

U\_FPGA-MGT  
FPGA-MGT.SchDoc

U\_FPGA-MISC  
FPGA-MISC.SchDoc

U\_FPGA-PWR  
FPGA-PWR.SchDoc

U\_FPGA-B44  
FPGA-B44.SchDoc

U\_FPGA-B45  
FPGA-B45.SchDoc

U\_FPGA-B46  
FPGA-B46.SchDoc

U\_FPGA-B47  
FPGA-B47.SchDoc

U\_FPGA-B64  
FPGA-B64.SchDoc

U\_FPGA-B65  
FPGA-B65.SchDoc

U\_FPGA-B66  
FPGA-B66.SchDoc

U\_FPGA-B67  
FPGA-B67.SchDoc

U\_FPGA-B68  
FPGA-B68.SchDoc

U\_DDR4-RAM  
DDR4-RAM.SchDoc

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

U\_B2B-Connectors  
B2B-Connectors.SchDoc

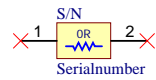
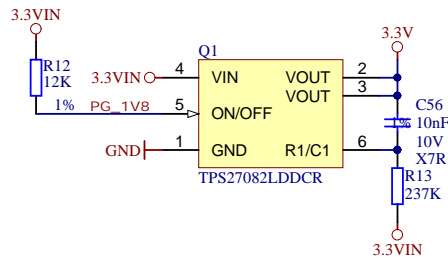
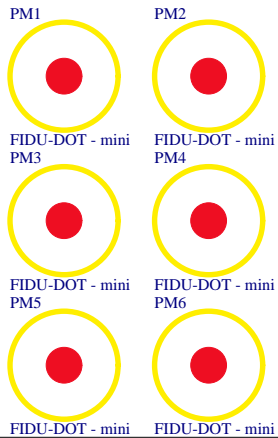
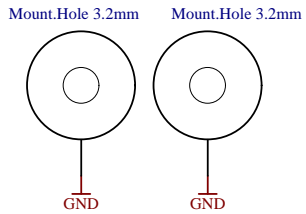
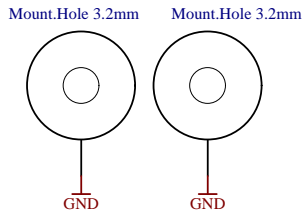
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CPLD.SchDoc

U\_Clock  
Clock.SchDoc

U\_PWR1  
PWR1.SchDoc

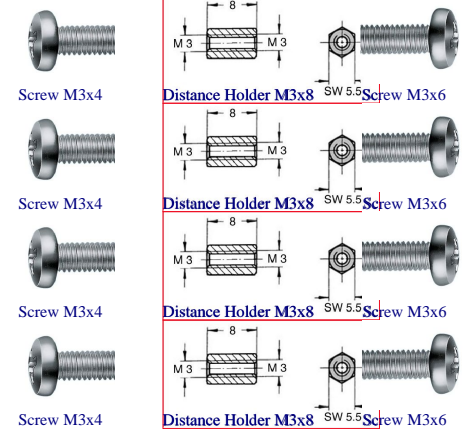
U\_PWR2  
PWR2.SchDoc


U\_POWER\_2  
POWER\_2.SchDoc

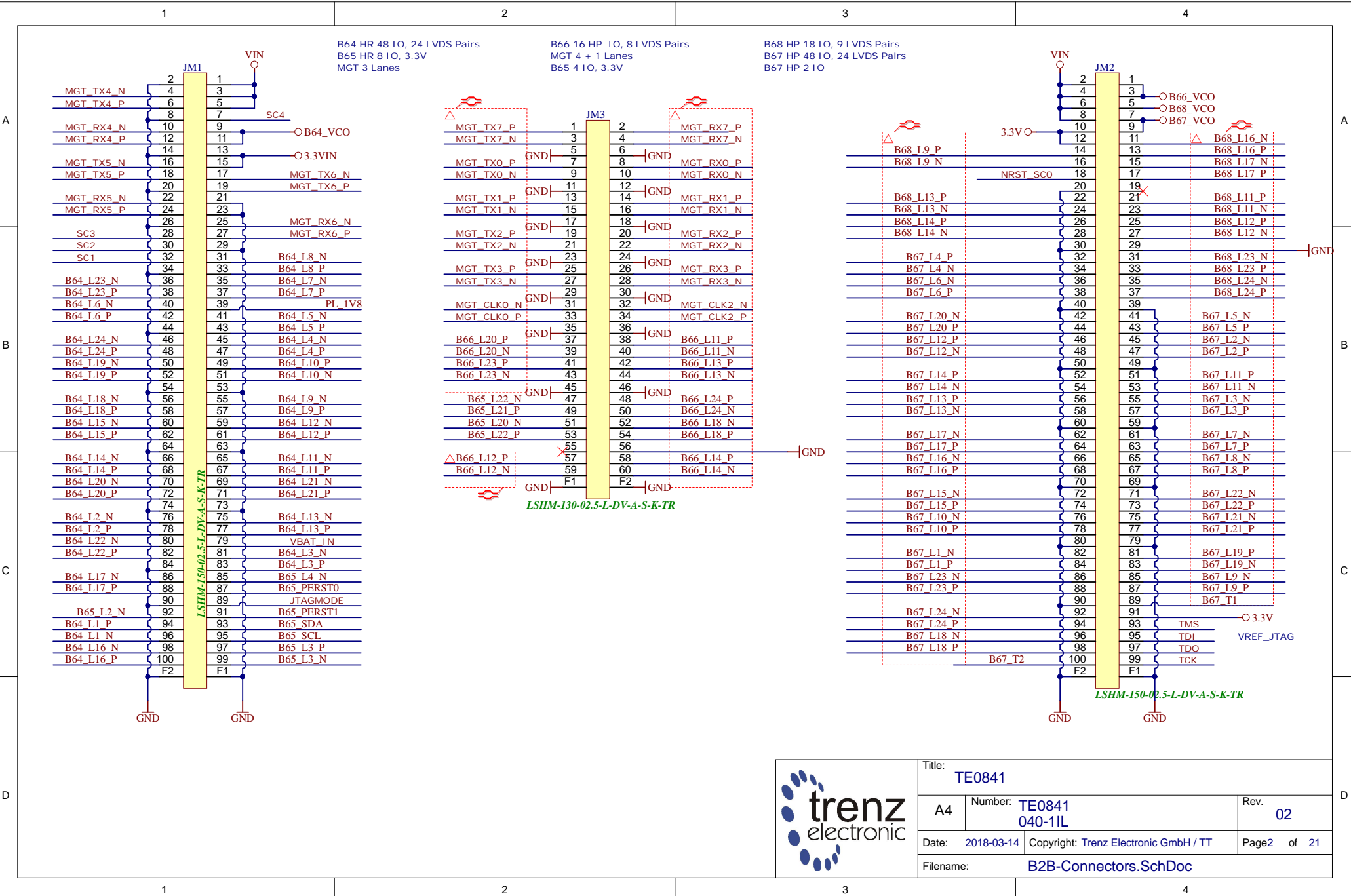


Serial  
SerialNumber  
SerialNumber 6,3 x 6.3mm

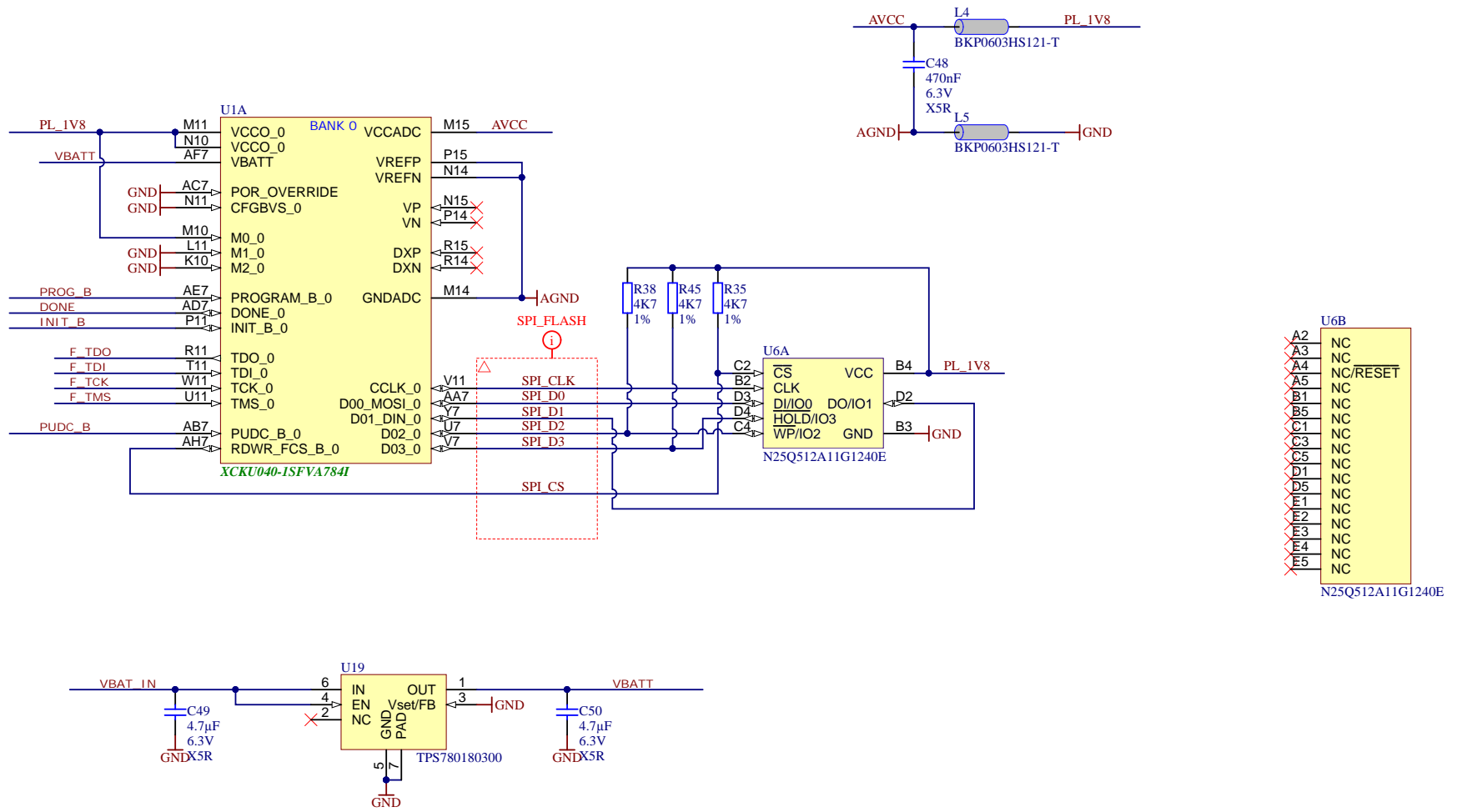
Top of Board




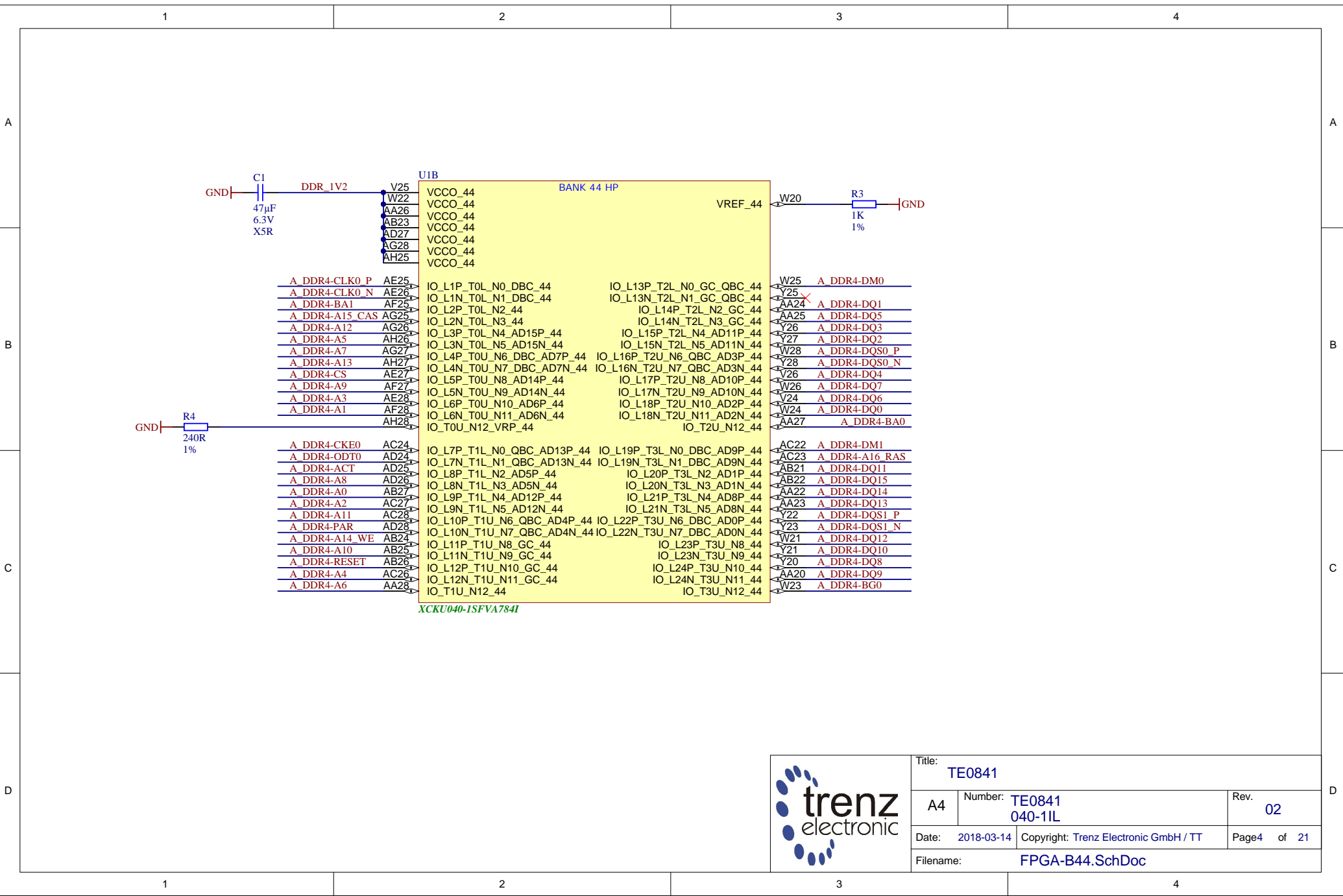
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		A4	Number: TE0841 040-1IL
Date: 2018-03-14		Copyright: Trenz Electronic GmbH / TT	
Filename: TE0841.SchDoc		Page1 of 21	



Title: TE0841		
A4	Number: TE0841 040-1IL	Rev. 02
Date: 2018-03-14	Copyright: Trenz Electronic GmbH / TT	Page2 of 21
Filename: B2B-Connectors.SchDoc		



		Title: TE0841	
		A4	Number: TE0841 040-1IL
Date: 2018-03-14		Copyright: Trenz Electronic GmbH / TT	
Filename: FPGA-MISC.SchDoc		Page3 of 21	



XCKU040-1SFVA7841

	Title: TE0841	
	A4	Number: TE0841 040-1IL
	Date: 2018-03-14	Copyright: Trenz Electronic GmbH / TT
	Filename: FPGA-B44.SchDoc	Rev. 02 Page4 of 21

1

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A

A

B

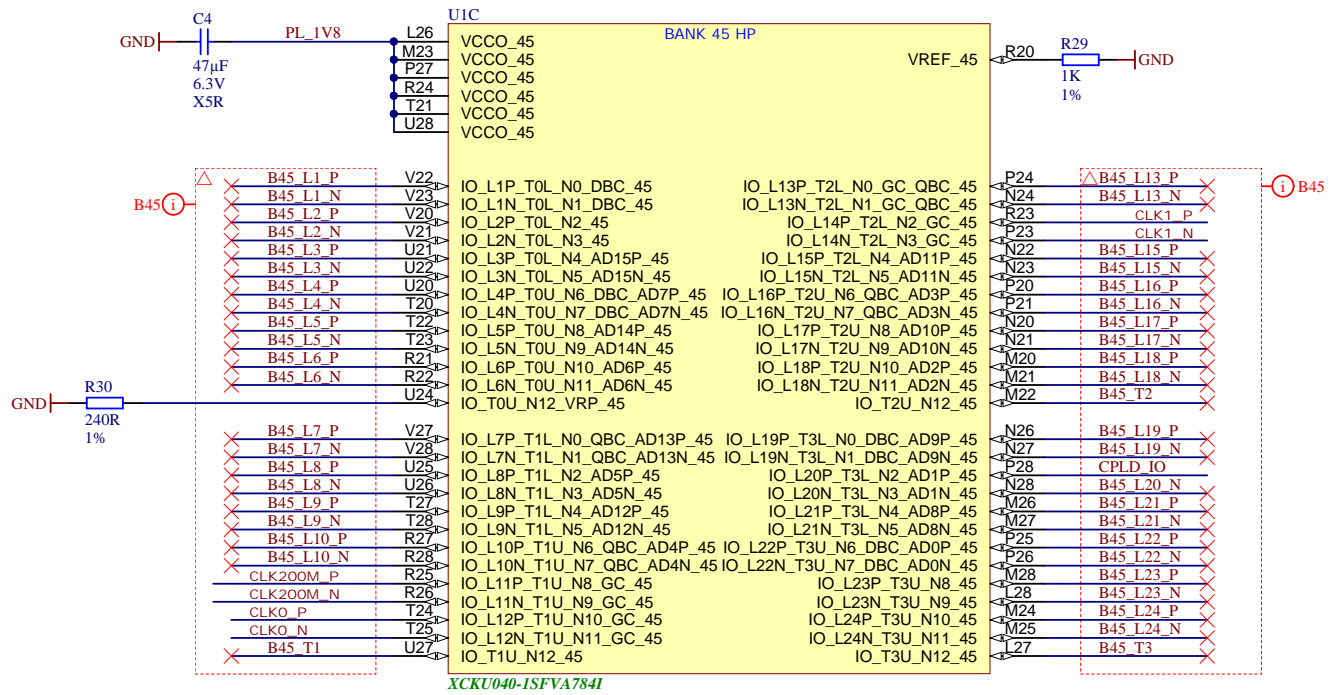
B

C

C

D

D



XCKU040-1SFVA784I



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A4	Number: TE0841 040-1IL	Rev. 02
Date: 2018-03-14	Copyright: Trenz Electronic GmbH / TT	Page5 of 21
Filename: FPGA-B45.SchDoc		

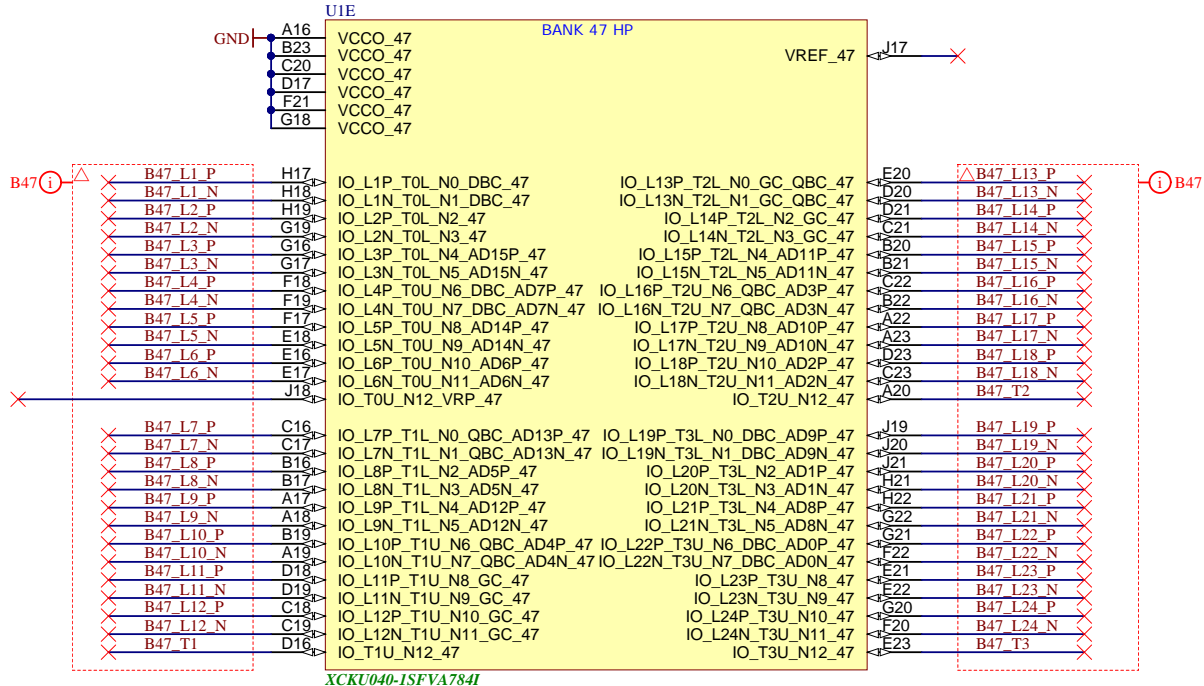
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A4	Number: <b>TE0841 040-1IL</b>	Rev. <b>02</b>
Date: <b>2018-03-14</b>	Copyright: <b>Trenz Electronic GmbH / TT</b>	Page <b>7</b> of <b>21</b>
Filename: <b>FPGA-B47.SchDoc</b>		

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A

A

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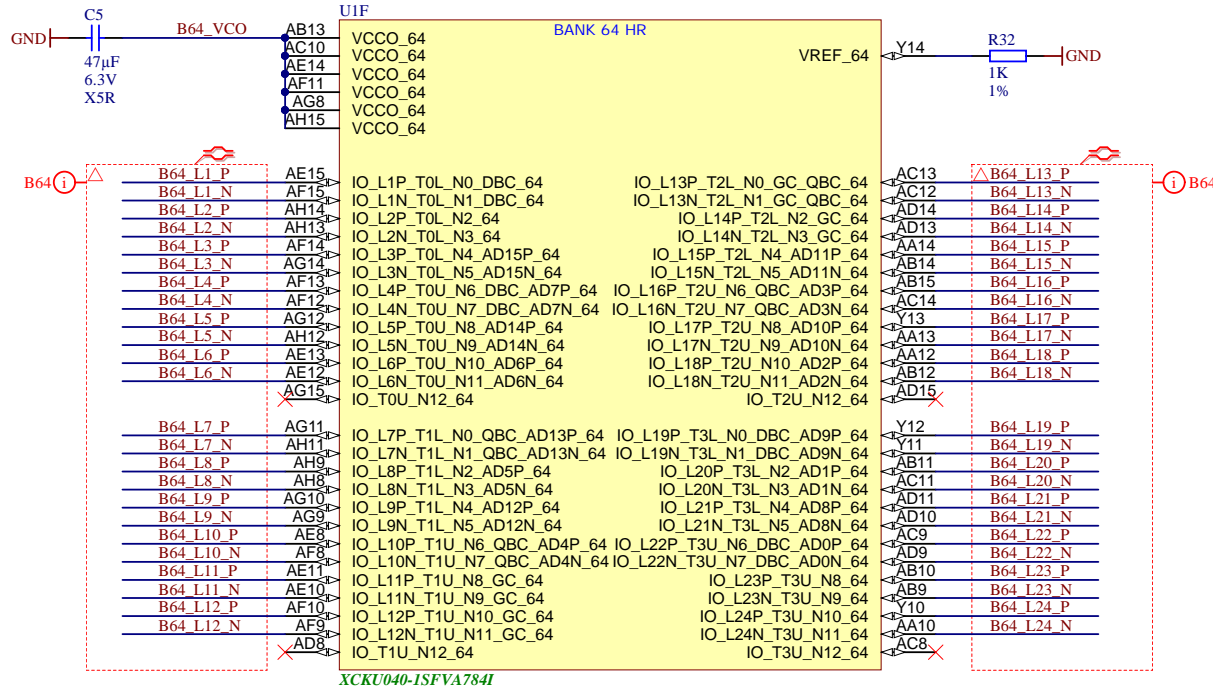
B

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XCKU040-ISFVA784I



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Date: 2018-03-14	Copyright: Trenz Electronic GmbH / TT	Page8 of 21
Filename: FPGA-B64.SchDoc		

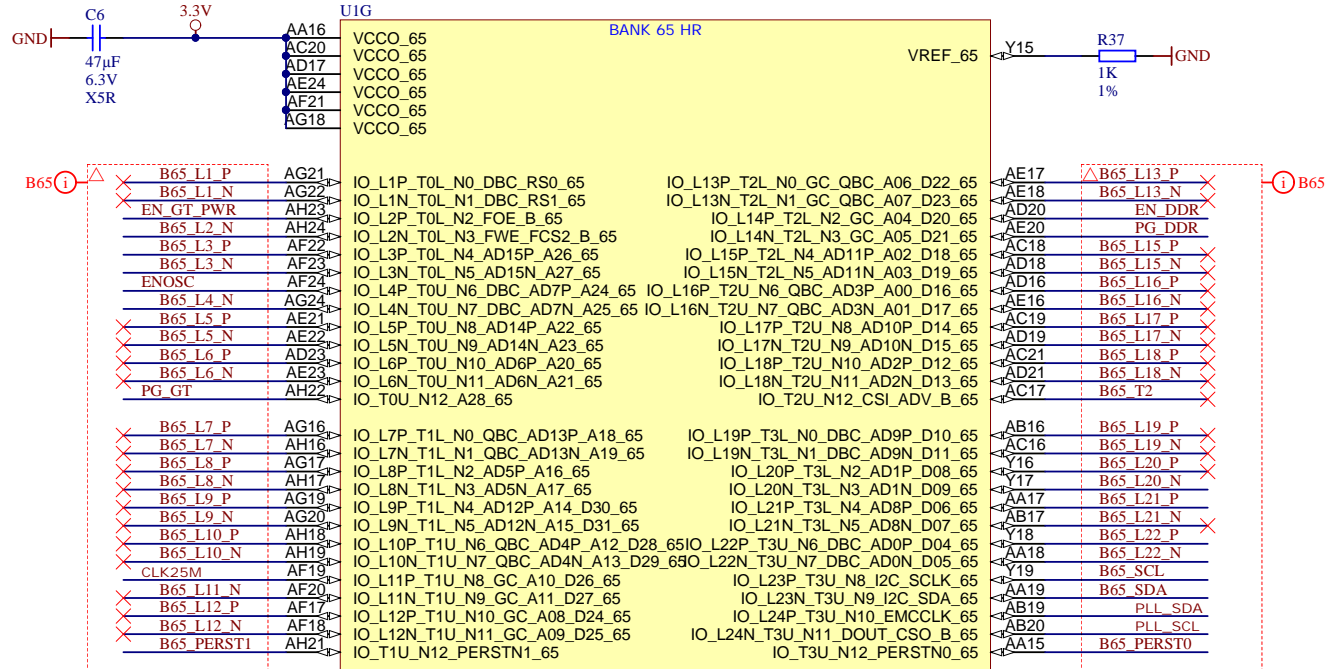
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XCKU040-ISFVA784I



Title: TE0841		
A4	Number: TE0841 040-1IL	Rev. 02
Date: 2018-03-14	Copyright: Trenz Electronic GmbH / TT	Page9 of 21
Filename: FPGA-B65.SchDoc		

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A

A

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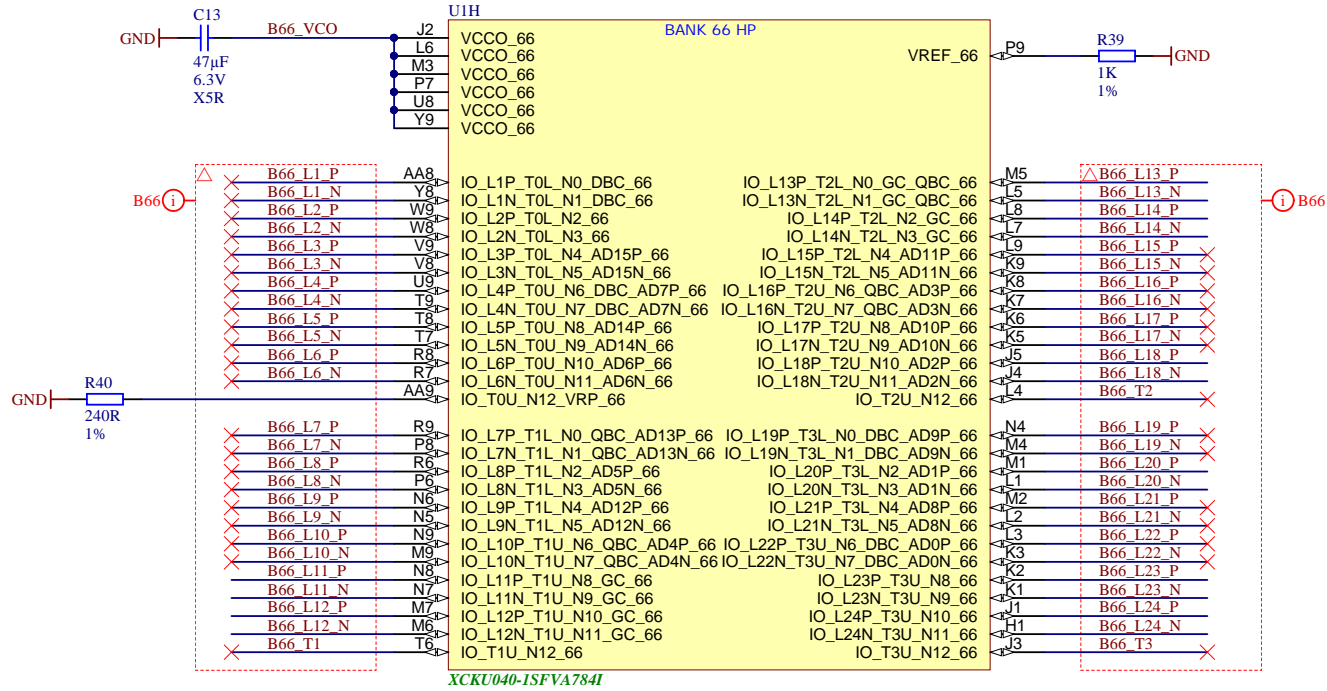
B

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	Title: TE0841		
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	Date: 2018-03-14	Copyright: Trenz Electronic GmbH / TT	
	Filename: FPGA-B66.SchDoc		Page10 of 21

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A

A

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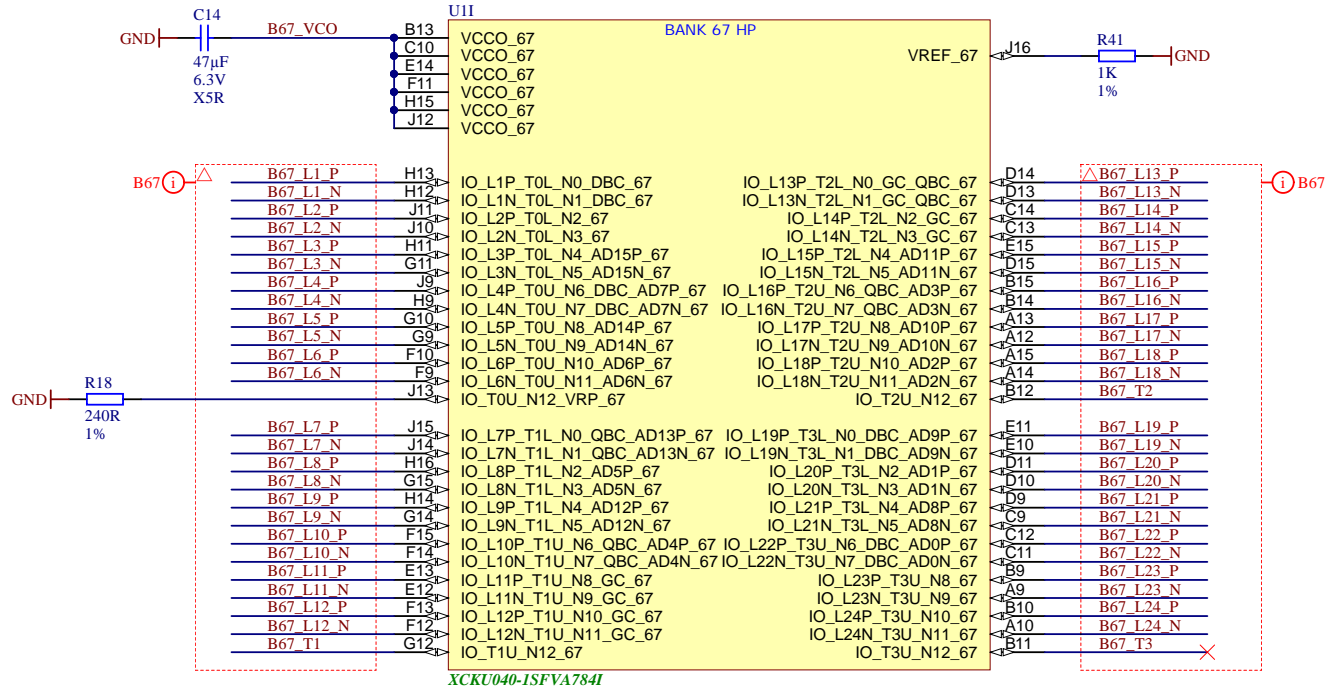
B

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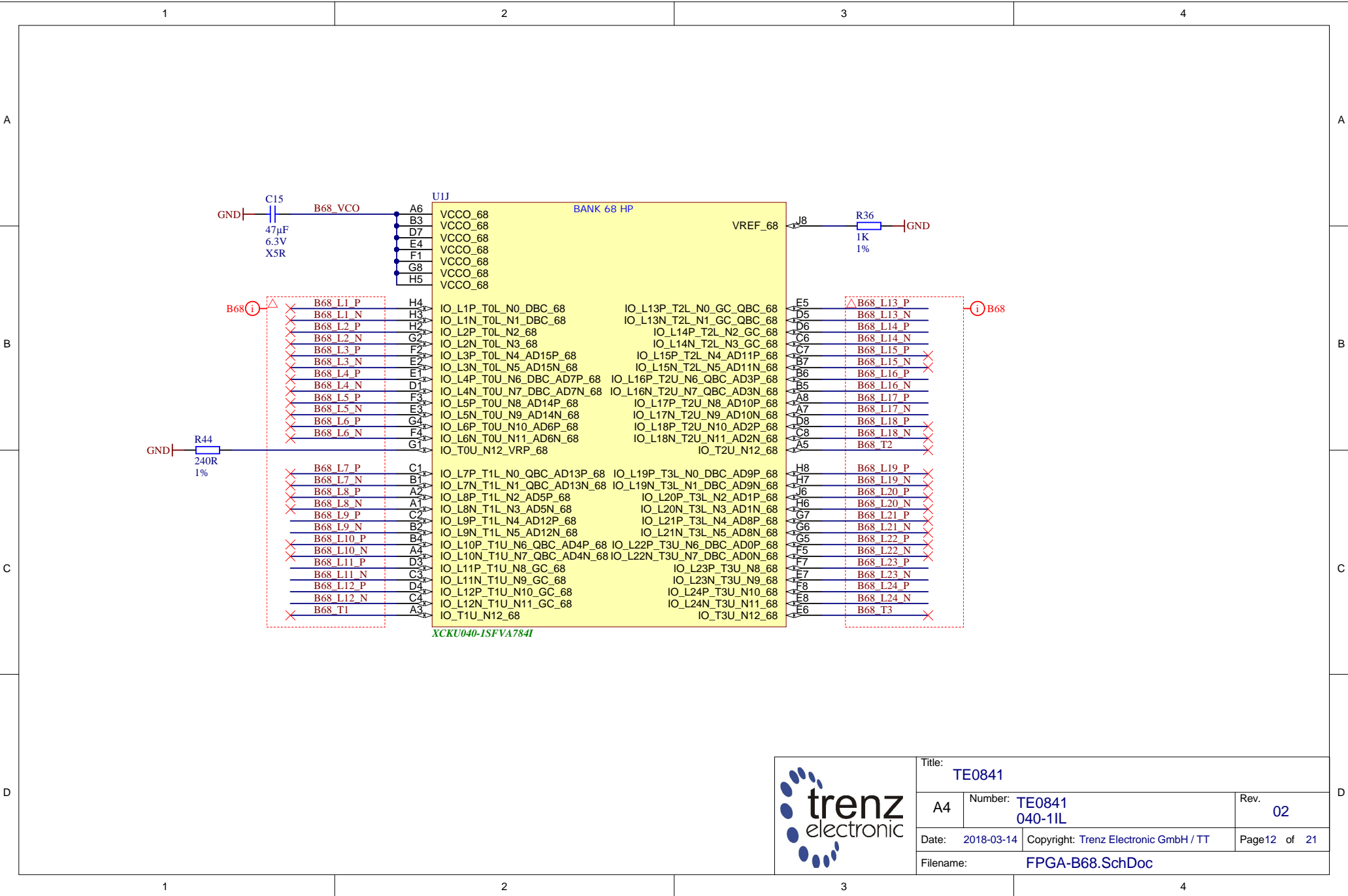
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Date: 2018-03-14	Copyright: Trenz Electronic GmbH / TT	Page 11 of 21
Filename: FPGA-B67.SchDoc		

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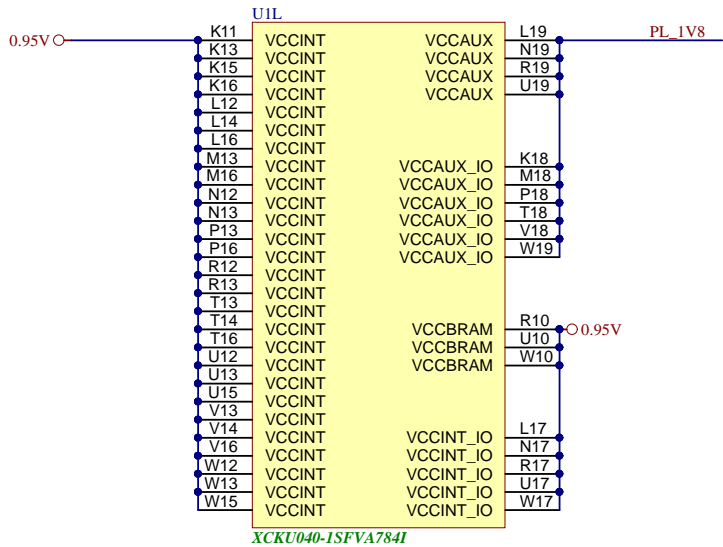
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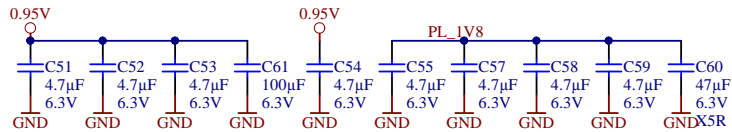


Title: TE0841		
A4	Number: TE0841 040-1IL	Rev. 02
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Filename: FPGA-B68.SchDoc		





XCKU040-1SFVA784I

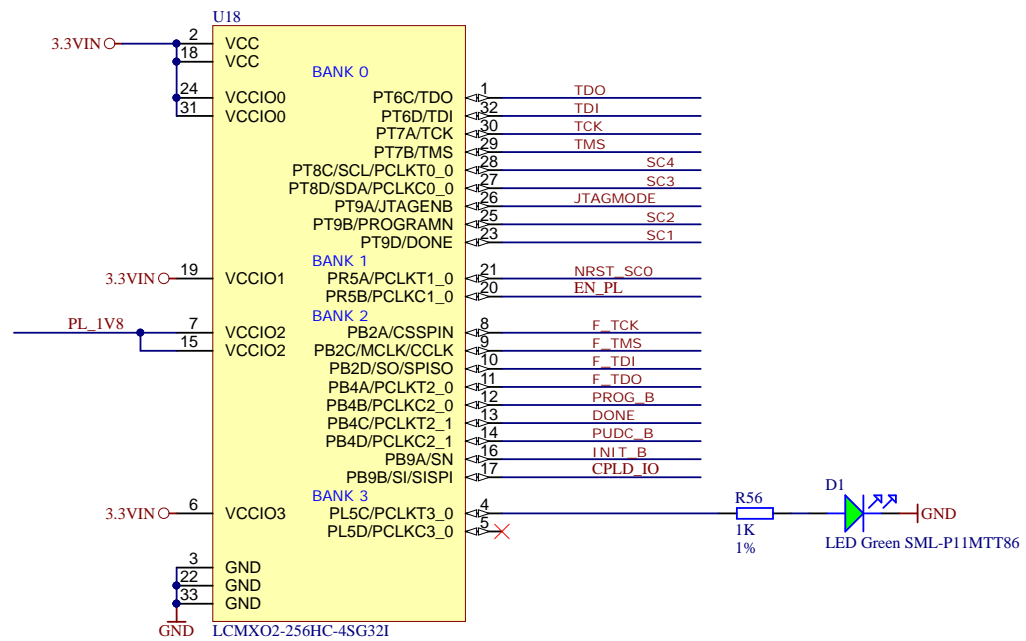



XCKU040-1SFVA784I

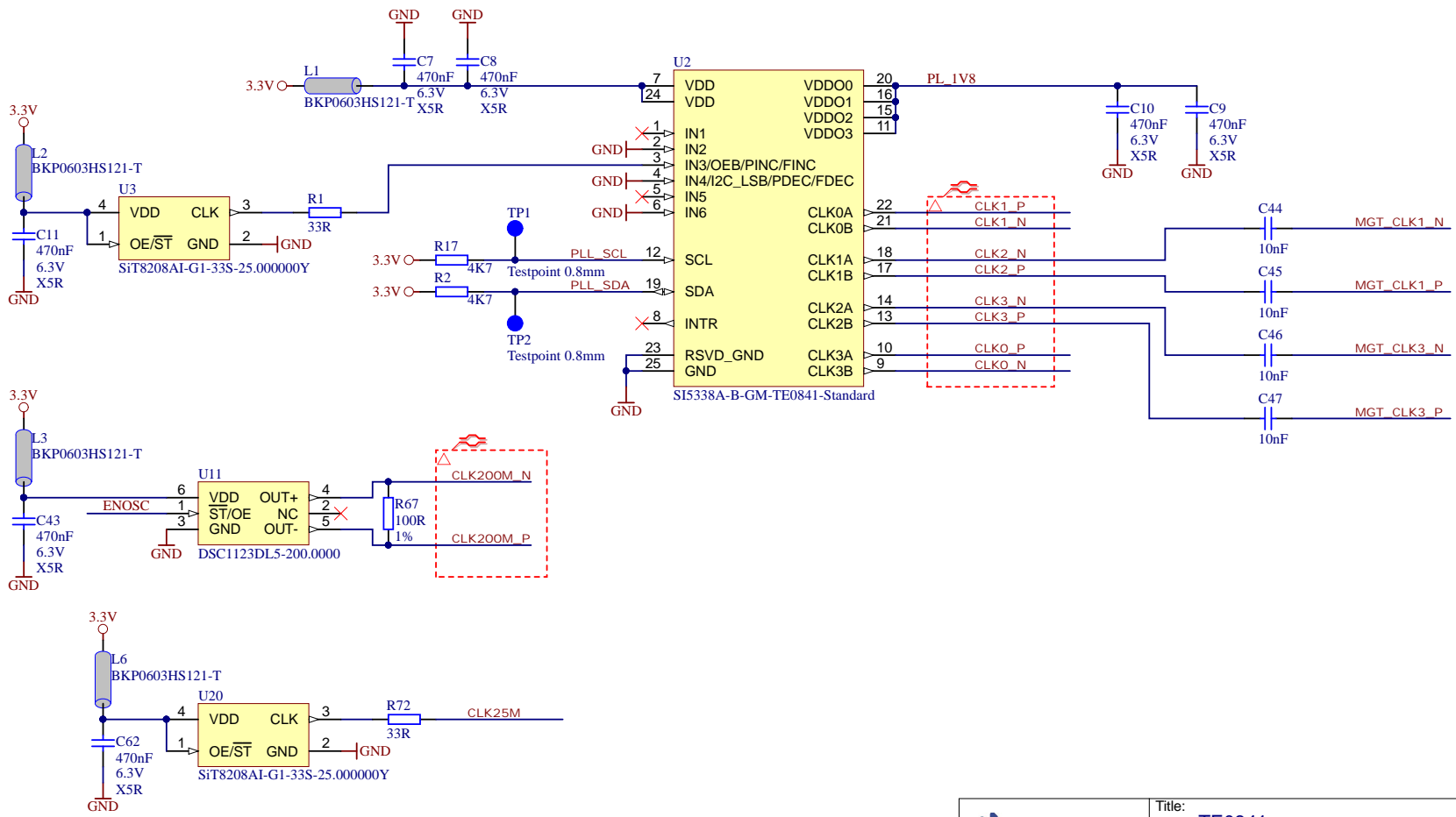
XCKU040-1SFVA784I




Title: TE0841		
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Date: 2018-03-14	Copyright: Trenz Electronic GmbH / TT	Page 14 of 21
Filename: FPGA-PWR.SchDoc		

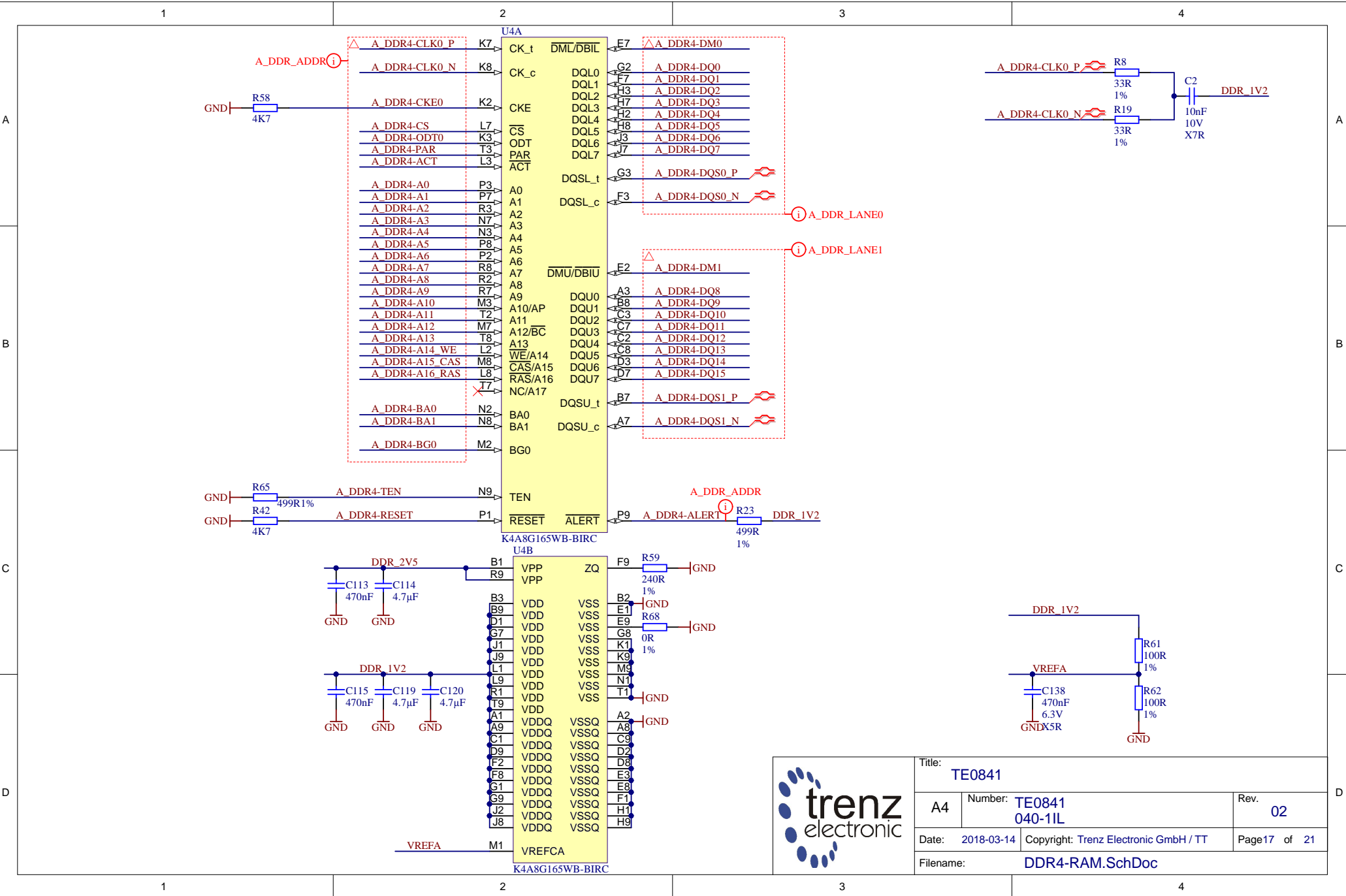


	Title: TE0841		
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	Date: 2018-03-14	Copyright: Trenz Electronic GmbH / TT	Page 15 of 21
	Filename: CPLD.SchDoc		



		Title: TE0841	
		A4	Number: TE0841 040-1IL
Date: 2018-03-14		Copyright: Trenz Electronic GmbH / TT	
Filename: Clock.SchDoc		Page 16 of 21	





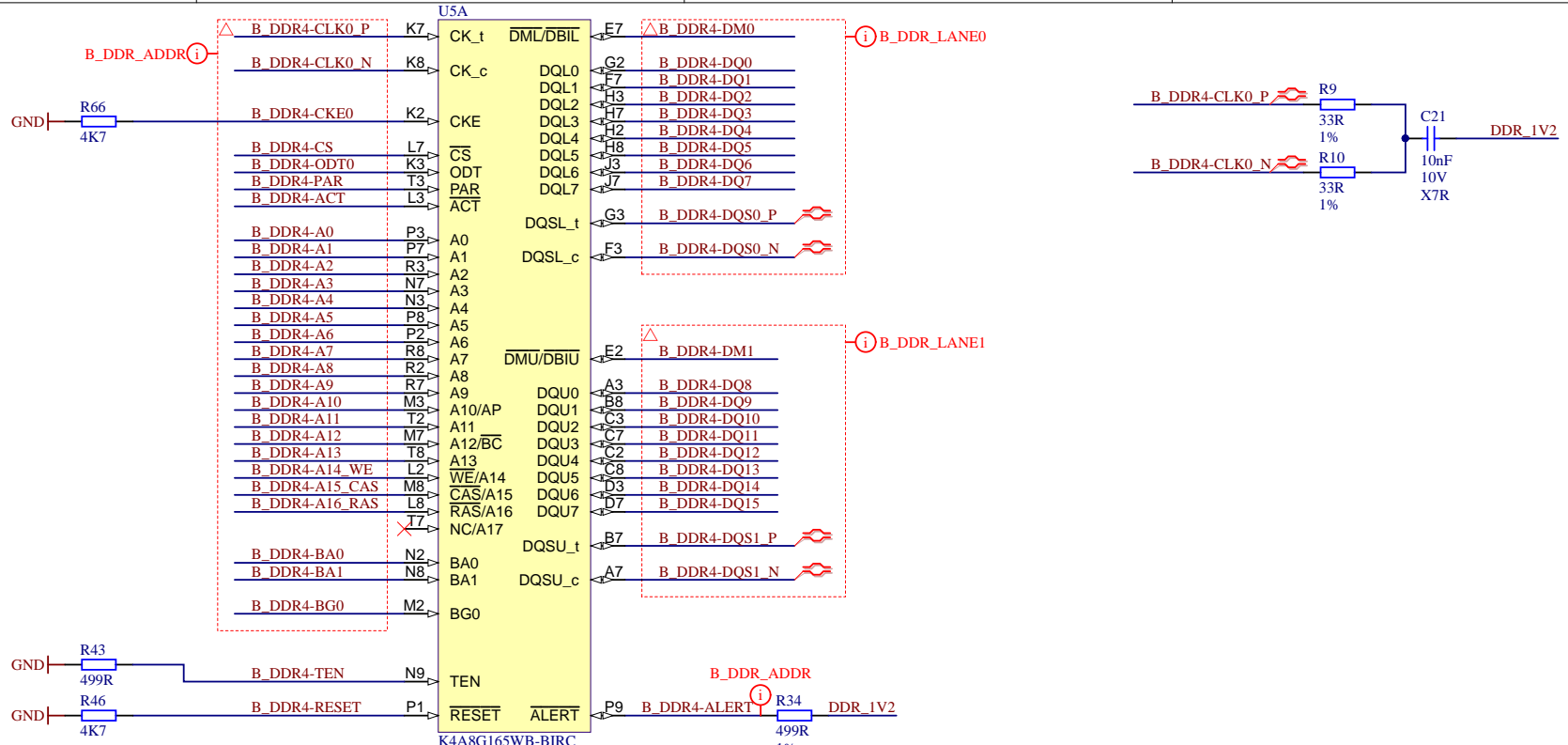
Title: TE0841		
A4	Number: TE0841 040-1IL	Rev. 02
Date: 2018-03-14	Copyright: Trenz Electronic GmbH / TT	Page 17 of 21
Filename: DDR4-RAM.SchDoc		

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A

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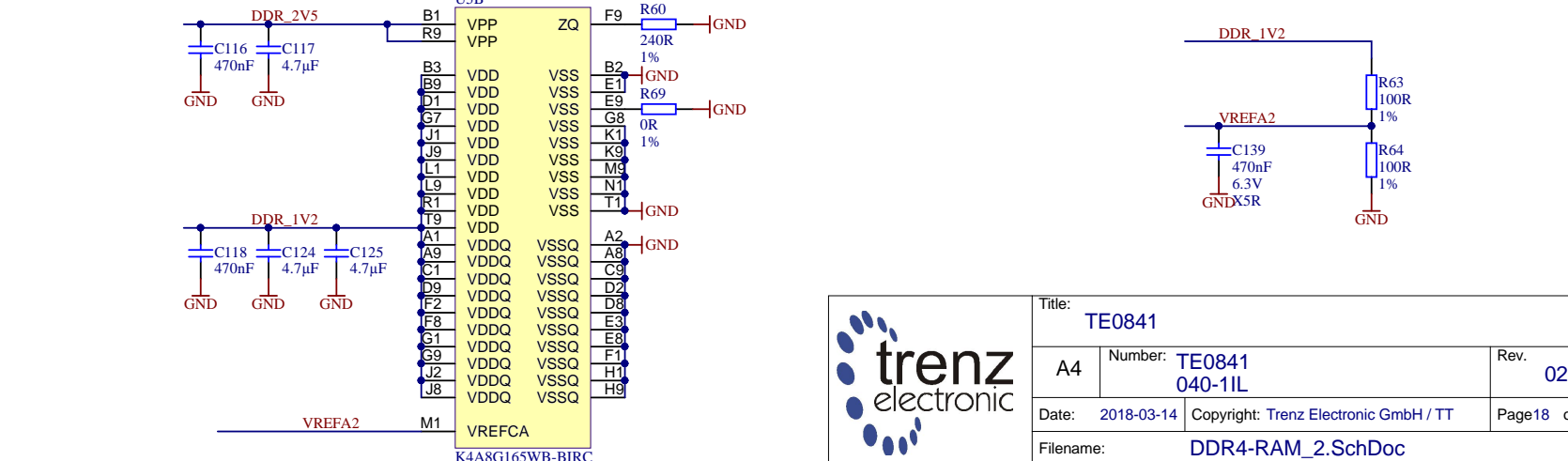
D

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A

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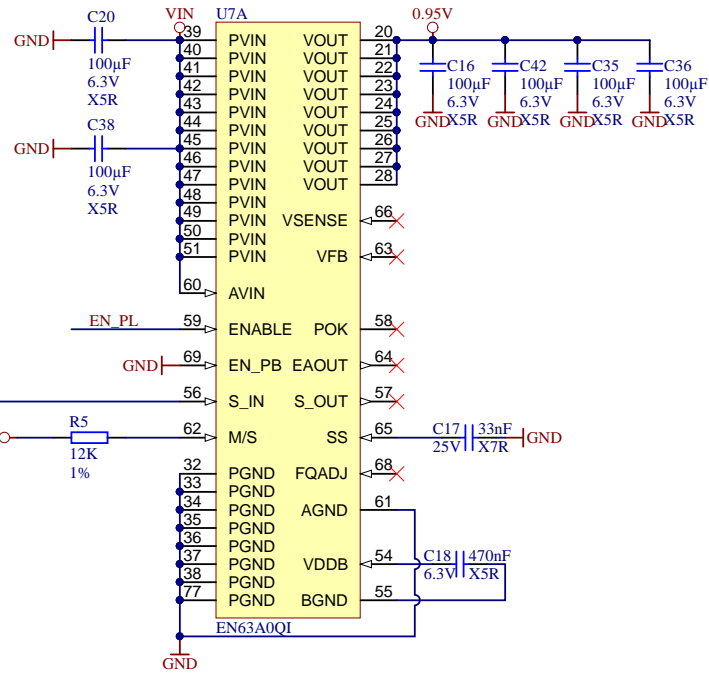
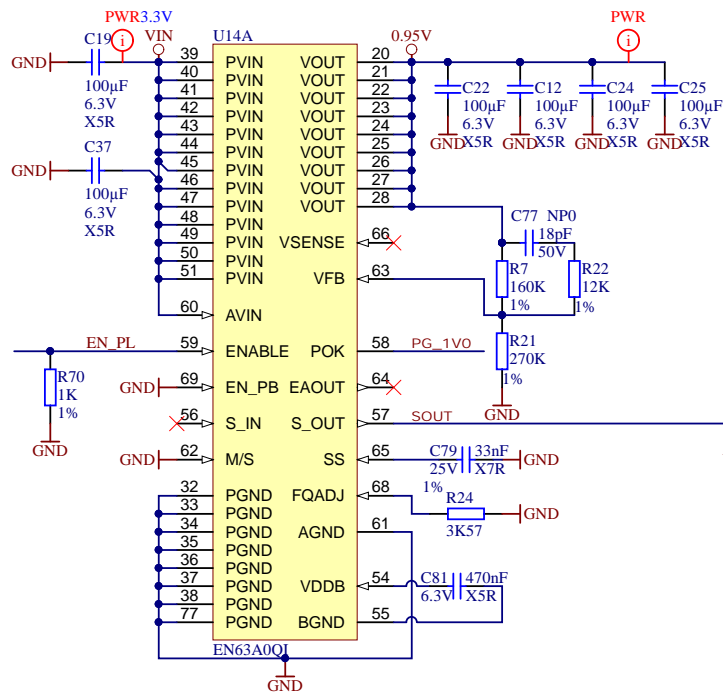
Title: TE0841		
A4	Number: TE0841 040-1IL	Rev. 02
Date: 2018-03-14	Copyright: Trenz Electronic GmbH / TT	Page18 of 21
Filename: DDR4-RAM_2.SchDoc		

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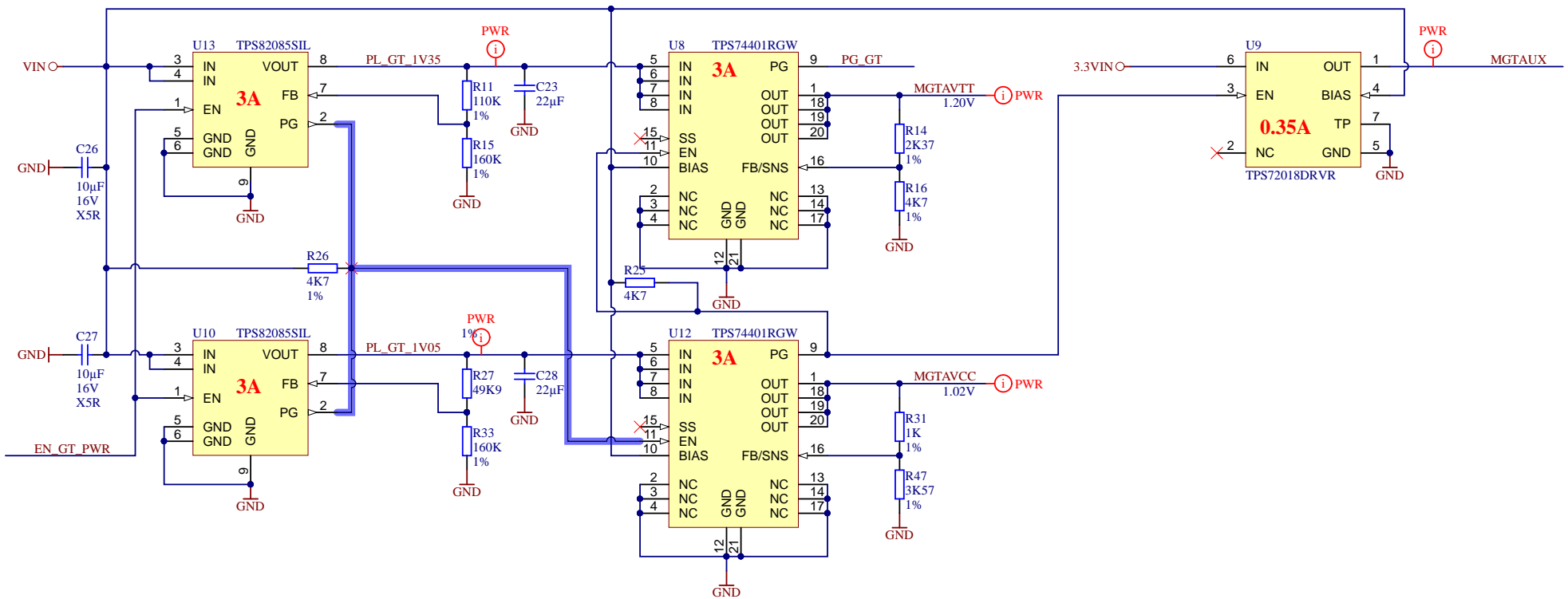
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2	NC	NC	18
3	NC	NC	19
4	NC	NC	29
5	NC	NC	30
6	NC	NC(SW)	31
7	NC	NC(SW)	52
8	NC	NC	53
9	NC	NC	67
10	NC	NC	70
11	NC	NC(SW)	71
12	NC	NC(SW)	72
13	NC	NC	73
14	NC	NC	74
15	NC	NC	75
16	NC	NC	76

EN63A00QI

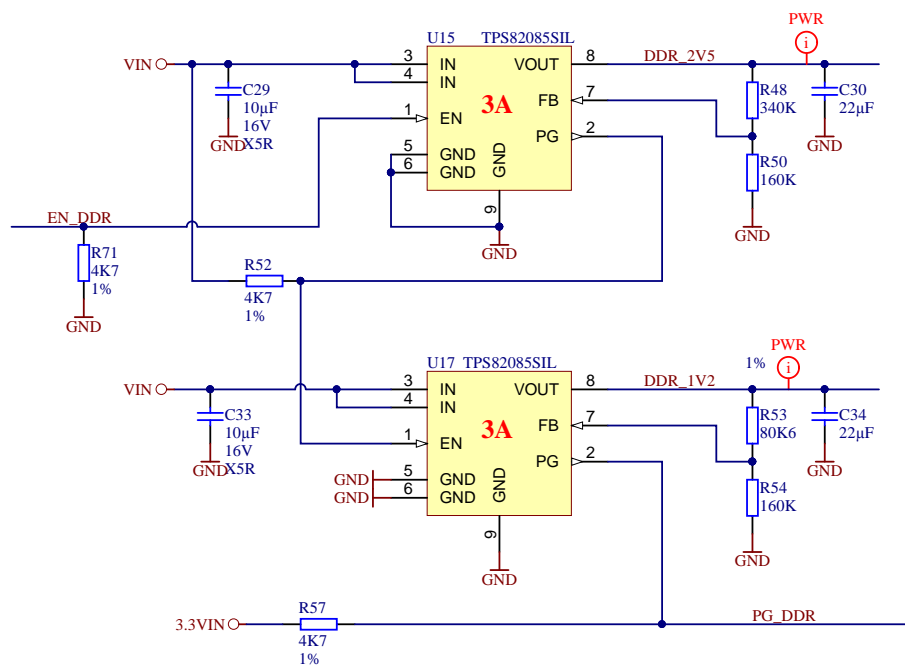
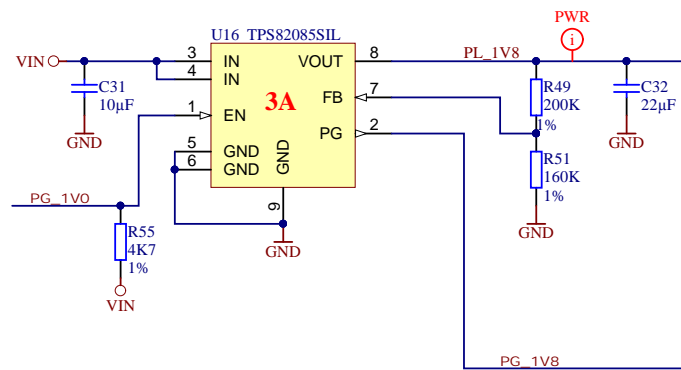
U7B			
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2	NC	NC	18
3	NC	NC	19
4	NC	NC	29
5	NC	NC	30
6	NC	NC(SW)	31
7	NC	NC(SW)	52
8	NC	NC	53
9	NC	NC	67
10	NC	NC	70
11	NC	NC(SW)	71
12	NC	NC(SW)	72
13	NC	NC	73
14	NC	NC	74
15	NC	NC	75
16	NC	NC	76

EN63A00QI

	Title: TE0841		Rev. 02	
	A4	Number: TE0841 040-1IL		
	Date: 2018-03-14	Copyright: Trenz Electronic GmbH / TT		Page 19 of 21
	Filename: PWR1.SchDoc			



Title: TE0841		
A4	Number: TE0841 040-1IL	Rev. 02
Date: 2018-03-14	Copyright: Trenz Electronic GmbH / TT	Page20 of 21
Filename: PWR2.SchDoc		



Title: TE0841		
A4	Number: TE0841 040-1IL	Rev. 02
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Filename: POWER_2.SchDoc		

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CHANGES REV01 TO REV01A (08.16.2017):

1) U1: changed schematic symbol. Next pins swapped to mach same polarity order:  
 -- AE13 (IO\_L6P\_T0U\_N10\_AD6P\_64)/AE12 (IO\_L6N\_T0U\_N11\_AD6N\_64)  
 -- J5 (IO\_L18P\_T2U\_N10\_AD2P\_66)/J4 (IO\_L18N\_T2U\_N11\_AD2N\_66)

2) Net names changed (no electrical changes):

JM1: swapped signals B64\_L6:  
 -- B64\_L6\_N - pin 40 (was pin 42)  
 -- B64\_L6\_P - pin 42 (was pin 40)  
 JM3: swapped signals B64\_L6:  
 -- B66\_L18\_N - pin 52 (was pin 54)  
 -- B66\_L18\_P - pin 54 (was pin 52)

CHANGES REV01A TO REV02 ( 03.2018):

- 1) U4 / U5: changed DDR4 chip: NT5AD256M16B2-GN -> K4A4G165WE-BCRC (K4A8G165WB-BIRC)
- 2) Fixed sense connection on DCDC
- 3) U6: changed SPI flash chip: N25Q256A11E1240E-> N25Q512A11G1240E
- 4) Full update LIB
- 5) Added additional resistors for support 16GBit DDR chips
- 6) Added strong pull-down to EN\_PL
- 7) Added additional testpoints for I2C bus
- 8) Added additional MEMS oscillator (25MHz)
- 9) Changed pull-up power supply VIN -> 3.3VIN on the PG\_DDR net
- 10) Added pull-down on the EN\_DDR

A

A

B

B

C

C

D

D



Title: TE0841 - Changes list		
A4	Number: TE0841 040-1IL	Rev. 02
Date: 2018-03-14	Copyright: Trenz Electronic GmbH	Page22 of 22
Filename: Revision_Changes.SchDoc		

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