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

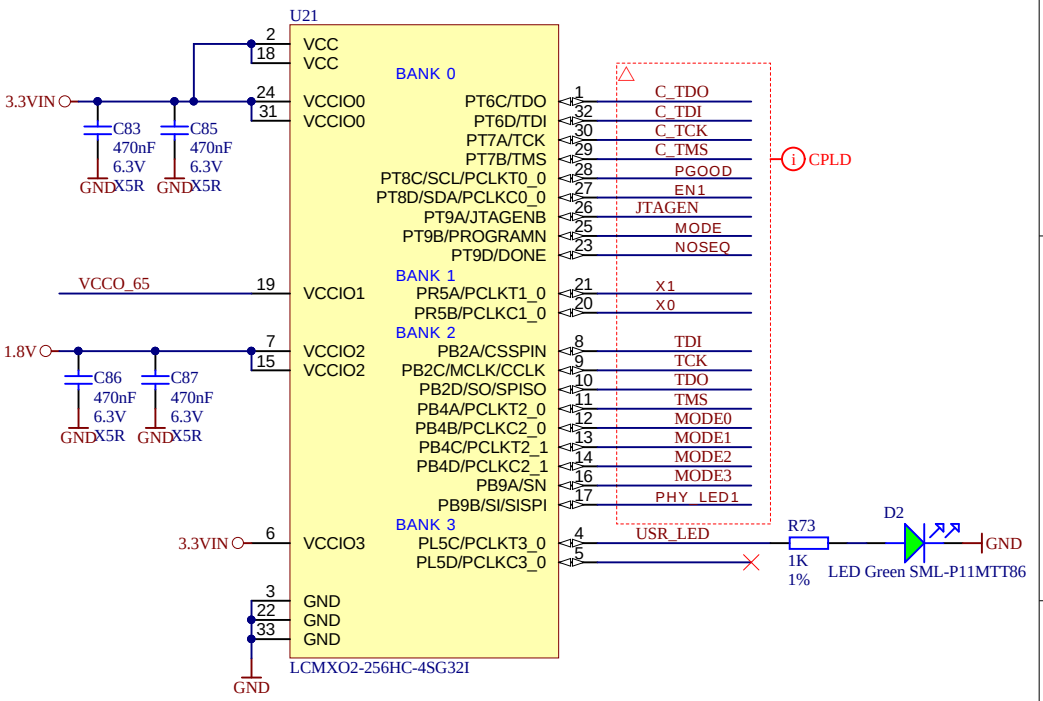
U_DDR4-RAM
DDR4-RAM.SchDoc

U_POWER
POWER.SchDoc

U_POWER_1
POWER_1.SchDoc

Serial
Serial
Serialnumber 6,3 x 6.3mm

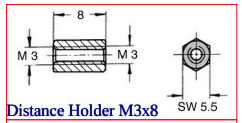
S/N
GND 1 0R 2 GND
Serialnumber



PM1 FIDU-DOT - mini
PM2 FIDU-DOT - mini
PM3 FIDU-DOT - mini
PM4 FIDU-DOT - mini
PM5 FIDU-DOT - mini
PM6 FIDU-DOT - mini

Mount.Hole 3.2mm Mount.Hole 3.2mm GND GND
Mount.Hole 3.2mm Mount.Hole 3.2mm GND GND

Screw M3x4
Screw M3x4
Screw M3x4
Screw M3x4



Distance Holder M3x8
Distance Holder M3x8
Distance Holder M3x8
Distance Holder M3x8

Screw M3x6
Screw M3x6
Screw M3x6
Screw M3x6

Assembly variant	03CG-1EA
Created by	VariantCreatedBy
Modified by	VariantModifiedBy
Modified at	VariantDateModification
SVN Revision	8646

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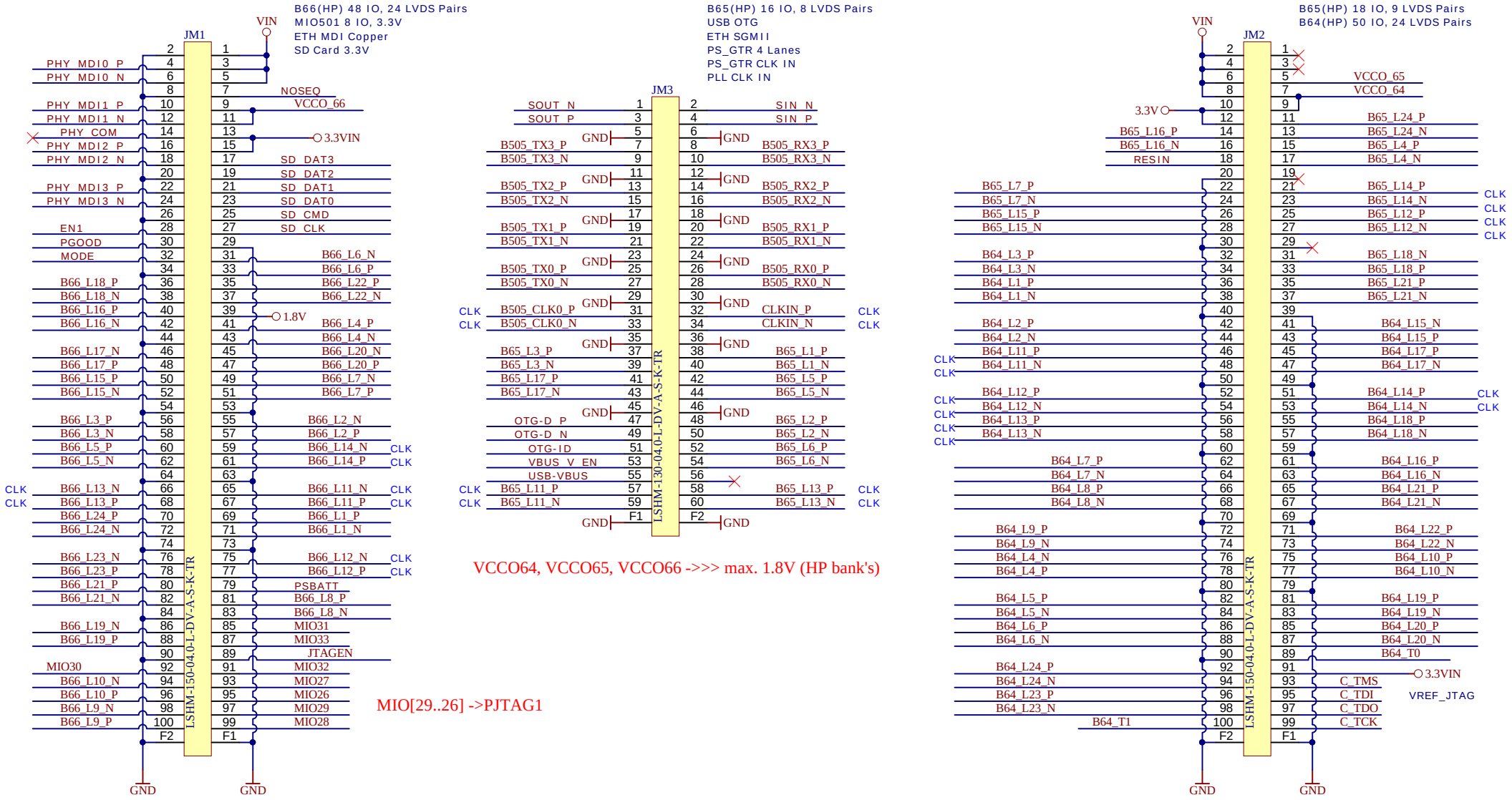
Title: TE0820		
A4	Number: TE0820 03CG-1EA	Rev. 03
Date: 2018-03-28	Copyright: 2015 Trenz Electronic GmbH	Page 1 of 21
Filename: TE0820.SchDoc		



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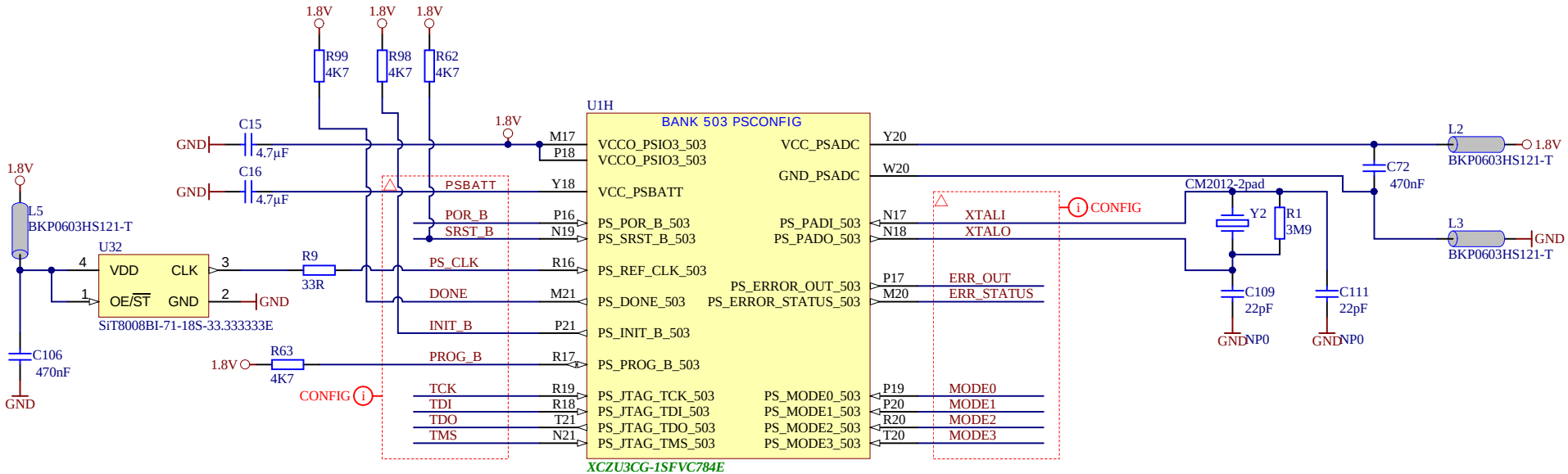
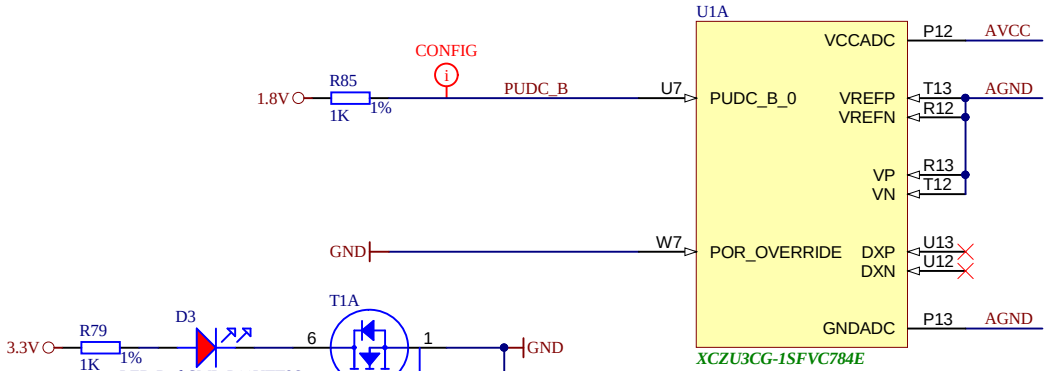
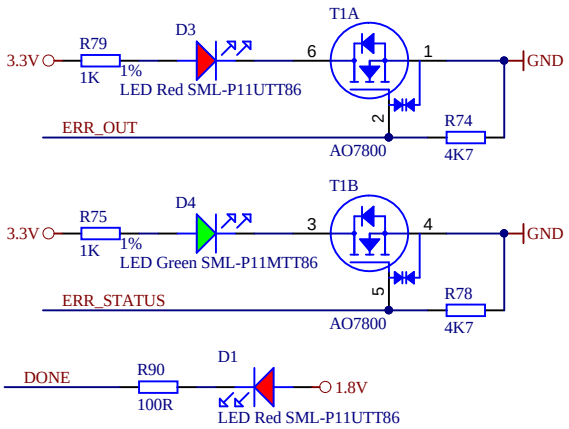
A4	Number: TE0820 03CG-1EA	Rev. 03
Date: 2018-03-28	Copyright: 2015 Trenz Electronic GmbH	Page 2 of 21
Filename:	B2B-Connectors.SchDoc	







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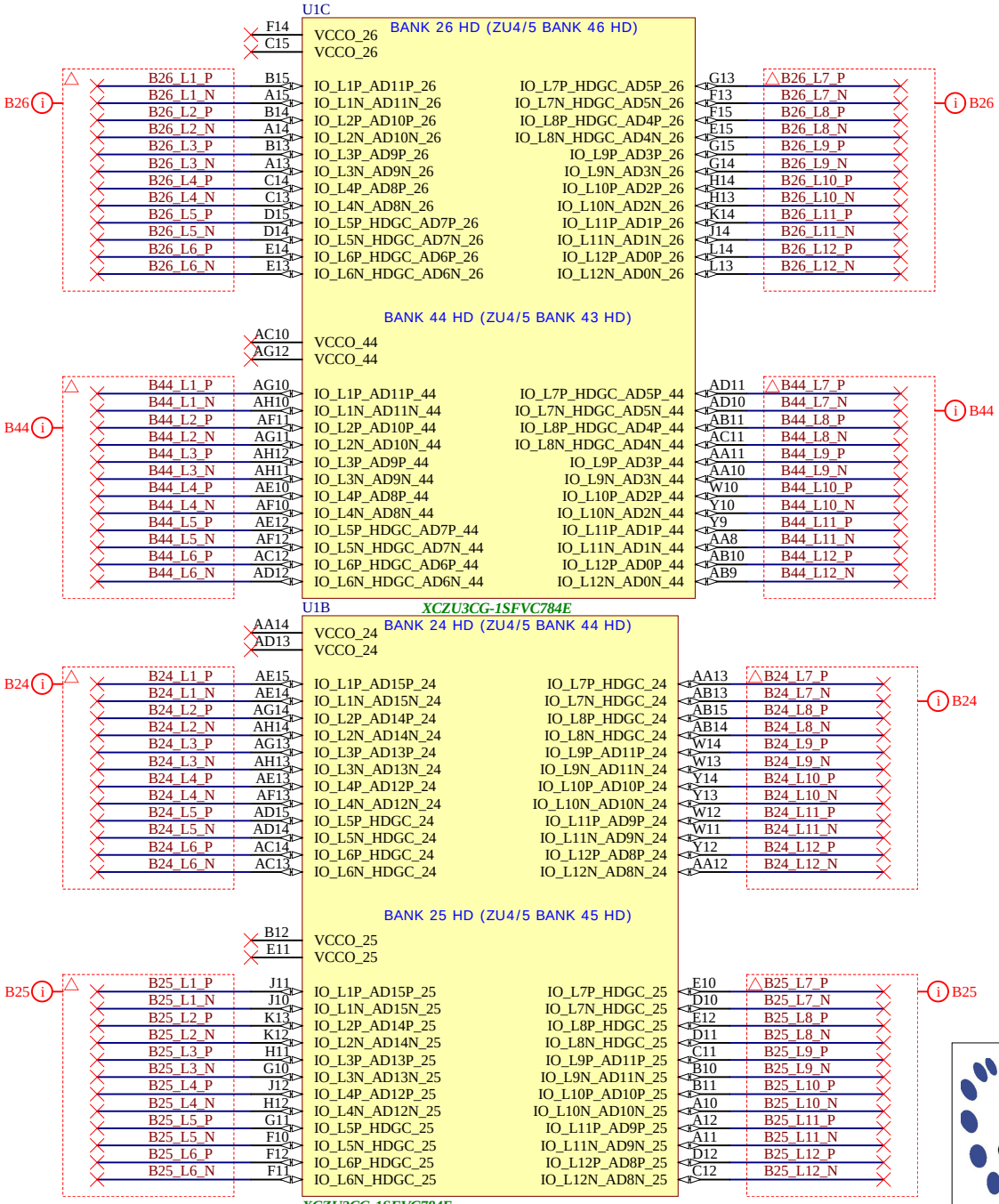
Title: TE0820 - Config			
A4	Number: TE0820 03CG-1EA		Rev. 03
Date: 2018-03-28	Copyright: Trenz Electronic GmbH / TT		Page 3 of 21
Filename: CONFIG.SchDoc			



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Title: TE0820 - HD Banks			
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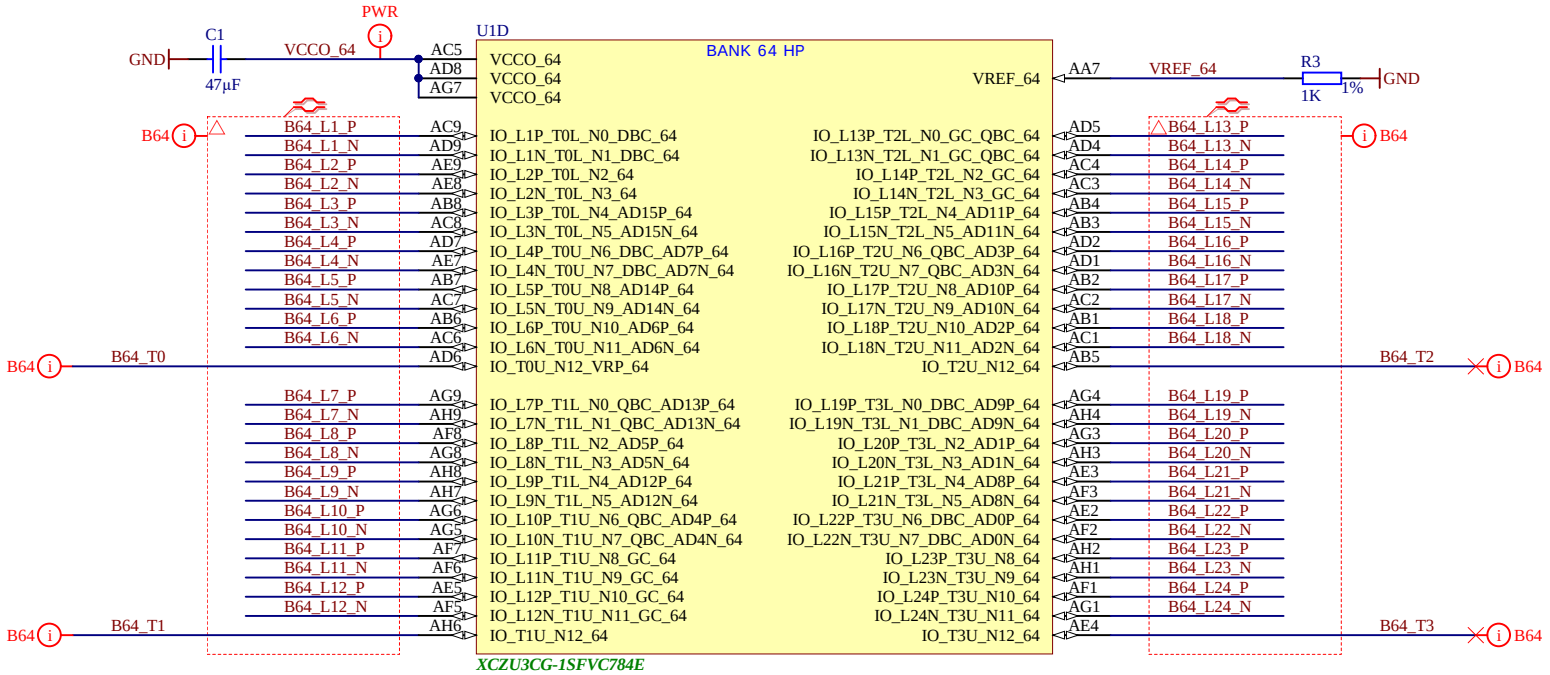
Date: 2018-03-28	Copyright: Trenz Electronic GmbH / TT		Page 4 of 21
Filename: B_HD.SchDoc			



trenz electronic	Title: TE0820 - B64		
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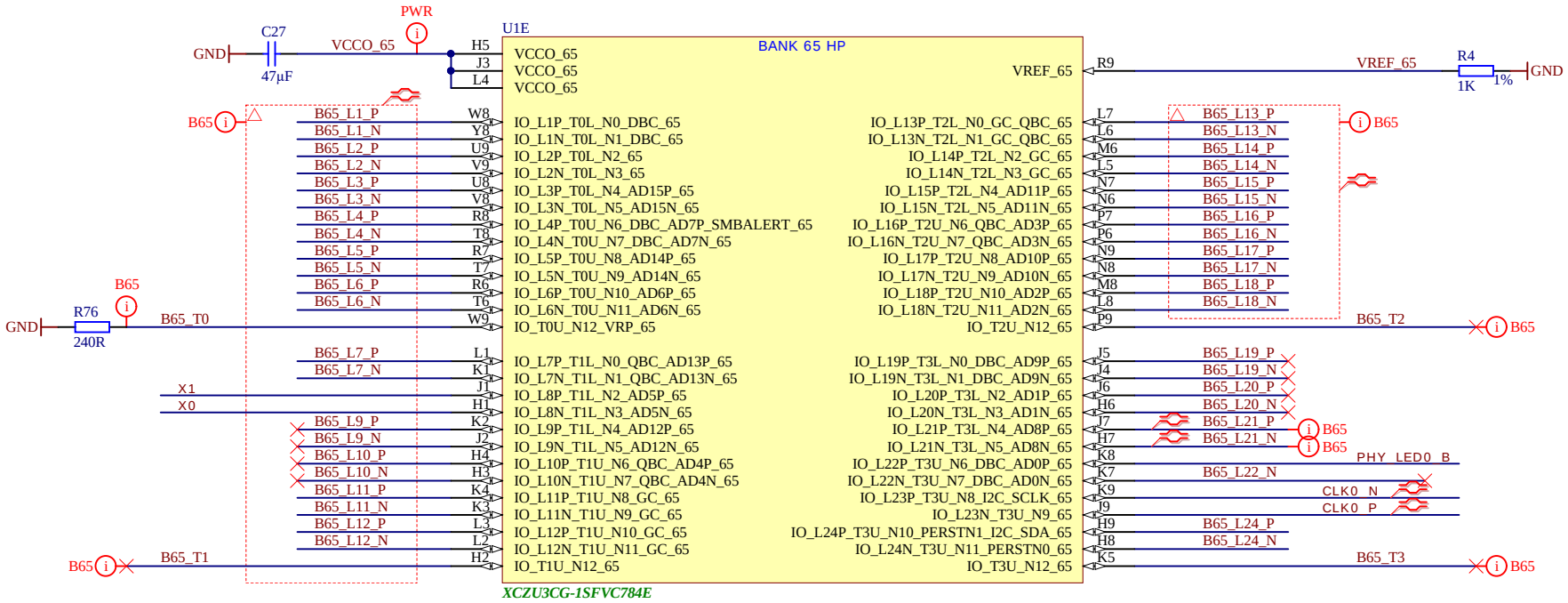
Date: 2018-03-28	Copyright: Trenz Electronic GmbH / TT		Page 5 of 21
Filename: B64.SchDoc			



trenz electronic	Title: TE0820 - B65		
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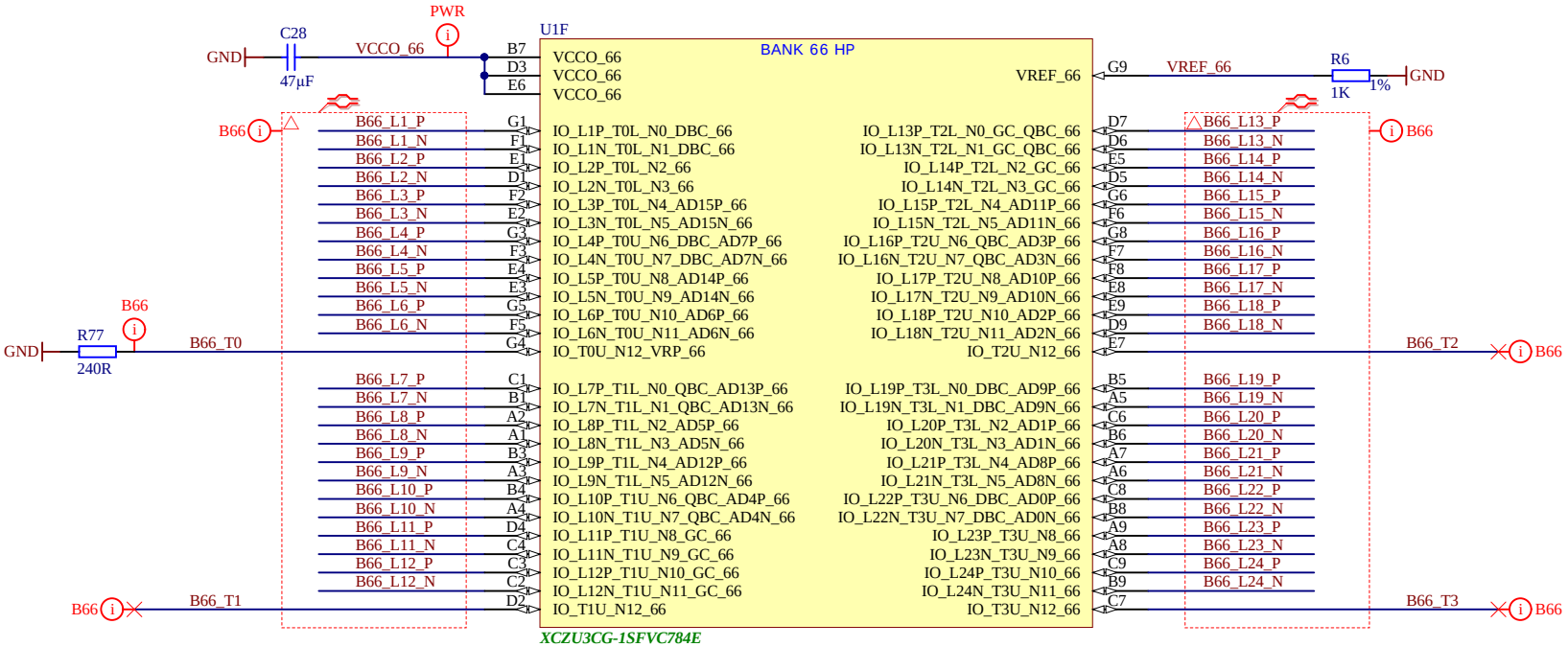
	Date: 2018-03-28	Copyright: Trenz Electronic GmbH / TT	Page 6 of 21
	Filename: B65.SchDoc		



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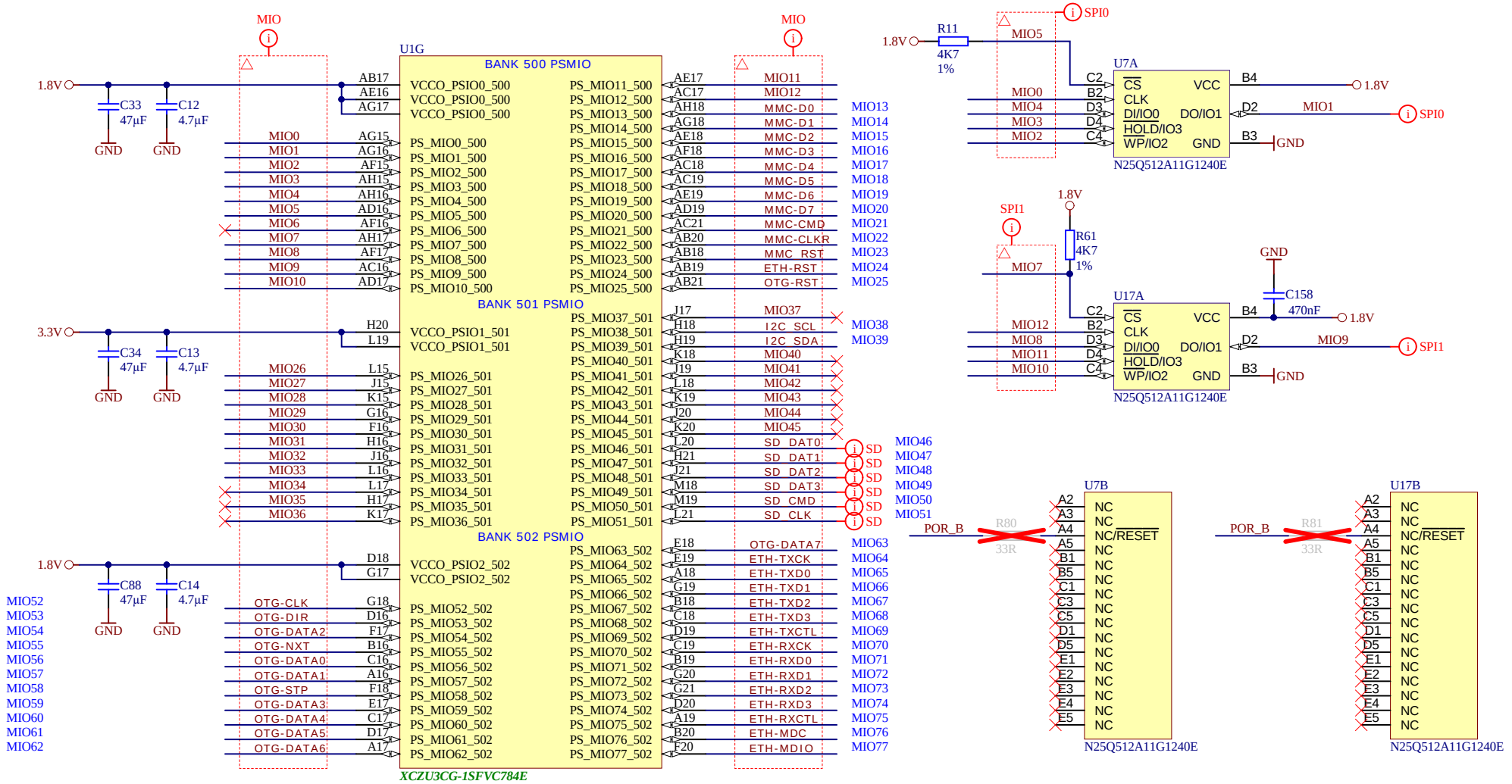
Date: 2018-03-28	Copyright: Trenz Electronic GmbH / TT		Page 7 of 21
Filename: B66.SchDoc			



Title: TE0820 - MIO Banks			
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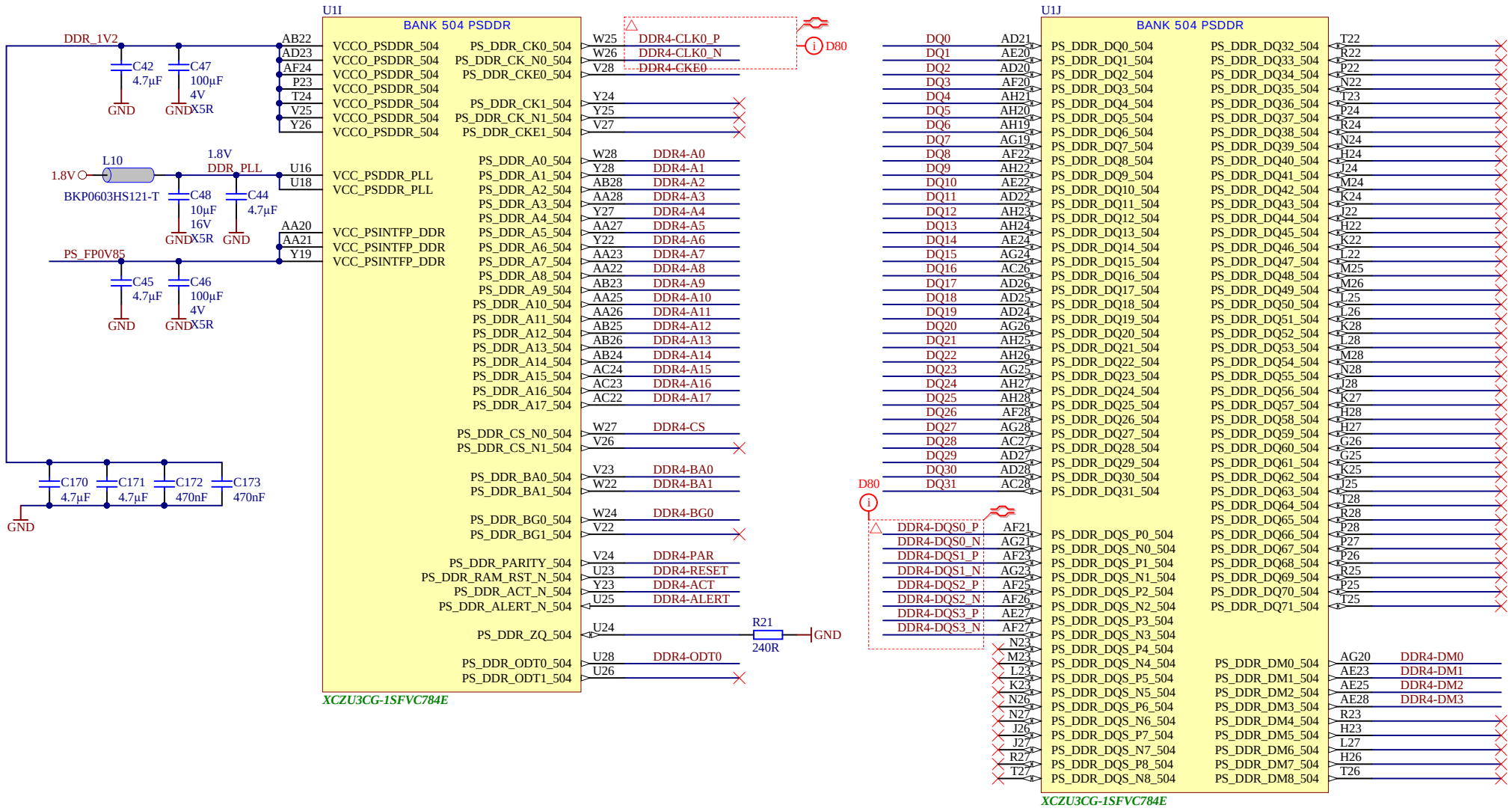
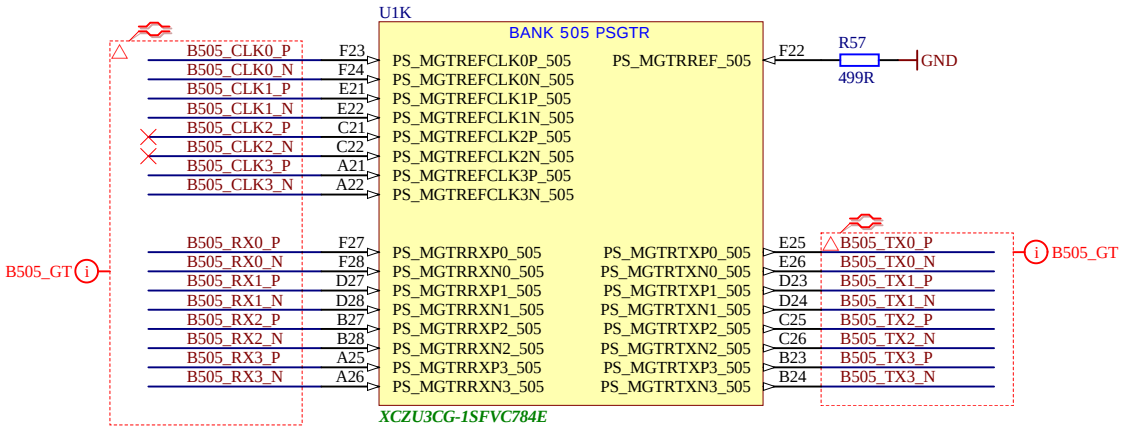
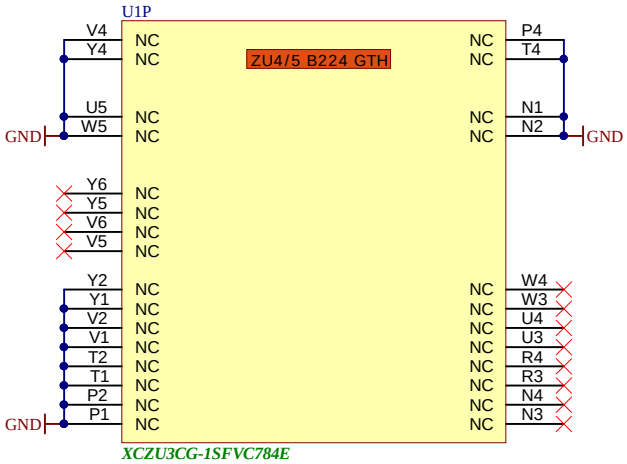
Date: 2018-03-28	Copyright: Trenz Electronic GmbH / TT		Page 8 of 21
Filename: B_MIO.SchDoc			

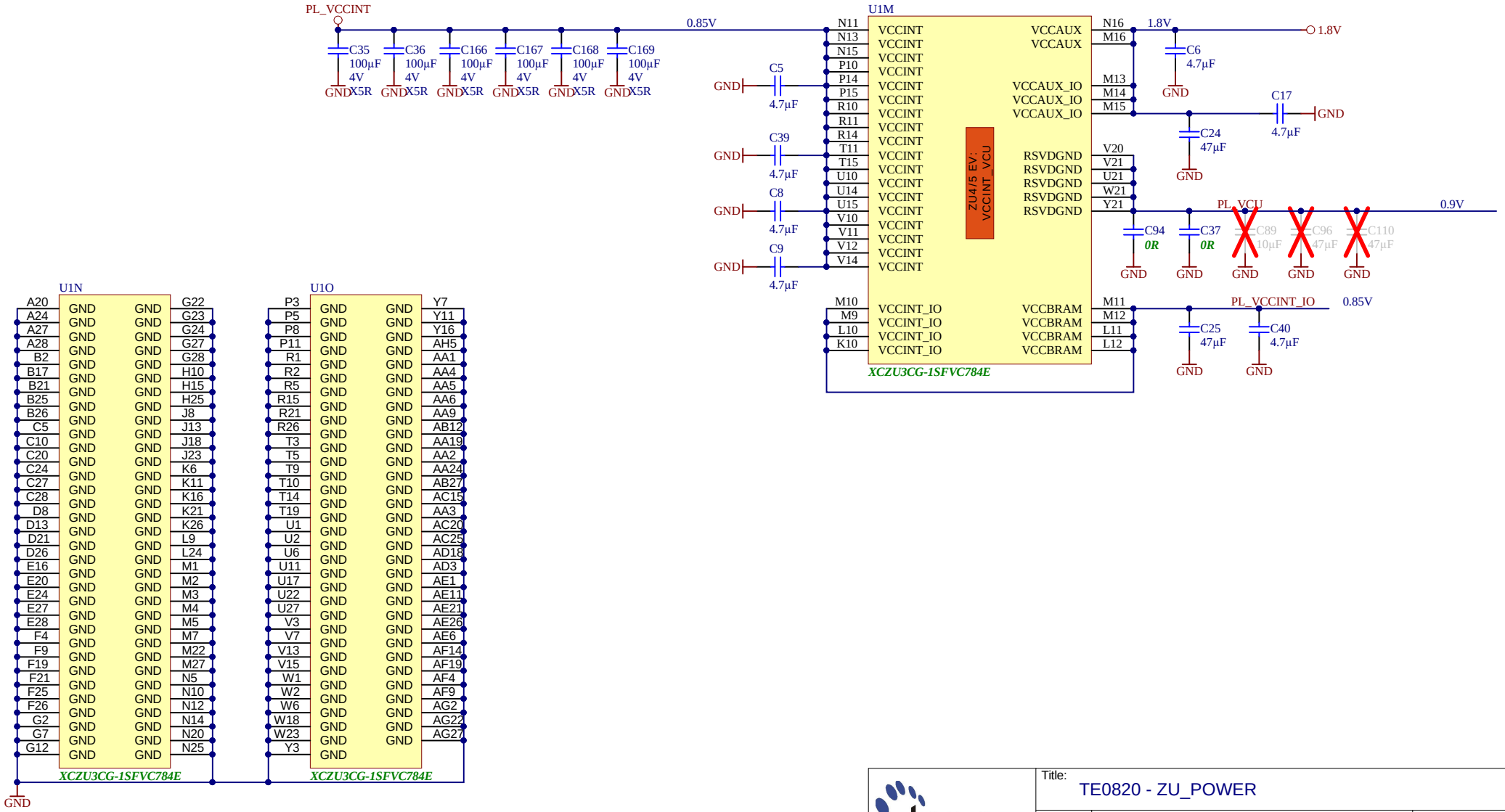


trenz electronic	Title: TE0820 - PS_DDR		
A4	Number: TE0820 03CG-1EA		Rev. 03
Date: 2018-03-28	Copyright: Trenz Electronic GmbH / TT	Page 9 of 21	
Filename: PS_DDR.SchDoc			

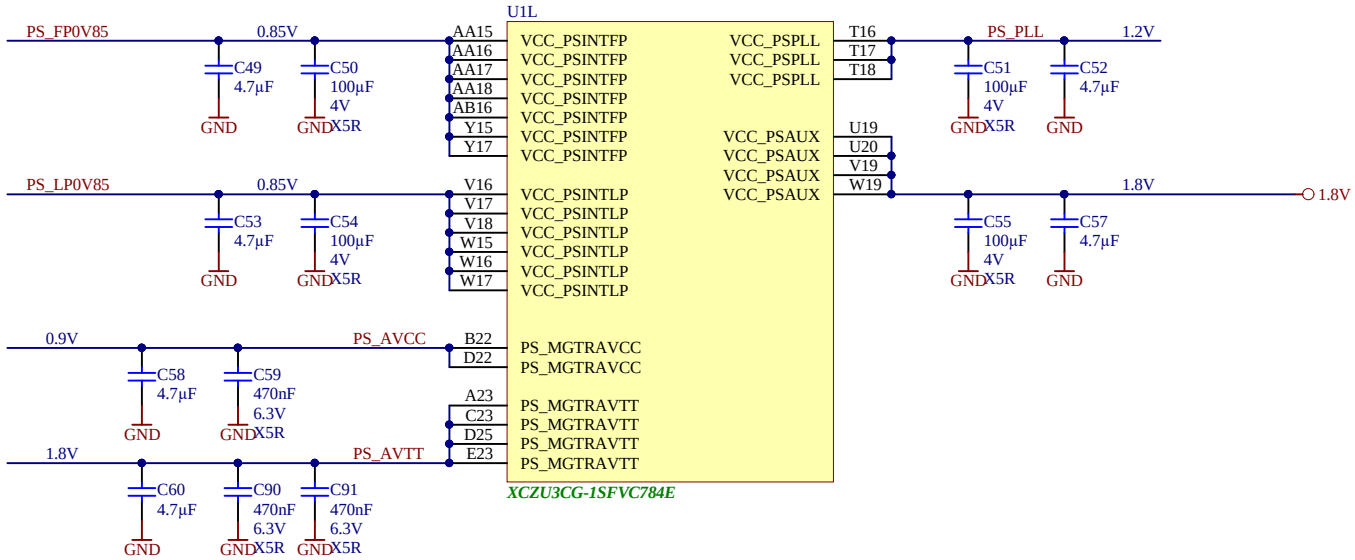




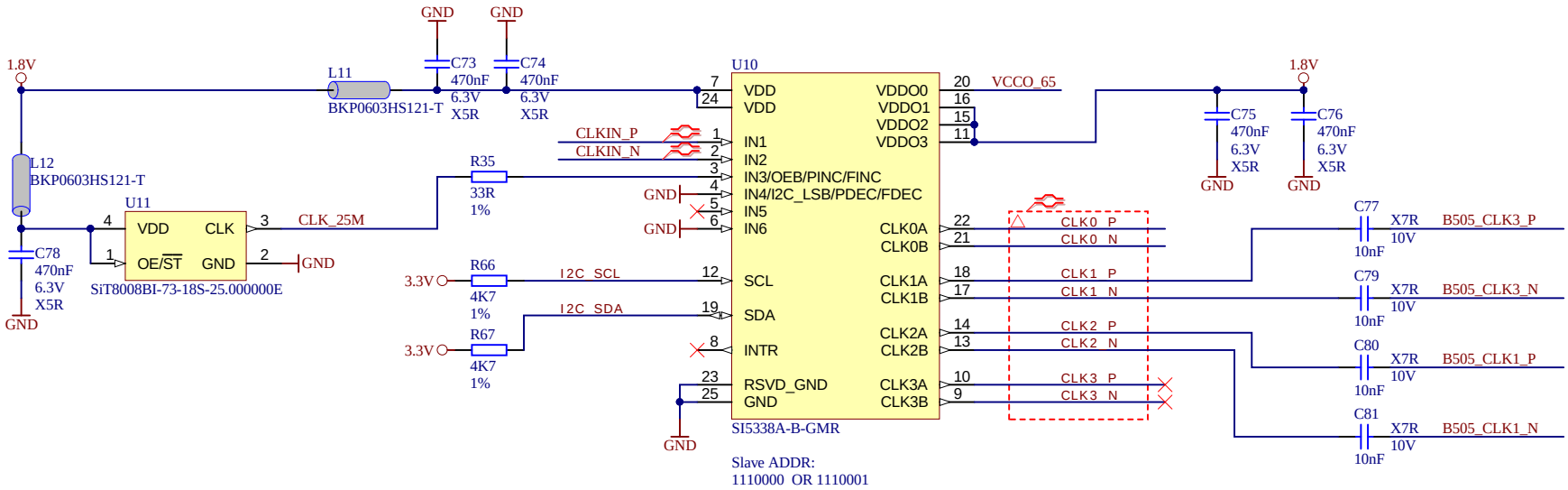
Title: TE0820 - PS_GT			
A4	Number: TE0820 03CG-1EA		Rev. 03
Date: 2018-03-28	Copyright: Trenz Electronic GmbH / TT		Page 10 of 21
Filename: B_PS_GT.SchDoc			



Title: TE0820 - ZU_POWER		
A4	Number: TE0820 03CG-1EA	Rev. 03
Date: 2018-03-28	Copyright: Trenz Electronic GmbH / TT	Page 11 of 21
Filename: ZU_POWER.SchDoc		



trenz electronic	Title: TE0820 - ZU_PS_POWER		
A4	Number: TE0820 03CG-1EA		Rev. 03
Date: 2018-03-28	Copyright: Trenz Electronic GmbH / TT		Page 12 of 21
Filename: ZU_PS_POWER.SchDoc			



Title: TE0820 - CLK			
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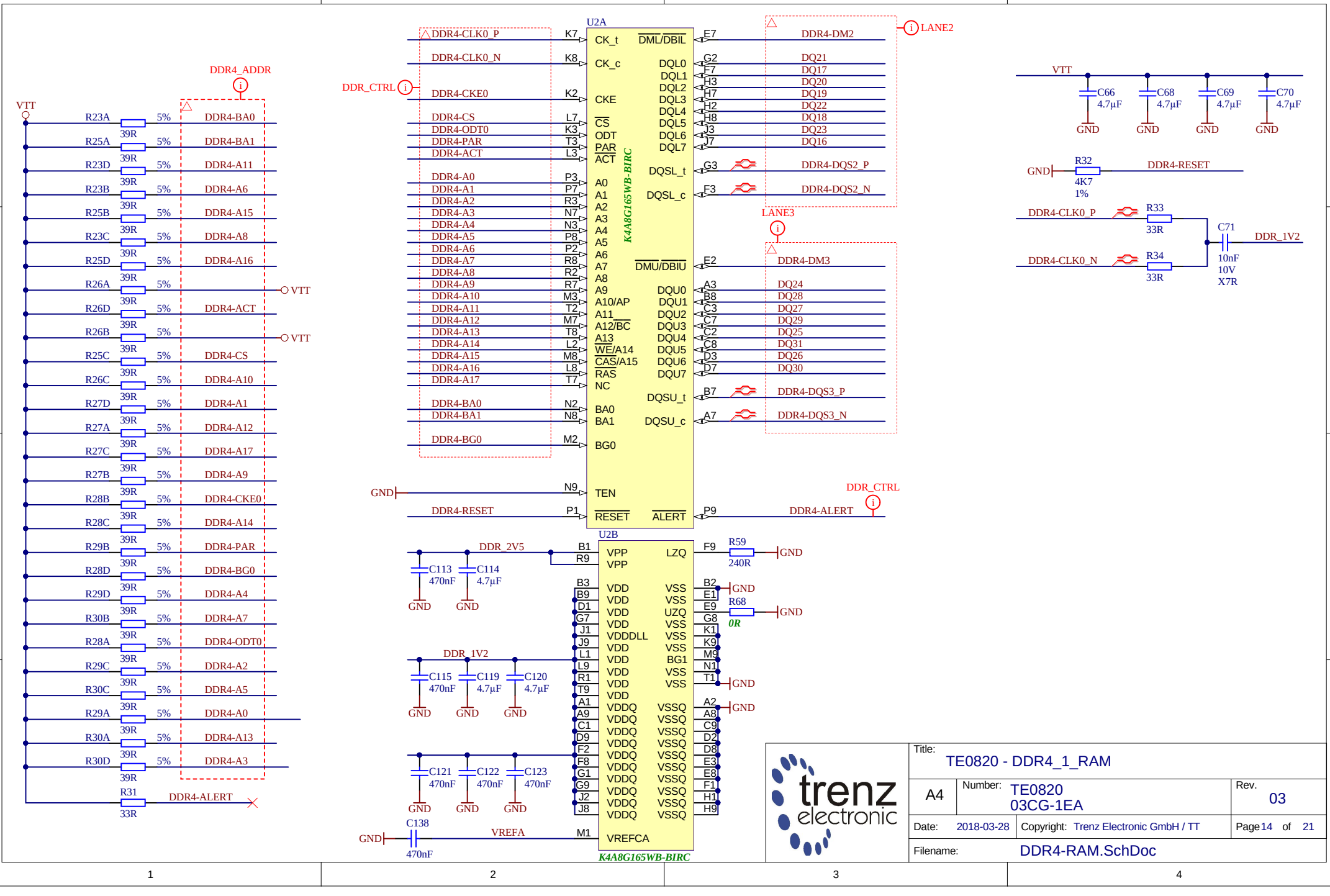
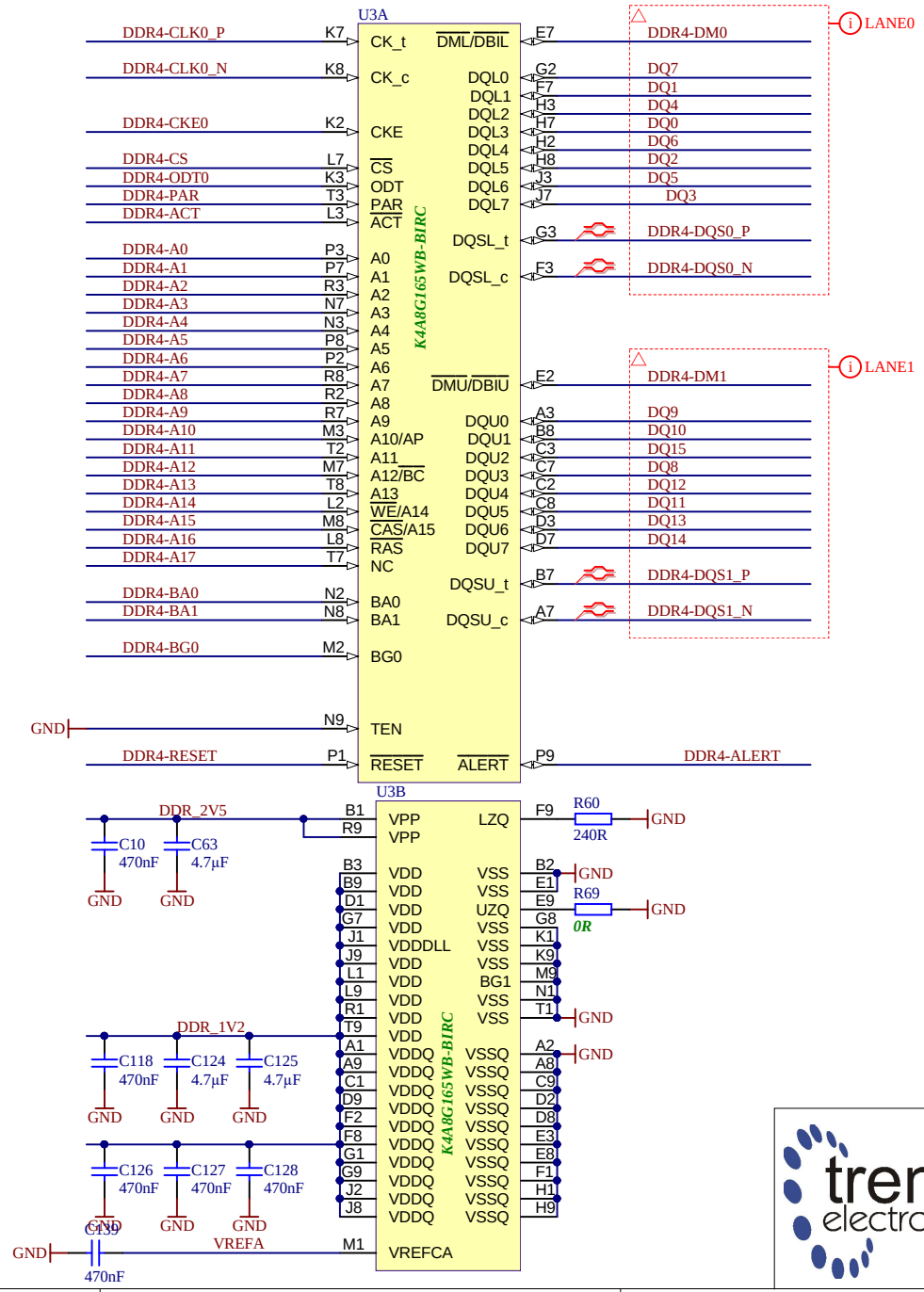
Date: 2018-03-28	Copyright: 2015 Trenz Electronic GmbH		Page 13 of 21
Filename: CLK.SchDoc			



Title: TE0820 - DDR4_1_RAM			
A4	Number: TE0820 03CG-1EA		Rev. 03
Date: 2018-03-28	Copyright: Trenz Electronic GmbH / TT		Page 14 of 21
Filename: DDR4-RAM.SchDoc			



Title:	TE0820 - DDR4_2_RAM		
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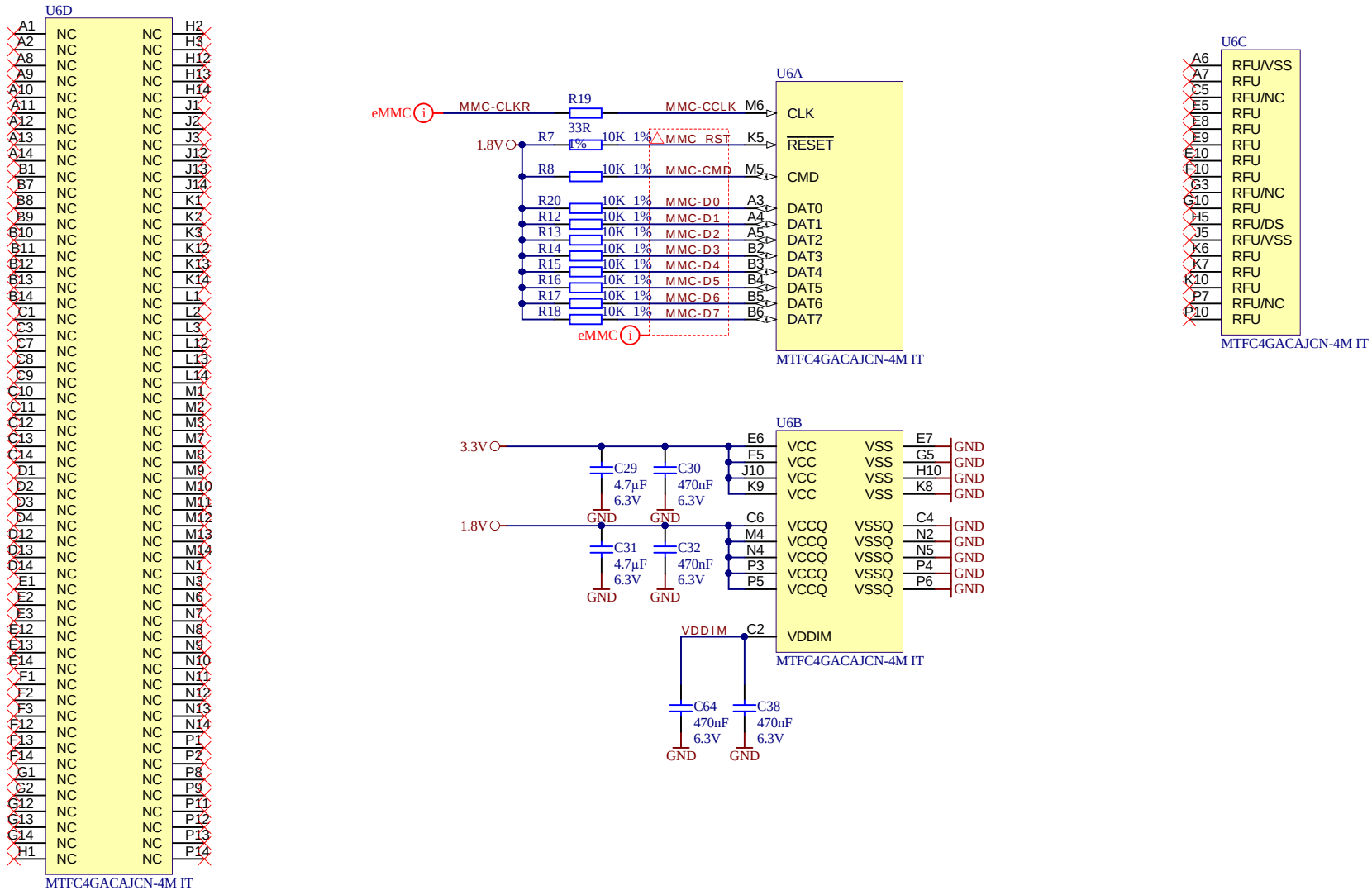
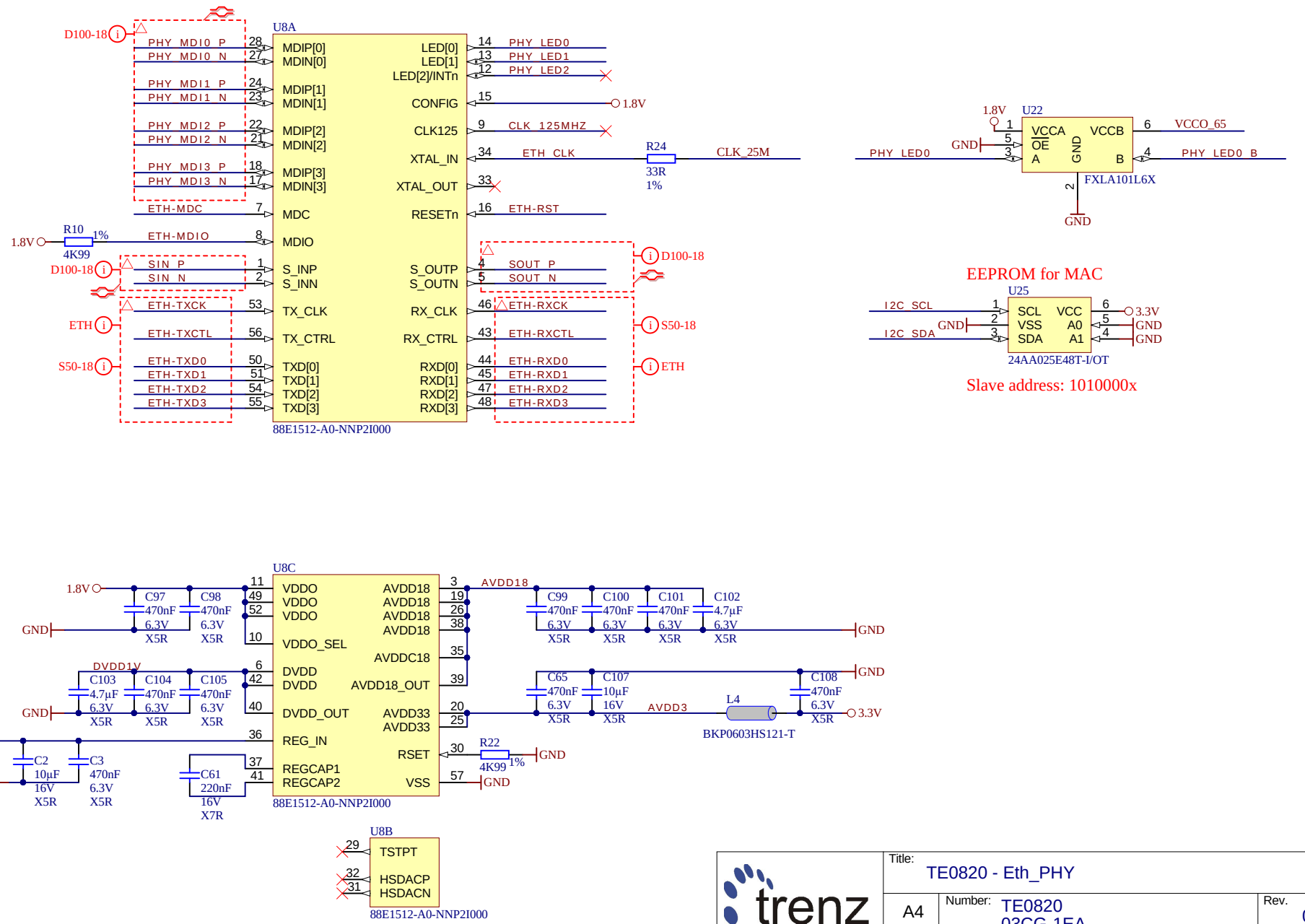
Date: 2018-03-28	Copyright: Trenz Electronic GmbH / TT		Page 15 of 21
Filename:	DDR4-RAM_2.SchDoc		



Title: TE0820 - eMMC			
A4	Number: TE0820 03CG-1EA		Rev. 03
Date: 2018-03-28	Copyright: Trenz Electronic GmbH / TT		Page 16 of 21
Filename: eMMC.SchDoc			


U8A
D100-18
PHY_MDI0_P
PHY_MDI0_N
PHY_MDI1_P
PHY_MDI1_N
PHY_MDI2_P
PHY_MDI2_N
PHY_MDI3_P
PHY_MDI3_N
MDIP[0]
MDIN[0]
MDIP[1]
MDIN[1]
MDIP[2]
MDIN[2]
MDIP[3]
MDIN[3]
ETH-MDC
MDC
ETH-MDIO
MDIO
R10
1%
4K99
1.8V
SIN_P
SIN_N
S_INP
S_INN
ETH
ETH-TXCK
ETH-TXCTL
TX_CLK
TX_CTRL
S50-18
ETH-TXD0
ETH-TXD1
ETH-TXD2
ETH-TXD3
TXD[0]
TXD[1]
TXD[2]
TXD[3]
LED[0]
LED[1]
LED[2]/INTn
PHY_LED0
PHY_LED1
PHY_LED2
CONFIG
CLK125
CLK_125MHZ
XTAL_IN
ETH_CLK
R24
33R
1%
CLK_25M
XTAL_OUT
RESETn
ETH-RST
S_OUTP
S_OUTN
SOUT_P
SOUT_N
RX_CLK
RX_CTRL
ETH-RXCK
ETH-RXCTL
RXD[0]
RXD[1]
RXD[2]
RXD[3]
ETH-RXD0
ETH-RXD1
ETH-RXD2
ETH-RXD3
88E1512-A0-NNP2I000
U22
1.8V
VCCA
OE
A
GND
VCCB
B
VCCO_65
PHY_LED0_B
FXLA101L6X
EEPROM for MAC
U25
I2C_SCL
I2C_SDA
SCL
VSS
SDA
VCC
A0
A1
3.3V
24AA025E48T-I/OT
Slave address: 1010000x
U8C
VDDO
VDDO_SEL
DVDD
DVDD_OUT
REG_IN
REGCAP1
REGCAP2
AVDD18
AVDDC18
AVDD18_OUT
AVDD33
RSET
VSS
AVDD18
C97
C98
C99
C100
C101
C102
470nF
4.7µF
6.3V
X5R
DVDD1V
C103
C104
C105
4.7µF
C2
10µF
16V
C3
C61
220nF
X7R
C65
C107
10µF
C108
AVDD3
L4
BKP0603HS121-T
R22
4K99
U8B
TSTPT
HSDACP
HSDACN
88E1512-A0-NNP2I000
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Title: TE0820 - Eth_PHY
A4
Number: TE0820 03CG-1EA
Rev. 03
Date: 2018-03-28
Copyright: 2015 Trenz Electronic GmbH
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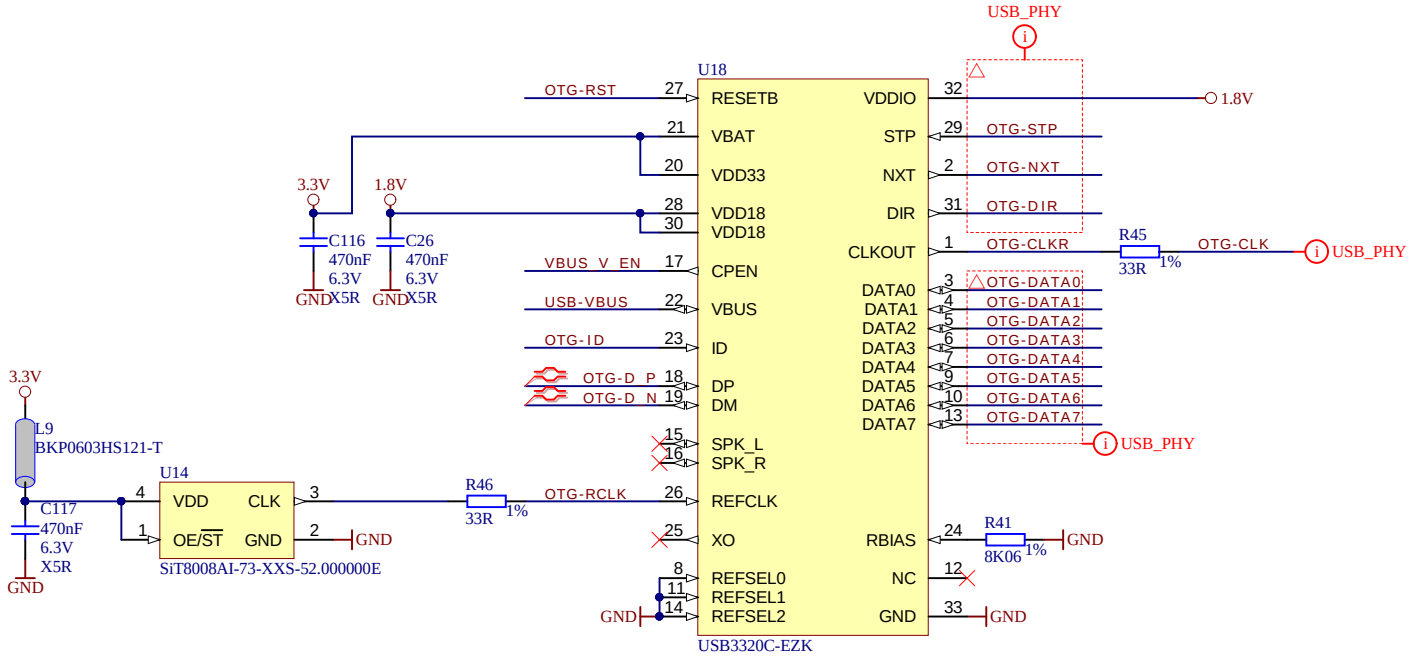
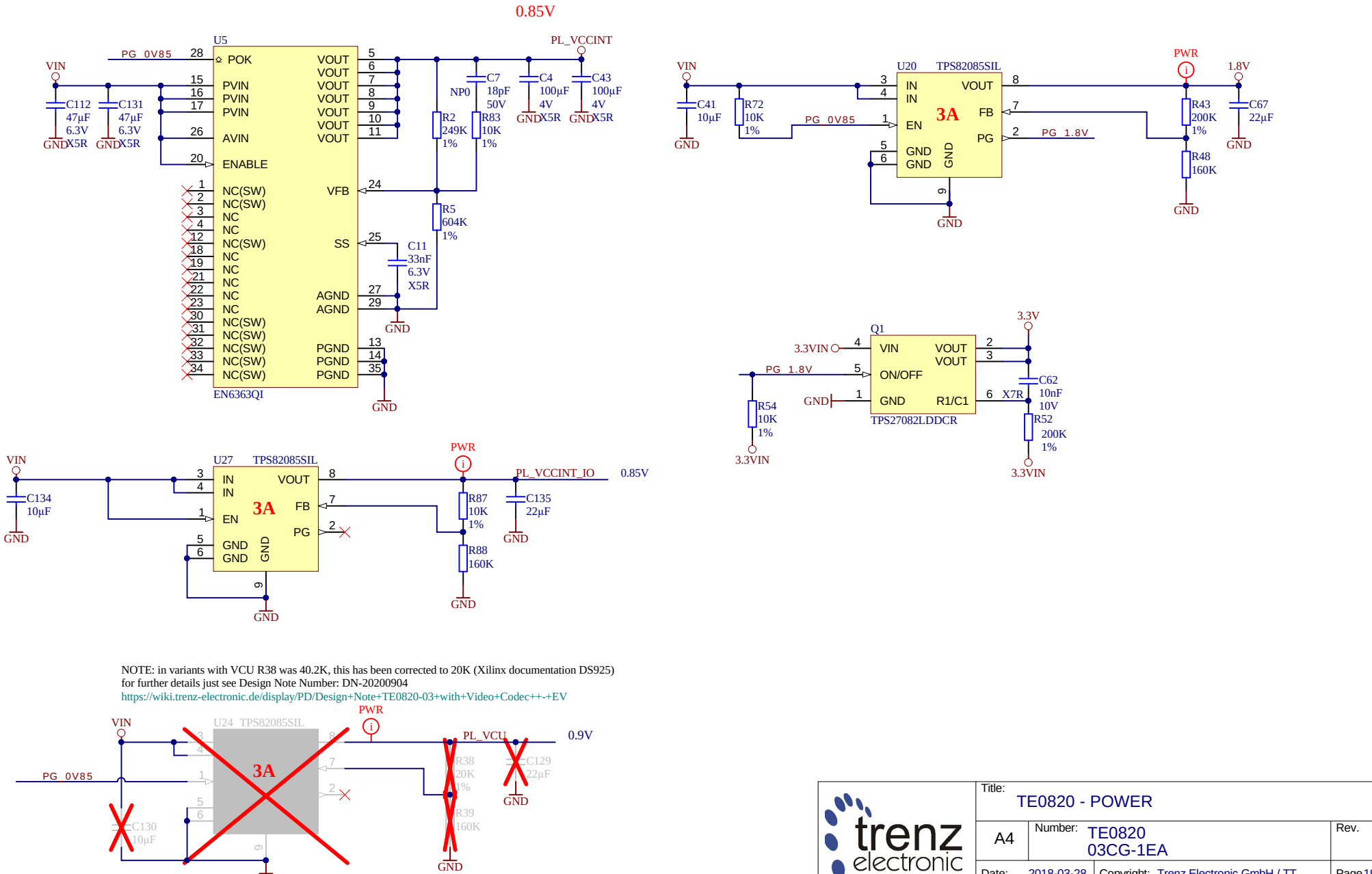
Filename: ETH-PHY.SchDoc



Title: TE0820 - USB_PHY			
A4	Number: TE0820 03CG-1EA		Rev. 03
Date: 2018-03-28	Copyright: 2015 Trenz Electronic GmbH		Page 18 of 21
Filename: USB-PHY.SchDoc			



trenz electronic	Title: TE0820 - POWER		
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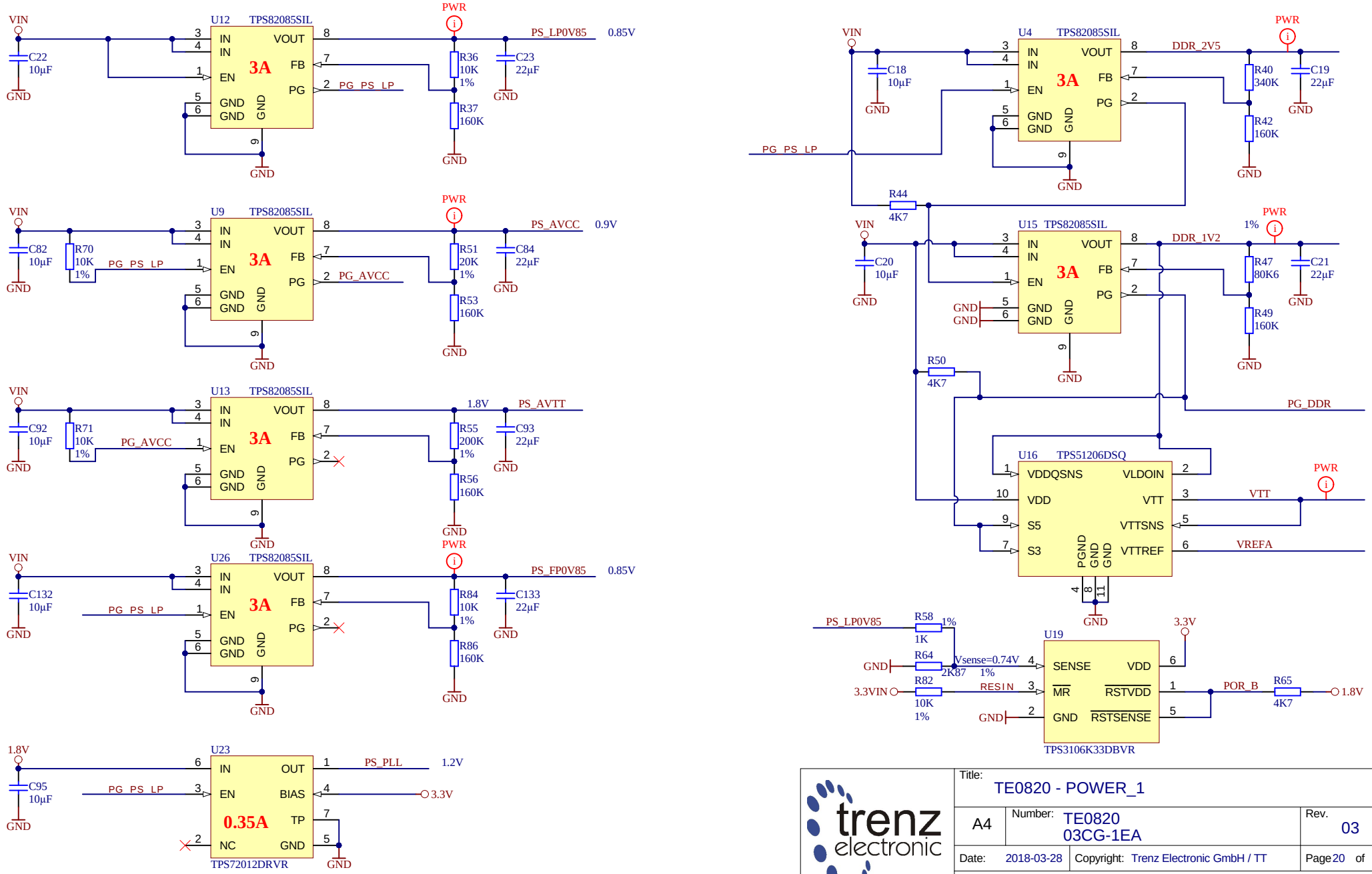
	Date: 2018-03-28	Copyright: Trenz Electronic GmbH / TT	Page 19 of 21
	Filename: POWER.SchDoc		



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Title:	TE0820 - POWER_1		
A4	Number: TE0820 03CG-1EA		Rev. 03
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.

trenz electronic	Title: TE0820 - Revision Changes		
	A4	Number: TE0820 03CG-1EA	Rev. 03
	Date: 2018-03-28	Copyright: Trenz Electronic GmbH / TT	Page 21 of 21
	Filename: Revision Changes.SchDoc		