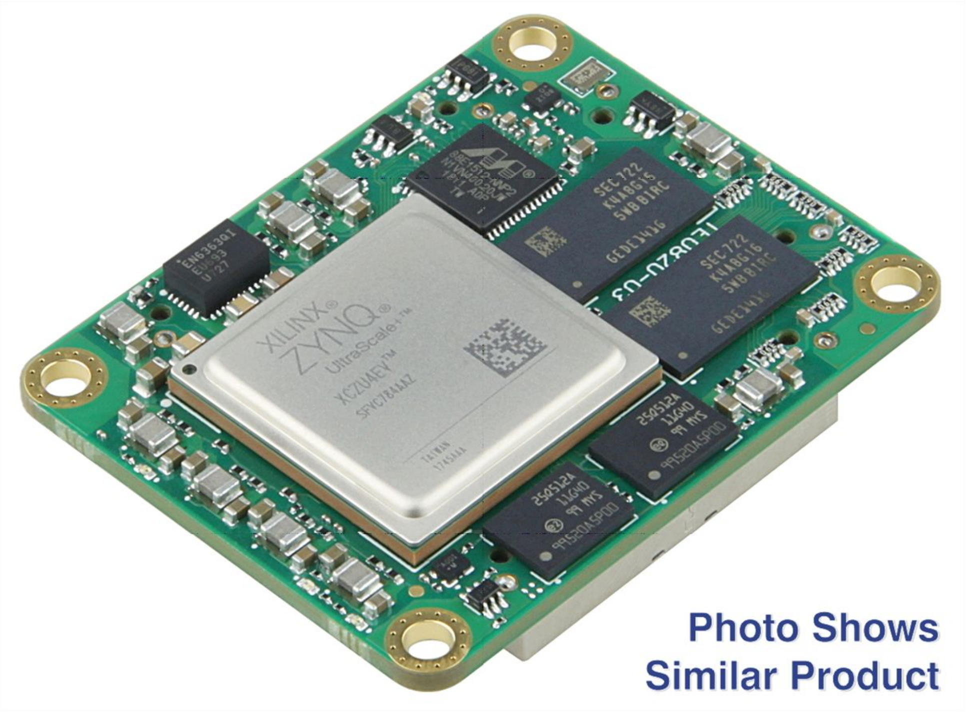
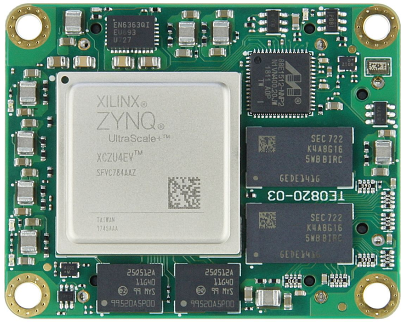


Photo Shows Similar Product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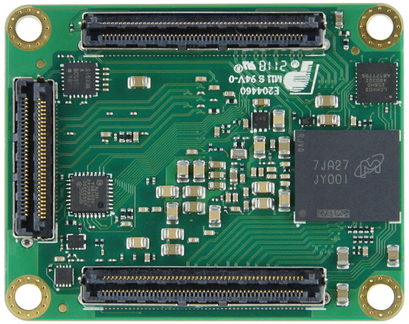
Photo Shows Similar Product

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Schematics and other handouts serve for informational purposes only!

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Title: TE0820 - Legal Notices
A4
Number: TE0820
3AE81MAZ
Rev. 05
Date: 2022-05-10
Copyright: Trenz Electronic GmbH
Page 1 of 24
Filename: Legal Notices Modules.SchDoc

REV	Description	
-01	Initial revision	VT
-02	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	VT
-03	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)	VT
-04	1) Fixed DDR4 connection (BG1), support B-die DDR4 Industrial grade chips 2) Added R93, changed value C62, change obsolete U28 3) Added R89 (10R) 4) Added additional caps 4.7uF to PS_AVTT/PS_AVCC (Xilinx doc UG583) 5) Changed R51 20k ->10K (PS_AVCC = 0.85V, Xilinx doc DS925 v1.17) 6) Fixed DDR4 connection (Alert) 7) Added 3.3V signal to CPLD 8) Added testpoints 9) LIB components update	VT
-04A	1) Added block diagram, updated module pictures	VY
-05	1) Changed EOL Ferrite Beads L1..5,L7,L9..12 2) Changed EOL DCDC U5 (EN6363QI -> MPM3860GQW-Z) 3) Changed EOL Load Switch U28 (TPS27082LDDCR -> MP5077GG-Z) 4) Added additional Decoupling Capacitors and changed caps 4.7uF to 10uF (Xilinx doc UG583 v1.23) 5) Added pull-down and testpoint to TEN DDR4 signal 6) Changed EOL Transistor T1 (AO7800 -> BSD840NH6327XTSA1) 7) Added Voltage Detector U30 (BD39040MUF-CE2) 8) Changed EOL eMMC U6 (MTFC4GACAJCN-4M -> SDINBDG4-8G-XI2) 9) Changed EOL MEMS U14 (SiT8008AI-73-XXS-52.000000E -> SiT8008BI-73-XXS-52.000000E) 10) Added signal PG_ALL (U30) to CPLD (pin5) 11) Added option (depends assembly variants, for all assembly variants R128 set as populated, instead special inquiry) signal POR_B through R128, T2 to CPLD (pin27) 12) Added option (depends assembly variants, for all assembly variants R95 set as DNP, instead special inquiry) signal EN1 through R95 to DCDC U5 13) Added option (depends assembly variants, for all assembly variants U29 and R129 set as populated, instead special inquiry) signal PHY_LED1 through Level Translator U29 to FPGA (U1.K7) 14) Added Resistors R130 & R131 (select Power-on delay override, for all assembly variants R130 set as DNP -> Standard PL Power-on delay time) 15) Added Diode D5 16) Added Power Diagram Sheet 17) LIB components update	VT

Title: TE0820 - Revision Changes			
A4	Number: TE0820 3AE81MAZ		Rev. 05
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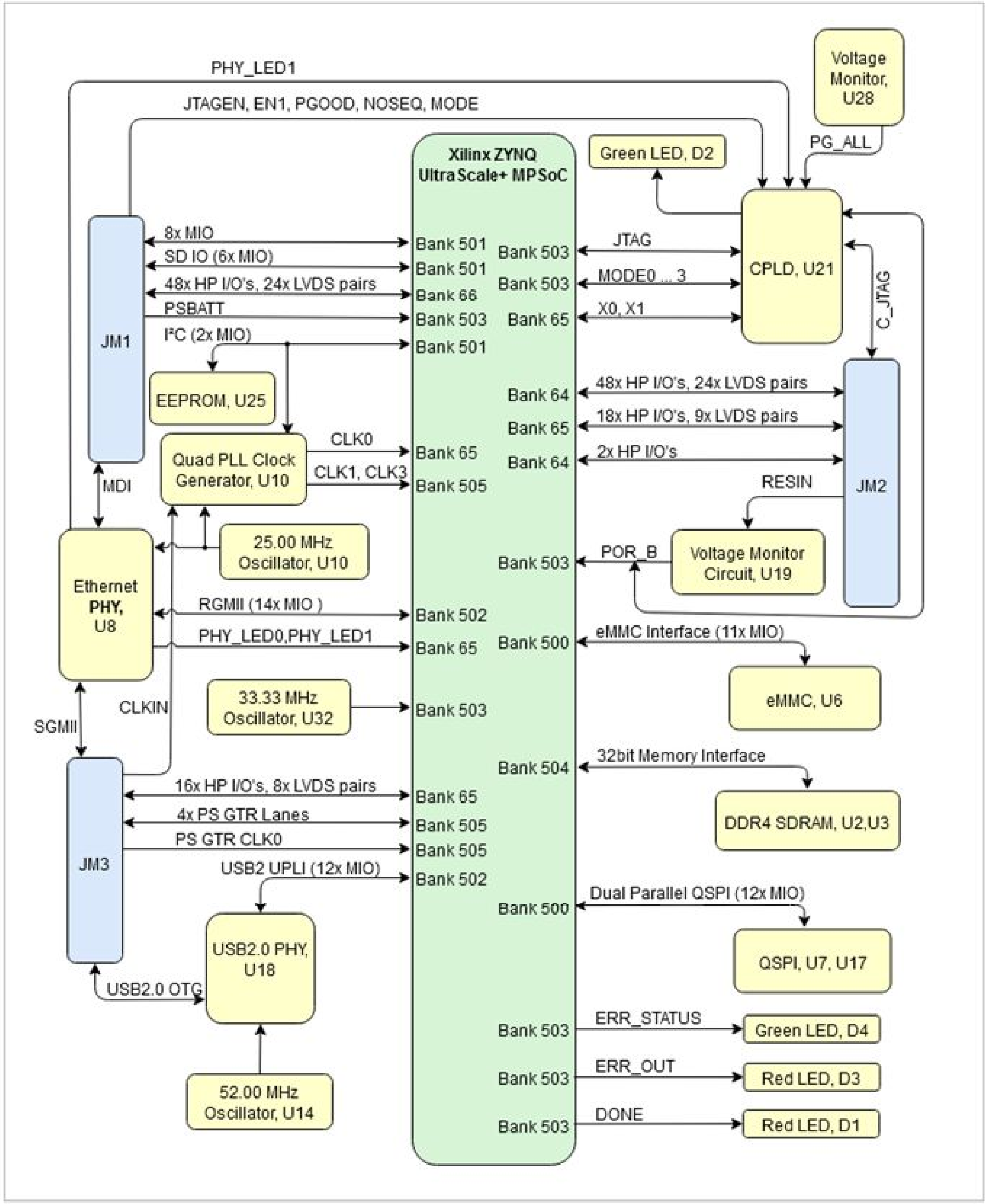
PHY_LED1
JTAGEN, EN1, PGOOD, NOSEQ, MODE
Voltage Monitor, U28
PG_ALL
Xilinx ZYNQ UltraScale+ MPSoC
Green LED, D2
CPLD, U21
C_JTAG
JM1
8x MIO
SD IO (6x MIO)
48x HP I/O's, 24x LVDS pairs
PSBATT
I²C (2x MIO)
Bank 501
Bank 501
Bank 66
Bank 503
Bank 501
Bank 503
Bank 503
Bank 65
JTAG
MODE0 ... 3
X0, X1
EEPROM, U25
Quad PLL Clock Generator, U10
CLK0
CLK1, CLK3
Bank 65
Bank 505
Bank 64
Bank 65
Bank 64
48x HP I/O's, 24x LVDS pairs
18x HP I/O's, 9x LVDS pairs
2x HP I/O's
RESIN
JM2
MDI
25.00 MHz Oscillator, U10
Bank 503
POR_B
Voltage Monitor Circuit, U19
Ethernet PHY, U8
RGMII (14x MIO)
PHY_LED0,PHY_LED1
Bank 502
Bank 65
Bank 500
eMMC Interface (11x MIO)
eMMC, U6
SGMII
CLKIN
33.33 MHz Oscillator, U32
Bank 503
Bank 504
32bit Memory Interface
DDR4 SDRAM, U2,U3
JM3
16x HP I/O's, 8x LVDS pairs
4x PS GTR Lanes
PS GTR CLK0
USB2 UPLI (12x MIO)
Bank 65
Bank 505
Bank 505
Bank 502
Bank 500
Dual Parallel QSPI (12x MIO)
QSPI, U7, U17
USB2.0 PHY, U18
USB2.0 OTG
52.00 MHz Oscillator, U14
Bank 503
ERR_STATUS
Green LED, D4
Bank 503
ERR_OUT
Red LED, D3
Bank 503
DONE
Red LED, D1

TE0820 List of Web Documentation

Web Document Name	Link	QR-code
TE0820 Resources	URL	
TE0820 TRM	URL	
TE0820 Reference Designs	URL	
TE0820 CPLD Firmware	URL	
TE0820 Product Change Notifications	URL	
TE0820 Design and Advisory Notes	URL	

Title: TE0820 - System Overview
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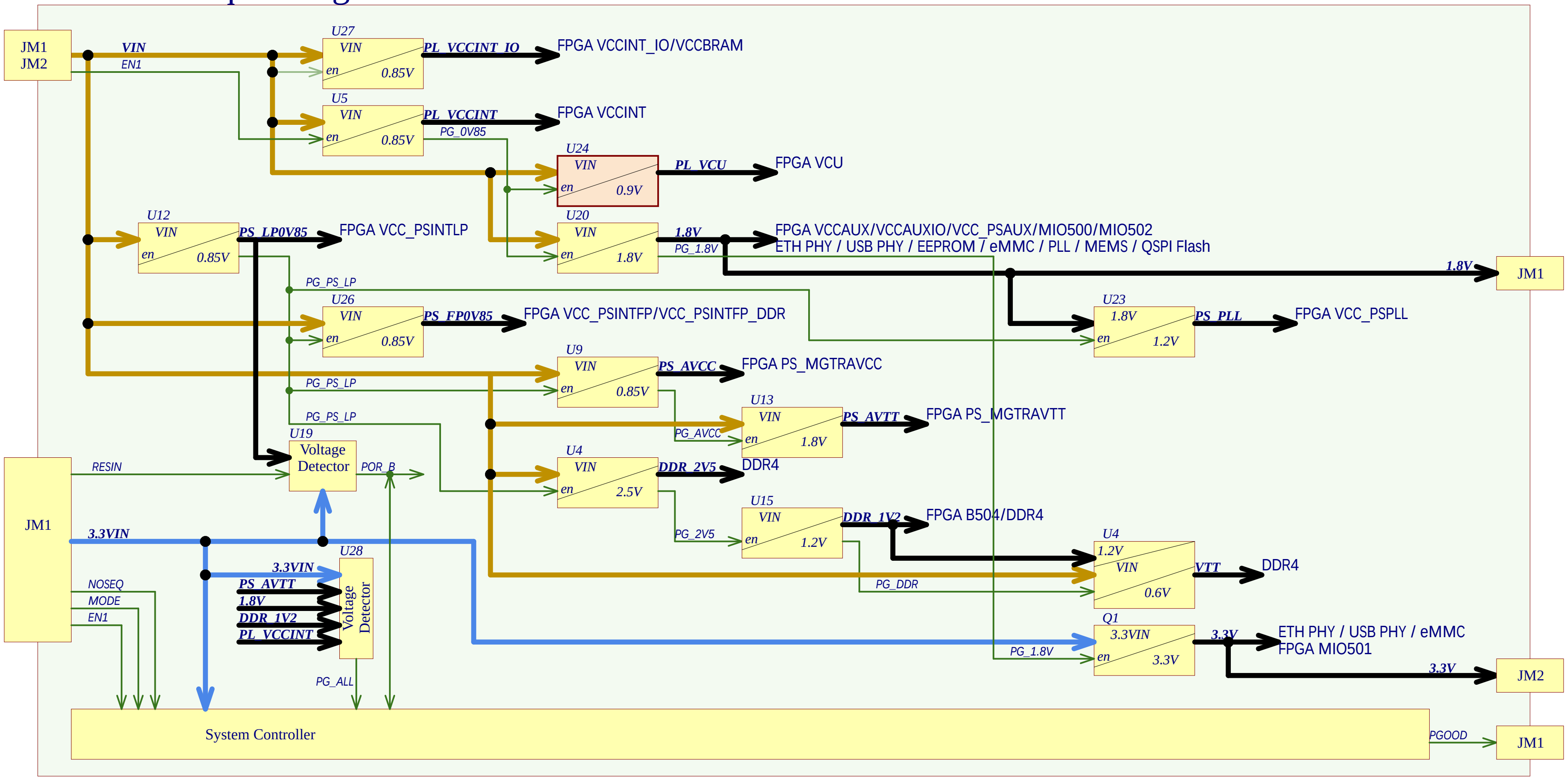
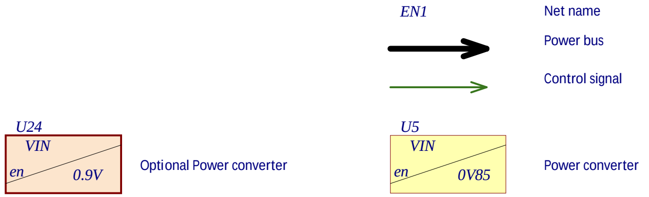
Power-on sequencing:


JM1
JM2
VIN
EN1
U27
VIN
en
0.85V
PL_VCCINT_IO
FPGA VCCINT_IO/VCCBRAM
U5
VIN
en
0.85V
PL_VCCINT
PG_0V85
FPGA VCCINT
U24
VIN
en
0.9V
PL_VCU
FPGA VCU
U12
VIN
en
0.85V
PS_LP0V85
FPGA VCC_PSINTLP
U20
VIN
en
1.8V
1.8V
PG_1.8V
FPGA VCCAUX/VCCAUXIO/VCC_PSAUX/MIO500/MIO502
ETH PHY / USB PHY / EEPROM / eMMC / PLL / MEMS / QSPI Flash
1.8V
JM1
PG_PS_LP
U26
VIN
en
0.85V
PS_FP0V85
FPGA VCC_PSINTFP/VCC_PSINTFP_DDR
U23
1.8V
en
1.2V
PS_PLL
FPGA VCC_PSPLL
U9
VIN
en
0.85V
PS_AVCC
FPGA PS_MGTRAVCC
PG_PS_LP
PG_PS_LP
U13
VIN
en
1.8V
PG_AVCC
PS_AVTT
FPGA PS_MGTRAVTT
U19
Voltage Detector
POR_B
RESIN
JM1
U4
VIN
en
2.5V
DDR_2V5
DDR4
U15
VIN
en
1.2V
PG_2V5
DDR_1V2
FPGA B504/DDR4
3.3VIN
U28
3.3VIN
PS_AVTT
1.8V
DDR_1V2
PL_VCCINT
Voltage Detector
U4
1.2V
VIN
0.6V
VTT
DDR4
PG_DDR
NOSEQ
MODE
EN1
Q1
3.3VIN
en
3.3V
PG_1.8V
3.3V
ETH PHY / USB PHY / eMMC
FPGA MIO501
3.3V
JM2
PG_ALL
System Controller
PGOOD
JM1

Supported Voltage Ranges:

Power Rail	Direction	Range	Tolerance	Description	Note
VIN	IN	3.3 - 5V	+/-5%	Micromodule Power	-
3.3VIN	IN	3.3V	+/-5%	Micromodule Power	-
VCCO64	IN	1.2 - 1.8V	+/-3%	HP IO Bank64	-
VCCO65	IN	1.2 - 1.8V	+/-3%	HP IO Bank65	-
VCCO66	IN	1.2 - 1.8V	+/-3%	HP IO Bank66	-
PSBATT	IN	1.2 - 1.5V	+/-3%	PS battery-backed RAM and battery RTC	-
1.8V	OUT	1.8V	+/-3%	Power for Carrier	-
3.3V	OUT	3.3V	+/-3%	Power for Carrier	-


EN1
U24
VIN
en
0.9V
U5
VIN
en
0V85

Net name
Power bus
Control signal
Optional Power converter
Power converter

Title: TE0820 - Power Diagram
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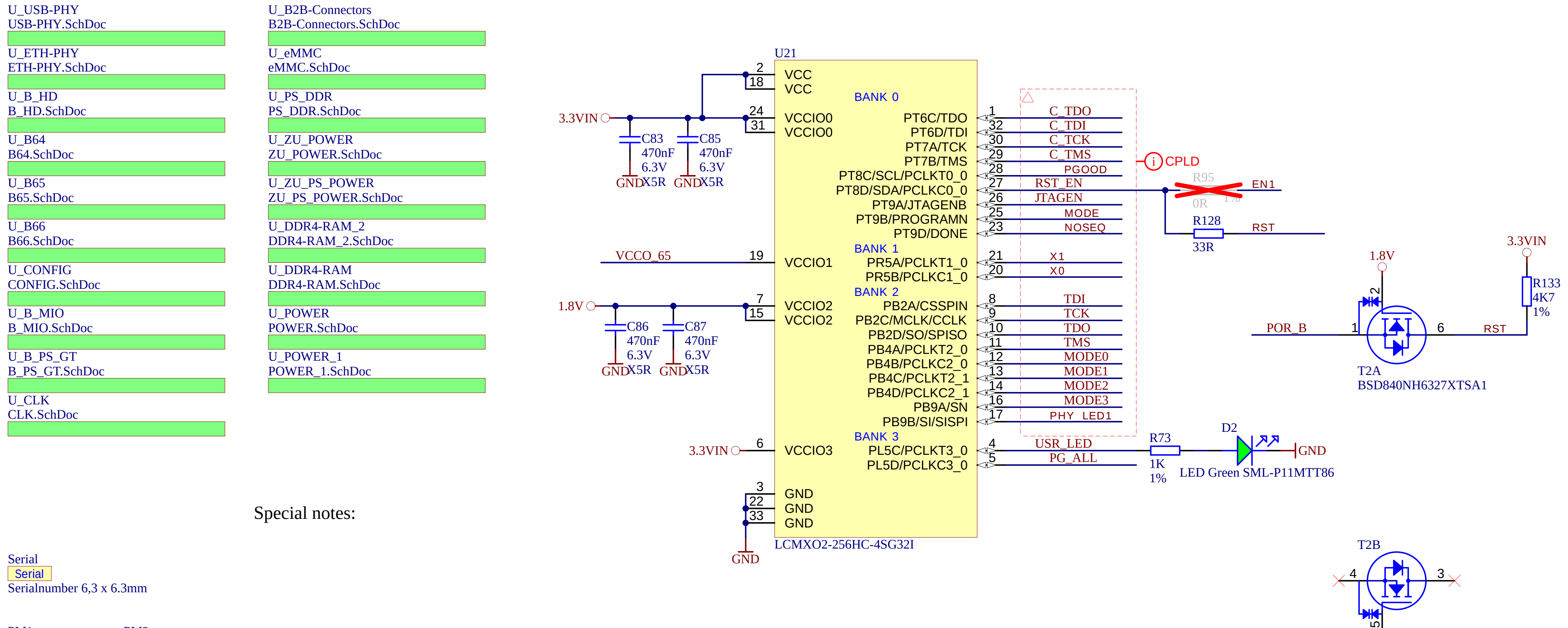
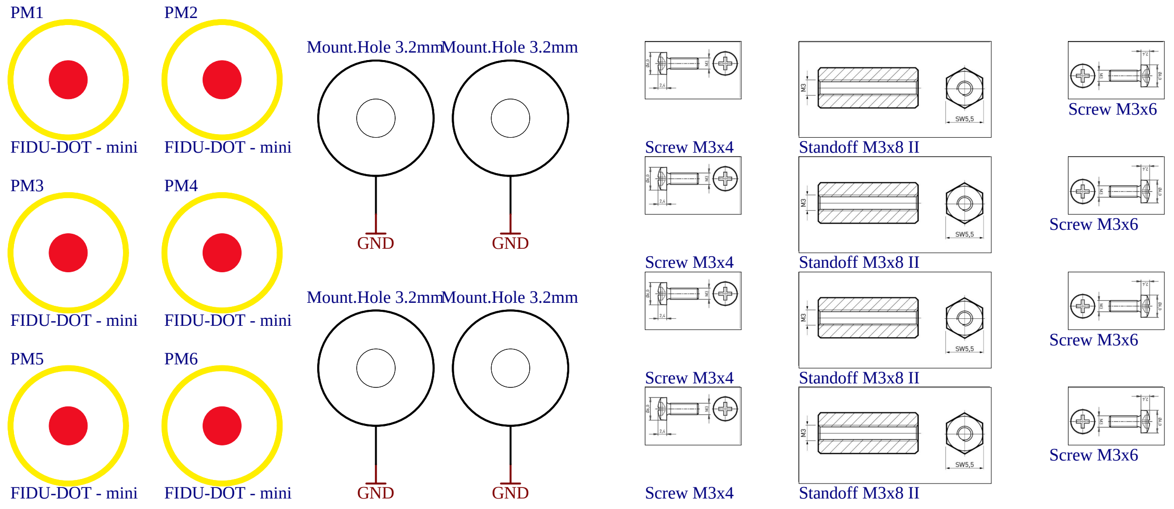

U_USB-PHY
USB-PHY.SchDoc
U_ETH-PHY
ETH-PHY.SchDoc
U_B_HD
B_HD.SchDoc
U_B64
B64.SchDoc
U_B65
B65.SchDoc
U_B66
B66.SchDoc
U_CONFIG
CONFIG.SchDoc
U_B_MIO
B_MIO.SchDoc
U_B_PS_GT
B_PS_GT.SchDoc
U_CLK
CLK.SchDoc
U_B2B-Connectors
B2B-Connectors.SchDoc
U_eMMC
eMMC.SchDoc
U_PS_DDR
PS_DDR.SchDoc
U_ZU_POWER
ZU_POWER.SchDoc
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
U21
LCMXO2-256HC-4SG32I
VCC 2
VCC 18
BANK 0
VCCIO0 24
VCCIO0 31
3.3VIN
C83 470nF 6.3V X5R
C85 470nF 6.3V X5R
GND
PT6C/TDO 1 C_TDO
PT6D/TDI 32 C_TDI
PT7A/TCK 30 C_TCK
PT7B/TMS 29 C_TMS
PT8C/SCL/PCLKT0_0 28 PGOOD
PT8D/SDA/PCLKC0_0 27 RST_EN
PT9A/JTAGENB 26 JTAGEN
PT9B/PROGRAMN 25 MODE
PT9D/DONE 23 NOSEQ
CPLD
R95 0R 1%
EN1
R128 33R
RST
BANK 1
VCCO_65 19 VCCIO1
PR5A/PCLKT1_0 21 X1
PR5B/PCLKC1_0 20 X0
BANK 2
1.8V
VCCIO2 7
VCCIO2 15
C86 470nF 6.3V X5R
C87 470nF 6.3V X5R
PB2A/CSSPIN 8 TDI
PB2C/MCLK/CCLK 9 TCK
PB2D/SO/SPISO 10 TDO
PB4A/PCLKT2_0 11 TMS
PB4B/PCLKC2_0 12 MODE0
PB4C/PCLKT2_1 13 MODE1
PB4D/PCLKC2_1 14 MODE2
PB9A/SN 16 MODE3
PB9B/SI/SISPI 17 PHY_LED1
BANK 3
3.3VIN 6 VCCIO3
PL5C/PCLKT3_0 4 USR_LED
PL5D/PCLKC3_0 5 PG_ALL
R73 1K 1%
D2
LED Green SML-P11MTT86
GND
GND 3
GND 22
GND 33
1.8V
3.3VIN
R133 4K7 1%
POR_B 1
2
6 RST
T2A
BSD840NH6327XTSA1
T2B
4
3
5
BSD840NH6327XTSA1
Special notes:
Serial
Serial
Serialnumber 6,3 x 6.3mm


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
Standoff M3x8 II
Standoff M3x8 II
Standoff M3x8 II
Standoff M3x8 II
Screw M3x6
Screw M3x6
Screw M3x6
Screw M3x6

Assembly variant	3AE81MAZ
Created by	ED
Modified by	ED
Modified at	2022-07-07
SVN Revision	13497

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Title: TE0820

A4

Number: TE0820 3AE81MAZ

Rev. 05

Date: 2022-05-10

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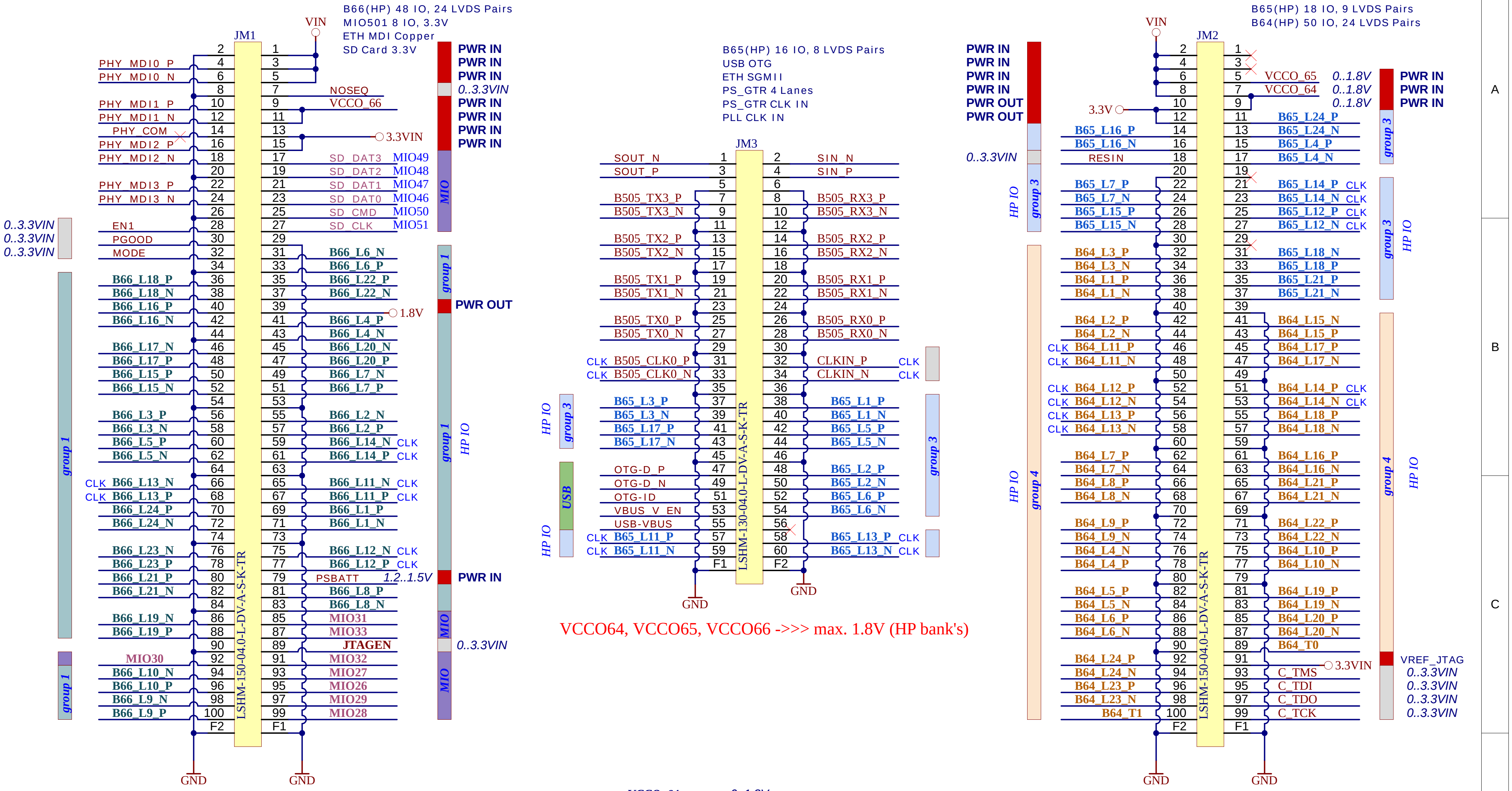
Filename: TE0820.SchDoc


B66(HP) 48 IO, 24 LVDS Pairs
MIO501 8 IO, 3.3V
ETH MDI Copper
SD Card 3.3V
VIN
JM1
4 PHY_MDI0_P
6 PHY_MDI0_N
10 PHY_MDI1_P
12 PHY_MDI1_N
14 PHY_COM
16 PHY_MDI2_P
18 PHY_MDI2_N
22 PHY_MDI3_P
24 PHY_MDI3_N
28 EN1
30 PGOOD
32 MODE
36 B66_L18_P
38 B66_L18_N
40 B66_L16_P
42 B66_L16_N
46 B66_L17_N
48 B66_L17_P
50 B66_L15_P
52 B66_L15_N
56 B66_L3_P
58 B66_L3_N
60 B66_L5_P
62 B66_L5_N
66 CLK B66_L13_N
68 CLK B66_L13_P
70 B66_L24_P
72 B66_L24_N
76 B66_L23_N
78 B66_L23_P
80 B66_L21_P
82 B66_L21_N
86 B66_L19_N
88 B66_L19_P
92 MIO30
94 B66_L10_N
96 B66_L10_P
98 B66_L9_N
100 B66_L9_P
7 NOSEQ
9 VCCO_66
13 3.3VIN
17 SD_DAT3 MIO49
19 SD_DAT2 MIO48
21 SD_DAT1 MIO47
23 SD_DAT0 MIO46
25 SD_CMD MIO50
27 SD_CLK MIO51
31 B66_L6_N
33 B66_L6_P
35 B66_L22_P
37 B66_L22_N
39 1.8V
41 B66_L4_P
43 B66_L4_N
45 B66_L20_N
47 B66_L20_P
49 B66_L7_N
51 B66_L7_P
55 B66_L2_N
57 B66_L2_P
59 B66_L14_N CLK
61 B66_L14_P CLK
65 B66_L11_N CLK
67 B66_L11_P CLK
69 B66_L1_P
71 B66_L1_N
75 B66_L12_N CLK
77 B66_L12_P CLK
79 PSBATT 1.2..1.5V
81 B66_L8_P
83 B66_L8_N
85 MIO31
87 MIO33
89 JTAGEN
91 MIO32
93 MIO27
95 MIO26
97 MIO29
99 MIO28
LSHM-150-04.0-L-DV-A-S-K-TR
PWR IN
PWR IN
PWR IN
0..3.3VIN
PWR IN
PWR IN
PWR IN
PWR IN
MIO
group 1
PWR OUT
group 1
HP IO
PWR IN
MIO
0..3.3VIN
MIO
0..3.3VIN
0..3.3VIN
0..3.3VIN
group 1
group 1
GND
GND
B65(HP) 16 IO, 8 LVDS Pairs
USB OTG
ETH SGMII
PS_GTR 4 Lanes
PS_GTR CLK IN
PLL CLK IN
JM3
1 SOUT_N
3 SOUT_P
7 B505_TX3_P
9 B505_TX3_N
13 B505_TX2_P
15 B505_TX2_N
19 B505_TX1_P
21 B505_TX1_N
25 B505_TX0_P
27 B505_TX0_N
31 CLK B505_CLK0_P
33 CLK B505_CLK0_N
37 B65_L3_P
39 B65_L3_N
41 B65_L17_P
43 B65_L17_N
47 OTG-D_P
49 OTG-D_N
51 OTG-ID
53 VBUS_V_EN
55 USB-VBUS
57 CLK B65_L11_P
59 CLK B65_L11_N
2 SIN_N
4 SIN_P
8 B505_RX3_P
10 B505_RX3_N
14 B505_RX2_P
16 B505_RX2_N
20 B505_RX1_P
22 B505_RX1_N
26 B505_RX0_P
28 B505_RX0_N
32 CLKIN_P CLK
34 CLKIN_N CLK
38 B65_L1_P
40 B65_L1_N
42 B65_L5_P
44 B65_L5_N
48 B65_L2_P
50 B65_L2_N
52 B65_L6_P
54 B65_L6_N
58 B65_L13_P CLK
60 B65_L13_N CLK
LSHM-130-04.0-L-DV-A-S-K-TR
HP IO
group 3
USB
HP IO
group 3
GND
GND
B65(HP) 18 IO, 9 LVDS Pairs
B64(HP) 50 IO, 24 LVDS Pairs
VIN
JM2
10 3.3V
14 B65_L16_P
16 B65_L16_N
18 RESIN
22 B65_L7_P
24 B65_L7_N
26 B65_L15_P
28 B65_L15_N
32 B64_L3_P
34 B64_L3_N
36 B64_L1_P
38 B64_L1_N
42 B64_L2_P
44 B64_L2_N
46 CLK B64_L11_P
48 CLK B64_L11_N
52 CLK B64_L12_P
54 CLK B64_L12_N
56 CLK B64_L13_P
58 CLK B64_L13_N
62 B64_L7_P
64 B64_L7_N
66 B64_L8_P
68 B64_L8_N
72 B64_L9_P
74 B64_L9_N
76 B64_L4_N
78 B64_L4_P
82 B64_L5_P
84 B64_L5_N
86 B64_L6_P
88 B64_L6_N
92 B64_L24_P
94 B64_L24_N
96 B64_L23_P
98 B64_L23_N
100 B64_T1
5 VCCO_65 0..1.8V
7 VCCO_64 0..1.8V
9 0..1.8V
11 B65_L24_P
13 B65_L24_N
15 B65_L4_P
17 B65_L4_N
21 B65_L14_P CLK
23 B65_L14_N CLK
25 B65_L12_P CLK
27 B65_L12_N CLK
31 B65_L18_N
33 B65_L18_P
35 B65_L21_P
37 B65_L21_N
41 B64_L15_N
43 B64_L15_P
45 B64_L17_P
47 B64_L17_N
51 B64_L14_P CLK
53 B64_L14_N CLK
55 B64_L18_P
57 B64_L18_N
61 B64_L16_P
63 B64_L16_N
65 B64_L21_P
67 B64_L21_N
71 B64_L22_P
73 B64_L22_N
75 B64_L10_P
77 B64_L10_N
81 B64_L19_P
83 B64_L19_N
85 B64_L20_P
87 B64_L20_N
89 B64_T0
91 3.3VIN
93 C_TMS
95 C_TDI
97 C_TDO
99 C_TCK
LSHM-150-04.0-L-DV-A-S-K-TR
PWR IN
PWR IN
PWR IN
PWR IN
PWR OUT
PWR OUT
0..3.3VIN
HP IO
group 3
HP IO
group 4
PWR IN
PWR IN
PWR IN
group 3
group 3
HP IO
group 4
HP IO
VREF_JTAG
0..3.3VIN
0..3.3VIN
0..3.3VIN
0..3.3VIN
GND
GND

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

MIO[29..26] ->PJTAG1

VCCO_64	0..1.8V
VCCO_65	0..1.8V
VCCO_66	0..1.8V
MIO	0..3.3V
group 1	0..VCCO_66
group 3	0..VCCO_65
group 4	0..VCCO_64

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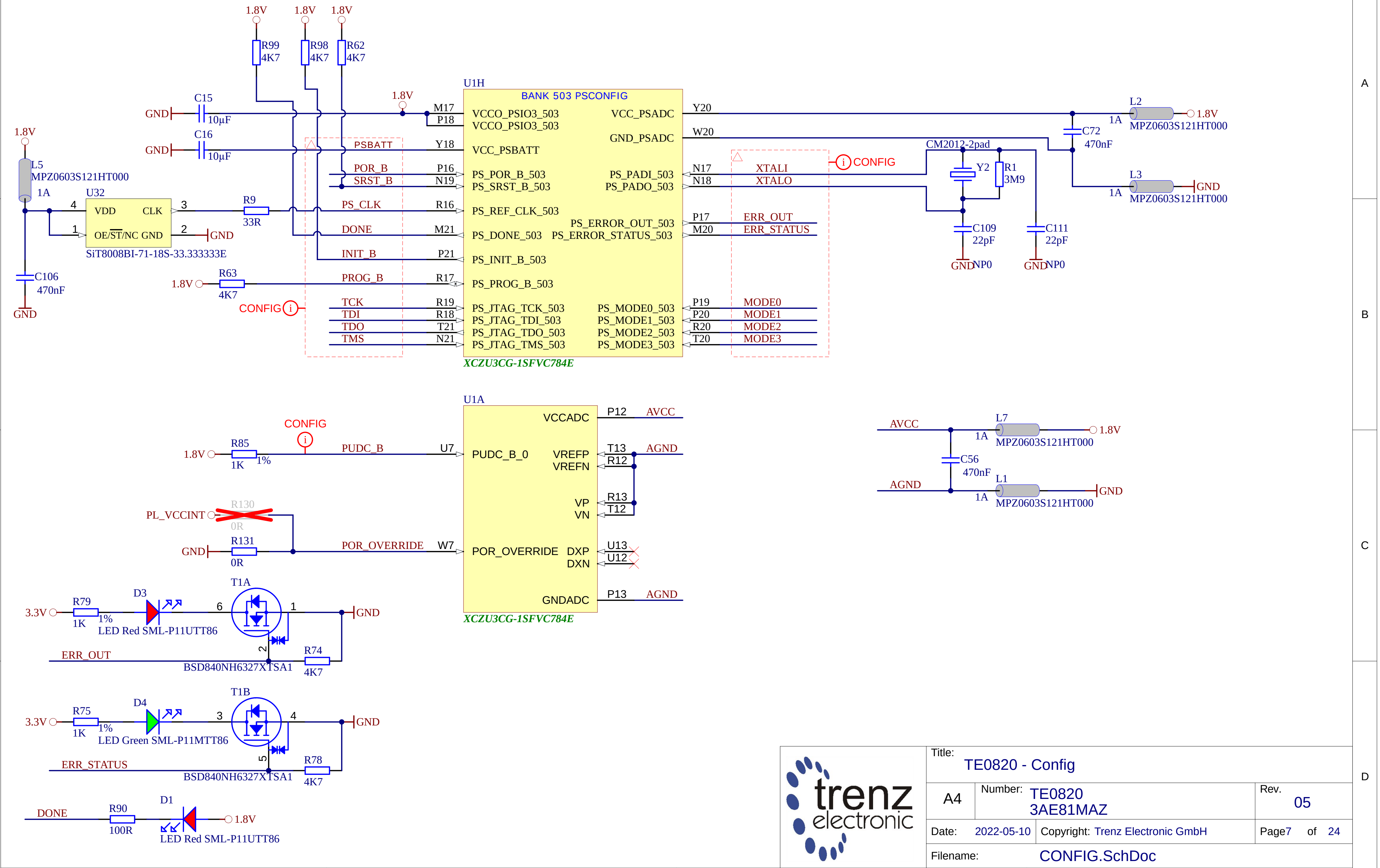
Title: TE0820 - B2B Connectors

A4 Number: TE0820 3AE81MAZ Rev. 05

Date: 2022-05-10 Copyright: Trenz Electronic GmbH Page6 of 24

Filename: B2B-Connectors.SchDoc


U1H
BANK 503 PSCONFIG
VCCO_PSIO3_503
VCCO_PSIO3_503
VCC_PSBATT
PS_POR_B_503
PS_SRST_B_503
PS_REF_CLK_503
PS_DONE_503
PS_INIT_B_503
PS_PROG_B_503
PS_JTAG_TCK_503
PS_JTAG_TDI_503
PS_JTAG_TDO_503
PS_JTAG_TMS_503
VCC_PSADC
GND_PSADC
PS_PADI_503
PS_PADO_503
PS_ERROR_OUT_503
PS_ERROR_STATUS_503
PS_MODE0_503
PS_MODE1_503
PS_MODE2_503
PS_MODE3_503
XCZU3CG-1SFVC784E
M17
P18
Y18
P16
N19
R16
M21
P21
R17
R19
R18
T21
N21
Y20
W20
N17
N18
P17
M20
P19
P20
R20
T20
1.8V
R99
4K7
R98
4K7
R62
4K7
C15
10µF
C16
10µF
GND
PSBATT
POR_B
SRST_B
PS_CLK
DONE
INIT_B
PROG_B
TCK
TDI
TDO
TMS
R9
33R
R63
4K7
CONFIG
L5
MPZ0603S121HT000
1A
U32
VDD
CLK
OE/ST/NC GND
SiT8008BI-71-18S-33.333333E
C106
470nF
XTALI
XTALO
ERR_OUT
ERR_STATUS
MODE0
MODE1
MODE2
MODE3
CM2012-2pad
Y2
R1
3M9
C109
22pF
C111
22pF
NP0
L2
MPZ0603S121HT000
C72
470nF
L3
MPZ0603S121HT000
U1A
VCCADC
PUDC_B_0
VREFP
VREFN
VP
VN
POR_OVERRIDE
DXP
DXN
GNDADC
P12
T13
R12
R13
T12
U13
U12
P13
U7
W7
AVCC
AGND
R85
1K
1%
PUDC_B
PL_VCCINT
R130
0R
R131
0R
POR_OVERRIDE
L7
MPZ0603S121HT000
C56
470nF
L1
MPZ0603S121HT000
3.3V
R79
1K
1%
D3
LED Red SML-P11UTT86
T1A
BSD840NH6327XTSA1
R74
4K7
ERR_OUT
R75
1K
1%
D4
LED Green SML-P11MTT86
T1B
BSD840NH6327XTSA1
R78
4K7
ERR_STATUS
DONE
R90
100R
D1
LED Red SML-P11UTT86
1
2
3
4
A
B
C
D

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Date: 2022-05-10

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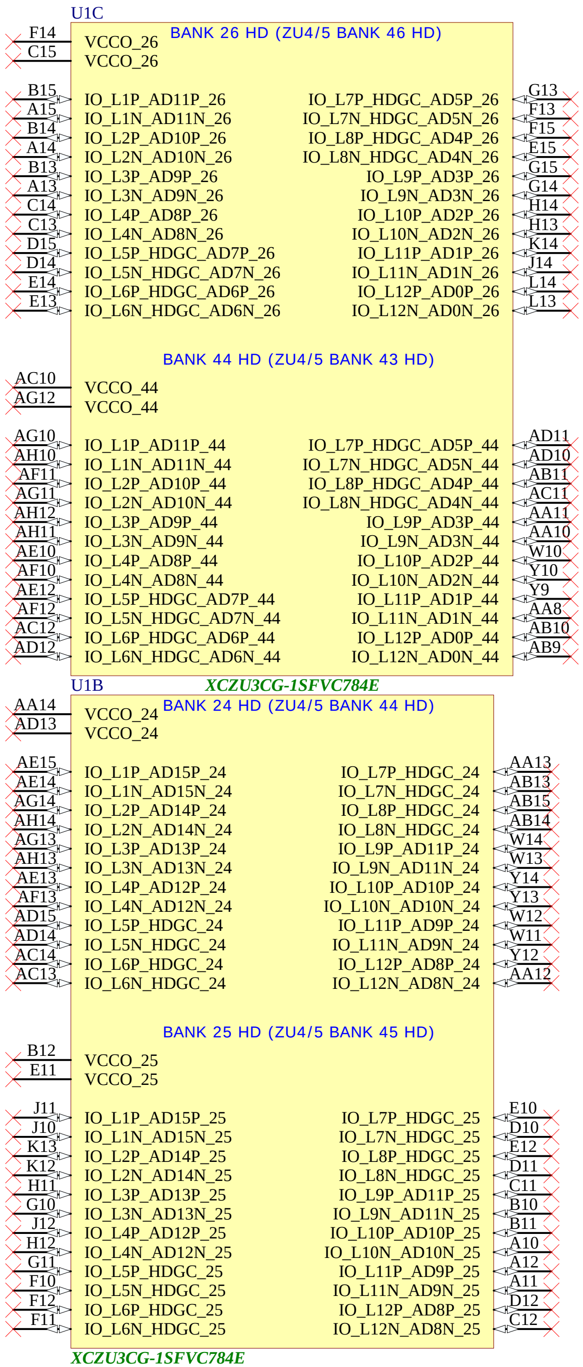
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F14 VCCO_26
C15 VCCO_26
B15 IO_L1P_AD11P_26
A15 IO_L1N_AD11N_26
B14 IO_L2P_AD10P_26
A14 IO_L2N_AD10N_26
B13 IO_L3P_AD9P_26
A13 IO_L3N_AD9N_26
C14 IO_L4P_AD8P_26
C13 IO_L4N_AD8N_26
D15 IO_L5P_HDGC_AD7P_26
D14 IO_L5N_HDGC_AD7N_26
E14 IO_L6P_HDGC_AD6P_26
E13 IO_L6N_HDGC_AD6N_26
IO_L7P_HDGC_AD5P_26 G13
IO_L7N_HDGC_AD5N_26 F13
IO_L8P_HDGC_AD4P_26 F15
IO_L8N_HDGC_AD4N_26 E15
IO_L9P_AD3P_26 G15
IO_L9N_AD3N_26 G14
IO_L10P_AD2P_26 H14
IO_L10N_AD2N_26 H13
IO_L11P_AD1P_26 K14
IO_L11N_AD1N_26 J14
IO_L12P_AD0P_26 L14
IO_L12N_AD0N_26 L13
BANK 44 HD (ZU4/5 BANK 43 HD)
AC10 VCCO_44
AG12 VCCO_44
AG10 IO_L1P_AD11P_44
AH10 IO_L1N_AD11N_44
AF11 IO_L2P_AD10P_44
AG11 IO_L2N_AD10N_44
AH12 IO_L3P_AD9P_44
AH11 IO_L3N_AD9N_44
AE10 IO_L4P_AD8P_44
AF10 IO_L4N_AD8N_44
AE12 IO_L5P_HDGC_AD7P_44
AF12 IO_L5N_HDGC_AD7N_44
AC12 IO_L6P_HDGC_AD6P_44
AD12 IO_L6N_HDGC_AD6N_44
IO_L7P_HDGC_AD5P_44 AD11
IO_L7N_HDGC_AD5N_44 AD10
IO_L8P_HDGC_AD4P_44 AB11
IO_L8N_HDGC_AD4N_44 AC11
IO_L9P_AD3P_44 AA11
IO_L9N_AD3N_44 AA10
IO_L10P_AD2P_44 W10
IO_L10N_AD2N_44 Y10
IO_L11P_AD1P_44 Y9
IO_L11N_AD1N_44 AA8
IO_L12P_AD0P_44 AB10
IO_L12N_AD0N_44 AB9
XCZU3CG-1SFVC784E
U1B
BANK 24 HD (ZU4/5 BANK 44 HD)
AA14 VCCO_24
AD13 VCCO_24
AE15 IO_L1P_AD15P_24
AE14 IO_L1N_AD15N_24
AG14 IO_L2P_AD14P_24
AH14 IO_L2N_AD14N_24
AG13 IO_L3P_AD13P_24
AH13 IO_L3N_AD13N_24
AE13 IO_L4P_AD12P_24
AF13 IO_L4N_AD12N_24
AD15 IO_L5P_HDGC_24
AD14 IO_L5N_HDGC_24
AC14 IO_L6P_HDGC_24
AC13 IO_L6N_HDGC_24
IO_L7P_HDGC_24 AA13
IO_L7N_HDGC_24 AB13
IO_L8P_HDGC_24 AB15
IO_L8N_HDGC_24 AB14
IO_L9P_AD11P_24 W14
IO_L9N_AD11N_24 W13
IO_L10P_AD10P_24 Y14
IO_L10N_AD10N_24 Y13
IO_L11P_AD9P_24 W12
IO_L11N_AD9N_24 W11
IO_L12P_AD8P_24 Y12
IO_L12N_AD8N_24 AA12
BANK 25 HD (ZU4/5 BANK 45 HD)
B12 VCCO_25
E11 VCCO_25
J11 IO_L1P_AD15P_25
J10 IO_L1N_AD15N_25
K13 IO_L2P_AD14P_25
K12 IO_L2N_AD14N_25
H11 IO_L3P_AD13P_25
G10 IO_L3N_AD13N_25
J12 IO_L4P_AD12P_25
H12 IO_L4N_AD12N_25
G11 IO_L5P_HDGC_25
F10 IO_L5N_HDGC_25
F12 IO_L6P_HDGC_25
F11 IO_L6N_HDGC_25
IO_L7P_HDGC_25 E10
IO_L7N_HDGC_25 D10
IO_L8P_HDGC_25 E12
IO_L8N_HDGC_25 D11
IO_L9P_AD11P_25 C11
IO_L9N_AD11N_25 B10
IO_L10P_AD10P_25 B11
IO_L10N_AD10N_25 A10
IO_L11P_AD9P_25 A12
IO_L11N_AD9N_25 A11
IO_L12P_AD8P_25 D12
IO_L12N_AD8N_25 C12
XCZU3CG-1SFVC784E

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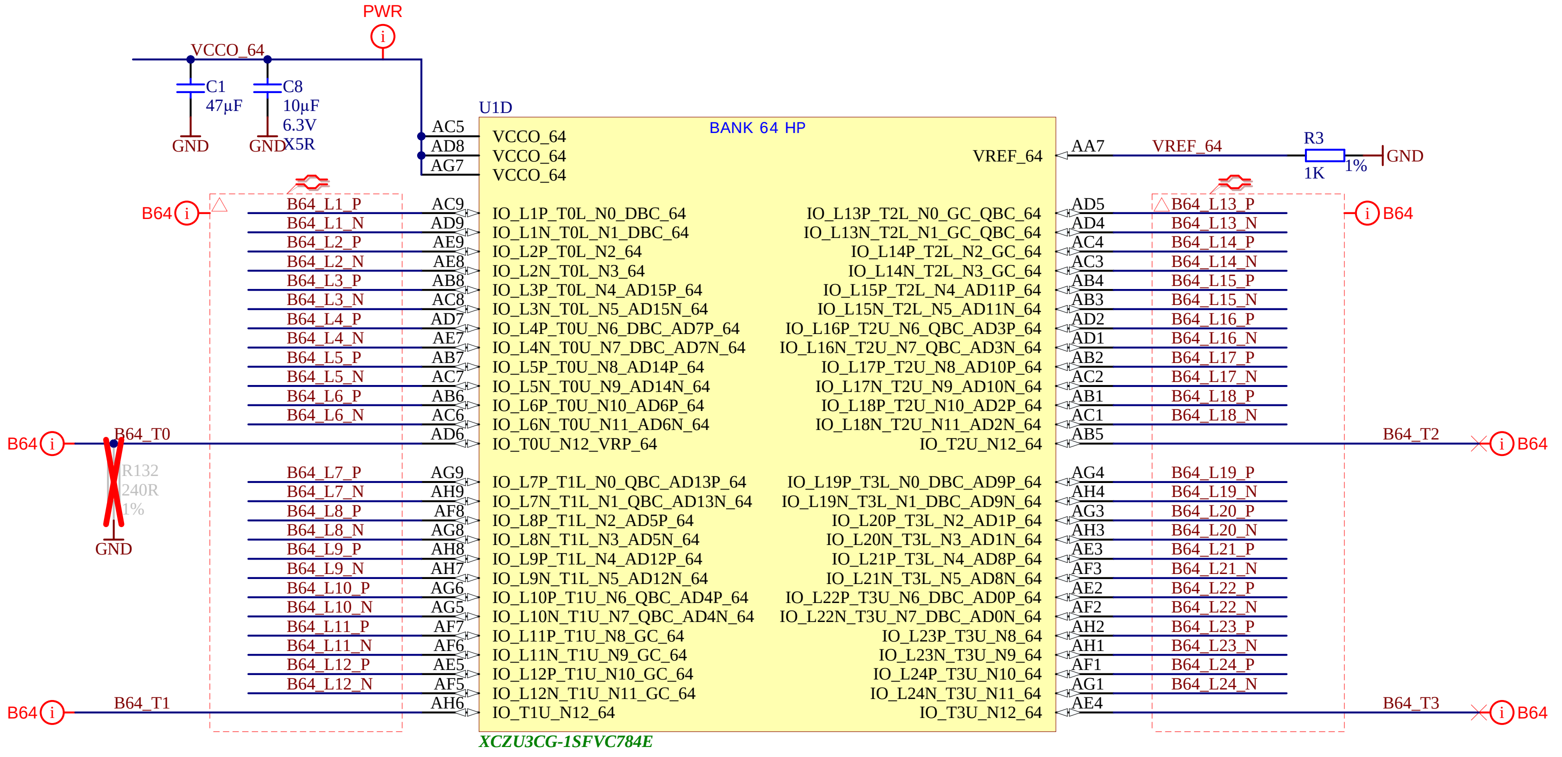
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C1
47µF
GND
C8
10µF
6.3V
X5R
GND
U1D
BANK 64 HP
AC5 VCCO_64
AD8 VCCO_64
AG7 VCCO_64
VREF_64 AA7
VREF_64
R3
1K
1%
GND
B64
B64_L1_P AC9 IO_L1P_T0L_N0_DBC_64
B64_L1_N AD9 IO_L1N_T0L_N1_DBC_64
B64_L2_P AE9 IO_L2P_T0L_N2_64
B64_L2_N AE8 IO_L2N_T0L_N3_64
B64_L3_P AB8 IO_L3P_T0L_N4_AD15P_64
B64_L3_N AC8 IO_L3N_T0L_N5_AD15N_64
B64_L4_P AD7 IO_L4P_T0U_N6_DBC_AD7P_64
B64_L4_N AE7 IO_L4N_T0U_N7_DBC_AD7N_64
B64_L5_P AB7 IO_L5P_T0U_N8_AD14P_64
B64_L5_N AC7 IO_L5N_T0U_N9_AD14N_64
B64_L6_P AB6 IO_L6P_T0U_N10_AD6P_64
B64_L6_N AC6 IO_L6N_T0U_N11_AD6N_64
B64 B64_T0 AD6 IO_T0U_N12_VRP_64
R132
240R
1%
GND
B64_L7_P AG9 IO_L7P_T1L_N0_QBC_AD13P_64
B64_L7_N AH9 IO_L7N_T1L_N1_QBC_AD13N_64
B64_L8_P AF8 IO_L8P_T1L_N2_AD5P_64
B64_L8_N AG8 IO_L8N_T1L_N3_AD5N_64
B64_L9_P AH8 IO_L9P_T1L_N4_AD12P_64
B64_L9_N AH7 IO_L9N_T1L_N5_AD12N_64
B64_L10_P AG6 IO_L10P_T1U_N6_QBC_AD4P_64
B64_L10_N AG5 IO_L10N_T1U_N7_QBC_AD4N_64
B64_L11_P AF7 IO_L11P_T1U_N8_GC_64
B64_L11_N AF6 IO_L11N_T1U_N9_GC_64
B64_L12_P AE5 IO_L12P_T1U_N10_GC_64
B64_L12_N AF5 IO_L12N_T1U_N11_GC_64
B64 B64_T1 AH6 IO_T1U_N12_64
IO_L13P_T2L_N0_GC_QBC_64 AD5 B64_L13_P
IO_L13N_T2L_N1_GC_QBC_64 AD4 B64_L13_N
IO_L14P_T2L_N2_GC_64 AC4 B64_L14_P
IO_L14N_T2L_N3_GC_64 AC3 B64_L14_N
IO_L15P_T2L_N4_AD11P_64 AB4 B64_L15_P
IO_L15N_T2L_N5_AD11N_64 AB3 B64_L15_N
IO_L16P_T2U_N6_QBC_AD3P_64 AD2 B64_L16_P
IO_L16N_T2U_N7_QBC_AD3N_64 AD1 B64_L16_N
IO_L17P_T2U_N8_AD10P_64 AB2 B64_L17_P
IO_L17N_T2U_N9_AD10N_64 AC2 B64_L17_N
IO_L18P_T2U_N10_AD2P_64 AB1 B64_L18_P
IO_L18N_T2U_N11_AD2N_64 AC1 B64_L18_N
IO_T2U_N12_64 AB5 B64_T2 B64
IO_L19P_T3L_N0_DBC_AD9P_64 AG4 B64_L19_P
IO_L19N_T3L_N1_DBC_AD9N_64 AH4 B64_L19_N
IO_L20P_T3L_N2_AD1P_64 AG3 B64_L20_P
IO_L20N_T3L_N3_AD1N_64 AH3 B64_L20_N
IO_L21P_T3L_N4_AD8P_64 AE3 B64_L21_P
IO_L21N_T3L_N5_AD8N_64 AF3 B64_L21_N
IO_L22P_T3U_N6_DBC_AD0P_64 AE2 B64_L22_P
IO_L22N_T3U_N7_DBC_AD0N_64 AF2 B64_L22_N
IO_L23P_T3U_N8_64 AH2 B64_L23_P
IO_L23N_T3U_N9_64 AH1 B64_L23_N
IO_L24P_T3U_N10_64 AF1 B64_L24_P
IO_L24N_T3U_N11_64 AG1 B64_L24_N
IO_T3U_N12_64 AE4 B64_T3 B64
XCZU3CG-1SFVC784E

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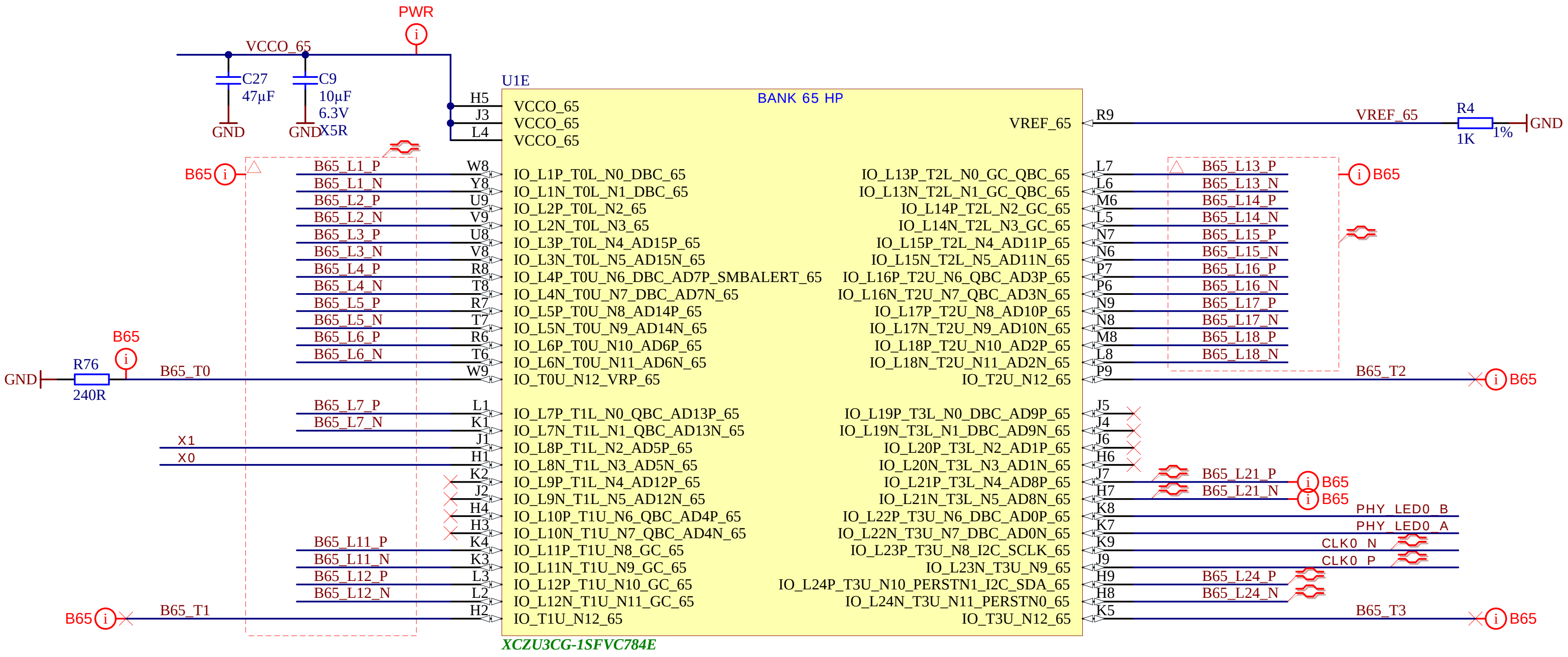
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C27
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C9
10µF
6.3V
X5R
GND
U1E
BANK 65 HP
H5
J3
L4
VCCO_65
VCCO_65
VCCO_65
VREF_65
R9
VREF_65
R4
1K
1%
GND
B65
B65_L1_P
B65_L1_N
B65_L2_P
B65_L2_N
B65_L3_P
B65_L3_N
B65_L4_P
B65_L4_N
B65_L5_P
B65_L5_N
B65_L6_P
B65_L6_N
W8
Y8
U9
V9
U8
V8
R8
T8
R7
T7
R6
T6
W9
IO_L1P_T0L_N0_DBC_65
IO_L1N_T0L_N1_DBC_65
IO_L2P_T0L_N2_65
IO_L2N_T0L_N3_65
IO_L3P_T0L_N4_AD15P_65
IO_L3N_T0L_N5_AD15N_65
IO_L4P_T0U_N6_DBC_AD7P_SMBALERT_65
IO_L4N_T0U_N7_DBC_AD7N_65
IO_L5P_T0U_N8_AD14P_65
IO_L5N_T0U_N9_AD14N_65
IO_L6P_T0U_N10_AD6P_65
IO_L6N_T0U_N11_AD6N_65
IO_T0U_N12_VRP_65
GND
R76
240R
B65
B65_T0
B65_L7_P
B65_L7_N
X1
X0
L1
K1
J1
H1
K2
J2
H4
H3
K4
K3
L3
L2
H2
IO_L7P_T1L_N0_QBC_AD13P_65
IO_L7N_T1L_N1_QBC_AD13N_65
IO_L8P_T1L_N2_AD5P_65
IO_L8N_T1L_N3_AD5N_65
IO_L9P_T1L_N4_AD12P_65
IO_L9N_T1L_N5_AD12N_65
IO_L10P_T1U_N6_QBC_AD4P_65
IO_L10N_T1U_N7_QBC_AD4N_65
IO_L11P_T1U_N8_GC_65
IO_L11N_T1U_N9_GC_65
IO_L12P_T1U_N10_GC_65
IO_L12N_T1U_N11_GC_65
IO_T1U_N12_65
B65_L11_P
B65_L11_N
B65_L12_P
B65_L12_N
B65
B65_T1
XCZU3CG-1SFVC784E
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
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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
L7
L6
M6
L5
N7
N6
P7
P6
N9
N8
M8
L8
P9
B65_L13_P
B65_L13_N
B65_L14_P
B65_L14_N
B65_L15_P
B65_L15_N
B65_L16_P
B65_L16_N
B65_L17_P
B65_L17_N
B65_L18_P
B65_L18_N
B65
B65_T2
B65
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_65
IO_L24P_T3U_N10_PERSTN1_I2C_SDA_65
IO_L24N_T3U_N11_PERSTN0_65
IO_T3U_N12_65
J5
J4
J6
H6
J7
H7
K8
K7
K9
J9
H9
H8
K5
B65_L21_P
B65_L21_N
B65
B65
PHY_LED0_B
PHY_LED0_A
CLK0_N
CLK0_P
B65_L24_P
B65_L24_N
B65_T3
B65

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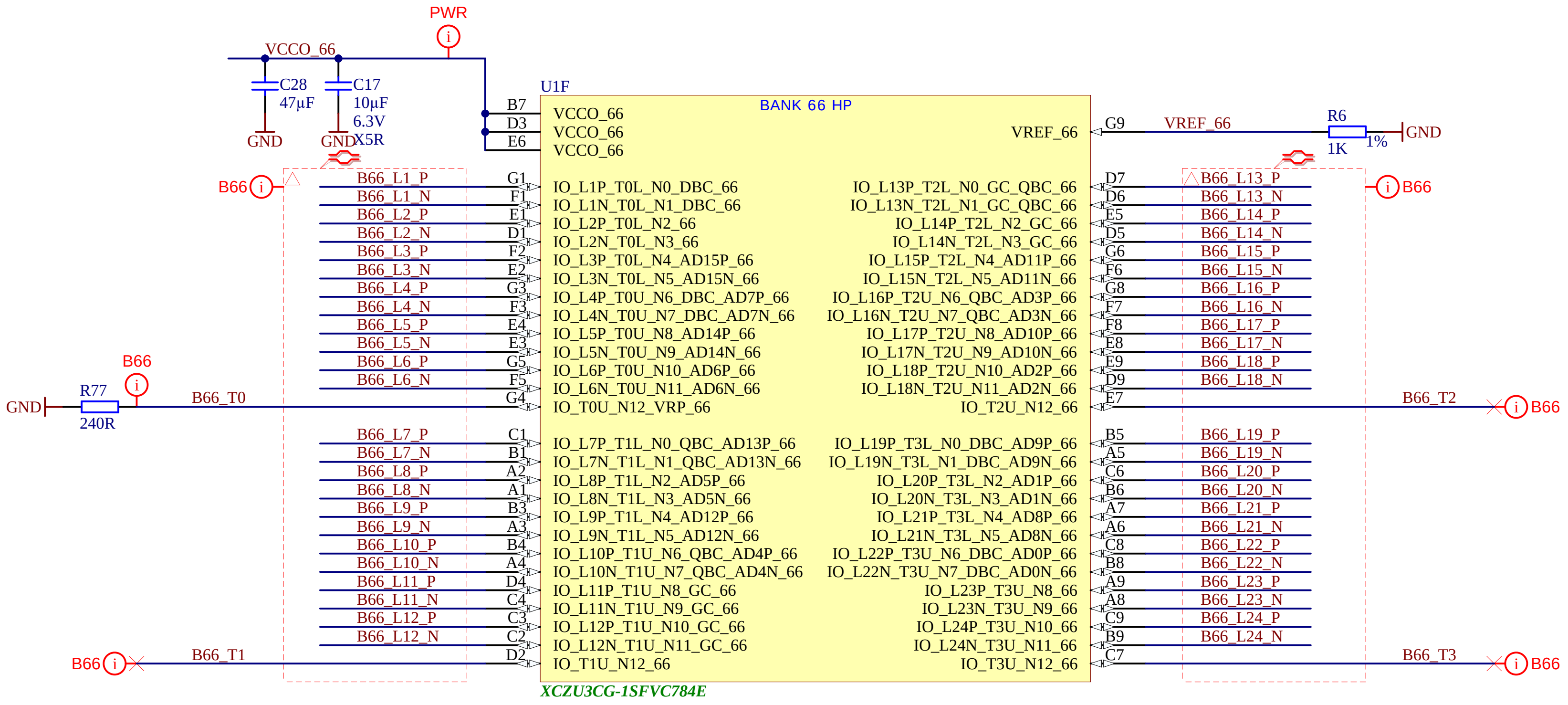
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47µF
GND
C17
10µF
6.3V
X5R
GND
U1F
BANK 66 HP
B7 VCCO_66
D3 VCCO_66
E6 VCCO_66
VREF_66 G9
VREF_66
R6
1K
1%
GND
B66
G1 IO_L1P_T0L_N0_DBC_66 B66_L1_P
F1 IO_L1N_T0L_N1_DBC_66 B66_L1_N
E1 IO_L2P_T0L_N2_66 B66_L2_P
D1 IO_L2N_T0L_N3_66 B66_L2_N
F2 IO_L3P_T0L_N4_AD15P_66 B66_L3_P
E2 IO_L3N_T0L_N5_AD15N_66 B66_L3_N
G3 IO_L4P_T0U_N6_DBC_AD7P_66 B66_L4_P
F3 IO_L4N_T0U_N7_DBC_AD7N_66 B66_L4_N
E4 IO_L5P_T0U_N8_AD14P_66 B66_L5_P
E3 IO_L5N_T0U_N9_AD14N_66 B66_L5_N
G5 IO_L6P_T0U_N10_AD6P_66 B66_L6_P
F5 IO_L6N_T0U_N11_AD6N_66 B66_L6_N
G4 IO_T0U_N12_VRP_66 B66_T0
GND
R77
240R
B66
C1 IO_L7P_T1L_N0_QBC_AD13P_66 B66_L7_P
B1 IO_L7N_T1L_N1_QBC_AD13N_66 B66_L7_N
A2 IO_L8P_T1L_N2_AD5P_66 B66_L8_P
A1 IO_L8N_T1L_N3_AD5N_66 B66_L8_N
B3 IO_L9P_T1L_N4_AD12P_66 B66_L9_P
A3 IO_L9N_T1L_N5_AD12N_66 B66_L9_N
B4 IO_L10P_T1U_N6_QBC_AD4P_66 B66_L10_P
A4 IO_L10N_T1U_N7_QBC_AD4N_66 B66_L10_N
D4 IO_L11P_T1U_N8_GC_66 B66_L11_P
C4 IO_L11N_T1U_N9_GC_66 B66_L11_N
C3 IO_L12P_T1U_N10_GC_66 B66_L12_P
C2 IO_L12N_T1U_N11_GC_66 B66_L12_N
D2 IO_T1U_N12_66 B66_T1
B66
D7 IO_L13P_T2L_N0_GC_QBC_66 B66_L13_P
D6 IO_L13N_T2L_N1_GC_QBC_66 B66_L13_N
E5 IO_L14P_T2L_N2_GC_66 B66_L14_P
D5 IO_L14N_T2L_N3_GC_66 B66_L14_N
G6 IO_L15P_T2L_N4_AD11P_66 B66_L15_P
F6 IO_L15N_T2L_N5_AD11N_66 B66_L15_N
G8 IO_L16P_T2U_N6_QBC_AD3P_66 B66_L16_P
F7 IO_L16N_T2U_N7_QBC_AD3N_66 B66_L16_N
F8 IO_L17P_T2U_N8_AD10P_66 B66_L17_P
E8 IO_L17N_T2U_N9_AD10N_66 B66_L17_N
E9 IO_L18P_T2U_N10_AD2P_66 B66_L18_P
D9 IO_L18N_T2U_N11_AD2N_66 B66_L18_N
E7 IO_T2U_N12_66 B66_T2 B66
B5 IO_L19P_T3L_N0_DBC_AD9P_66 B66_L19_P
A5 IO_L19N_T3L_N1_DBC_AD9N_66 B66_L19_N
C6 IO_L20P_T3L_N2_AD1P_66 B66_L20_P
B6 IO_L20N_T3L_N3_AD1N_66 B66_L20_N
A7 IO_L21P_T3L_N4_AD8P_66 B66_L21_P
A6 IO_L21N_T3L_N5_AD8N_66 B66_L21_N
C8 IO_L22P_T3U_N6_DBC_AD0P_66 B66_L22_P
B8 IO_L22N_T3U_N7_DBC_AD0N_66 B66_L22_N
A9 IO_L23P_T3U_N8_66 B66_L23_P
A8 IO_L23N_T3U_N9_66 B66_L23_N
C9 IO_L24P_T3U_N10_66 B66_L24_P
B9 IO_L24N_T3U_N11_66 B66_L24_N
C7 IO_T3U_N12_66 B66_T3 B66
XCZU3CG-1SFVC784E

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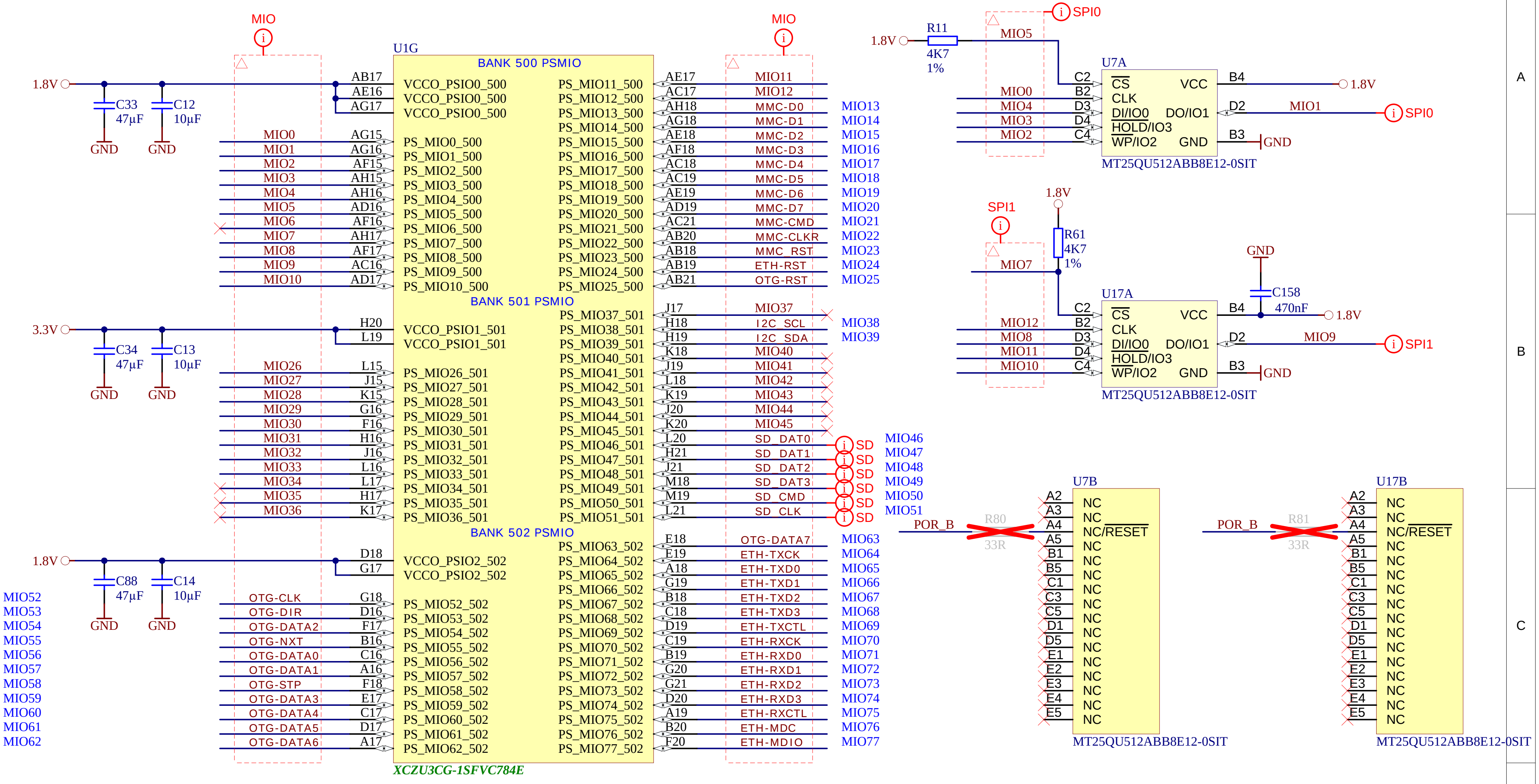
Title:	TE0820 - B66		
A4	Number: TE0820 3AE81MAZ		Rev. 05
Date: 2022-05-10	Copyright: Trenz Electronic GmbH		Page 11 of 24
Filename:	B66.SchDoc		


MIO
U1G
BANK 500 PSMIO
1.8V
C33 47µF
C12 10µF
GND
AB17 AE16 AG17
VCCO_PSIO0_500
PS_MIO0_500 … PS_MIO10_500
MIO0 MIO1 MIO2 MIO3 MIO4 MIO5 MIO6 MIO7 MIO8 MIO9 MIO10
AG15 AG16 AF15 AH15 AH16 AD16 AF16 AH17 AF17 AC16 AD17
PS_MIO11_500 … PS_MIO25_500
AE17 AC17 AH18 AG18 AE18 AF18 AC18 AC19 AE19 AD19 AC21 AB20 AB18 AB19 AB21
MIO11 MIO12 MMC-D0 MMC-D1 MMC-D2 MMC-D3 MMC-D4 MMC-D5 MMC-D6 MMC-D7 MMC-CMD MMC-CLKR MMC_RST ETH-RST OTG-RST
MIO13 MIO14 MIO15 MIO16 MIO17 MIO18 MIO19 MIO20 MIO21 MIO22 MIO23 MIO24 MIO25
BANK 501 PSMIO
3.3V
C34 47µF
C13 10µF
H20 L19
VCCO_PSIO1_501
MIO26 MIO27 MIO28 MIO29 MIO30 MIO31 MIO32 MIO33 MIO34 MIO35 MIO36
L15 J15 K15 G16 F16 H16 J16 L16 L17 H17 K17
PS_MIO26_501 … PS_MIO36_501
PS_MIO37_501 … PS_MIO51_501
J17 H18 H19 K18 J19 L18 K19 J20 K20 L20 H21 J21 M18 M19 L21
MIO37 I2C_SCL I2C_SDA MIO40 MIO41 MIO42 MIO43 MIO44 MIO45 SD_DAT0 SD_DAT1 SD_DAT2 SD_DAT3 SD_CMD SD_CLK
MIO38 MIO39
SD
MIO46 MIO47 MIO48 MIO49 MIO50 MIO51
BANK 502 PSMIO
1.8V
C88 47µF
C14 10µF
D18 G17
VCCO_PSIO2_502
MIO52 MIO53 MIO54 MIO55 MIO56 MIO57 MIO58 MIO59 MIO60 MIO61 MIO62
OTG-CLK OTG-DIR OTG-DATA2 OTG-NXT OTG-DATA0 OTG-DATA1 OTG-STP OTG-DATA3 OTG-DATA4 OTG-DATA5 OTG-DATA6
G18 D16 F17 B16 C16 A16 F18 E17 C17 D17 A17
PS_MIO52_502 … PS_MIO62_502
PS_MIO63_502 … PS_MIO77_502
E18 E19 A18 G19 B18 C18 D19 C19 B19 G20 G21 D20 A19 B20 F20
OTG-DATA7 ETH-TXCK ETH-TXD0 ETH-TXD1 ETH-TXD2 ETH-TXD3 ETH-TXCTL ETH-RXCK ETH-RXD0 ETH-RXD1 ETH-RXD2 ETH-RXD3 ETH-RXCTL ETH-MDC ETH-MDIO
MIO63 MIO64 MIO65 MIO66 MIO67 MIO68 MIO69 MIO70 MIO71 MIO72 MIO73 MIO74 MIO75 MIO76 MIO77
XCZU3CG-1SFVC784E
SPI0
1.8V
R11 4K7 1%
MIO5 MIO0 MIO4 MIO3 MIO2
U7A
C2 B2 D3 D4 C4
CS CLK DI/IO0 HOLD/IO3 WP/IO2
VCC DO/IO1 GND
B4 D2 B3
MIO1
MT25QU512ABB8E12-0SIT
SPI1
R61 4K7 1%
MIO7
GND
C158 470nF
U17A
MIO12 MIO8 MIO11 MIO10
MIO9
U7B
U17B
POR_B
R80 33R
R81 33R
A2 A3 A4 A5 B1 B5 C1 C3 C5 D1 D5 E1 E2 E3 E4 E5
NC
NC/RESET

Title:	TE0820 - MIO Banks		
A4	Number: TE0820 3AE81MAZ		Rev. 05
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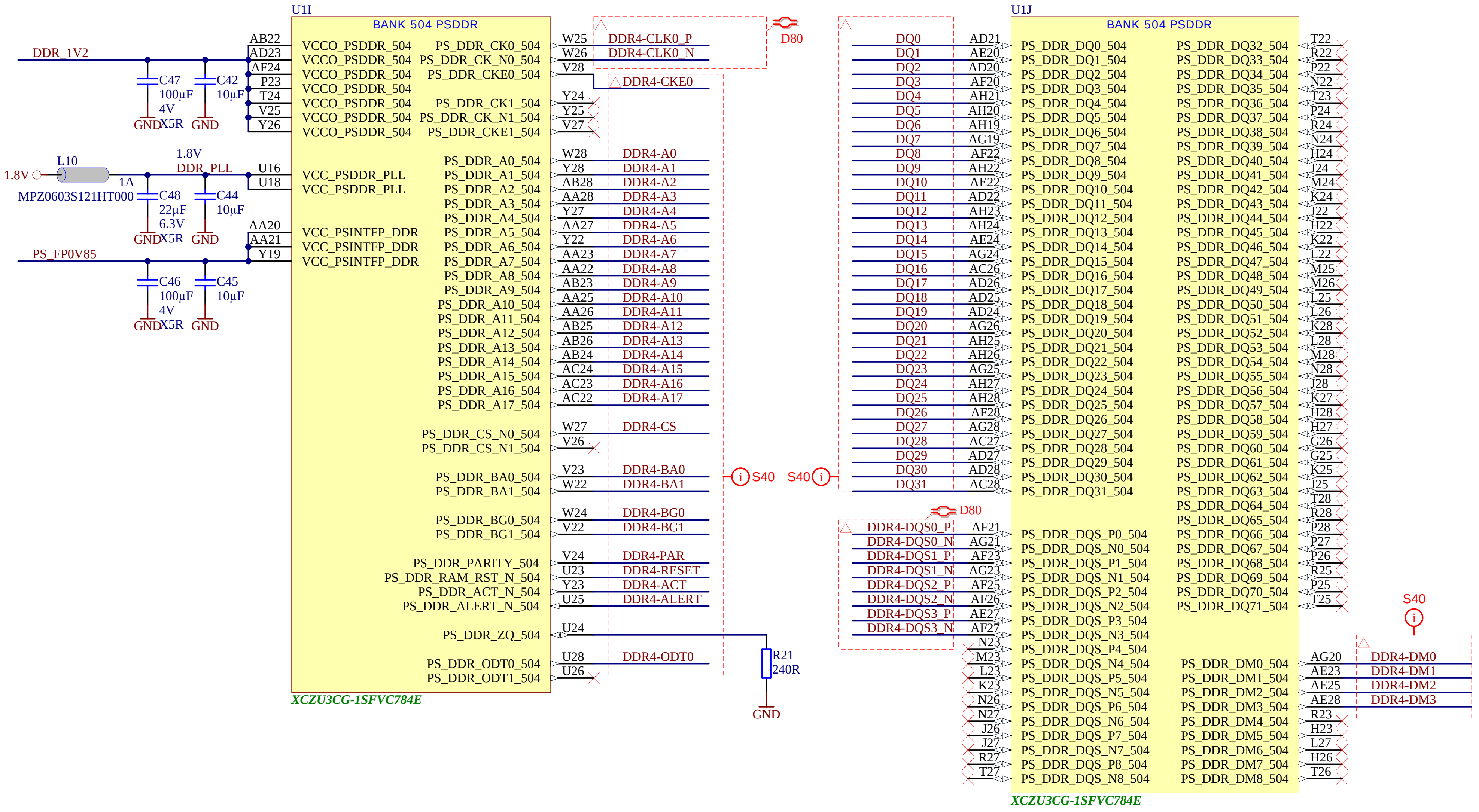
Filename:	B_MIO.SchDoc		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DDR_1V2
C47 100µF 4V X5R
C42 10µF
GND
AB22 VCCO_PSDDR_504
AD23 VCCO_PSDDR_504
AF24 VCCO_PSDDR_504
P23 VCCO_PSDDR_504
T24 VCCO_PSDDR_504
V25 VCCO_PSDDR_504
Y26 VCCO_PSDDR_504
1.8V
L10
MPZ0603S121HT000
1A
1.8V DDR_PLL
C48 22µF 6.3V X5R
C44 10µF
U16 VCC_PSDDR_PLL
U18 VCC_PSDDR_PLL
PS_FP0V85
C46 100µF 4V X5R
C45 10µF
AA20 VCC_PSINTFP_DDR
AA21 VCC_PSINTFP_DDR
Y19 VCC_PSINTFP_DDR
W25 PS_DDR_CK0_504 DDR4-CLK0_P
W26 PS_DDR_CK_N0_504 DDR4-CLK0_N
V28 PS_DDR_CKE0_504 DDR4-CKE0
D80
Y24 PS_DDR_CK1_504
Y25 PS_DDR_CK_N1_504
V27 PS_DDR_CKE1_504
W28 PS_DDR_A0_504 DDR4-A0
Y28 PS_DDR_A1_504 DDR4-A1
AB28 PS_DDR_A2_504 DDR4-A2
AA28 PS_DDR_A3_504 DDR4-A3
Y27 PS_DDR_A4_504 DDR4-A4
AA27 PS_DDR_A5_504 DDR4-A5
Y22 PS_DDR_A6_504 DDR4-A6
AA23 PS_DDR_A7_504 DDR4-A7
AA22 PS_DDR_A8_504 DDR4-A8
AB23 PS_DDR_A9_504 DDR4-A9
AA25 PS_DDR_A10_504 DDR4-A10
AA26 PS_DDR_A11_504 DDR4-A11
AB25 PS_DDR_A12_504 DDR4-A12
AB26 PS_DDR_A13_504 DDR4-A13
AB24 PS_DDR_A14_504 DDR4-A14
AC24 PS_DDR_A15_504 DDR4-A15
AC23 PS_DDR_A16_504 DDR4-A16
AC22 PS_DDR_A17_504 DDR4-A17
W27 PS_DDR_CS_N0_504 DDR4-CS
V26 PS_DDR_CS_N1_504
V23 PS_DDR_BA0_504 DDR4-BA0
W22 PS_DDR_BA1_504 DDR4-BA1
S40
W24 PS_DDR_BG0_504 DDR4-BG0
V22 PS_DDR_BG1_504 DDR4-BG1
V24 PS_DDR_PARITY_504 DDR4-PAR
U23 PS_DDR_RAM_RST_N_504 DDR4-RESET
Y23 PS_DDR_ACT_N_504 DDR4-ACT
U25 PS_DDR_ALERT_N_504 DDR4-ALERT
U24 PS_DDR_ZQ_504
R21 240R
GND
U28 PS_DDR_ODT0_504 DDR4-ODT0
U26 PS_DDR_ODT1_504
XCZU3CG-1SFVC784E
U1J
BANK 504 PSDDR
S40
DQ0 AD21 PS_DDR_DQ0_504
DQ1 AE20 PS_DDR_DQ1_504
DQ2 AD20 PS_DDR_DQ2_504
DQ3 AF20 PS_DDR_DQ3_504
DQ4 AH21 PS_DDR_DQ4_504
DQ5 AH20 PS_DDR_DQ5_504
DQ6 AH19 PS_DDR_DQ6_504
DQ7 AG19 PS_DDR_DQ7_504
DQ8 AF22 PS_DDR_DQ8_504
DQ9 AH22 PS_DDR_DQ9_504
DQ10 AE22 PS_DDR_DQ10_504
DQ11 AD22 PS_DDR_DQ11_504
DQ12 AH23 PS_DDR_DQ12_504
DQ13 AH24 PS_DDR_DQ13_504
DQ14 AE24 PS_DDR_DQ14_504
DQ15 AG24 PS_DDR_DQ15_504
DQ16 AC26 PS_DDR_DQ16_504
DQ17 AD26 PS_DDR_DQ17_504
DQ18 AD25 PS_DDR_DQ18_504
DQ19 AD24 PS_DDR_DQ19_504
DQ20 AG26 PS_DDR_DQ20_504
DQ21 AH25 PS_DDR_DQ21_504
DQ22 AH26 PS_DDR_DQ22_504
DQ23 AG25 PS_DDR_DQ23_504
DQ24 AH27 PS_DDR_DQ24_504
DQ25 AH28 PS_DDR_DQ25_504
DQ26 AF28 PS_DDR_DQ26_504
DQ27 AG28 PS_DDR_DQ27_504
DQ28 AC27 PS_DDR_DQ28_504
DQ29 AD27 PS_DDR_DQ29_504
DQ30 AD28 PS_DDR_DQ30_504
DQ31 AC28 PS_DDR_DQ31_504
D80
DDR4-DQS0_P AF21 PS_DDR_DQS_P0_504
DDR4-DQS0_N AG21 PS_DDR_DQS_N0_504
DDR4-DQS1_P AF23 PS_DDR_DQS_P1_504
DDR4-DQS1_N AG23 PS_DDR_DQS_N1_504
DDR4-DQS2_P AF25 PS_DDR_DQS_P2_504
DDR4-DQS2_N AF26 PS_DDR_DQS_N2_504
DDR4-DQS3_P AE27 PS_DDR_DQS_P3_504
DDR4-DQS3_N AF27 PS_DDR_DQS_N3_504
N23 PS_DDR_DQS_P4_504
M23 PS_DDR_DQS_N4_504
L23 PS_DDR_DQS_P5_504
K23 PS_DDR_DQS_N5_504
N26 PS_DDR_DQS_P6_504
N27 PS_DDR_DQS_N6_504
J26 PS_DDR_DQS_P7_504
J27 PS_DDR_DQS_N7_504
R27 PS_DDR_DQS_P8_504
T27 PS_DDR_DQS_N8_504
PS_DDR_DQ32_504 T22
PS_DDR_DQ33_504 R22
PS_DDR_DQ34_504 P22
PS_DDR_DQ35_504 N22
PS_DDR_DQ36_504 T23
PS_DDR_DQ37_504 P24
PS_DDR_DQ38_504 R24
PS_DDR_DQ39_504 N24
PS_DDR_DQ40_504 H24
PS_DDR_DQ41_504 J24
PS_DDR_DQ42_504 M24
PS_DDR_DQ43_504 K24
PS_DDR_DQ44_504 J22
PS_DDR_DQ45_504 H22
PS_DDR_DQ46_504 K22
PS_DDR_DQ47_504 L22
PS_DDR_DQ48_504 M25
PS_DDR_DQ49_504 M26
PS_DDR_DQ50_504 L25
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PS_DDR_DQ52_504 K28
PS_DDR_DQ53_504 L28
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PS_DDR_DQ56_504 J28
PS_DDR_DQ57_504 K27
PS_DDR_DQ58_504 H28
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PS_DDR_DQ61_504 G25
PS_DDR_DQ62_504 K25
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PS_DDR_DQ65_504 R28
PS_DDR_DQ66_504 P28
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S40
PS_DDR_DM0_504 AG20 DDR4-DM0
PS_DDR_DM1_504 AE23 DDR4-DM1
PS_DDR_DM2_504 AE25 DDR4-DM2
PS_DDR_DM3_504 AE28 DDR4-DM3
PS_DDR_DM4_504 R23
PS_DDR_DM5_504 H23
PS_DDR_DM6_504 L27
PS_DDR_DM7_504 H26
PS_DDR_DM8_504 T26
XCZU3CG-1SFVC784E

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Title: TE0820 - PS_DDR

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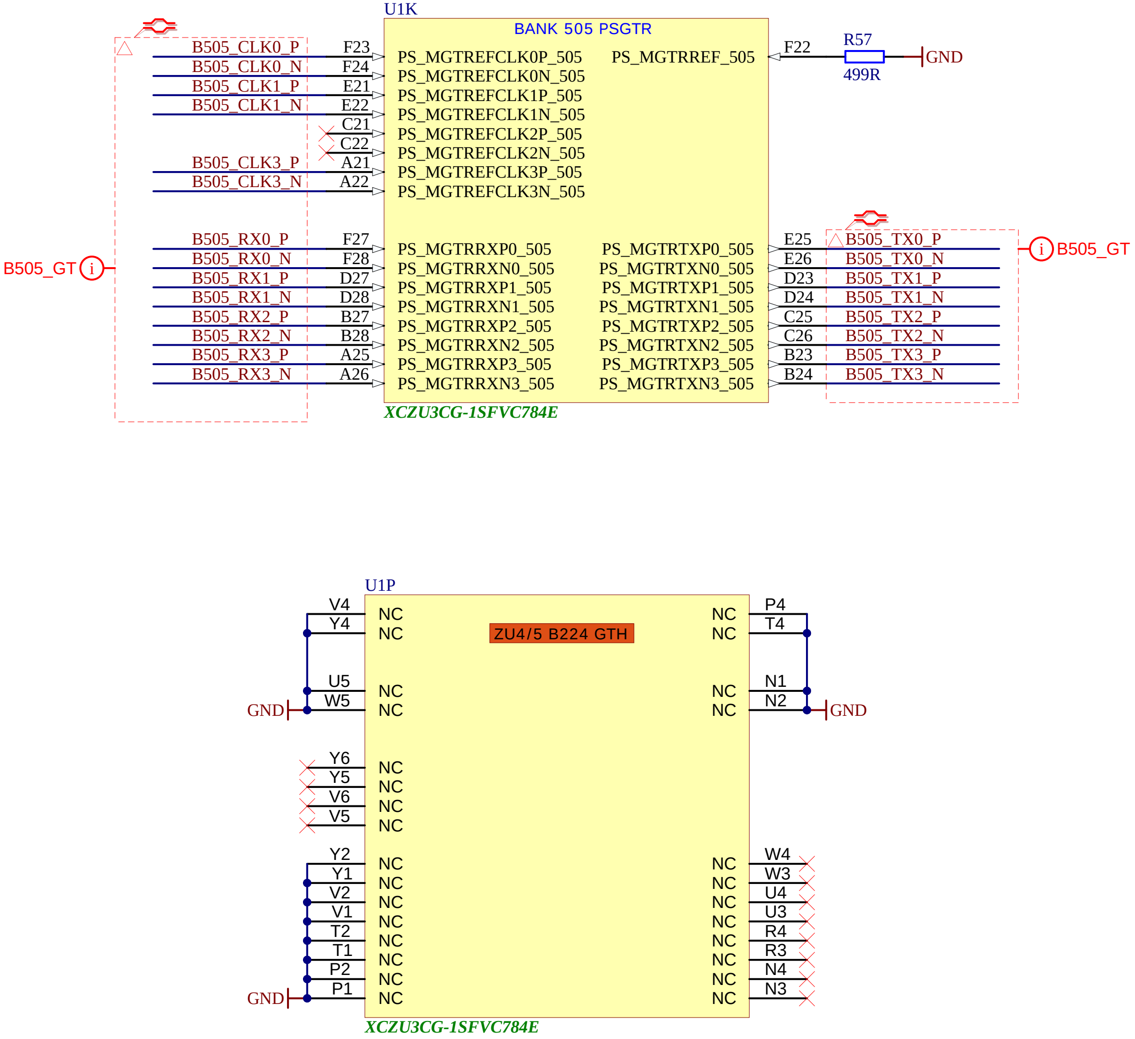
Filename: PS_DDR.SchDoc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B505_CLK0_P F23 PS_MGTREFCLK0P_505
B505_CLK0_N F24 PS_MGTREFCLK0N_505
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B505_CLK1_N E22 PS_MGTREFCLK1N_505
C21 PS_MGTREFCLK2P_505
C22 PS_MGTREFCLK2N_505
B505_CLK3_P A21 PS_MGTREFCLK3P_505
B505_CLK3_N A22 PS_MGTREFCLK3N_505
PS_MGTRREF_505 F22
R57
499R
GND
B505_GT
B505_RX0_P F27 PS_MGTRRXP0_505
B505_RX0_N F28 PS_MGTRRXN0_505
B505_RX1_P D27 PS_MGTRRXP1_505
B505_RX1_N D28 PS_MGTRRXN1_505
B505_RX2_P B27 PS_MGTRRXP2_505
B505_RX2_N B28 PS_MGTRRXN2_505
B505_RX3_P A25 PS_MGTRRXP3_505
B505_RX3_N A26 PS_MGTRRXN3_505
PS_MGTRTXP0_505 E25 B505_TX0_P
PS_MGTRTXN0_505 E26 B505_TX0_N
PS_MGTRTXP1_505 D23 B505_TX1_P
PS_MGTRTXN1_505 D24 B505_TX1_N
PS_MGTRTXP2_505 C25 B505_TX2_P
PS_MGTRTXN2_505 C26 B505_TX2_N
PS_MGTRTXP3_505 B23 B505_TX3_P
PS_MGTRTXN3_505 B24 B505_TX3_N
B505_GT
XCZU3CG-1SFVC784E
U1P
ZU4/5 B224 GTH
V4 NC
Y4 NC
U5 NC
W5 NC
GND
Y6 NC
Y5 NC
V6 NC
V5 NC
Y2 NC
Y1 NC
V2 NC
V1 NC
T2 NC
T1 NC
P2 NC
P1 NC
GND
NC P4
NC T4
NC N1
NC N2
GND
NC W4
NC W3
NC U4
NC U3
NC R4
NC R3
NC N4
NC N3
XCZU3CG-1SFVC784E

Title: TE0820 - PS_GT

A4 | Number: TE0820 3AE81MAZ | Rev. 05

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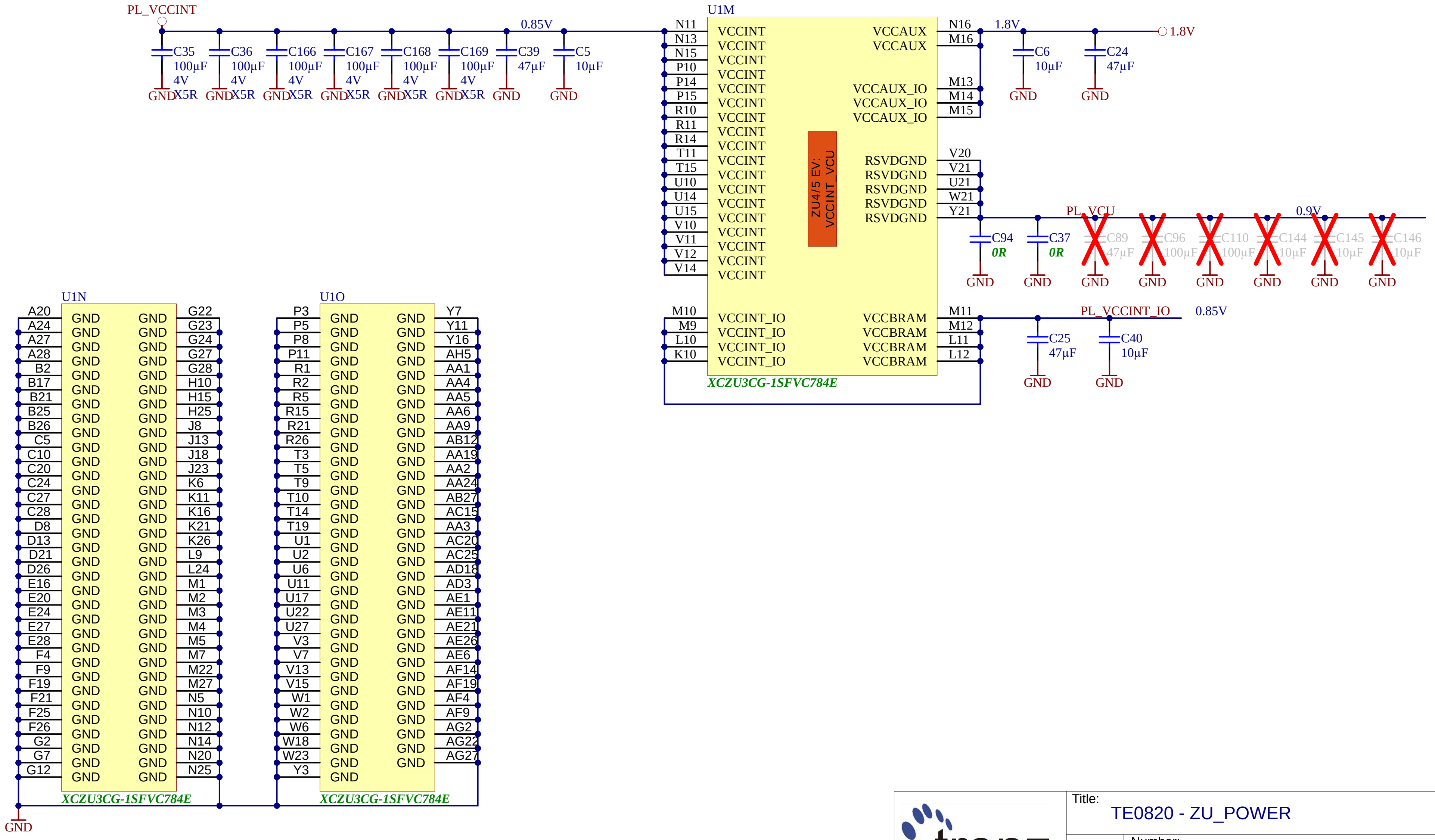
Filename: B_PS_GT.SchDoc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C35
100µF
4V
X5R
C36
100µF
4V
X5R
C166
100µF
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C167
100µF
4V
X5R
C168
100µF
4V
X5R
C169
100µF
4V
X5R
C39
47µF
C5
10µF
GND
U1M
N11
N13
N15
P10
P14
P15
R10
R11
R14
T11
T15
U10
U14
U15
V10
V11
V12
V14
VCCINT
ZU4/5 EV:
VCCINT_VCU
VCCAUX
VCCAUX
N16
M16
1.8V
1.8V
C6
10µF
C24
47µF
VCCAUX_IO
VCCAUX_IO
VCCAUX_IO
M13
M14
M15
RSVDGND
RSVDGND
RSVDGND
RSVDGND
RSVDGND
V20
V21
U21
W21
Y21
PL_VCU
0.9V
C94
0R
C37
0R
C89
47µF
C96
100µF
C110
100µF
C144
10µF
C145
10µF
C146
10µF
M10
M9
L10
K10
VCCINT_IO
VCCINT_IO
VCCINT_IO
VCCINT_IO
VCCBRAM
VCCBRAM
VCCBRAM
VCCBRAM
M11
M12
L11
L12
PL_VCCINT_IO
0.85V
C25
47µF
C40
10µF
XCZU3CG-1SFVC784E
U1N
A20
A24
A27
A28
B2
B17
B21
B25
B26
C5
C10
C20
C24
C27
C28
D8
D13
D21
D26
E16
E20
E24
E27
E28
F4
F9
F19
F21
F25
F26
G2
G7
G12
G22
G23
G24
G27
G28
H10
H15
H25
J8
J13
J18
J23
K6
K11
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K21
K26
L9
L24
M1
M2
M3
M4
M5
M7
M22
M27
N5
N10
N12
N14
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N25
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P5
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R5
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R21
R26
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U27
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V15
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W23
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Y16
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AA6
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AB12
AA19
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AA3
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AC25
AD18
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AF14
AF19
AF4
AF9
AG2
AG22
AG27
XCZU3CG-1SFVC784E
GND

trenz electronic	Title: TE0820 - ZU_POWER		
	A4	Number: TE0820 3AE81MAZ	Rev. 05
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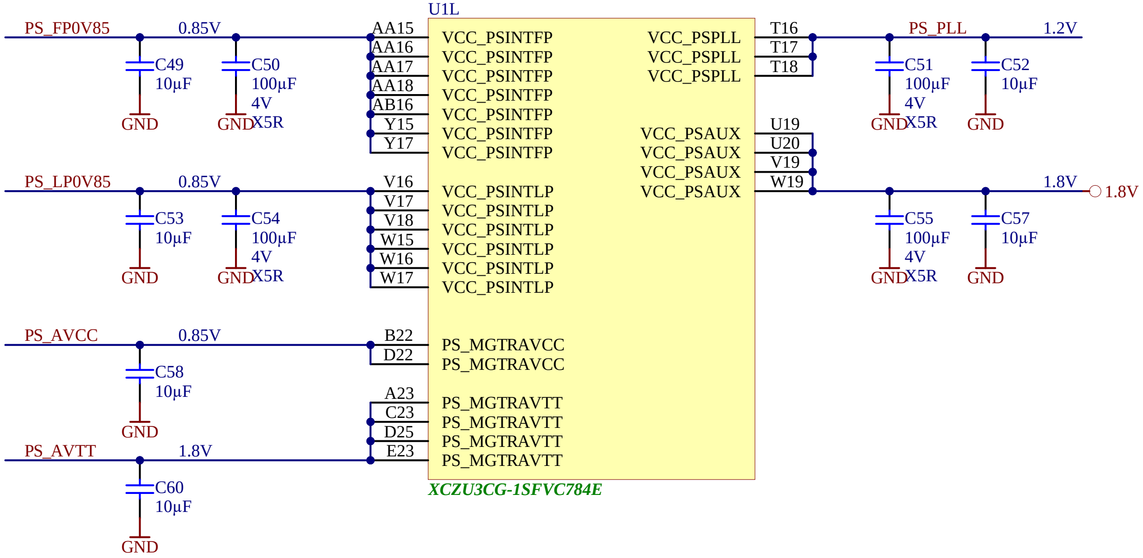

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PS_FP0V85
0.85V
C49
10µF
GND
C50
100µF
4V
X5R
AA15
AA16
AA17
AA18
AB16
Y15
Y17
VCC_PSINTFP
VCC_PSINTFP
VCC_PSINTFP
VCC_PSINTFP
VCC_PSINTFP
VCC_PSINTFP
VCC_PSINTFP
PS_LP0V85
0.85V
C53
10µF
C54
100µF
4V
X5R
V16
V17
V18
W15
W16
W17
VCC_PSINTLP
VCC_PSINTLP
VCC_PSINTLP
VCC_PSINTLP
VCC_PSINTLP
VCC_PSINTLP
PS_AVCC
0.85V
C58
10µF
B22
D22
PS_MGTRAVCC
PS_MGTRAVCC
A23
C23
D25
E23
PS_MGTRAVTT
PS_MGTRAVTT
PS_MGTRAVTT
PS_MGTRAVTT
PS_AVTT
1.8V
C60
10µF
GND
VCC_PSPLL
VCC_PSPLL
VCC_PSPLL
T16
T17
T18
PS_PLL
1.2V
C51
100µF
4V
X5R
C52
10µF
GND
VCC_PSAUX
VCC_PSAUX
VCC_PSAUX
VCC_PSAUX
U19
U20
V19
W19
1.8V
1.8V
C55
100µF
4V
X5R
C57
10µF
GND
XCZU3CG-1SFVC784E

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Title: TE0820 - ZU_PS_POWER

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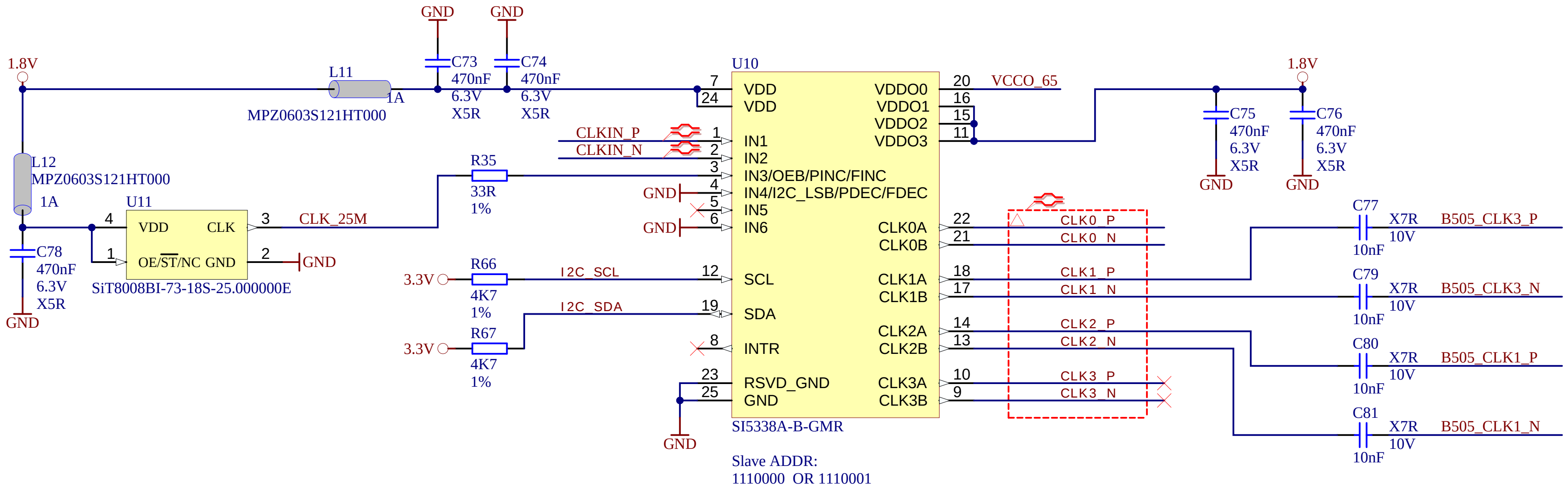
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MPZ0603S121HT000
1A
C73
470nF
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X5R
C74
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6.3V
X5R
U10
VDD
VDD
VDDO0
VDDO1
VDDO2
VDDO3
VCCO_65
CLKIN_P
CLKIN_N
IN1
IN2
IN3/OEB/PINC/FINC
IN4/I2C_LSB/PDEC/FDEC
IN5
IN6
R35
33R
1%
GND
GND
L12
MPZ0603S121HT000
1A
U11
VDD
CLK
OE/ST/NC GND
CLK_25M
GND
C78
470nF
6.3V
X5R
GND
SiT8008BI-73-18S-25.000000E
3.3V
R66
4K7
1%
I2C_SCL
3.3V
R67
4K7
1%
I2C_SDA
SCL
SDA
INTR
RSVD_GND
GND
GND
CLK0A
CLK0B
CLK1A
CLK1B
CLK2A
CLK2B
CLK3A
CLK3B
SI5338A-B-GMR
Slave ADDR:
1110000 OR 1110001
CLK0_P
CLK0_N
CLK1_P
CLK1_N
CLK2_P
CLK2_N
CLK3_P
CLK3_N
1.8V
C75
470nF
6.3V
X5R
GND
C76
470nF
6.3V
X5R
GND
C77
X7R
10V
10nF
B505_CLK3_P
C79
X7R
10V
10nF
B505_CLK3_N
C80
X7R
10V
10nF
B505_CLK1_P
C81
X7R
10V
10nF
B505_CLK1_N

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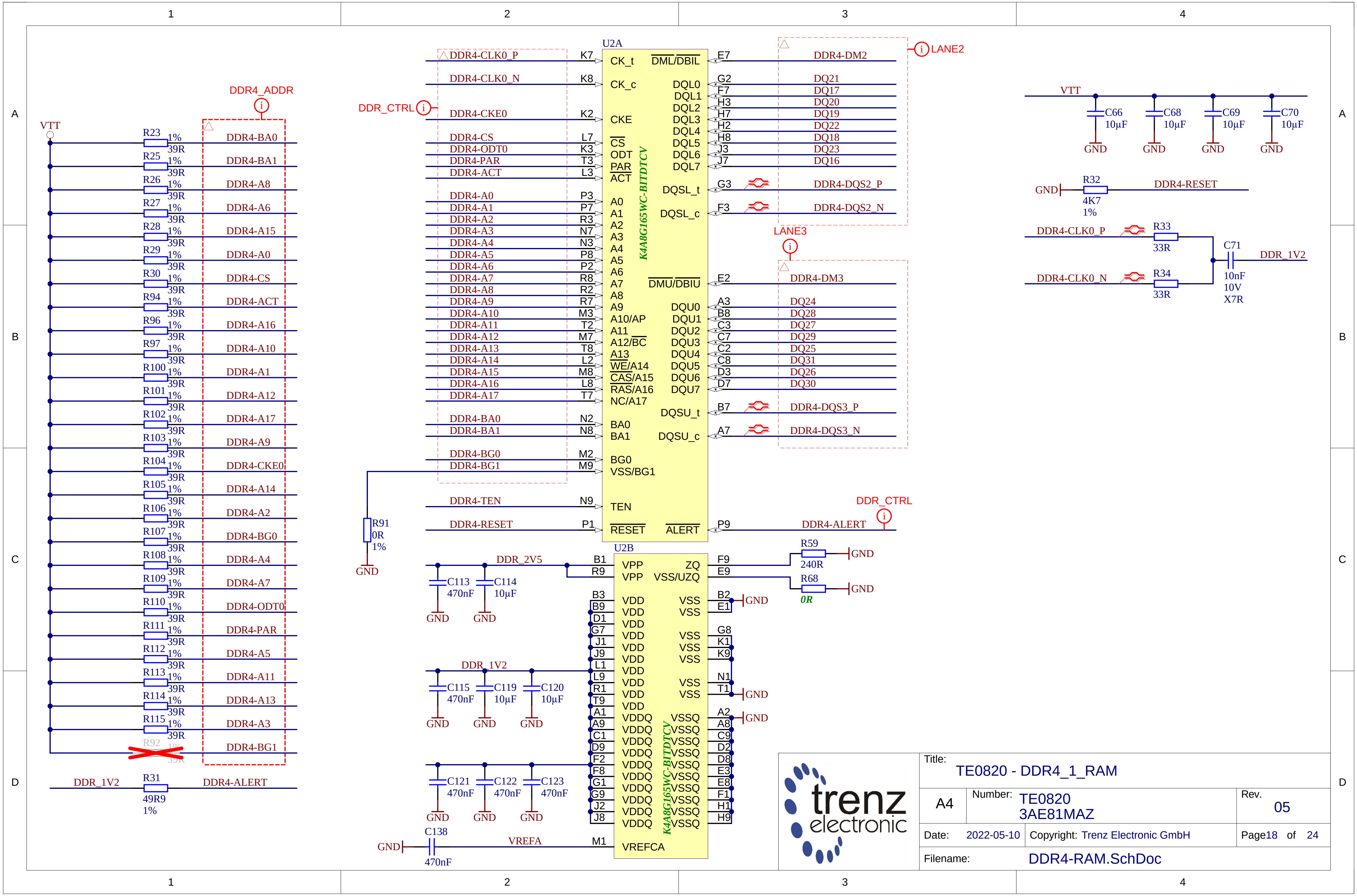
1
2
3
4
A
B
C
D
VTT
DDR4_ADDR
R23 1% 39R DDR4-BA0
R25 1% 39R DDR4-BA1
R26 1% 39R DDR4-A8
R27 1% 39R DDR4-A6
R28 1% 39R DDR4-A15
R29 1% 39R DDR4-A0
R30 1% 39R DDR4-CS
R94 1% 39R DDR4-ACT
R96 1% 39R DDR4-A16
R97 1% 39R DDR4-A10
R100 1% 39R DDR4-A1
R101 1% 39R DDR4-A12
R102 1% 39R DDR4-A17
R103 1% 39R DDR4-A9
R104 1% 39R DDR4-CKE0
R105 1% 39R DDR4-A14
R106 1% 39R DDR4-A2
R107 1% 39R DDR4-BG0
R108 1% 39R DDR4-A4
R109 1% 39R DDR4-A7
R110 1% 39R DDR4-ODT0
R111 1% 39R DDR4-PAR
R112 1% 39R DDR4-A5
R113 1% 39R DDR4-A11
R114 1% 39R DDR4-A13
R115 1% 39R DDR4-A3
R92 1% 39R DDR4-BG1
DDR_1V2 R31 49R9 1% DDR4-ALERT
DDR_CTRL
U2A
K4A8G165WC-BITDTCV
DDR4-CLK0_P K7 CK_t
DDR4-CLK0_N K8 CK_c
DDR4-CKE0 K2 CKE
DDR4-CS L7 CS
DDR4-ODT0 K3 ODT
DDR4-PAR T3 PAR
DDR4-ACT L3 ACT
DDR4-A0 P3 A0
DDR4-A1 P7 A1
DDR4-A2 R3 A2
DDR4-A3 N7 A3
DDR4-A4 N3 A4
DDR4-A5 P8 A5
DDR4-A6 P2 A6
DDR4-A7 R8 A7
DDR4-A8 R2 A8
DDR4-A9 R7 A9
DDR4-A10 M3 A10/AP
DDR4-A11 T2 A11
DDR4-A12 M7 A12/BC
DDR4-A13 T8 A13
DDR4-A14 L2 WE/A14
DDR4-A15 M8 CAS/A15
DDR4-A16 L8 RAS/A16
DDR4-A17 T7 NC/A17
DDR4-BA0 N2 BA0
DDR4-BA1 N8 BA1
DDR4-BG0 M2 BG0
DDR4-BG1 M9 VSS/BG1
DDR4-TEN N9 TEN
DDR4-RESET P1 RESET
R91 0R 1%
GND
DML/DBIL E7 DDR4-DM2
LANE2
DQL0 G2 DQ21
DQL1 F7 DQ17
DQL2 H3 DQ20
DQL3 H7 DQ19
DQL4 H2 DQ22
DQL5 H8 DQ18
DQL6 J3 DQ23
DQL7 J7 DQ16
DQSL_t G3 DDR4-DQS2_P
DQSL_c F3 DDR4-DQS2_N
LANE3
DMU/DBIU E2 DDR4-DM3
DQU0 A3 DQ24
DQU1 B8 DQ28
DQU2 C3 DQ27
DQU3 C7 DQ29
DQU4 C2 DQ25
DQU5 C8 DQ31
DQU6 D3 DQ26
DQU7 D7 DQ30
DQSU_t B7 DDR4-DQS3_P
DQSU_c A7 DDR4-DQS3_N
ALERT P9 DDR4-ALERT
U2B
DDR_2V5
B1 VPP
R9 VPP
C113 470nF
C114 10µF
ZQ F9 R59 240R GND
VSS/UZQ E9 R68 0R GND
VDD B3 B9 D1 G7 J1 J9 L1 L9 R1 T9
VSS B2 E1 G8 K1 K9 N1 T1
DDR_1V2
C115 470nF
C119 10µF
C120 10µF
VDDQ A1 A9 C1 D9 F2 F8 G1 G9 J2 J8
VSSQ A2 A8 C9 D2 D8 E3 E8 F1 H1 H9
C121 470nF
C122 470nF
C123 470nF
C138 470nF
VREFCA M1 VREFCA
VTT
C66 10µF
C68 10µF
C69 10µF
C70 10µF
GND
R32 4K7 1% DDR4-RESET
DDR4-CLK0_P R33 33R
DDR4-CLK0_N R34 33R
C71 10nF 10V X7R
DDR_1V2
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Title: TE0820 - DDR4_1_RAM

A4	Number: TE0820 3AE81MAZ	Rev. 05
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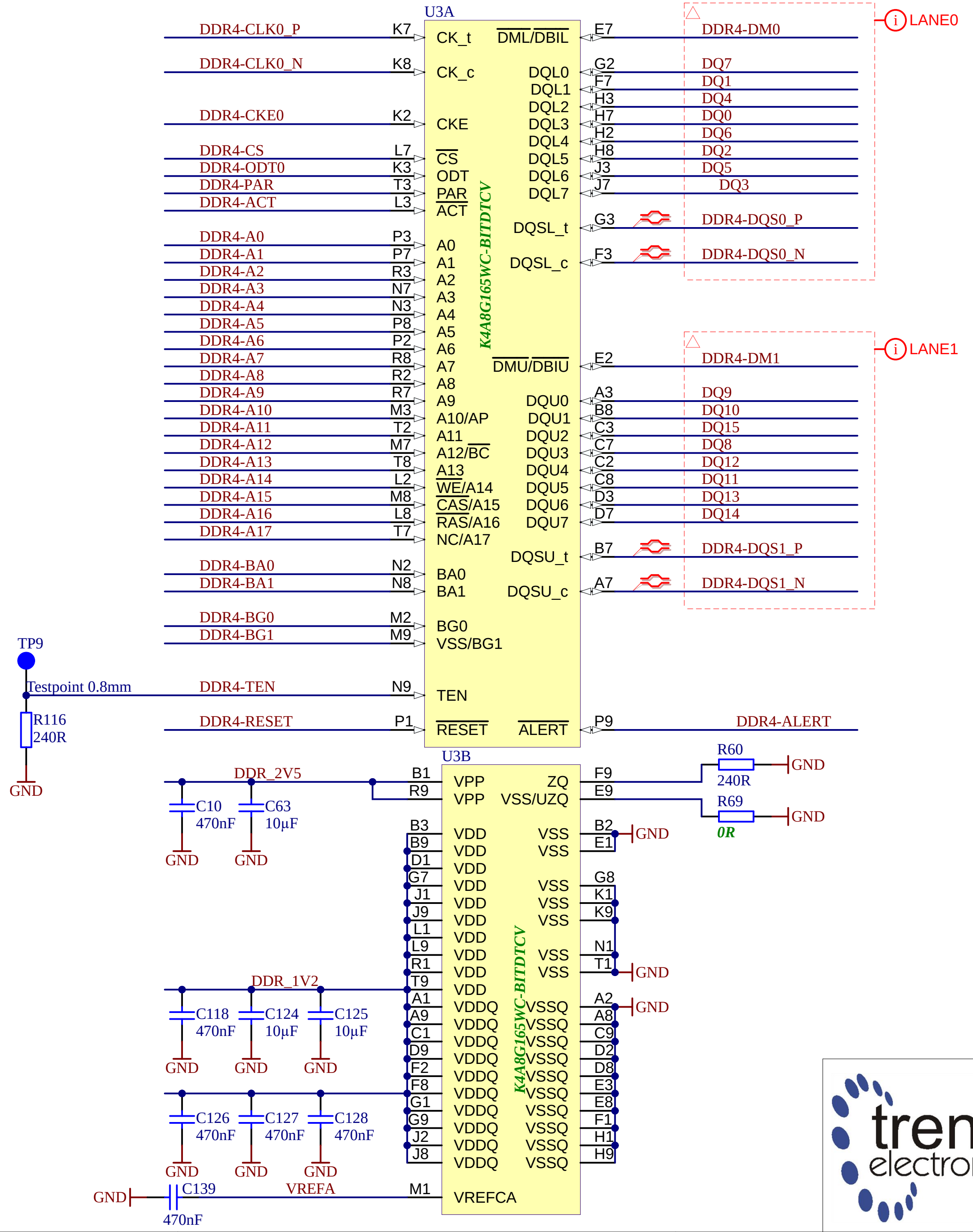
U3A
K4A8G165WC-BITDTCV
DDR4-CLK0_P K7 CK_t
DDR4-CLK0_N K8 CK_c
DDR4-CKE0 K2 CKE
DDR4-CS L7 CS
DDR4-ODT0 K3 ODT
DDR4-PAR T3 PAR
DDR4-ACT L3 ACT
DDR4-A0 P3 A0
DDR4-A1 P7 A1
DDR4-A2 R3 A2
DDR4-A3 N7 A3
DDR4-A4 N3 A4
DDR4-A5 P8 A5
DDR4-A6 P2 A6
DDR4-A7 R8 A7
DDR4-A8 R2 A8
DDR4-A9 R7 A9
DDR4-A10 M3 A10/AP
DDR4-A11 T2 A11
DDR4-A12 M7 A12/BC
DDR4-A13 T8 A13
DDR4-A14 L2 WE/A14
DDR4-A15 M8 CAS/A15
DDR4-A16 L8 RAS/A16
DDR4-A17 T7 NC/A17
DDR4-BA0 N2 BA0
DDR4-BA1 N8 BA1
DDR4-BG0 M2 BG0
DDR4-BG1 M9 VSS/BG1
DDR4-TEN N9 TEN
DDR4-RESET P1 RESET
DML/DBIL E7 DDR4-DM0
DQL0 G2 DQ7
DQL1 F7 DQ1
DQL2 H3 DQ4
DQL3 H7 DQ0
DQL4 H2 DQ6
DQL5 H8 DQ2
DQL6 J3 DQ5
DQL7 J7 DQ3
DQSL_t G3 DDR4-DQS0_P
DQSL_c F3 DDR4-DQS0_N
LANE0
DMU/DBIU E2 DDR4-DM1
DQU0 A3 DQ9
DQU1 B8 DQ10
DQU2 C3 DQ15
DQU3 C7 DQ8
DQU4 C2 DQ12
DQU5 C8 DQ11
DQU6 D3 DQ13
DQU7 D7 DQ14
DQSU_t B7 DDR4-DQS1_P
DQSU_c A7 DDR4-DQS1_N
LANE1
ALERT P9 DDR4-ALERT
TP9
Testpoint 0.8mm
R116
240R
GND
U3B
K4A8G165WC-BITDTCV
DDR_2V5
B1 VPP
R9 VPP
C10 470nF
C63 10µF
GND
GND
ZQ F9
VSS/UZQ E9
R60 240R GND
R69 0R GND
B3 B9 D1 G7 J1 J9 L1 L9 R1 T9 VDD
VSS B2 E1 GND
VSS G8 K1 K9 N1 T1 GND
DDR_1V2
C118 470nF
C124 10µF
C125 10µF
GND GND GND
A1 A9 C1 D9 F2 F8 G1 G9 J2 J8 VDDQ
VSSQ A2 A8 C9 D2 D8 E3 E8 F1 H1 H9 GND
C126 470nF
C127 470nF
C128 470nF
GND GND GND
GND C139 470nF
VREFA M1 VREFCA

Title: TE0820 - DDR4_2_RAM

A4 Number: TE0820
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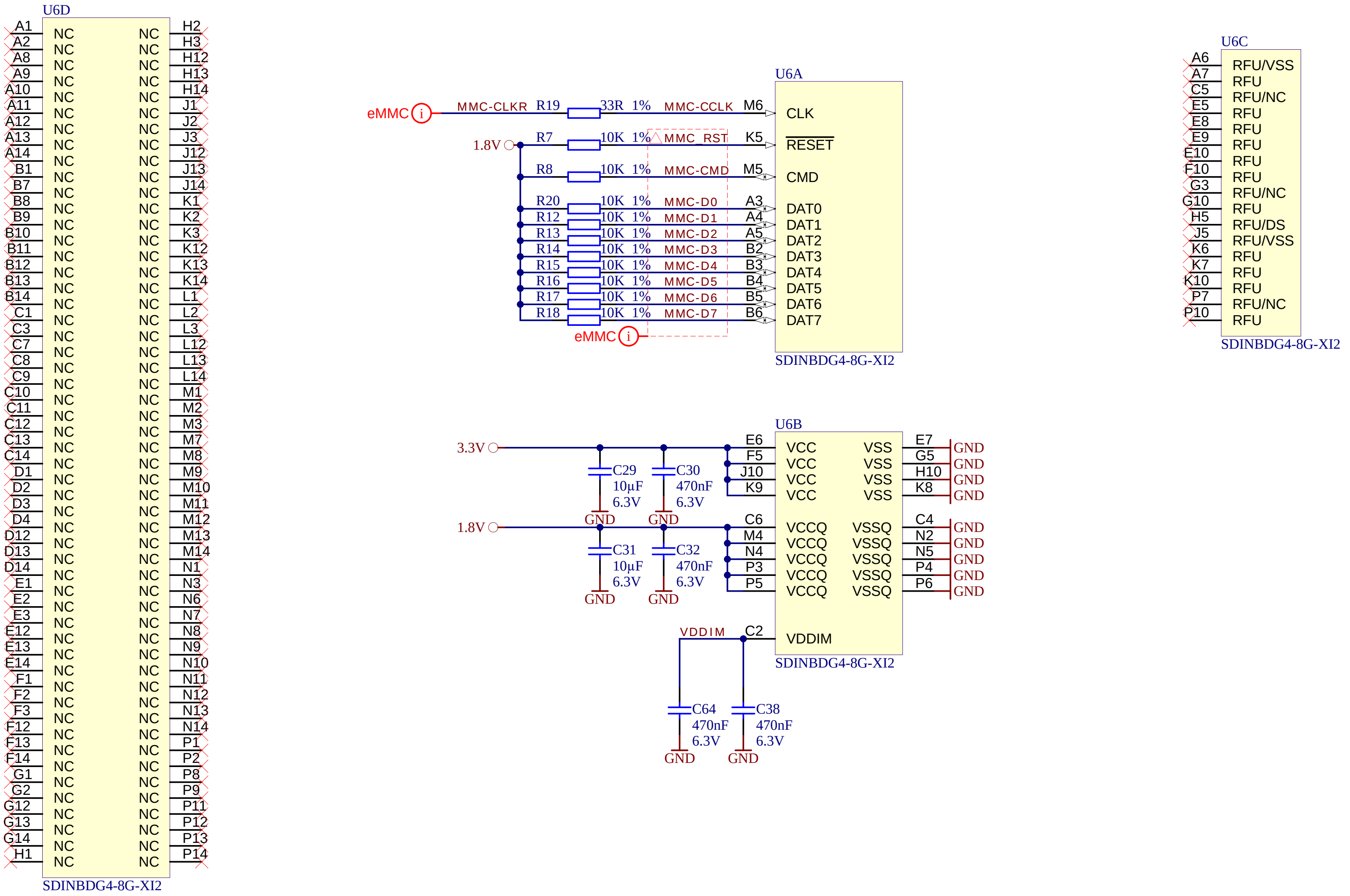
U6D
A1 NC
A2 NC
A8 NC
A9 NC
A10 NC
A11 NC
A12 NC
A13 NC
A14 NC
B1 NC
B7 NC
B8 NC
B9 NC
B10 NC
B11 NC
B12 NC
B13 NC
B14 NC
C1 NC
C3 NC
C7 NC
C8 NC
C9 NC
C10 NC
C11 NC
C12 NC
C13 NC
C14 NC
D1 NC
D2 NC
D3 NC
D4 NC
D12 NC
D13 NC
D14 NC
E1 NC
E2 NC
E3 NC
E12 NC
E13 NC
E14 NC
F1 NC
F2 NC
F3 NC
F12 NC
F13 NC
F14 NC
G1 NC
G2 NC
G12 NC
G13 NC
G14 NC
H1 NC
NC H2
NC H3
NC H12
NC H13
NC H14
NC J1
NC J2
NC J3
NC J12
NC J13
NC J14
NC K1
NC K2
NC K3
NC K12
NC K13
NC K14
NC L1
NC L2
NC L3
NC L12
NC L13
NC L14
NC M1
NC M2
NC M3
NC M7
NC M8
NC M9
NC M10
NC M11
NC M12
NC M13
NC M14
NC N1
NC N3
NC N6
NC N7
NC N8
NC N9
NC N10
NC N11
NC N12
NC N13
NC N14
NC P1
NC P2
NC P8
NC P9
NC P11
NC P12
NC P13
NC P14
SDINBDG4-8G-XI2
eMMC
MMC-CLKR R19 33R 1% MMC-CCLK M6
1.8V
R7 10K 1% MMC_RST K5
R8 10K 1% MMC-CMD M5
R20 10K 1% MMC-D0 A3
R12 10K 1% MMC-D1 A4
R13 10K 1% MMC-D2 A5
R14 10K 1% MMC-D3 B2
R15 10K 1% MMC-D4 B3
R16 10K 1% MMC-D5 B4
R17 10K 1% MMC-D6 B5
R18 10K 1% MMC-D7 B6
eMMC
U6A
CLK
RESET
CMD
DAT0
DAT1
DAT2
DAT3
DAT4
DAT5
DAT6
DAT7
SDINBDG4-8G-XI2
U6C
A6 RFU/VSS
A7 RFU
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-XI2
U6B
3.3V
C29 10µF 6.3V
C30 470nF 6.3V
GND
GND
E6 VCC
F5 VCC
J10 VCC
K9 VCC
VSS E7 GND
VSS G5 GND
VSS H10 GND
VSS K8 GND
1.8V
C31 10µF 6.3V
C32 470nF 6.3V
GND
GND
C6 VCCQ
M4 VCCQ
N4 VCCQ
P3 VCCQ
P5 VCCQ
VSSQ C4 GND
VSSQ N2 GND
VSSQ N5 GND
VSSQ P4 GND
VSSQ P6 GND
VDDIM C2 VDDIM
SDINBDG4-8G-XI2
C64 470nF 6.3V
C38 470nF 6.3V
GND
GND

Title: TE0820 - eMMC

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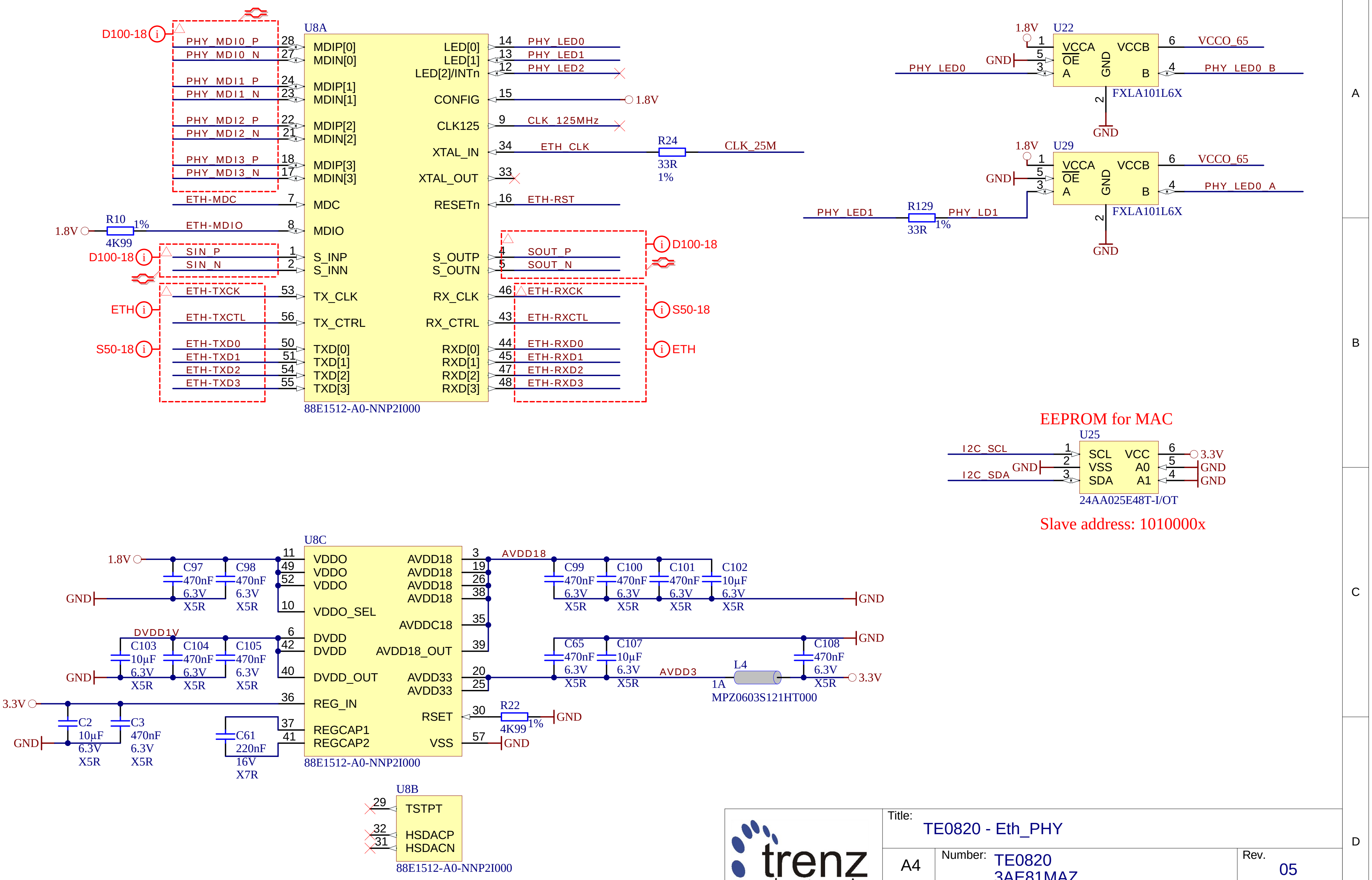
Filename: eMMC.SchDoc


U8A
88E1512-A0-NNP2I000
D100-18
PHY_MDI0_P 28 MDIP[0]
PHY_MDI0_N 27 MDIN[0]
PHY_MDI1_P 24 MDIP[1]
PHY_MDI1_N 23 MDIN[1]
PHY_MDI2_P 22 MDIP[2]
PHY_MDI2_N 21 MDIN[2]
PHY_MDI3_P 18 MDIP[3]
PHY_MDI3_N 17 MDIN[3]
ETH-MDC 7 MDC
ETH-MDIO 8 MDIO
1.8V R10 1% 4K99
D100-18
SIN_P 1 S_INP
SIN_N 2 S_INN
ETH
ETH-TXCK 53 TX_CLK
ETH-TXCTL 56 TX_CTRL
S50-18
ETH-TXD0 50 TXD[0]
ETH-TXD1 51 TXD[1]
ETH-TXD2 54 TXD[2]
ETH-TXD3 55 TXD[3]
LED[0] 14 PHY_LED0
LED[1] 13 PHY_LED1
LED[2]/INTn 12 PHY_LED2
CONFIG 15 1.8V
CLK125 9 CLK_125MHz
XTAL_IN 34 ETH_CLK R24 33R 1% CLK_25M
XTAL_OUT 33
RESETn 16 ETH-RST
D100-18
S_OUTP 4 SOUT_P
S_OUTN 5 SOUT_N
S50-18
RX_CLK 46 ETH-RXCK
RX_CTRL 43 ETH-RXCTL
ETH
RXD[0] 44 ETH-RXD0
RXD[1] 45 ETH-RXD1
RXD[2] 47 ETH-RXD2
RXD[3] 48 ETH-RXD3
1.8V U22
GND
PHY_LED0
1 VCCA
5 OE
3 A
GND 2
VCCB 6 VCCO_65
B 4 PHY_LED0_B
FXLA101L6X
GND
1.8V U29
GND
PHY_LED1 R129 33R 1% PHY_LD1
1 VCCA
5 OE
3 A
GND 2
VCCB 6 VCCO_65
B 4 PHY_LED0_A
FXLA101L6X
GND
EEPROM for MAC
U25
I2C_SCL 1 SCL
GND 2 VSS
I2C_SDA 3 SDA
VCC 6 3.3V
A0 5 GND
A1 4 GND
24AA025E48T-I/OT
Slave address: 1010000x
U8C
88E1512-A0-NNP2I000
1.8V
C97 470nF 6.3V X5R
C98 470nF 6.3V X5R
GND
11 VDDO
49 VDDO
52 VDDO
10 VDDO_SEL
DVDD1V
C103 10µF 6.3V X5R
C104 470nF 6.3V X5R
C105 470nF 6.3V X5R
GND
6 DVDD
42 DVDD
40 DVDD_OUT
3.3V
36 REG_IN
C2 10µF 6.3V X5R
C3 470nF 6.3V X5R
GND
C61 220nF 16V X7R
37 REGCAP1
41 REGCAP2
AVDD18 3
AVDD18 19
AVDD18 26
AVDD18 38
AVDDC18 35
AVDD18_OUT 39
AVDD18
C99 470nF 6.3V X5R
C100 470nF 6.3V X5R
C101 470nF 6.3V X5R
C102 10µF 6.3V X5R
GND
AVDD33 20
AVDD33 25
C65 470nF 6.3V X5R
C107 10µF 6.3V X5R
AVDD3
L4 1A MPZ0603S121HT000
C108 470nF 6.3V X5R
GND
3.3V
RSET 30 R22 4K99 1% GND
VSS 57 GND
U8B
29 TSTPT
32 HSDACP
31 HSDACN
88E1512-A0-NNP2I000

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Title: TE0820 - Eth_PHY

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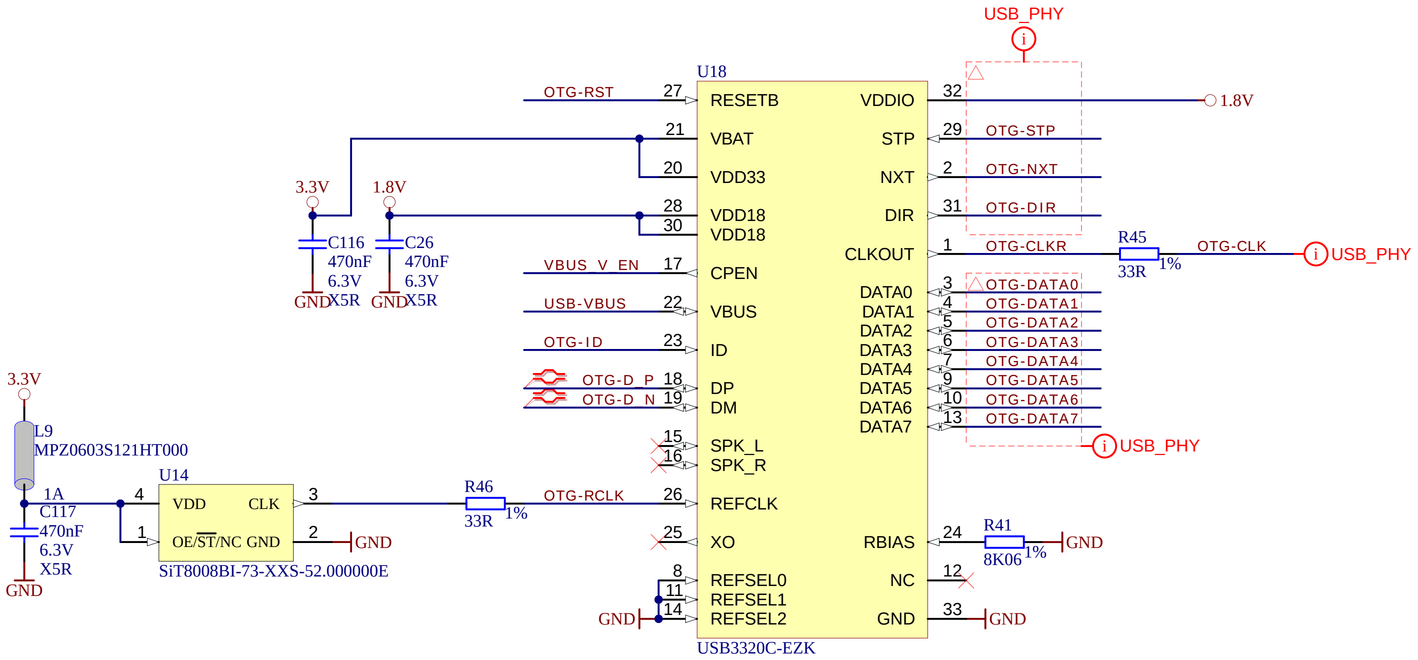
USB_PHY
U18
OTG-RST 27 RESETB
21 VBAT
20 VDD33
28 VDD18
30 VDD18
OTG-STP 29 STP
VDDIO 32 1.8V
OTG-NXT 2 NXT
OTG-DIR 31 DIR
CLKOUT 1 OTG-CLKR
R45 33R 1% OTG-CLK USB_PHY
3.3V 1.8V
C116 470nF 6.3V X5R GND
C26 470nF 6.3V X5R GND
VBUS_V_EN 17 CPEN
USB-VBUS 22 VBUS
OTG-ID 23 ID
OTG-D_P 18 DP
OTG-D_N 19 DM
15 SPK_L
16 SPK_R
DATA0 3 OTG-DATA0
DATA1 4 OTG-DATA1
DATA2 5 OTG-DATA2
DATA3 6 OTG-DATA3
DATA4 7 OTG-DATA4
DATA5 9 OTG-DATA5
DATA6 10 OTG-DATA6
DATA7 13 OTG-DATA7
USB_PHY
3.3V
L9 MPZ0603S121HT000
1A
C117 470nF 6.3V X5R
GND
U14
4 VDD CLK 3
1 OE/ST/NC GND 2 GND
SiT8008BI-73-XXS-52.000000E
R46 33R 1%
OTG-RCLK 26 REFCLK
25 XO
RBIAS 24 R41 8K06 1% GND
8 REFSEL0
11 REFSEL1
14 REFSEL2
GND
NC 12
GND 33 GND
USB3320C-EZK

Title: TE0820 - USB_PHY			
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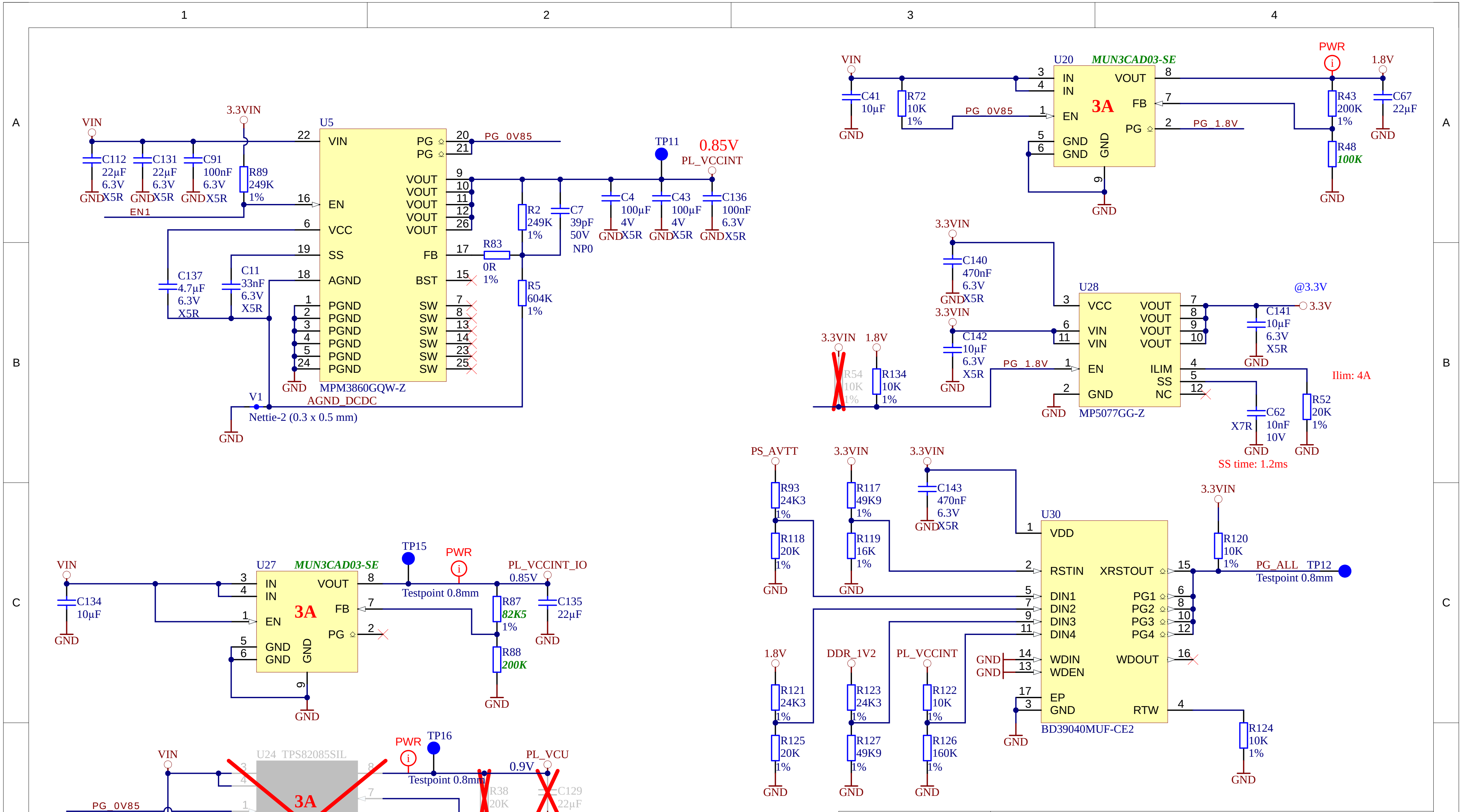
1
2
3
4
A
B
C
D
VIN
3.3VIN
U5
C112 22µF 6.3V X5R
C131 22µF 6.3V X5R
C91 100nF 6.3V X5R
R89 249K 1%
GND
EN1
VIN
PG
PG
EN
VCC
SS
AGND
PGND
VOUT
FB
BST
SW
22 16 6 19 18 1 2 3 4 5 24
20 21 9 10 11 12 26 17 15 7 8 13 14 23 25
PG_0V85
MPM3860GQW-Z
AGND_DCDC
C137 4.7µF 6.3V X5R
C11 33nF 6.3V X5R
V1
Nettie-2 (0.3 x 0.5 mm)
R83 0R 1%
R2 249K 1%
C7 39pF 50V NP0
R5 604K 1%
TP11
0.85V
PL_VCCINT
C4 100µF 4V X5R
C43 100µF 4V X5R
C136 100nF 6.3V X5R
U20
MUN3CAD03-SE
3A
IN
IN
EN
GND
GND
VOUT
FB
PG
C41 10µF
R72 10K 1%
PG_0V85
PWR
1.8V
R43 200K 1%
R48 100K
C67 22µF
PG_1.8V
3.3VIN
C140 470nF 6.3V X5R
U28
VCC
VIN
VIN
EN
GND
VOUT
ILIM
SS
NC
MP5077GG-Z
@3.3V
3.3V
C141 10µF 6.3V X5R
C142 10µF 6.3V X5R
PG_1.8V
R54 10K 1%
R134 10K 1%
Ilim: 4A
C62 10nF 10V X7R
R52 20K 1%
SS time: 1.2ms
PS_AVTT
R93 24K3 1%
R118 20K 1%
R117 49K9 1%
R119 16K 1%
C143 470nF 6.3V X5R
U30
VDD
RSTIN
DIN1
DIN2
DIN3
DIN4
WDIN
WDEN
EP
GND
XRSTOUT
PG1
PG2
PG3
PG4
WDOUT
RTW
BD39040MUF-CE2
R120 10K 1%
PG_ALL
TP12
Testpoint 0.8mm
1.8V
DDR_1V2
PL_VCCINT
R121 24K3 1%
R125 20K 1%
R123 24K3 1%
R127 49K9 1%
R122 10K 1%
R126 160K 1%
R124 10K 1%
C134 10µF
U27
MUN3CAD03-SE
TP15
Testpoint 0.8mm
PL_VCCINT_IO
0.85V
R87 82K5 1%
R88 200K
C135 22µF
U24 TPS82085SIL
TP16
Testpoint 0.8mm
PL_VCU
0.9V
R38 20K 1%
R39 160K
C129 22µF
C130 10µF
PG_0V85

Title:
TE0820 - POWER

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Number:
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05

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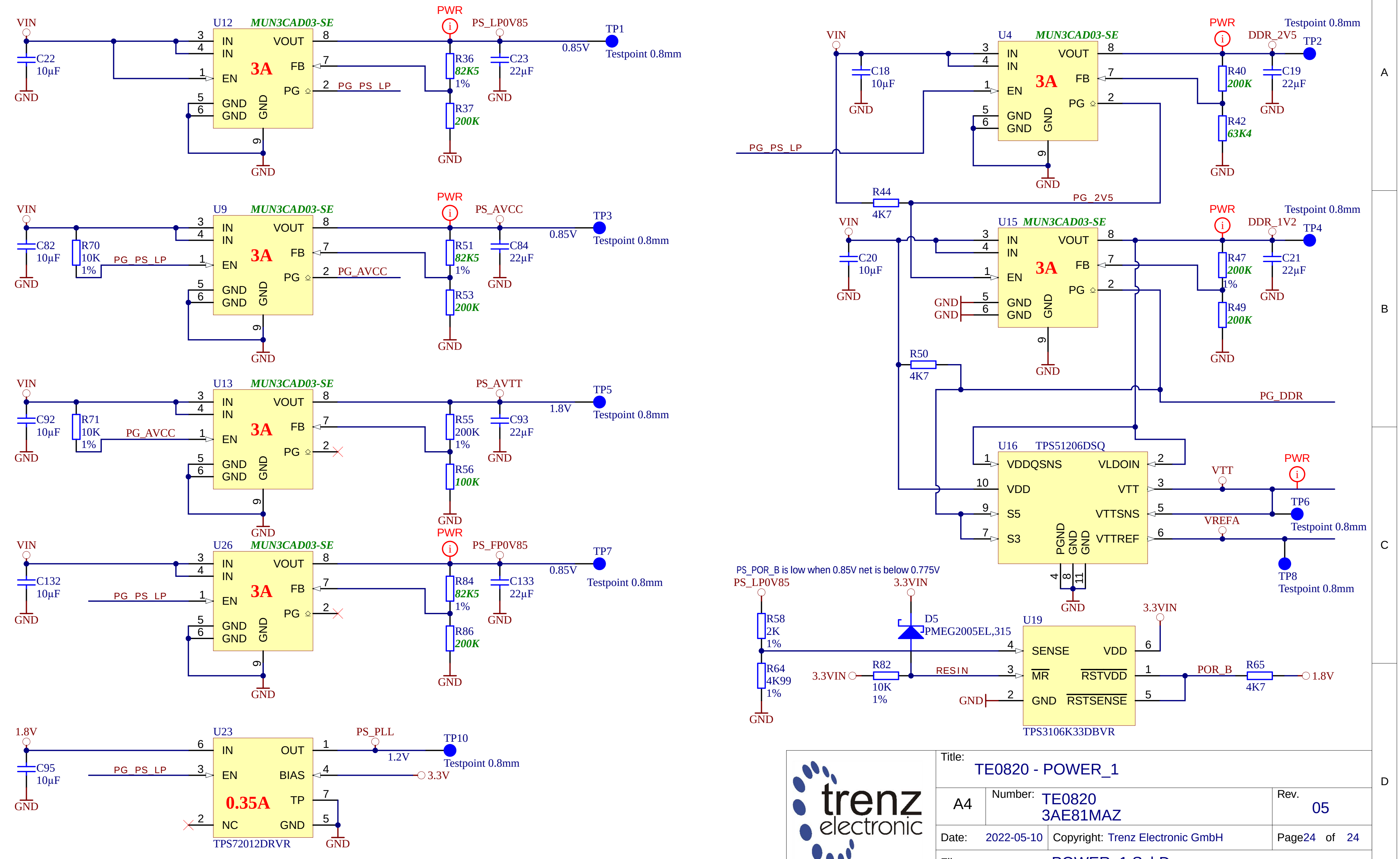
Filename:
POWER.SchDoc


VIN
C22
10µF
GND
U12
MUN3CAD03-SE
IN
IN
EN
GND
GND
VOUT
FB
PG
3A
PWR
PS_LP0V85
0.85V
TP1
Testpoint 0.8mm
R36
82K5
1%
R37
200K
C23
22µF
PG_PS_LP
VIN
C82
10µF
R70
10K
1%
U9
MUN3CAD03-SE
PS_AVCC
TP3
R51
82K5
R53
200K
C84
22µF
PG_AVCC
U13
MUN3CAD03-SE
C92
R71
PS_AVTT
1.8V
TP5
R55
200K
R56
100K
C93
22µF
U26
MUN3CAD03-SE
C132
10µF
PS_FP0V85
TP7
R84
82K5
R86
200K
C133
22µF
1.8V
C95
10µF
U23
TPS72012DRVR
IN
EN
NC
OUT
BIAS
TP
GND
0.35A
PS_PLL
1.2V
TP10
3.3V
U4
MUN3CAD03-SE
C18
10µF
DDR_2V5
TP2
R40
200K
R42
63K4
C19
22µF
R44
4K7
PG_2V5
U15
MUN3CAD03-SE
C20
10µF
DDR_1V2
TP4
R47
200K
1%
R49
200K
C21
22µF
R50
4K7
PG_DDR
U16
TPS51206DSQ
VDDQSNS
VDD
S5
S3
VLDOIN
VTT
VTTSNS
VTTREF
PGND
VTT
VREFA
TP6
TP8
PS_POR_B is low when 0.85V net is below 0.775V
PS_LP0V85
3.3VIN
R58
2K
1%
R64
4K99
1%
D5
PMEG2005EL,315
U19
TPS3106K33DBVR
SENSE
MR
VDD
RSTVDD
RSTSENSE
R82
10K
1%
RESIN
POR_B
R65
4K7
1.8V

Title: **TE0820 - POWER_1**

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