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LOGO1
TE Logo PRINT Layer

LOGO PRINT

POWER

SC1

SC2

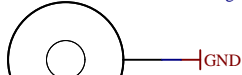
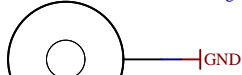
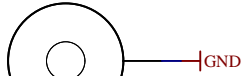
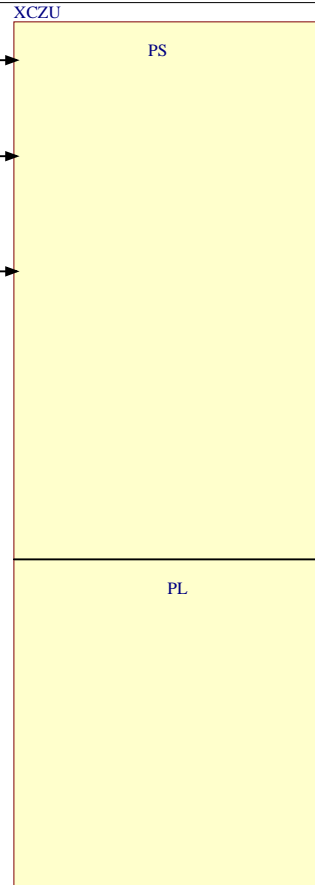
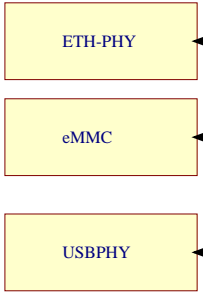
U_ClocksOverview

U_Legal Notices Modules

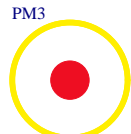
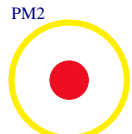
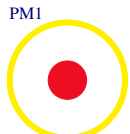
U_PowerOverview

U_Reset-InterruptsOverview

U_Revision_Changes



Special notes:



~~Serial1~~
Serialnummer 6,3 x 6,3mm

Serial2
Serialnummer 6,3 x 6,3mm
AD only



Title: TE0865 Main		
A4	Number: 1 DGE43MA	Rev. 02
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XCZU_Config

XCZU_88_89_90_91_93_94_HD

XCZU_500_501_502_MIO

XCZU_POWER



B

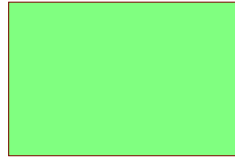
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XCZU_64_65_HP

XCZU_128_129_130_131_MGT

XCZU_504_PSDDR

XCZU_GND



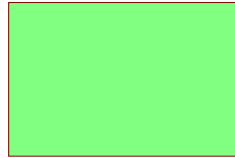
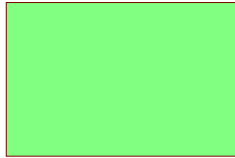
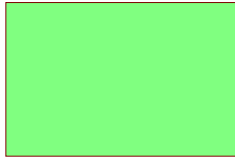
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XCZU_66_67_HP

XCZU_224_225_226_227_MGT

XCZU_505_MGT

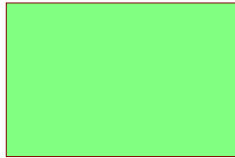
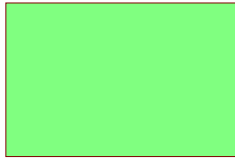


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XCZU_68_69_HP

XCZU_228_229_230_231_MGT



XCZU_70_71_HP




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			Title: TE0865 – XCZU	
			A4	Number: 2 DGE43MA
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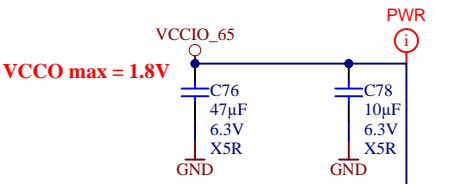
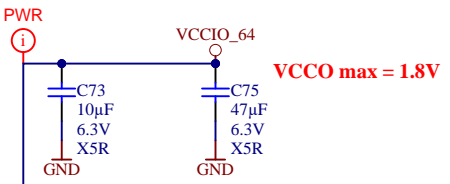
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U30B BANK 64 HP

AR21	VCCO_64	VREF_64	AJ19	R25	GND
AV20	VCCO_64				
BA19	VCCO_64				
B64 L1 P	BA23	IO_L1P_T0L_N0_DBC_64	AT22	B64 L13 P	
B64 L1 N	BB23	IO_L1N_T0L_N1_DBC_64	AT21	B64 L13 N	
B64 L2 P	AY23	IO_L2P_T0L_N2_64	AT20	B64 L14 P	
B64 L2 N	AY22	IO_L2N_T0L_N3_64	AU19	B64 L14 N	
B64 L3 P	BA22	IO_L3P_T0L_N4_AD15P_64	AN22	B64 L15 P	
B64 L3 N	BA21	IO_L3N_T0L_N5_AD15N_64	AP22	B64 L15 N	
B64 L4 P	AY20	IO_L4P_T0U_N6_DBC_AD7P_64	AN21	B64 L16 P	
B64 L4 N	BA20	IO_L4N_T0U_N7_DBC_AD7N_64	AP21	B64 L16 N	
B64 L5 P	BB20	IO_L5P_T0U_N8_AD14P_64	AP20	B64 L17 P	
B64 L5 N	BB19	IO_L5N_T0U_N9_AD14N_64	AR20	B64 L17 N	
B64 L6 P	BA18	IO_L6P_T0U_N10_AD6P_64	AP19	B64 L18 P	
B64 L6 N	BB18	IO_L6N_T0U_N11_AD6N_64	AR19	B64 L18 N	
	BB21	IO_T0U_N12_VRP_64	AR22		
B64 L7 P	AU23	IO_L7P_T1L_N0_QBC_AD13P_64	AM19	B64 L19 P	
B64 L7 N	AV23	IO_L7N_T1L_N1_QBC_AD13N_64	AN19	B64 L19 N	
B64 L8 P	AV22	IO_L8P_T1L_N2_AD5P_64	AM21	B64 L20 P	
B64 L8 N	AW22	IO_L8N_T1L_N3_AD5N_64	AM20	B64 L20 N	
B64 L9 P	AW20	IO_L9P_T1L_N4_AD12P_64	AL22	B64 L21 P	
B64 L9 N	AW19	IO_L9N_T1L_N5_AD12N_64	AL21	B64 L21 N	
B64 L10 P	AY19	IO_L10P_T1U_N6_QBC_AD4P_64	AK20	B64 L22 P	
B64 L10 N	AY18	IO_L10N_T1U_N7_QBC_AD4N_64	AK19	B64 L22 N	
B64 L11 P	AU21	IO_L11P_T1U_N8_GC_64	AJ21	B64 L23 P	
B64 L11 N	AV21	IO_L11N_T1U_N9_GC_64	AJ20	B64 L23 N	
B64 L12 P	AU20	IO_L12P_T1U_N10_GC_64	AJ22	B64 L24 P	
B64 L12 N	AV19	IO_L12N_T1U_N11_GC_64	AK22	B64 L24 N	
	AW21	IO_T1U_N12_64	AL20		

IO_L13P_T2L_N0_GC_QBC_64
IO_L13N_T2L_N1_GC_QBC_64
IO_L14P_T2L_N2_GC_64
IO_L14N_T2L_N3_GC_64
IO_L15P_T2L_N4_AD11P_64
IO_L15N_T2L_N5_AD11N_64
IO_L16P_T2U_N6_QBC_AD3P_64
IO_L16N_T2U_N7_QBC_AD3N_64
IO_L17P_T2U_N8_AD10P_64
IO_L17N_T2U_N9_AD10N_64
IO_L18P_T2U_N10_AD2P_64
IO_L18N_T2U_N11_AD2N_64
IO_T2U_N12_64

IO_L19P_T3L_N0_DBC_AD9P_64
IO_L19N_T3L_N1_DBC_AD9N_64
IO_L20P_T3L_N2_AD1P_64
IO_L20N_T3L_N3_AD1N_64
IO_L21P_T3L_N4_AD8P_64
IO_L21N_T3L_N5_AD8N_64
IO_L22P_T3U_N6_DBC_AD0P_64
IO_L22N_T3U_N7_DBC_AD0N_64
IO_L23P_T3U_N8_64
IO_L23N_T3U_N9_64
IO_L24P_T3U_N10_64
IO_L24N_T3U_N11_64
IO_T3U_N12_64

XCZU17EG-2FFVC1760E

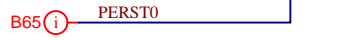
U30C BANK 65 HP

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AV25	VCCO_65				
BA24	VCCO_65				
B65 L1 P	AW24	IO_L1P_T0L_N0_DBC_65	AR27	B65 L13 P	
B65 L1 N	AY24	IO_L1N_T0L_N1_DBC_65	AT27	B65 L13 N	
B65 L2 P	BB24	IO_L2P_T0L_N2_65	AR24	B65 L14 P	
B65 L2 N	BB25	IO_L2N_T0L_N3_65	AR25	B65 L14 N	
B65 L3 P	AY25	IO_L3P_T0L_N4_AD15P_65	AM26	B65 L15 P	
B65 L3 N	BA25	IO_L3N_T0L_N5_AD15N_65	AN26	B65 L15 N	
B65 L4 P	BA26	IO_L4P_T0U_N6_DBC_AD7P_65	AN27	B65 L16 P	
B65 L4 N	BB26	IO_L4N_T0U_N7_DBC_AD7N_65	AP27	B65 L16 N	
B65 L5 P	AY27	IO_L5P_T0U_N8_AD14P_65	AM28	B65 L17 P	
B65 L5 N	AY28	IO_L5N_T0U_N9_AD14N_65	AN28	B65 L17 N	
B65 L6 P	BA28	IO_L6P_T0U_N10_AD6P_65	AR28	B65 L18 P	
B65 L6 N	BB28	IO_L6N_T0U_N11_AD6N_65	AT28	B65 L18 N	
	BA27	IO_T0U_N12_VRP_65	AP26		
B65 L7 P	AU24	IO_L7P_T1L_N0_QBC_AD13P_65	AR23	B65 L19 P	
B65 L7 N	AV24	IO_L7N_T1L_N1_QBC_AD13N_65	AT23	B65 L19 N	
B65 L8 P	AV26	IO_L8P_T1L_N2_AD5P_65	AP24	B65 L20 P	
B65 L8 N	AW26	IO_L8N_T1L_N3_AD5N_65	AP25	B65 L20 N	
B65 L9 P	AW27	IO_L9P_T1L_N4_AD12P_65	AM24	B65 L21 P	
B65 L9 N	AW27	IO_L9N_T1L_N5_AD12N_65	AN24	B65 L21 N	
B65 L10 P	AU28	IO_L10P_T1U_N6_QBC_AD4P_65	AM23	B65 L22 P	
B65 L10 N	AV28	IO_L10N_T1U_N7_QBC_AD4N_65	AN23	B65 L22 N	
B65 L11 P	AU25	IO_L11P_T1U_N8_GC_65	AK23	B65 L23 P	
B65 L11 N	AU26	IO_L11N_T1U_N9_GC_65	AL23	B65 L23 N	
B65 L12 P	AT25	IO_L12P_T1U_N10_GC_65	AJ24	B65 L24 P	
B65 L12 N	AT26	IO_L12N_T1U_N11_GC_65	AK24	B65 L24 N	
	AW25	IO_T1U_N12_SMBALERT_65	AM25		

IO_L13P_T2L_N0_GC_QBC_65
IO_L13N_T2L_N1_GC_QBC_65
IO_L14P_T2L_N2_GC_65
IO_L14N_T2L_N3_GC_65
IO_L15P_T2L_N4_AD11P_65
IO_L15N_T2L_N5_AD11N_65
IO_L16P_T2U_N6_QBC_AD3P_65
IO_L16N_T2U_N7_QBC_AD3N_65
IO_L17P_T2U_N8_AD10P_65
IO_L17N_T2U_N9_AD10N_65
IO_L18P_T2U_N10_AD2P_65
IO_L18N_T2U_N11_AD2N_65
IO_T2U_N12_65

IO_L19P_T3L_N0_DBC_AD9P_65
IO_L19N_T3L_N1_DBC_AD9N_65
IO_L20P_T3L_N2_AD1P_65
IO_L20N_T3L_N3_AD1N_65
IO_L21P_T3L_N4_AD8P_65
IO_L21N_T3L_N5_AD8N_65
IO_L22P_T3U_N6_DBC_AD0P_65
IO_L22N_T3U_N7_DBC_AD0N_65
IO_L23P_T3U_N8_I2C_SCLK_65
IO_L23N_T3U_N9_PERSTN1_I2C_SDA_65
IO_L24P_T3U_N10_65
IO_L24N_T3U_N11_65
IO_T3U_N12_PERSTN0_65

XCZU17EG-2FFVC1760E



Title: TE0865 – XCZU_64_65_HP

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Filename: XCZU_64_65_HP.schdoc

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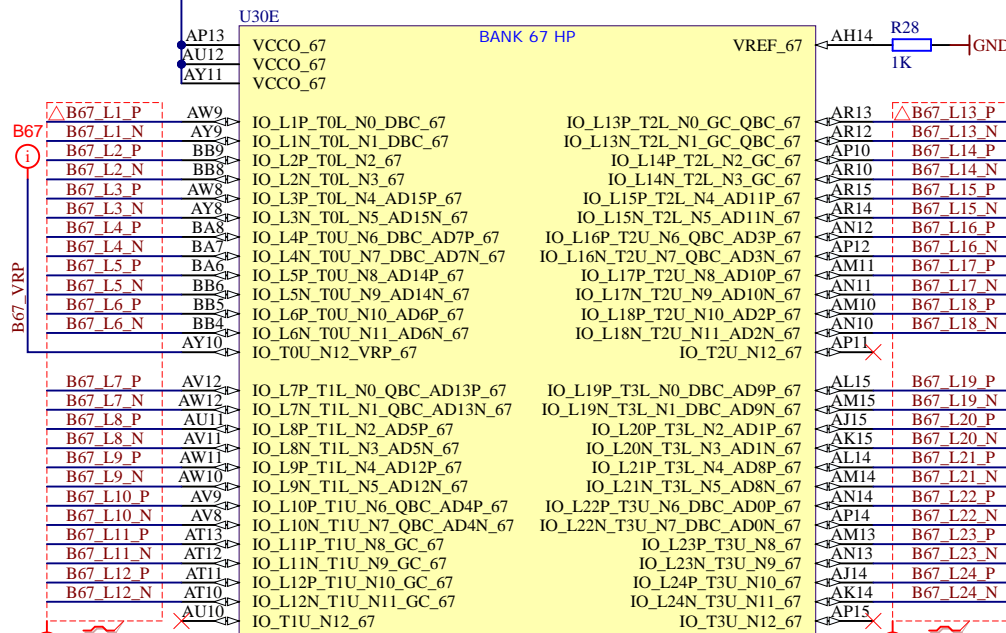
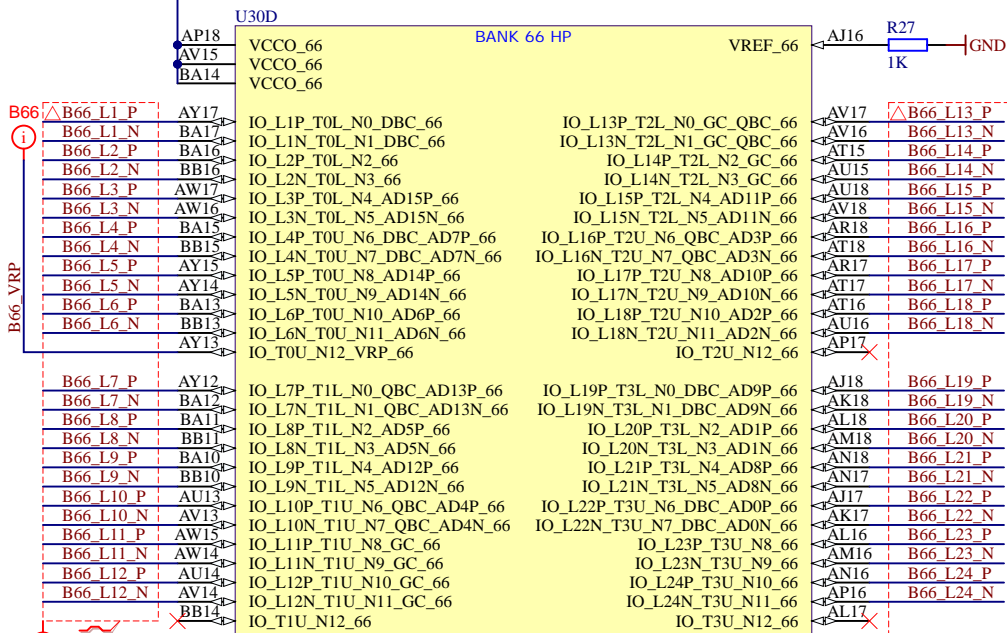
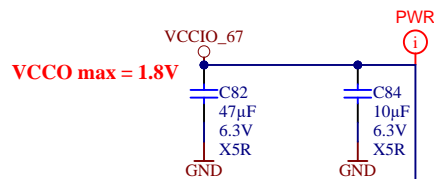
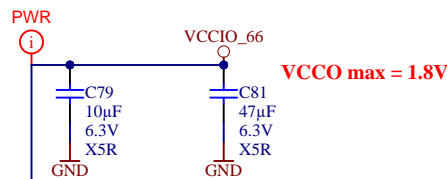
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B66 XCZU17EG-2FFVC1760E

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B67 XCZU17EG-2FFVC1760E

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Title: TE0865 – XCZU_66_67_HP

A4	Number: 4 DGE43MA	Rev. 02
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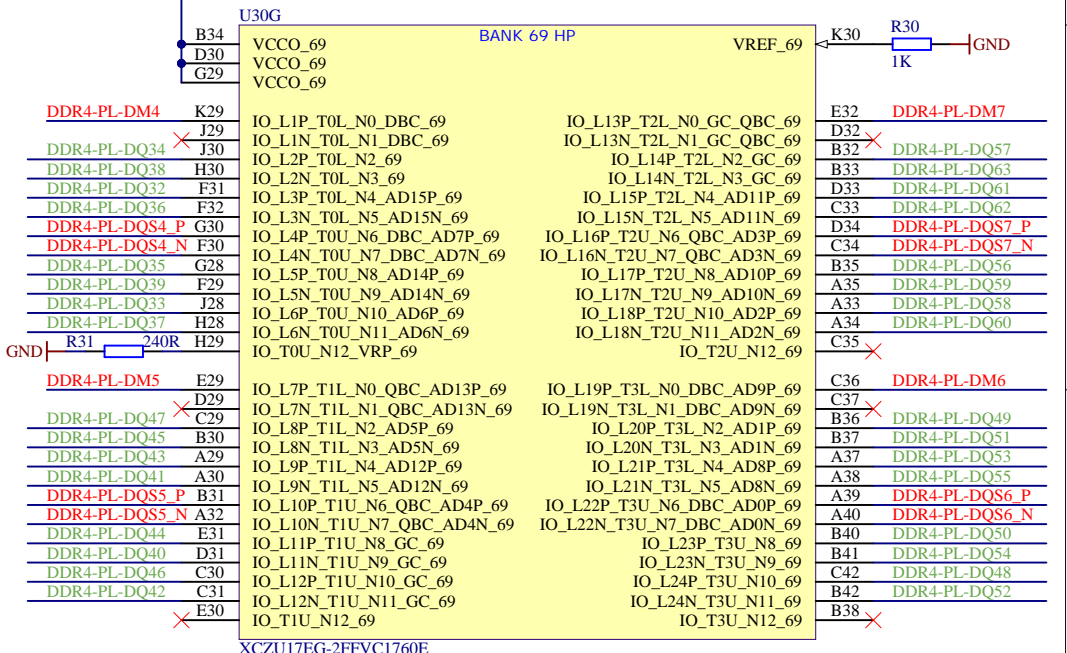
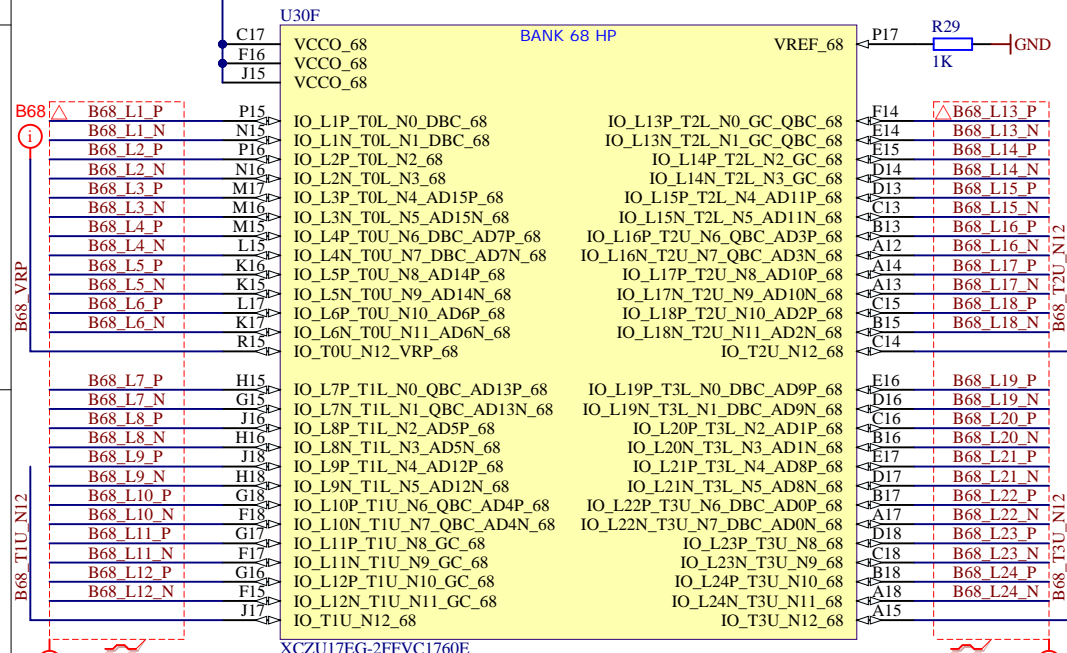
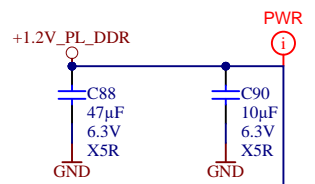
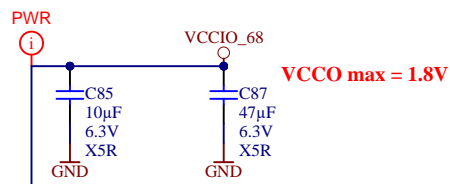
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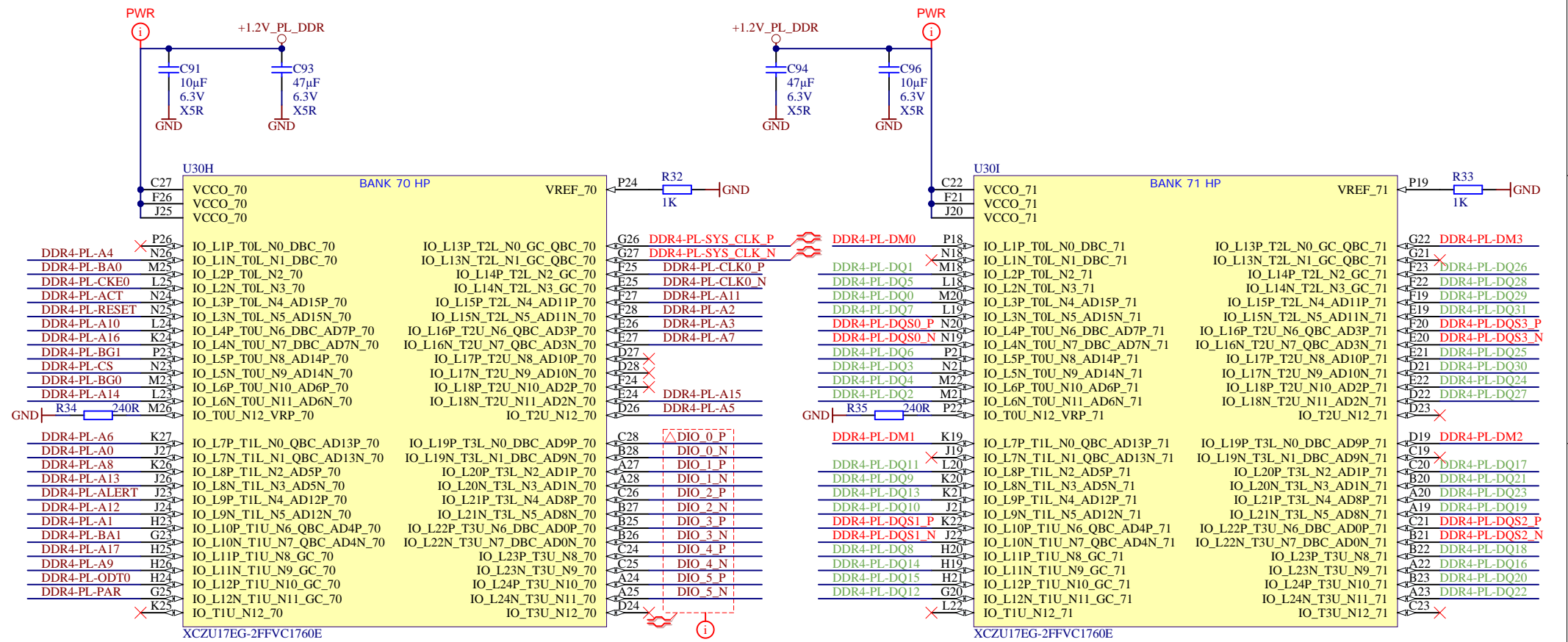
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Title: TE0865 – XCZU_68_69_HP		
A4	Number: 5 DGE43MA	Rev. 02
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Title: TE0865 – XCZU_70_71_HP		
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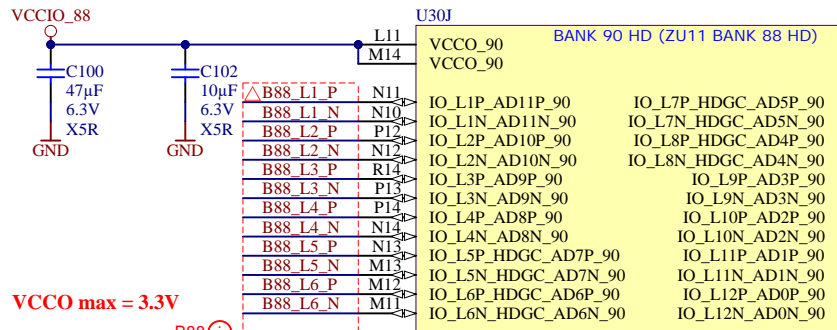
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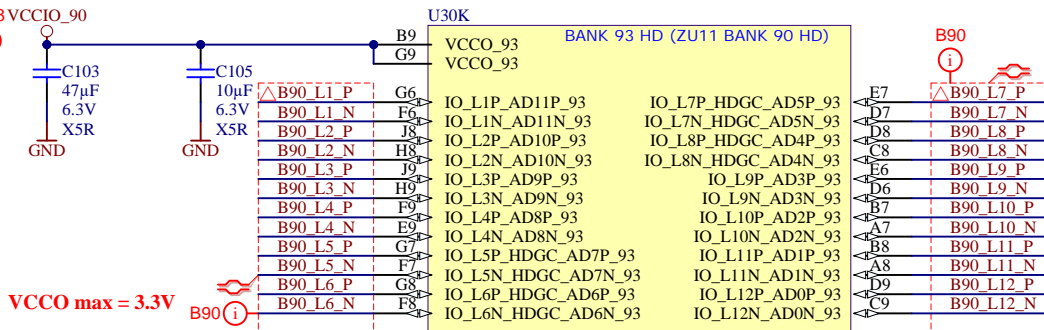
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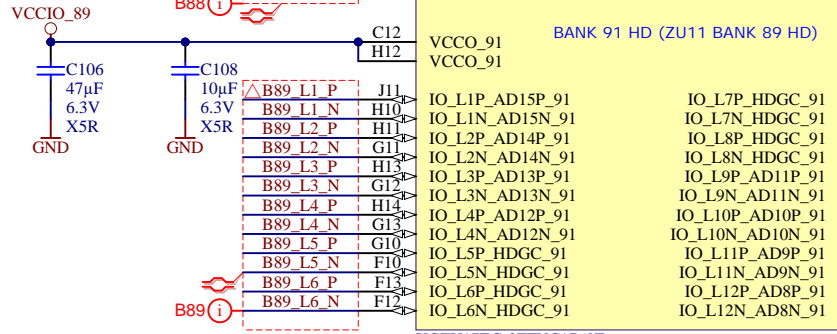
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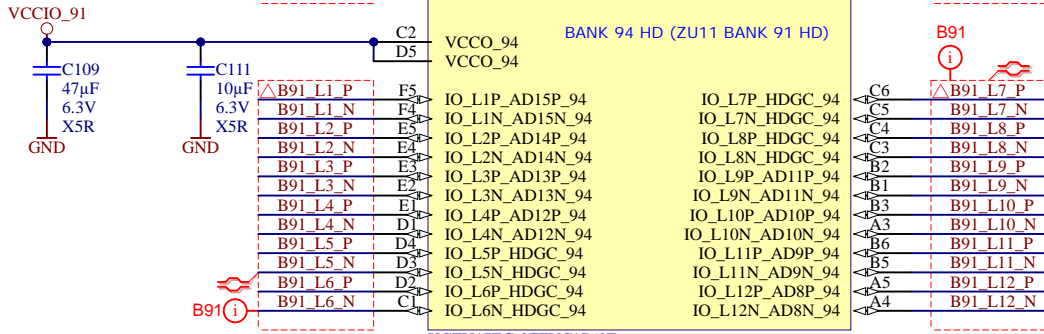
VCCO max = 3.3V



VCCO max = 3.3V



VCCO max = 3.3V



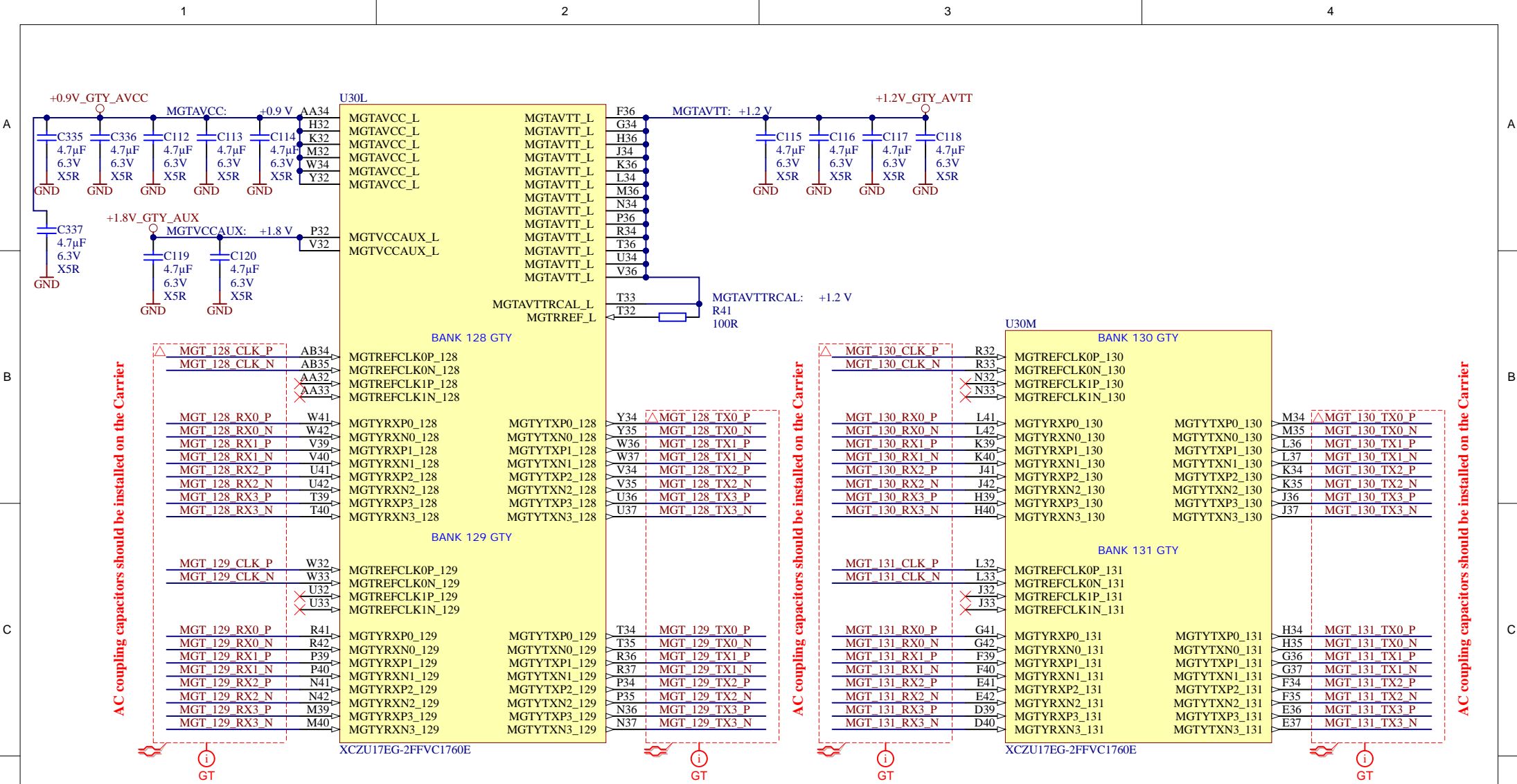
XCZU17EG-2FFVC1760E


XCZU17EG-2FFVC1760E

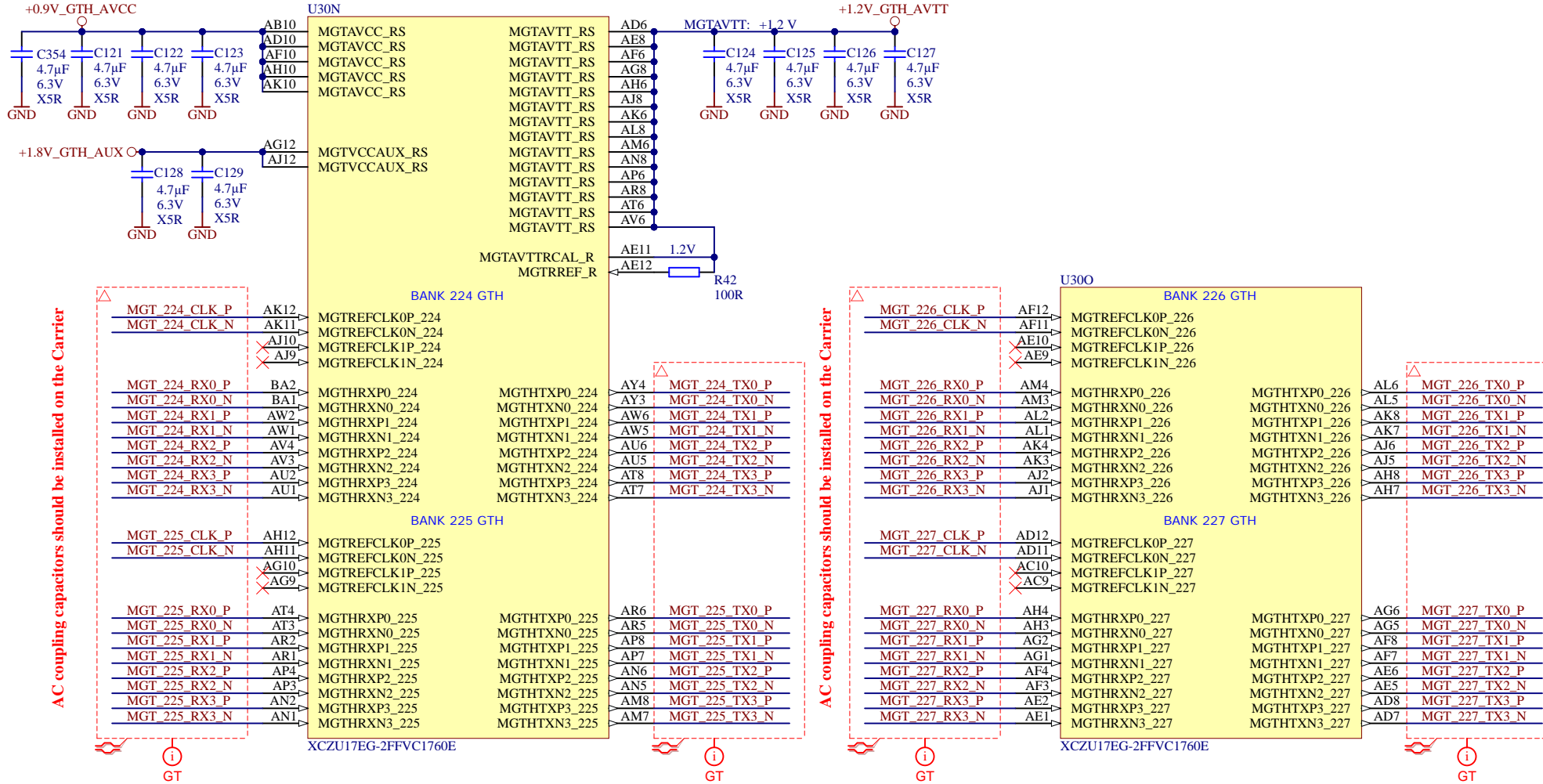


Title: TE0865 – XCZU_88_89_90_91_93_94_HD		
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			Title: TE0865 – XCZU_128_129_130_131_MGT	
			A4	Number: 8 DGE43MA
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Filename: XCZU_128_129_130_131_MGT.schdoc				

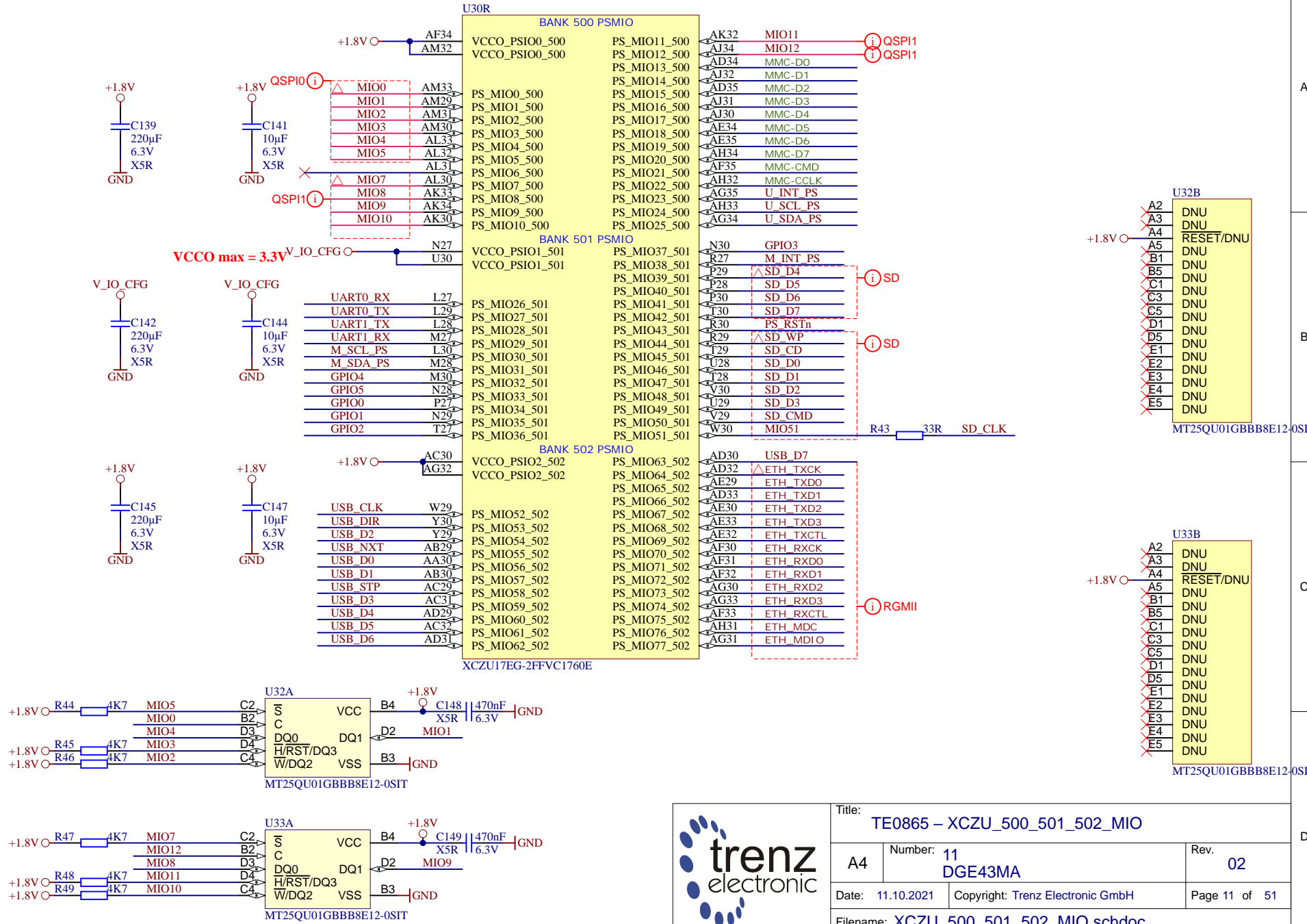


AC coupling capacitors should be installed on the Carrier

AC coupling capacitors should be installed on the Carrier

AC coupling capacitors should be installed on the Carrier

			Title: TE0865 – XCU17EG-2FFVC1760E	
			A4	Number: 9 DGE43MA
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Title: TE0865 - XCZU_500_501_502_MIO			
A4	Number: 11 DGE43MA	Rev. 02	
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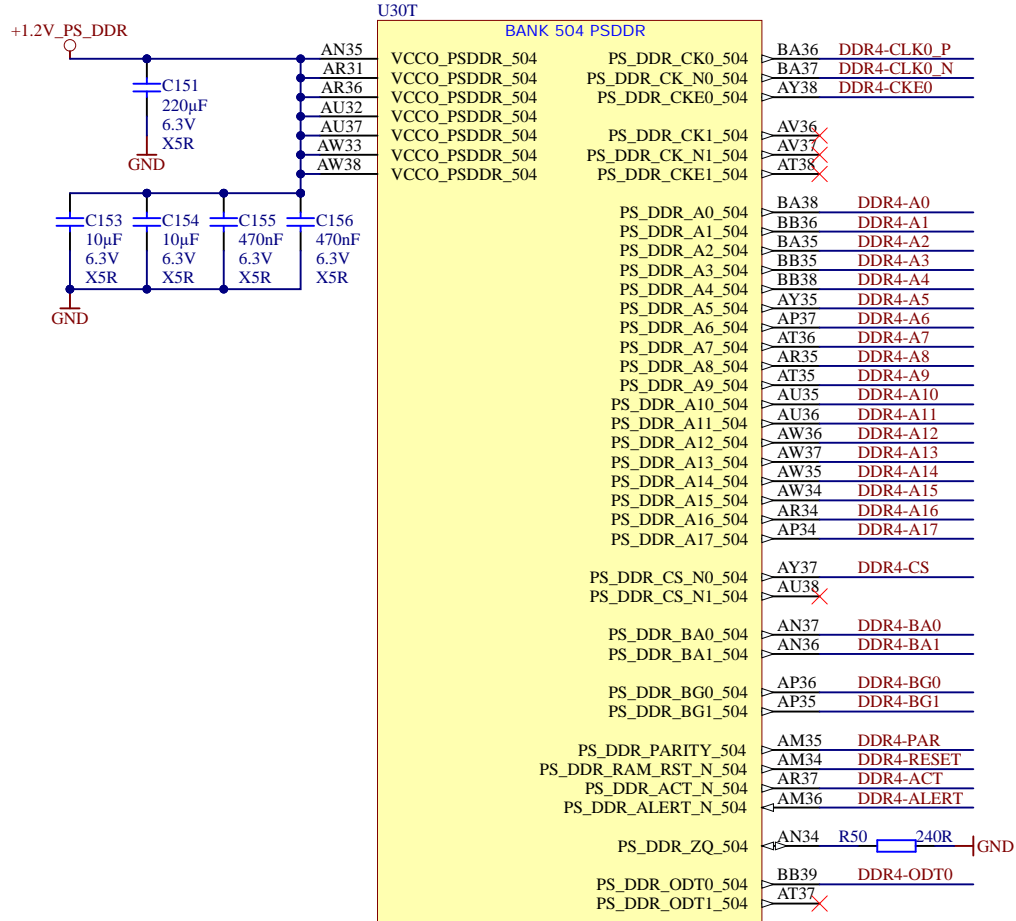
D

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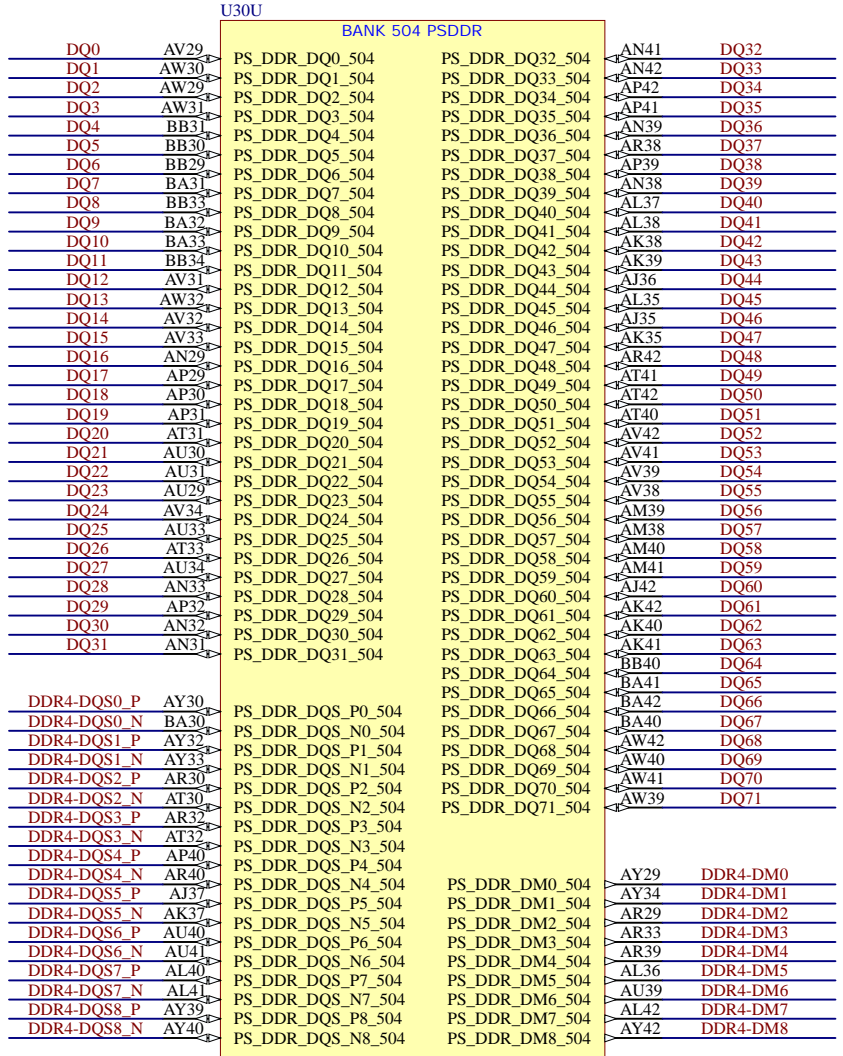
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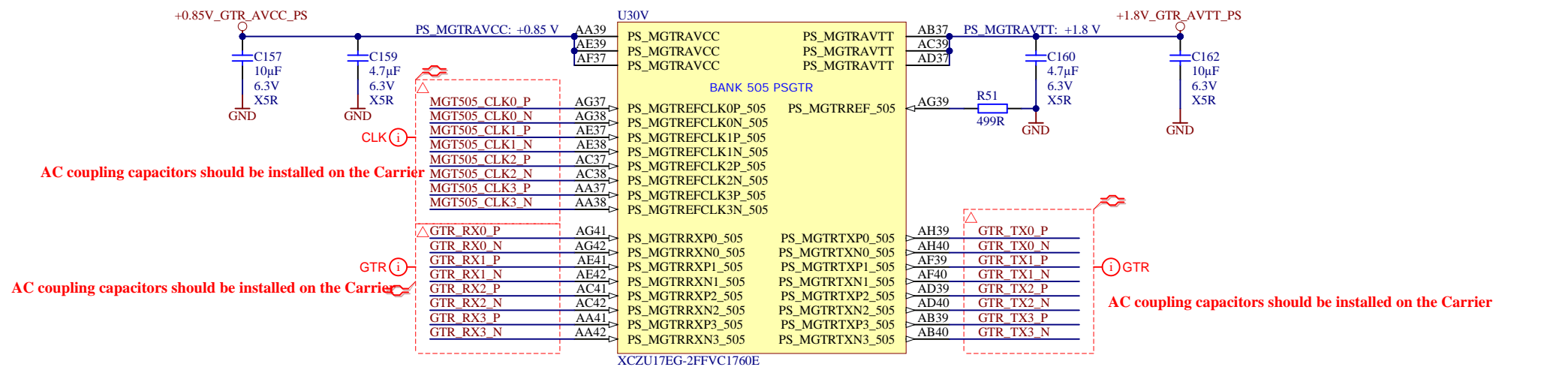
XCZU17EG-2FFVC1760E



XCZU17EG-2FFVC1760E



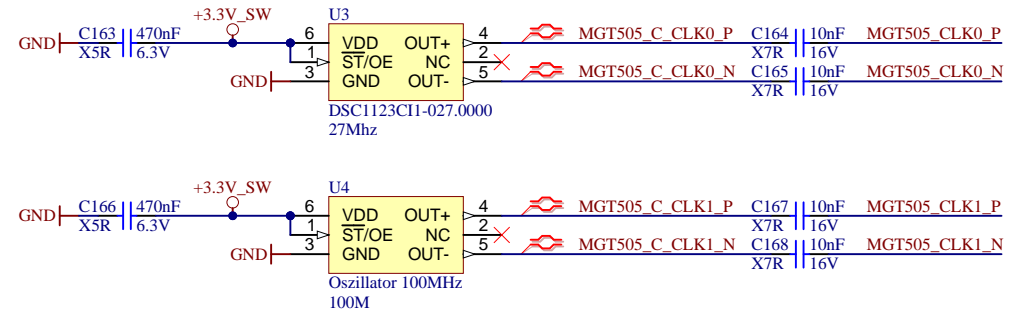
Title: TE0865 – XCZU_504_PSDDR		
A4	Number: 12 DGE43MA	Rev. 02
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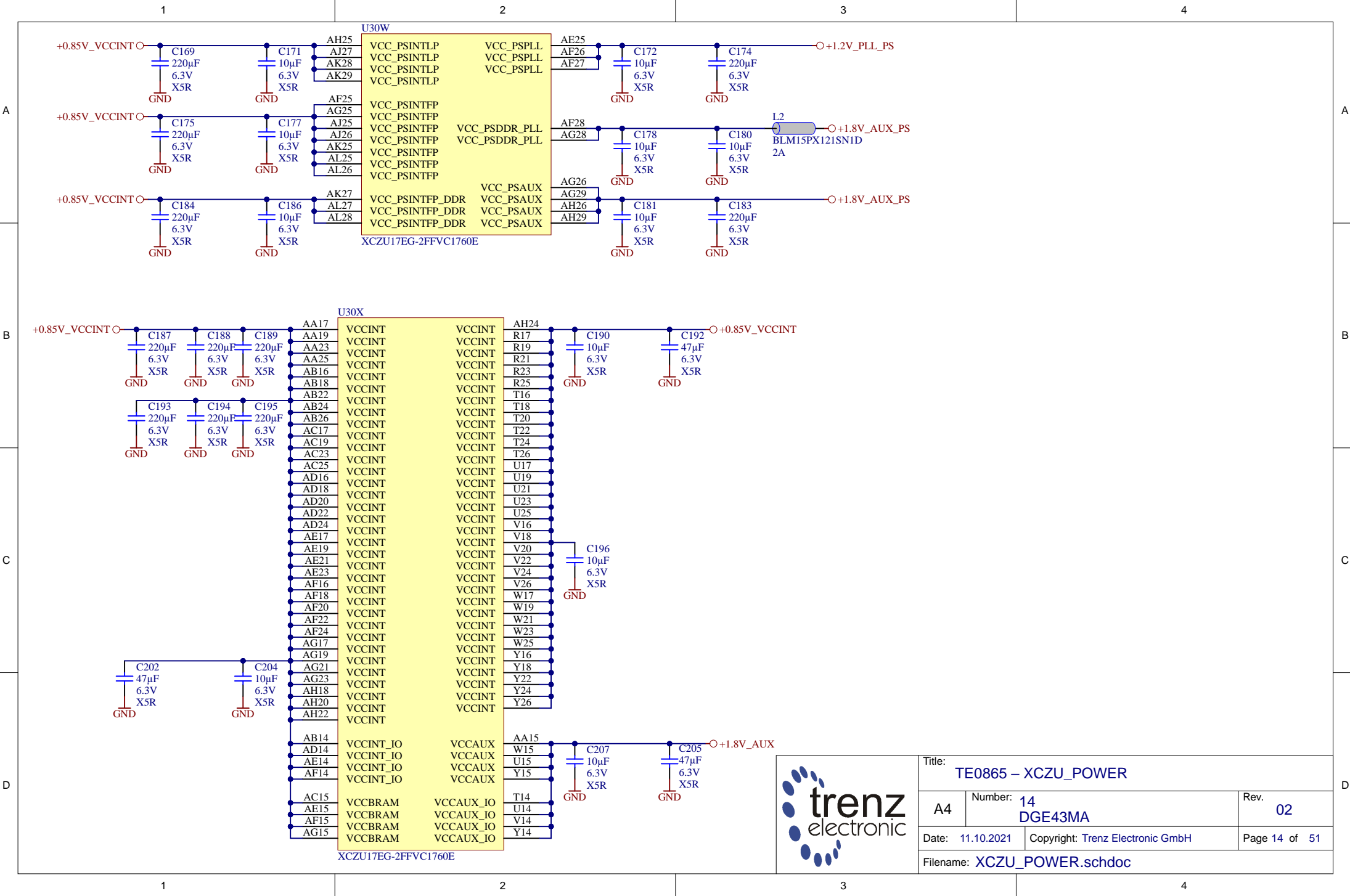
AC coupling capacitors should be installed on the Carrier

AC coupling capacitors should be installed on the Carrier

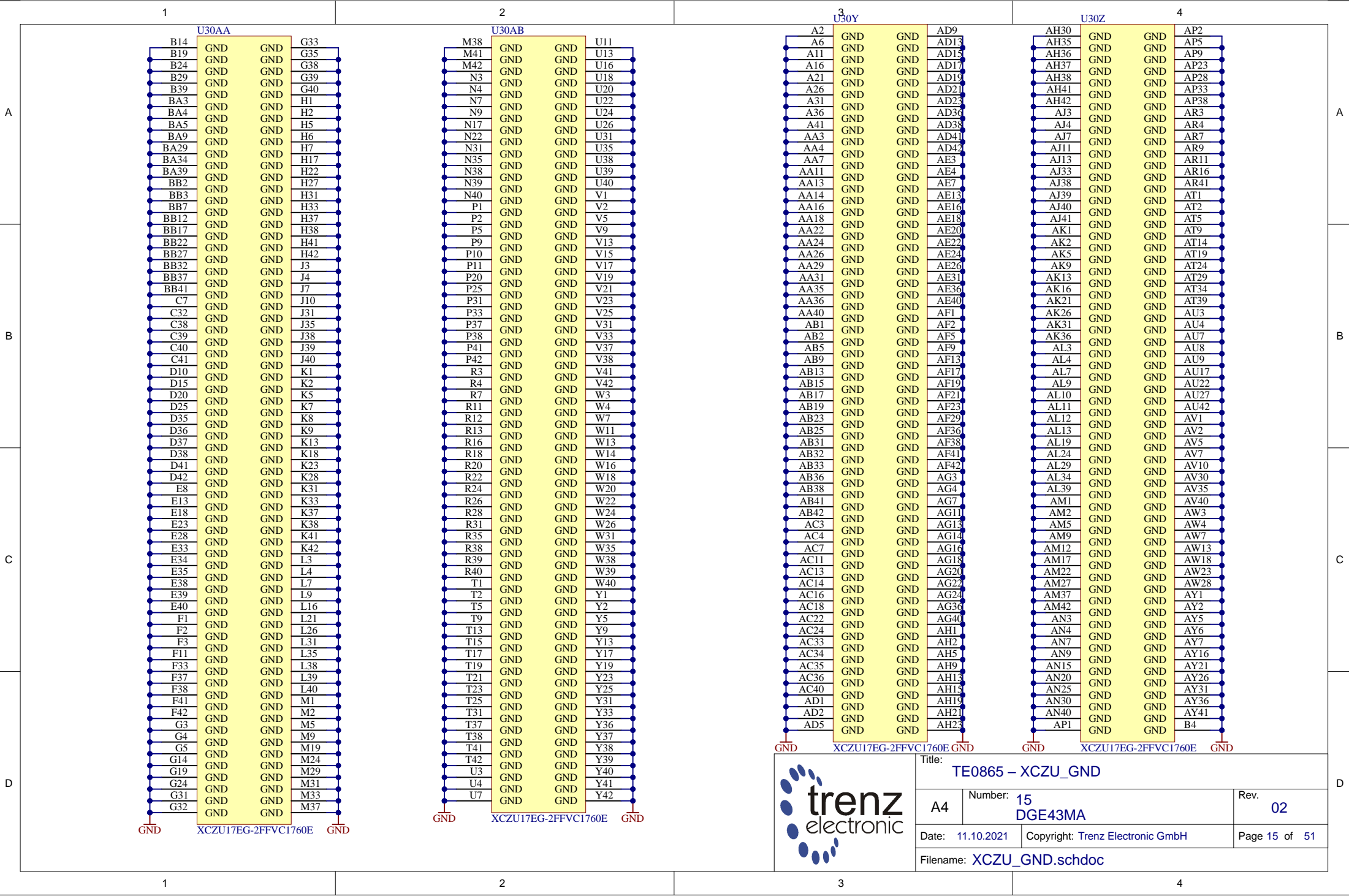
AC coupling capacitors should be installed on the Carrier



Title: TE0865 – XZU_505_MGT		
A4	Number: 13 DGE43MA	Rev. 02
Date: 27.12.2022	Copyright: Trenz Electronic GmbH	Page 13 of 51
Filename: XZU_505_MGT.schdoc		



Title: TE0865 – XZU_POWER		
A4	Number: 14 DGE43MA	Rev. 02
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Filename: XZU_POWER.schdoc		



1

U30AA

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 XCZU17EG-2FFVC1760E GND

2

U30AB

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 XCZU17EG-2FFVC1760E GND

3

U30Y

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 XCZU17EG-2FFVC1760E GND

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U30Z

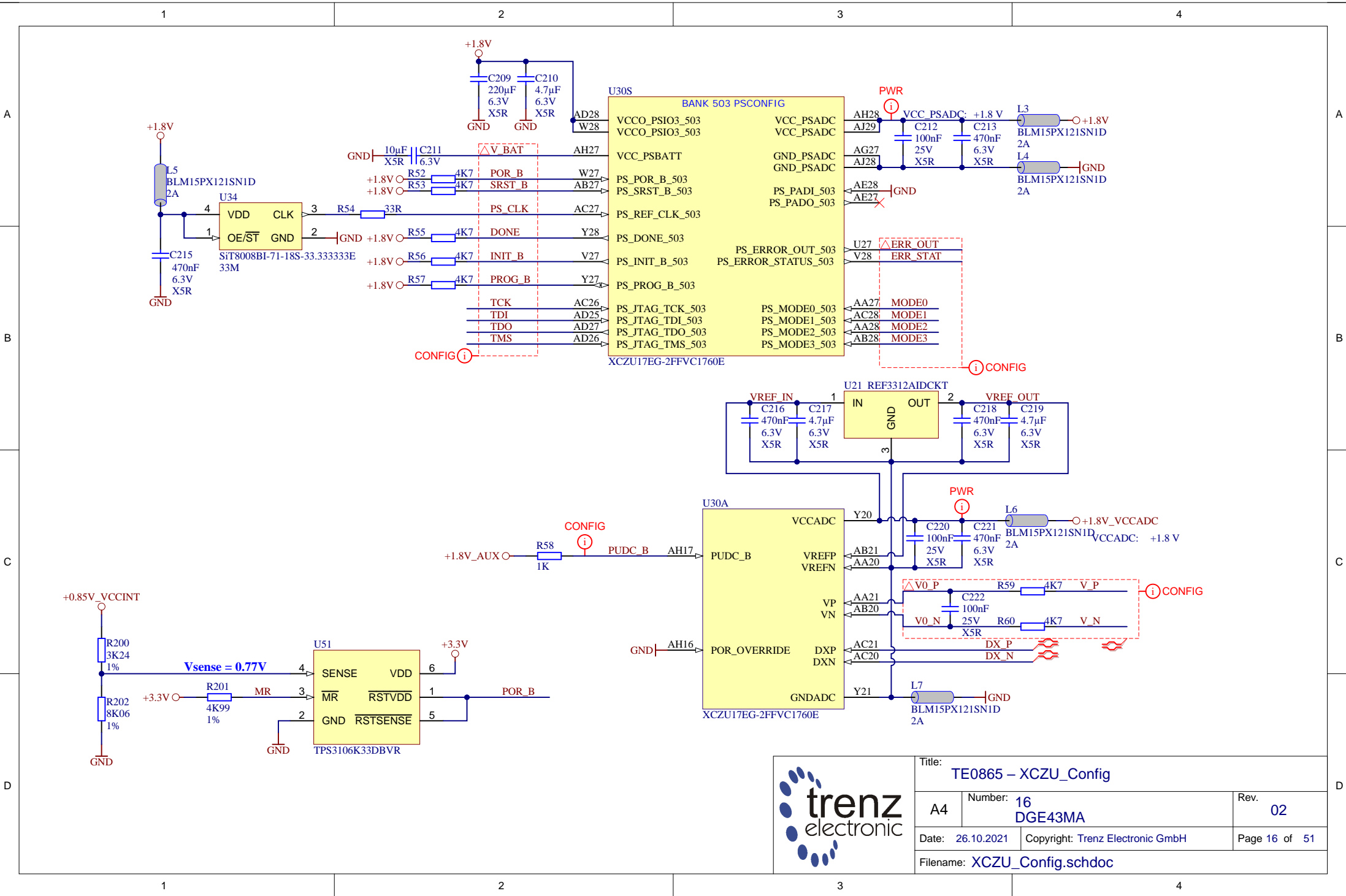
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AH35	GND	GND	AP5
AH36	GND	GND	AP9
AH37	GND	GND	AP23
AH38	GND	GND	AP28
AH41	GND	GND	AP33
AH42	GND	GND	AP38
AJ3	GND	GND	AR3
AJ4	GND	GND	AR4
AJ7	GND	GND	AR7
AJ11	GND	GND	AR9
AJ13	GND	GND	AR11
AJ33	GND	GND	AR16
AJ38	GND	GND	AR41
AJ39	GND	GND	AT1
AJ40	GND	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 XCZU17EG-2FFVC1760E GND

trenz electronic

Title: TE0865 – XCZU_GND

A4	Number: 15 DGE43MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 15 of 51
Filename: XCZU_GND.schdoc		



			Title: TE0865 – XCZU_Config	
			A4	Number: 16 DGE43MA
Date: 26.10.2021		Copyright: Trenz Electronic GmbH		Rev. 02
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

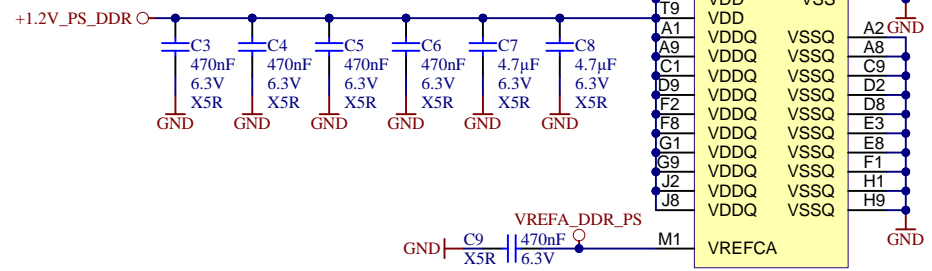
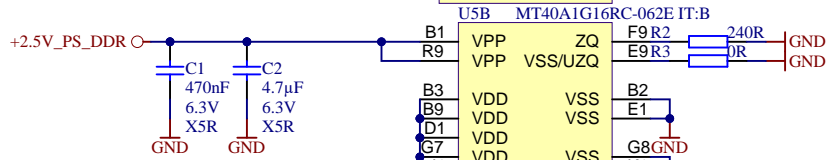
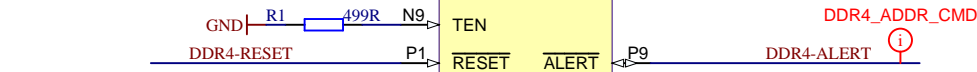
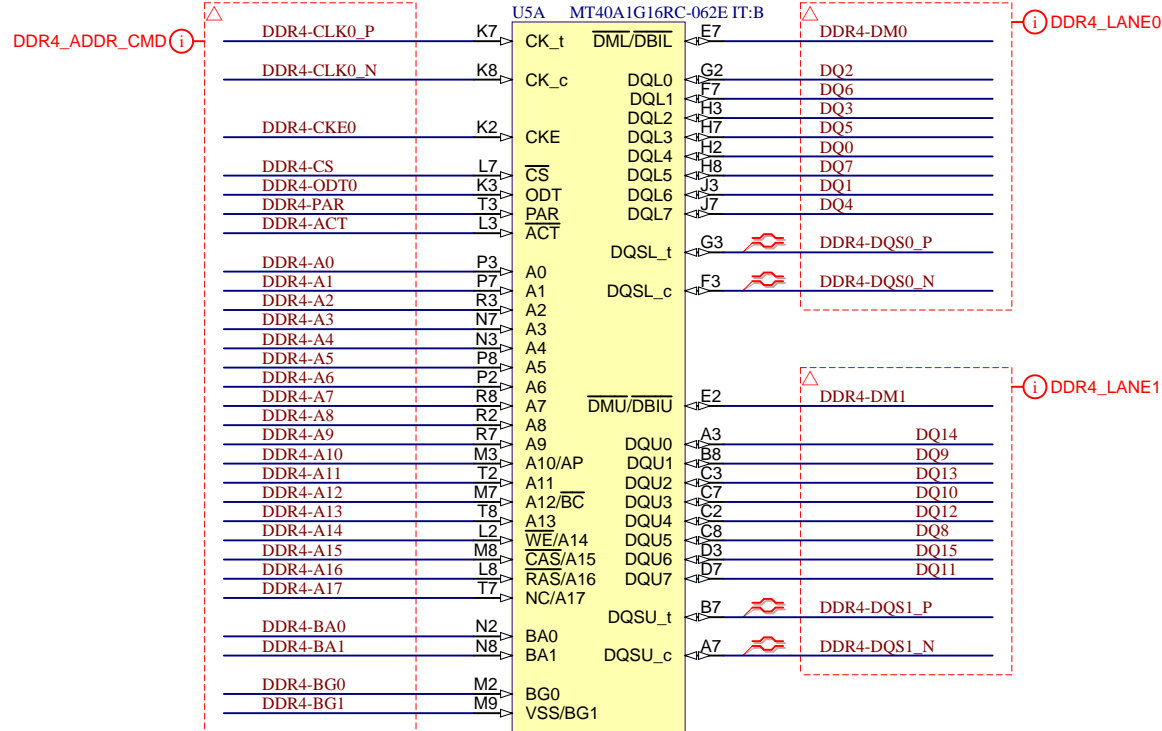
	Title: TE0865 – DDR4-PS		
	A4	Number: 17 DGE43MA	Rev. 02
	Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 17 of 51
	Filename: DDR4-PS.SchDoc		

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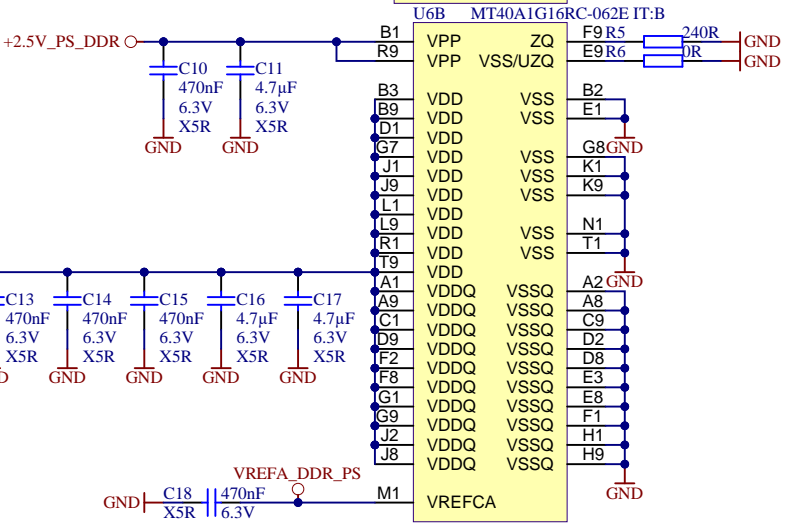
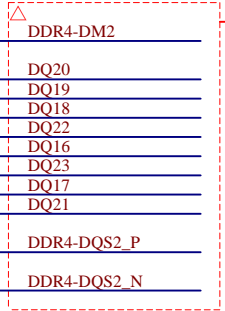
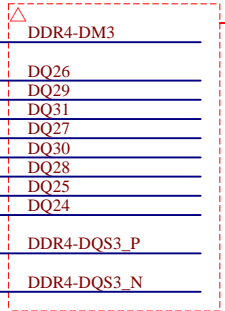
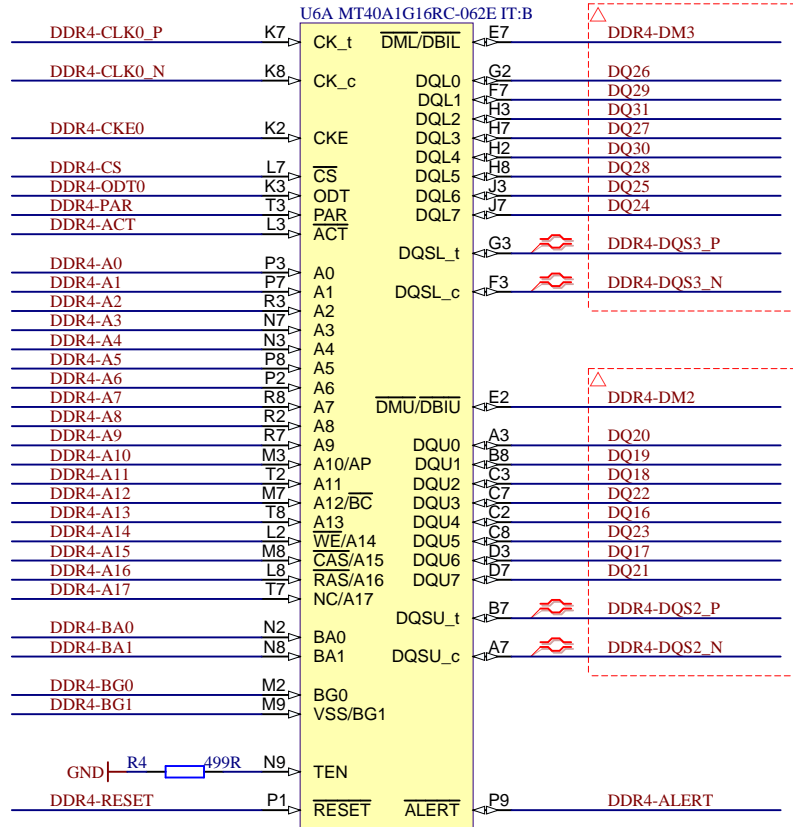
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3

4



Title: TE0865 – DDR4-PS-RAM_1		
A4	Number: 18 DGE43MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 18 of 51
Filename: DDR4-RAM_1.SchDoc		



Title: TE0865 – DDR4-PS-RAM_2		
A4	Number: 19 DGE43MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 19 of 51
Filename: DDR4-RAM_2.SchDoc		

1

2

3

4

A

A

B

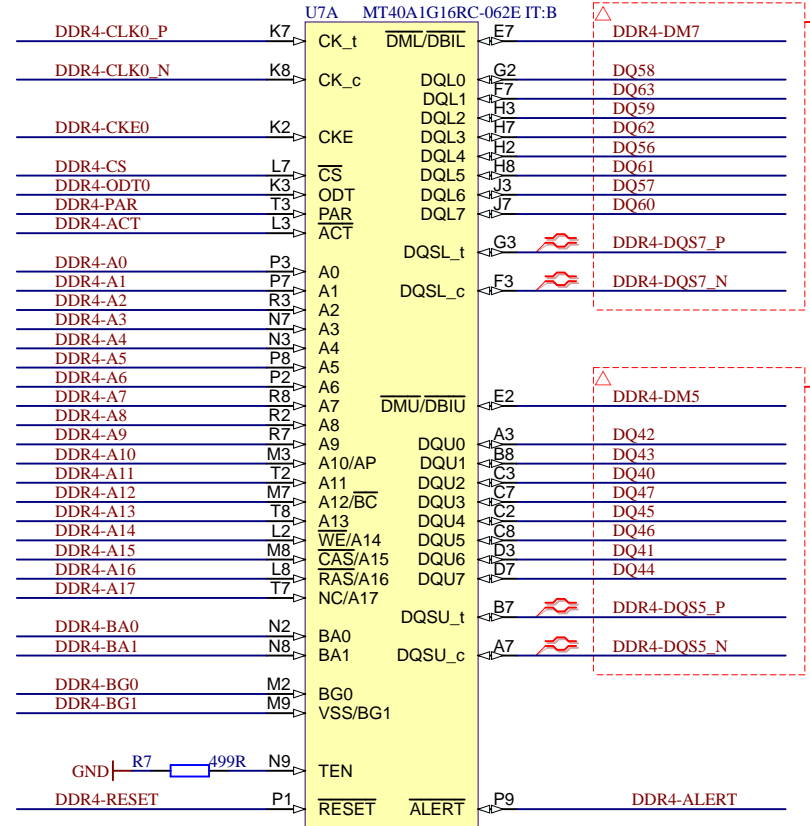
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C

C

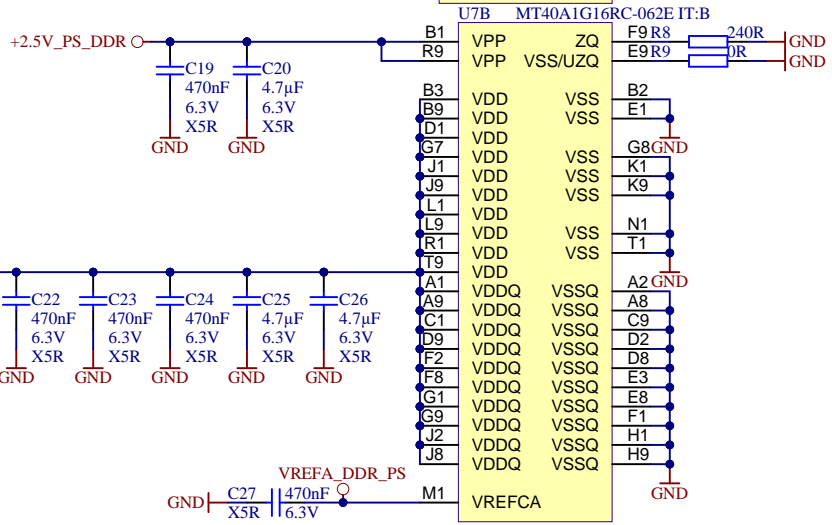
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D



(i) DDR4_LANE7

(i) DDR4_LANE5



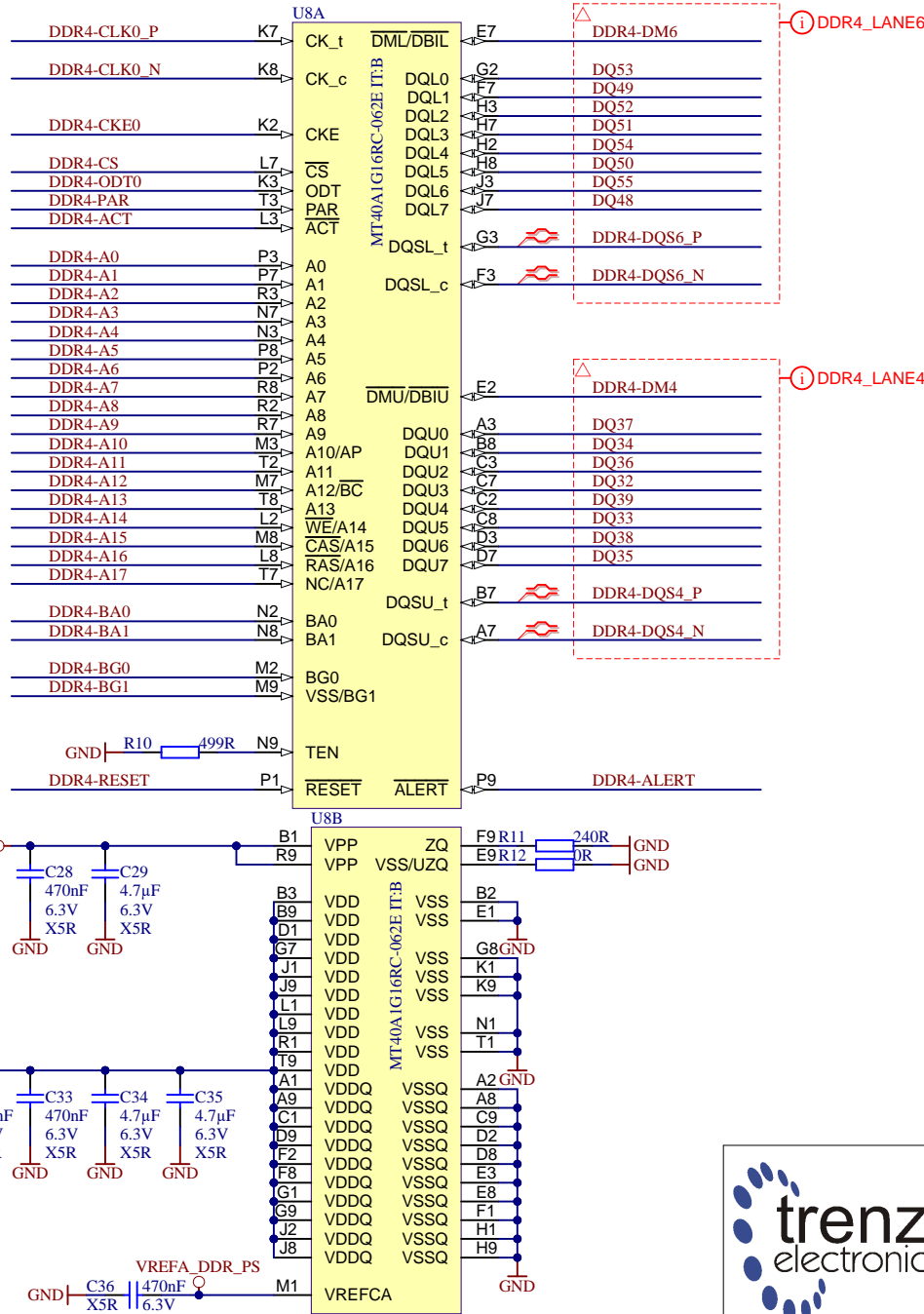
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A4	Number: 20 DGE43MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	
Page 20 of 51		
Filename: DDR4-RAM_3.SchDoc		

1

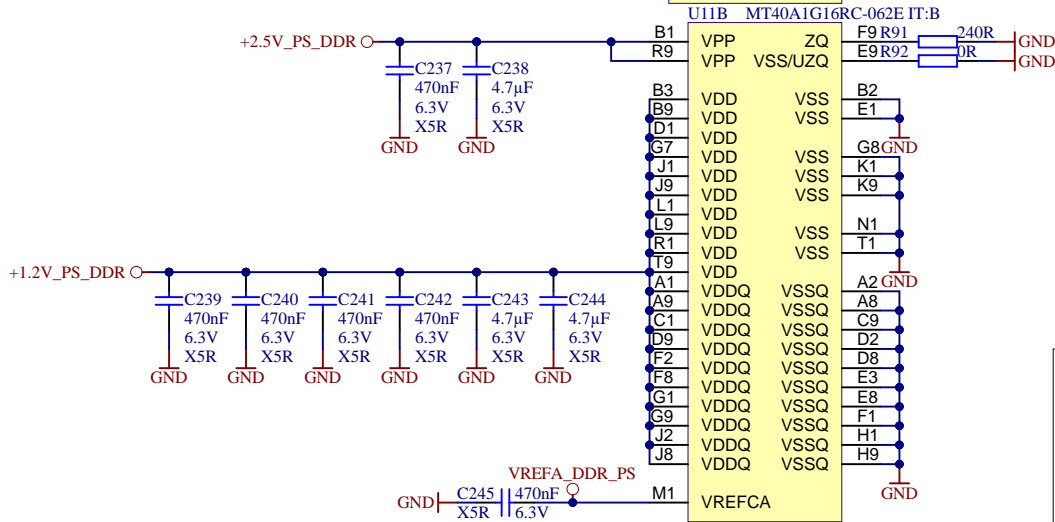
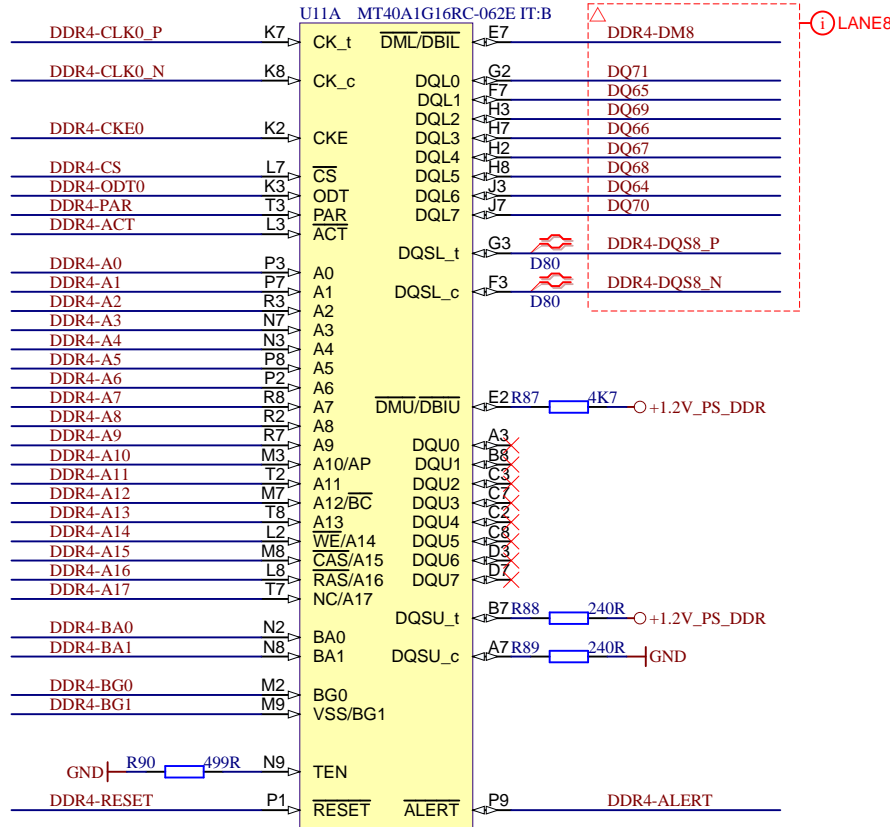

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3

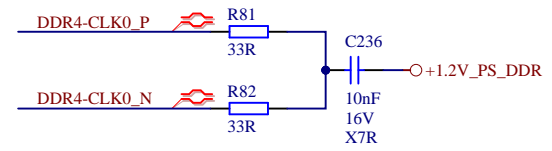
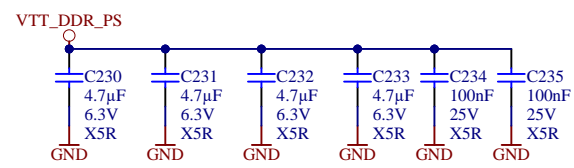
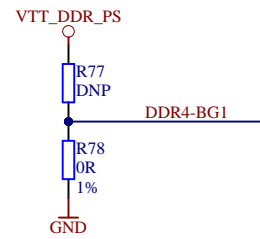
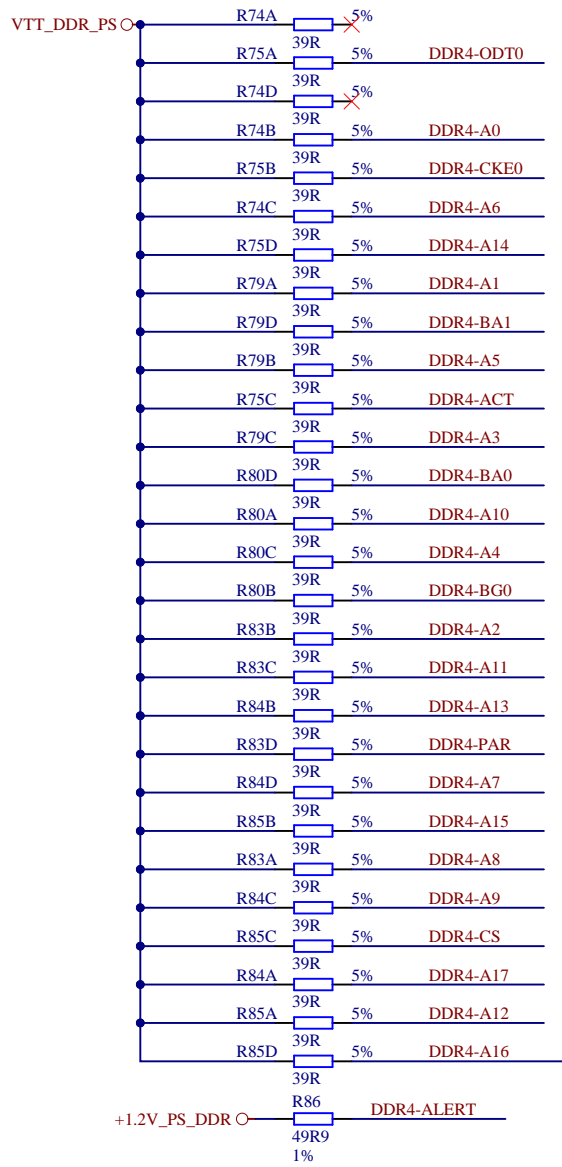
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Title: TE0865 – DDR4-PS-RAM_4		
A4	Number: 21 DGE43MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 21 of 51
Filename: DDR4-RAM_4.SchDoc		

Title: TE0865 – DDR4-PS-RAM_5		
A4	Number: 22 DGE43MA	Rev. 02
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 DGE43MA	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

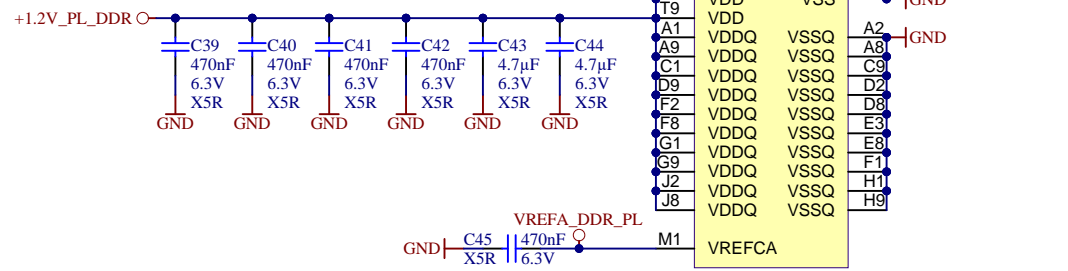
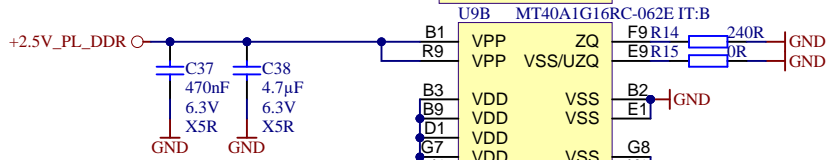
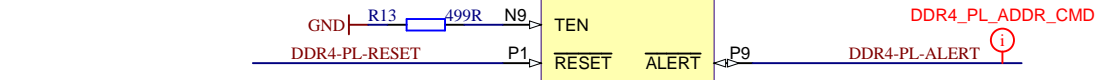
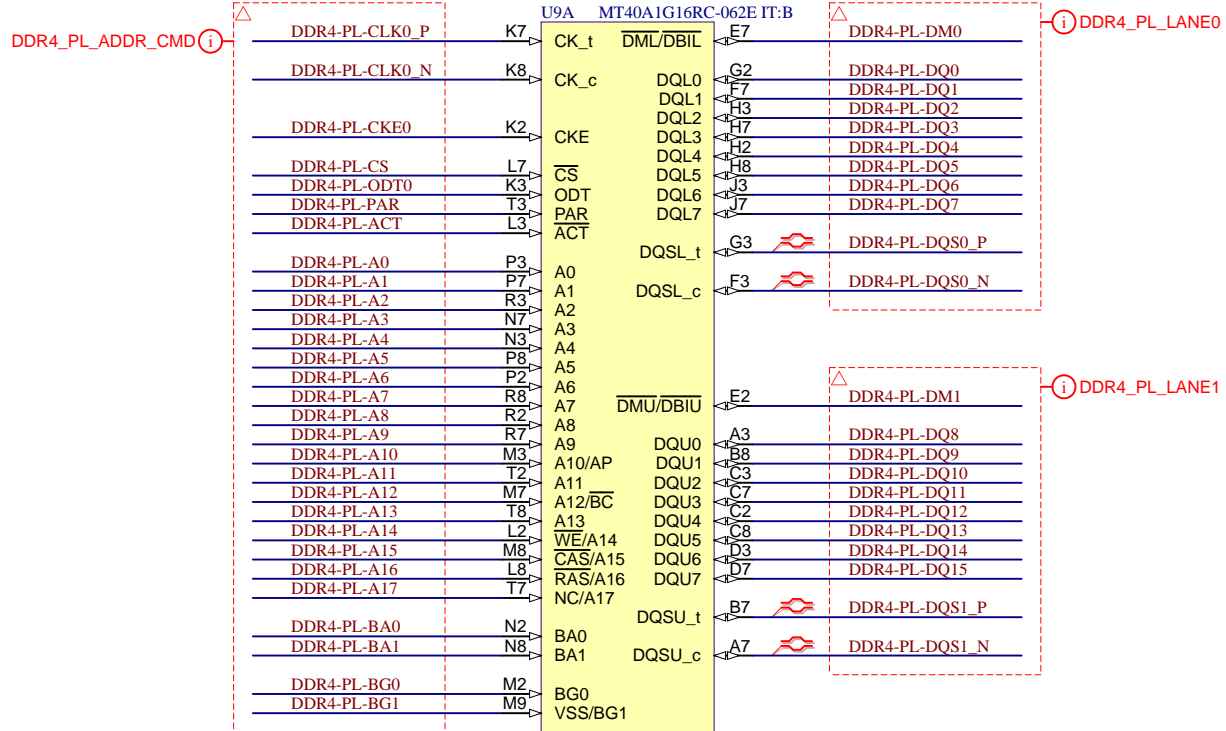
	Title: TE0865 – DDR4-PL		
	A4	Number: 24 DGE43MA	Rev. 02
	Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 24 of 51
	Filename: DDR4-PL.SchDoc		

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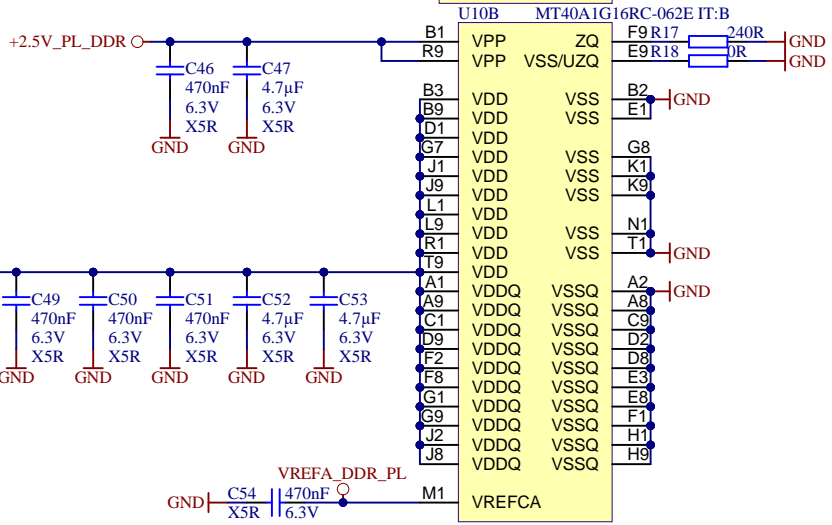
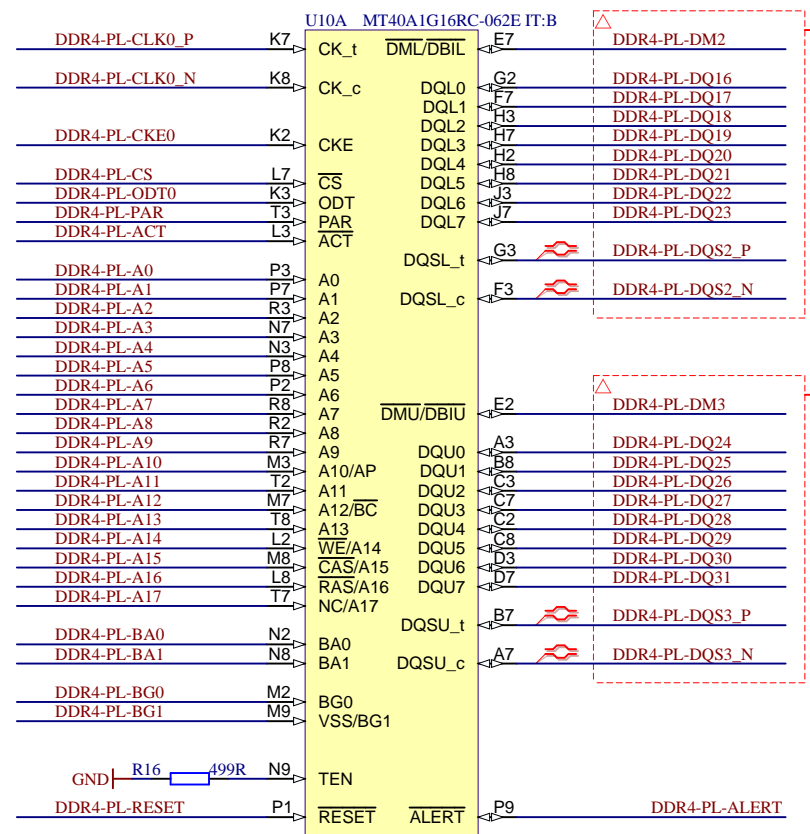
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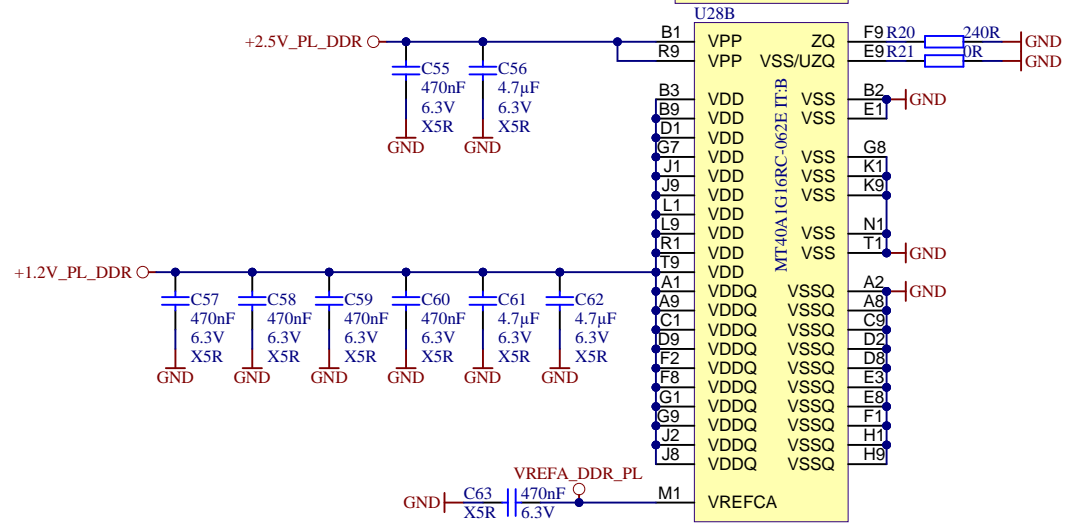
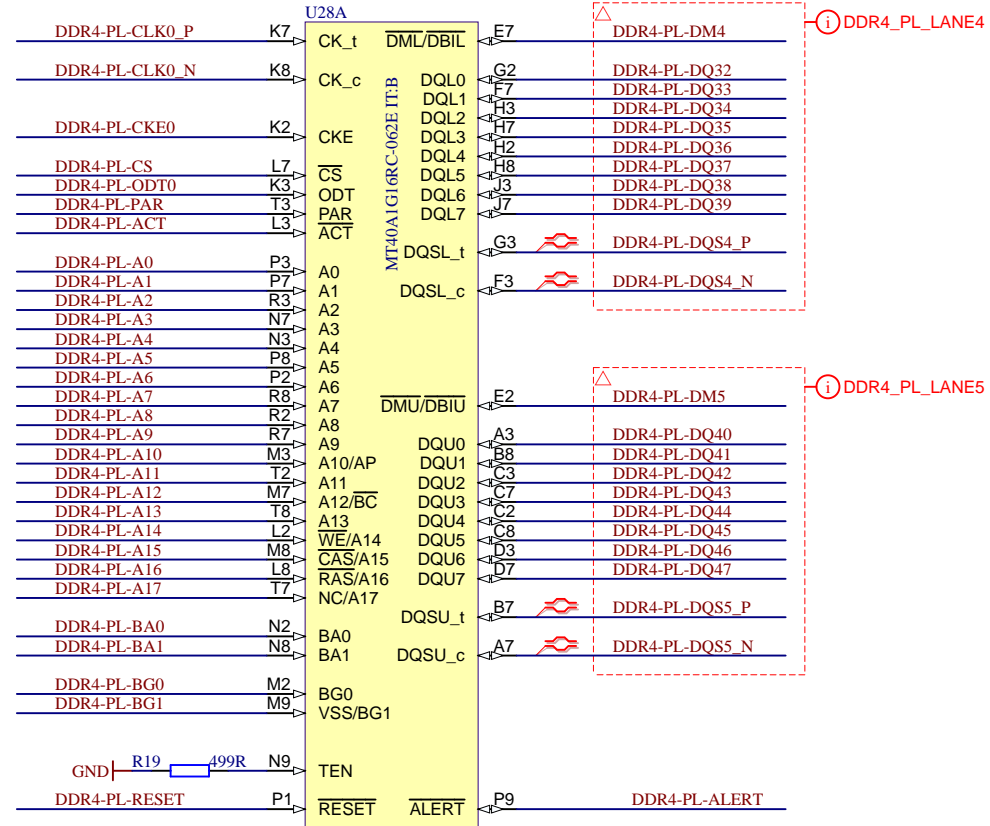
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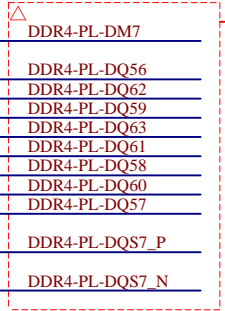
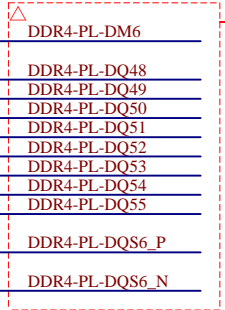
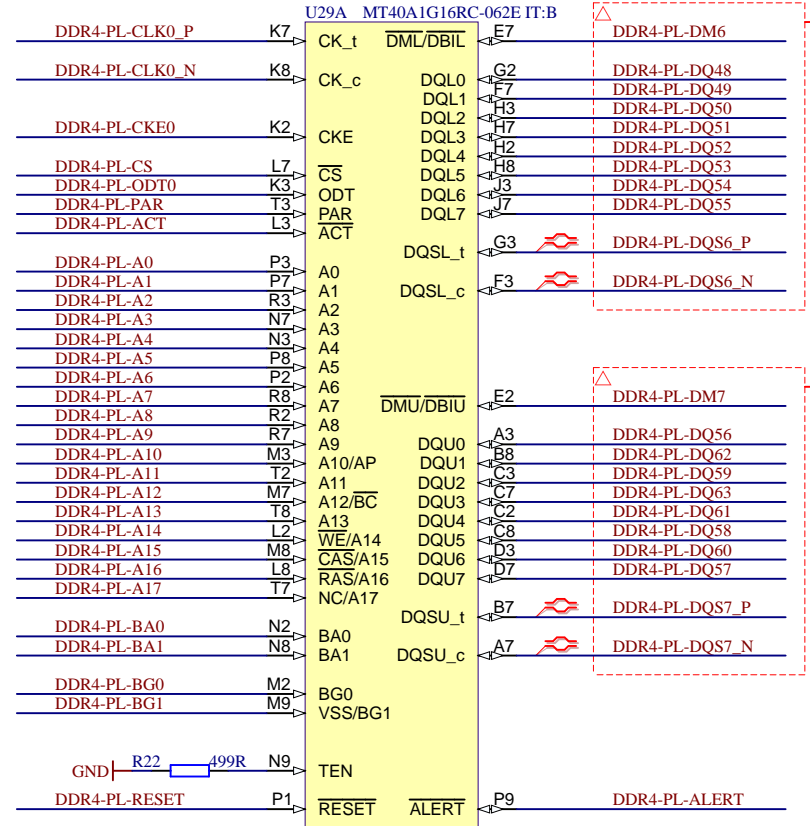
Title: TE0865 – DDR4-PL-RAM_1		
A4	Number: 25 DGE43MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 25 of 51
Filename: DDR4-PL-RAM_1.SchDoc		



Title: TE0865 – DDR4-PL-RAM_2		
A4	Number: 26 DGE43MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 26 of 51
Filename: DDR4-PL-RAM_2.SchDoc		

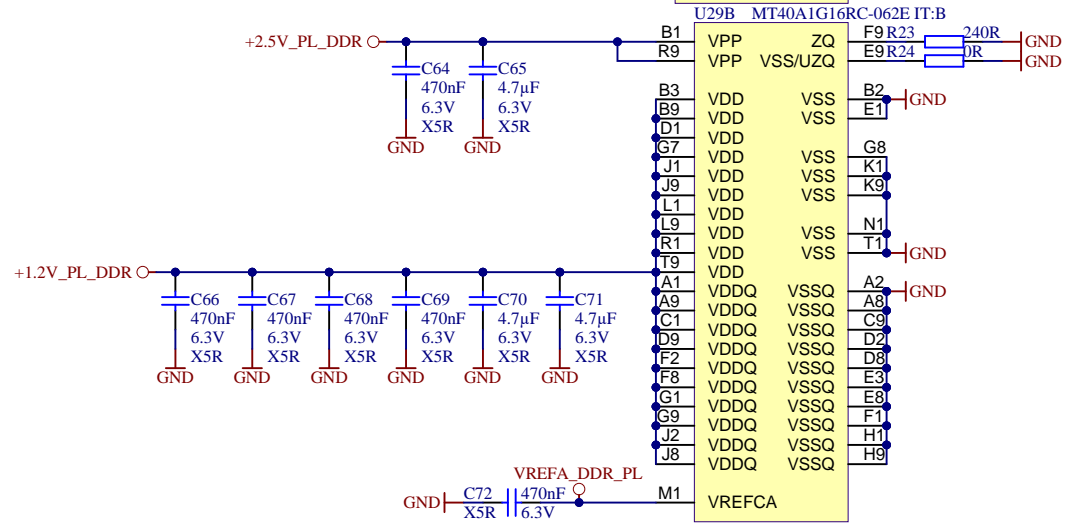


Title: TE0865 – DDR4-PL-RAM_3		
A4	Number: 27 DGE43MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 27 of 51
Filename: DDR4-PL-RAM_3.SchDoc		

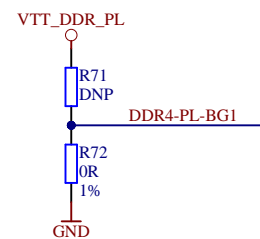
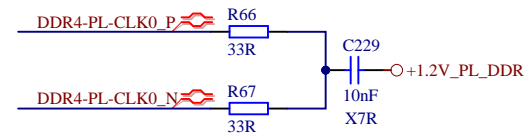
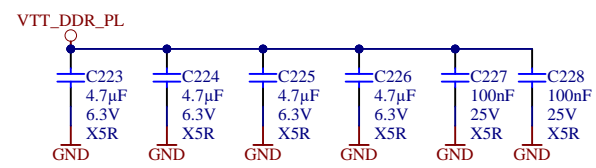
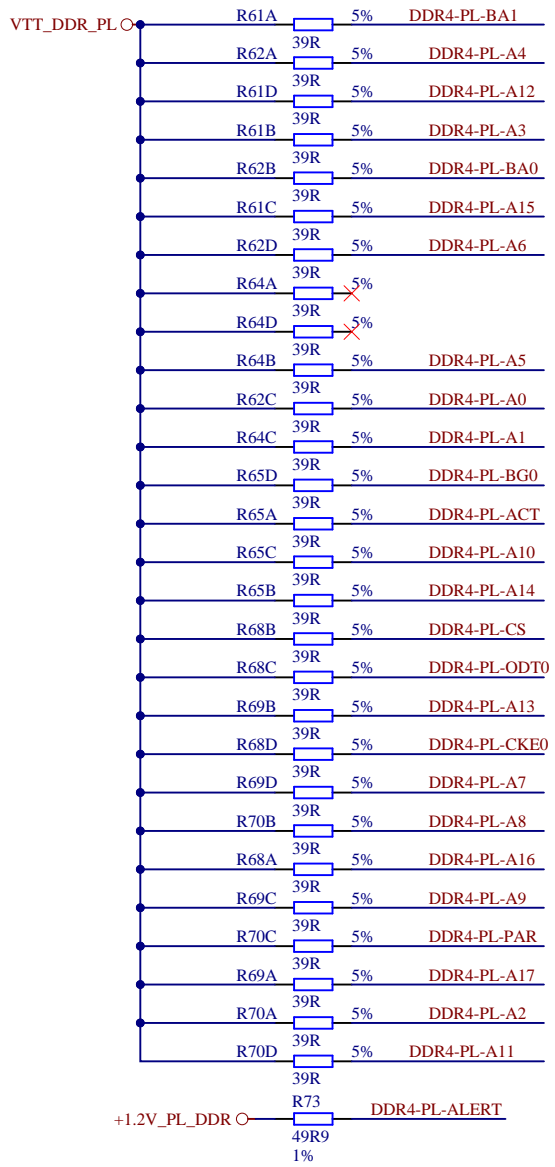


i DDR4_PL_LANE6

i DDR4_PL_LANE7



Title: TE0865 – DDR4-PL-RAM_4		
A4	Number: 28 DGE43MA	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 DGE43MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 29 of 51
Filename: DDR4-PL-TERM.SchDoc		

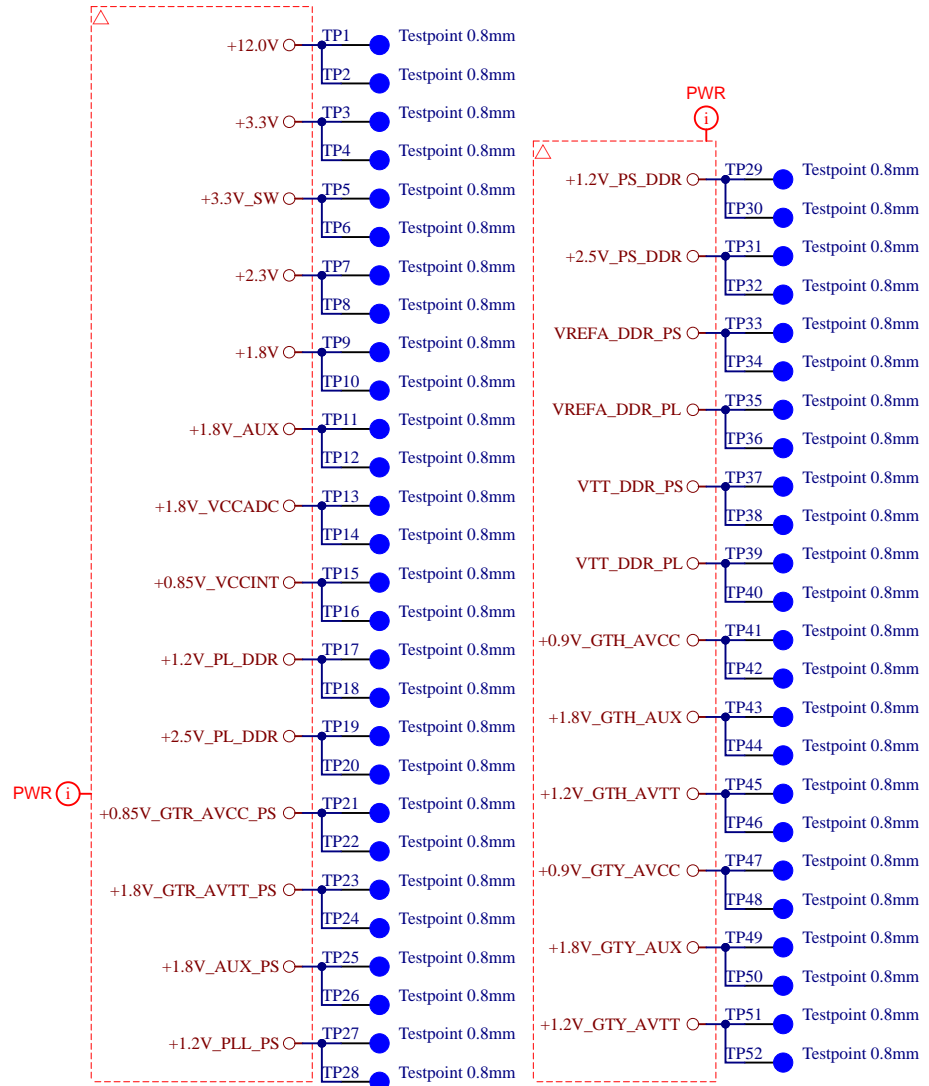
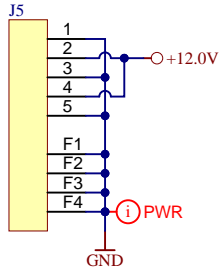
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2

3

4

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



PWR_1

PWR_2

PWR_3

PWR_4

POWER_CORE



Title: TE0865 – POWER

A4

Number: 30
DGE43MA

Rev. 02

Date: 11.10.2021

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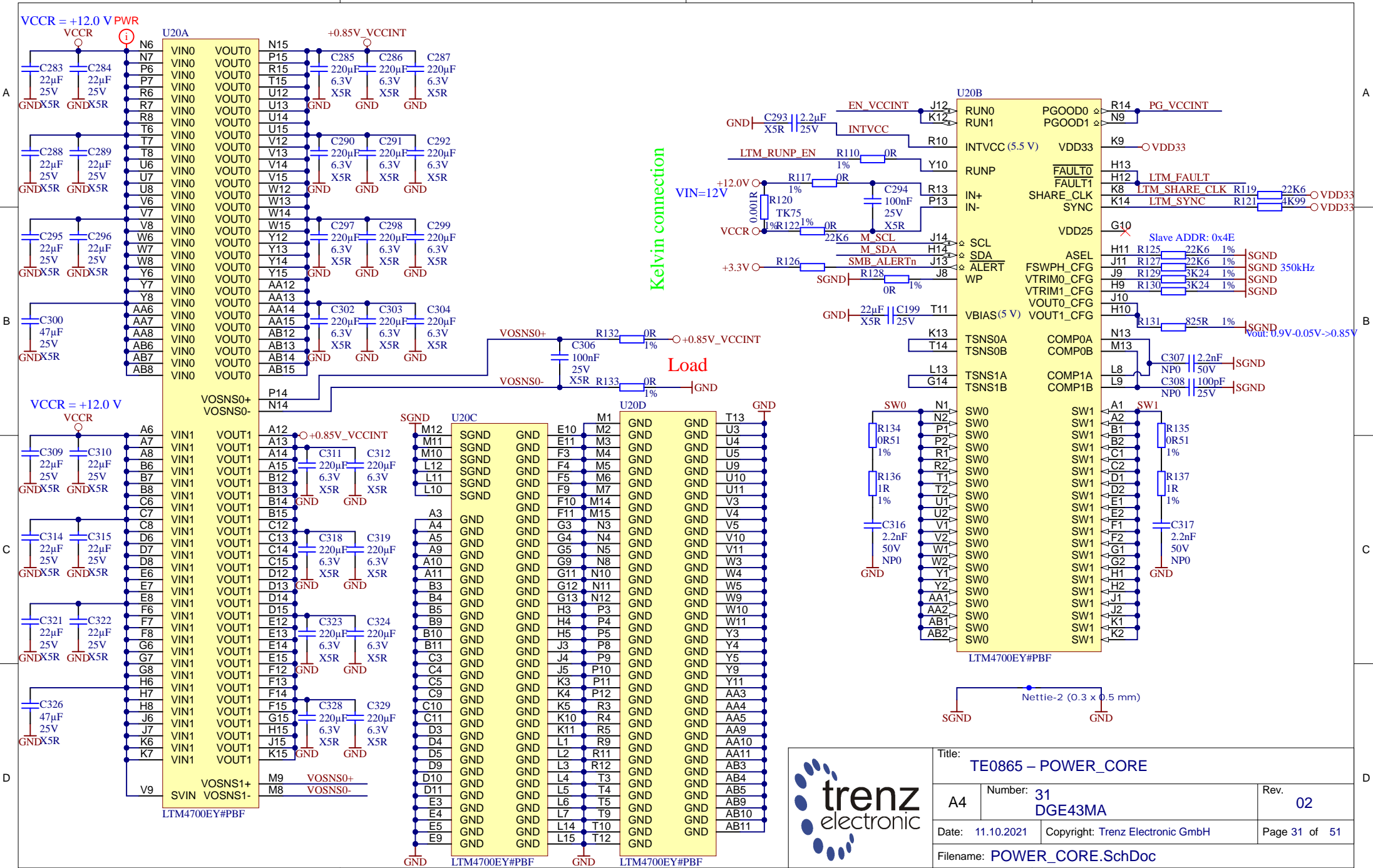
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1

2

3

4



Title: TE0865 - POWER_CORE		
A4	Number: 31 DGE43MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 31 of 51
Filename: POWER_CORE.SchDoc		

1

2

3

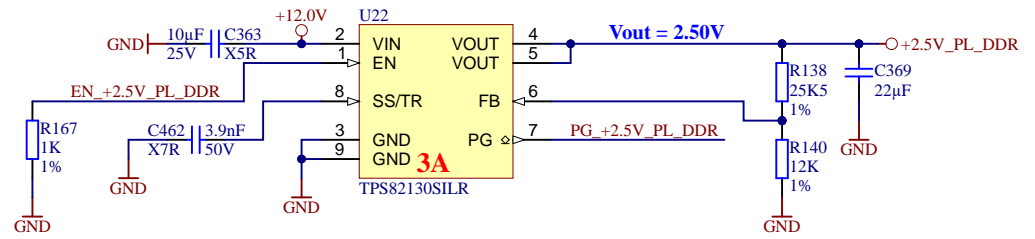
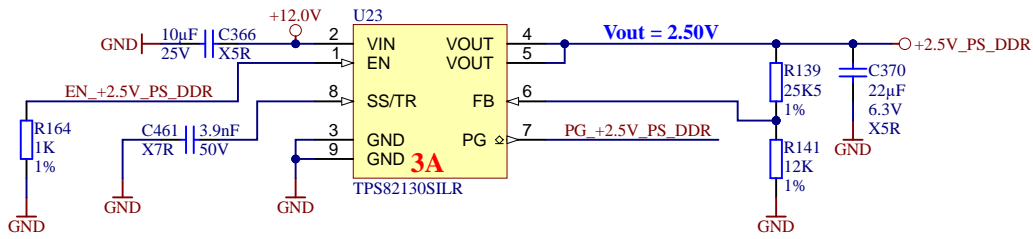
4

A

A

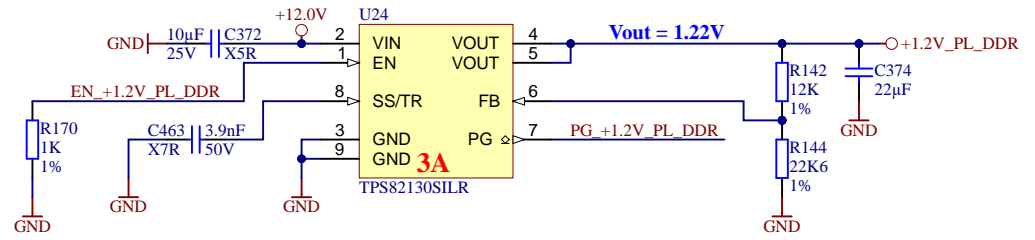
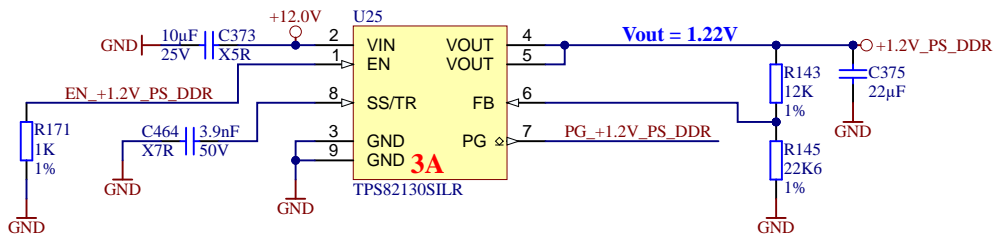
DDR PS

DDR PL



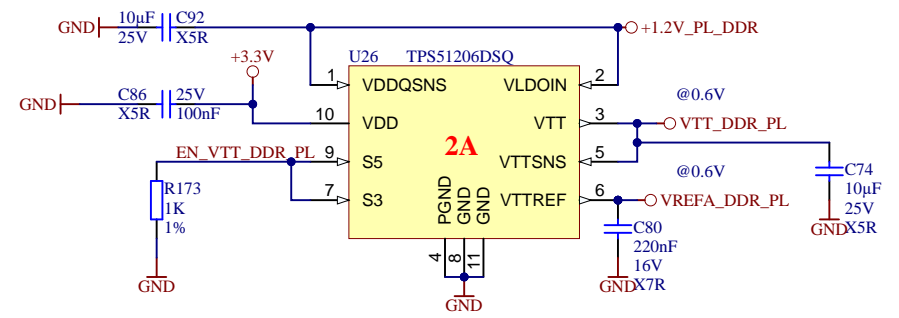
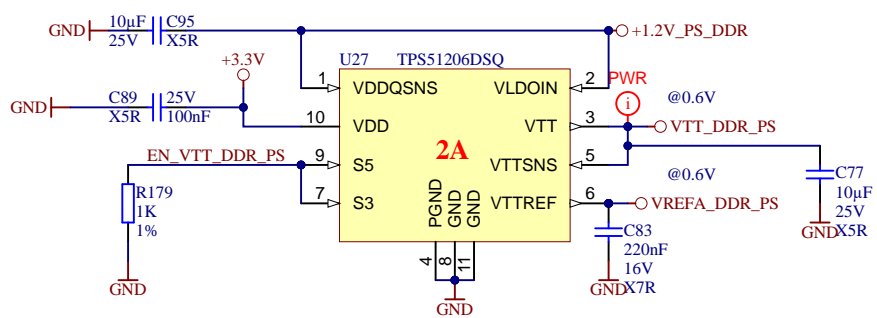
B

B



C

C



D

D



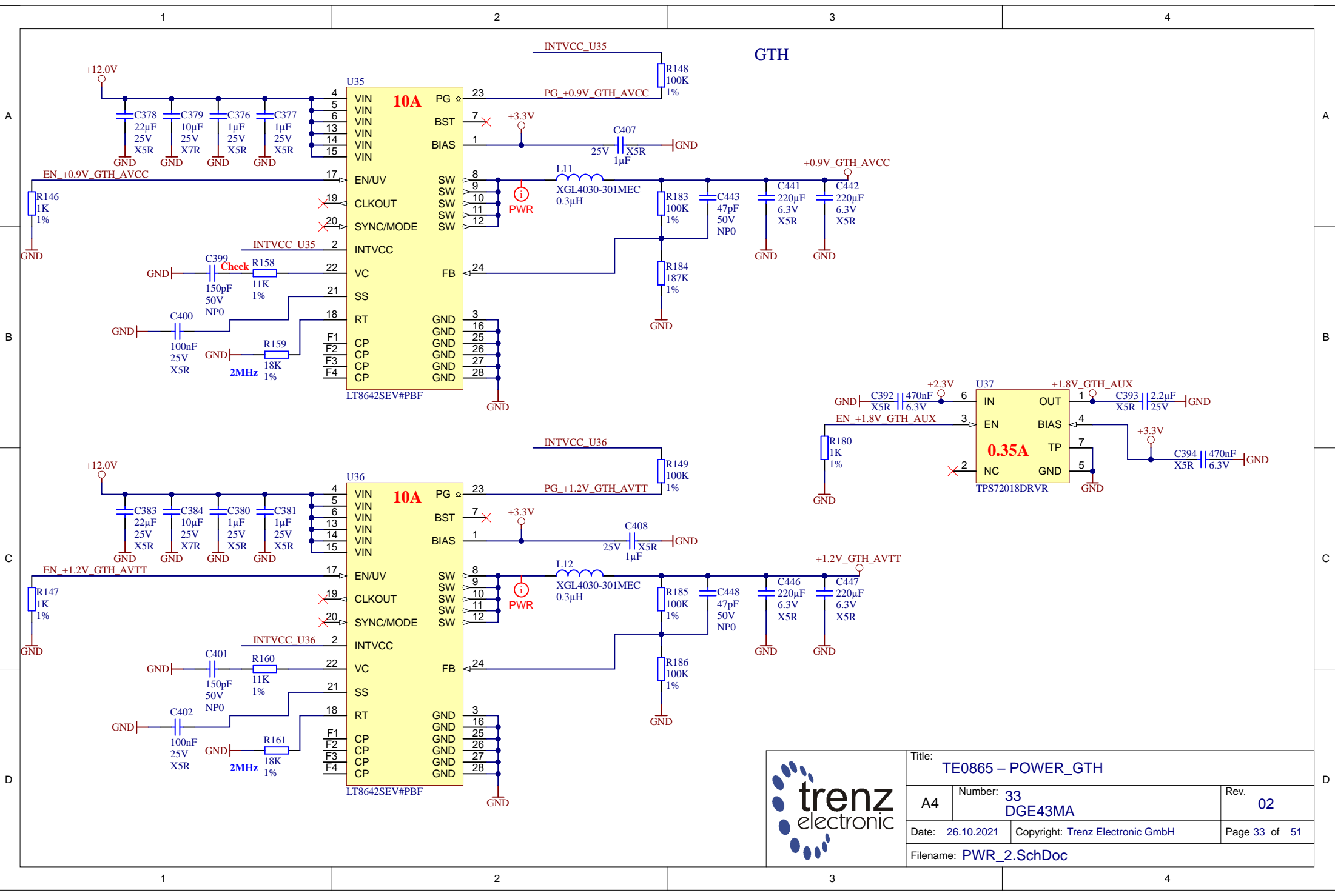
Title: TE0865 – POWER_DDRs		
A4	Number: 32 DGE43MA	Rev. 02
Date: 26.10.2021	Copyright: Trenz Electronic GmbH	Page 32 of 51
Filename: PWR_1.SchDoc		


1

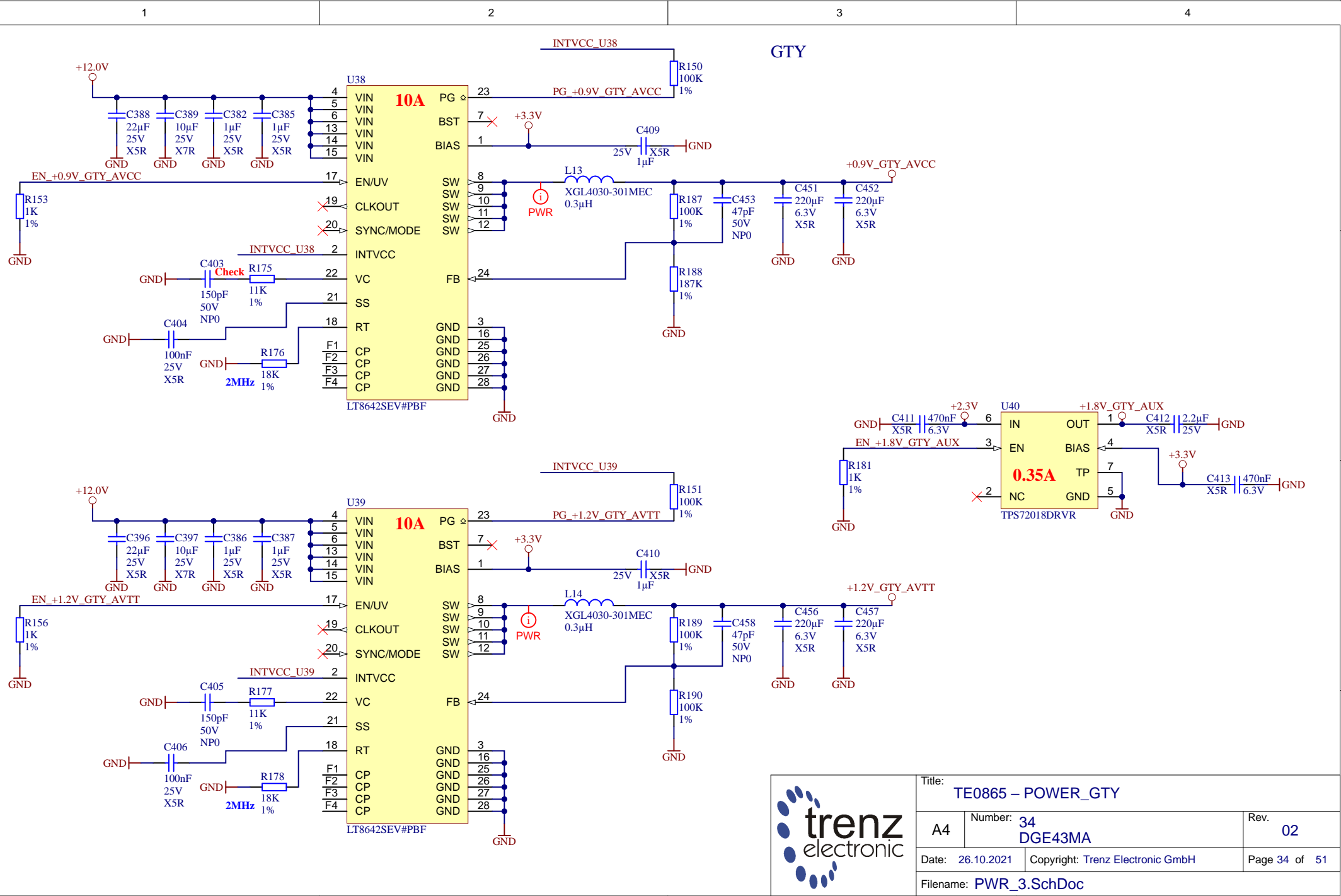
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			Title: TE0865 – POWER_GTH	
			A4	Number: 33 DGE43MA
Date: 26.10.2021		Copyright: Trenz Electronic GmbH		Page 33 of 51
Filename: PWR_2.SchDoc				



Title: TE0865 – POWER_GTY		
A4	Number: 34 DGE43MA	Rev. 02
Date: 26.10.2021	Copyright: Trenz Electronic GmbH	Page 34 of 51
Filename: PWR_3.SchDoc		

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A

A

B

B

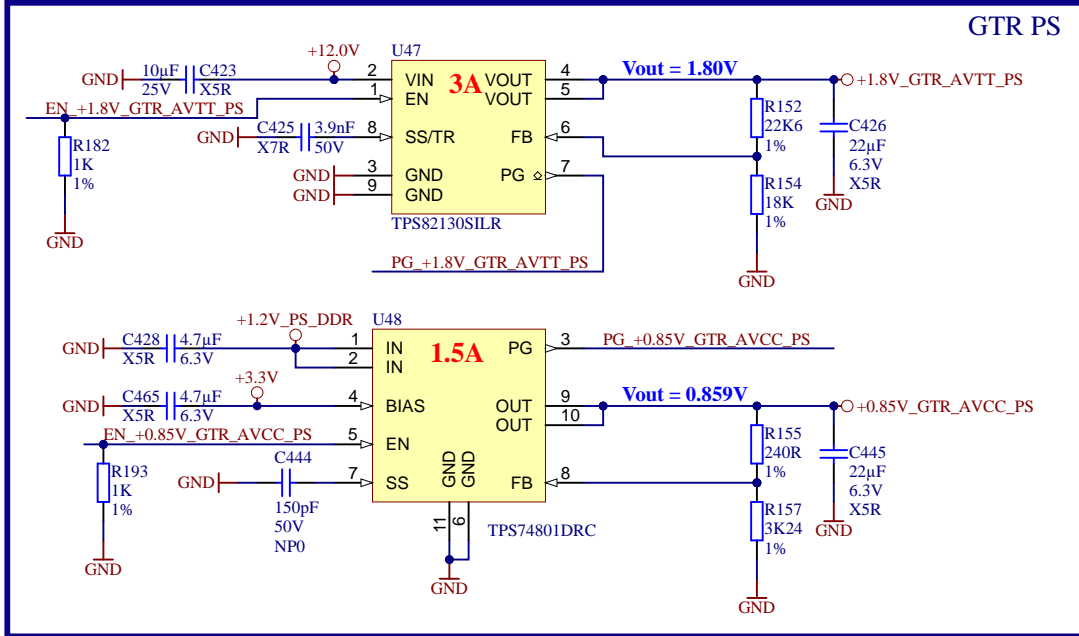
C

C

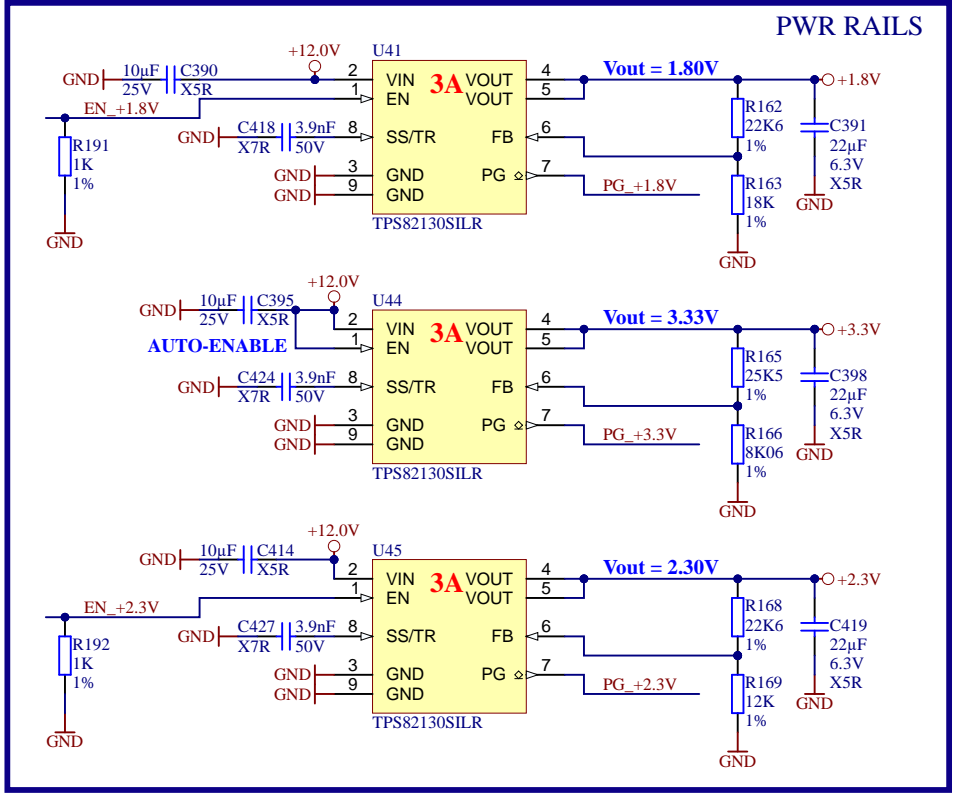
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D

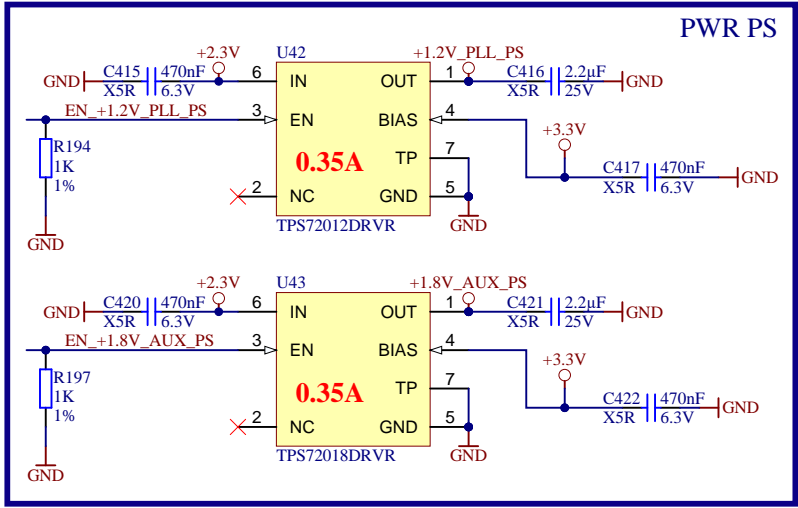
GTR PS



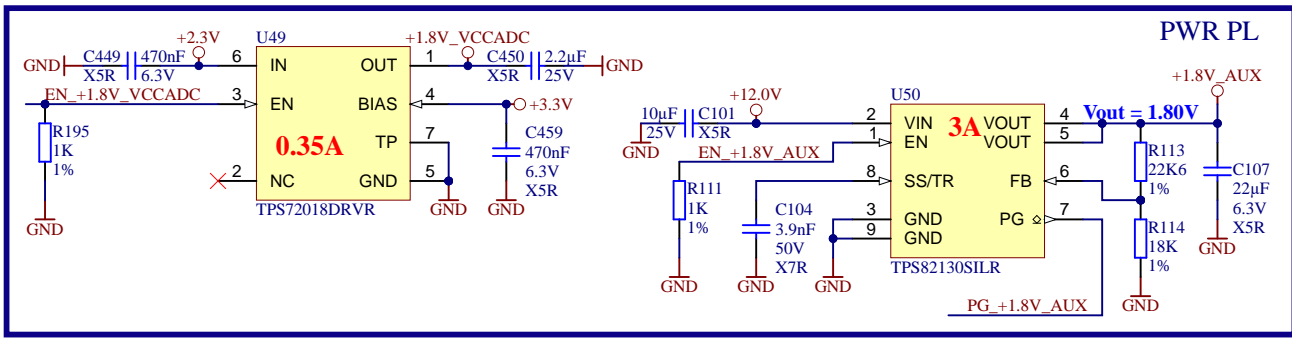
PWR RAILS



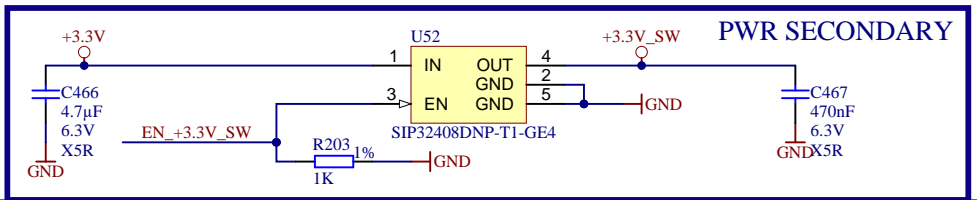
PWR PS



PWR PL



PWR SECONDARY



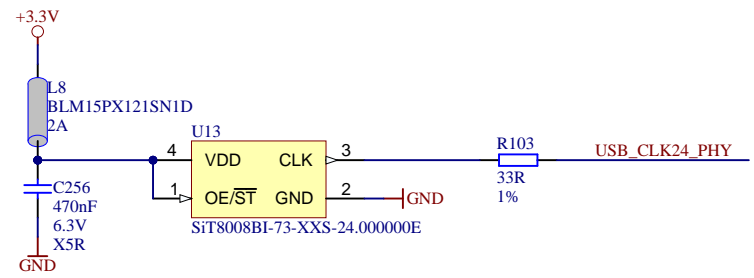
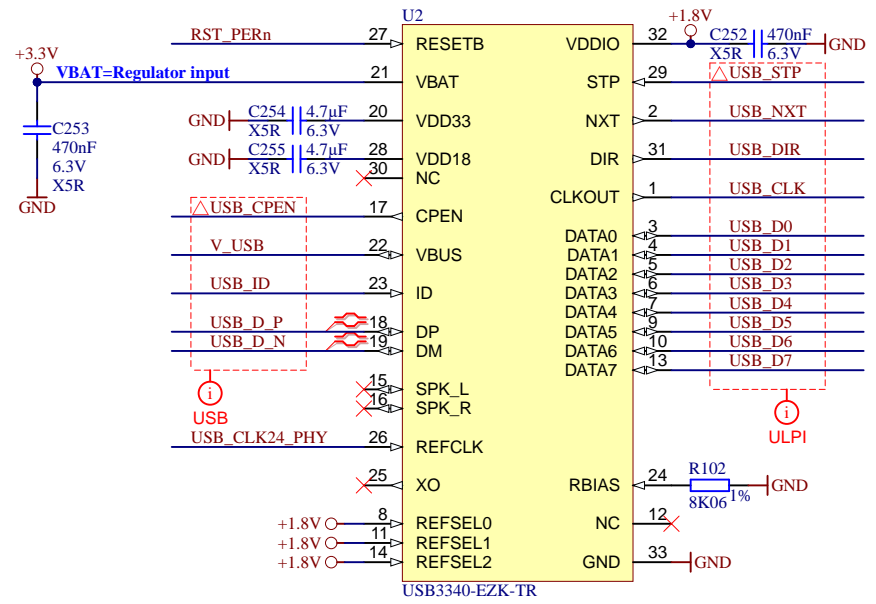
Title: TE0865 – POWER_RAILS_PS-PL		
A4	Number: 35 DGE43MA	Rev. 02
Date: 26.10.2021	Copyright: Trenz Electronic GmbH	Page 35 of 51
Filename: PWR_4.SchDoc		

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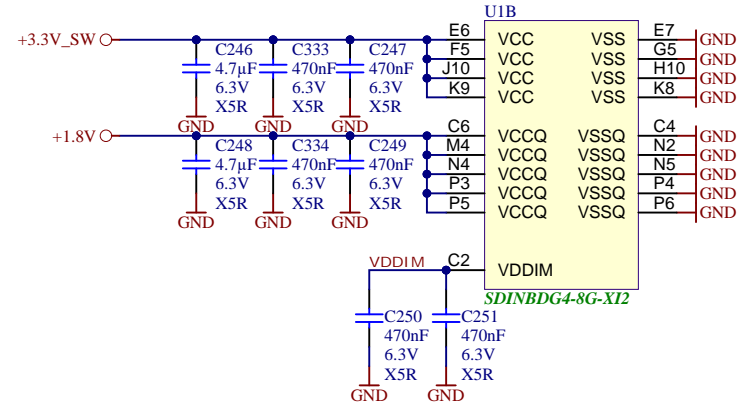
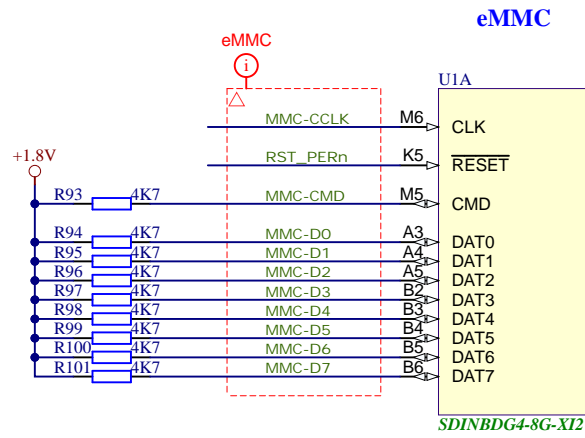
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Title: TE0865 – USBPHY		
A4	Number: 36 DGE43MA	Rev. 02
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Filename: USBPHY.SchDoc		



UID

A1	NC	NC	H2
A2	NC	NC	H3
A8	NC	NC	H12
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-X12

UIC

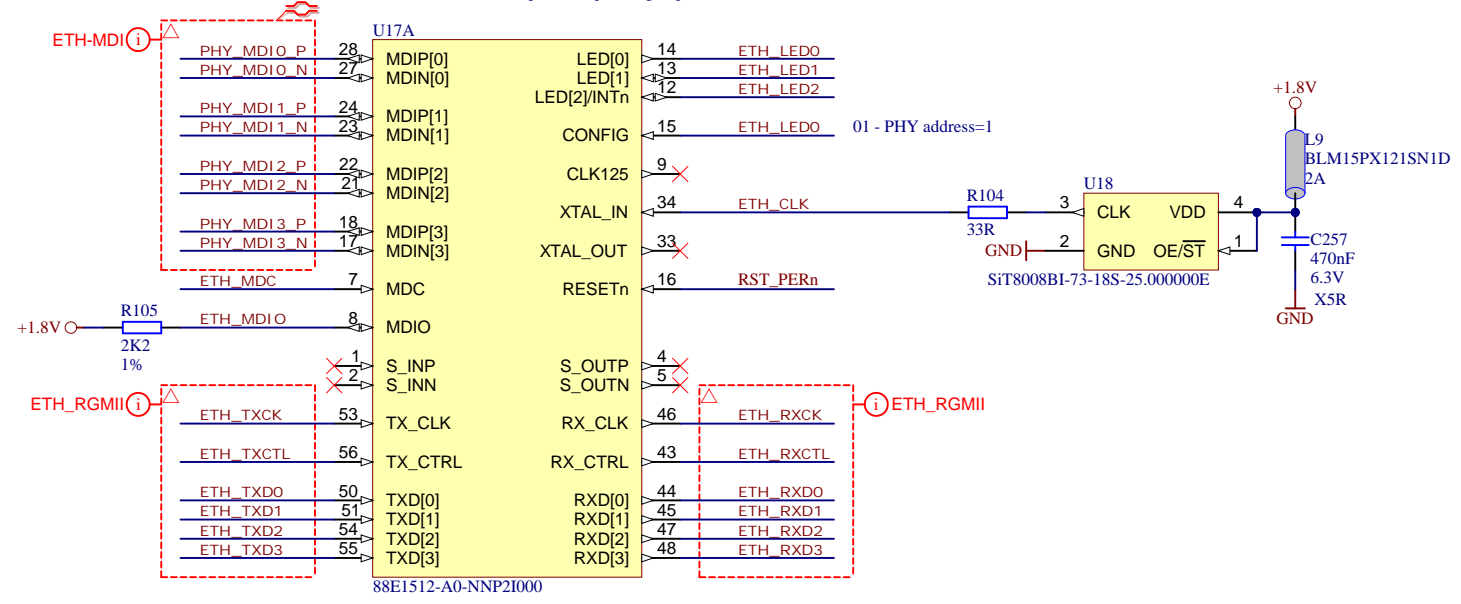

A6	RFU/VSS
A7	RFU
H3	RFU/NC
C5	RFU/NC
E5	RFU
E8	RFU
E9	RFU
E10	RFU
F10	RFU
G3	RFU/NC
G10	RFU
H5	RFU/DS
J5	RFU/VSS
K6	RFU
K7	RFU
K10	RFU
P7	RFU/NC
P10	RFU

SDINBDG4-8G-X12



Title: TE0865 – eMMC		
A4	Number: 37 DGE43MA	Rev. 02
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Filename: eMMC.SchDoc		

no power sequencing requirement!

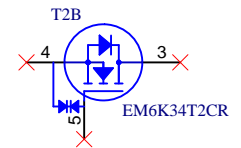
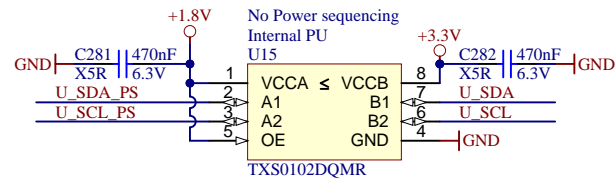
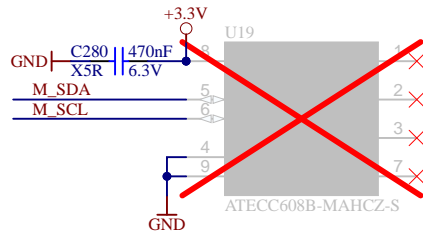
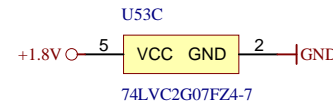
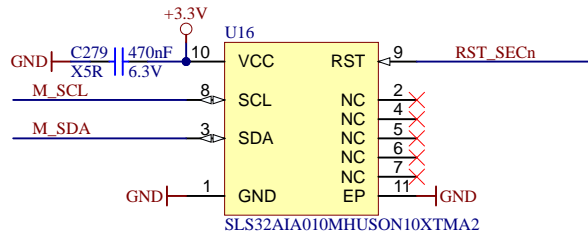
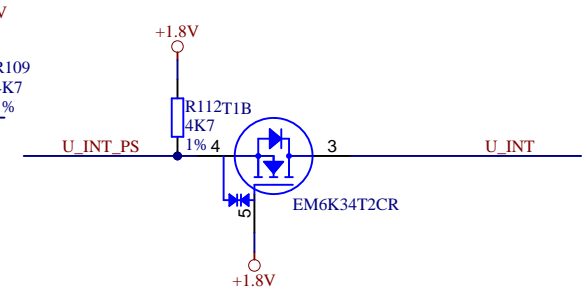
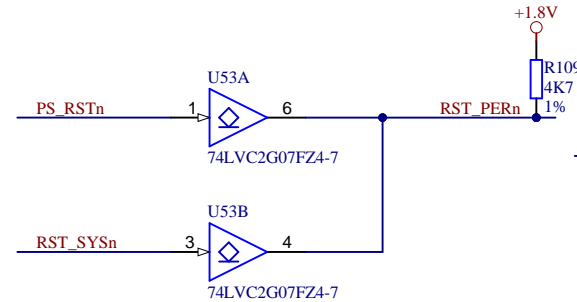
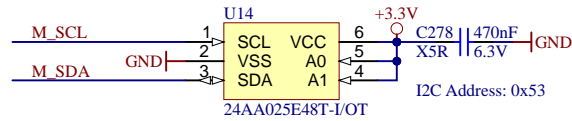
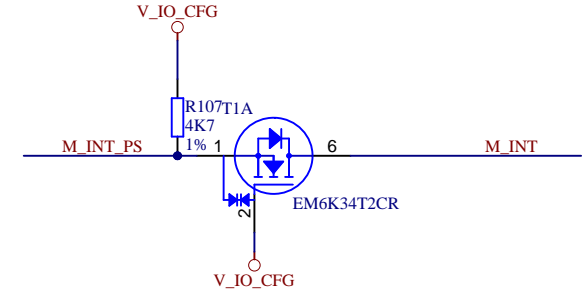
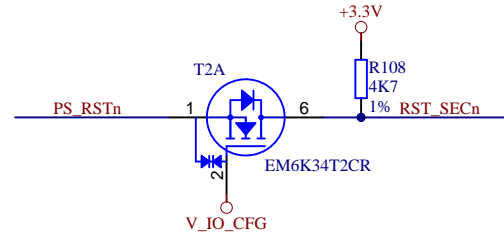
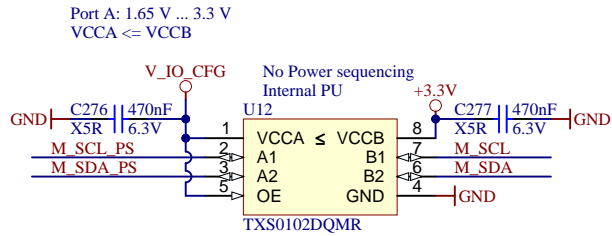
Title: TE0865 – ETH-PHY		
A4	Number: 38 DGE43MA	Rev. 02
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Filename: ETH-PHY.SchDoc		

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Title: TE0865 – MISC		
A4	Number: 39 DGE43MA	Rev. 02
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Filename: MISC.SchDoc		

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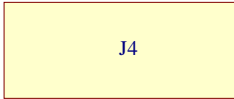
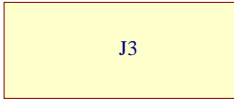
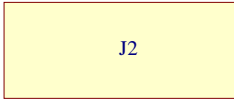
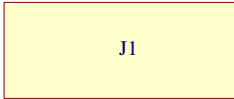
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A

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B


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C

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D

D

	Title: TE0865 – B2B_CONNECTORS		
	A4	Number: 40 DGE43MA	Rev. 02
	Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 40 of 51
	Filename: B2B_Connectors.SchDoc		

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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_VRP	C10	D10		
	B67_L22_P	C11	D11	B67_L12_N	
	B67_L22_N	C12	D12	B67_L12_P	
	B67_L15_N	C13	D13	B67_L11_N	
	B67_L15_P	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	
	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	
	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	GND
	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		
	B65_L12_P	C51	D51	B65_L14_P	
	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		



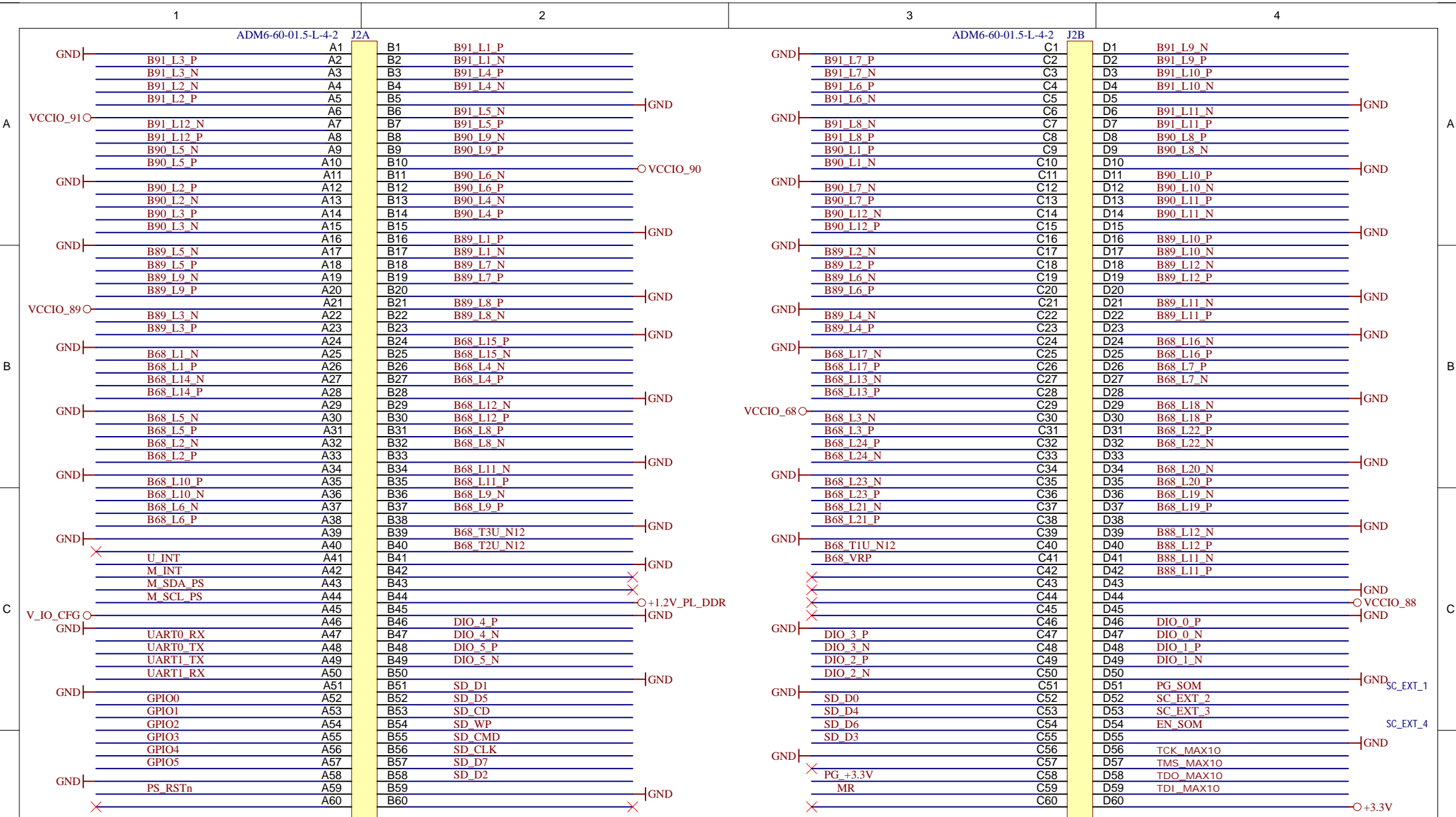
Title: TE0865 – J1_CONNECTOR		
A4	Number: 41 DGE43MA	Rev. 02
Date: 11.10.2021	Copyright: Trenz Electronic GmbH	Page 41 of 51
Filename: J1.schdoc		

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Title: TE0865 – J2_CONNECTOR		
A4	Number: 42 DGE43MA	Rev. 02
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Filename: J2.schdoc		

1

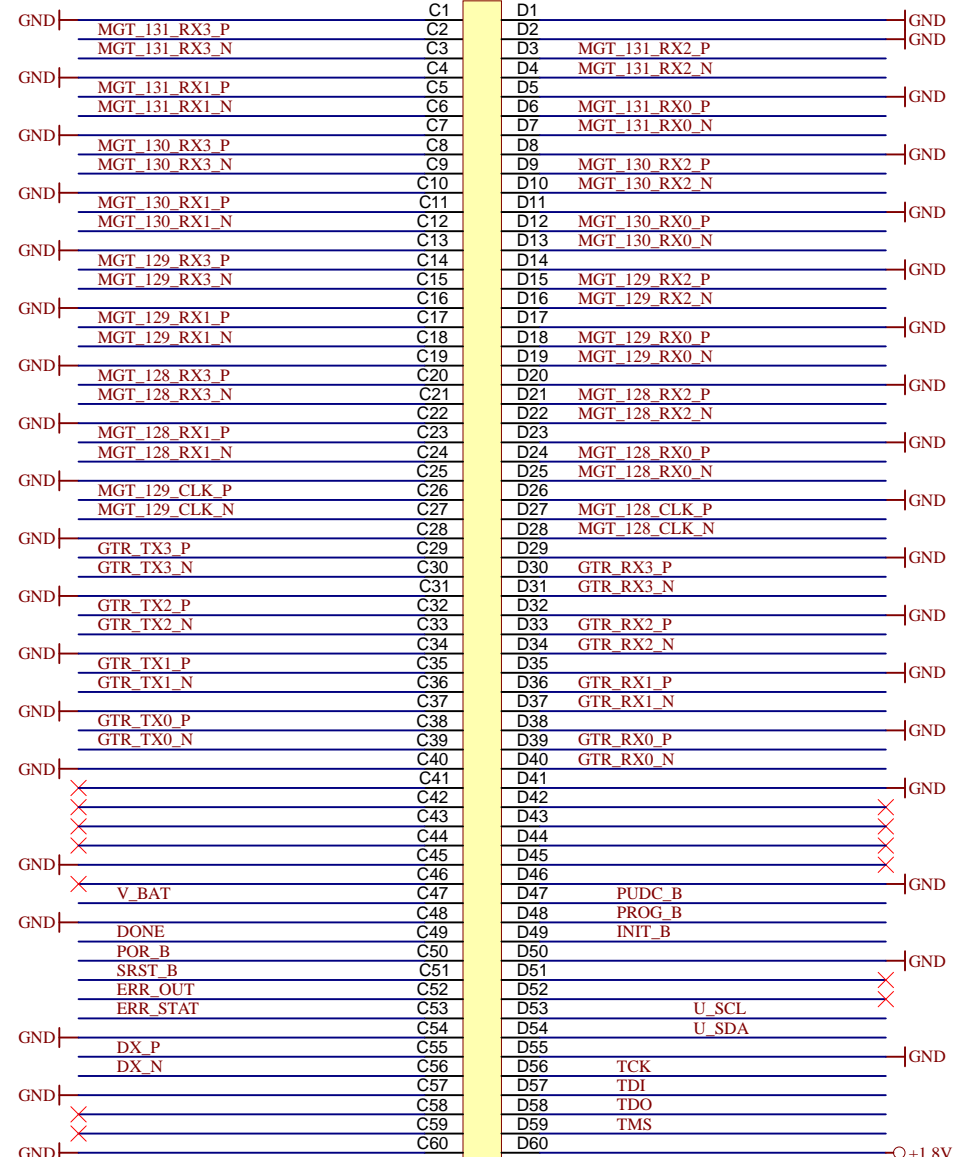
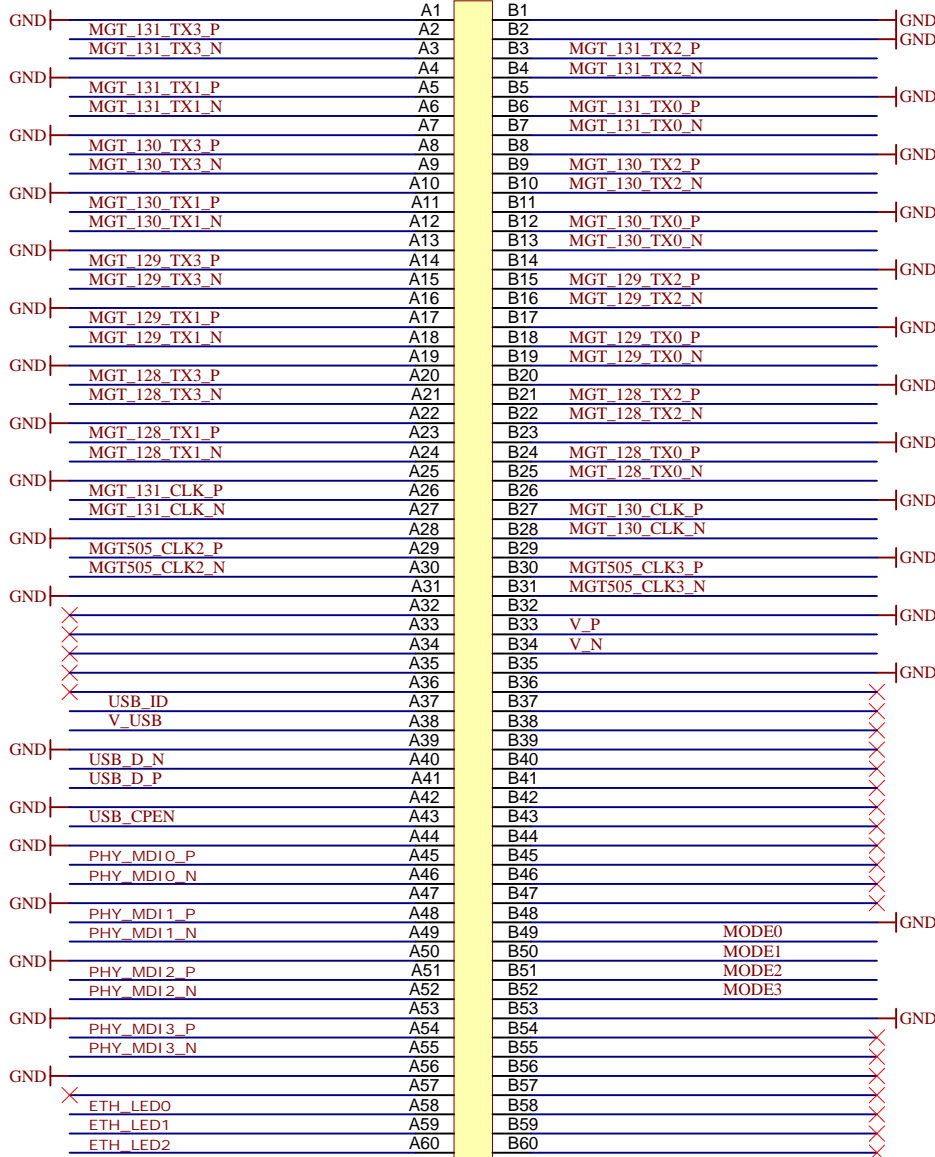
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ADM6-60-01.5-L-4-2 J3A

ADM6-60-01.5-L-4-2 J3B



○+1.8V



Title: TE0865 – J3_CONNECTOR		
A4	Number: 43 DGE43MA	Rev. 02
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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	



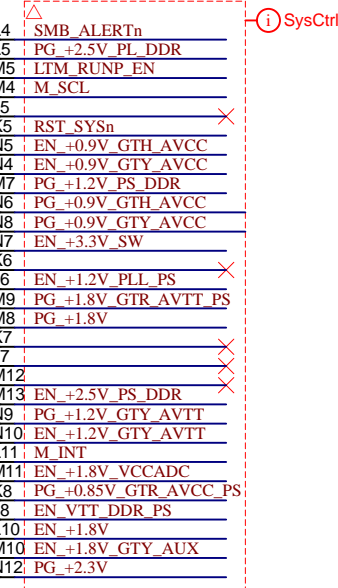
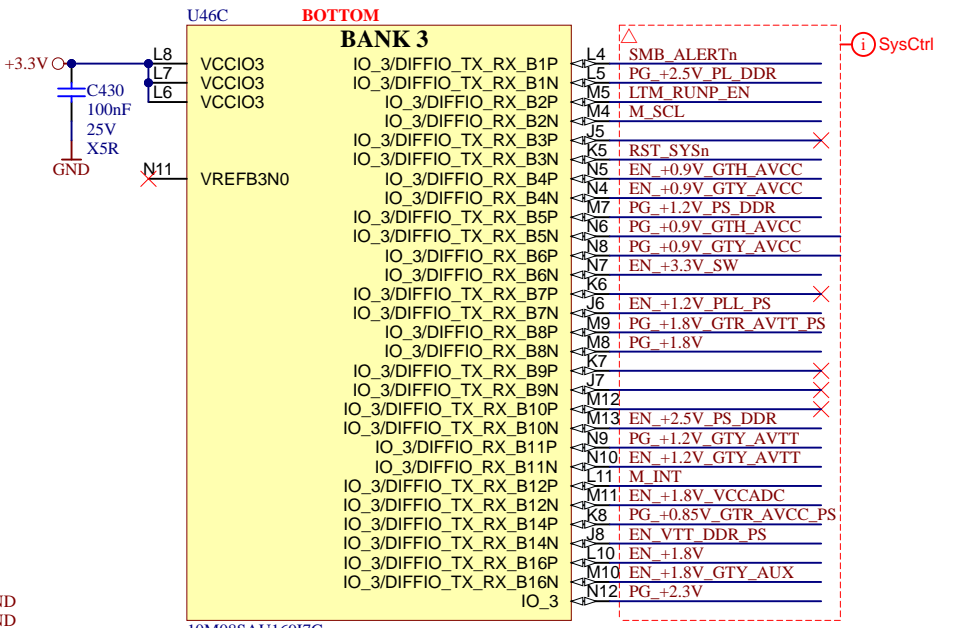
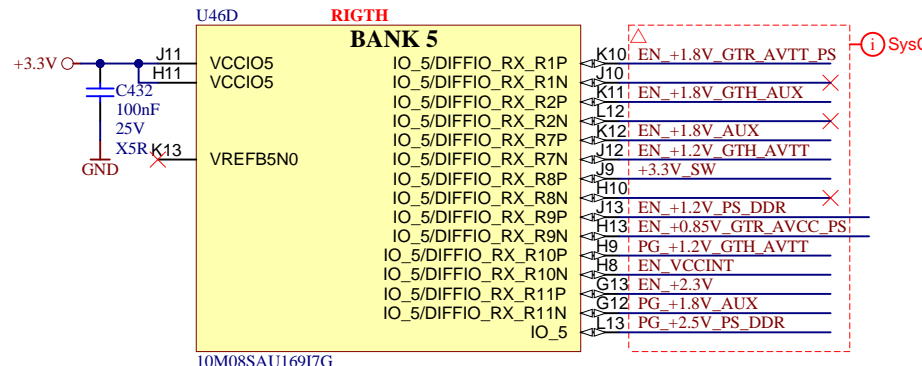
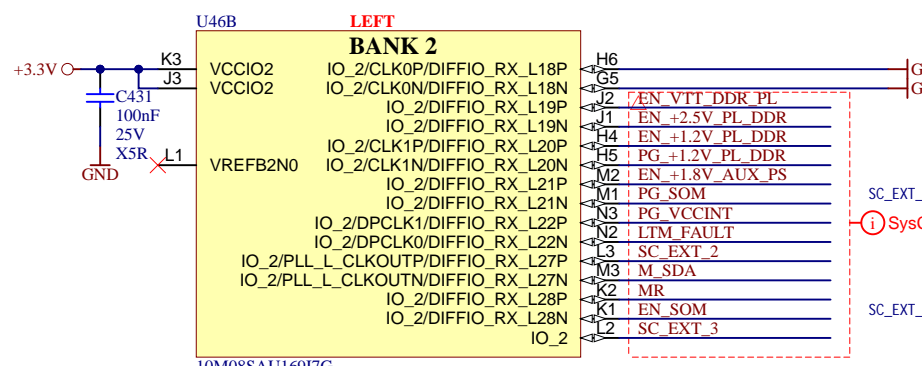
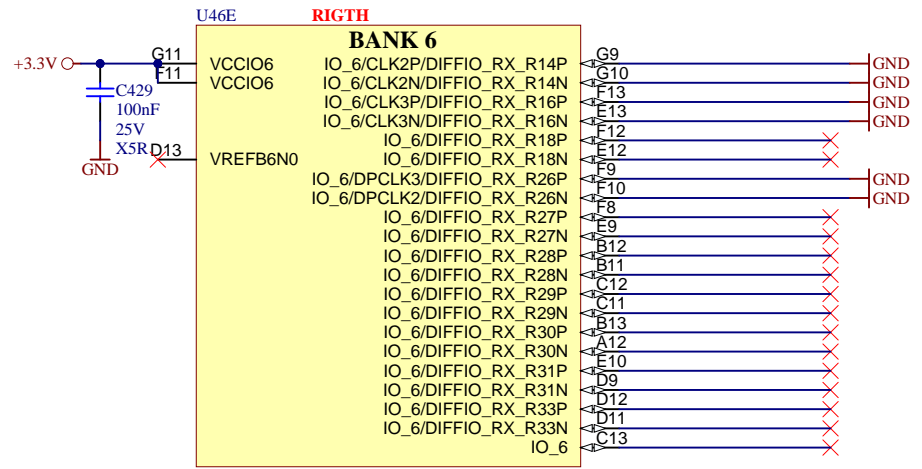
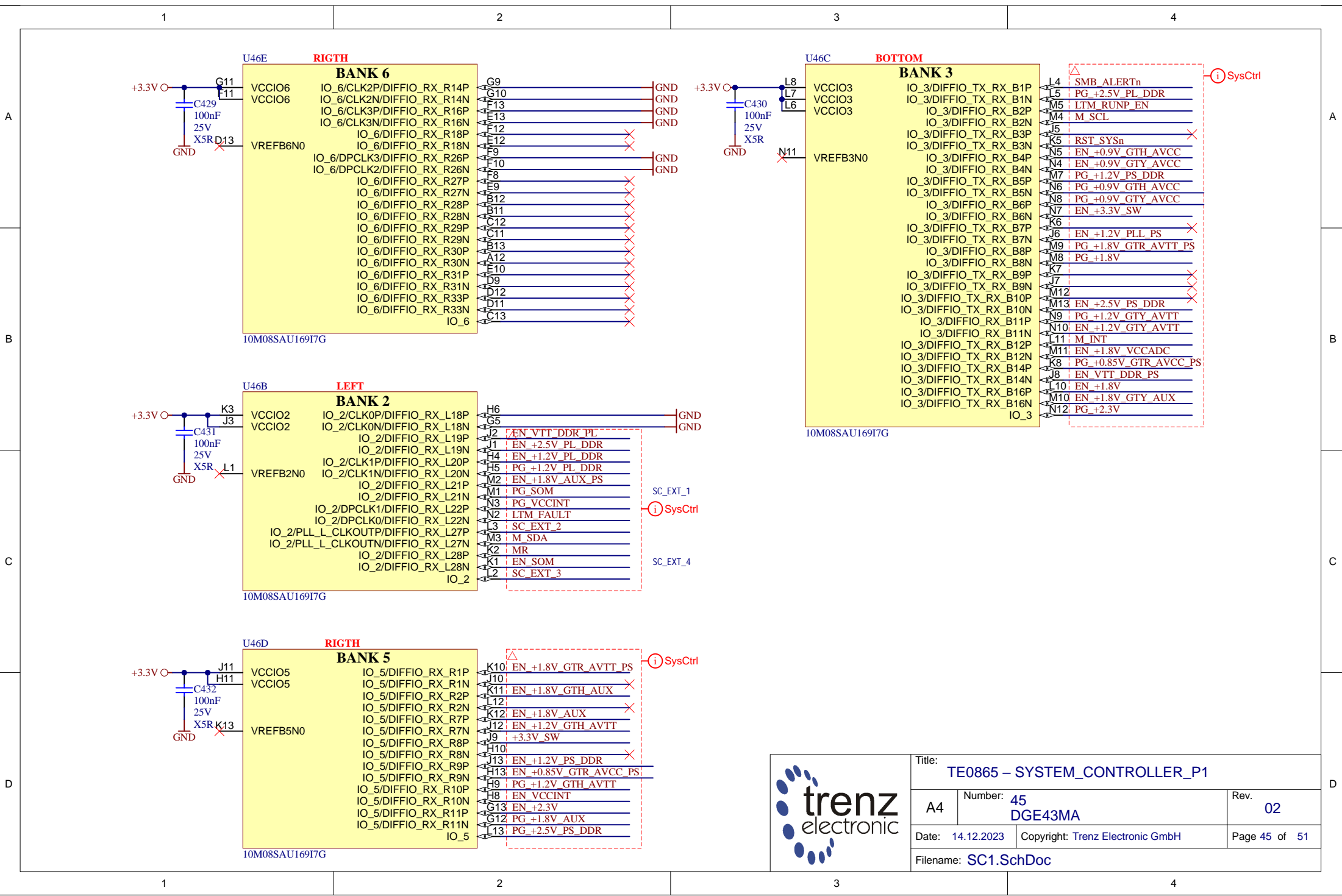
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Filename: J4.schdoc		

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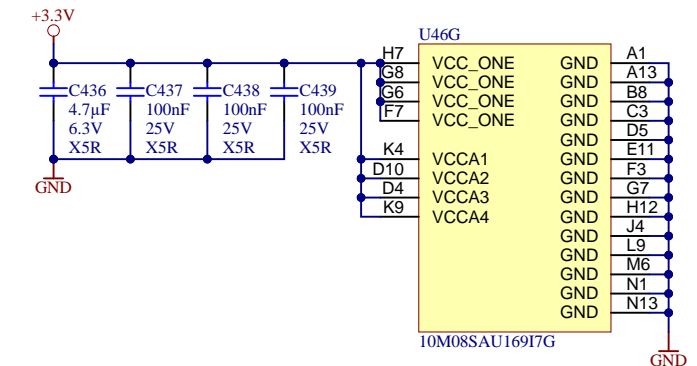
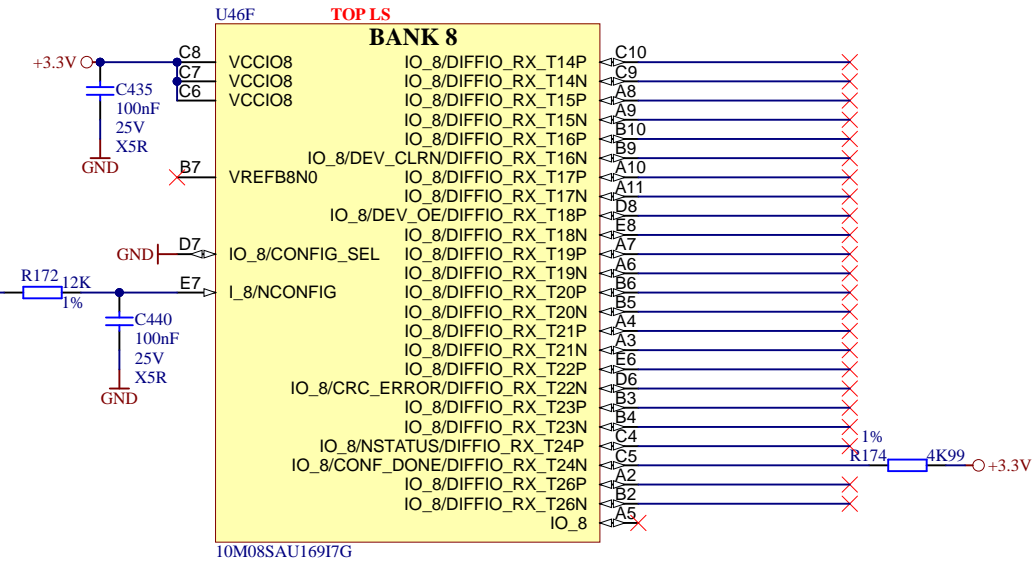
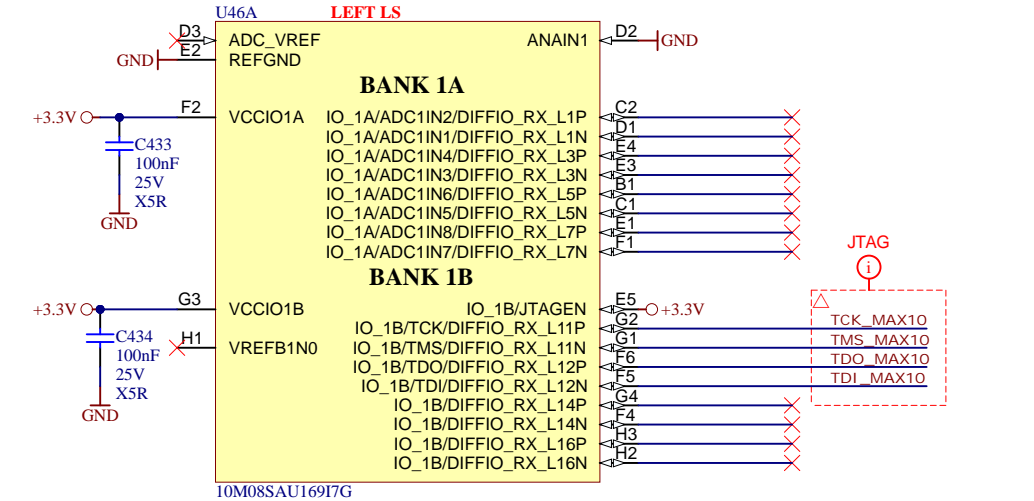
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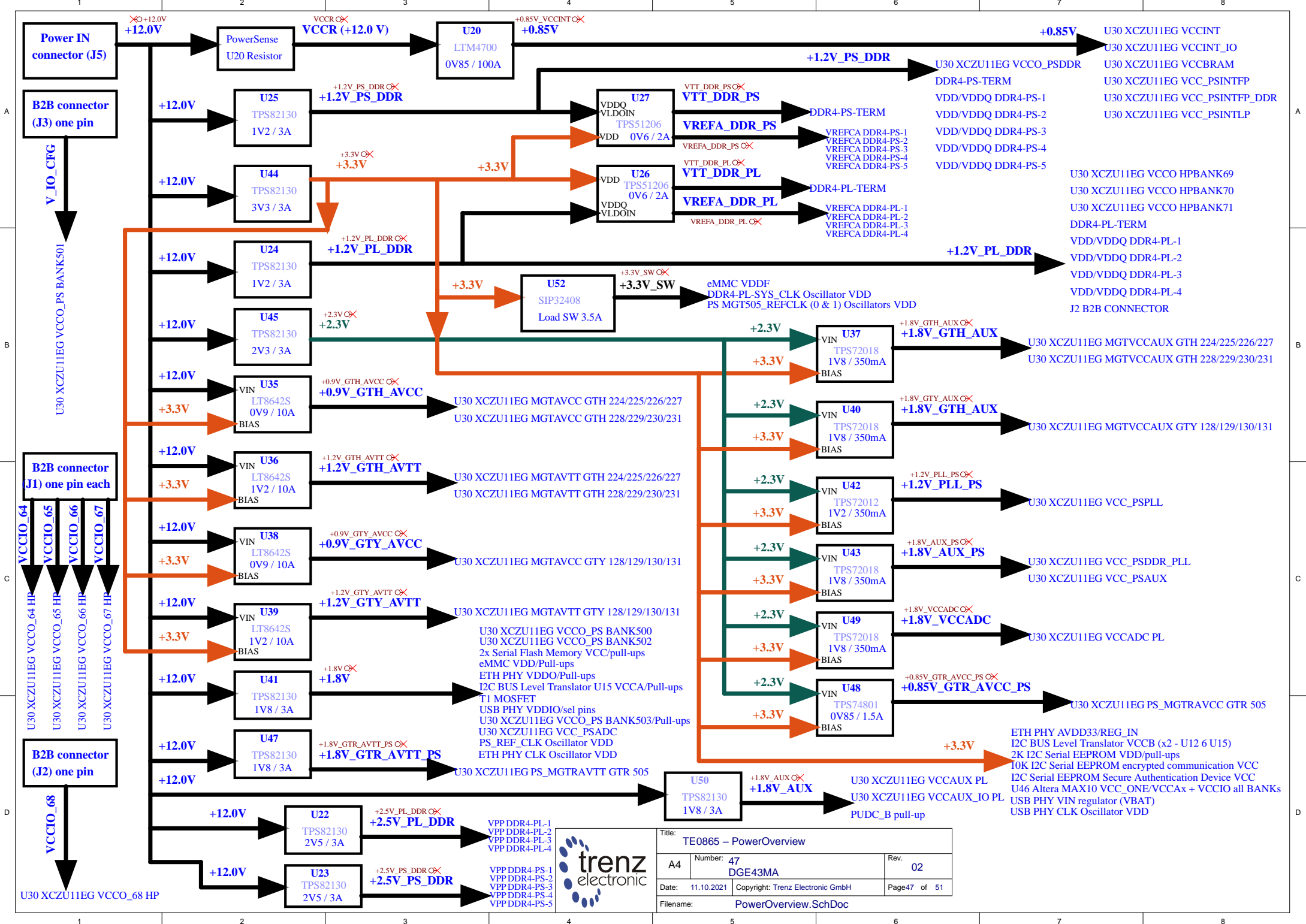
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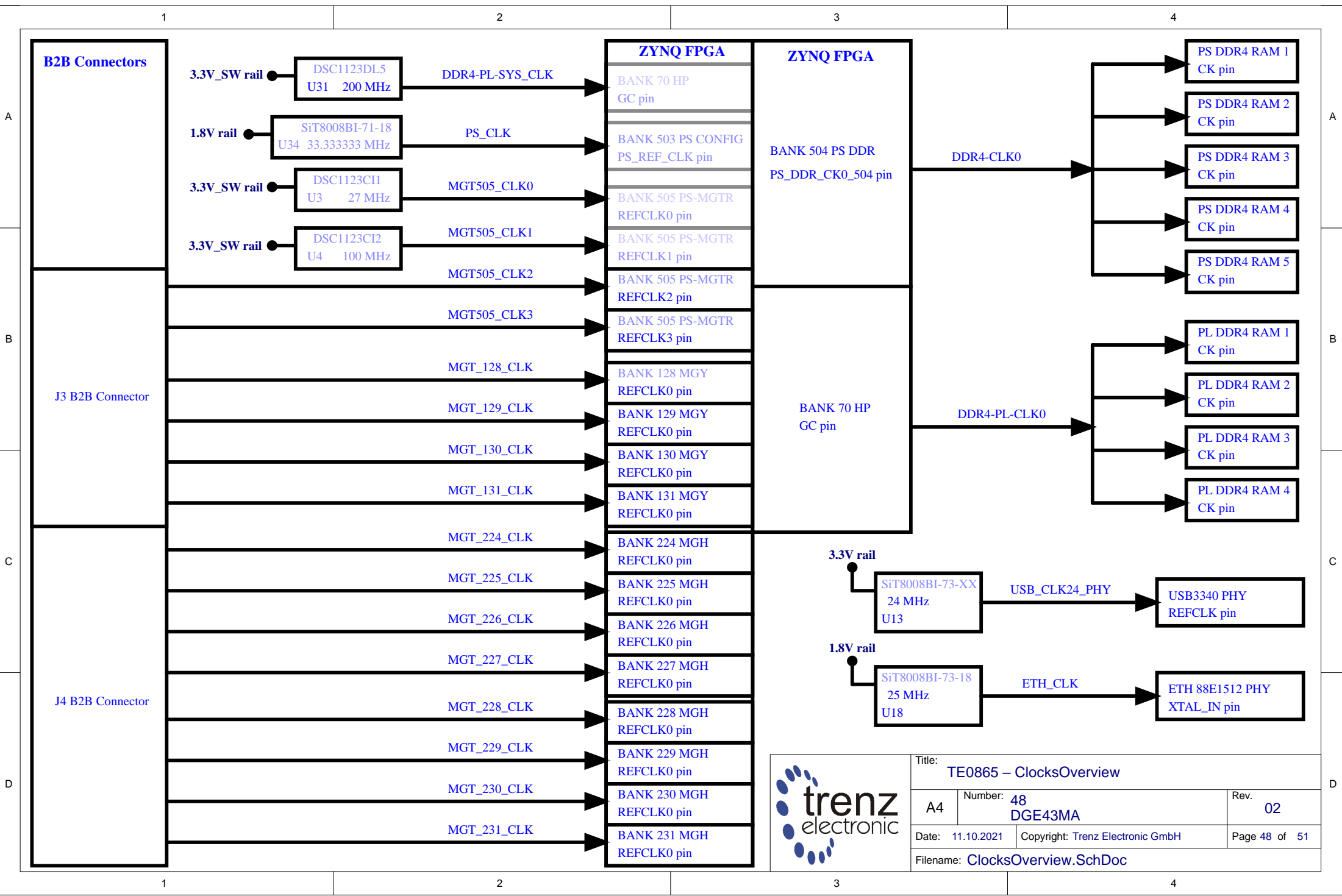
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Date: 14.12.2023	Copyright: Trenz Electronic GmbH	Page 45 of 51
Filename: SC1.SchDoc		



			Title: TE0865 – SYSTEM_CONTROLLER_P2	
			A4	Number: 46 DGE43MA
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Filename: SC2.SchDoc				

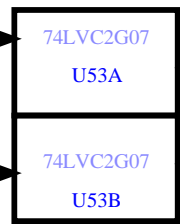
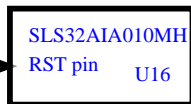
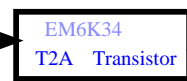
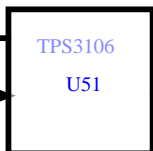
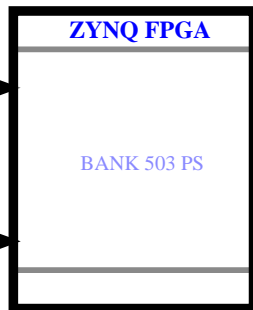
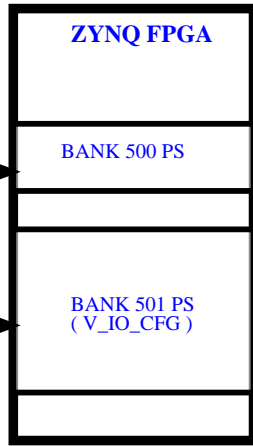
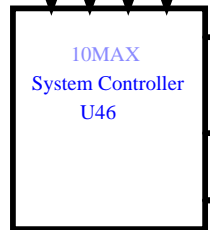
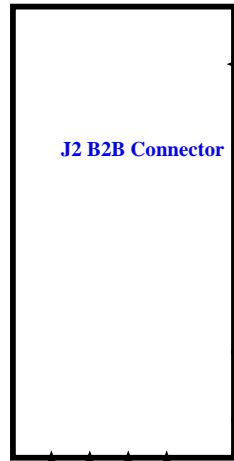


Title: TE0865 – PowerOverview		
A4	Number: 47 DGE43MA	Rev. 02
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Title: TE0865 – ClocksOverview		
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1 2 3 4

A

B

C

D

A

B

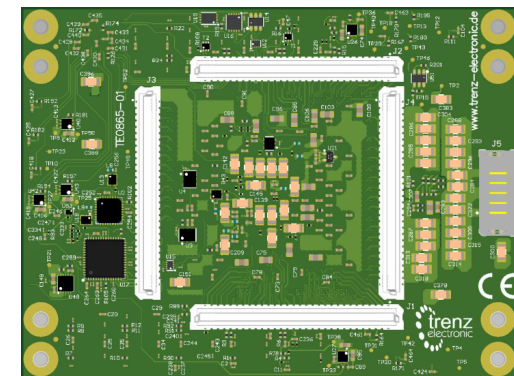
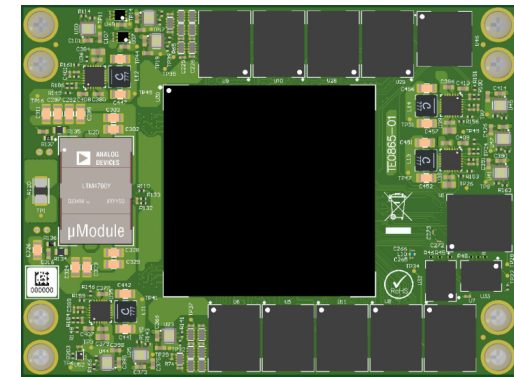
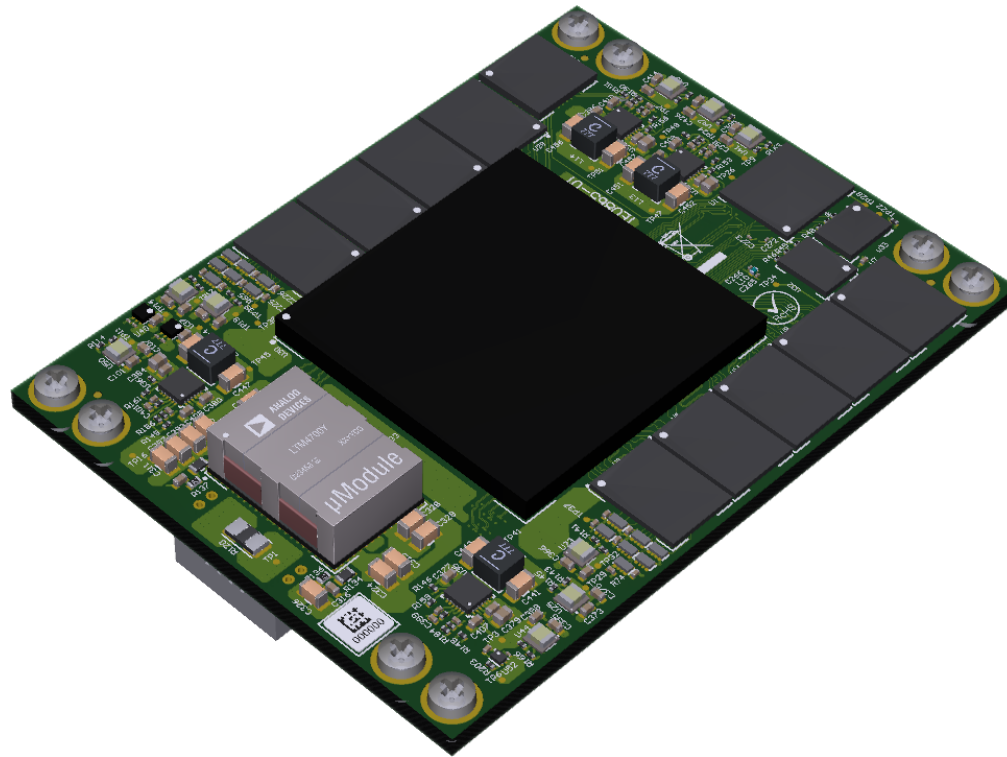
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D



Title: TE0865 – Resets-Interrupts Overview		
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Filename: Reset-InterruptsOverview.SchDoc		

1 2 3 4



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	Title: TE0865 - Legal Notices		
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	Filename: Legal Notices Modules.SchDoc		

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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 DGE43MA	Rev. 02
	Date: 26.02.2024	Copyright: Trenz Electronic GmbH	Page 51 of 51
	Filename: Revision_Changes.SchDoc		

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