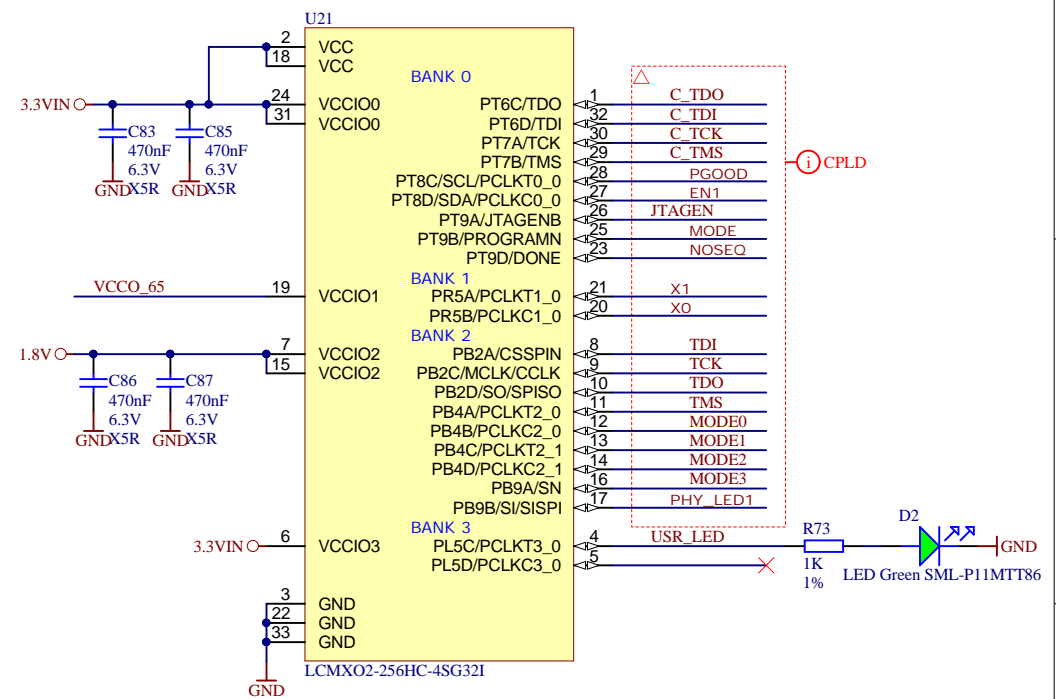
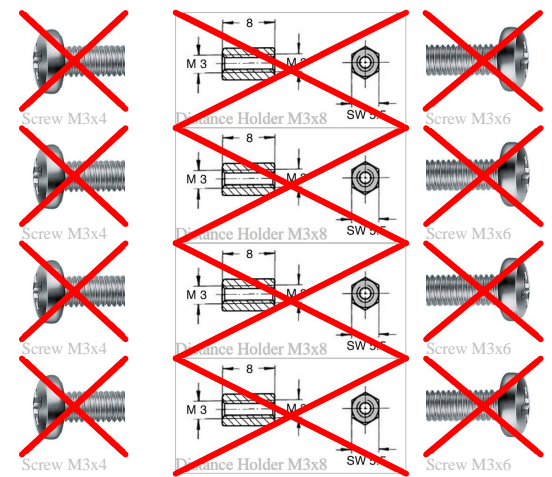
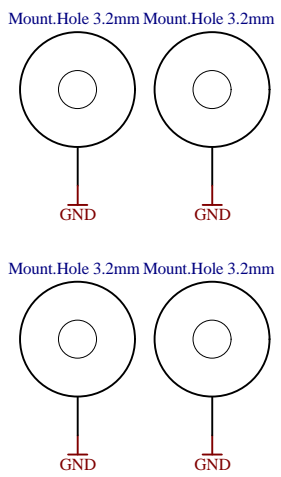
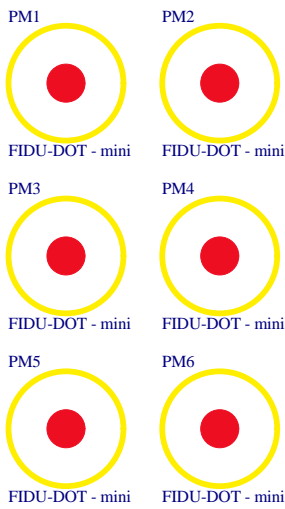
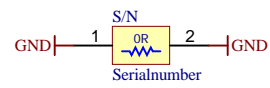


- U\_USB-PHY  
USB-PHY.SchDoc
- U\_ETH-PHY  
ETH-PHY.SchDoc
- U\_B\_HD  
B\_HD.SchDoc
- U\_B64  
B64.SchDoc
- U\_B65  
B65.SchDoc
- U\_B66  
B66.SchDoc
- U\_CONFIG  
CONFIG.SchDoc
- U\_B\_MIO  
B\_MIO.SchDoc
- U\_B\_PS\_GT  
B\_PS\_GT.SchDoc
- U\_CLK  
CLK.SchDoc

- U\_B2B-Connectors  
B2B-Connectors.SchDoc
- U\_eMMC  
eMMC.SchDoc
- U\_PS\_DDR  
PS\_DDR.SchDoc
- U\_ZU\_POWER  
ZU\_POWER.SchDoc
- U\_ZU\_PS\_POWER  
ZU\_PS\_POWER.SchDoc
- U\_DDR4-RAM\_2  
DDR4-RAM\_2.SchDoc
- U\_DDR4-RAM  
DDR4-RAM.SchDoc
- U\_POWER  
POWER.SchDoc
- U\_POWER\_1  
POWER\_1.SchDoc

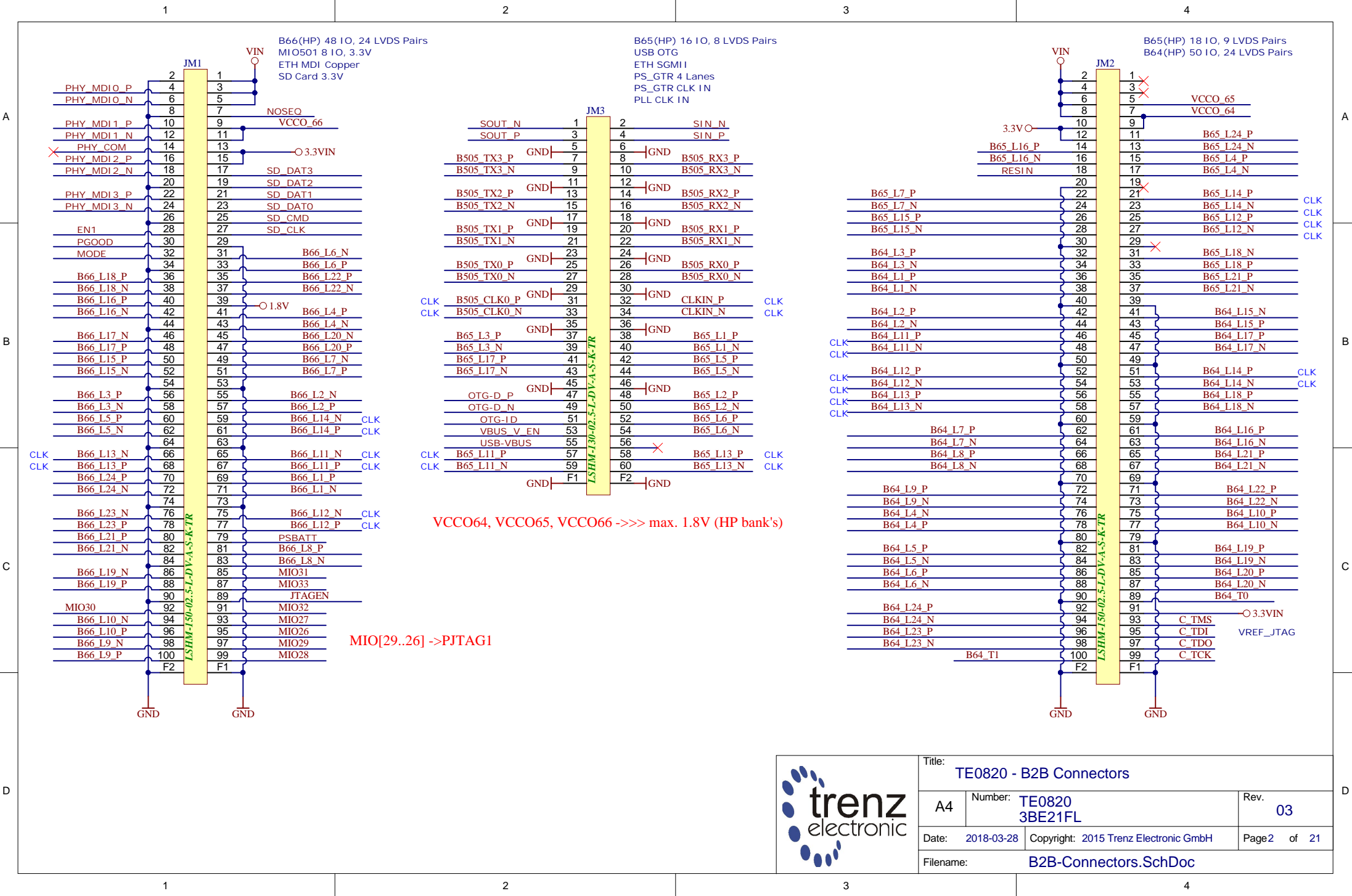
Serial  
Serialnumber 6,3 x 6.3mm



|                  |            |
|------------------|------------|
| Assembly variant | 3BE21FL    |
| Created by       | VY         |
| Modified by      | VY         |
| Modified at      | 2019-04-09 |
| SVN Revision     | 8646       |



|                         |                                       |              |
|-------------------------|---------------------------------------|--------------|
| Title: TE0820           |                                       |              |
| A4                      | Number: TE0820<br>3BE21FL             | Rev. 03      |
| Date: 2018-03-28        | Copyright: 2015 Trenz Electronic GmbH | Page 1 of 21 |
| Filename: TE0820.SchDoc |                                       |              |



B66(HP) 48 IO, 24 LVDS Pairs  
MIO501 8 IO, 3.3V  
ETH MDI Copper  
SD Card 3.3V

B65(HP) 16 IO, 8 LVDS Pairs  
USB OTG  
ETH SGMII  
PS\_GTR 4 Lanes  
PS\_GTR CLK IN  
PLL CLK IN

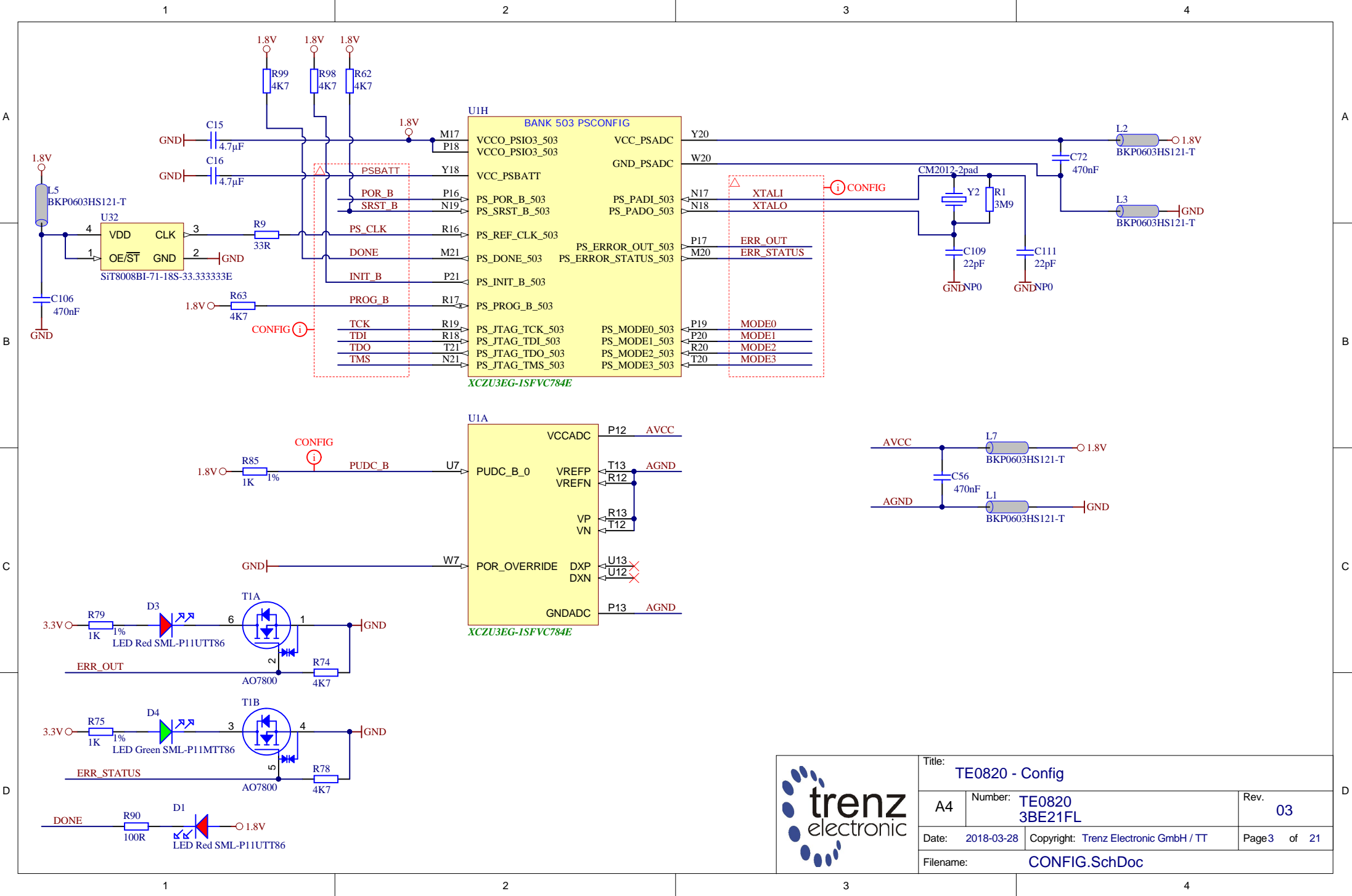
B65(HP) 18 IO, 9 LVDS Pairs  
B64(HP) 50 IO, 24 LVDS Pairs

VCCO64, VCCO65, VCCO66 ->>> max. 1.8V (HP bank's)

MIO[29..26] ->PJTAG1



|                                 |                                       |              |  |
|---------------------------------|---------------------------------------|--------------|--|
| Title: TE0820 - B2B Connectors  |                                       |              |  |
| A4                              | Number: TE0820<br>3BE21FL             | Rev. 03      |  |
| Date: 2018-03-28                | Copyright: 2015 Trenz Electronic GmbH | Page 2 of 21 |  |
| Filename: B2B-Connectors.SchDoc |                                       |              |  |



|                         |                                       |              |
|-------------------------|---------------------------------------|--------------|
| Title: TE0820 - Config  |                                       |              |
| A4                      | Number: TE0820<br>3BE21FL             | Rev. 03      |
| Date: 2018-03-28        | Copyright: Trenz Electronic GmbH / TT | Page 3 of 21 |
| Filename: CONFIG.SchDoc |                                       |              |

A

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UIC

BANK 26 HD (ZU4/5 BANK 46 HD)

|     |                     |                     |                     |
|-----|---------------------|---------------------|---------------------|
| F14 | VCCO_26             | IO_L1P_AD11P_26     | IO_L7P_HDGC_AD5P_26 |
| C15 | VCCO_26             | IO_L1N_AD11N_26     | IO_L7N_HDGC_AD5N_26 |
| B15 | IO_L1P_AD11P_26     | IO_L2P_AD10P_26     | IO_L8P_HDGC_AD4P_26 |
| A15 | IO_L1N_AD11N_26     | IO_L2N_AD10N_26     | IO_L8N_HDGC_AD4N_26 |
| B14 | IO_L2P_AD10P_26     | IO_L3P_AD9P_26      | IO_L9P_AD3P_26      |
| A14 | IO_L2N_AD10N_26     | IO_L3N_AD9N_26      | IO_L9N_AD3N_26      |
| B13 | IO_L3P_AD9P_26      | IO_L4P_AD8P_26      | IO_L10P_AD2P_26     |
| A13 | IO_L3N_AD9N_26      | IO_L4N_AD8N_26      | IO_L10N_AD2N_26     |
| C14 | IO_L4P_AD8P_26      | IO_L5P_HDGC_AD7P_26 | IO_L11P_AD1P_26     |
| C13 | IO_L4N_AD8N_26      | IO_L5N_HDGC_AD7N_26 | IO_L11N_AD1N_26     |
| D15 | IO_L5P_HDGC_AD7P_26 | IO_L6P_HDGC_AD6P_26 | IO_L12P_AD0P_26     |
| D14 | IO_L5N_HDGC_AD7N_26 | IO_L6N_HDGC_AD6N_26 | IO_L12N_AD0N_26     |
| E14 | IO_L6P_HDGC_AD6P_26 |                     |                     |
| E13 | IO_L6N_HDGC_AD6N_26 |                     |                     |

BANK 44 HD (ZU4/5 BANK 43 HD)

|      |                     |                     |                     |
|------|---------------------|---------------------|---------------------|
| AC10 | VCCO_44             | IO_L1P_AD11P_44     | IO_L7P_HDGC_AD5P_44 |
| AG12 | VCCO_44             | IO_L1N_AD11N_44     | IO_L7N_HDGC_AD5N_44 |
| AG10 | IO_L1P_AD11P_44     | IO_L2P_AD10P_44     | IO_L8P_HDGC_AD4P_44 |
| AH10 | IO_L1N_AD11N_44     | IO_L2N_AD10N_44     | IO_L8N_HDGC_AD4N_44 |
| AF11 | IO_L2P_AD10P_44     | IO_L3P_AD9P_44      | IO_L9P_AD3P_44      |
| AG11 | IO_L2N_AD10N_44     | IO_L3N_AD9N_44      | IO_L9N_AD3N_44      |
| AH12 | IO_L3P_AD9P_44      | IO_L4P_AD8P_44      | IO_L10P_AD2P_44     |
| AH11 | IO_L3N_AD9N_44      | IO_L4N_AD8N_44      | IO_L10N_AD2N_44     |
| AE10 | IO_L4P_AD8P_44      | IO_L5P_HDGC_AD7P_44 | IO_L11P_AD1P_44     |
| AF10 | IO_L4N_AD8N_44      | IO_L5N_HDGC_AD7N_44 | IO_L11N_AD1N_44     |
| AE12 | IO_L5P_HDGC_AD7P_44 | IO_L6P_HDGC_AD6P_44 | IO_L12P_AD0P_44     |
| AF12 | IO_L5N_HDGC_AD7N_44 | IO_L6N_HDGC_AD6N_44 | IO_L12N_AD0N_44     |
| AC12 | IO_L6P_HDGC_AD6P_44 |                     |                     |
| AD12 | IO_L6N_HDGC_AD6N_44 |                     |                     |

UIB

XCZU3EG-1SFVC784E

BANK 24 HD (ZU4/5 BANK 44 HD)

|      |                 |                 |                  |
|------|-----------------|-----------------|------------------|
| AA14 | VCCO_24         | IO_L1P_AD15P_24 | IO_L7P_HDGC_24   |
| AD13 | VCCO_24         | IO_L1N_AD15N_24 | IO_L7N_HDGC_24   |
| AE15 | IO_L1P_AD15P_24 | IO_L2P_AD14P_24 | IO_L8P_HDGC_24   |
| AE14 | IO_L1N_AD15N_24 | IO_L2N_AD14N_24 | IO_L8N_HDGC_24   |
| AG14 | IO_L2P_AD14P_24 | IO_L3P_AD13P_24 | IO_L9P_AD11P_24  |
| AH14 | IO_L2N_AD14N_24 | IO_L3N_AD13N_24 | IO_L9N_AD11N_24  |
| AG13 | IO_L3P_AD13P_24 | IO_L4P_AD12P_24 | IO_L10P_AD10P_24 |
| AH13 | IO_L3N_AD13N_24 | IO_L4N_AD12N_24 | IO_L10N_AD10N_24 |
| AF13 | IO_L4P_AD12P_24 | IO_L5P_HDGC_24  | IO_L11P_AD9P_24  |
| AD13 | IO_L4N_AD12N_24 | IO_L5N_HDGC_24  | IO_L11N_AD9N_24  |
| AC14 | IO_L6P_HDGC_24  | IO_L12P_AD8P_24 | IO_L12N_AD8N_24  |
| AC13 | IO_L6N_HDGC_24  |                 |                  |

BANK 25 HD (ZU4/5 BANK 45 HD)

|     |                 |                 |                  |
|-----|-----------------|-----------------|------------------|
| B12 | VCCO_25         | IO_L1P_AD15P_25 | IO_L7P_HDGC_25   |
| E11 | VCCO_25         | IO_L1N_AD15N_25 | IO_L7N_HDGC_25   |
| J11 | IO_L1P_AD15P_25 | IO_L2P_AD14P_25 | IO_L8P_HDGC_25   |
| J10 | IO_L1N_AD15N_25 | IO_L2N_AD14N_25 | IO_L8N_HDGC_25   |
| K13 | IO_L2P_AD14P_25 | IO_L3P_AD13P_25 | IO_L9P_AD11P_25  |
| K12 | IO_L2N_AD14N_25 | IO_L3N_AD13N_25 | IO_L9N_AD11N_25  |
| H11 | IO_L3P_AD13P_25 | IO_L4P_AD12P_25 | IO_L10P_AD10P_25 |
| G10 | IO_L3N_AD13N_25 | IO_L4N_AD12N_25 | IO_L10N_AD10N_25 |
| H12 | IO_L4P_AD12P_25 | IO_L5P_HDGC_25  | IO_L11P_AD9P_25  |
| G11 | IO_L4N_AD12N_25 | IO_L5N_HDGC_25  | IO_L11N_AD9N_25  |
| F11 | IO_L6P_HDGC_25  | IO_L12P_AD8P_25 | IO_L12N_AD8N_25  |
| F12 | IO_L6N_HDGC_25  |                 |                  |
| F11 | IO_L6N_HDGC_25  |                 |                  |

XCZU3EG-1SFVC784E

B26

B26

B44

B44

B24

B24

B25

B25



|                          |                                       |              |
|--------------------------|---------------------------------------|--------------|
| Title: TE0820 - HD Banks |                                       |              |
| A4                       | Number: TE0820<br>3BE21FL             | Rev. 03      |
| Date: 2018-03-28         | Copyright: Trenz Electronic GmbH / TT | Page 4 of 21 |
| Filename: B_HD.SchDoc    |                                       |              |

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A

A

B

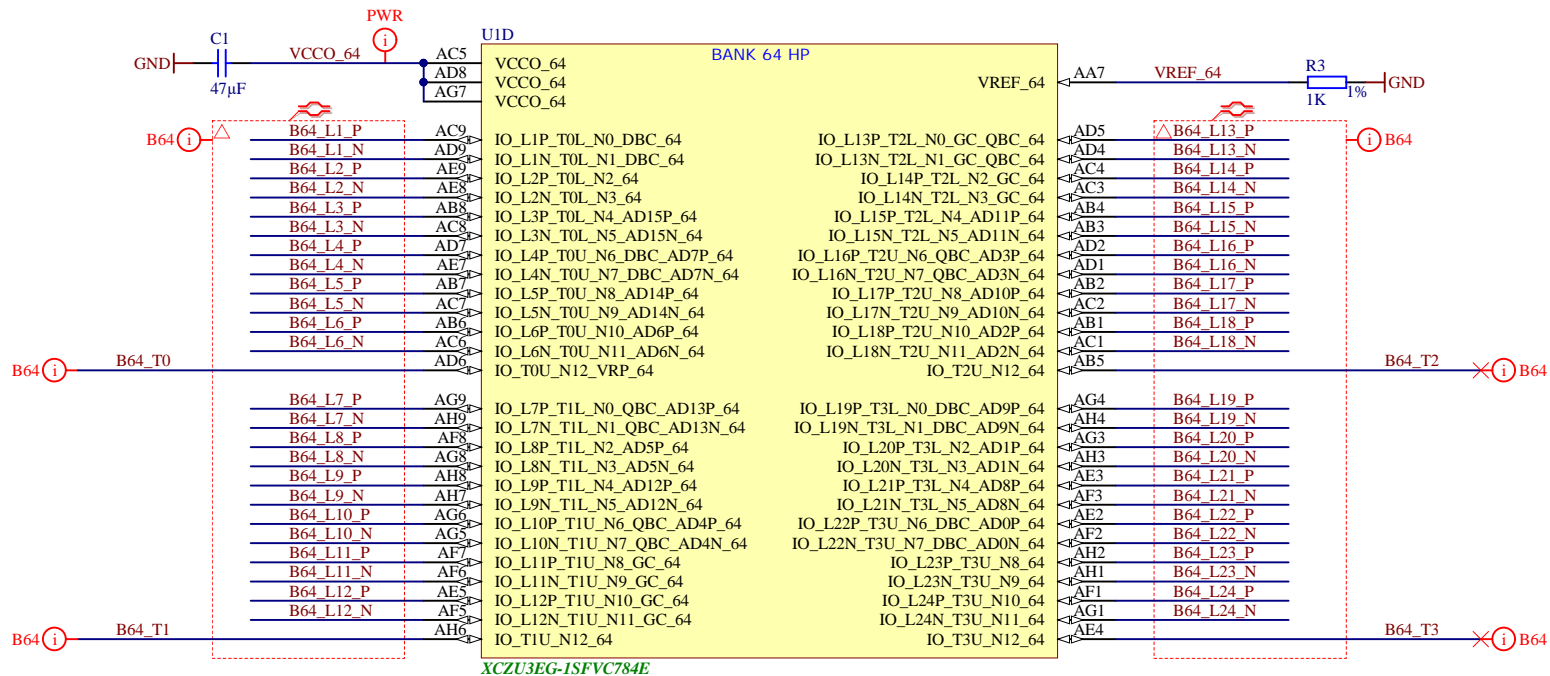
B

C

C

D

D



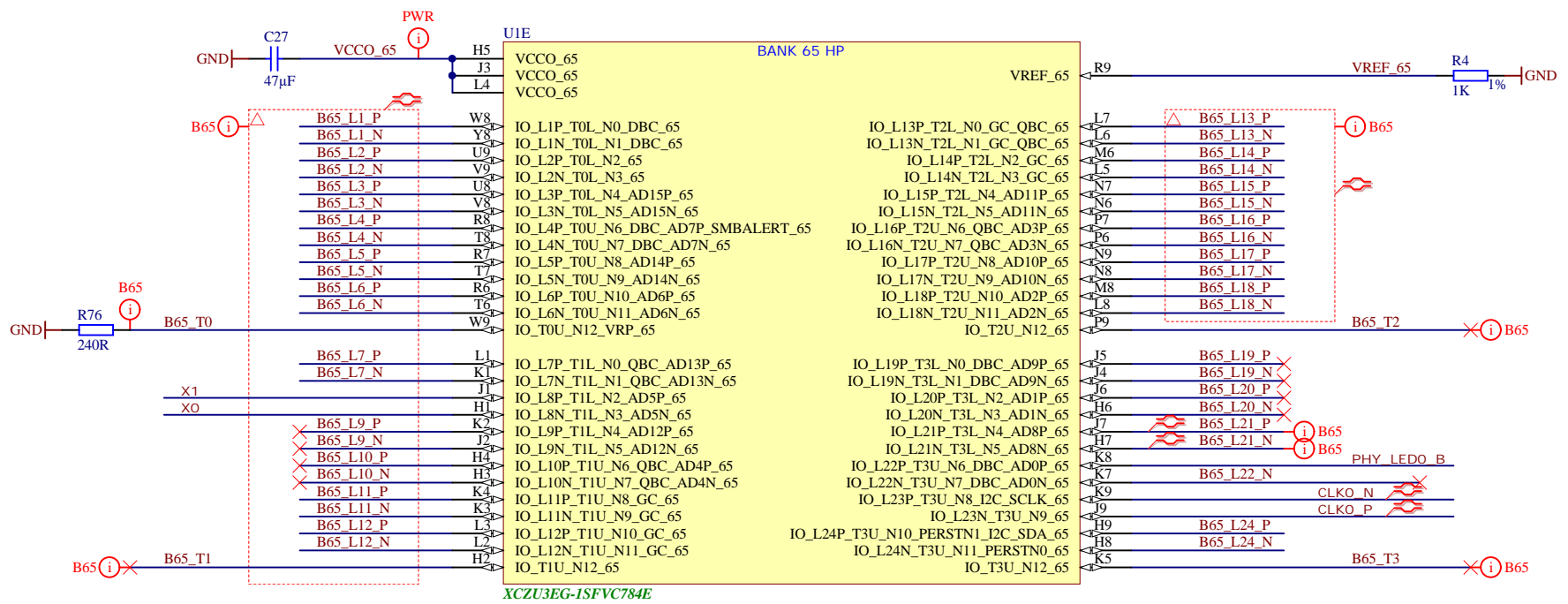
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| A4                          | Number: <b>TE0820<br/>3BE21FL</b>            | Rev. <b>03</b>             |
| Date: <b>2018-03-28</b>     | Copyright: <b>Trenz Electronic GmbH / TT</b> | Page <b>5</b> of <b>21</b> |
| Filename: <b>B64.SchDoc</b> |  |                            |

1

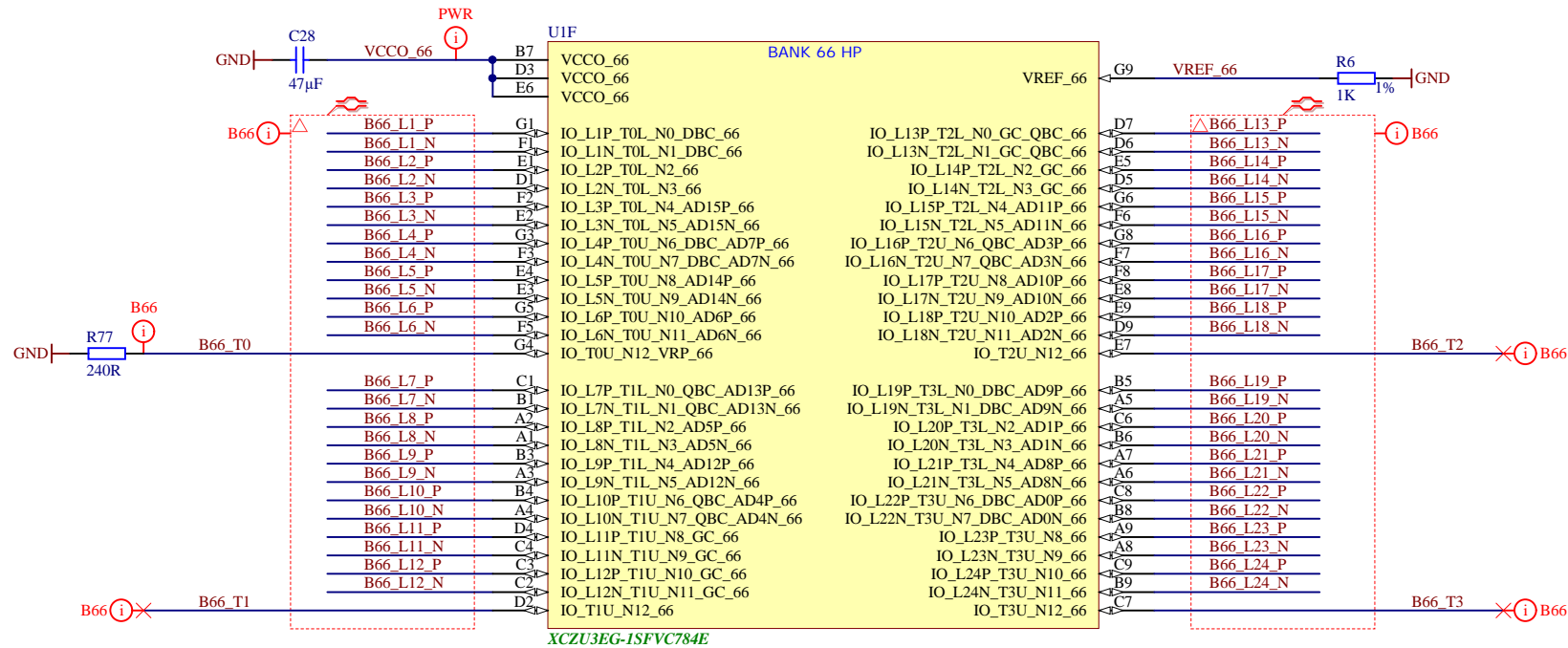
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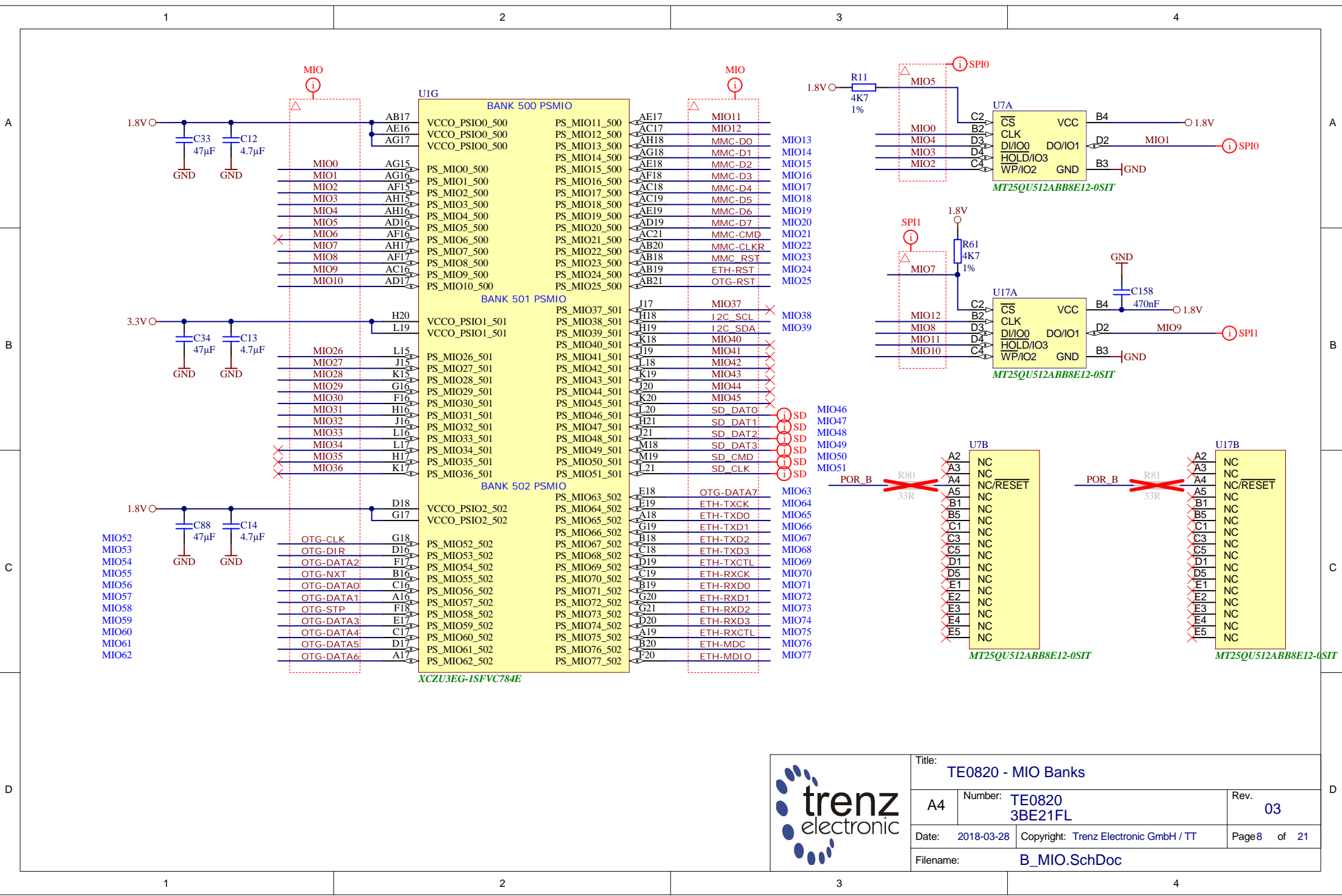
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|                      |                                       |              |
|----------------------|---------------------------------------|--------------|
| Title: TE0820 - B65  |                                       |              |
| A4                   | Number: TE0820<br>3BE21FL             | Rev. 03      |
| Date: 2018-03-28     | Copyright: Trenz Electronic GmbH / TT | Page 6 of 21 |
| Filename: B65.SchDoc |                                       |              |

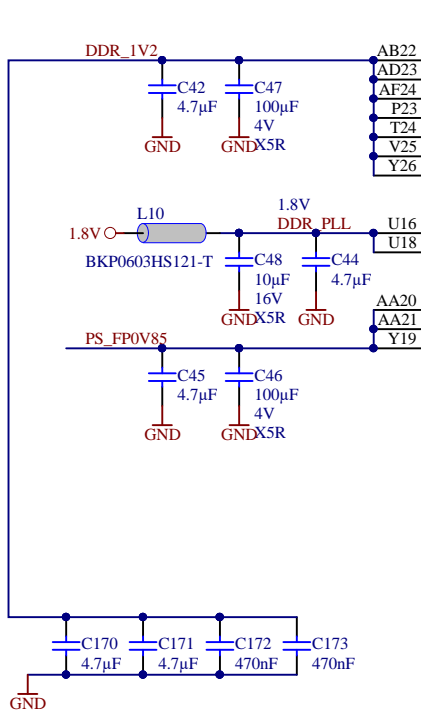


|                      |                                       |              |
|----------------------|---------------------------------------|--------------|
| Title: TE0820 - B66  |                                       |              |
| A4                   | Number: TE0820<br>3BE21FL             | Rev. 03      |
| Date: 2018-03-28     | Copyright: Trenz Electronic GmbH / TT | Page 7 of 21 |
| Filename: B66.SchDoc |                                       |              |



|   |  |                                       |                           |
|---|--|---------------------------------------|---------------------------|
|  |  | Title: TE0820 - MIO Banks             |                           |
|   |  | A4                                    | Number: TE0820<br>3BE21FL |
| Date: 2018-03-28  |  | Copyright: Trenz Electronic GmbH / TT |                           |
| Filename: B_MIO.SchDoc  |  | Page 8 of 21                          |                           |





**U11**

**BANK 504 PSDDR**

|                      |                      |      |             |
|----------------------|----------------------|------|-------------|
| VCCO_PSDDR_504       | PS_DDR_CK0_504       | W25  | DDR4-CLK0_P |
| VCCO_PSDDR_504       | PS_DDR_CK_N0_504     | W26  | DDR4-CLK0_N |
| VCCO_PSDDR_504       | PS_DDR_CKE0_504      | V28  | DDR4-CKE0   |
| VCCO_PSDDR_504       | PS_DDR_CK1_504       | Y24  |             |
| VCCO_PSDDR_504       | PS_DDR_CK_N1_504     | Y25  |             |
| VCCO_PSDDR_504       | PS_DDR_CKE1_504      | V27  |             |
| VCC_PSDDR_PLL        | PS_DDR_A0_504        | W28  | DDR4-A0     |
| VCC_PSDDR_PLL        | PS_DDR_A1_504        | Y28  | DDR4-A1     |
| VCC_PSDDR_PLL        | PS_DDR_A2_504        | AB28 | DDR4-A2     |
| VCC_PSINTFP_DDR      | PS_DDR_A3_504        | AA28 | DDR4-A3     |
| VCC_PSINTFP_DDR      | PS_DDR_A4_504        | Y27  | DDR4-A4     |
| VCC_PSINTFP_DDR      | PS_DDR_A5_504        | AA27 | DDR4-A5     |
| VCC_PSINTFP_DDR      | PS_DDR_A6_504        | Y22  | DDR4-A6     |
| VCC_PSINTFP_DDR      | PS_DDR_A7_504        | AA23 | DDR4-A7     |
| VCC_PSINTFP_DDR      | PS_DDR_A8_504        | AA22 | DDR4-A8     |
| PS_DDR_A9_504        | PS_DDR_A9_504        | AB23 | DDR4-A9     |
| PS_DDR_A10_504       | PS_DDR_A10_504       | AA25 | DDR4-A10    |
| PS_DDR_A11_504       | PS_DDR_A11_504       | AA26 | DDR4-A11    |
| PS_DDR_A12_504       | PS_DDR_A12_504       | AB25 | DDR4-A12    |
| PS_DDR_A13_504       | PS_DDR_A13_504       | AB26 | DDR4-A13    |
| PS_DDR_A14_504       | PS_DDR_A14_504       | AB24 | DDR4-A14    |
| PS_DDR_A15_504       | PS_DDR_A15_504       | AC24 | DDR4-A15    |
| PS_DDR_A16_504       | PS_DDR_A16_504       | AC23 | DDR4-A16    |
| PS_DDR_A17_504       | PS_DDR_A17_504       | AC22 | DDR4-A17    |
| PS_DDR_CS_N0_504     | PS_DDR_CS_N0_504     | W27  | DDR4-CS     |
| PS_DDR_CS_N1_504     | PS_DDR_CS_N1_504     | V26  |             |
| PS_DDR_BA0_504       | PS_DDR_BA0_504       | V23  | DDR4-BA0    |
| PS_DDR_BA1_504       | PS_DDR_BA1_504       | W22  | DDR4-BA1    |
| PS_DDR_BG0_504       | PS_DDR_BG0_504       | W24  | DDR4-BG0    |
| PS_DDR_BG1_504       | PS_DDR_BG1_504       | V22  |             |
| PS_DDR_PARITY_504    | PS_DDR_PARITY_504    | V24  | DDR4-PAR    |
| PS_DDR_RAM_RST_N_504 | PS_DDR_RAM_RST_N_504 | U23  | DDR4-RESET  |
| PS_DDR_ACT_N_504     | PS_DDR_ACT_N_504     | Y23  | DDR4-ACT    |
| PS_DDR_ALERT_N_504   | PS_DDR_ALERT_N_504   | U25  | DDR4-ALERT  |
| PS_DDR_ZQ_504        | PS_DDR_ZQ_504        | U24  |             |
| PS_DDR_ODT0_504      | PS_DDR_ODT0_504      | U28  | DDR4-ODT0   |
| PS_DDR_ODT1_504      | PS_DDR_ODT1_504      | U26  |             |

XCZU3EG-1SFVC784E

**U1J**

**BANK 504 PSDDR**

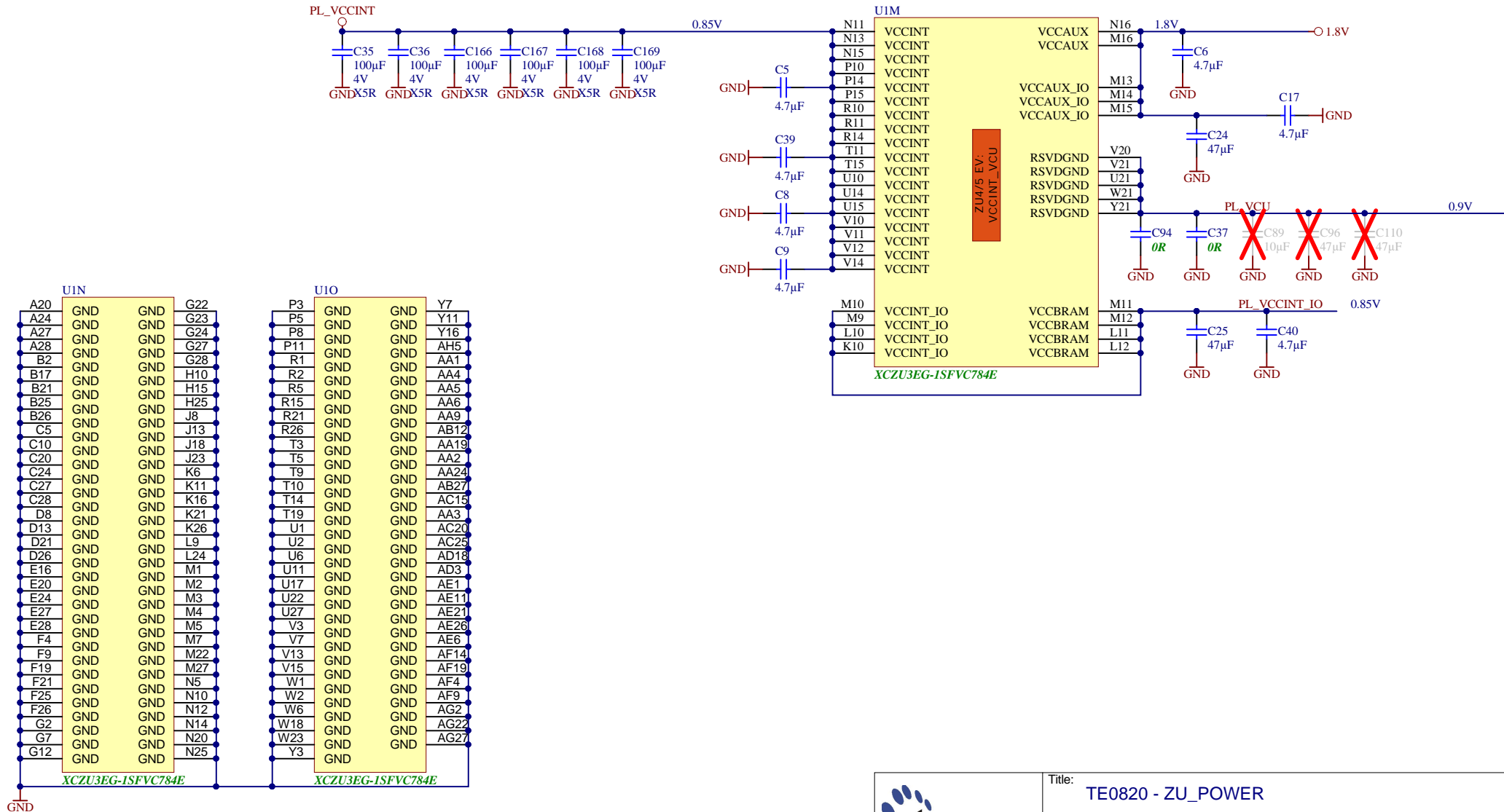
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|-------------------|------|-------------------|-----------------|------|
| DQ0               | AD21 | PS_DDR_DQ0_504    | PS_DDR_DQ32_504 | T22  |
| DQ1               | AE20 | PS_DDR_DQ1_504    | PS_DDR_DQ33_504 | R22  |
| DQ2               | AD20 | PS_DDR_DQ2_504    | PS_DDR_DQ34_504 | P22  |
| DQ3               | AF20 | PS_DDR_DQ3_504    | PS_DDR_DQ35_504 | N22  |
| DQ4               | AH21 | PS_DDR_DQ4_504    | PS_DDR_DQ36_504 | T23  |
| DQ5               | AH20 | PS_DDR_DQ5_504    | PS_DDR_DQ37_504 | P24  |
| DQ6               | AH19 | PS_DDR_DQ6_504    | PS_DDR_DQ38_504 | R24  |
| DQ7               | AG19 | PS_DDR_DQ7_504    | PS_DDR_DQ39_504 | N24  |
| DQ8               | AF22 | PS_DDR_DQ8_504    | PS_DDR_DQ40_504 | H24  |
| DQ9               | AH22 | PS_DDR_DQ9_504    | PS_DDR_DQ41_504 | J24  |
| DQ10              | AE22 | PS_DDR_DQ10_504   | PS_DDR_DQ42_504 | M24  |
| DQ11              | AD22 | PS_DDR_DQ11_504   | PS_DDR_DQ43_504 | K24  |
| DQ12              | AH23 | PS_DDR_DQ12_504   | PS_DDR_DQ44_504 | J22  |
| DQ13              | AH24 | PS_DDR_DQ13_504   | PS_DDR_DQ45_504 | H22  |
| DQ14              | AE24 | PS_DDR_DQ14_504   | PS_DDR_DQ46_504 | K22  |
| DQ15              | AG24 | PS_DDR_DQ15_504   | PS_DDR_DQ47_504 | L22  |
| DQ16              | AC26 | PS_DDR_DQ16_504   | PS_DDR_DQ48_504 | M25  |
| DQ17              | AD26 | PS_DDR_DQ17_504   | PS_DDR_DQ49_504 | M26  |
| DQ18              | AD25 | PS_DDR_DQ18_504   | PS_DDR_DQ50_504 | L25  |
| DQ19              | AD24 | PS_DDR_DQ19_504   | PS_DDR_DQ51_504 | L26  |
| DQ20              | AG26 | PS_DDR_DQ20_504   | PS_DDR_DQ52_504 | K28  |
| DQ21              | AH25 | PS_DDR_DQ21_504   | PS_DDR_DQ53_504 | L28  |
| DQ22              | AH26 | PS_DDR_DQ22_504   | PS_DDR_DQ54_504 | M28  |
| DQ23              | AG25 | PS_DDR_DQ23_504   | PS_DDR_DQ55_504 | N28  |
| DQ24              | AH27 | PS_DDR_DQ24_504   | PS_DDR_DQ56_504 | J28  |
| DQ25              | AH28 | PS_DDR_DQ25_504   | PS_DDR_DQ57_504 | K27  |
| DQ26              | AF28 | PS_DDR_DQ26_504   | PS_DDR_DQ58_504 | H28  |
| DQ27              | AG28 | PS_DDR_DQ27_504   | PS_DDR_DQ59_504 | H27  |
| DQ28              | AC27 | PS_DDR_DQ28_504   | PS_DDR_DQ60_504 | G26  |
| DQ29              | AD27 | PS_DDR_DQ29_504   | PS_DDR_DQ61_504 | G25  |
| DQ30              | AD28 | PS_DDR_DQ30_504   | PS_DDR_DQ62_504 | K25  |
| DQ31              | AC28 | PS_DDR_DQ31_504   | PS_DDR_DQ63_504 | J25  |
| DDR4-DQS0_P       | AF21 | PS_DDR_DQS_P0_504 | PS_DDR_DQ64_504 | T28  |
| DDR4-DQS0_N       | AG21 | PS_DDR_DQS_N0_504 | PS_DDR_DQ65_504 | R28  |
| DDR4-DQS1_P       | AF23 | PS_DDR_DQS_P1_504 | PS_DDR_DQ66_504 | P28  |
| DDR4-DQS1_N       | AG23 | PS_DDR_DQS_N1_504 | PS_DDR_DQ67_504 | P27  |
| DDR4-DQS2_P       | AF25 | PS_DDR_DQS_P2_504 | PS_DDR_DQ68_504 | P26  |
| DDR4-DQS2_N       | AF26 | PS_DDR_DQS_N2_504 | PS_DDR_DQ69_504 | R25  |
| DDR4-DQS3_P       | AE27 | PS_DDR_DQS_P3_504 | PS_DDR_DQ70_504 | P25  |
| DDR4-DQS3_N       | AE27 | PS_DDR_DQS_N3_504 | PS_DDR_DQ71_504 | T25  |
| PS_DDR_DQS_P4_504 | N23  | PS_DDR_DQS_P4_504 | PS_DDR_DM0_504  | AG20 |
| PS_DDR_DQS_N4_504 | M23  | PS_DDR_DQS_N4_504 | PS_DDR_DM1_504  | AE23 |
| PS_DDR_DQS_P5_504 | L23  | PS_DDR_DQS_P5_504 | PS_DDR_DM2_504  | AE25 |
| PS_DDR_DQS_N5_504 | K23  | PS_DDR_DQS_N5_504 | PS_DDR_DM3_504  | AE28 |
| PS_DDR_DQS_P6_504 | N26  | PS_DDR_DQS_P6_504 | PS_DDR_DM4_504  | R23  |
| PS_DDR_DQS_N6_504 | N27  | PS_DDR_DQS_N6_504 | PS_DDR_DM5_504  | H23  |
| PS_DDR_DQS_P7_504 | J26  | PS_DDR_DQS_P7_504 | PS_DDR_DM6_504  | L27  |
| PS_DDR_DQS_N7_504 | J27  | PS_DDR_DQS_N7_504 | PS_DDR_DM7_504  | H26  |
| PS_DDR_DQS_P8_504 | R27  | PS_DDR_DQS_P8_504 | PS_DDR_DM8_504  | T26  |
| PS_DDR_DQS_N8_504 | T27  | PS_DDR_DQS_N8_504 |                 |      |

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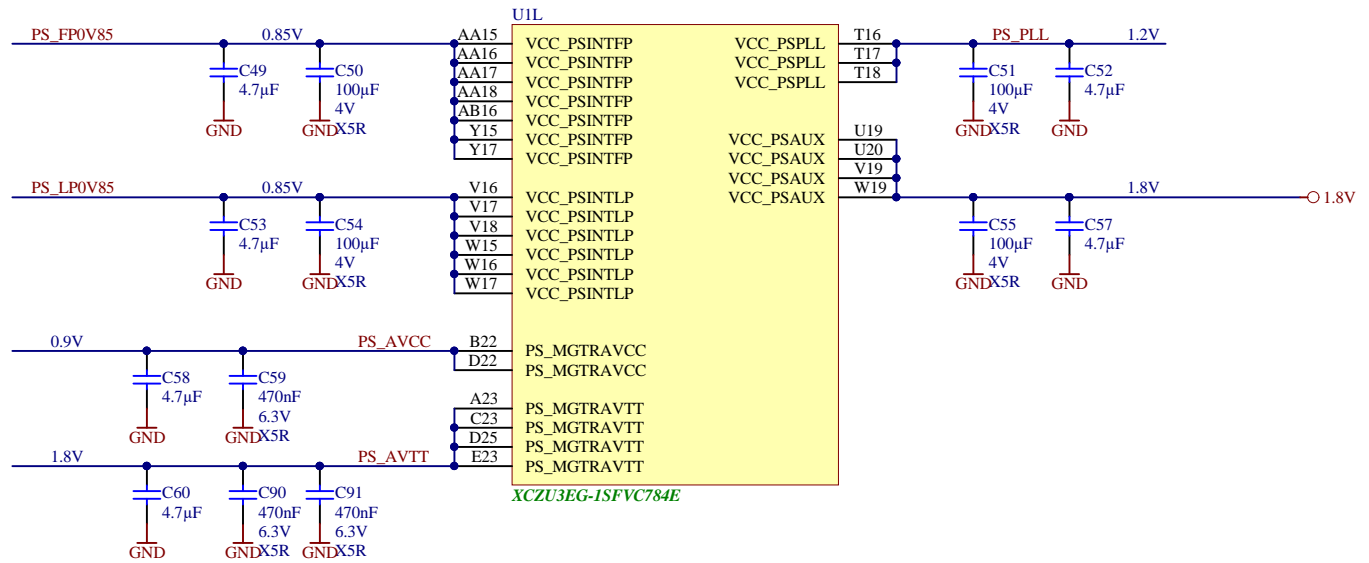



|                                |  |                            |
|--------------------------------|--|----------------------------|
| Title: <b>TE0820 - PS_DDR</b>  |  |                            |
| A4                             | Number: <b>TE0820<br/>3BE21FL</b>            | Rev. <b>03</b>             |
| Date: <b>2018-03-28</b>        | Copyright: <b>Trenz Electronic GmbH / TT</b> | Page <b>9</b> of <b>21</b> |
| Filename: <b>PS_DDR.SchDoc</b> |  |                            |

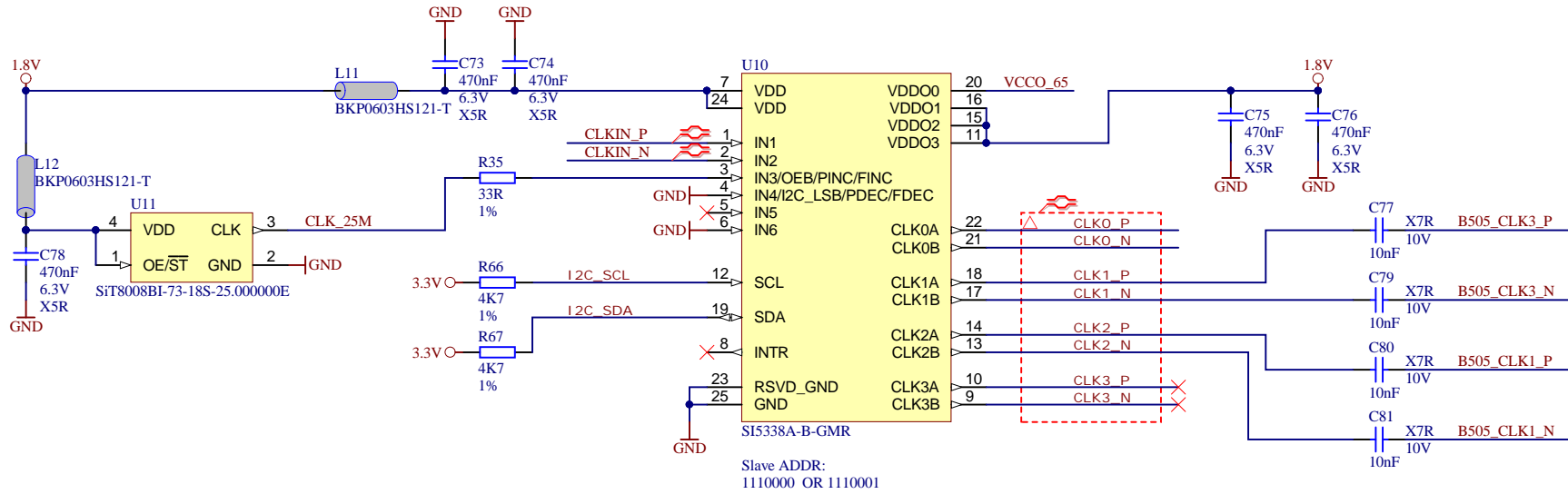





|  |                                  |  |                             |
|--|----------------------------------|--|-----------------------------|
|  | Title: <b>TE0820 - ZU_POWER</b>  |  |                             |
|  | A4                               | Number: <b>TE0820<br/>3BE21FL</b>            | Rev. <b>03</b>              |
|  | Date: <b>2018-03-28</b>          | Copyright: <b>Trenz Electronic GmbH / TT</b> |                             |
|  | Filename: <b>ZU_POWER.SchDoc</b> |  | Page <b>11</b> of <b>21</b> |

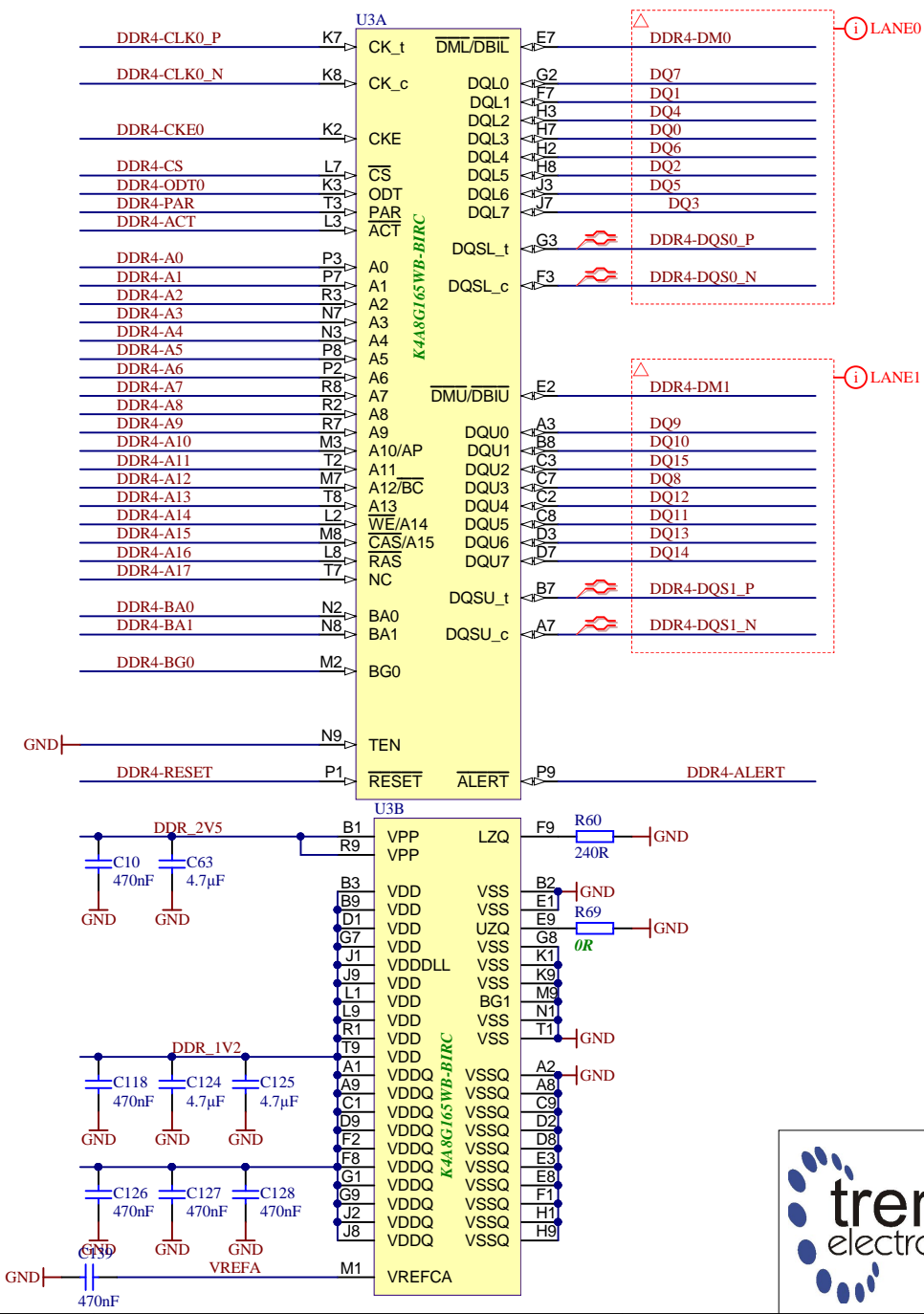



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|  |  | Title: TE0820 - ZU_PS_POWER           |                           |
|   |  | A4                                    | Number: TE0820<br>3BE21FL |
| Date: 2018-03-28  |  | Copyright: Trenz Electronic GmbH / TT |                           |
| Filename: ZU_PS_POWER.SchDoc  |  | Page 12 of 21                         |                           |

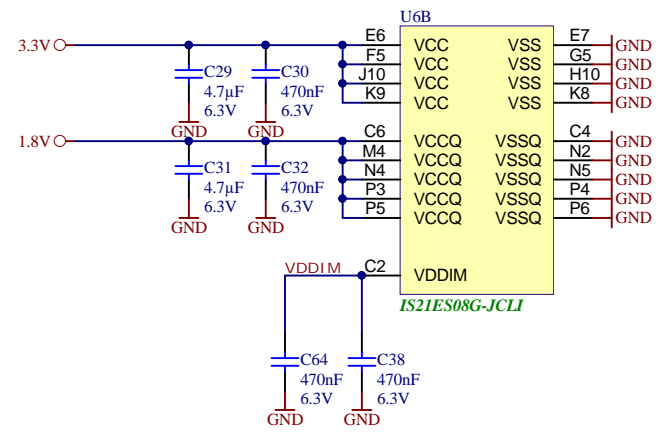
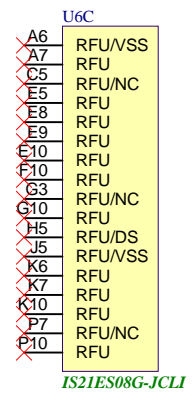
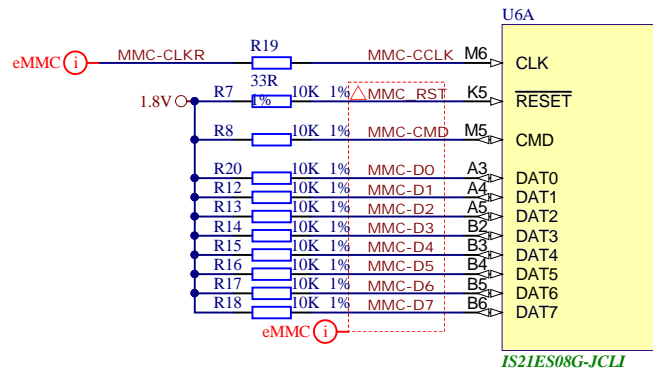
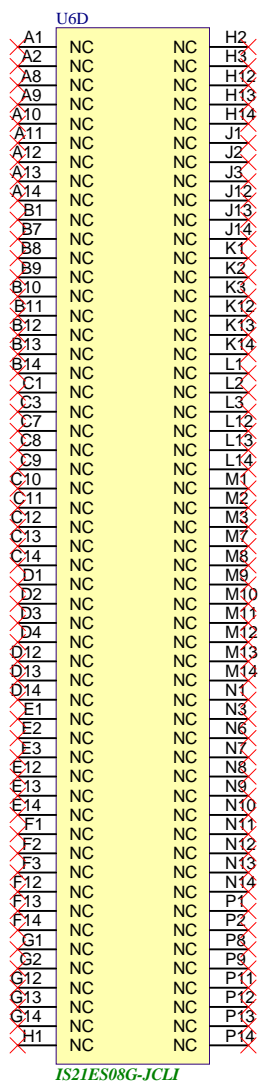


|   |  |                                       |                           |
|---|--|---------------------------------------|---------------------------|
|  |  | Title: TE0820 - CLK                   |                           |
|   |  | A4                                    | Number: TE0820<br>3BE21FL |
| Date: 2018-03-28  |  | Copyright: 2015 Trenz Electronic GmbH |                           |
| Filename: CLK.SchDoc  |  | Page 13 of 21                         |                           |



|                             |                                       |               |
|-----------------------------|---------------------------------------|---------------|
| Title: TE0820 - DDR4_2_RAM  |                                       |               |
| A4                          | Number: TE0820<br>3BE21FL             | Rev. 03       |
| Date: 2018-03-28            | Copyright: Trenz Electronic GmbH / TT | Page 15 of 21 |
| Filename: DDR4-RAM_2.SchDoc |                                       |               |

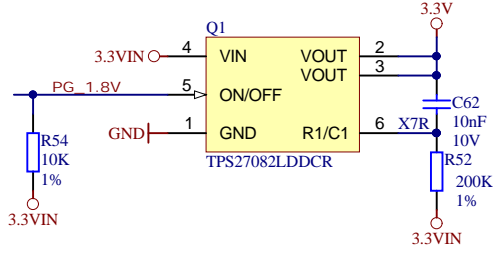
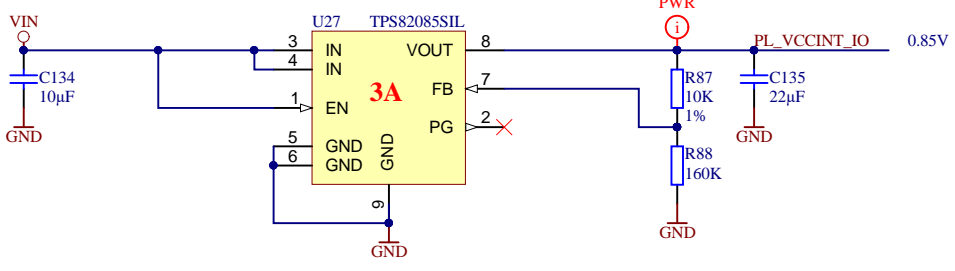
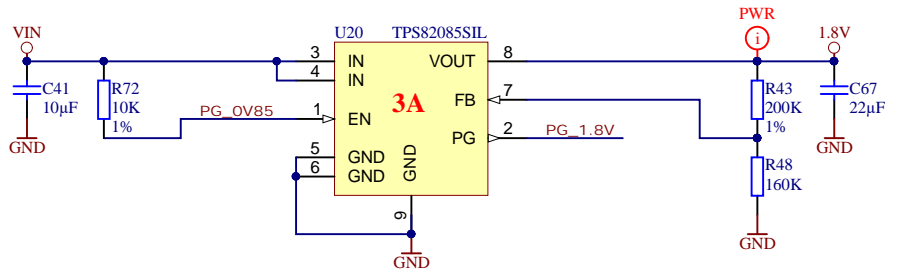
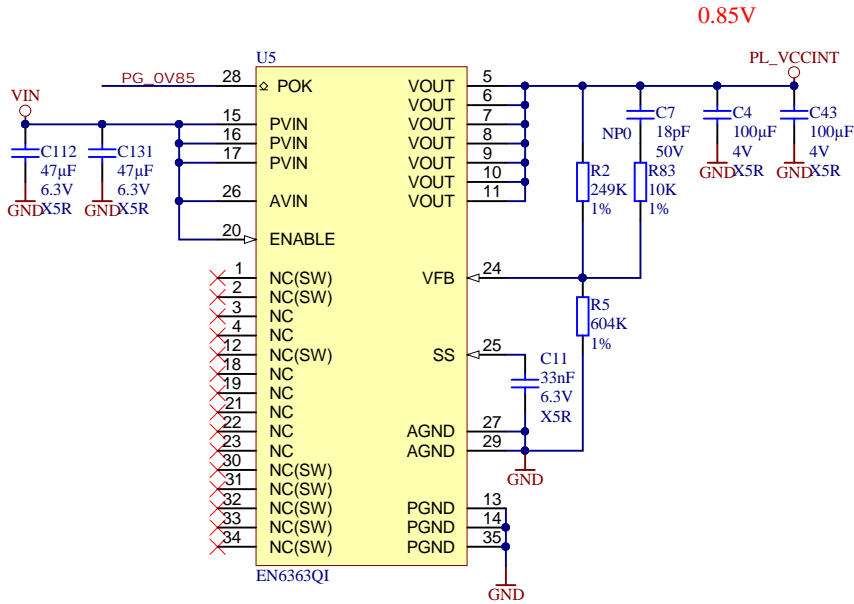


|                       |                                       |               |
|-----------------------|---------------------------------------|---------------|
| Title: TE0820 - eMMC  |                                       |               |
| A4                    | Number: TE0820<br>3BE21FL             | Rev. 03       |
| Date: 2018-03-28      | Copyright: Trenz Electronic GmbH / TT | Page 16 of 21 |
| Filename: eMMC.SchDoc |                                       |               |

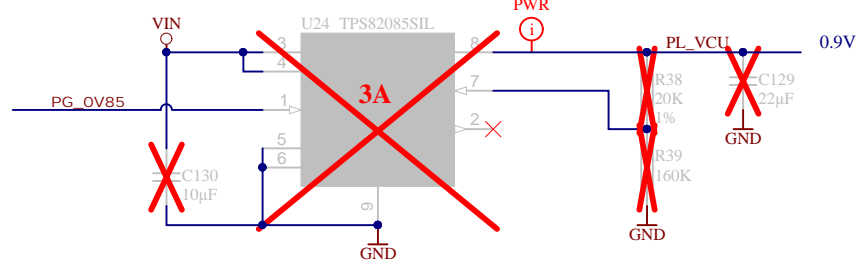




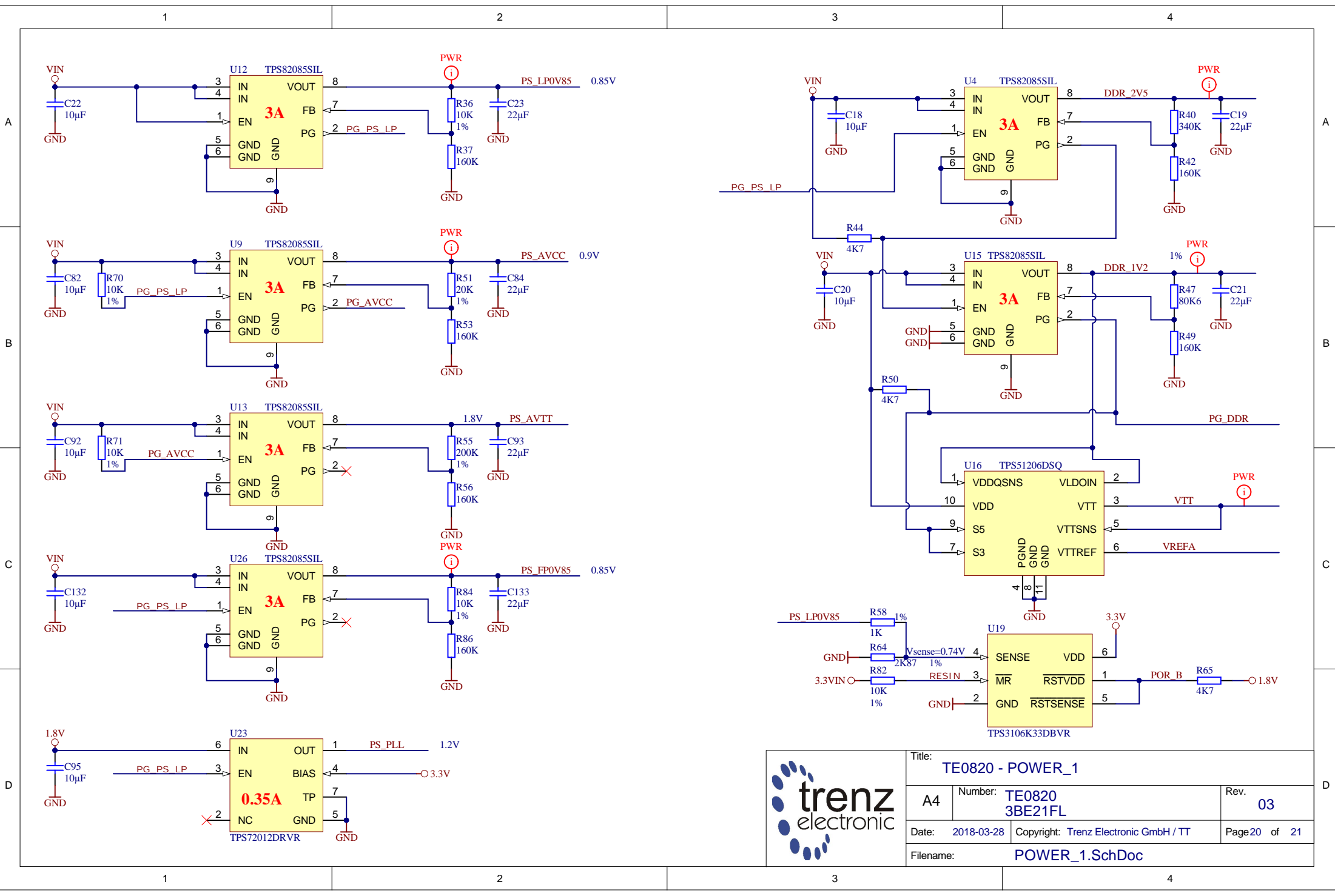





NOTE: in variants with VCU R38 was 40.2K, this has been corrected to 20K (Xilinx documentation DS925) for further details just see Design Note Number: DN-20200904  
<https://wiki.trenz-electronic.de/display/PD/Design+Note+TE0820-03+with+Video+Codec+++EV>



|                        |                                       |               |
|------------------------|---------------------------------------|---------------|
| Title: TE0820 - POWER  |                                       |               |
| A4                     | Number: TE0820<br>3BE21FL             | Rev. 03       |
| Date: 2018-03-28       | Copyright: Trenz Electronic GmbH / TT | Page 19 of 21 |
| Filename: POWER.SchDoc |                                       |               |



|   |  |                                       |                         |                           |
|---|--|---------------------------------------|-------------------------|---------------------------|
|  |  |                                       | Title: TE0820 - POWER_1 |                           |
|   |  |                                       | A4                      | Number: TE0820<br>3BE21FL |
| Date: 2018-03-28  |  | Copyright: Trenz Electronic GmbH / TT |                         | Page 20 of 21             |
| Filename: POWER_1.SchDoc  |  |                                       |                         |                           |


CHANGES REV01 to REV02

- 1) Added MAC EEPROM (slave address:)
- 2) LIB components update
- 3) Fixed SD Card connection
- 4) Fixed sense connection from DCDC
- 5) Made correct power connection for VCU (removed DCDC, added resistors and caps like as Xilinx recommended)
- 6) Added resistors for variants (ZU+ with/without VCU)
- 7) Added termination resistors (240R) to VRP pins fro all HP-banks

CHANGES REV02 to REV03

- 1) Fixed VCU connection: add additional DCDC (0.9V)
- 2) LIB components update
- 3) Change package 1K resistors (0402 -> 0201)
- 4) Added LEDs (1x user LED, 1x LED for ERR\_STATUS, 1xLED for ERR\_OUT)
- 5) Change obsolete 2xSPI Flash (256MBit) -> 2xSPI Flash (512MBit)
- 6) Added additional DCDCs (PL\_VCCINT\_IO, PS\_FP0V85)
- 7) Changed DCDC (U5) 6A (optional 4A)

Design Note Number: DN-20200904 (<https://wiki.trenz-electronic.de/display/PD/Design+Note+TE0820-03+with+Video+Codec+++EV>)  
 The internal supply voltage for the video codec unit (VCU) is set via Resistors R38 and R39. For the above mentioned affected SoMs R38 is set to 40.2 kOhm resulting in a PL\_VCU voltage of 1.0V. This is above the recommended operation specification.  
 Up to the issue date of this design note no adverse effects have been reported. For all serial numbers not mentioned under affected products R38 is 20 kOhm resulting in xilinx recommended 0.9V internal VCU voltage.  
 If your product is affected and revision is required please contact sales@trenz-electronic.de (subject = DN-20200904) for further instructions.

|   |  |  |                             |
|---|--|--|-----------------------------|
|  | Title: <b>TE0820 - Revision Changes</b>  |  |                             |
|   | A4                                       | Number: <b>TE0820<br/>3BE21FL</b>            | Rev. <b>03</b>              |
|   | Date: <b>2018-03-28</b>                  | Copyright: <b>Trenz Electronic GmbH / TT</b> | Page <b>21</b> of <b>21</b> |
|   | Filename: <b>Revision Changes.SchDoc</b> |  |                             |