	GND	GND	AR4
AJ7	GND	GND	AR7
AJ11	GND	GND	AR9
AJ13	GND	GND	AR11
AJ33	GND	GND	AR16
AJ38	GND	GND	AR41
AJ39	GND	GND	AT1
AJ40	GND	GND	AT2
AJ41	GND	GND	AT5
AK1	GND	GND	AT9
AK2	GND	GND	AT14
AK5	GND	GND	AT19
AK9	GND	GND	AT24
AK13	GND	GND	AT29
AK16	GND	GND	AT34
AK21	GND	GND	AT39
AK26	GND	GND	AU3
AK31	GND	GND	AU4
AK36	GND	GND	AU7
AL3	GND	GND	AU8
AL4	GND	GND	AU9
AL7	GND	GND	AU17
AL9	GND	GND	AU22
AL10	GND	GND	AU27
AL11	GND	GND	AU42
AL12	GND	GND	AV1
AL13	GND	GND	AV2
AL19	GND	GND	AV5
AL24	GND	GND	AV7
AL29	GND	GND	AV10
AL34	GND	GND	AV30
AL39	GND	GND	AV35
AM1	GND	GND	AV40
AM2	GND	GND	AW3
AM5	GND	GND	AW4
AM9	GND	GND	AW7
AM12	GND	GND	AW13
AM17	GND	GND	AW18
AM22	GND	GND	AW23
AM27	GND	GND	AW28
AM37	GND	GND	AY1
AM42	GND	GND	AY2
AN3	GND	GND	AY5
AN4	GND	GND	AY6
AN7	GND	GND	AY7
AN9	GND	GND	AY16
AN15	GND	GND	AY21
AN20	GND	GND	AY26
AN25	GND	GND	AY31
AN30	GND	GND	AY36
AN40	GND	GND	AY41
API	GND	GND	B4

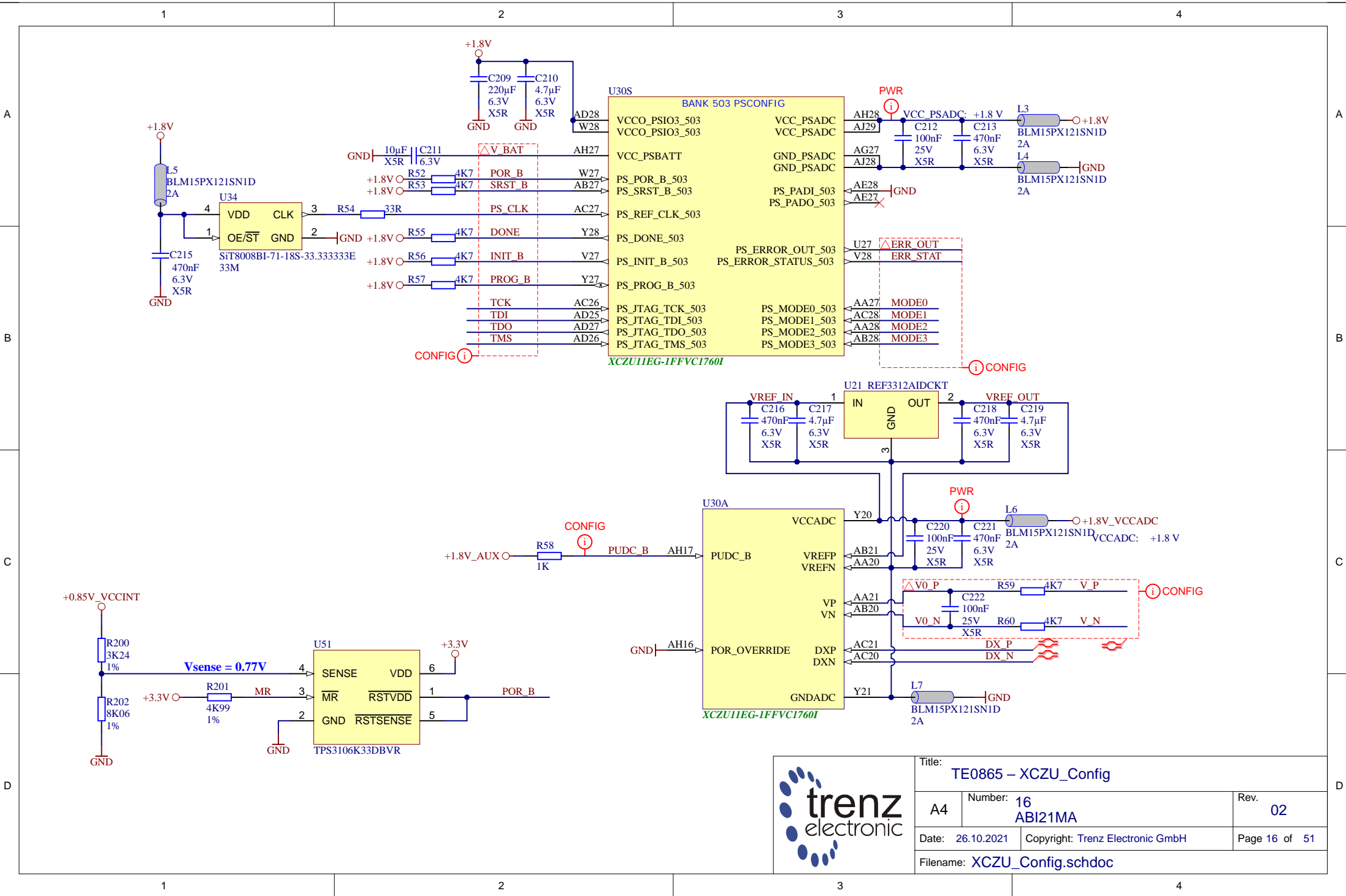
GND XCZU11EG-1FFVC17601 GND

1

2

3

4



Title: TE0865 – XCZU_Config		
A4	Number: 16 ABI21MA	Rev. 02
Date: 26.10.2021	Copyright: Trenz Electronic GmbH	Page 16 of 51
Filename: XCZU_Config.schdoc		

1

2

3

4

A

A

B

B

C

C

D

D

DDR4-PS-RAM_1


DDR4-PS-RAM_2

DDR4-PS-RAM_3

DDR4-PS-RAM_4

DDR4-PS-RAM_5

DDR4-PS-TERM

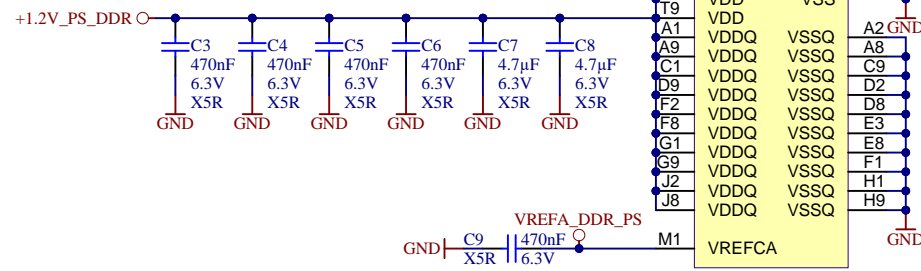
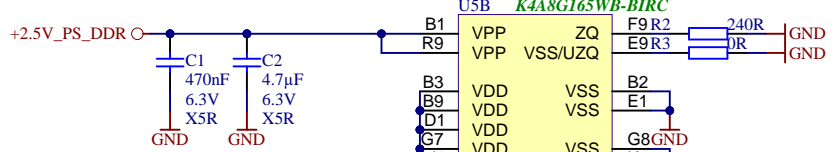
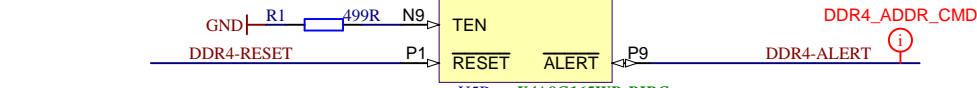
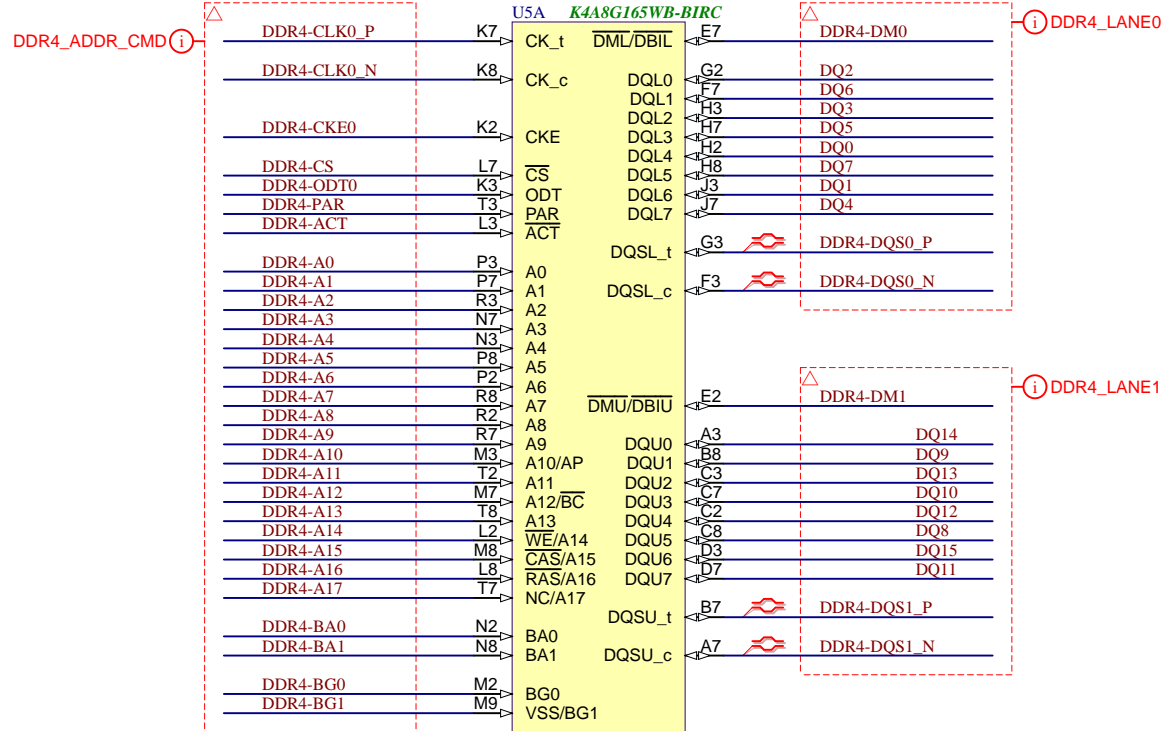
	Title: TE0865 – DDR4-PS		
	A4	Number: 17 ABI21MA	Rev. 02
	Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 17 of 51
	Filename: DDR4-PS.SchDoc		

1

2

3

4



Title: TE0865 – DDR4-PS-RAM_1		
A4	Number: 18 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 18 of 51
Filename: DDR4-RAM_1.SchDoc		

1

2

3

4

A

A

B

B

C

C

D

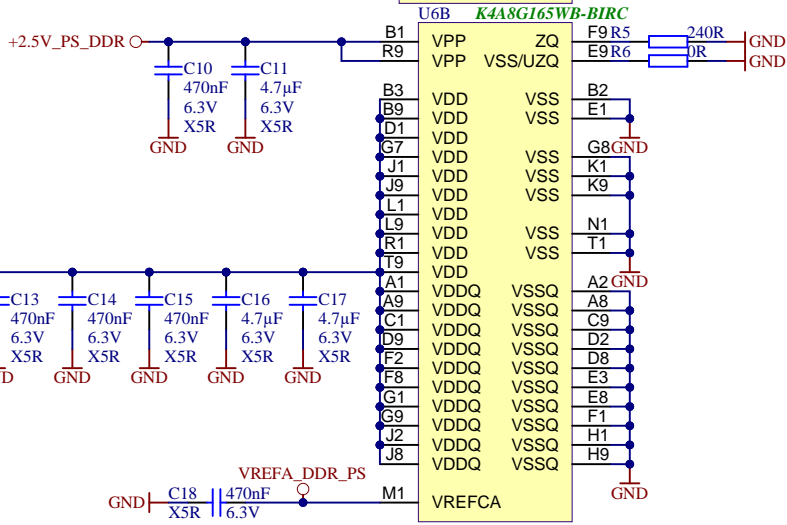
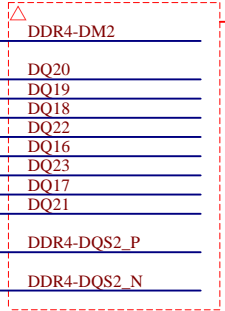
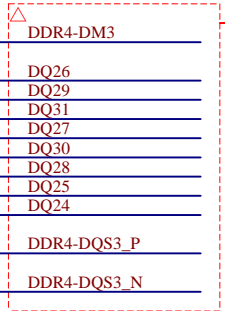
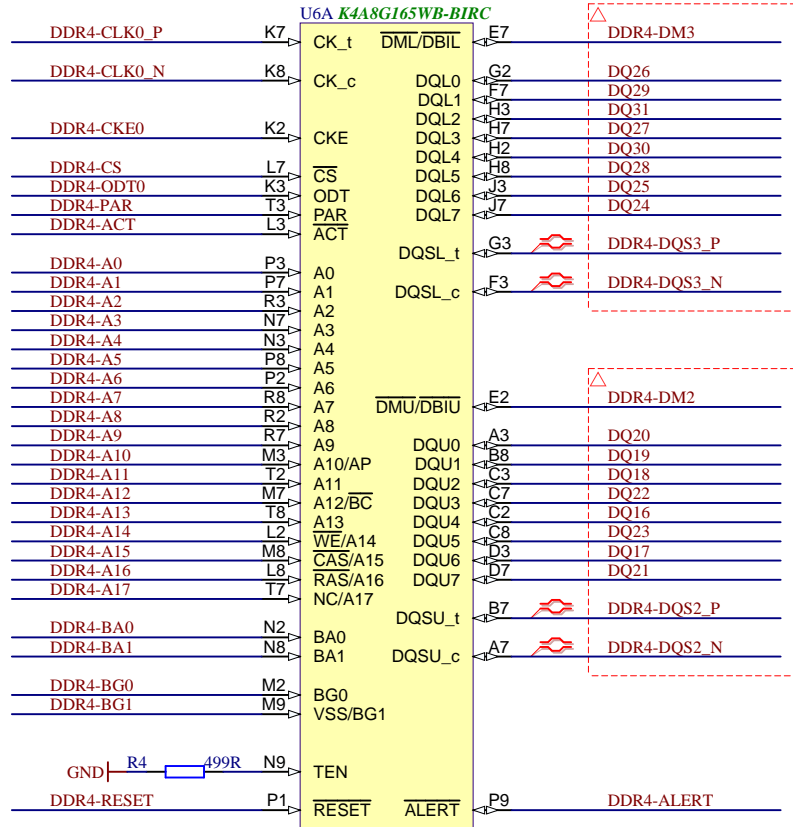
D

1

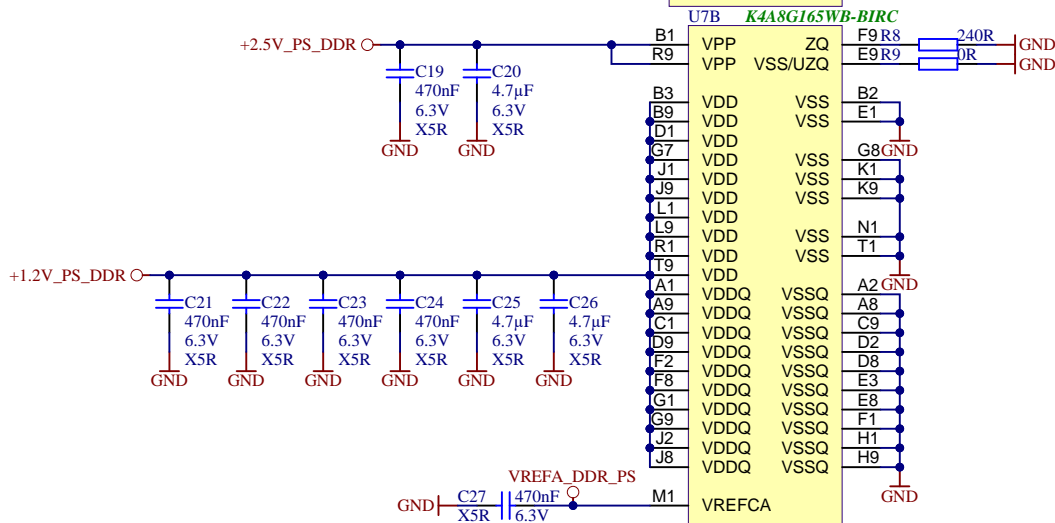
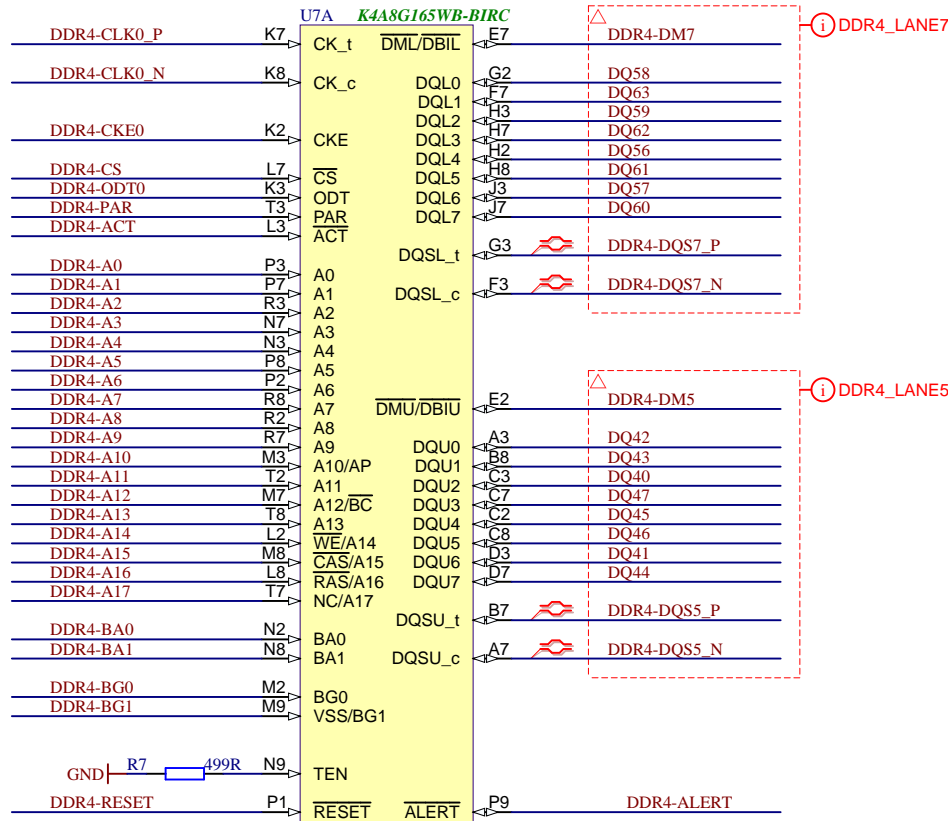

2

3

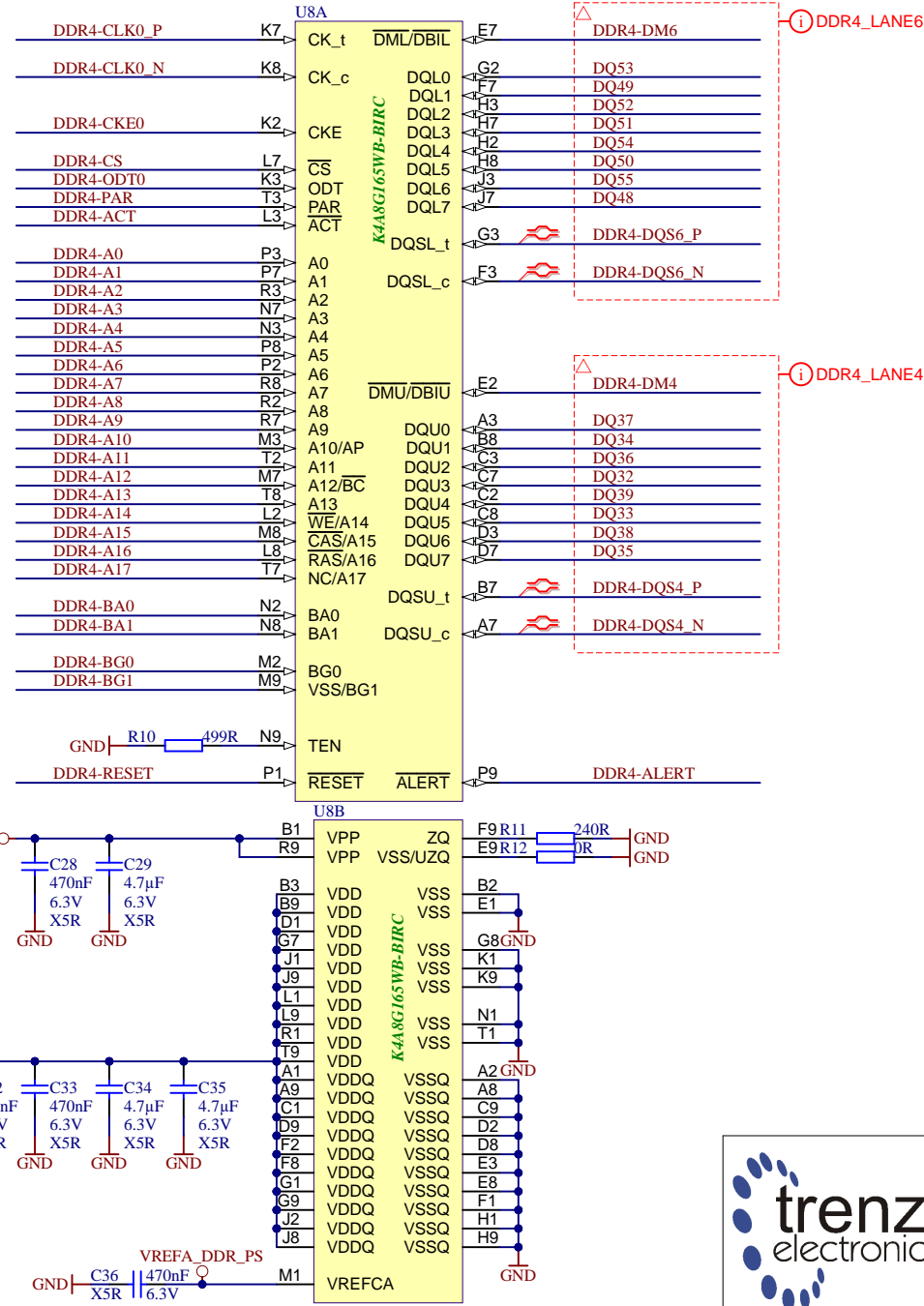
4



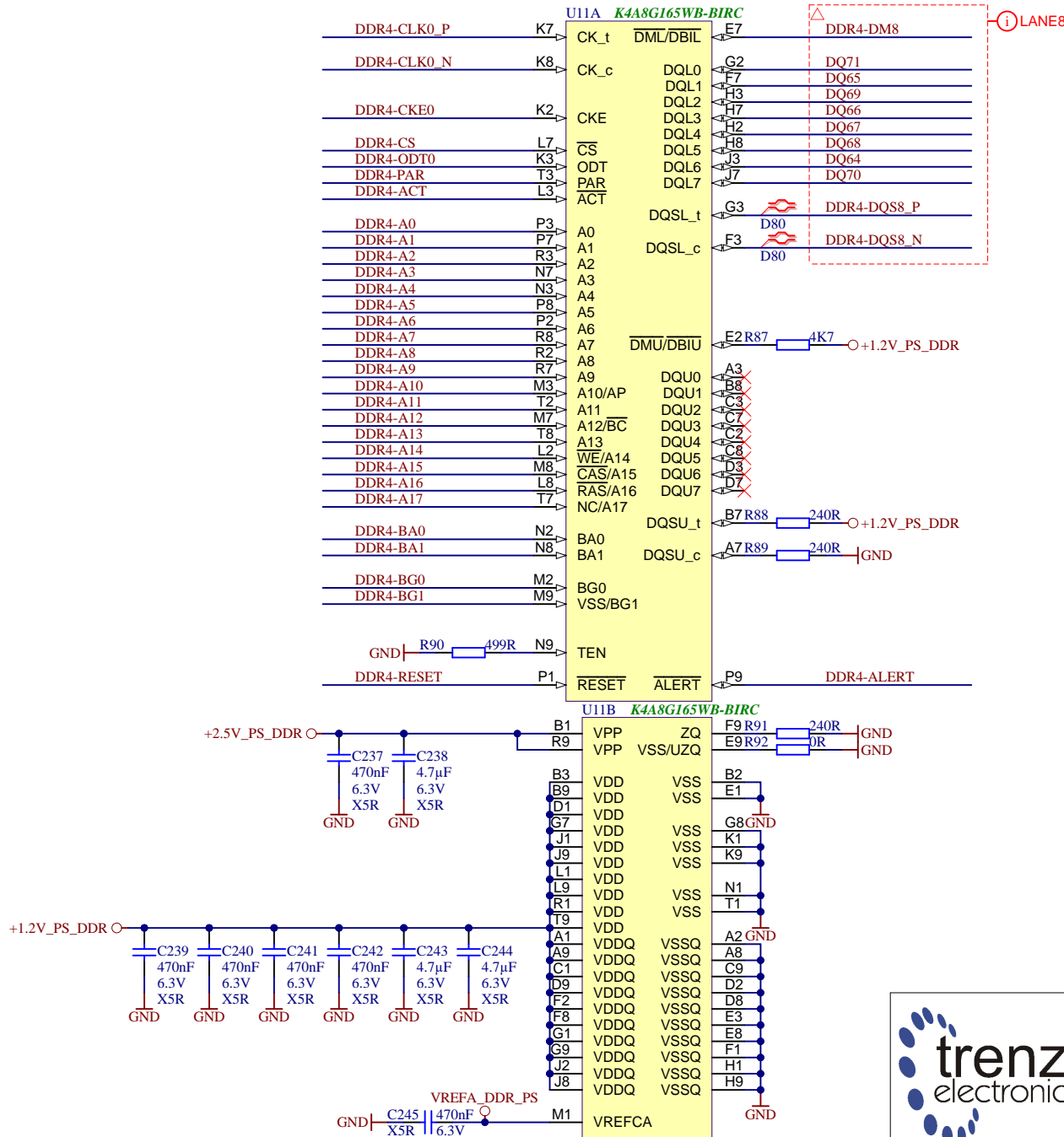
Title: TE0865 – DDR4-PS-RAM_2		
A4	Number: 19 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 19 of 51
Filename: DDR4-RAM_2.SchDoc		





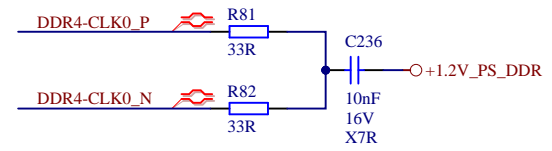
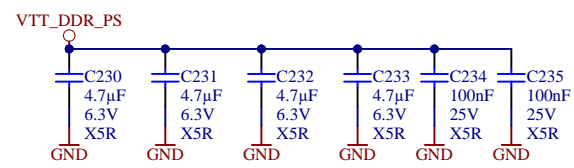
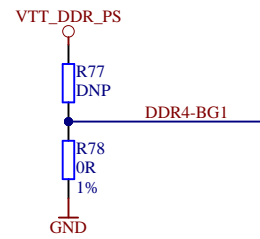
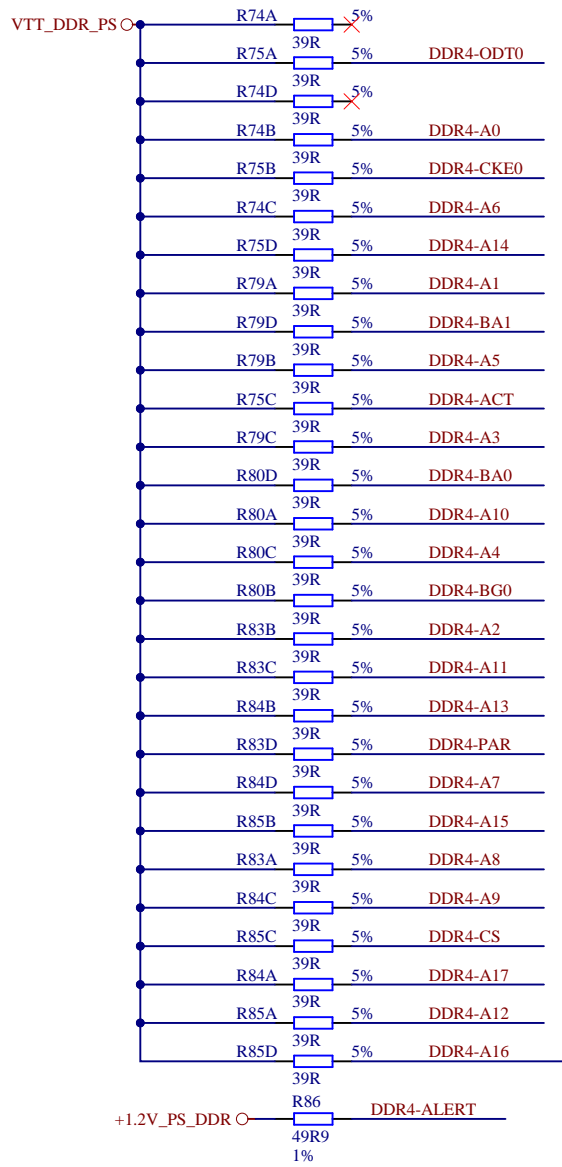
Title: TE0865 – DDR4-PS-RAM_3		
A4	Number: 20 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 20 of 51
Filename: DDR4-RAM_3.SchDoc		



Title: TE0865 – DDR4-PS-RAM_4		
A4	Number: 21 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 21 of 51
Filename: DDR4-RAM_4.SchDoc		



			Title: TE0865 – DDR4-PS-RAM_5	
			A4	Number: 22 ABI21MA
Date: 11.10.2021		Copyright: Trenz Electronic GmbH		Page 22 of 51
Filename: DDR4-RAM_5.SchDoc				



Title: TE0865 – DDR4-PS-TERM		
A4	Number: 23 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 23 of 51
Filename: DDR4-TERM.SchDoc		

1

2

3

4

A

A

B

B

C

C

D

D


DDR4-PL-RAM_1

DDR4-PL-RAM_2

DDR4-PL-RAM_3

DDR4-PL-RAM_4

DDR4-PL-TERM

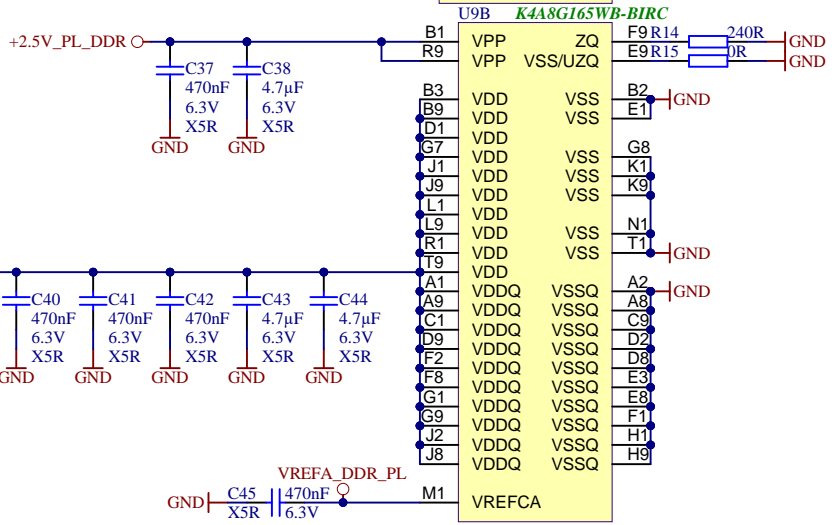
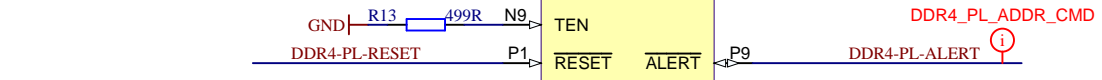
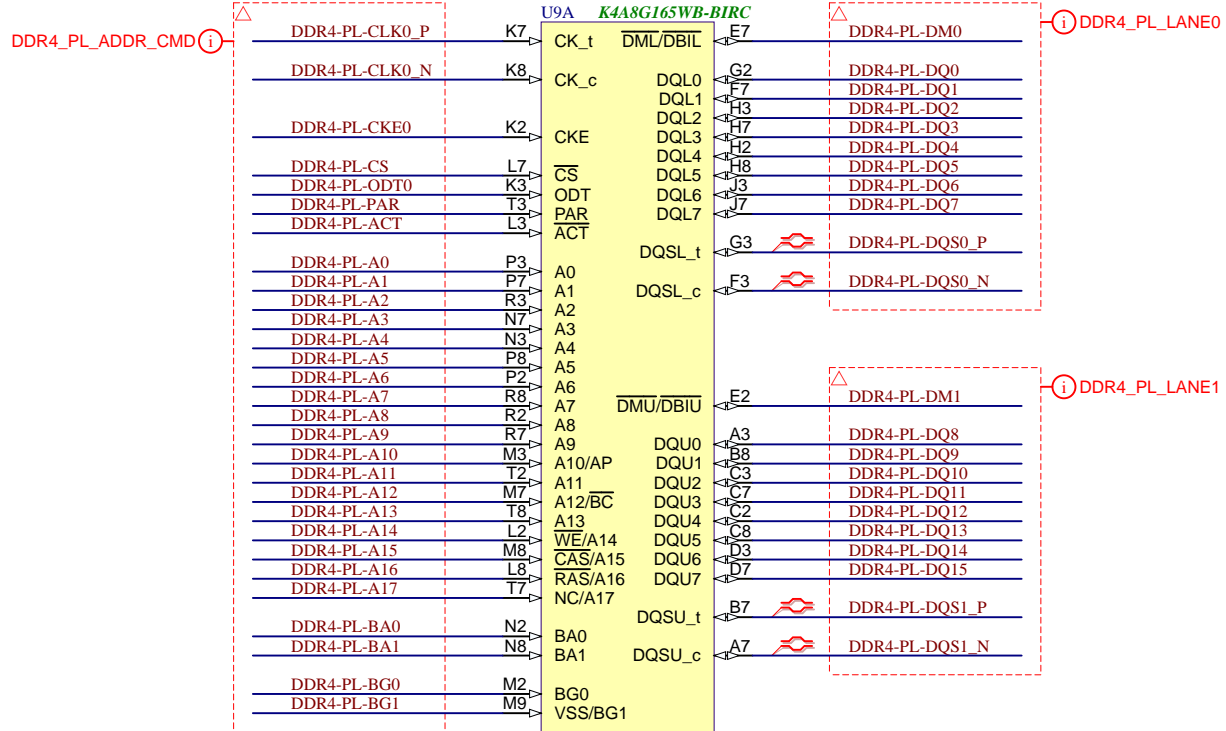
	Title: TE0865 – DDR4-PL		
	A4	Number: 24 ABI21MA	Rev. 02
	Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 24 of 51
	Filename: DDR4-PL.SchDoc		

1

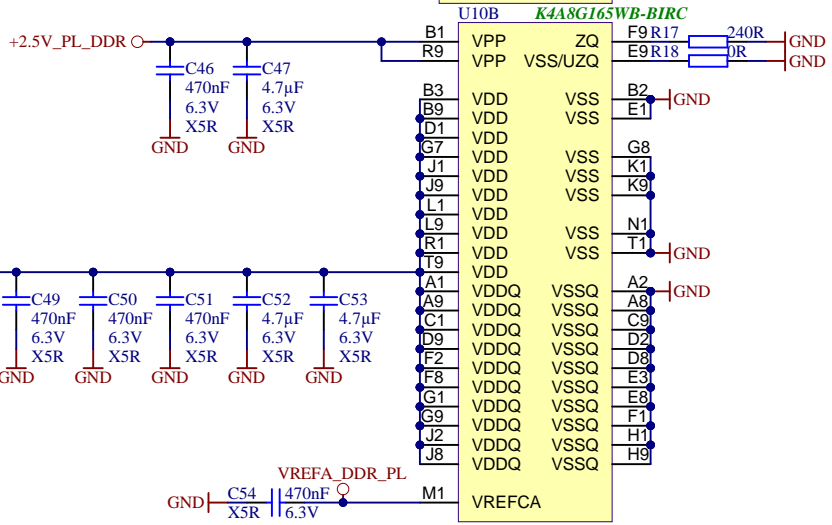
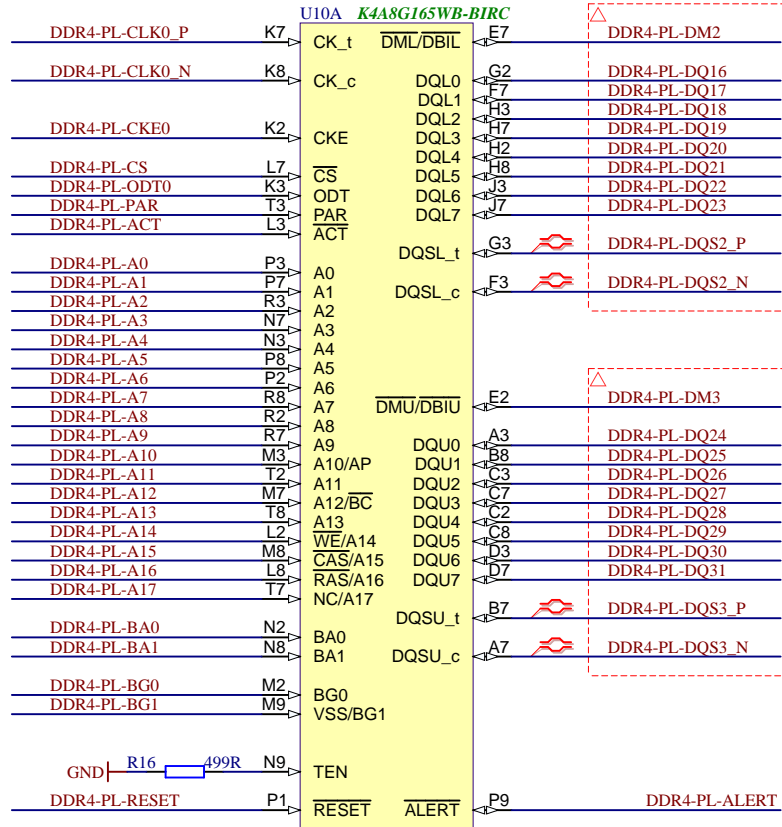
2

3

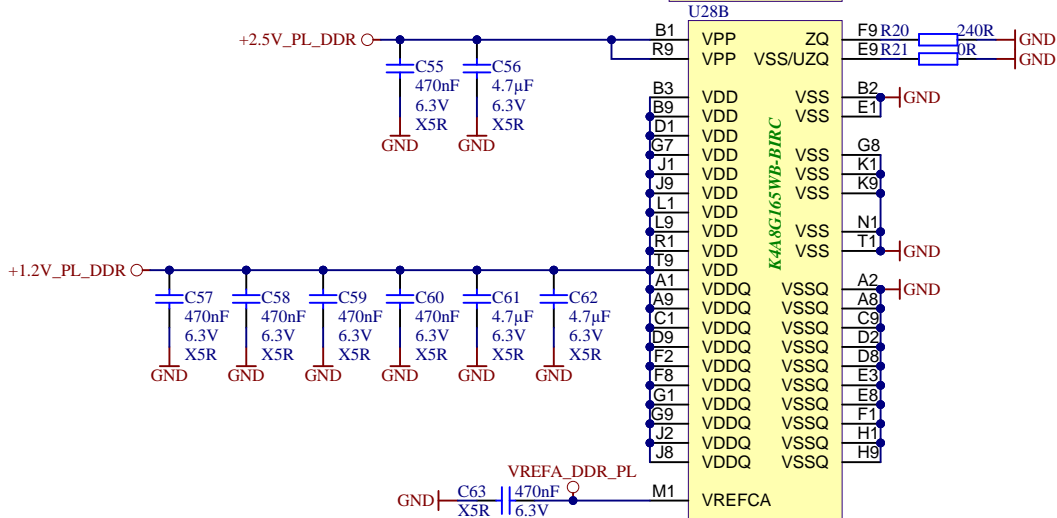
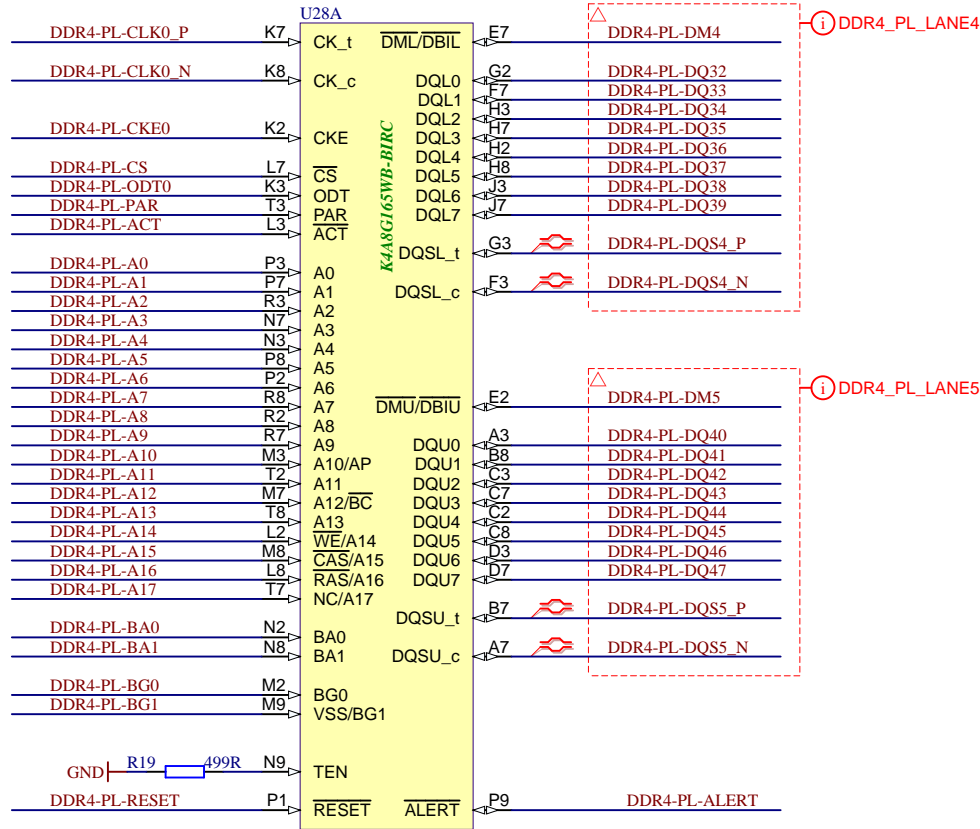
4



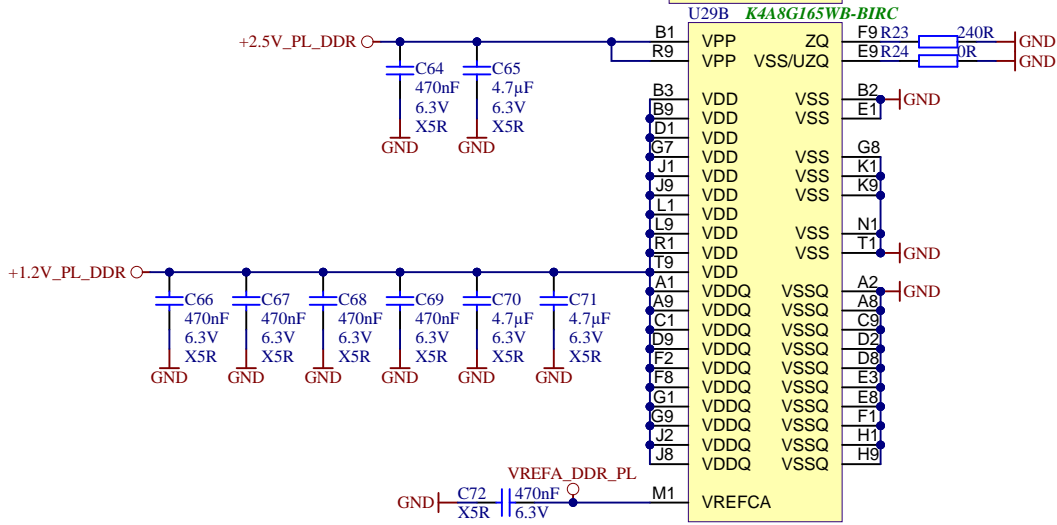
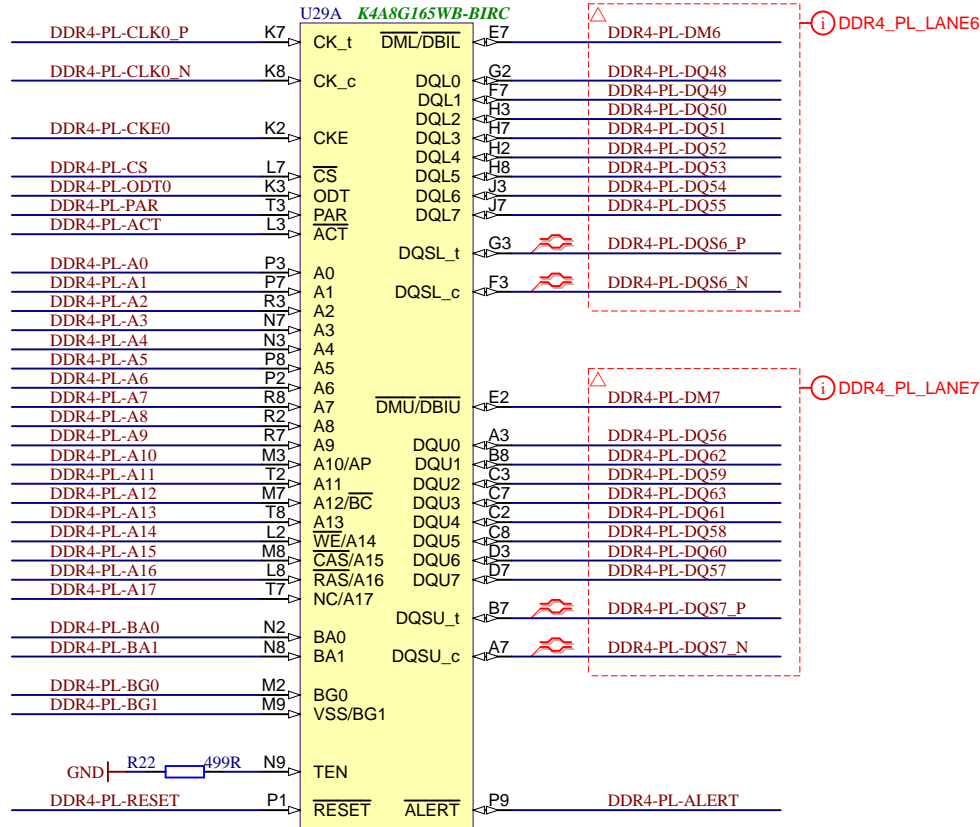
Title: TE0865 – DDR4-PL-RAM_1		
A4	Number: 25 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 25 of 51
Filename: DDR4-PL-RAM_1.SchDoc		



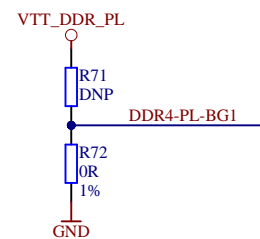
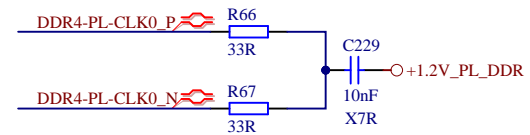
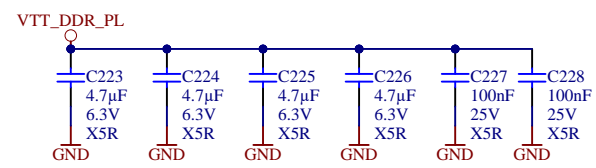
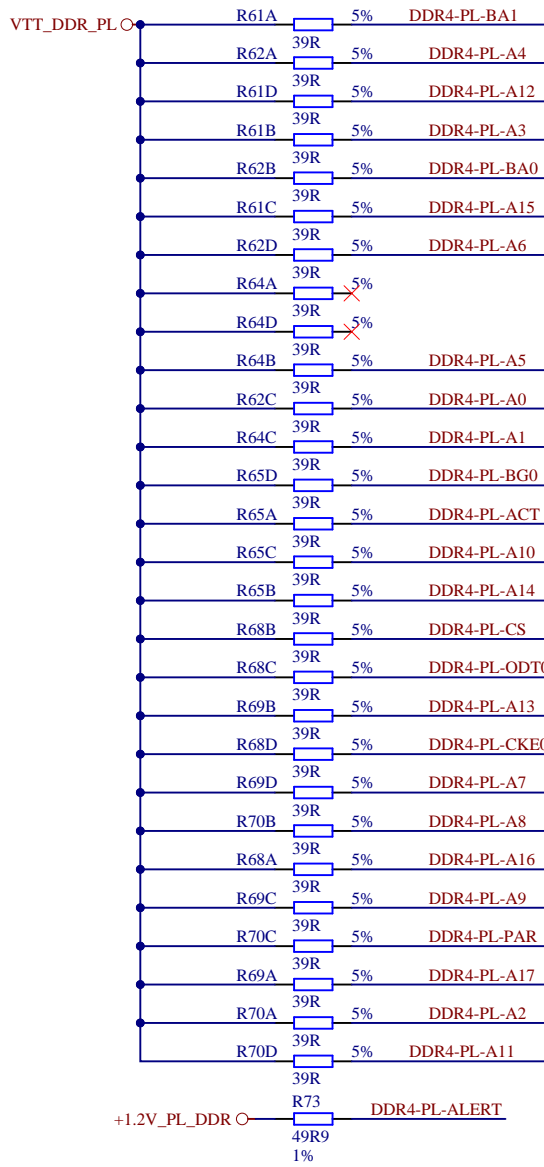
Title: TE0865 – DDR4-PL-RAM_2		
A4	Number: 26 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 26 of 51
Filename: DDR4-PL-RAM_2.SchDoc		



Title: TE0865 – DDR4-PL-RAM_3		
A4	Number: 27 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 27 of 51
Filename: DDR4-PL-RAM_3.SchDoc		



Title: TE0865 – DDR4-PL-RAM_4		
A4	Number: 28 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 28 of 51
Filename: DDR4-PL-RAM_4.SchDoc		



Title: TE0865 – DDR4-PL-TERM		
A4	Number: 29 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 29 of 51
Filename: DDR4-PL-TERM.SchDoc		

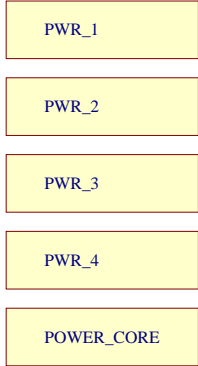
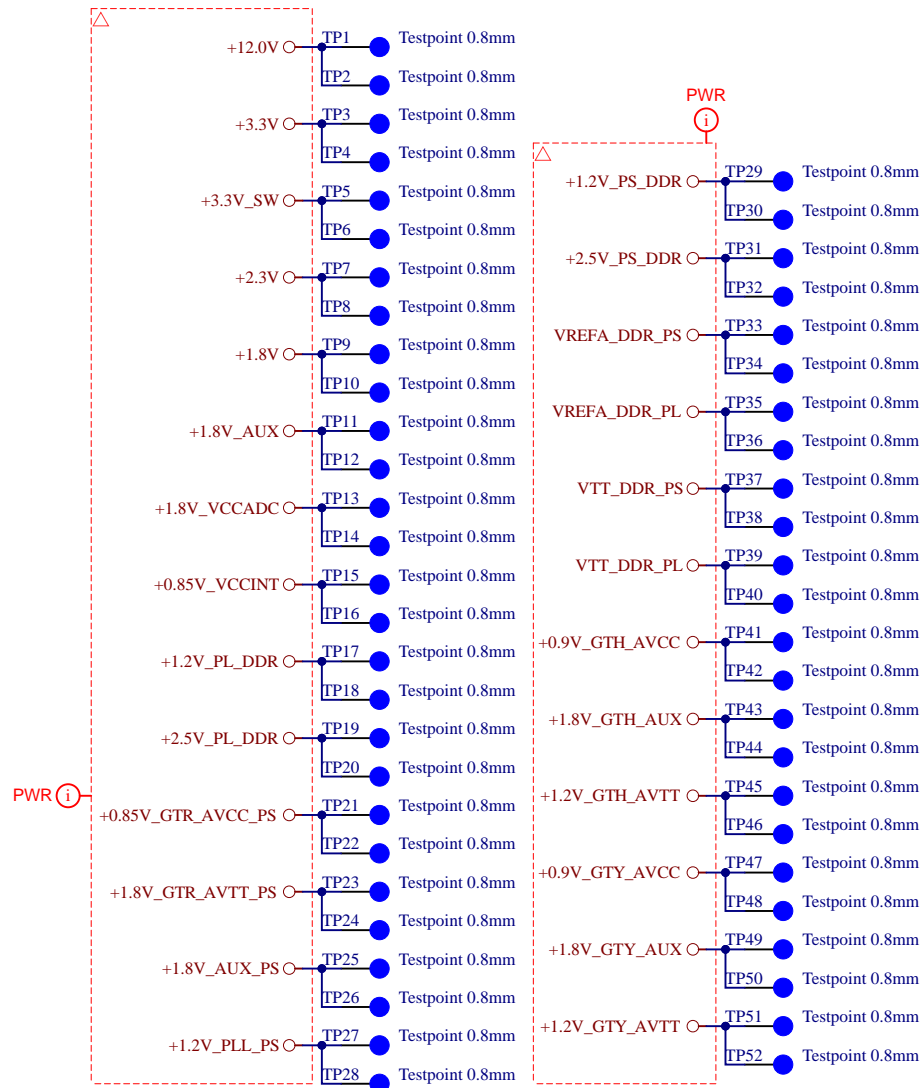
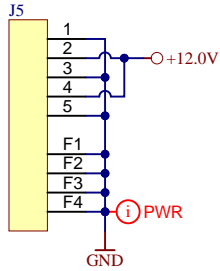
1

2

3

4

UMPT-05-01.5-G-VT-SM-WT-K



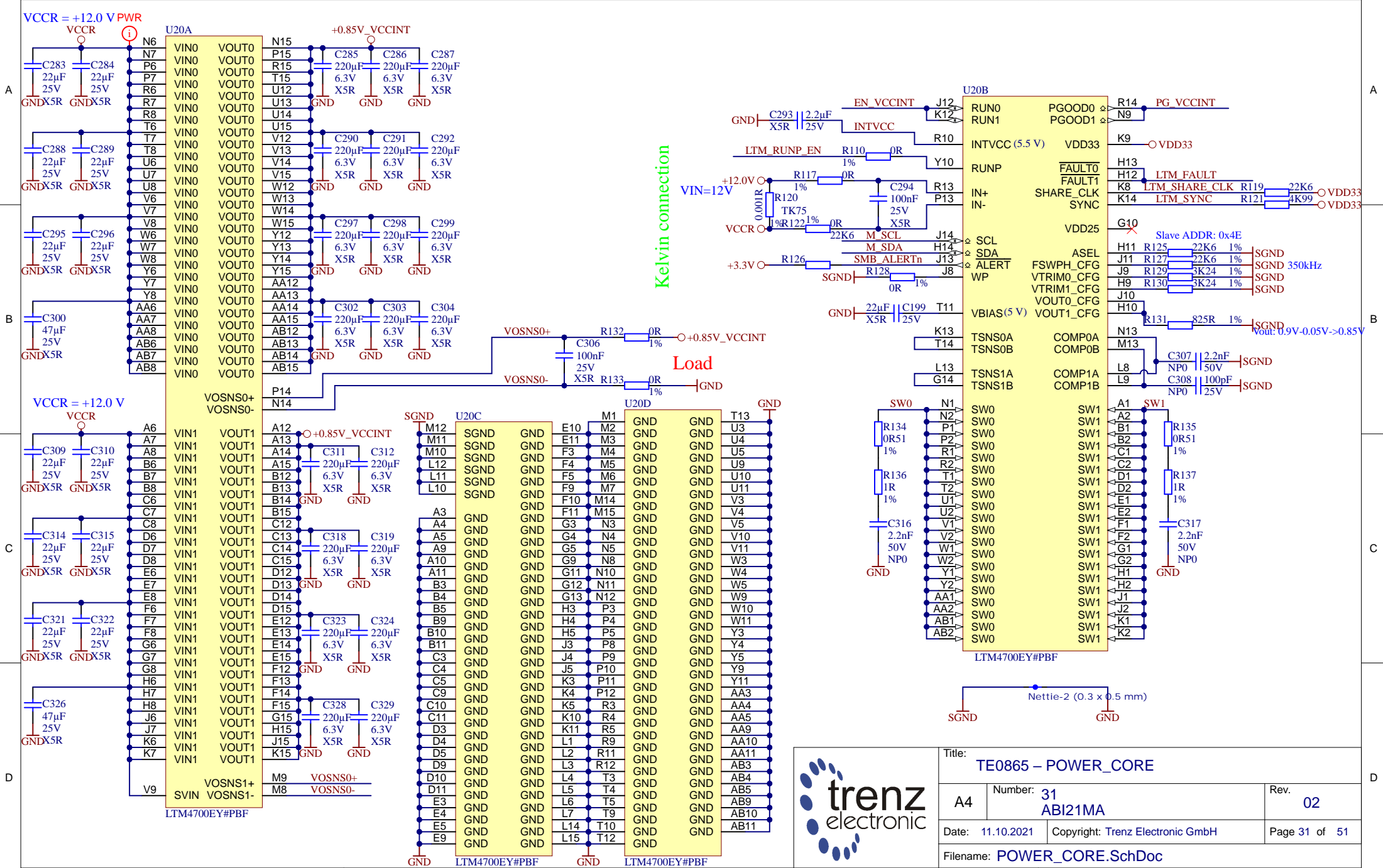
Title: TE0865 – POWER		
A4	Number: 30 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 30 of 51
Filename: POWER.SchDoc		

1

2

3

4



Title: TE0865 - POWER_CORE		
A4	Number: 31 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 31 of 51
Filename: POWER_CORE.SchDoc		

1

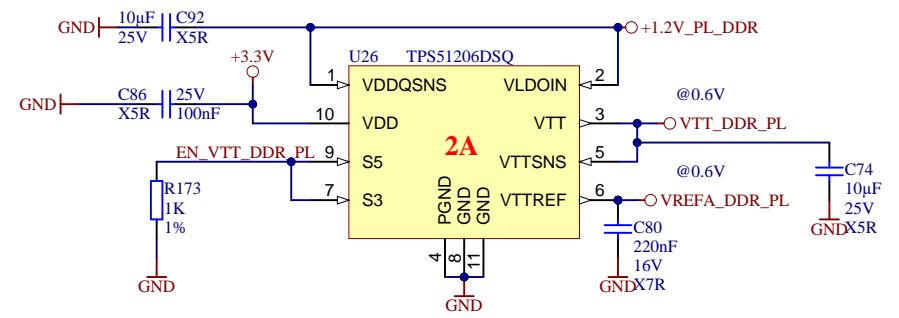
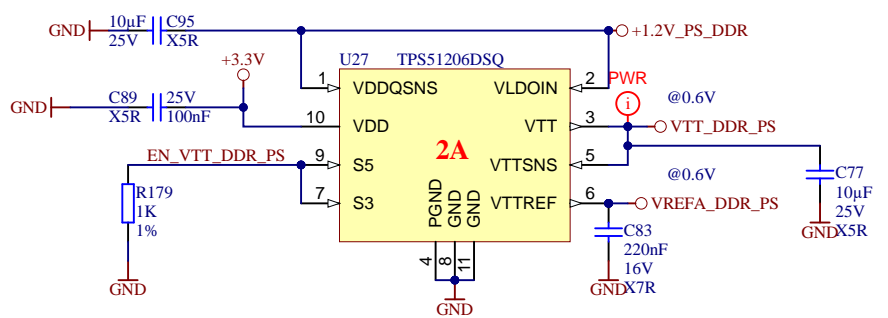
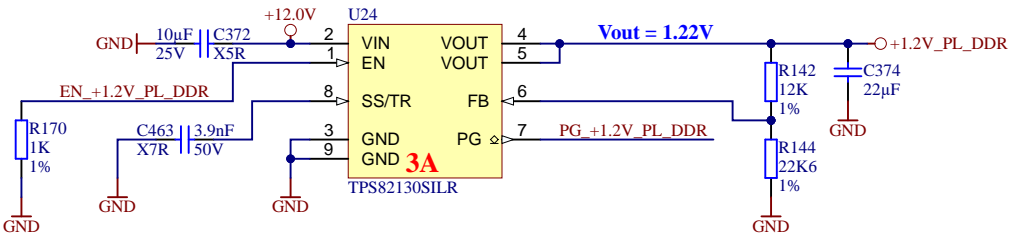
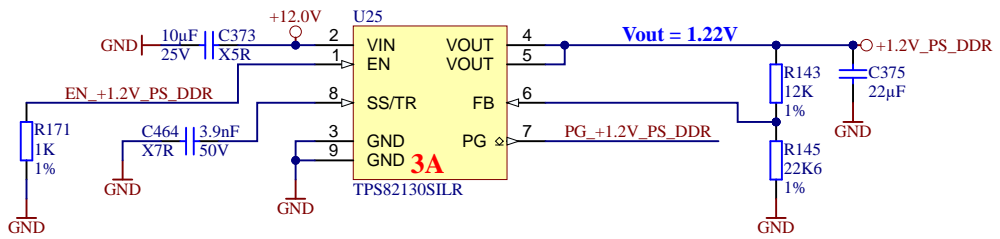
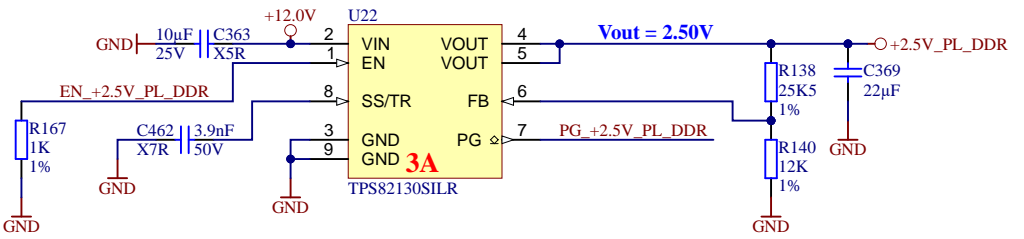
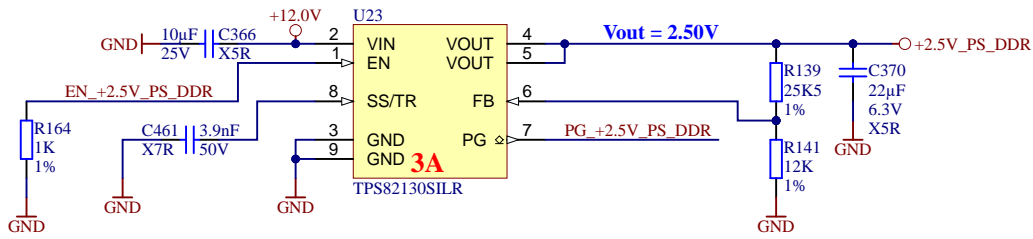
2

3

4

DDR PS

DDR PL



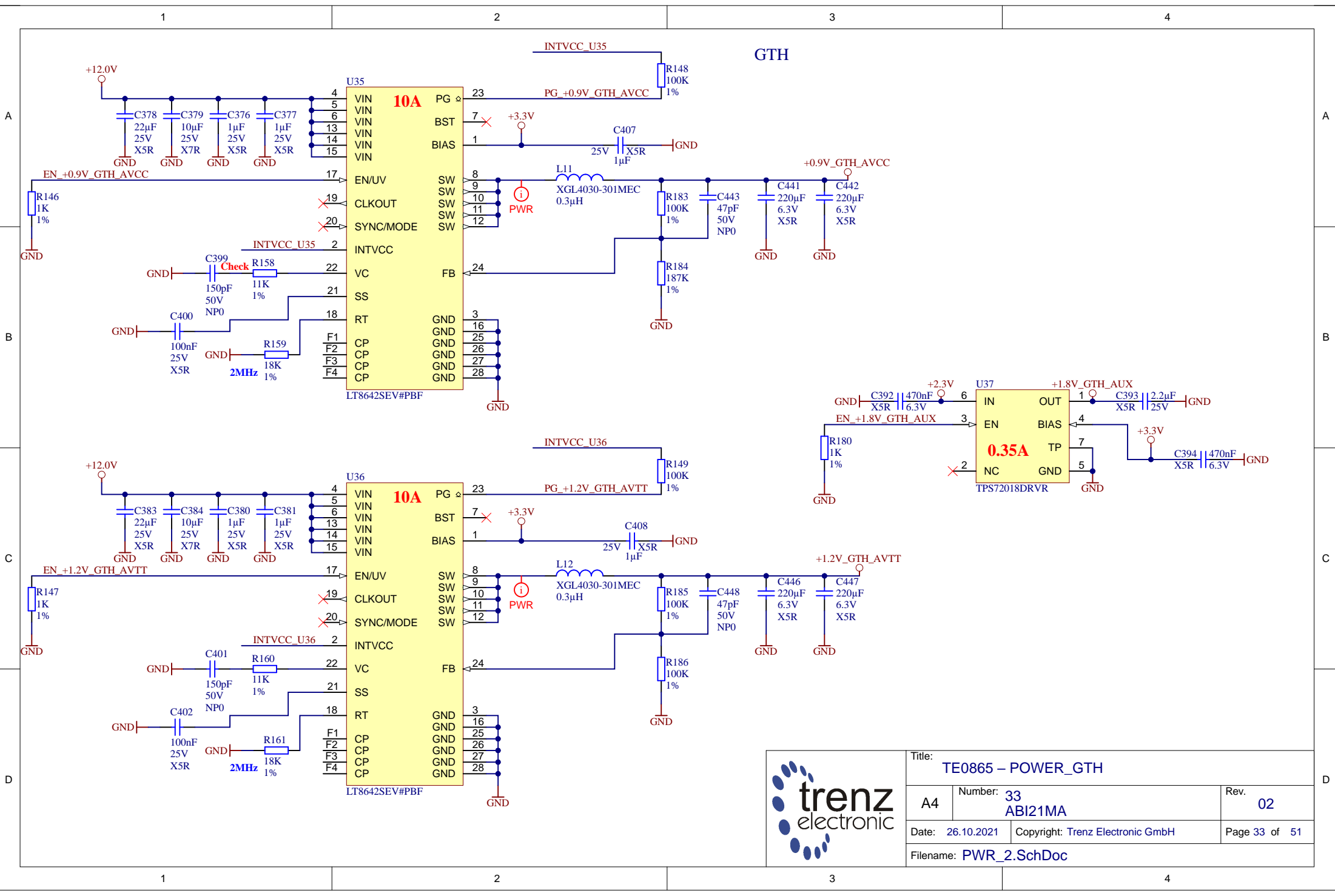
Title: TE0865 – POWER_DDRs		
A4	Number: 32 ABI21MA	Rev. 02
Date: 26.10.2021	Copyright: Trenz Electronic GmbH	Page 32 of 51
Filename: PWR_1.SchDoc		

1

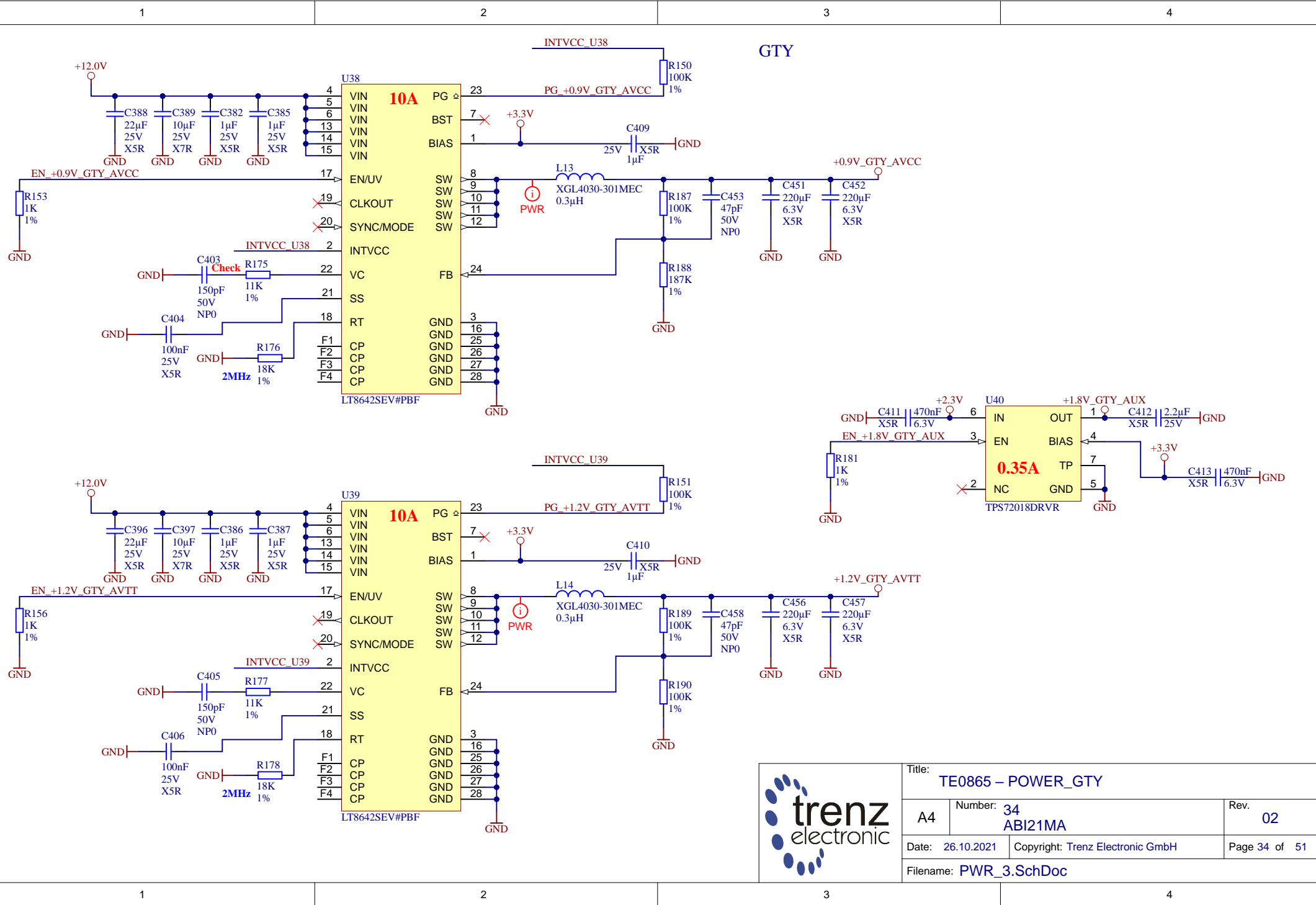
2

3

4



Title: TE0865 – POWER_GTH		
A4	Number: 33 ABI21MA	Rev. 02
Date: 26.10.2021	Copyright: Trenz Electronic GmbH	Page 33 of 51
Filename: PWR_2.SchDoc		



Title: TE0865 – POWER_GTY		
A4	Number: 34 ABI21MA	Rev. 02
Date: 26.10.2021	Copyright: Trenz Electronic GmbH	Page 34 of 51
Filename: PWR_3.SchDoc		

1

2

3

4

A

A

B

B

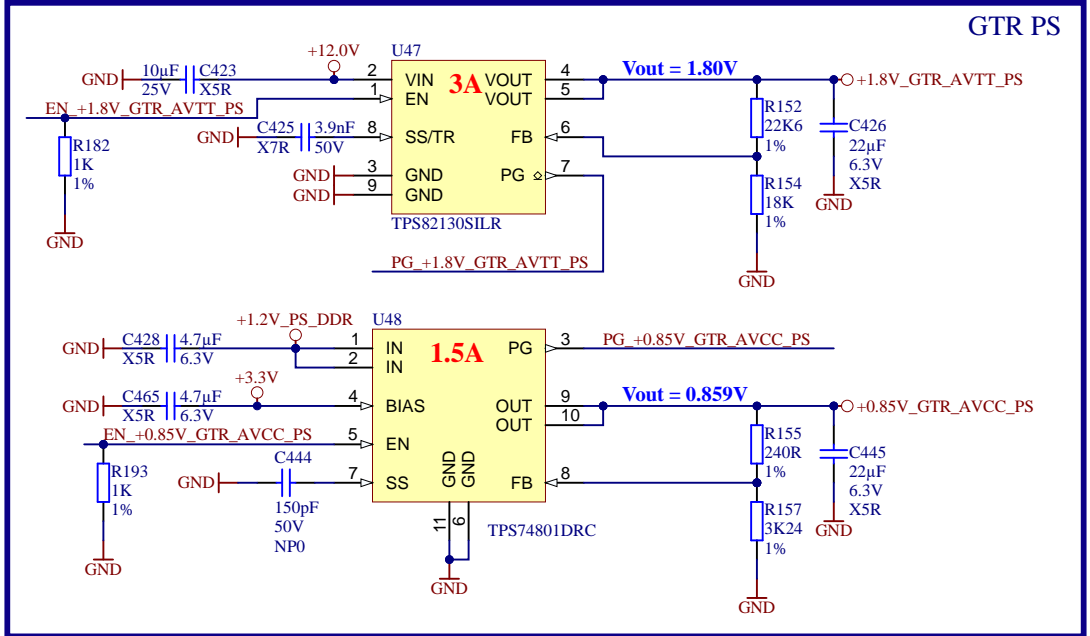
C

C

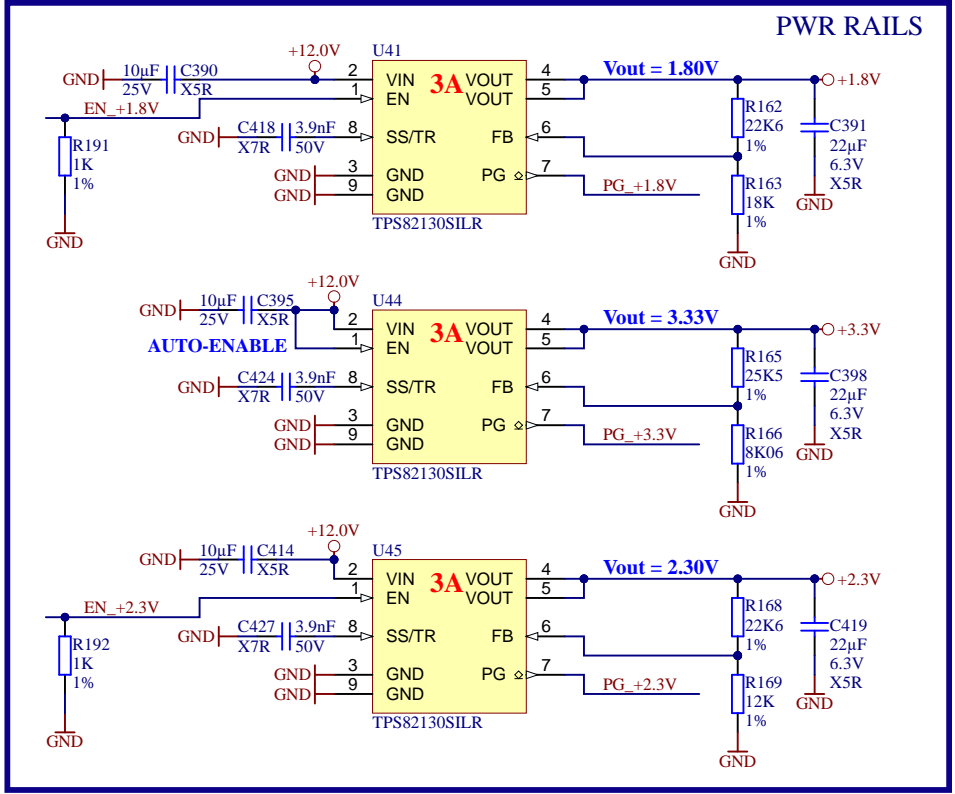
D

D

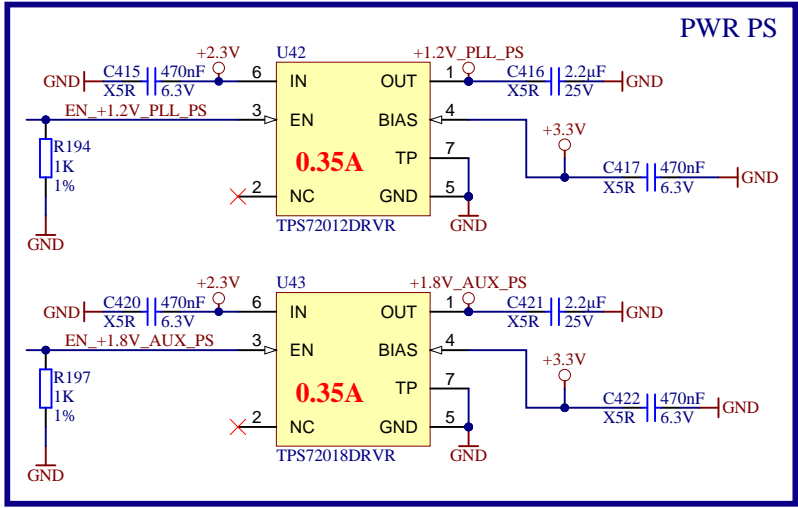
GTR PS



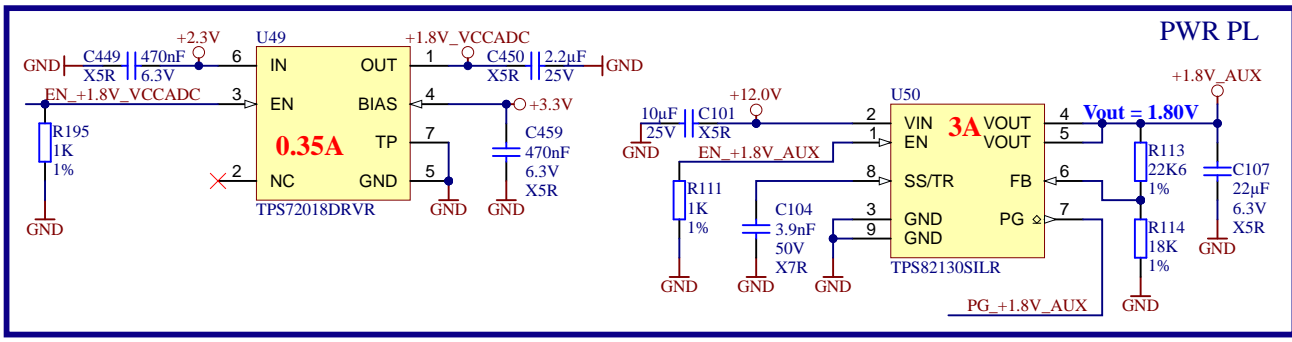
PWR RAILS



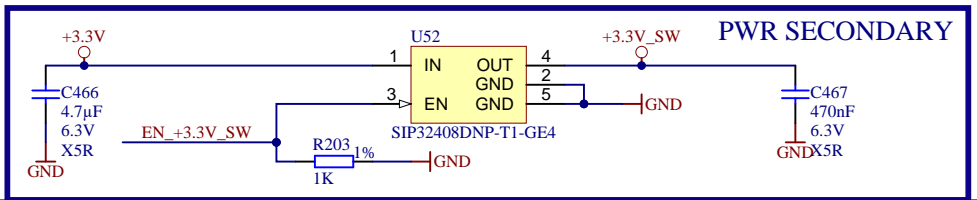
PWR PS



PWR PL



PWR SECONDARY



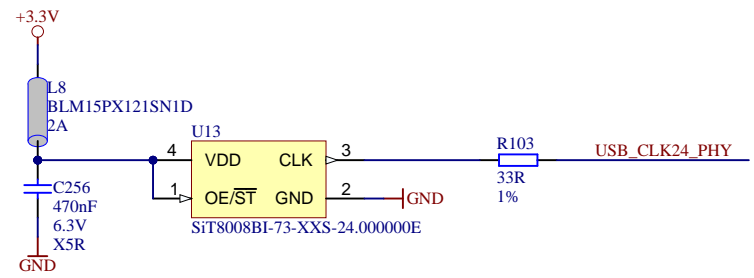
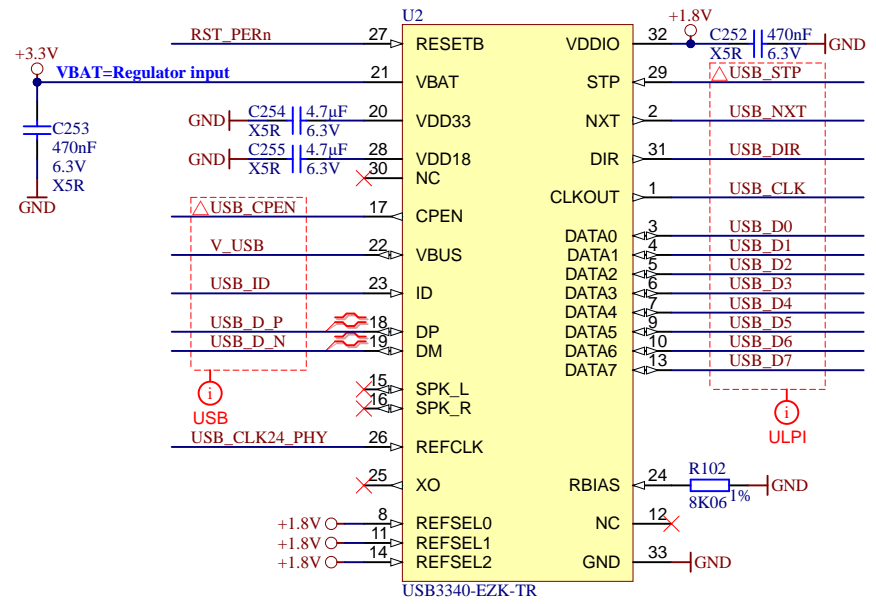
Title: TE0865 – POWER_RAILS_PS-PL		
A4	Number: 35 ABI21MA	Rev. 02
Date: 26.10.2021	Copyright: Trenz Electronic GmbH	Page 35 of 51
Filename: PWR_4.SchDoc		

1

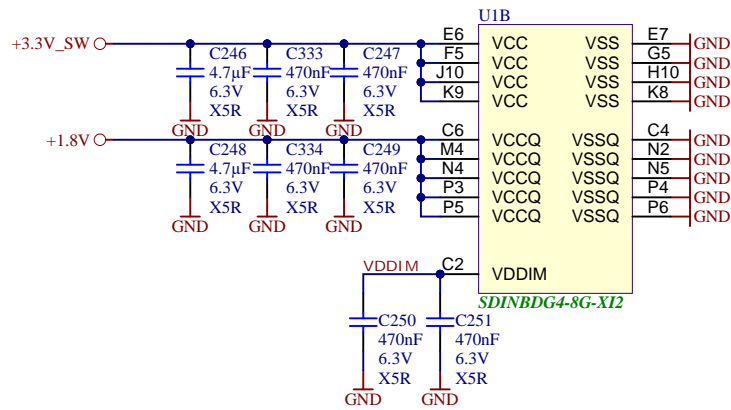
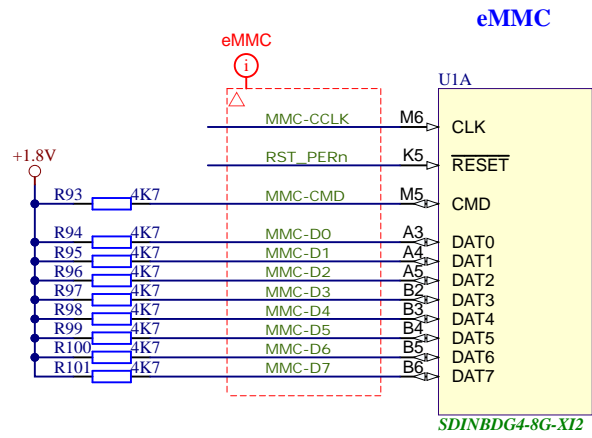
2

3

4



Title: TE0865 – USBPHY		
A4	Number: 36 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 36 of 51
Filename: USBPHY.SchDoc		



UID

A1	NC	NC	H2
A2	NC	NC	H3
A8	NC	NC	H10
A9	NC	NC	H13
A10	NC	NC	H14
A11	NC	NC	J1
A12	NC	NC	J2
A13	NC	NC	J3
A14	NC	NC	J12
B1	NC	NC	J13
B7	NC	NC	J14
B8	NC	NC	K1
B9	NC	NC	K2
B10	NC	NC	K3
B11	NC	NC	K12
B12	NC	NC	K13
B13	NC	NC	K14
B14	NC	NC	L1
C1	NC	NC	L2
C3	NC	NC	L3
C7	NC	NC	L12
C8	NC	NC	L13
C9	NC	NC	L14
C10	NC	NC	M1
C11	NC	NC	M2
C12	NC	NC	M3
C13	NC	NC	M7
C14	NC	NC	M8
D1	NC	NC	M9
D2	NC	NC	M10
D3	NC	NC	M11
D4	NC	NC	M12
D12	NC	NC	M13
D13	NC	NC	M14
D14	NC	NC	N1
E1	NC	NC	N3
E2	NC	NC	N6
E3	NC	NC	N7
E12	NC	NC	N8
E13	NC	NC	N9
E14	NC	NC	N10
F1	NC	NC	N11
F2	NC	NC	N12
F3	NC	NC	N13
F12	NC	NC	N14
F13	NC	NC	P1
F14	NC	NC	P2
G1	NC	NC	P8
G2	NC	NC	P9
G12	NC	NC	P11
G13	NC	NC	P12
G14	NC	NC	P13
H1	NC	NC	P14

SDINBDG4-8G-XI2

UIC

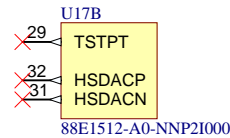
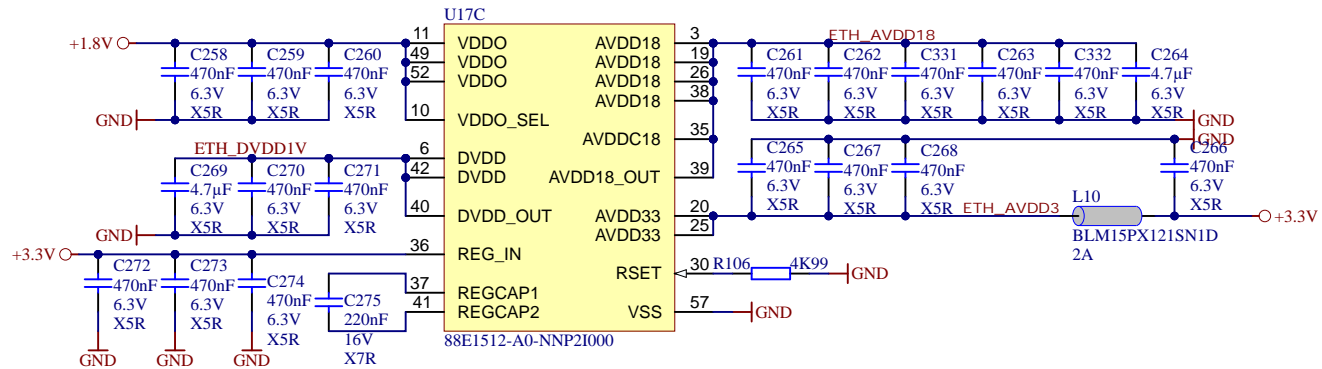
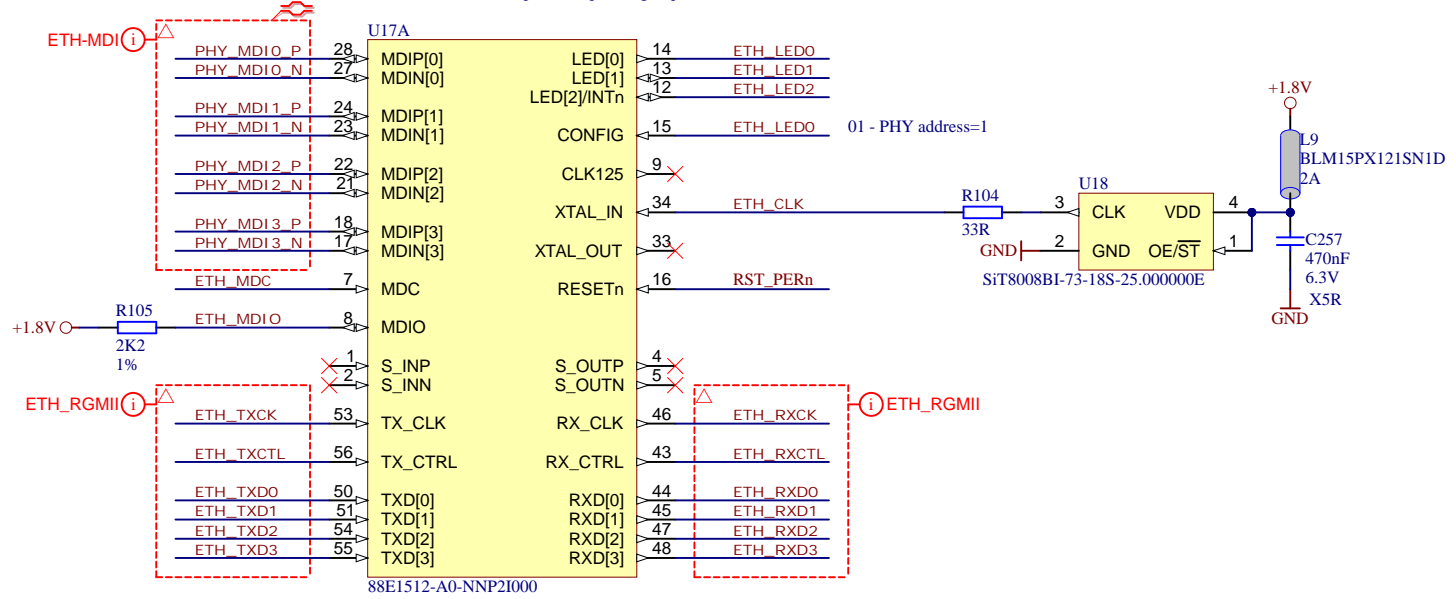
GND	A6	RFU/VSS
	A7	RFU
	H3	RFU/NC
	C5	RFU/NC
	E5	RFU
	E8	RFU
	E9	RFU
	E10	RFU
	F10	RFU
	G3	RFU
	G10	RFU/NC
	K6	RFU/NC
GND	H5	RFU/DS
	J5	RFU/VSS
	K6	RFU
	K7	RFU
	K10	RFU
	P7	RFU/NC
	P10	RFU


SDINBDG4-8G-XI2



Title: TE0865 – eMMC		
A4	Number: 37 ABI21MA	Rev. 02
Date: 29.10.2021	Copyright: Trenz Electronic GmbH	Page 37 of 51
Filename: eMMC.SchDoc		

no power sequencing requirement!



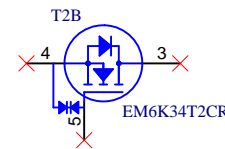
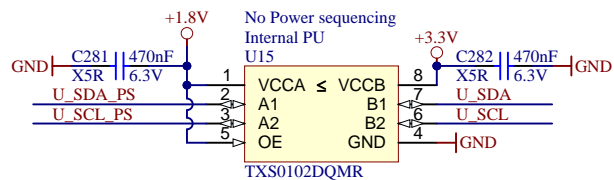
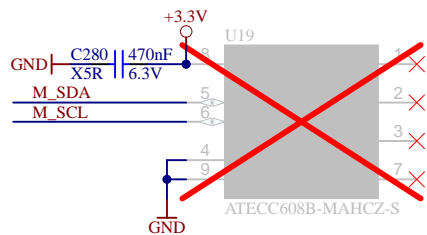
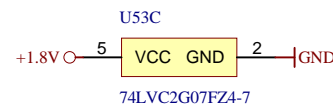
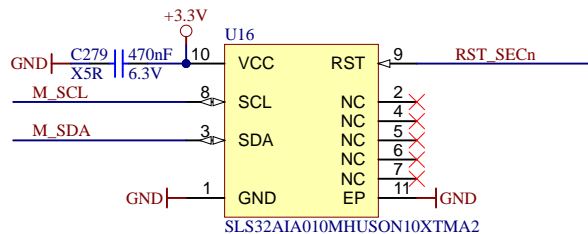
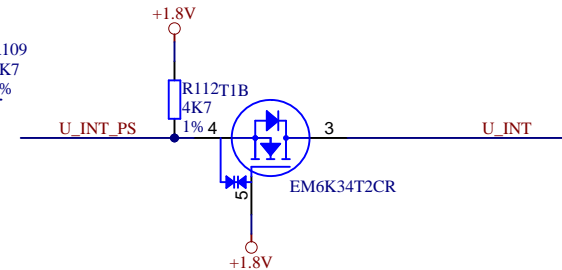
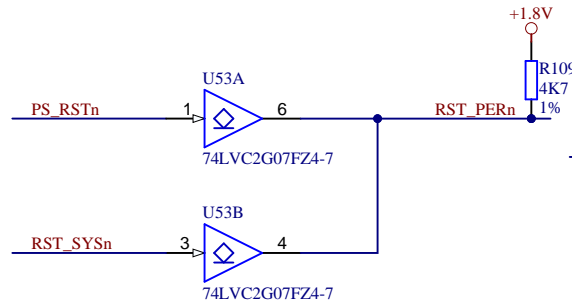
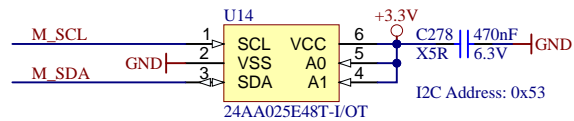
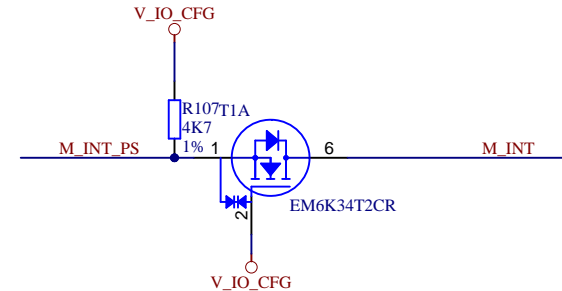
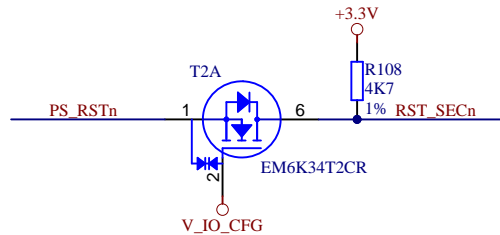
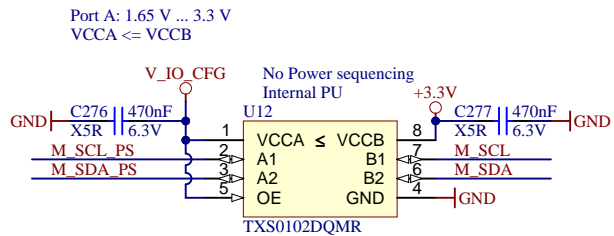
		Title: TE0865 – ETH-PHY	
		A4	Number: 38 ABI21MA
Date: 11.10.2021		Copyright: Trenz Electronic GmbH	
Filename: ETH-PHY.SchDoc			
Page 38 of 51			

1

2

3

4



Title: TE0865 – MISC		
A4	Number: 39 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 39 of 51
Filename: MISC.SchDoc		

1

2

3

4

1

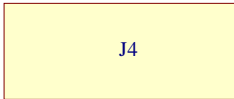
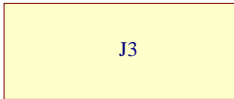
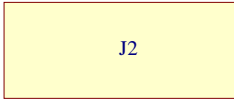
2

3

4

A

A



B


B

C

C

D

D

			Title: TE0865 – B2B_CONNECTORS		
			A4	Number: 40 ABI21MA	Rev. 02
Date: 11.10.2021		Copyright: Trenz Electronic GmbH		Page 40 of 51	
Filename: B2B_Connectors.SchDoc					

1

2

3

4

1

2

3

4

ADM6-60-01.5-L-4-2 J1A

ADM6-60-01.5-L-4-2 J1B

GND	B67_L10_P	A1	B1	B67_L8_P	
	B67_L10_N	A2	B2	B67_L8_N	
	B67_L9_P	A3	B3	B67_L19_P	
	B67_L9_N	A4	B4	B67_L19_N	
	B67_L9_N	A5	B5		
GND	B67_L6_N	A6	B6	B67_L3_P	GND
	B67_L6_P	A7	B7	B67_L3_N	
	B67_L5_P	A8	B8	B67_L2_N	
	B67_L5_N	A9	B9	B67_L2_P	
	B67_L5_N	A10	B10		
GND	B67_L1_P	A11	B11	B67_L4_N	GND
	B67_L1_N	A12	B12	B67_L4_P	
	B67_L7_P	A13	B13	B67_L21_P	
	B67_L7_N	A14	B14	B67_L21_N	
	B67_L7_N	A15	B15		
GND	B66_L8_P	A16	B16	B66_L9_P	GND
	B66_L8_N	A17	B17	B66_L9_N	
	B66_L7_P	A18	B18	B66_L24_P	
	B66_L7_N	A19	B19	B66_L24_N	
	B66_L7_N	A20	B20		
GND	B66_L6_P	A21	B21	B66_L10_P	GND
	B66_L6_N	A22	B22	B66_L10_N	
	B66_L12_P	A23	B23	B66_L18_P	
	B66_L12_N	A24	B24	B66_L18_N	
	B66_L12_N	A25	B25		
GND	B66_L4_P	A26	B26	B66_L5_N	GND
	B66_L4_N	A27	B27	B66_L5_P	
	B66_L2_P	A28	B28	B66_L16_P	
	B66_L2_N	A29	B29	B66_L16_N	
	B66_L2_N	A30	B30		
GND	B64_L18_P	A31	B31	B64_L6_P	GND
	B64_L18_N	A32	B32	B64_L6_N	
	B64_L17_P	A33	B33	B64_L12_P	
	B64_L17_N	A34	B34	B64_L12_N	
	B64_L17_N	A35	B35		
GND	B64_L16_P	A36	B36	B64_L4_P	GND
	B64_L16_N	A37	B37	B64_L4_N	
	B64_L11_P	A38	B38	B64_L15_P	
	B64_L11_N	A39	B39	B64_L15_N	
	B64_L11_N	A40	B40		
GND	B64_L8_N	A41	B41	B64_L13_N	GND
	B64_L8_P	A42	B42	B64_L13_P	
	B64_L7_P	A43	B43	B64_L1_N	
	B64_L7_N	A44	B44	B64_L1_P	
	B64_L7_N	A45	B45		
GND	B65_L4_N	A46	B46	B65_L3_N	GND
	B65_L4_P	A47	B47	B65_L3_P	
	B65_L1_N	A48	B48	B65_L2_P	
	B65_L1_P	A49	B49	B65_L2_N	
	B65_L1_P	A50	B50		
GND	B65_L5_P	A51	B51	B65_L6_P	GND
	B65_L5_N	A52	B52	B65_L6_N	
	B65_L7_N	A53	B53	B65_L15_N	
	B65_L7_P	A54	B54	B65_L15_P	
	B65_L7_P	A55	B55		
GND	B65_L9_N	A56	B56	B65_L8_N	GND
	B65_L9_P	A57	B57	B65_L8_P	
	B65_L11_P	A58	B58	B65_L10_N	
	B65_L11_N	A59	B59	B65_L10_P	
	B65_L11_N	A60	B60		

GND	B67_L17_P	C1	D1	B67_L24_P	
	B67_L17_N	C2	D2	B67_L24_N	
	B67_L18_P	C3	D3	B67_L20_P	
	B67_L18_N	C4	D4	B67_L20_N	
	B67_L18_N	C5	D5		
GND	B67_L23_P	C6	D6	B67_L16_P	GND
	B67_L23_N	C7	D7	B67_L16_N	
	B67_L13_N	C8	D8	B67_L14_P	
	B67_L13_P	C9	D9	B67_L14_N	
	B67_L13_P	C10	D10		
	B67_VRP	C11	D11	B67_L12_N	○ VCCIO_67
	B67_L22_P	C12	D12	B67_L12_P	
	B67_L22_N	C13	D13	B67_L11_N	
	B67_L15_N	C14	D14	B67_L11_P	
	B67_L15_P	C15	D15		
GND	B66_L20_P	C16	D16	B66_L23_P	GND
	B66_L20_N	C17	D17	B66_L23_N	
	B66_L14_P	C18	D18	B66_L22_P	
	B66_L14_N	C19	D19	B66_L22_N	
	B66_VRP	C20	D20		
	B66_L21_N	C21	D21	B66_L11_N	○ VCCIO_66
	B66_L21_P	C22	D22	B66_L11_P	
	B66_L13_N	C23	D23	B66_L17_P	
	B66_L13_P	C24	D24	B66_L17_N	
	B66_L13_P	C25	D25		
GND	B66_L15_P	C26	D26	B66_L3_N	GND
	B66_L15_N	C27	D27	B66_L3_P	
	B66_L19_P	C28	D28	B66_L1_N	
	B66_L19_N	C29	D29	B66_L1_P	
	B66_L19_N	C30	D30		
GND	B64_L14_P	C31	D31	B64_L10_N	GND
	B64_L14_N	C32	D32	B64_L10_P	
	B64_L5_N	C33	D33	B64_L19_N	
	B64_L5_P	C34	D34	B64_L19_P	
	B64_VRP	C35	D35		
	B64_L9_N	C36	D36	B64_L22_N	○ VCCIO_64
	B64_L9_P	C37	D37	B64_L22_P	
	B64_L23_N	C38	D38	B64_L20_N	
	B64_L23_P	C39	D39	B64_L20_P	
	B64_L23_P	C40	D40		
GND	B64_L3_N	C41	D41	B64_L21_N	GND
	B64_L3_P	C42	D42	B64_L21_P	
	B64_L2_N	C43	D43	B64_L24_N	
	B64_L2_P	C44	D44	B64_L24_P	
	B64_L2_P	C45	D45		
GND	B65_L23_N	C46	D46	B65_L19_N	○ VCCIO_65
	B65_L23_P	C47	D47	B65_L19_P	
	B65_L21_N	C48	D48	B65_L20_P	
	B65_L21_P	C49	D49	B65_L20_N	
	B65_VRP	C50	D50		
GND	B65_L12_P	C51	D51	B65_L14_P	GND
	B65_L12_N	C52	D52	B65_L14_N	
	B65_L24_N	C53	D53	B65_L22_N	
	B65_L24_P	C54	D54	B65_L22_P	
	B65_L24_P	C55	D55	PERSTO	
	B65_L17_P	C56	D56	B65_L13_P	
GND	B65_L17_N	C57	D57	B65_L13_N	GND
	B65_L18_N	C58	D58	B65_L16_N	
	B65_L18_P	C59	D59	B65_L16_P	
	B65_L18_P	C60	D60		



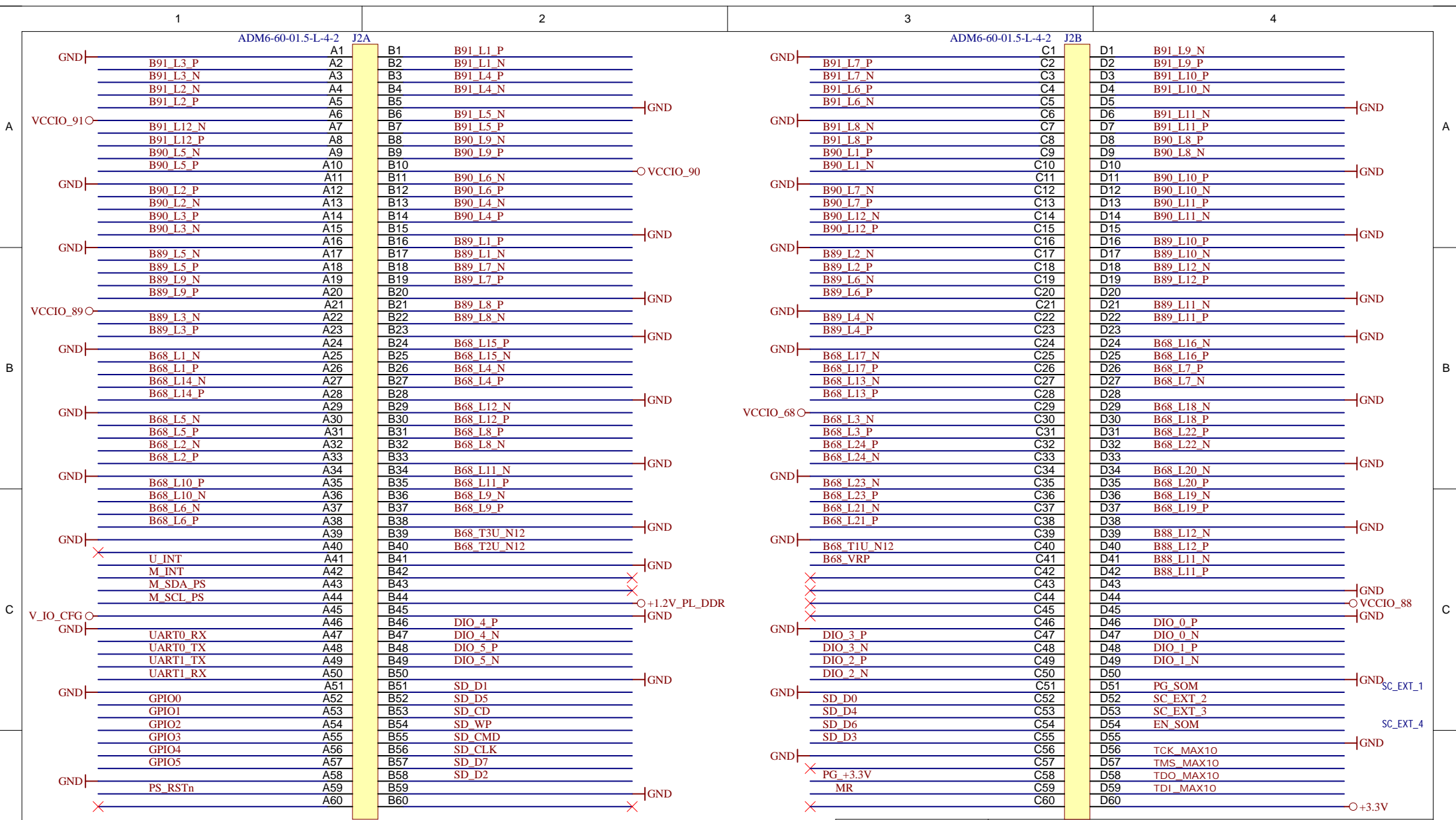

Title: TE0865 – J1_CONNECTOR		
A4	Number: 41 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 41 of 51
Filename: J1.schdoc		

1

2

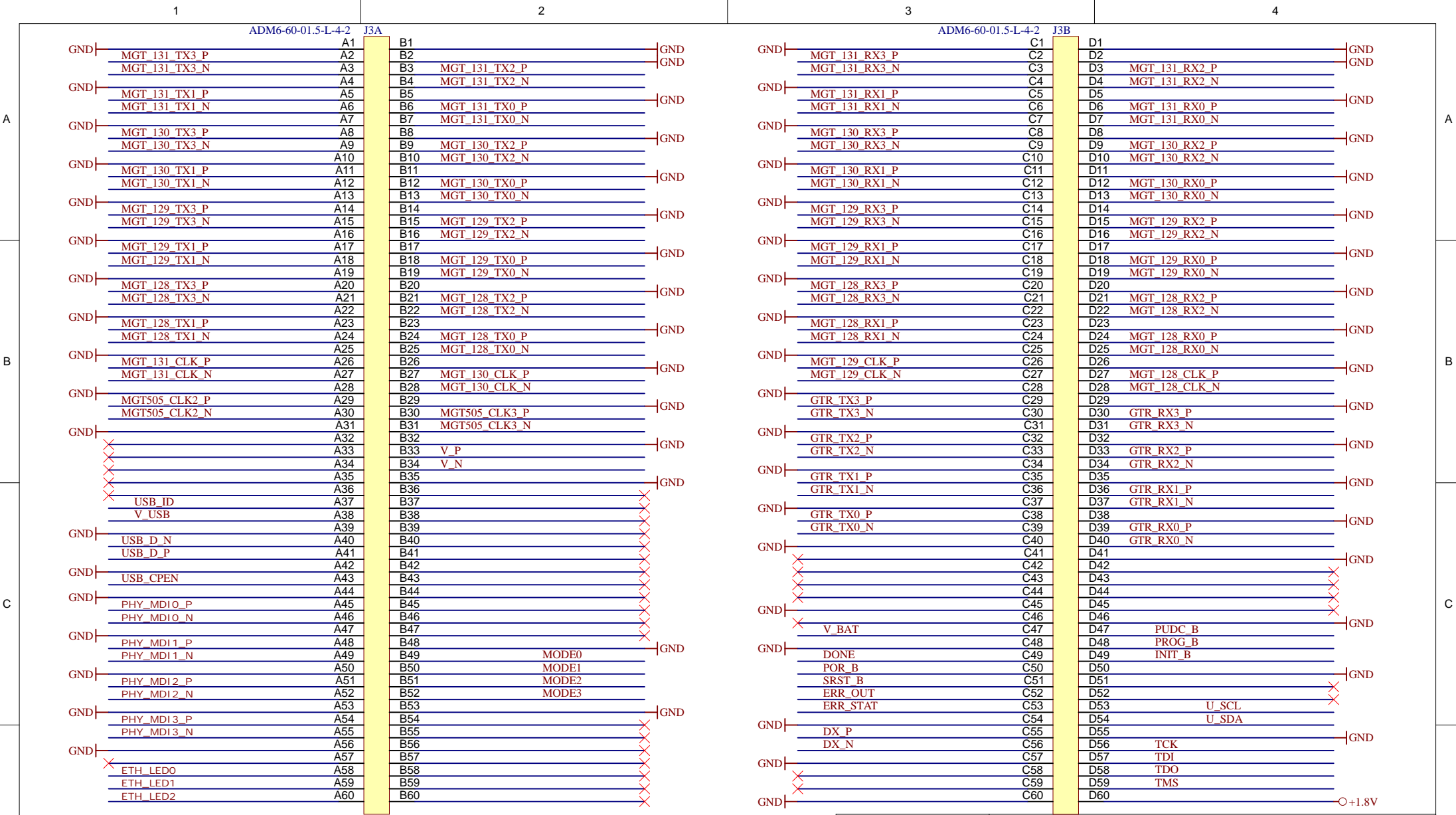
3

4

trenez electronic

Title: TE0865 – J2_CONNECTOR		
A4	Number: 42 ABI21MA	Rev. 02
Date: 14.12.2023	Copyright: Trenz Electronic GmbH	Page 42 of 51
Filename: J2.schdoc		



Title: TE0865 – J3_CONNECTOR		
A4	Number: 43 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 43 of 51
Filename: J3.schdoc		

1

2

3

4

ADM6-60-01.5-L-4-2 J4A

ADM6-60-01.5-L-4-2 J4B

B88_L6_N	A1	B1	
B88_L6_P	A2	B2	B88_L1_N
B88_L5_N	A3	B3	B88_L1_P
B88_L5_P	A4	B4	B88_L3_P
B88_L2_N	A5	B5	B88_L3_N
B88_L2_P	A6	B6	
GND	A7	B7	MGT_230_CLK0_P
MGT_231_CLK0_P	A8	B8	MGT_230_CLK0_N
MGT_231_CLK0_N	A9	B9	
GND	A10	B10	MGT_231_RX2_P
MGT_231_RX3_P	A11	B11	MGT_231_RX2_N
MGT_231_RX3_N	A12	B12	
GND	A13	B13	MGT_231_RX0_P
MGT_231_RX1_P	A14	B14	MGT_231_RX0_N
MGT_231_RX1_N	A15	B15	
GND	A16	B16	MGT_230_RX2_P
MGT_230_RX3_P	A17	B17	MGT_230_RX2_N
MGT_230_RX3_N	A18	B18	
GND	A19	B19	MGT_230_RX0_P
MGT_230_RX1_P	A20	B20	MGT_230_RX0_N
MGT_230_RX1_N	A21	B21	
GND	A22	B22	MGT_229_RX2_P
MGT_229_RX3_P	A23	B23	MGT_229_RX2_N
MGT_229_RX3_N	A24	B24	
GND	A25	B25	MGT_229_RX0_P
MGT_229_RX1_P	A26	B26	MGT_229_RX0_N
MGT_229_RX1_N	A27	B27	
GND	A28	B28	MGT_228_RX2_P
MGT_228_RX3_P	A29	B29	MGT_228_RX2_N
MGT_228_RX3_N	A30	B30	
GND	A31	B31	MGT_228_RX0_P
MGT_228_RX1_P	A32	B32	MGT_228_RX0_N
MGT_228_RX1_N	A33	B33	
GND	A34	B34	MGT_227_RX2_P
MGT_227_RX3_P	A35	B35	MGT_227_RX2_N
MGT_227_RX3_N	A36	B36	
GND	A37	B37	MGT_227_RX0_P
MGT_227_RX1_P	A38	B38	MGT_227_RX0_N
MGT_227_RX1_N	A39	B39	
GND	A40	B40	MGT_226_RX2_P
MGT_226_RX3_P	A41	B41	MGT_226_RX2_N
MGT_226_RX3_N	A42	B42	
GND	A43	B43	MGT_226_RX0_P
MGT_226_RX1_P	A44	B44	MGT_226_RX0_N
MGT_226_RX1_N	A45	B45	
GND	A46	B46	MGT_225_RX2_P
MGT_225_RX3_P	A47	B47	MGT_225_RX2_N
MGT_225_RX3_N	A48	B48	
GND	A49	B49	MGT_225_RX0_P
MGT_225_RX1_P	A50	B50	MGT_225_RX0_N
MGT_225_RX1_N	A51	B51	
GND	A52	B52	MGT_224_RX2_P
MGT_224_RX3_P	A53	B53	MGT_224_RX2_N
MGT_224_RX3_N	A54	B54	
GND	A55	B55	MGT_224_RX0_P
MGT_224_RX1_P	A56	B56	MGT_224_RX0_N
MGT_224_RX1_N	A57	B57	
GND	A58	B58	MGT_225_CLK_P
MGT_224_CLK_P	A59	B59	MGT_225_CLK_N
MGT_224_CLK_N	A60	B60	

B88_L7_N	C1	D1	
B88_L7_P	C2	D2	B88_L10_P
B88_L9_N	C3	D3	B88_L10_N
B88_L9_P	C4	D4	B88_L4_N
B88_L8_P	C5	D5	B88_L4_P
B88_L8_N	C6	D6	
GND	C7	D7	MGT_228_CLK0_P
MGT_229_CLK0_P	C8	D8	MGT_228_CLK0_N
MGT_229_CLK0_N	C9	D9	
GND	C10	D10	MGT_231_TX3_P
MGT_231_TX2_P	C11	D11	MGT_231_TX3_N
MGT_231_TX2_N	C12	D12	
GND	C13	D13	MGT_231_TX1_P
MGT_231_TX0_P	C14	D14	MGT_231_TX1_N
MGT_231_TX0_N	C15	D15	
GND	C16	D16	MGT_230_TX3_P
MGT_230_TX2_P	C17	D17	MGT_230_TX3_N
MGT_230_TX2_N	C18	D18	
GND	C19	D19	MGT_230_TX1_P
MGT_230_TX0_P	C20	D20	MGT_230_TX1_N
MGT_230_TX0_N	C21	D21	
GND	C22	D22	MGT_229_TX3_P
MGT_229_TX2_P	C23	D23	MGT_229_TX3_N
MGT_229_TX2_N	C24	D24	
GND	C25	D25	MGT_229_TX1_P
MGT_229_TX0_P	C26	D26	MGT_229_TX1_N
MGT_229_TX0_N	C27	D27	
GND	C28	D28	MGT_228_TX3_P
MGT_228_TX2_P	C29	D29	MGT_228_TX3_N
MGT_228_TX2_N	C30	D30	
GND	C31	D31	MGT_228_TX1_P
MGT_228_TX0_P	C32	D32	MGT_228_TX1_N
MGT_228_TX0_N	C33	D33	
GND	C34	D34	MGT_227_TX3_P
MGT_227_TX2_P	C35	D35	MGT_227_TX3_N
MGT_227_TX2_N	C36	D36	
GND	C37	D37	MGT_227_TX1_P
MGT_227_TX0_P	C38	D38	MGT_227_TX1_N
MGT_227_TX0_N	C39	D39	
GND	C40	D40	MGT_226_TX3_P
MGT_226_TX2_P	C41	D41	MGT_226_TX3_N
MGT_226_TX2_N	C42	D42	
GND	C43	D43	MGT_226_TX1_P
MGT_226_TX0_P	C44	D44	MGT_226_TX1_N
MGT_226_TX0_N	C45	D45	
GND	C46	D46	MGT_225_TX3_P
MGT_225_TX2_P	C47	D47	MGT_225_TX3_N
MGT_225_TX2_N	C48	D48	
GND	C49	D49	MGT_225_TX1_P
MGT_225_TX0_P	C50	D50	MGT_225_TX1_N
MGT_225_TX0_N	C51	D51	
GND	C52	D52	MGT_224_TX3_P
MGT_224_TX2_P	C53	D53	MGT_224_TX3_N
MGT_224_TX2_N	C54	D54	
GND	C55	D55	MGT_224_TX1_P
MGT_224_TX0_P	C56	D56	MGT_224_TX1_N
MGT_224_TX0_N	C57	D57	
GND	C58	D58	MGT_227_CLK_P
MGT_226_CLK_P	C59	D59	MGT_227_CLK_N
MGT_226_CLK_N	C60	D60	

1

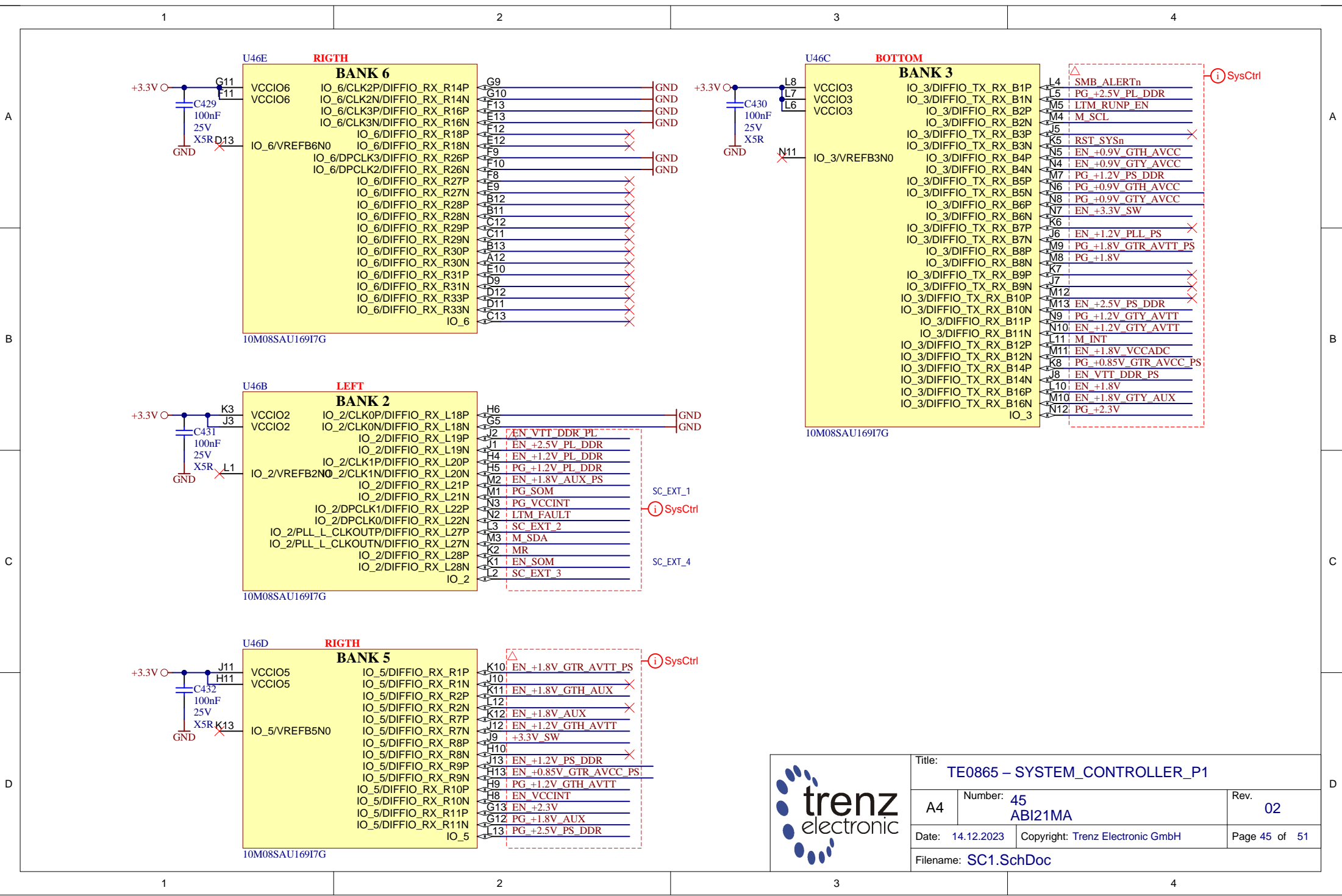

2

3

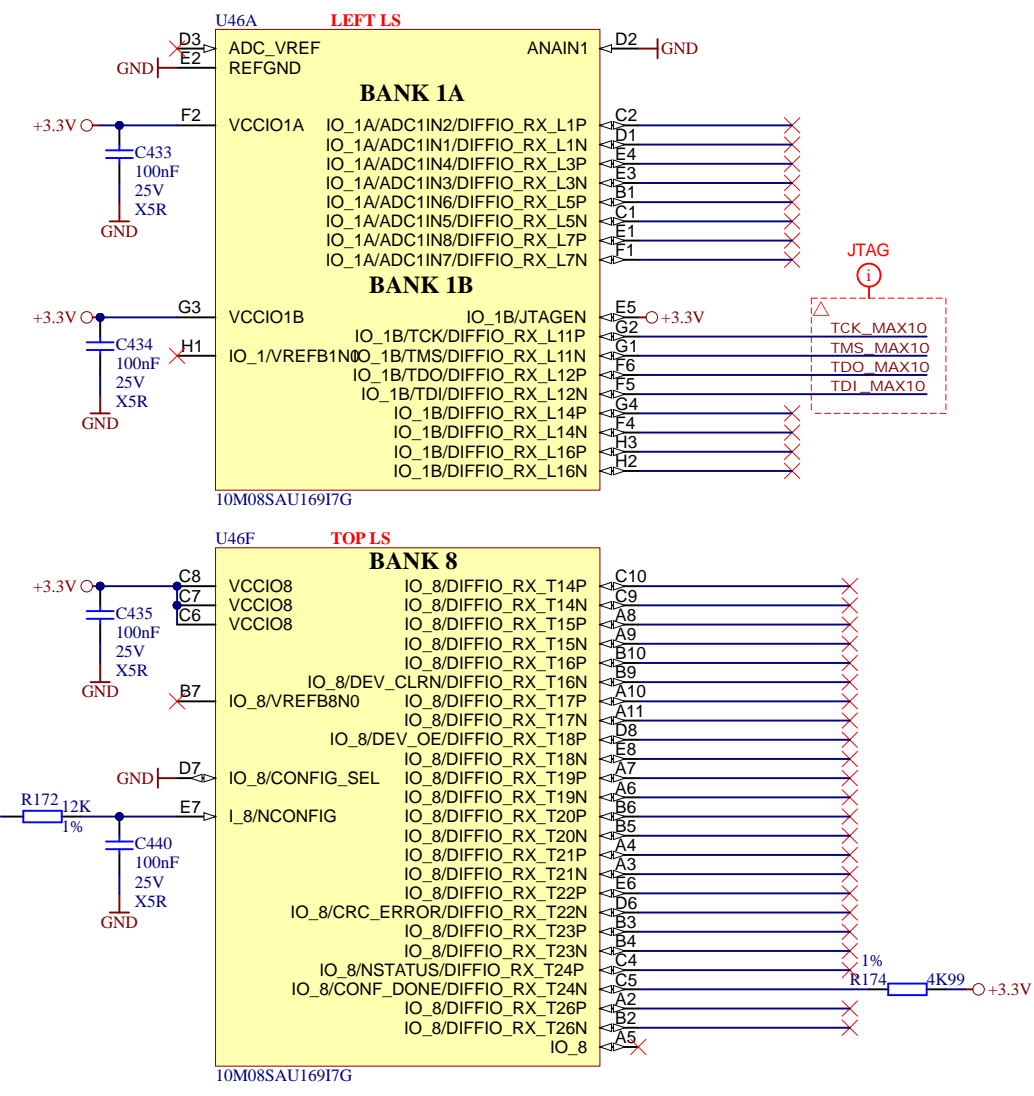
4




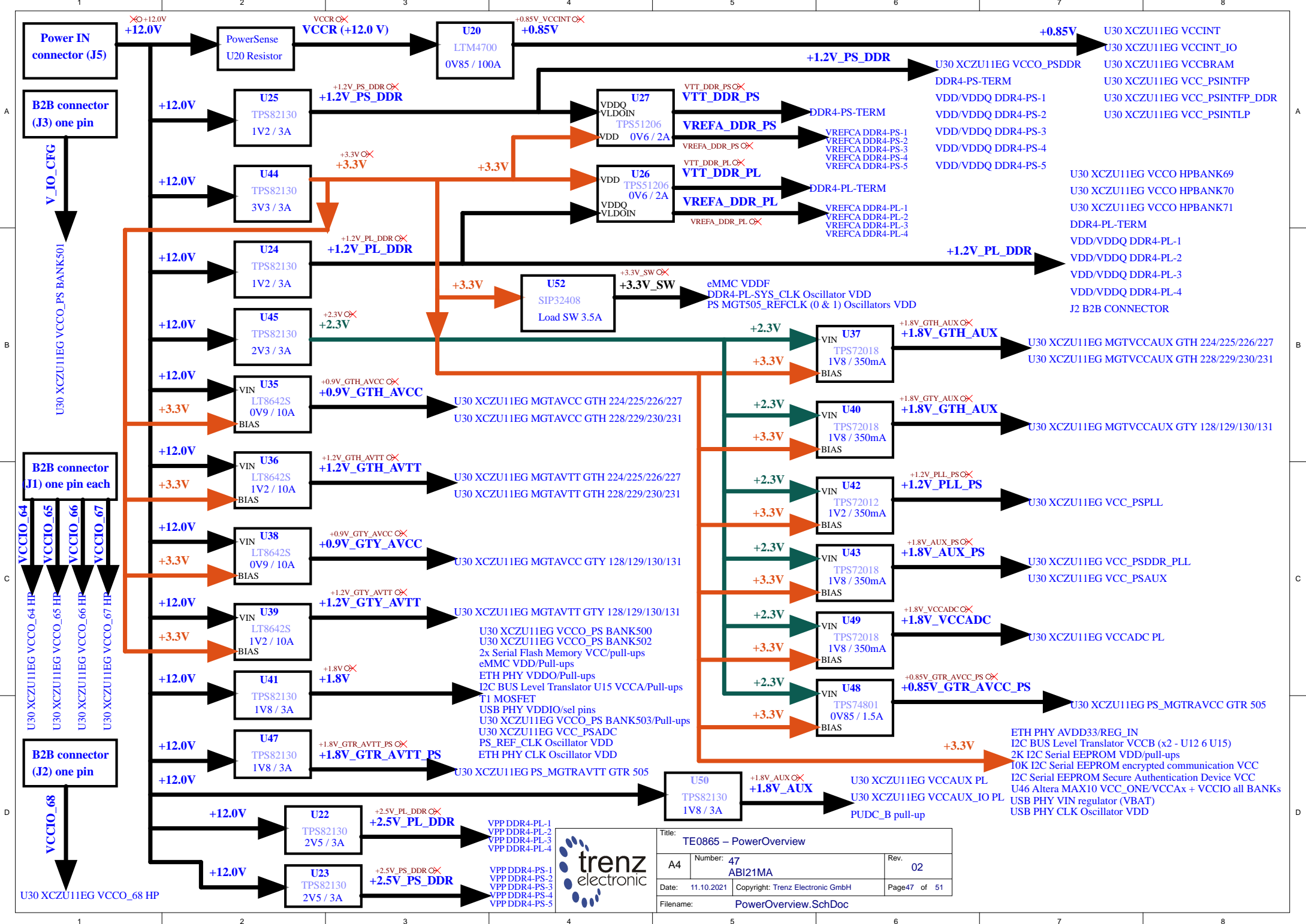
Title: TE0865 – J4_CONNECTOR		
A4	Number: 44 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 44 of 51
Filename: J4.schdoc		

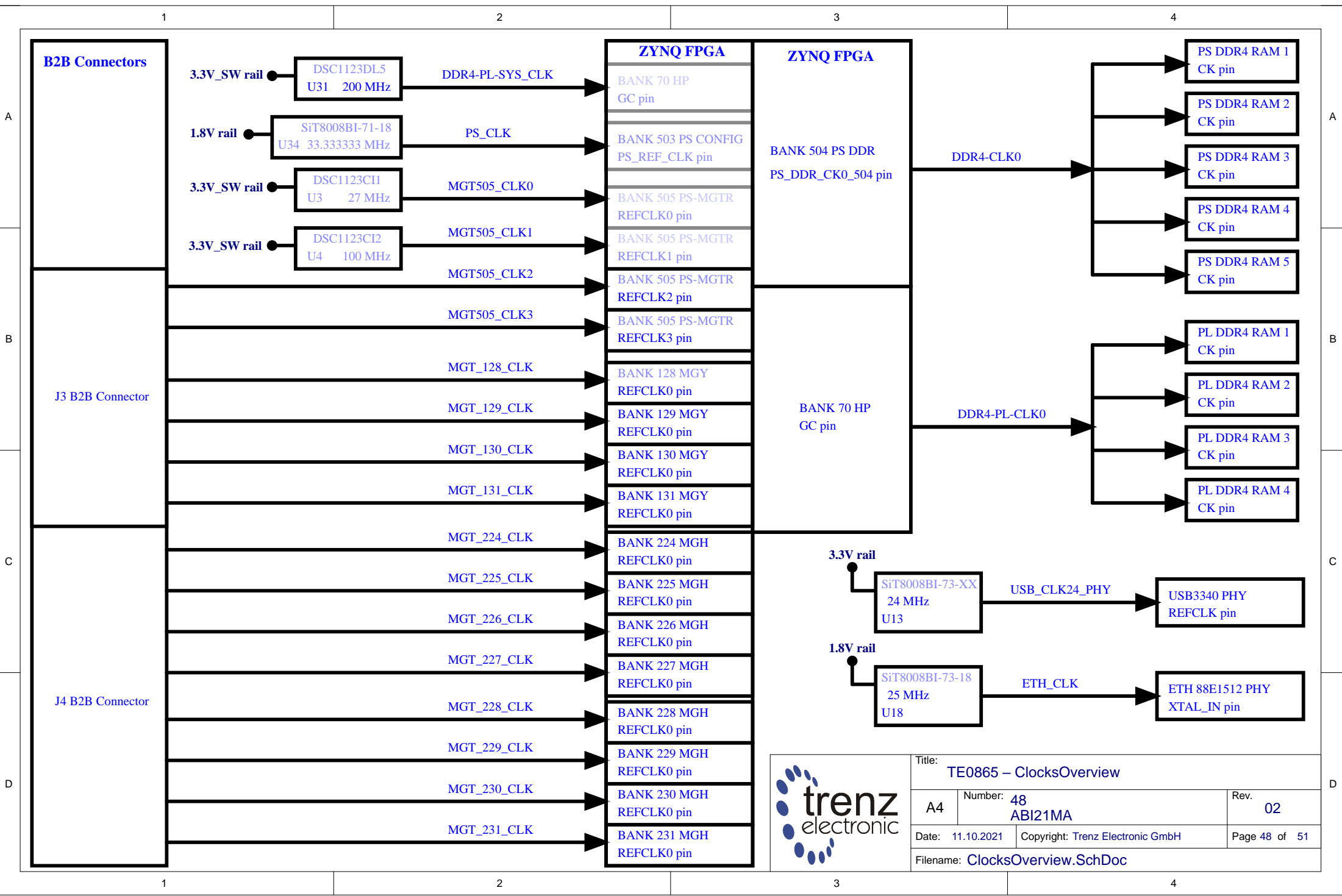
Title: TE0865 – SYSTEM_CONTROLLER_P1		
A4	Number: 45 ABI21MA	Rev. 02
Date: 14.12.2023	Copyright: Trenz Electronic GmbH	Page 45 of 51
Filename: SC1.SchDoc		



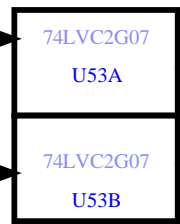
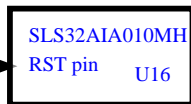
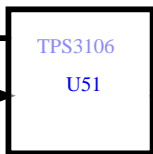
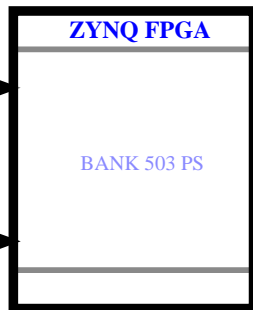
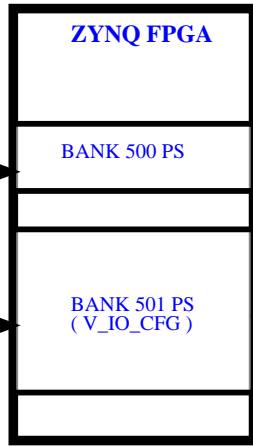
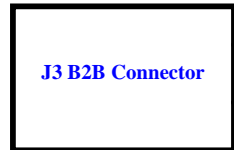
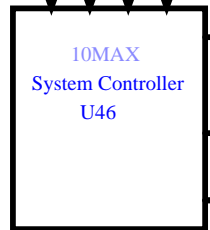
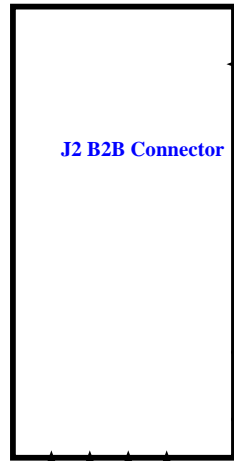
		Title: TE0865 – SYSTEM_CONTROLLER_P2	
		A4	Number: 46 ABI21MA
Date: 26.10.2021		Copyright: Trenz Electronic GmbH	
Filename: SC2.SchDoc		Page 46 of 51	



Title: TE0865 – PowerOverview		
A4	Number: 47 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 47 of 51
Filename: PowerOverview.SchDoc		



Title: TE0865 – ClocksOverview		
A4	Number: 48 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 48 of 51
Filename: ClocksOverview.SchDoc		



1

2

3

4

A

B

C

D

A

B

C

D



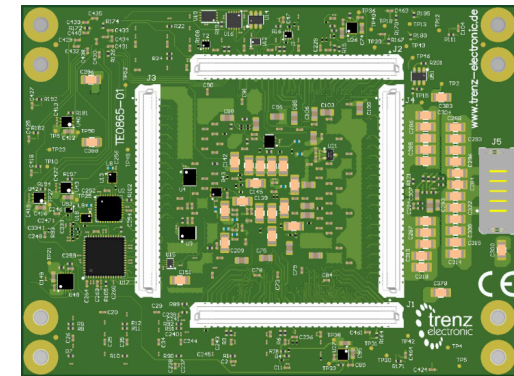
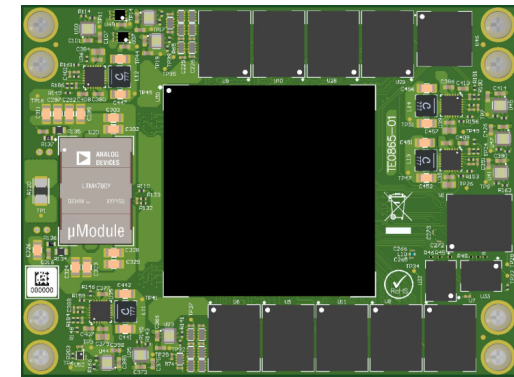
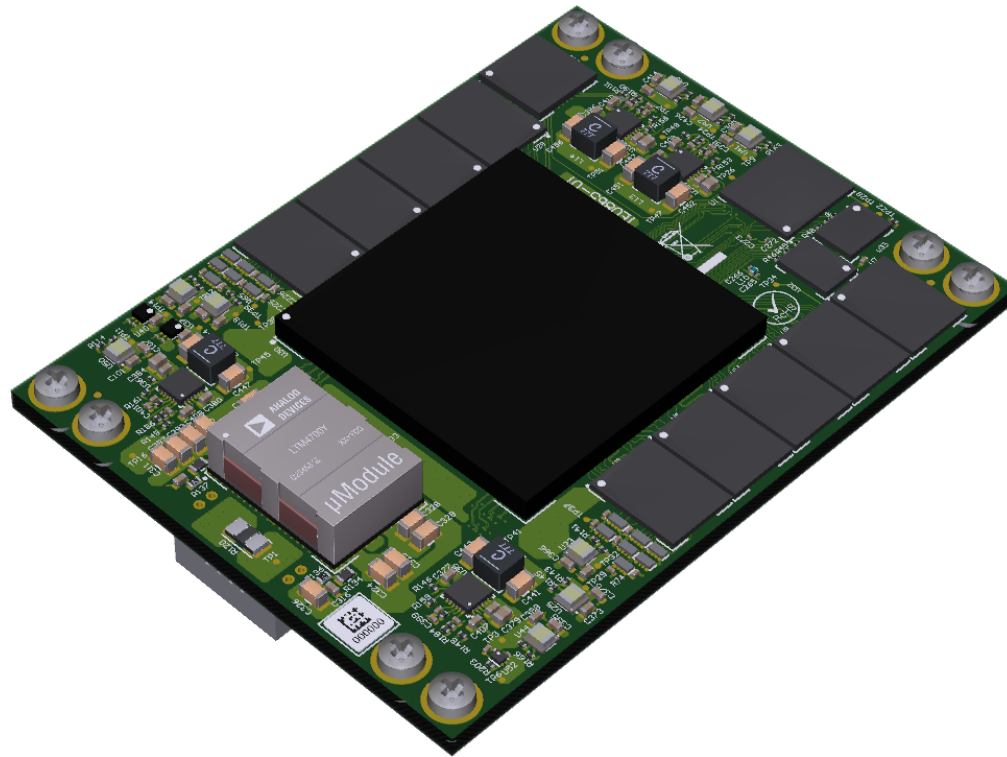
Title: TE0865 – Resets-Interrupts Overview		
A4	Number: 49 ABI21MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 49 of 51
Filename: Reset-InterruptsOverview.SchDoc		

1

2

3


4



Regarding the usage of our schematics and alike documentation for Trenz module TE0865.

Project is protected under copyright and we strongly and strictly prohibit the reverse engineering or recreation, even if the design is just adapted or modified. TE0865 is protected under such right and in case of plagiarism we will have to do anything necessary in order to protect our assets.

Schematics and other handouts serve for informational purposes only!

	Title: TE0865 - Legal Notices		
	A4	Number: 50 ABI21MA	Rev. 02
	Date: 11.10.2021	Copyright: Trenz Electronic GmbH / TT	Page 50 of 51
	Filename: Legal Notices Modules.SchDoc		

1

2

3

4

REV	Description	
-01	Initial revision	AL, GH
-02	1. PCB: Improved PCB trace to simplify production with increased reliability	VY
-02a	1. SCH: all pull down resistors on DCDC enable inputs changed to 1K	VY
-02b	1. SCH: signals renaming: - SC_EXT_1 to PG_SOM; - SC_EXT_4 to EN_SOM.	VY

A

A

B


B

C

C

D

D

	Title: TE0865 – Revision_Changes		
	A4	Number: 51 ABI21MA	Rev. 02
	Date: 26.02.2024	Copyright: Trenz Electronic GmbH	Page 51 of 51
	Filename: Revision_Changes.SchDoc		

1

2

3

4