

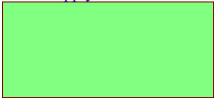
U_RPi-Headers
RPi-Headers.SchDoc



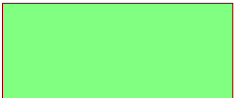
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DDR3-RAM.SchDoc



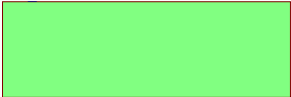
U_PowerSupply
PowerSupply.SchDoc



U_FTDI
FTDI.SchDoc



U_Soc_1
Soc_1.SchDoc



U_Soc_2
Soc_2.SchDoc



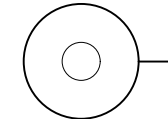
U_Soc_3
Soc_3.SchDoc



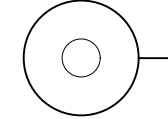
U_ETH
ETH.SchDoc



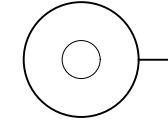
U_misc
misc.SchDoc



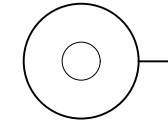
Mount.Hole 2.7mm (unplated)



Mount.Hole 2.7mm (unplated)



Mount.Hole 2.7mm (unplated)



Mount.Hole 2.7mm (unplated)



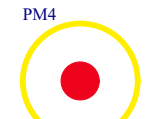
FIDU-DOT - small



FIDU-DOT - small



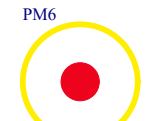
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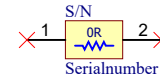
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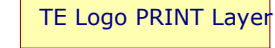
FIDU-DOT - small



FIDU-DOT - small



LOGO1



LOGO PRINT

Serial
Serial

Serialnumber 6,3 x 6.3mm



Title: TEM0002		
A4	Number: TEM0002 010CA	Rev. 02
Date: 28.05.2018	Copyright: Trenz Electronic GmbH	Page1 of 11
Filename: TEM0002.SchDoc		

U2A

BANK 0

VDDIO A7
 VDDIO A17
 VDDIO B10
 VDDIO C3
 VDDIO C13
 VDDIO D6
 VDDIO D16
 VDDIO E9
 VDDIO G8
 VDDIO G10
 VDDIO G12

1.5V

C78 4.7µF 6.3V
 C84 470nF 6.3V
 GNDX5R

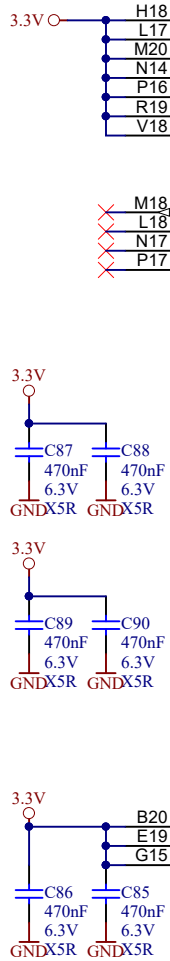
C80 470nF 6.3V
 C81 470nF 6.3V
 GNDX5R

C82 470nF 6.3V
 C83 470nF 6.3V
 GNDX5R

VDDIO10 DDRIO29PB0/MDDR_ADDR14
 VDDIO11 DDRIO29NB0/MDDR_ADDR15
 VDDIO12 DDRIO30PB0/MDDR_ADDR12
 VDDIO13 DDRIO30NB0/MDDR_ADDR13
 VDDIO14 DDRIO31PB0/MDDR_ADDR10
 VDDIO15 DDRIO31NB0/MDDR_ADDR11
 VDDIO16 DDRIO32PB0/MDDR_ADDR8
 VDDIO17 DDRIO32NB0/MDDR_ADDR9
 VDDIO18 DDRIO33PB0/MDDR_ODT
 VDDIO19 DDRIO33NB0/MDDR_ADDR7
 VDDIO20 DDRIO34PB0/MDDR_ADDR5
 VDDIO21 DDRIO34NB0/MDDR_ADDR6
 VDDIO22 DDRIO35PB0/MDDR_ADDR3
 VDDIO23 DDRIO35NB0/MDDR_ADDR4
 VDDIO24 DDRIO36PB0/MDDR_ADDR1
 VDDIO25 DDRIO36NB0/MDDR_ADDR2
 VDDIO26 DDRIO37PB0/MDDR_BA2
 VDDIO27 DDRIO37NB0/MDDR_ADDR0
 VDDIO28 DDRIO38PB0/MDDR_BA0
 VDDIO29 DDRIO38NB0/MDDR_BA1
 VDDIO30 DDRIO39PB0/MDDR_CLK
 VDDIO31 DDRIO39NB0/MDDR_CLK_N
 VDDIO32 DDRIO40PB0/MDDR_RESET_N
 VDDIO33 DDRIO40NB0/MDDR_CAS_N
 VDDIO34 DDRIO41PB0/MDDR_CKE
 VDDIO35 DDRIO41NB0/MDDR_CS_N
 VDDIO36 DDRIO42PB0/MDDR_RAS_N
 VDDIO37 DDRIO42NB0/MDDR_WE_N
 VDDIO38 DDRIO43PB0/MDDR_DQ14
 VDDIO39 DDRIO43NB0/MDDR_DQ15
 VDDIO40 DDRIO44PB0/MDDR_DQ12
 VDDIO41 DDRIO44NB0/MDDR_DQ13
 VDDIO42 DDRIO45PB0/MDDR_TMATCH_0_IN
 VDDIO43 DDRIO45NB0/MDDR_DM_RDQS1
 VDDIO44 DDRIO46PB0/MDDR_DQS1
 VDDIO45 DDRIO46NB0/MDDR_DQS1_N
 VDDIO46 DDRIO47PB0/MDDR_DQ10
 VDDIO47 DDRIO47NB0/MDDR_DQ11
 VDDIO48 DDRIO48PB0/MDDR_DQ8
 VDDIO49 DDRIO48NB0/MDDR_DQ9
 VDDIO50 DDRIO49PB0/MDDR_DQ7
 VDDIO51 DDRIO49NB0/MDDR_TMATCH_0_OUT
 VDDIO52 DDRIO50PB0/MDDR_DQ5
 VDDIO53 DDRIO50NB0/MDDR_DQ6
 VDDIO54 DDRIO51PB0/MDDR_DM_RDQS0
 VDDIO55 DDRIO51NB0/MDDR_DQ4
 VDDIO56 DDRIO52PB0/MDDR_DQS0
 VDDIO57 DDRIO52NB0/MDDR_DQS0_N
 VDDIO58 DDRIO53PB0/MDDR_DQ2
 VDDIO59 DDRIO53NB0/MDDR_DQ3
 VDDIO60 DDRIO54PB0/MDDR_DQ0
 VDDIO61 DDRIO54NB0/MDDR_DQ1
 VDDIO62 DDRIO55PB0/CCC_NE0_CLKI3
 VDDIO63 DDRIO55NB0
 VDDIO64 DDRIO56PB0/MDDR_DQ_ECC1
 VDDIO65 DDRIO56NB0/MDDR_DQ_ECC0
 VDDIO66 DDRIO57PB0/MDDR_TMATCH_ECC_IN
 VDDIO67 DDRIO57NB0/MDDR_DM_RDQS_ECC
 VDDIO68 DDRIO58PB0/MDDR_DQS_ECC
 VDDIO69 DDRIO58NB0/MDDR_DQS_ECC_N
 VDDIO70 DDRIO59PB0/GB0
 VDDIO71 DDRIO59NB0/GB4
 VDDIO72 DDRIO60PB0/MDDR_TMATCH_ECC_OUT
 VDDIO73 DDRIO60NB0/CCC_NE1_CLKI3

M2S010-VFG400

A18 DDR3-A14
 B18 DDR3-A15
 D17 DDR3-A12
 C17 DDR3-A13
 D15 DDR3-A10
 E15 DDR3-A11
 A16 DDR3-A8
 B17 DDR3-A9
 B16 DDR3-ODT
 C16 DDR3-A7
 B14 DDR3-A5
 A15 DDR3-A6
 C14 DDR3-A3
 C15 DDR3-A4
 A13 DDR3-A1
 A14 DDR3-A2
 D13 DDR3-BA2
 D14 DDR3-A0
 E13 DDR3-BA0
 F13 DDR3-BA1
 B13 DDR3-CLK_P
 B12 DDR3-CLK_N
 F11 DDR3-RESET
 E12 DDR3-CAS
 C12 DDR3-CKE
 C11 DDR3-CS
 D12 DDR3-RAS
 E11 DDR3-WE
 A11 DDR3-D14
 B11 DDR3-D15
 D10 DDR3-D12
 E10 DDR3-D13
 E8 TMATCH
 F9 DDR3-DM1
 C9 DDR3-DQS1_P
 B9 DDR3-DQS1_N
 D9 DDR3-D10
 C10 DDR3-D11
 A9 DDR3-D8
 A10 DDR3-D9
 D7 DDR3-D7
 D8
 A8 DDR3-D5
 B8 DDR3-D6
 B6 DDR3-DM0
 B7 DDR3-D4
 C6 DDR3-DQS0_P
 C7 DDR3-DQS0_N
 A5 DDR3-D2
 A6 DDR3-D3
 E7 DDR3-D0
 F8 DDR3-D1
 E6
 D5
 A3
 A4
 D4 TMATCH_ECC
 C5
 B3
 B4
 A1
 B1
 C4
 D3



U2C

BANK 2

VDDI2 H18
 VDDI2 L17
 VDDI2 M20
 VDDI2 N14
 VDDI2 P16
 VDDI2 R19
 VDDI2 V18

3.3V

M18
 L18
 N17
 P17

SC_SPI_CLK
 SC_SPI_SDI
 SC_SPI_SDO
 SC_SPI_SS

VDDI2 MSIO0PB2
 VDDI2 MSIO0NB2/USB_DATA7_B
 VDDI2 MSIO1PB2/USB_XCLK_B
 VDDI2 MSIO1NB2/USB_DIR_B
 VDDI2 MSIO2PB2/USB_STP_B
 VDDI2 MSIO2NB2/USB_NXT_B
 VDDI2 MSIO3PB2/USB_DATA0_B
 VDDI2 MSIO3NB2/USB_DATA1_B
 VDDI2 MSIO4PB2/USB_DATA2_B
 VDDI2 MSIO4NB2/USB_DATA3_B
 VDDI2 MSIO5PB2/USB_DATA4_B
 VDDI2 MSIO5NB2/USB_DATA5_B
 VDDI2 MSIO6PB2/USB_DATA6_B
 VDDI2 MSIO6NB2
 VDDI2 MSIO7PB2
 MSIO7NB2/CAN_TX/GPIO_2_A/USB_DATA0_A
 MSIO8PB2/CAN_RX/GPIO_3_A/USB_DATA1_A
 MSIO8NB2/CAN_TX_EN_N/GPIO_4_A/USB_DATA2_A
 MSIO11PB2/CCC_NE0_CLKI1/I2C_1_SDA/GPIO_0_A/USB_DATA3_A
 MSIO11NB2/CCC_NE0_CLKI2/I2C_1_SCL/GPIO_1_A/USB_DATA4_A
 MSIO12PB2/SPI_0_CLK/USB_XCLK_A
 MSIO12NB2/SPI_0_SDI/GPIO_5_A/USB_DIR_A
 MSIO13PB2/SPI_0_SDO/GPIO_6_A/USB_STP_A
 MSIO13NB2/SPI_0_SS0/GPIO_7_A/USB_NXT_A
 MSIO14PB2/SPI_1_CLK
 MSIO14NB2/SPI_1_SDI/GPIO_11_A
 MSIO15PB2/SPI_1_SDO/GPIO_12_A
 MSIO15NB2/SPI_1_SS0/GPIO_13_A
 MSIO16PB2/SPI_1_SS4/GPIO_17_A
 MSIO16NB2/SPI_1_SS5/GPIO_18_A
 MSIO17PB2/SPI_1_SS6/GPIO_23_A
 MSIO17NB2/SPI_1_SS7/GPIO_24_A
 MSIO18PB2/SPI_0_SS1/GPIO_8_A/USB_DATA5_A
 MSIO18NB2/SPI_0_SS2/GPIO_9_A/USB_DATA6_A
 MSIO19PB2/SPI_0_SS3/GPIO_10_A/USB_DATA7_A
 MSIO19NB2/SPI_1_SS1/GPIO_14_A
 MSIO20PB2/SPI_1_SS2/GPIO_15_A
 MSIO20NB2/SPI_1_SS3/GPIO_16_A

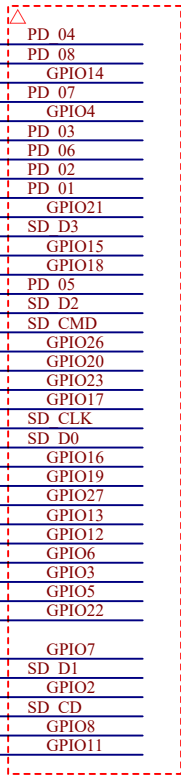
M2S010-VFG400 U2B

BANK 1

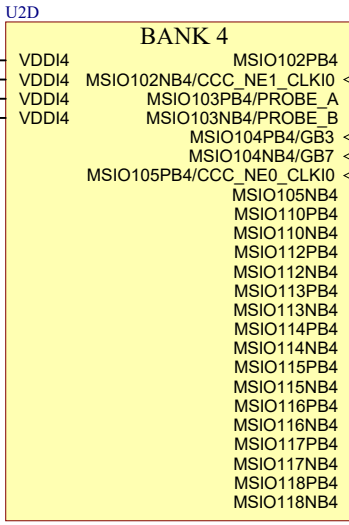
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 VDDI1 G16
 VDDI1 E18
 VDDI1 F18
 VDDI1 F15
 VDDI1 F16
 VDDI1 E17
 VDDI1 E16
 VDDI1 D20
 VDDI1 C20
 VDDI1 D18
 VDDI1 C19
 VDDI1 B19
 VDDI1 A20
 VDDI1 A19

MSIO21PB1/GB5/USB_XCLK_C
 MSIO21NB1/MMUART_1_TXD/GPIO_24_B/USB_DATA2_C
 MSIO22PB1/GB6/MMUART_1_CLK/GPIO_25_B/USB_DATA4_C
 MSIO22NB1/MMUART_1_RXD/GPIO_26_B/USB_DATA3_C
 MSIO23PB1/MMUART_0_RTS/GPIO_17_B/USB_DATA5_C
 MSIO23NB1/MMUART_0_DTR/GPIO_18_B/USB_DATA6_C
 MSIO24PB1/MMUART_0_CTS/GPIO_19_B/USB_DATA7_C
 MSIO24NB1/MMUART_0_DSR/GPIO_20_B
 MSIO25PB1/MMUART_0_RI/GPIO_21_B
 MSIO25NB1/MMUART_0_DCD/GPIO_22_B
 MSIO26NB1/MMUART_0_TXD/GPIO_27_B/USB_DIR_C
 MSIO27PB1/MMUART_0_RXD/GPIO_28_B/USB_STP_C
 MSIO27NB1/MMUART_0_CLK/GPIO_29_B/USB_NXT_C
 MSIO28PB1/I2C_0_SDA/GPIO_30_B/USB_DATA0_C
 FLASH_GOLDEN_N/MSIO28NB1/I2C_0_SCL/GPIO_31_B/USB_DATA1_C

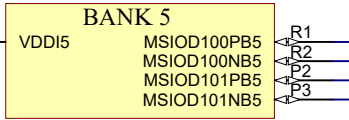
M2S010-VFG400



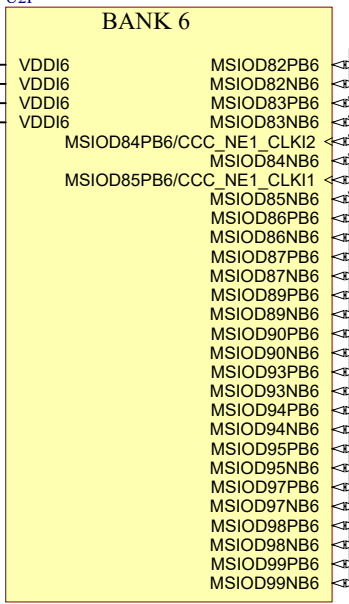
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A4	Number: TEM002 010CA	Rev. 02	
Date: 28.05.2018	Copyright: Trenz Electronic GmbH	Page2 of 11	
Filename: Soc_1.SchDoc			



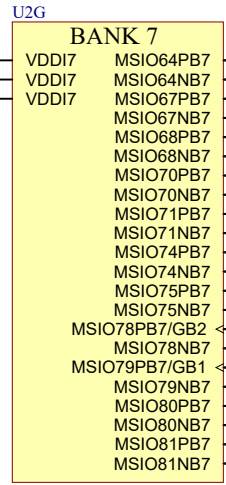
M2S010-VFG400
U2D



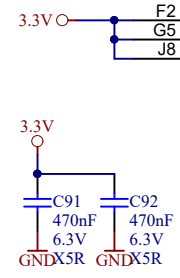
M2S010-VFG400
U2E



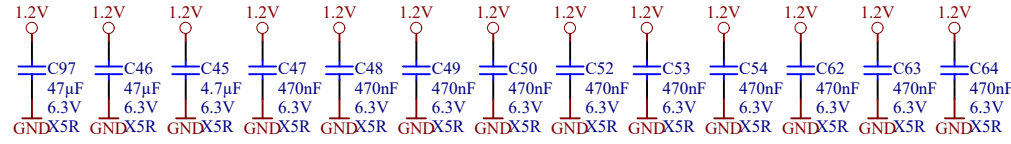
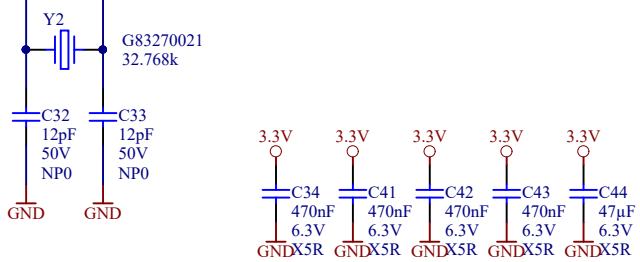
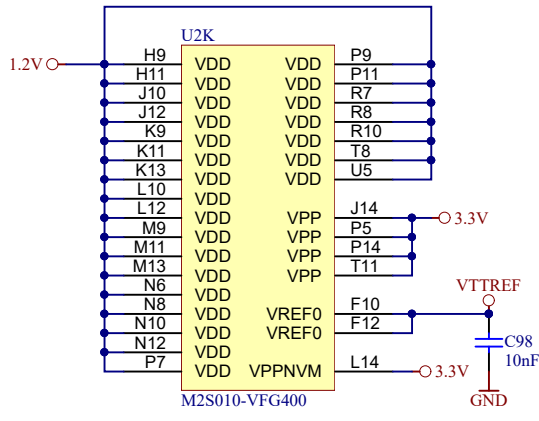
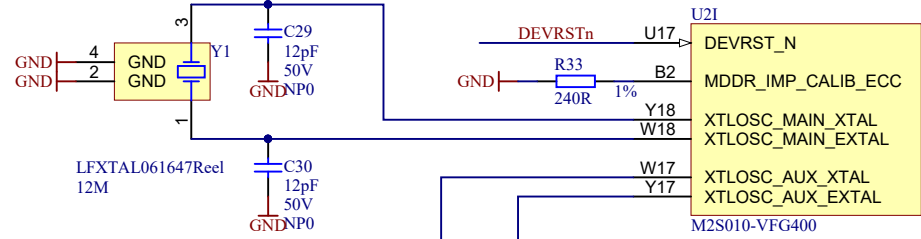
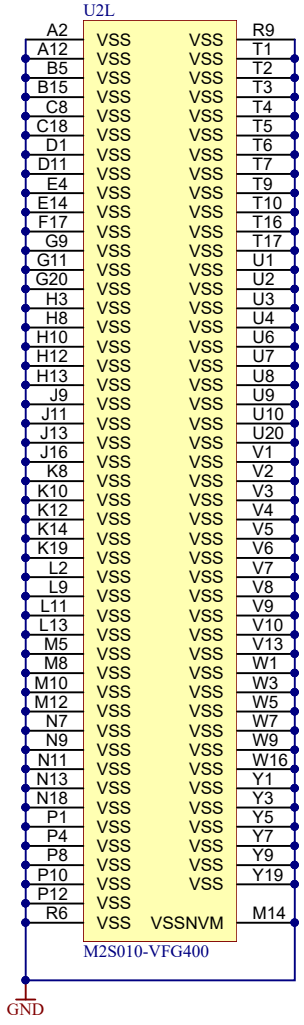
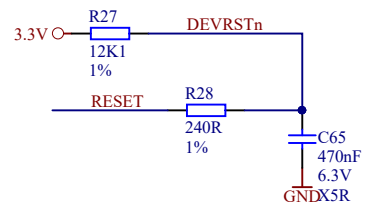
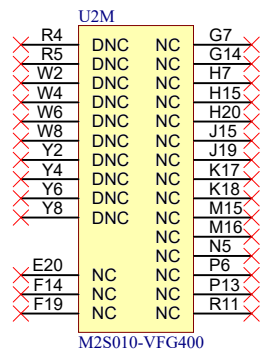
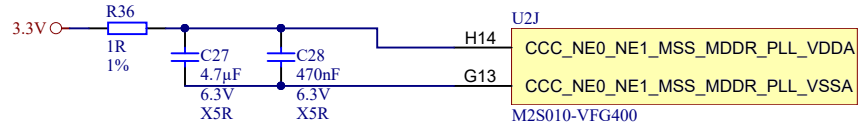
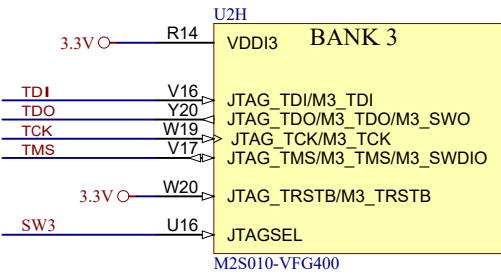

M2S010-VFG400
U2F



M2S010-VFG400
U2G



Title: TEM0002 - CPLD		
A4	Number: TEM0002 010CA	Rev. 02
Date: 28.05.2018	Copyright: Trenz Electronic GmbH	Page3 of 11
Filename: Soc_2.SchDoc		

Title: TEM002 - CPLD		
A4	Number: TEM002 010CA	Rev. 02
Date: 28.05.2018	Copyright: Trenz Electronic GmbH	Page4 of 11
Filename: Soc_3.SchDoc		

1

2

3

4

A

A

B

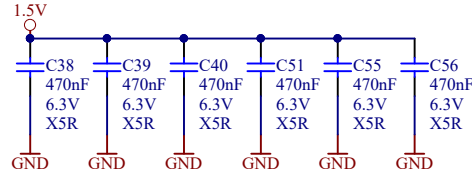
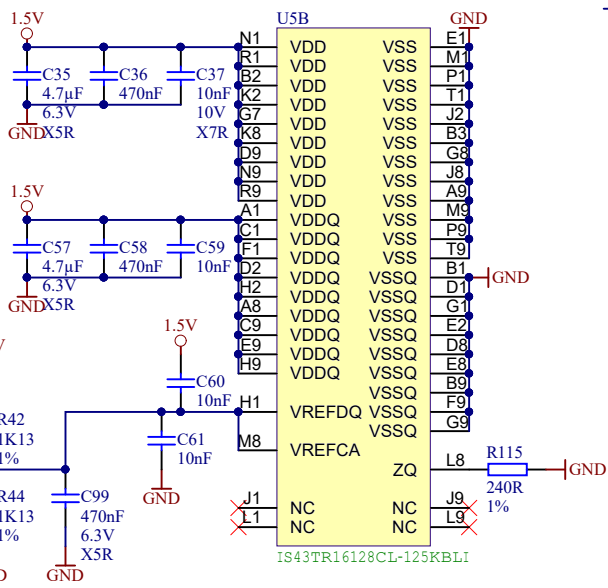
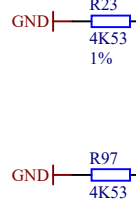
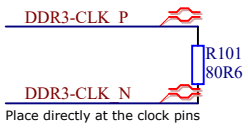
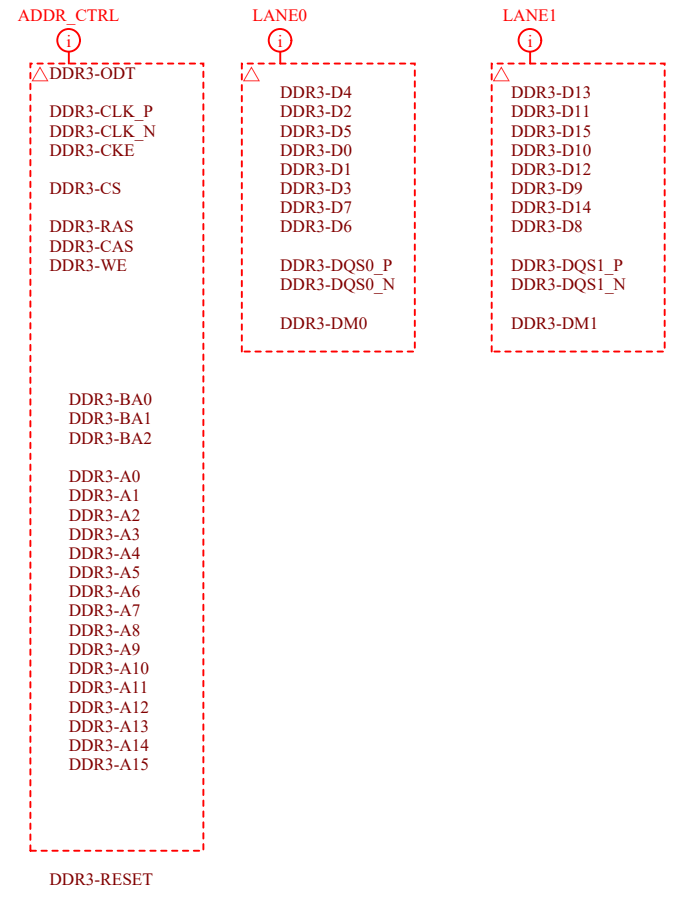
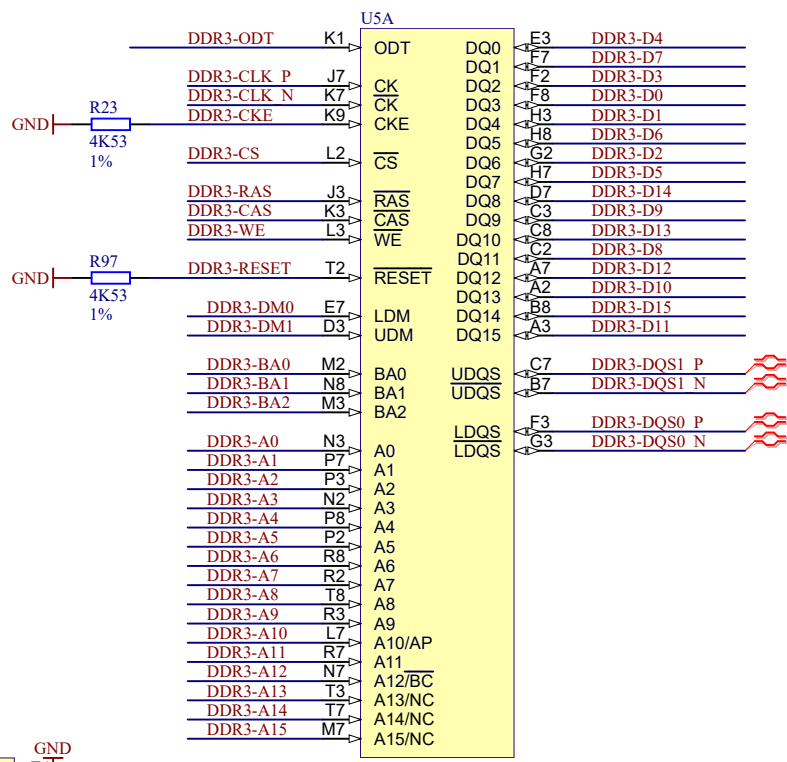
B

C

C

D

D



Title: TEM002 - DDR Memory		
A4	Number: TEM002 010CA	Rev. 02
Date: 28.05.2018	Copyright: Trenz Electronic GmbH	Page5 of 11
Filename: DDR3-RAM.SchDoc		

1

2

3

4

1

2

3

4

A

A

B

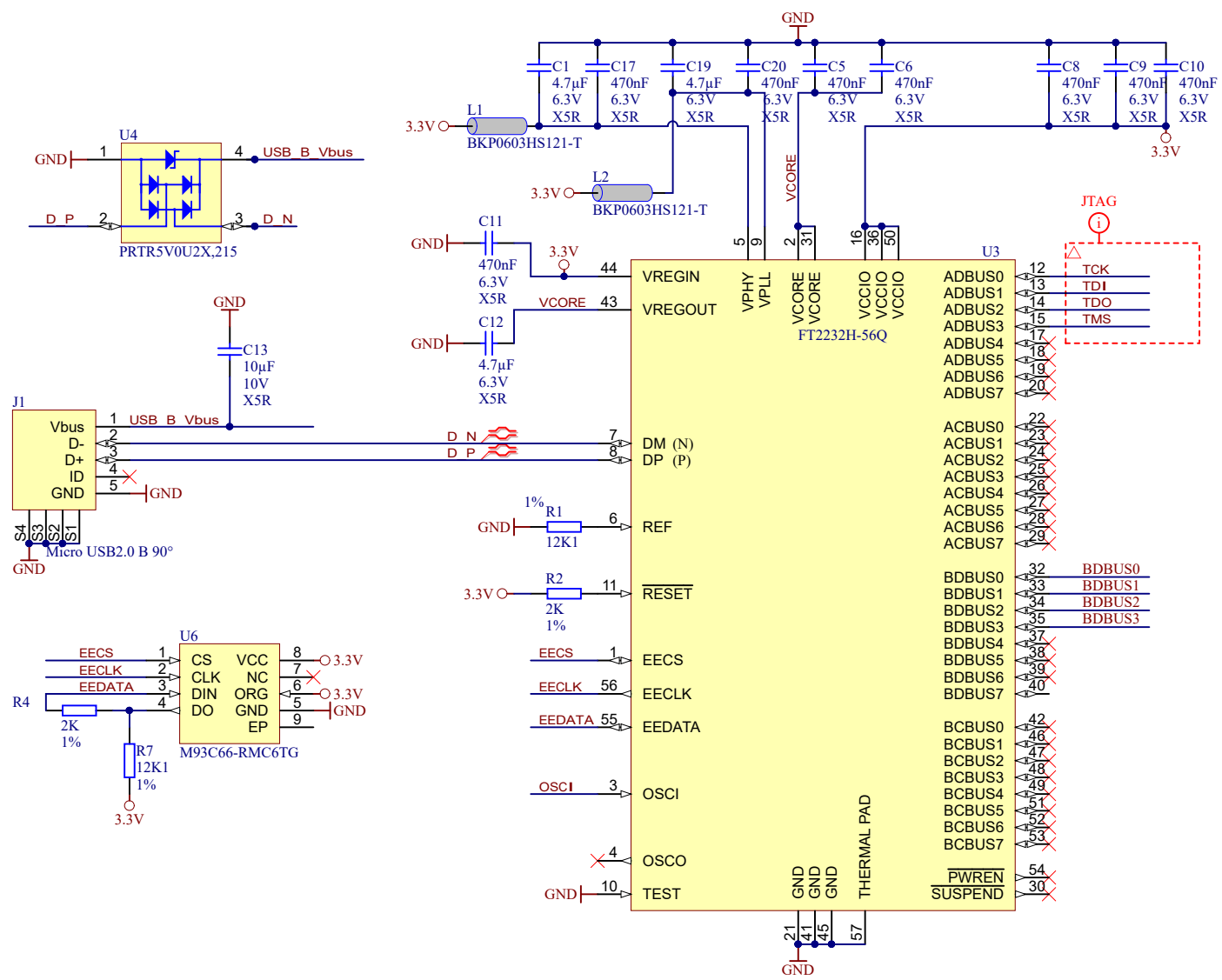
B

C

C

D

D



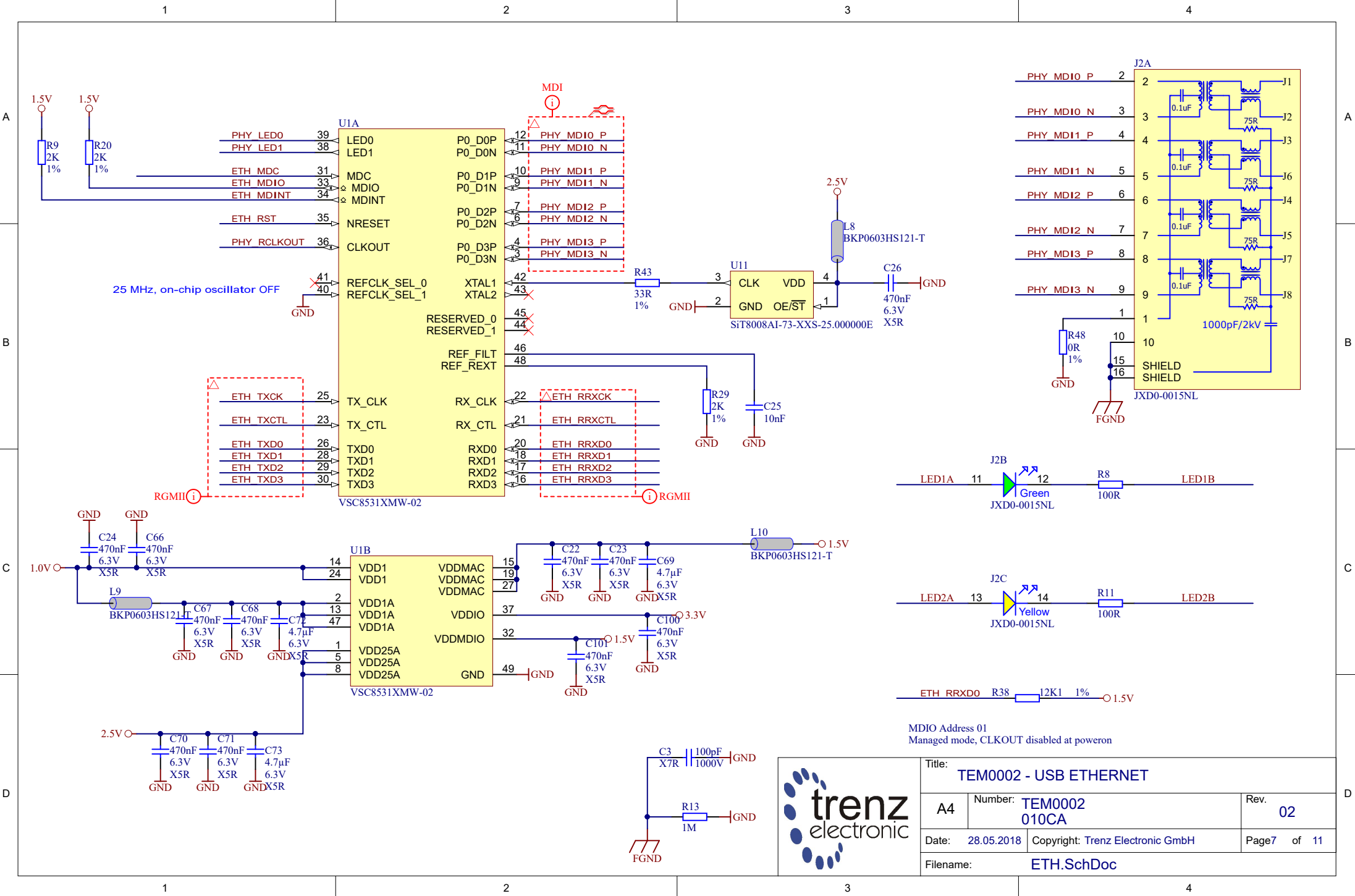
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Date: 28.05.2018	Copyright: Trenz Electronic GmbH	Page6 of 11
Filename: FTDI.SchDoc		

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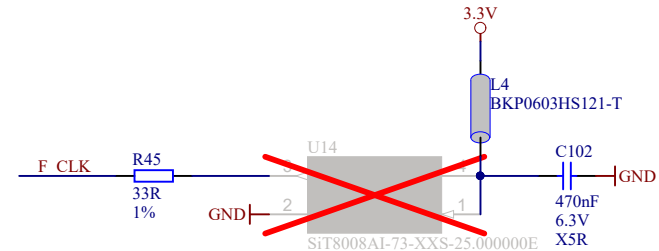
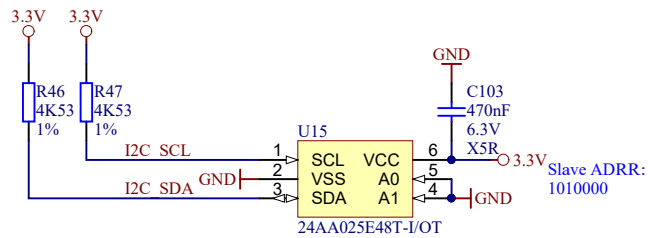
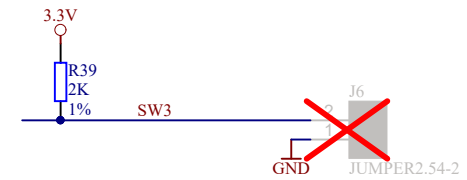
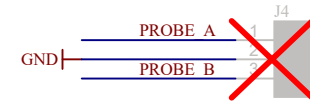
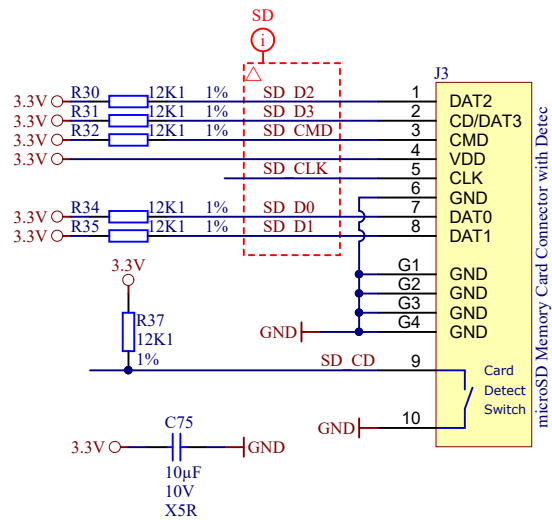
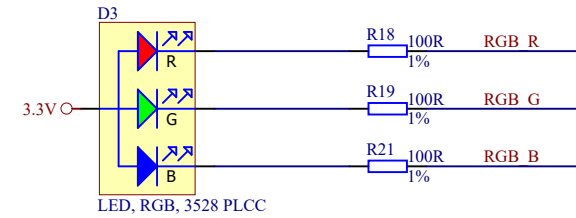
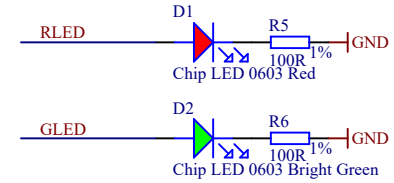
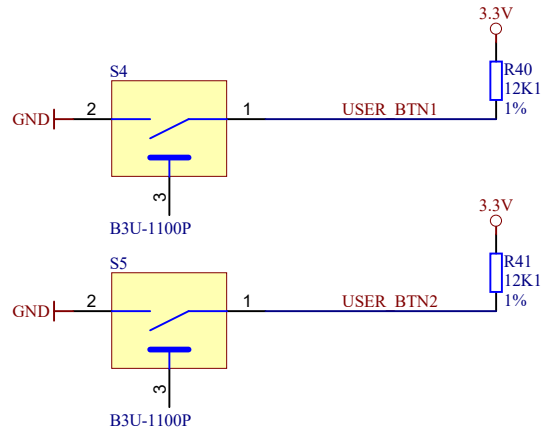
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3

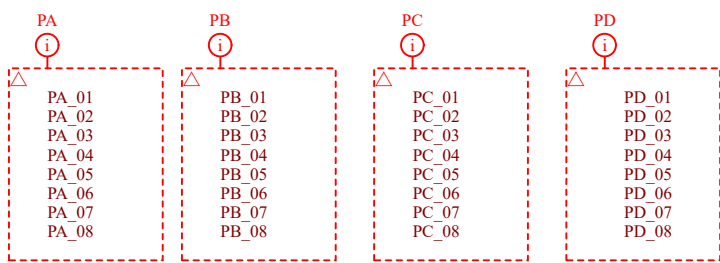
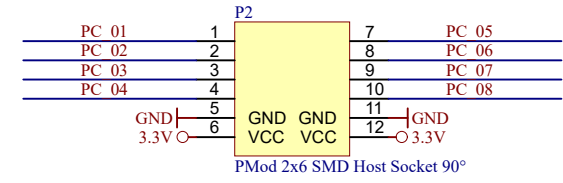
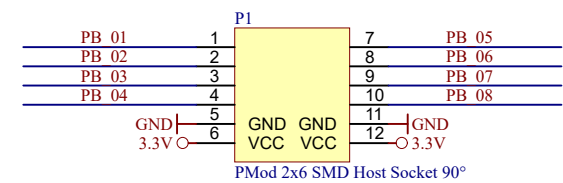
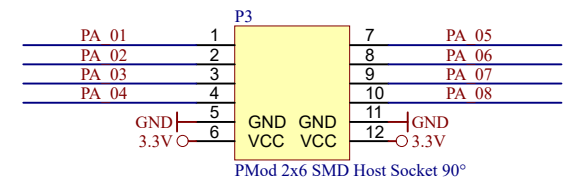
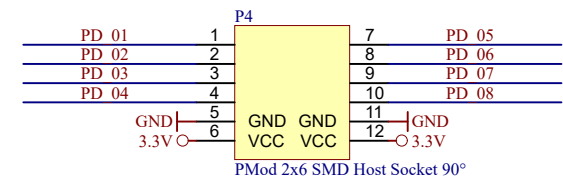
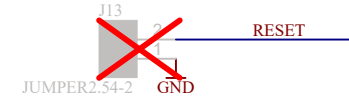
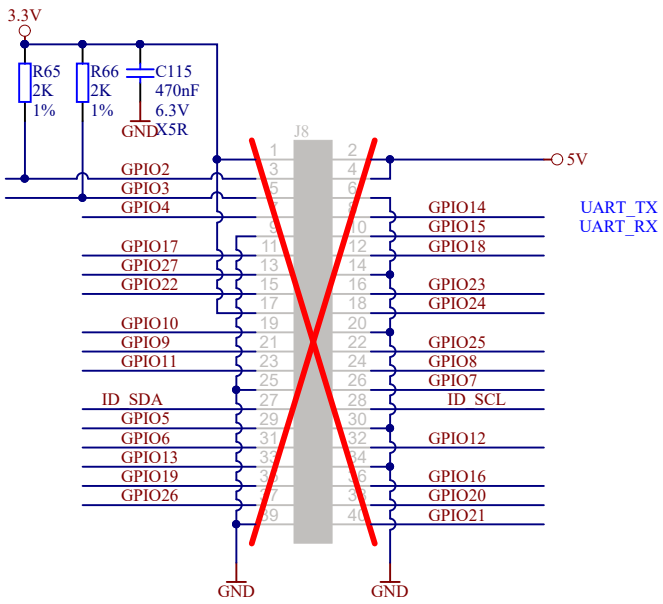
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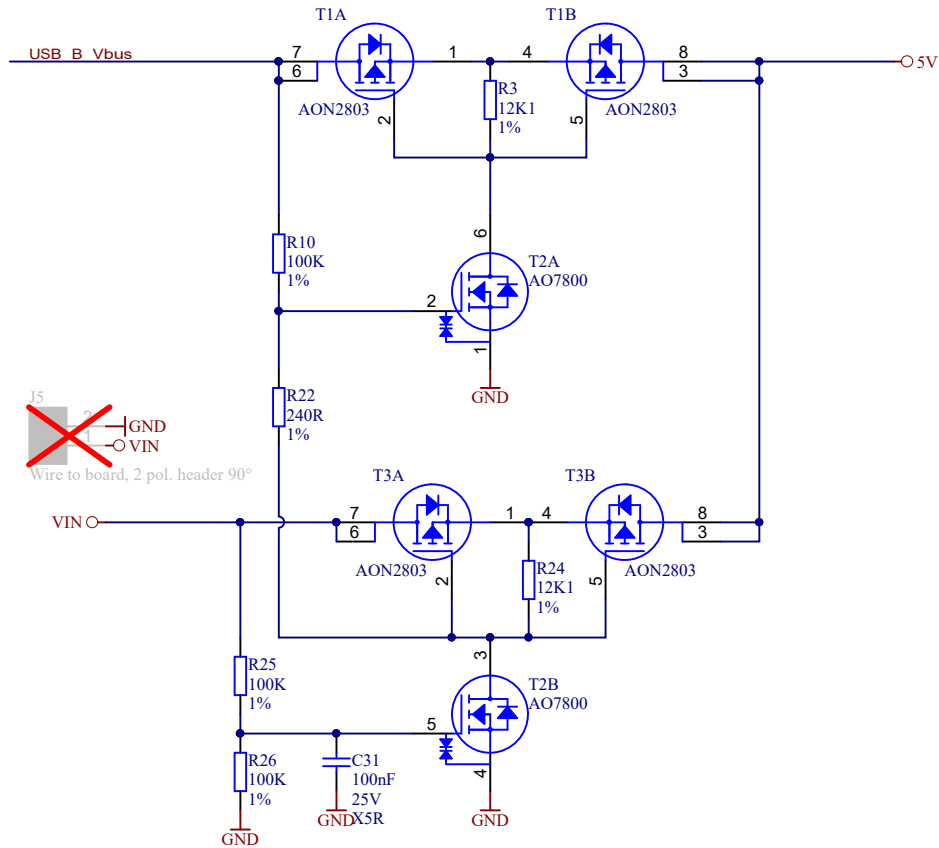
Title: TEM002 - USB ETHERNET		
A4	Number: TEM002 010CA	Rev. 02
Date: 28.05.2018	Copyright: Trenz Electronic GmbH	Page 7 of 11
Filename: ETH.SchDoc		



	Title: TEM002 - Connectors		
	A4	Number: TEM002 010CA	Rev. 02
	Date: 28.05.2018	Copyright: Trenz Electronic GmbH	Page8 of 11
	Filename: misc.SchDoc		



	Title: TEM0002 - Connectors		
	A4	Number: TEM0002 010CA	Rev. 02
	Date: 28.05.2018	Copyright: Trenz Electronic GmbH	Page9 of 11
	Filename: RPi-Headers.SchDoc		

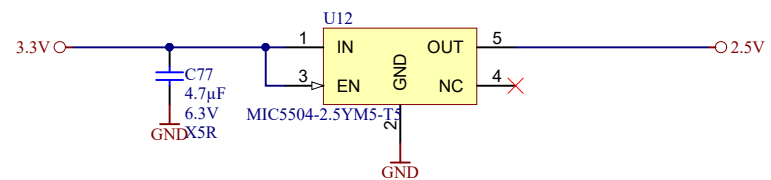
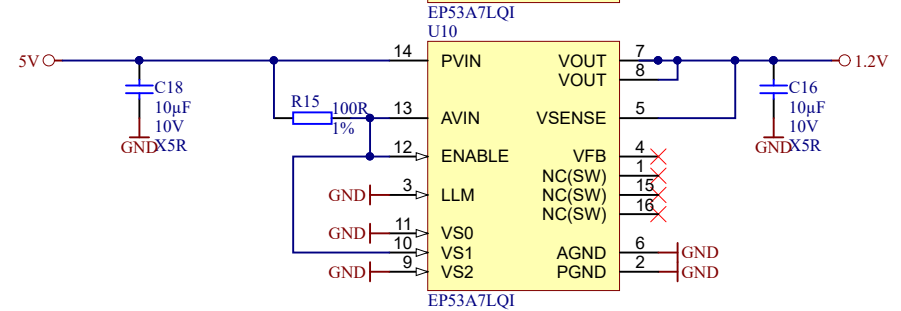
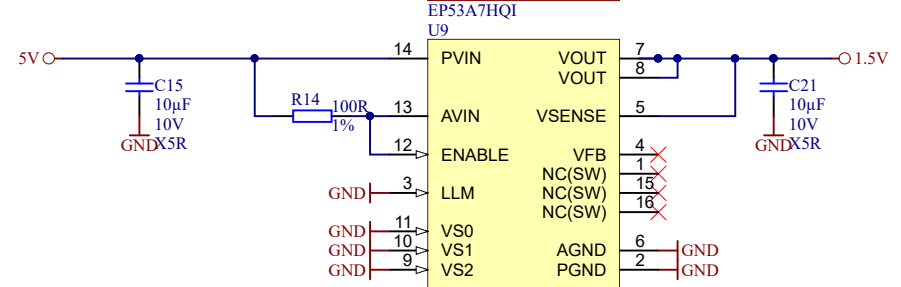
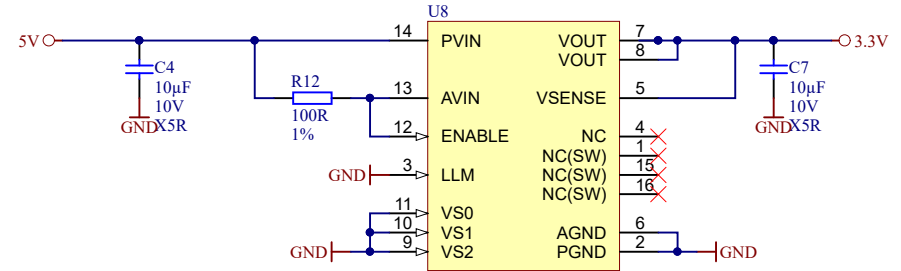
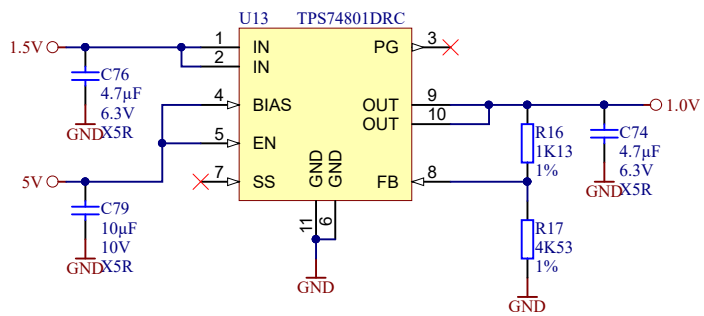


J5

GND

VIN

Wire to board, 2 pol. header 90°



Title: TEM002 - PowerSupply		
A4	Number: TEM002 010CA	Rev. 02
Date: 28.05.2018	Copyright: Trenz Electronic GmbH	Page 10 of 11
Filename: PowerSupply.SchDoc		

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REV02

-
- 1) Added MAC EEPROM 24AA025E48T-I/OT (U15)
 - 2) Crystal oscillator Y1 replaced from 25MHz to 12MHz
 - 3) New Gigabit Ethernet Connector - Pulse JXD0-0015NL (status leds are unidirectional)
 - 4) BOM optimization.
 - 5) U10 pin 10 (VS1) connected to U10 pin 13 (AVIN)

REV02a (04.11.2020)

ED: 1. Changed ETH PHY U1 from VSC8531XMW-01 to VSC8531XMW-02

A

A

B

B

C

C

D

D



Title: TEM0002 - Revision changes		
A4	Number: TEM0002 010CA	Rev. 02
Date: 28.05.2018	Copyright: Trenz Electronic GmbH	Page 11 of 11
Filename: Revision_Changes.SchDoc		

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