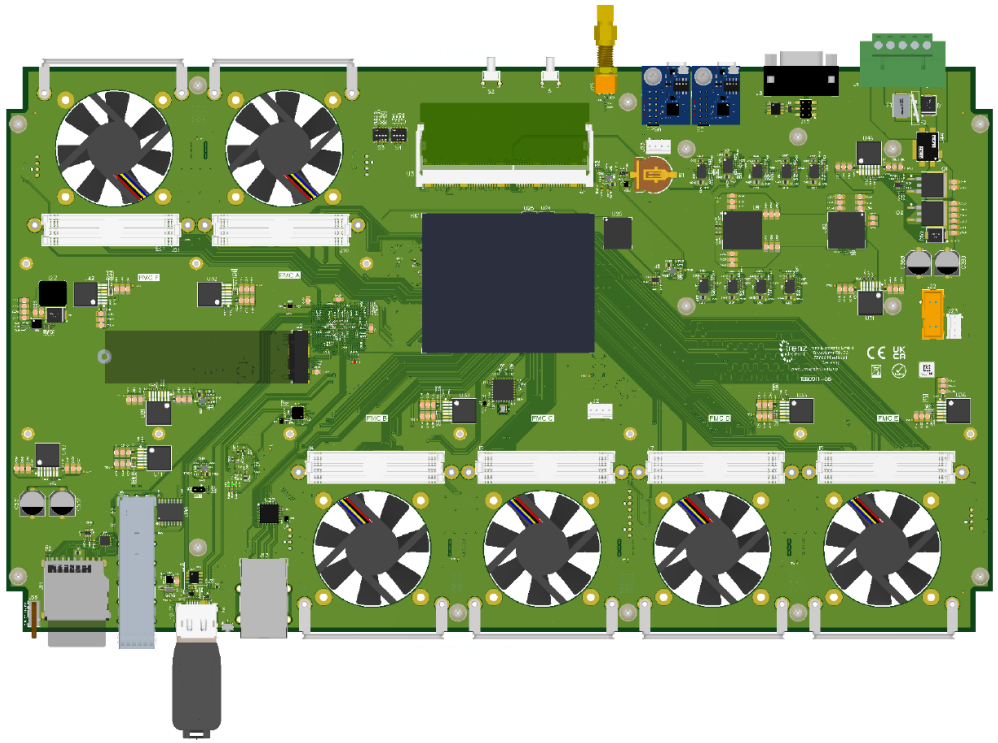
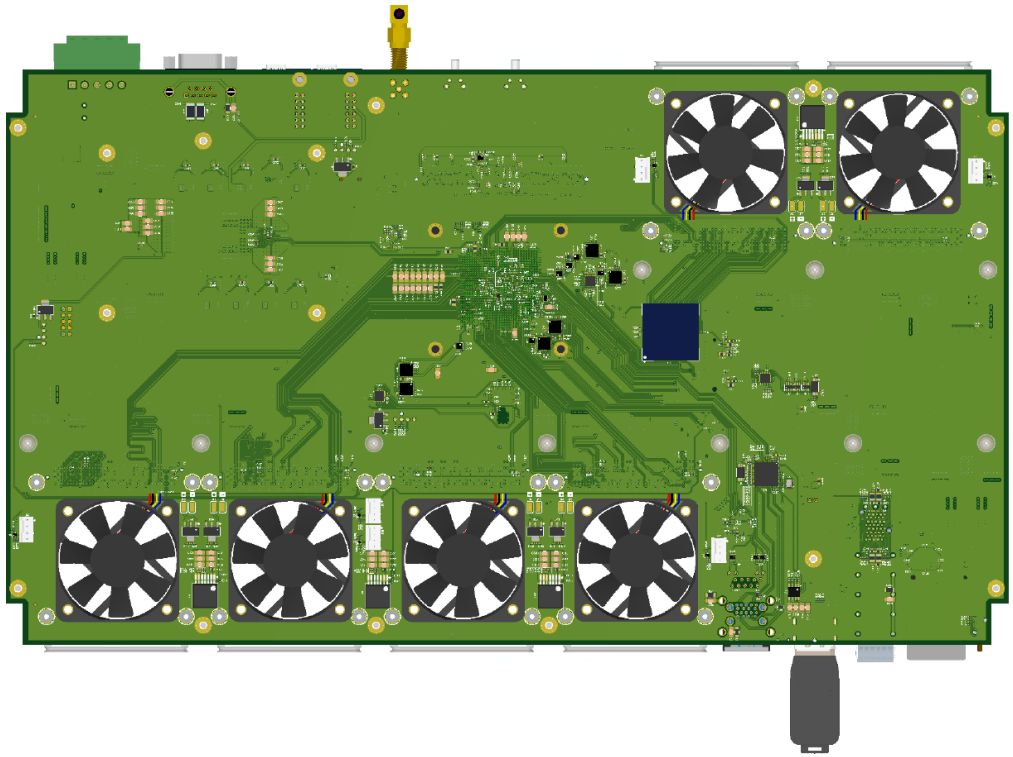




Regarding the usage of our schematics and alike documentation for Trenz baseboard TEB0911 .
Baseboard is Open Source Hardware and therefore free to use, adapt and can be modified to suit your needs as described in the "The MIT License".
Permission is hereby granted, free of charge, to any person obtaining a copy of this hardware and associated documentation files (the "Product"), to deal in the Product without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Product, and to permit persons to whom the Product is furnished to do so.
Schematics and other handouts serve for informational purposes only!

| | |
|---|---|
| Drawn by | IG |
| Checked by | |
| Assembly variant | 9BEX1MA |
| Created by | IG |
| Modified by | * |
| Modified at | * |

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Title: TEB0911 – Legal Notices

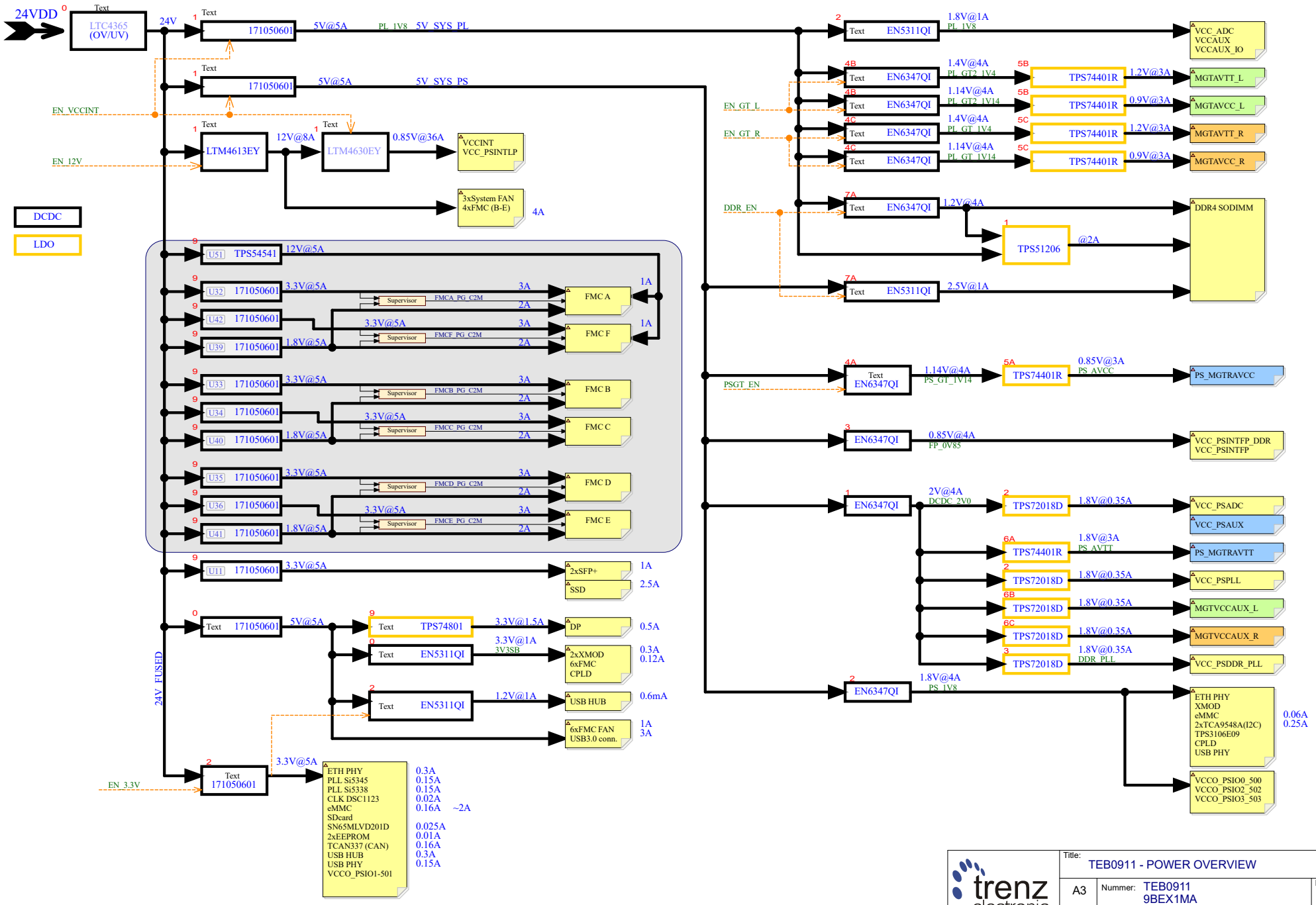
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|---|---|---|
| A4 | Number: TEB0911 9BEX1MA | Rev. 05 |
| Date: 2025-09-23 | Copyright: Trenz Electronic GmbH | Page 1 of 58 |
| Filename: Legal Notices Baseboards.SchDoc | | |

| REV | Description | |
|---|---|---|
| -02 | 1. 2 CPLDs replaced with LCMXO2-7000HC-4FG484C (U27)<br>2. Single SFP connector removed. MGT lanes B129_TX/RX_1 connected to FMC F<br>3. DCDC U45 (power supply of 2xSFP and 1xSFP connectors) removed.<br>2xSFP powered by U11.<br>4. HDMI: lane B505_TX2 connected to DP1_TX and lane B505_TX3 to DP0_TX.<br>5. Supervisor U69 TPS3106E33 replaced with TPS3106E09<br>6. U17 (Si5345): IN_SEL0/1 disconnected from CPLD and connected to GND<br>7. Added new clock source U87 (SiT8008AI-73-XXS-25.000000E). Connected to CPLD.<br>Not fitted<br>8. I2C pull-ups R154/R155: changed from 4.7k to 1.5kOhm<br>9. FAN: R285, R330, R260 changed to 27K (F*SENSE)<br>10. Added fuse F2 (4A). Fuse F1 (1.85A) "not fitted"<br>11. C354 (PWR_IN_24V/GND) deleted<br>12. Removed clock loop-back OUT9P/N - IN2P/N (U17, SI5345)<br>13. OUT7 (P) of U17 (clock source SI5345) connected to CPLD U27 Bank 5.<br>14. Signal SD Card detect SD_CD connected to CPLD, MIO45 connected to CPLD<br>15. Signals FMC*_PG_C2M(M2C) pulled-up to 3V3SB (was FMC*_3V3)<br>16. CLK_OUT U15 (USB PHY), serial resistor value R13 changed from 33 to 0 Ohm<br>17. EN5311QI: Cout value changed from 22uF to 10uF<br>18. BOM optimization<br>19. Added connections from CPLD to FMC A and F (x_LA06_SC - x_LA33_SC)<br>20. Net EN_VCCINT connected also to DCDC U31 (5V_SYS_PL) and U46 (5V_SYS_PS)<br>21. Added 2 2kb EEPROM (U45/U43)<br>22. Added power-up sequencing<br>23. MIO6 connected to CPLD<br>24. Signals EN_SFP was renamed to EN_SFP_SSD, 12V_FMC was renamed to<br>12V_FMC_AF, FMC12V_PG to FMCAF_12V_PG<br>25. Nets names F_LA02/03/04 was swapped. | (23.03.2021) |
| -03 | 1. Signals C_LA27_P/N swapped: C_LA27_P connected to pin R10<br>(IO_L11P_T1U_N8_GC_67), C_LA27_N connected to R9 (IO_L11N_T1U_N9_GC_67)<br>of U1 (XCZU9EG-1FFVB1156).<br>2. Flash N25Q256A11E1240E changed to N25Q512A11G1240E. | 17.11.2017 |
| -04 | 1. Signals C_LA27_P/N swapped: C_LA27_P connected to pin R10<br>(IO_L11P_T1U_N8_GC_67), C_LA27_N connected to R9 (IO_L11N_T1U_N9_GC_67)<br>1. Added SDIO level translator TXS02612RTWR (U95) and 33Ω series resistors on SDIO lines from FPGA side.<br>2. Added user button S5 and jumper J5 (connected to U27 pin W17).<br>3. New FAN switches U76-78/U97-99: BTS4141N.<br>4. New FANs: AFB04512MA. Was added an option to use 5V or 12V (default) power rail.<br>5. Replaced EOL components:<br>- TPS27082LDDCR -> TPS22918DBVT (U96)<br>- ESD3V3U4ULCE6327XTSA1 -> AOZ8808DI-03 (U28)<br>6. New SFP+ connector: 2007492-5 instead of 1-2007492-5<br>7. Resistor R65 (USB VBUS) replaced by 1K.<br>8. Resistors R285, R330, R226 are DNP.<br>9. S/N 27230 is DNP.<br>10. Added a battery BAT1;<br>11. Added quartz Y4; | 29.11.2022<br>IG |
| -05 | 1. DC-DC U50, U84, U72, U80 were replaced with MPM3834CGPA.<br>2. DC-DC U52, U55, U58, U62, U70, U79, U74, U64, U66 were replaced with MPM3860GQW.<br>3. Oscillator Y2 schematic is fixed.<br>4. R49, R283, R328 (4k99) replace by 100R<br>5. Protection diode D20 is added.<br>6. Change R92 to 220R (22767)<br>7. All FMC FANs M1 - M6 were replaced with CFM-5010-13-22 (30961) 50 x 50 mm.<br>8. Added connectors J14, J37 – J41 and transistors T1A – T6A .<br>9. Added signals FMCA_PWM – FMCC_PWM, which go from the CPLD and are intended for controlling fan speed. | 19.12.2024<br>AH/IG |

| REV | Description | |
|---|---|---|
| | 10. Added signals FMCA_SENSE – FMCF_SENSE , which go to the CPLD and are intended for receiving signals from internal sensors.<br>11. Added parts JX1 - JX6 and contacts CONT1 - CONT24.<br>12. Component S/N is removed.<br>13. Added pull-up R377 - R380 on MIO2, MIO3, MIO10, MIO11.<br>14. Added capacitors C699 - C705 to improve 3.3V_SD power rail stability.<br>15. Signals PHY_LED0 - PHY_LED2. LED_1A, LED_2A, LED_2B are removed from SC.<br>16. Renamed signals PHY_LED0 -> ETH0_LINK_ACTn, PHY_LED1 -> ETH0_LINK_MIDn, PHY_LED2 -> ETH0_LINK_MAXn.<br>17. Added Ethernet LED Buffers U103A - U105A.<br>18. Resistor R17 changed 1K -> 2.2K.<br>19. DDR_PG renamed to PG_DDR_1V2.<br>20. Added FMC Power supervisors U110 - U115 to meet FMC standard.<br>21. FMCA_PG_C2M - FMCF_PG_C2M disconnected from SC and connected to U110 - U115 .<br>22. Added signals SC_A_PG_C2M - SC_F_PG_C2M from SC to U110 - U115 to enable these supervisors.<br>23. Added diodes D21 - D26 to protect MR inputs of U110 - U115.<br>24. PL_GT2_1V05 increased to PL_GT2_1V14.<br>25. PL_GT2_1V35 increased to PL_GT2_1V4.<br>26. PL_GT_1V05 increased to PL_GT_1V14.<br>27. PL_GT_1V35 increased to PL_GT_1V4.<br>28. PS_GT_1V05 increased to PS_GT_1V14.<br>29. Power_overview and PowerUpSequence pages are updated.<br>30. U85, component SiT8008AI-73-XXS-25.000000E got status NRND. It is replaced with SiT8008BI-73-XXS-25.000000E.<br>31. NRND components U28, , U68, U88 AOZ8808DI-03 are replaced with AOZ8S311UD4-03.<br>32. Connector J13 replaced with 2250576-1. The replaced transformer is corresponding to Ethernet PHY MDI interface.<br>33. Ethernet status LEDs are changed:<br>J13D Yellow -> Green<br>J13E Orange -> Yellow | |
| | | |

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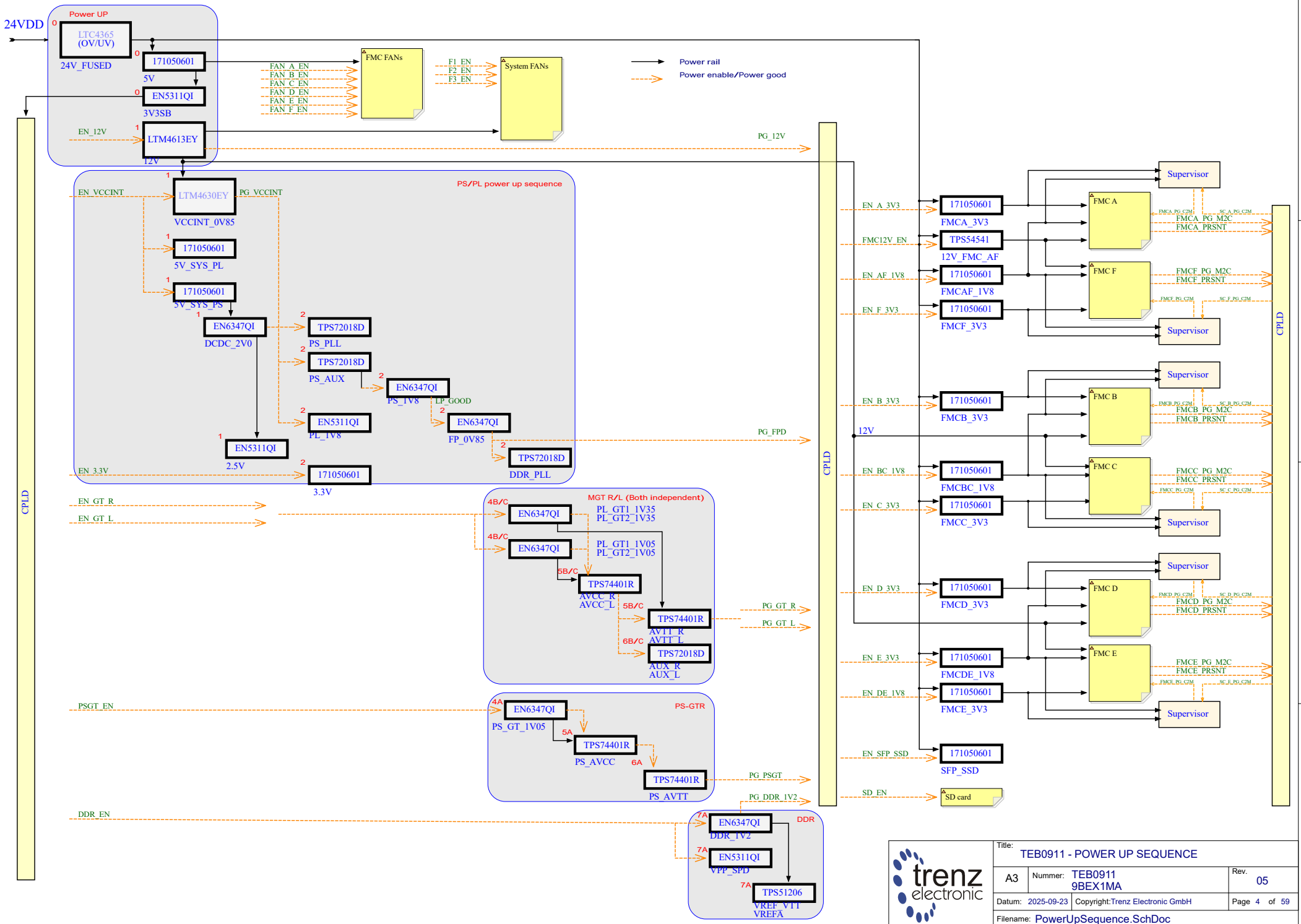
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| Date: 2025-09-23 | Copyright: Trenz Electronic GmbH | | Page 2 of 58 |
| Filename: Revision_changes.SchDoc | | | |




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Title: TEB0911 - POWER OVERVIEW

| | | |
|---|---|---|
| A3 | Nummer: TEB0911 9BEX1MA | Rev. 05 |
| Datum: 2026-02-19 | Copyright:Trenz Electronic GmbH | Page 3 of 59 |
| Filename: Power_overview.SchDoc | | |


24VDD
Power UP
LTC4365 (OV/UV)
24V_FUSED
171050601
5V
EN5311QI
3V3SB
LTM4613EY
12V
EN_12V
PG_12V
FAN_A_EN
FAN_B_EN
FAN_C_EN
FAN_D_EN
FAN_E_EN
FAN_F_EN
FMC FANs
F1_EN
F2_EN
F3_EN
System FANs
Power rail
Power enable/Power good
CPLD
PS/PL power up sequence
EN_VCCINT
LTM4630EY
PG_VCCINT
VCCINT_0V85
171050601
5V_SYS_PL
171050601
5V_SYS_PS
EN6347QI
DCDC_2V0
TPS72018D
PS_PLL
TPS72018D
PS_AUX
EN6347QI
PS_1V8
LP_GOOD
EN6347QI
FP_0V85
PG_FPD
TPS72018D
DDR_PLL
EN5311QI
PL_1V8
EN5311QI
2.5V
EN_3.3V
171050601
3.3V
MGT R/L (Both independent)
EN_GT_R
EN_GT_L
EN6347QI
PL_GT1_1V35
PL_GT2_1V35
EN6347QI
PL_GT1_1V05
PL_GT2_1V05
TPS74401R
AVCC_R
AVCC_L
TPS74401R
AVTT_R
AVTT_L
TPS72018D
AUX_R
AUX_L
PG_GT_R
PG_GT_L
PS-GTR
PSGT_EN
EN6347QI
PS_GT_1V05
TPS74401R
PS_AVCC
TPS74401R
PS_AVTT
PG_PSGT
DDR
DDR_EN
EN6347QI
DDR_1V2
EN5311QI
VPP_SPD
TPS51206
VREF_VTT
VREFA
PG_DDR_1V2
EN_A_3V3
171050601
FMCA_3V3
FMC12V_EN
TPS54541
12V_FMC_AF
EN_AF_1V8
171050601
FMCAF_1V8
EN_F_3V3
171050601
FMCF_3V3
FMC A
FMC F
Supervisor
Supervisor
FMCA_PG_C2M
FMCA_PG_M2C
FMCA_PRSNT
SC_A_PG_C2M
FMCF_PG_M2C
FMCF_PRSNT
FMCF_PG_C2M
SC_F_PG_C2M
EN_B_3V3
171050601
FMCB_3V3
12V
EN_BC_1V8
171050601
FMCBC_1V8
EN_C_3V3
171050601
FMCC_3V3
FMC B
FMC C
Supervisor
Supervisor
FMCB_PG_C2M
FMCB_PG_M2C
FMCB_PRSNT
SC_B_PG_C2M
FMCC_PG_M2C
FMCC_PRSNT
FMCC_PG_C2M
SC_C_PG_C2M
EN_D_3V3
171050601
FMCD_3V3
EN_E_3V3
171050601
FMCDE_1V8
EN_DE_1V8
171050601
FMCE_3V3
FMC D
FMC E
Supervisor
Supervisor
FMCD_PG_C2M
FMCD_PG_M2C
FMCD_PRSNT
SC_D_PG_C2M
FMCE_PG_M2C
FMCE_PRSNT
FMCE_PG_C2M
SC_E_PG_C2M
EN_SFP_SSD
171050601
SFP_SSD
SD_EN
SD card
CPLD
Title: TEB0911 - POWER UP SEQUENCE
A3
Nummer: TEB0911 9BEX1MA
Rev. 05
Datum: 2025-09-23
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Page 4 of 59
Filename: PowerUpSequence.SchDoc
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Ethernet
Ethernet.SchDoc

U_SFP
SFP.SchDoc

U_SSD
SSD.SchDoc

U_FrontPanel
FrontPanel.SchDoc

U_USB
USB.SchDoc

U_BackPanel
BackPanel.SchDoc

U_FMC PWR
FMC PWR.SchDoc

U_ZU
ZU.SchDoc

U_SFP_CTRL
SFP_CTRL.SchDoc

U_SC
SC.schdoc

U_UPWR
USB3-HUB_PWR.SchDoc

U_FAN
FAN_CON.schdoc

U_USBP
USB-PHY.SchDoc

U_USBH
USB3-HUB.SchDoc

U_CLK
Clock.SchDoc

U_I2C
I2C_system.schdoc

U_eMMC
eMMC.SchDoc

U_DDRP
DDR_PWR.SchDoc

U_DDR
DDR_SODIMM.SchDoc

U_CLK2
Clock2.SchDoc

U_SC2
SC2.schdoc

U_MISC
MISC.schdoc

U_PWR_IN
PWR_IN.SchDoc

U_SC_P
SC_POWER.schdoc

POWER_3
POWER_3.schdoc

POWER_4
POWER_4.schdoc

POWER_5
POWER_5.schdoc

POWER_6
POWER_6.schdoc

PWR_SYS
PWR_SYS.SchDoc

PWR_CORE
PWR_CORE.SchDoc

POWER_PSLP
POWER_PSLP.schdoc

POWER_1
POWER_1.schdoc

POWER_2
POWER_2.schdoc

POWER_MGTPS
POWER_MGTPS.schdoc

POWER_MGTPLR
POWER_MGTPLR.schdoc

POWER_MGTPLL
POWER_MGTPLL.schdoc

POWER_PSFP
POWER_PSFP.schdoc

LOGO1
TE Logo PRINT Layer
LOGO PRINT

TE Address Overlay
LOGO ADDRESS

WEEE Logo on Top Overlay
WEEE-TOPOVERLAY

UKCA Logo on Top Overlay
UKCA-TOPOVERLAY

CE Logo on Top Overlay
CE-TOPOVERLAY

RoHS Logo on Top Overlay
RoHS-TOPOVERLAY

Serial
Serial
Serialnumber 6,3 x 6.3mm

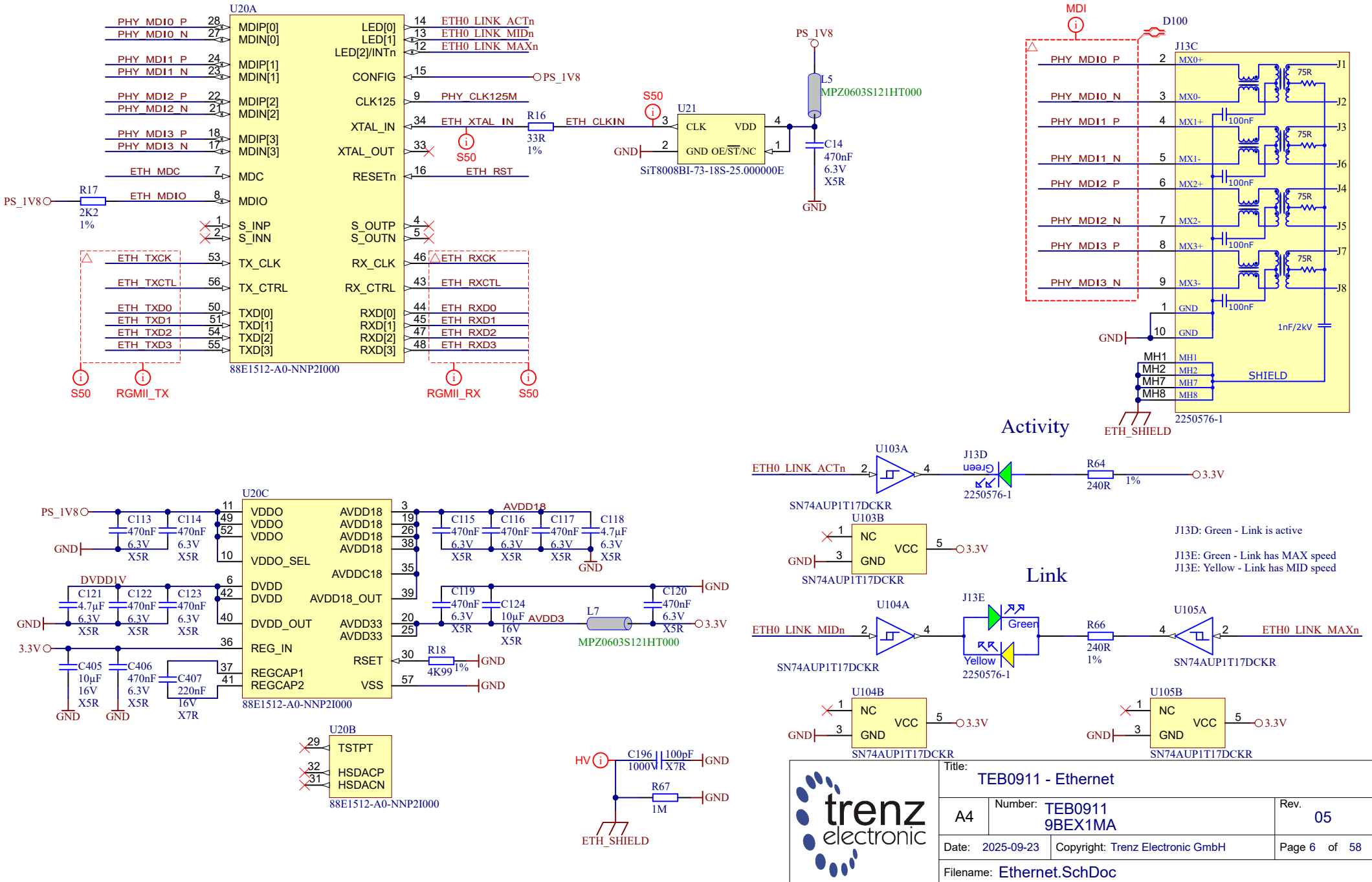
PM3 PM4 PM1
PM5 PM6 PM2

GND Mount.Hole 3.2mm für Unterlegscheibe

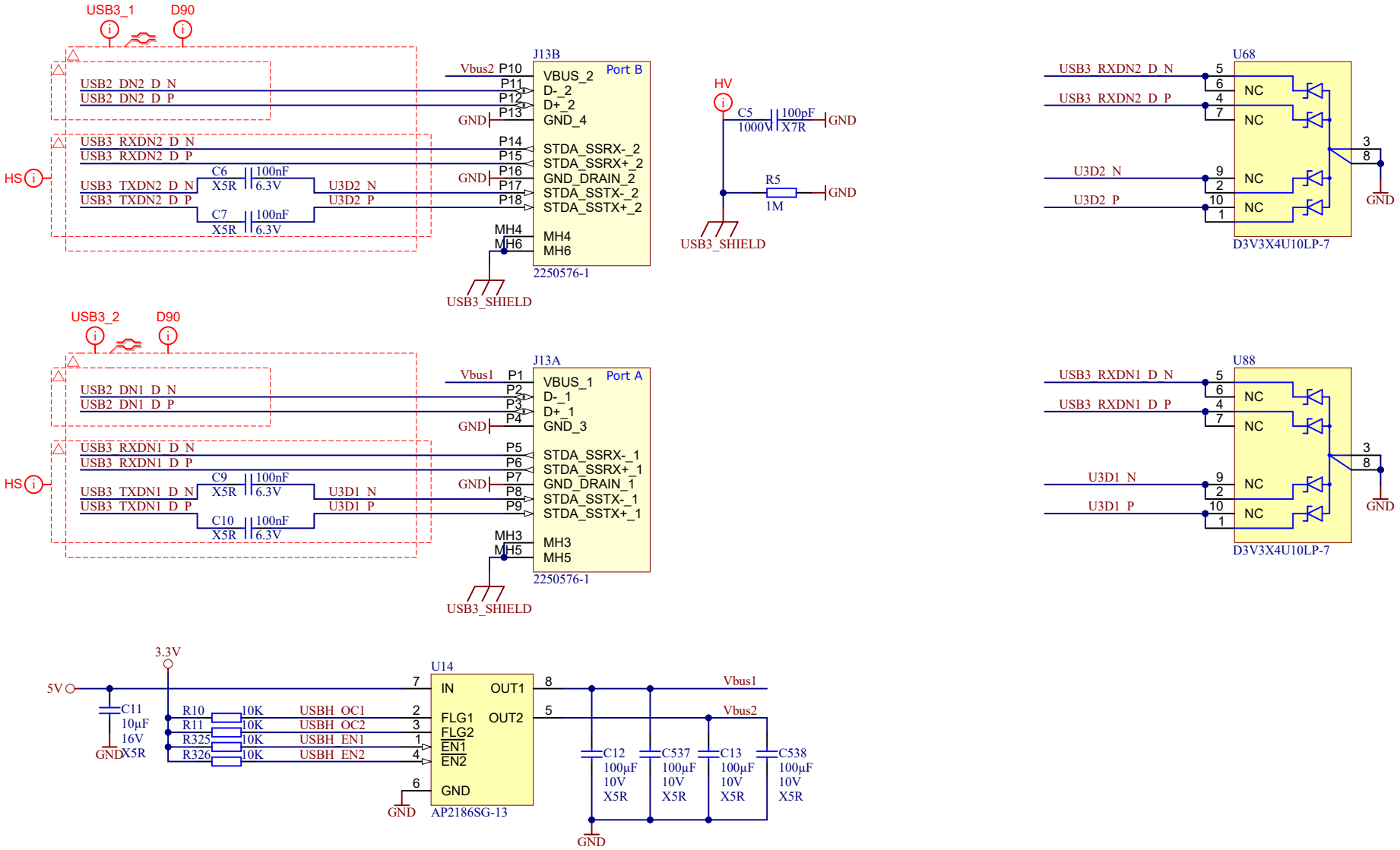
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| Created by | IG |
| Modified by | * |
| Modified at | * |
| SVN Revision | 19203 [Locally Modified] |

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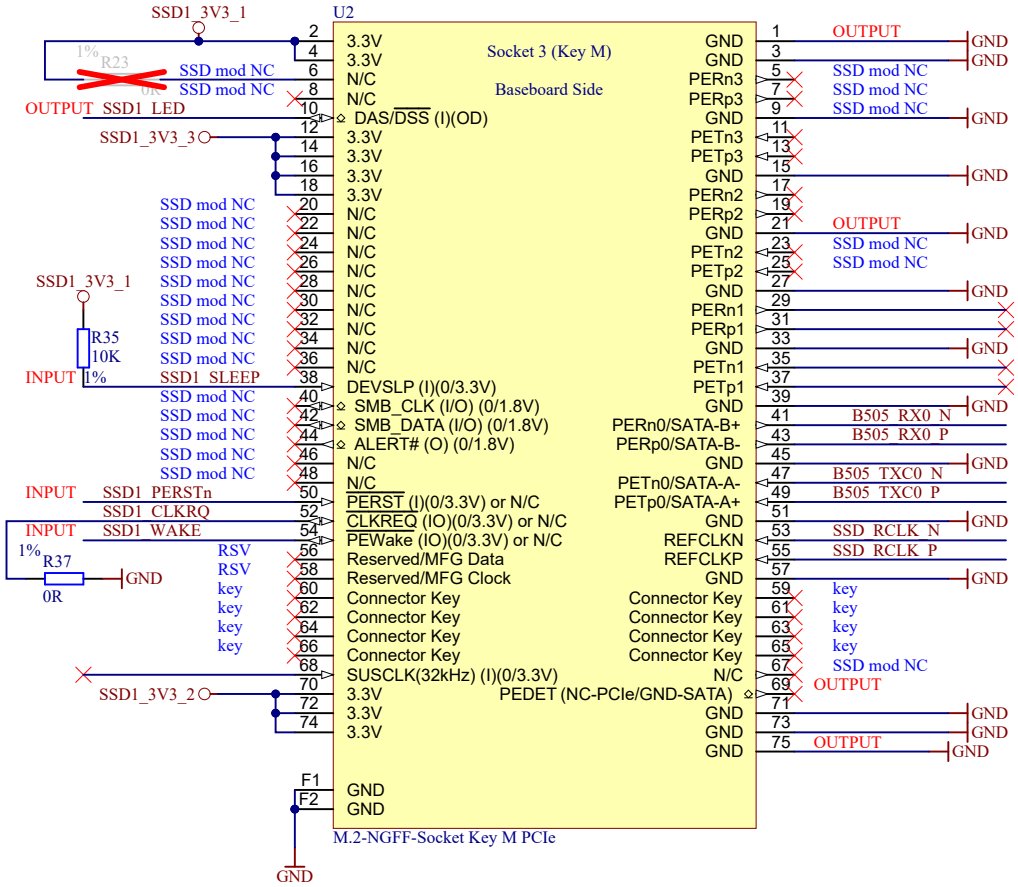
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| Date: 2026-09-29 | Copyright: Trenz Electronic GmbH | Page 5 of 59 |
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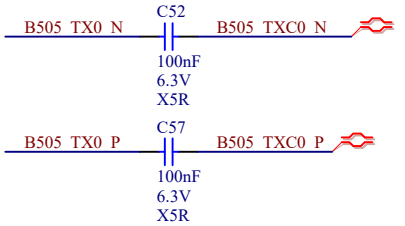


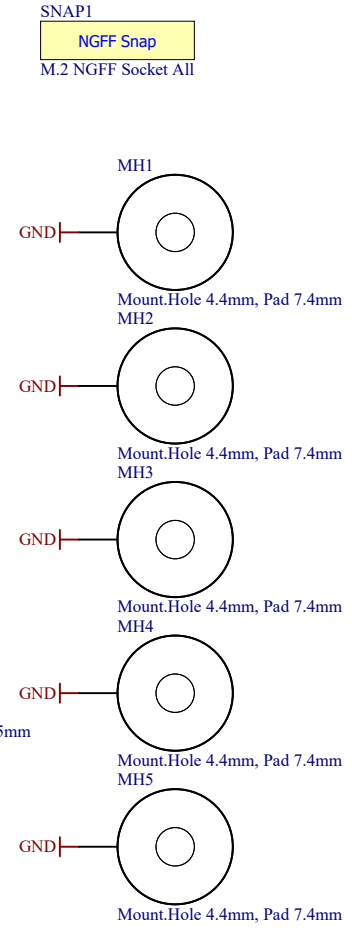

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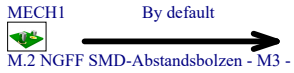


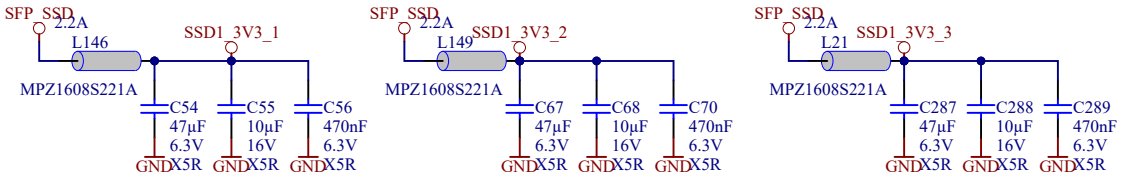

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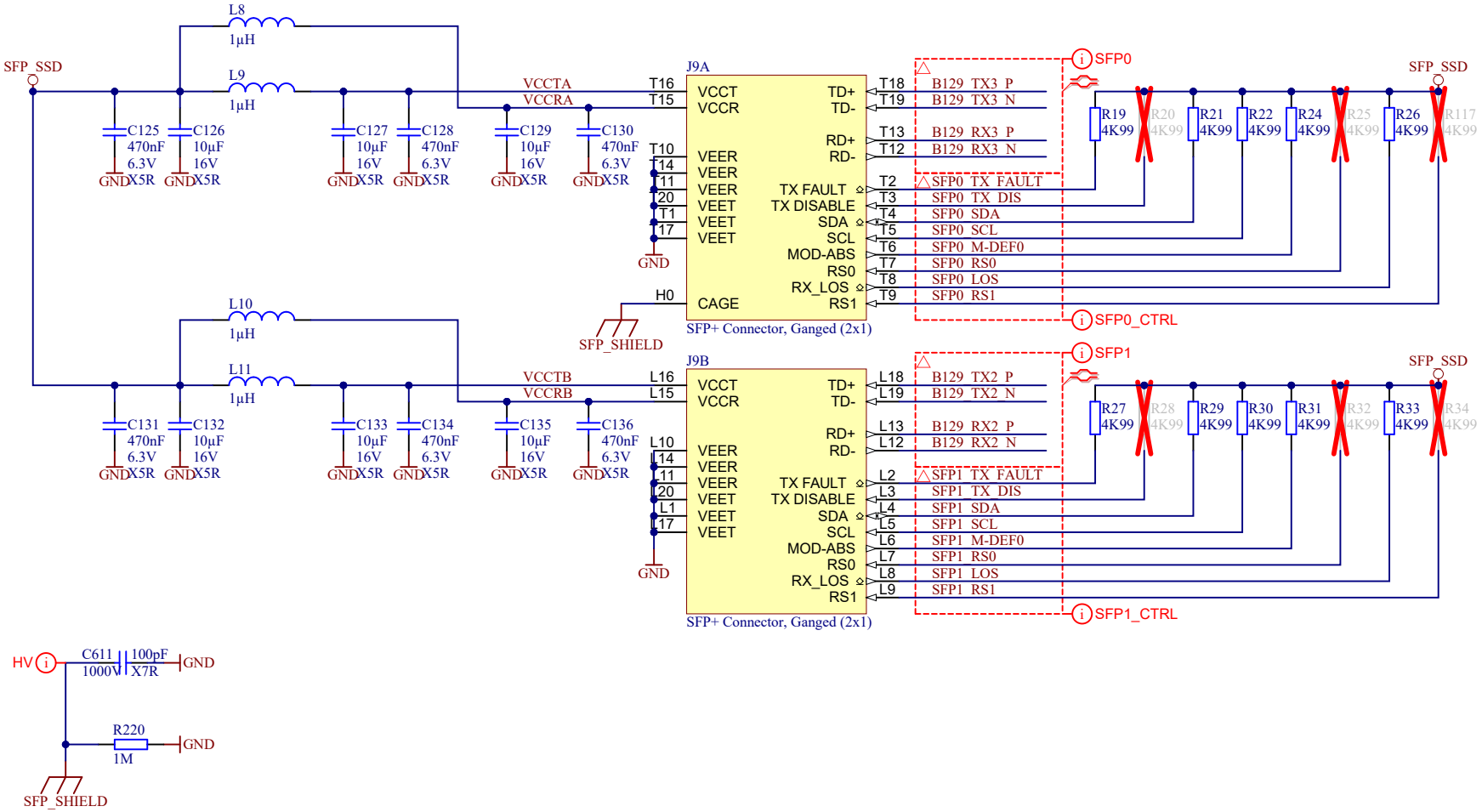



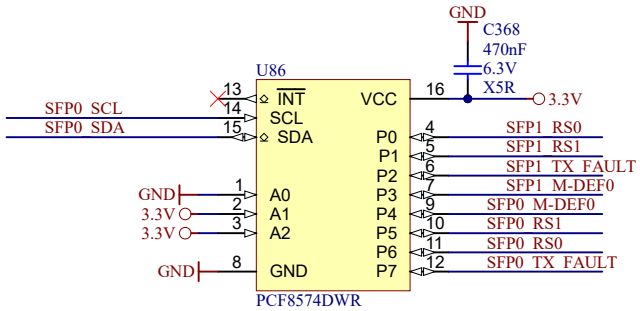



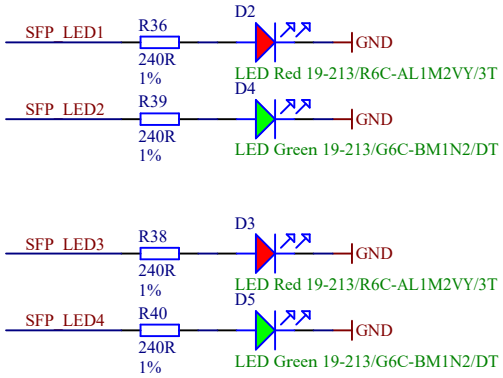

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| Date: 2026-02-02 | Copyright: Trenz Electronic GmbH | Page 8 of 58 |
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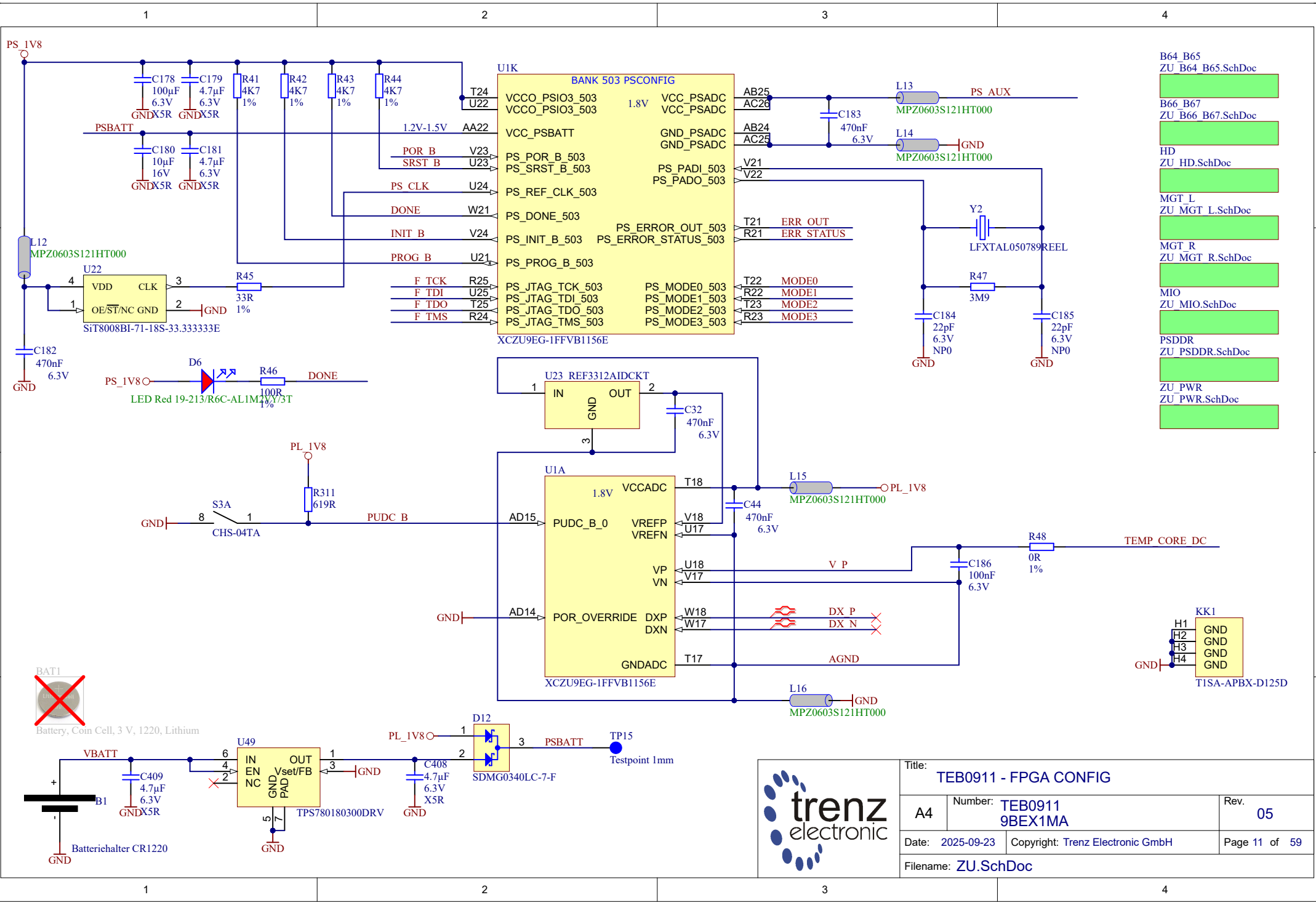


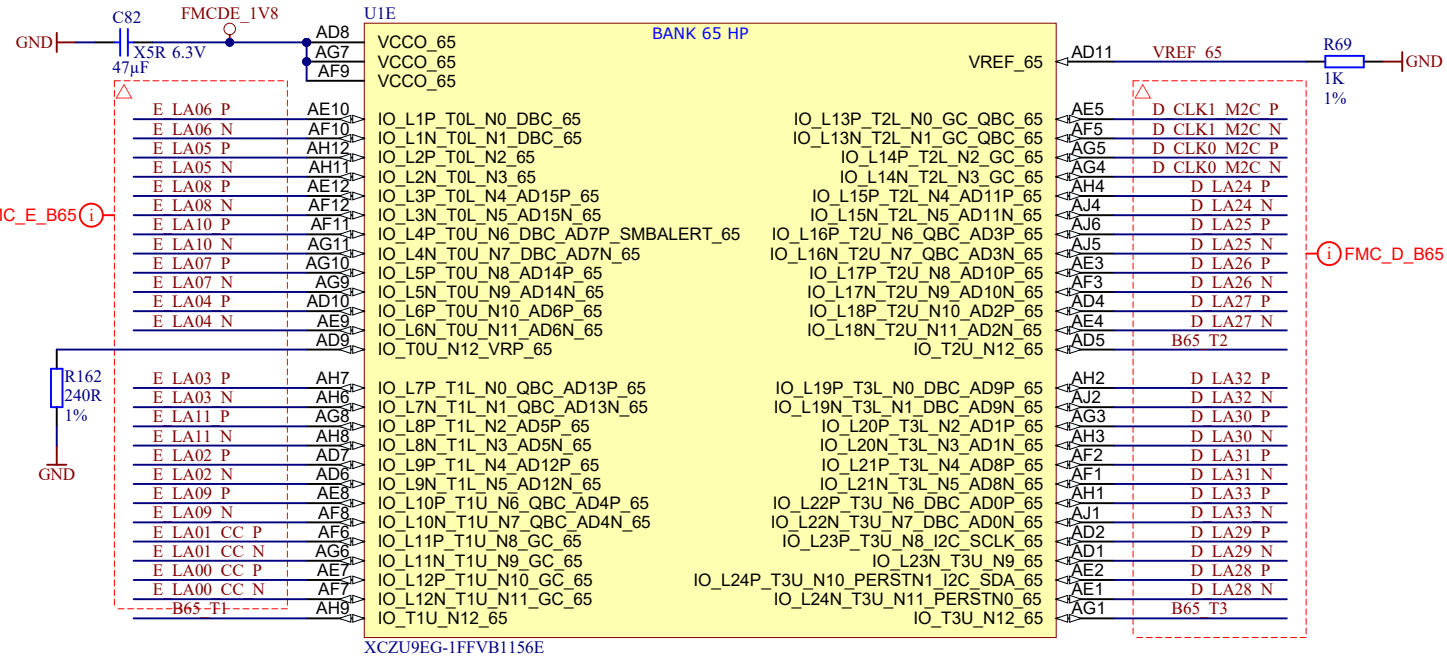

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| A4 | Number: TEB0911 9BEX1MA | | Rev. 05 |
| Date: 2025-09-23 | Copyright: Trenz Electronic GmbH | | Page 9 of 59 |
| Filename: SFP.SchDoc | | | |



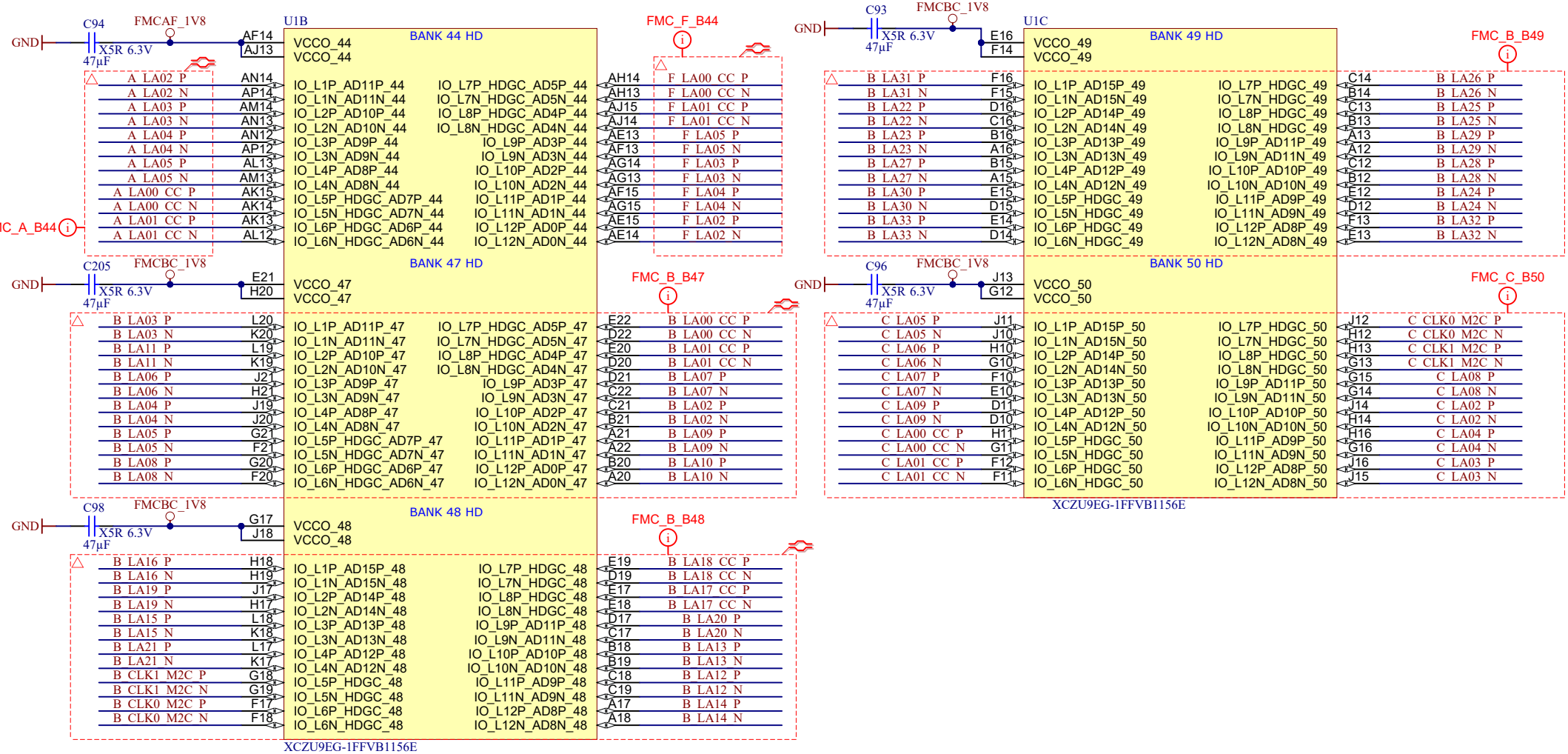



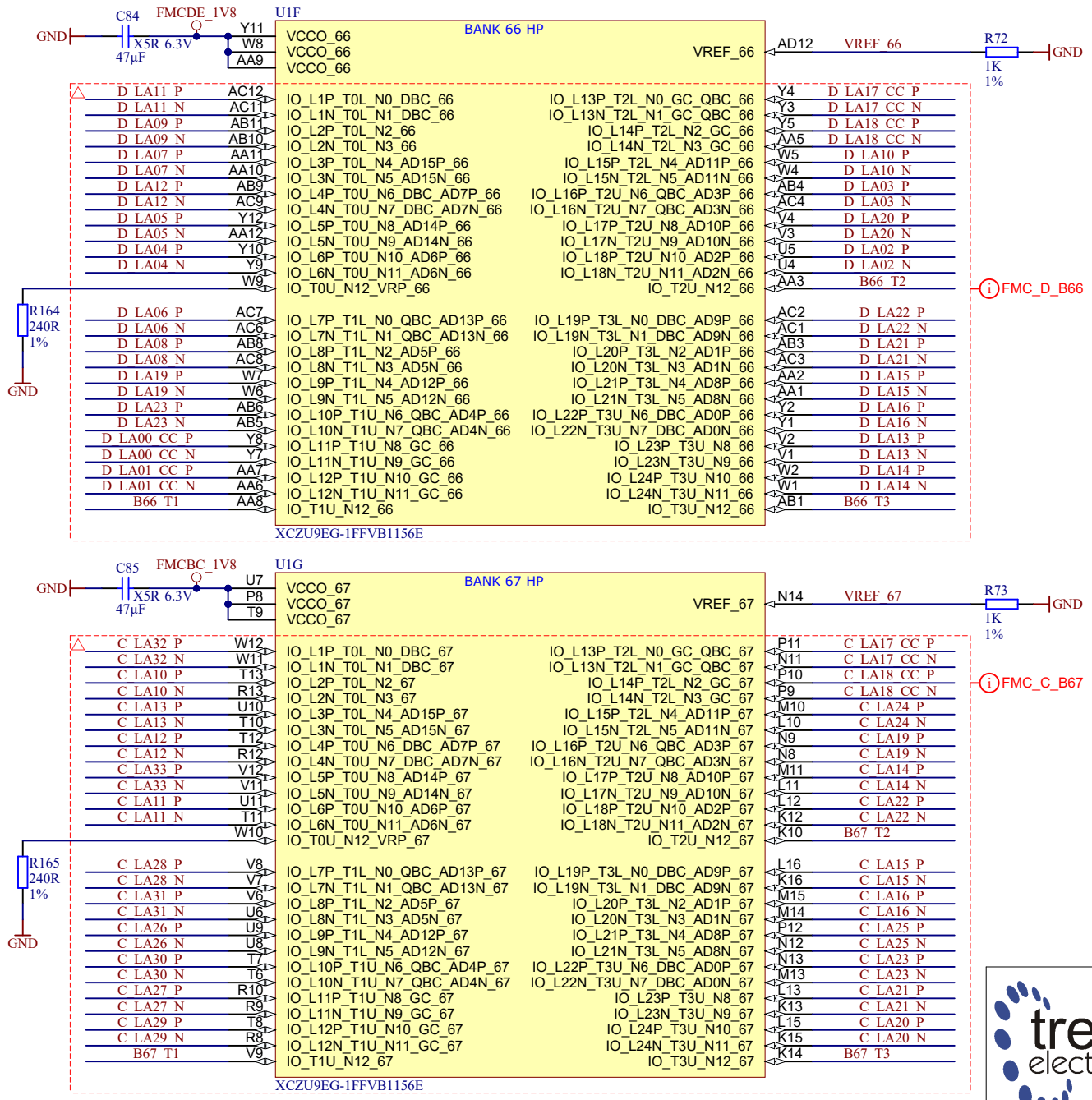

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| trenz electronic | Title: TEB0911 - SFP | |
| A4 | Number: TEB0911 9BEX1MA | Rev. 05 |
| Date: 2025-09-23 | Copyright: Trenz Electronic GmbH | Page 10 of 59 |
| Filename: SFP_CTRL.SchDoc | | |

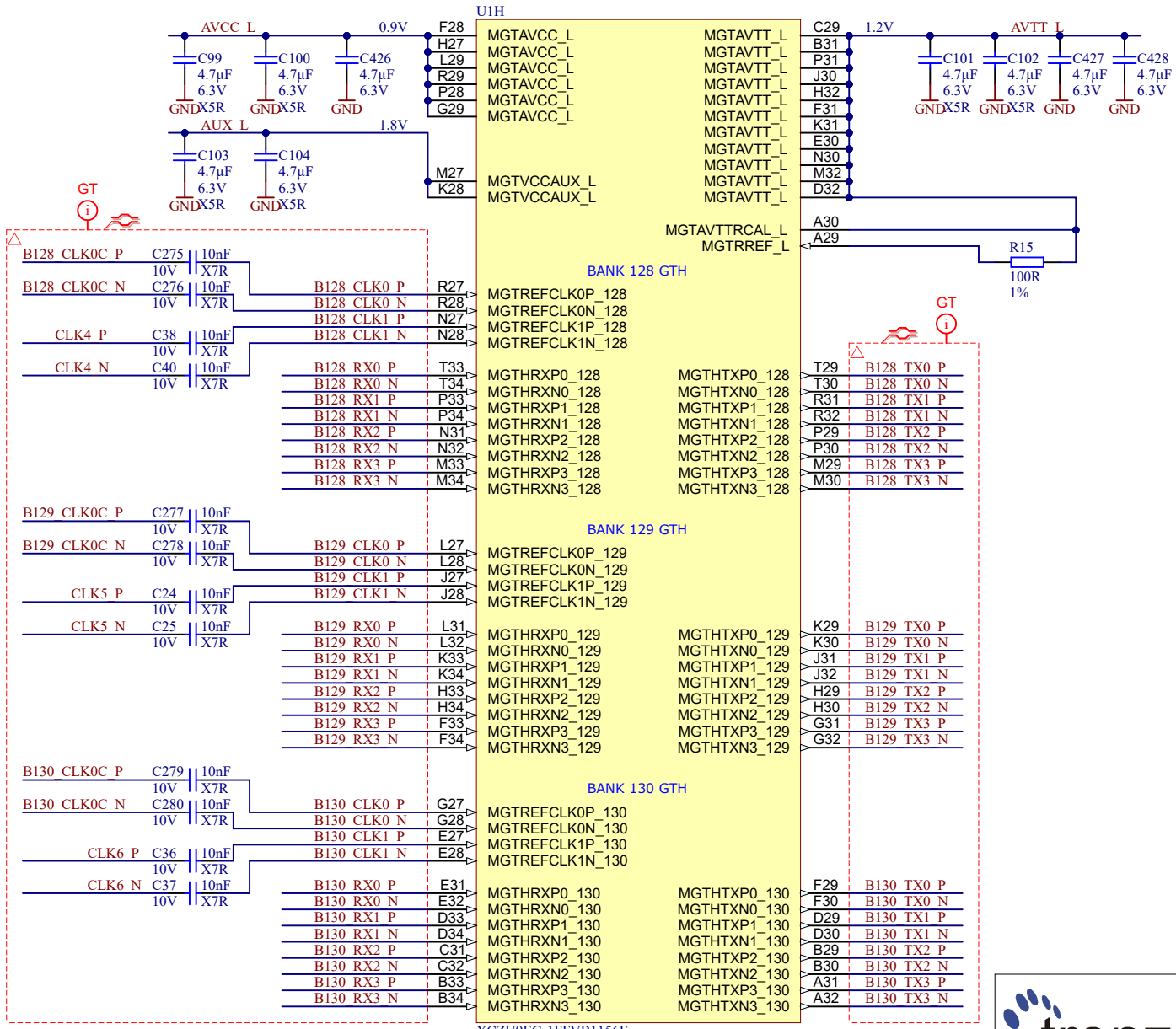

PS_1V8
C178 100µF 6.3V X5R
C179 4.7µF 6.3V X5R
R41 4K7 1%
R42 4K7 1%
R43 4K7 1%
R44 4K7 1%
PSBATT
C180 10µF 16V X5R
C181 4.7µF 6.3V X5R
L12 MPZ0603S121HT000
U22
VDD CLK OE/ST/NC GND
SiT8008BI-71-18S-33.333333E
R45 33R 1%
C182 470nF 6.3V
U1K
BANK 503 PSCONFIG
VCCO_PSIO3_503
VCCO_PSIO3_503
VCC_PSADC
VCC_PSADC
1.8V
1.2V-1.5V
VCC_PSBATT
GND_PSADC
GND_PSADC
POR_B
SRST_B
PS_POR_B_503
PS_SRST_B_503
PS_PADI_503
PS_PADO_503
PS_CLK
PS_REF_CLK_503
DONE
PS_DONE_503
INIT_B
PS_INIT_B_503
PS_ERROR_OUT_503
PS_ERROR_STATUS_503
ERR_OUT
ERR_STATUS
PROG_B
PS_PROG_B_503
F_TCK
F_TDI
F_TDO
F_TMS
PS_JTAG_TCK_503
PS_JTAG_TDI_503
PS_JTAG_TDO_503
PS_JTAG_TMS_503
PS_MODE0_503
PS_MODE1_503
PS_MODE2_503
PS_MODE3_503
MODE0
MODE1
MODE2
MODE3
XCZU9EG-1FFVB1156E
L13 MPZ0603S121HT000
PS_AUX
C183 470nF 6.3V
L14 MPZ0603S121HT000
Y2 LFXTAL050789REEL
R47 3M9
C184 22pF 6.3V NP0
C185 22pF 6.3V NP0
B64_B65 ZU_B64_B65.SchDoc
B66_B67 ZU_B66_B67.SchDoc
HD ZU_HD.SchDoc
MGT_L ZU_MGT_L.SchDoc
MGT_R ZU_MGT_R.SchDoc
MIO ZU_MIO.SchDoc
PSDDR ZU_PSDDR.SchDoc
ZU_PWR ZU_PWR.SchDoc
D6
LED Red 19-213/R6C-AL1M2VY/3T
R46 100R 1%
DONE
U23_REF3312AIDCKT
IN GND OUT
C32 470nF 6.3V
PL_1V8
R311 619R
S3A
CHS-04TA
PUDC_B
U1A
1.8V
VCCADC
PUDC_B_0
VREFP
VREFN
VP
VN
POR_OVERRIDE
DXP
DXN
GNDADC
XCZU9EG-1FFVB1156E
C44 470nF 6.3V
L15 MPZ0603S121HT000
R48 0R 1%
TEMP_CORE_DC
C186 100nF 6.3V
V_P
DX_P
DX_N
AGND
L16 MPZ0603S121HT000
KK1
H1 H2 H3 H4
GND GND GND GND
T1SA-APBX-D125D
BAT1
Battery, Coin Cell, 3 V, 1220, Lithium
VBATT
B1
Batteriehalter CR1220
C409 4.7µF 6.3V X5R
U49
IN EN NC GND PAD OUT Vset/FB
TPS780180300DRV
C408 4.7µF 6.3V X5R
D12
SDMG0340LC-7-F
PSBATT
TP15
Testpoint 1mm
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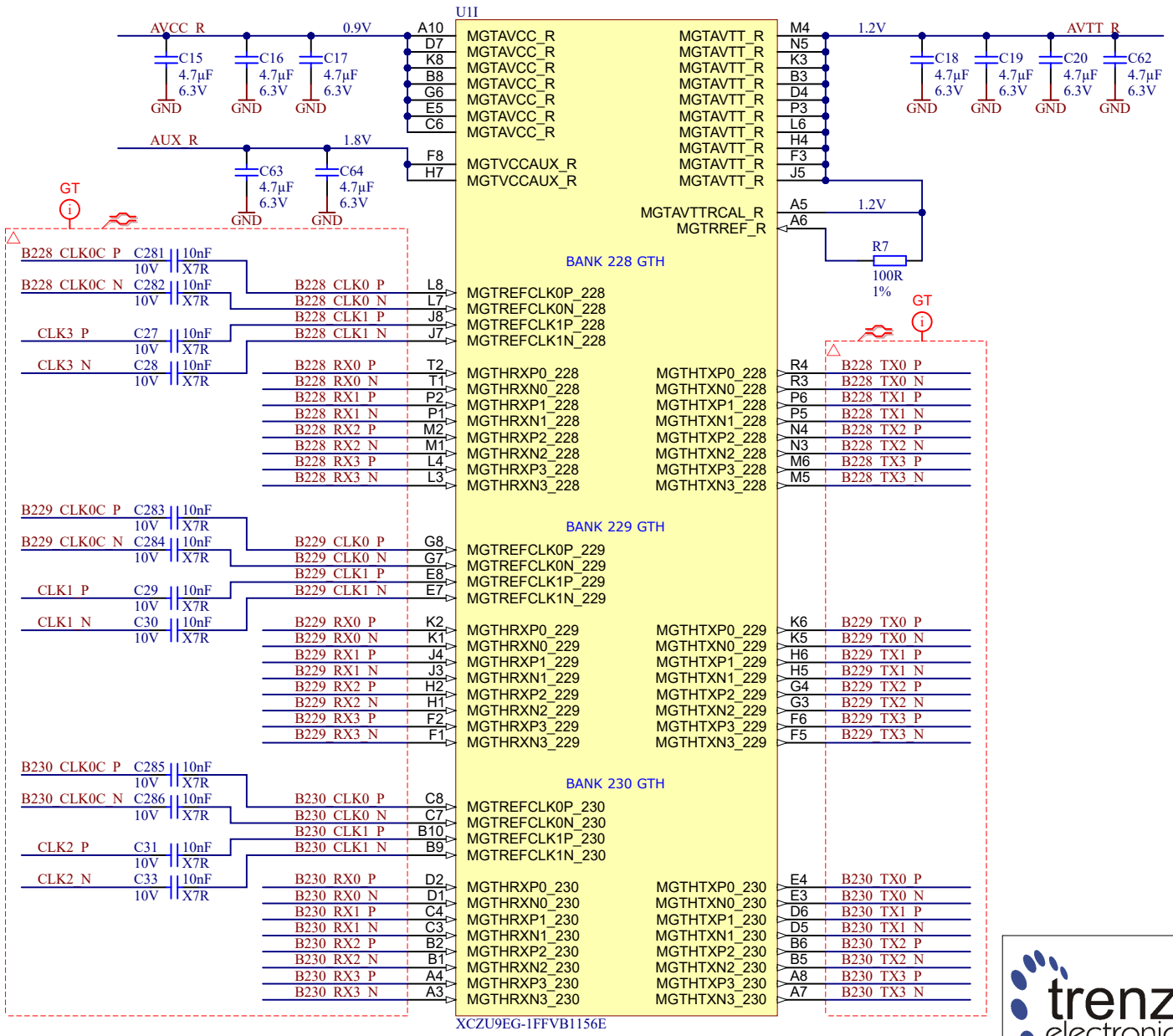

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C94
FMCAF_1V8
GND
X5R 6.3V
47µF
U1B
BANK 44 HD
AF14 VCCO_44
AJ13 VCCO_44
A_LA02_P AN14 IO_L1P_AD11P_44 IO_L7P_HDGC_AD5P_44 AH14 F_LA00_CC_P
A_LA02_N AP14 IO_L1N_AD11N_44 IO_L7N_HDGC_AD5N_44 AH13 F_LA00_CC_N
A_LA03_P AM14 IO_L2P_AD10P_44 IO_L8P_HDGC_AD4P_44 AJ15 F_LA01_CC_P
A_LA03_N AN13 IO_L2N_AD10N_44 IO_L8N_HDGC_AD4N_44 AJ14 F_LA01_CC_N
A_LA04_P AN12 IO_L3P_AD9P_44 IO_L9P_AD3P_44 AE13 F_LA05_P
A_LA04_N AP12 IO_L3N_AD9N_44 IO_L9N_AD3N_44 AF13 F_LA05_N
A_LA05_P AL13 IO_L4P_AD8P_44 IO_L10P_AD2P_44 AG14 F_LA03_P
A_LA05_N AM13 IO_L4N_AD8N_44 IO_L10N_AD2N_44 AG13 F_LA03_N
A_LA00_CC_P AK15 IO_L5P_HDGC_AD7P_44 IO_L11P_AD1P_44 AF15 F_LA04_P
A_LA00_CC_N AK14 IO_L5N_HDGC_AD7N_44 IO_L11N_AD1N_44 AG15 F_LA04_N
A_LA01_CC_P AK13 IO_L6P_HDGC_AD6P_44 IO_L12P_AD0P_44 AE15 F_LA02_P
A_LA01_CC_N AL12 IO_L6N_HDGC_AD6N_44 IO_L12N_AD0N_44 AE14 F_LA02_N
FMC_A_B44
FMC_F_B44
C205
FMCBC_1V8
GND
X5R 6.3V
47µF
BANK 47 HD
E21 VCCO_47
H20 VCCO_47
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B_LA03_N K20 IO_L1N_AD11N_47 IO_L7N_HDGC_AD5N_47 D22 B_LA00_CC_N
B_LA11_P L19 IO_L2P_AD10P_47 IO_L8P_HDGC_AD4P_47 E20 B_LA01_CC_P
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B_LA06_P J21 IO_L3P_AD9P_47 IO_L9P_AD3P_47 D21 B_LA07_P
B_LA06_N H21 IO_L3N_AD9N_47 IO_L9N_AD3N_47 C22 B_LA07_N
B_LA04_P J19 IO_L4P_AD8P_47 IO_L10P_AD2P_47 C21 B_LA02_P
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47µF
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J18 VCCO_48
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B_LA19_N H17 IO_L2N_AD14N_48 IO_L8N_HDGC_48 E18 B_LA17_CC_N
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B_LA15_N K18 IO_L3N_AD13N_48 IO_L9N_AD11N_48 C17 B_LA20_N
B_LA21_P L17 IO_L4P_AD12P_48 IO_L10P_AD10P_48 B18 B_LA13_P
B_LA21_N K17 IO_L4N_AD12N_48 IO_L10N_AD10N_48 B19 B_LA13_N
B_CLK1_M2C_P G18 IO_L5P_HDGC_48 IO_L11P_AD9P_48 C18 B_LA12_P
B_CLK1_M2C_N G19 IO_L5N_HDGC_48 IO_L11N_AD9N_48 C19 B_LA12_N
B_CLK0_M2C_P F17 IO_L6P_HDGC_48 IO_L12P_AD8P_48 A17 B_LA14_P
B_CLK0_M2C_N F18 IO_L6N_HDGC_48 IO_L12N_AD8N_48 A18 B_LA14_N
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FMC_B_B48
C93
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GND
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47µF
U1C
BANK 49 HD
E16 VCCO_49
F14 VCCO_49
B_LA31_P F16 IO_L1P_AD15P_49 IO_L7P_HDGC_49 C14 B_LA26_P
B_LA31_N F15 IO_L1N_AD15N_49 IO_L7N_HDGC_49 B14 B_LA26_N
B_LA22_P D16 IO_L2P_AD14P_49 IO_L8P_HDGC_49 C13 B_LA25_P
B_LA22_N C16 IO_L2N_AD14N_49 IO_L8N_HDGC_49 B13 B_LA25_N
B_LA23_P B16 IO_L3P_AD13P_49 IO_L9P_AD11P_49 A13 B_LA29_P
B_LA23_N A16 IO_L3N_AD13N_49 IO_L9N_AD11N_49 A12 B_LA29_N
B_LA27_P B15 IO_L4P_AD12P_49 IO_L10P_AD10P_49 C12 B_LA28_P
B_LA27_N A15 IO_L4N_AD12N_49 IO_L10N_AD10N_49 B12 B_LA28_N
B_LA30_P E15 IO_L5P_HDGC_49 IO_L11P_AD9P_49 E12 B_LA24_P
B_LA30_N D15 IO_L5N_HDGC_49 IO_L11N_AD9N_49 D12 B_LA24_N
B_LA33_P E14 IO_L6P_HDGC_49 IO_L12P_AD8P_49 F13 B_LA32_P
B_LA33_N D14 IO_L6N_HDGC_49 IO_L12N_AD8N_49 E13 B_LA32_N
FMC_B_B49
C96
FMCBC_1V8
GND
X5R 6.3V
47µF
BANK 50 HD
J13 VCCO_50
G12 VCCO_50
C_LA05_P J11 IO_L1P_AD15P_50 IO_L7P_HDGC_50 J12 C_CLK0_M2C_P
C_LA05_N J10 IO_L1N_AD15N_50 IO_L7N_HDGC_50 H12 C_CLK0_M2C_N
C_LA06_P H10 IO_L2P_AD14P_50 IO_L8P_HDGC_50 H13 C_CLK1_M2C_P
C_LA06_N G10 IO_L2N_AD14N_50 IO_L8N_HDGC_50 G13 C_CLK1_M2C_N
C_LA07_P F10 IO_L3P_AD13P_50 IO_L9P_AD11P_50 G15 C_LA08_P
C_LA07_N E10 IO_L3N_AD13N_50 IO_L9N_AD11N_50 G14 C_LA08_N
C_LA09_P D11 IO_L4P_AD12P_50 IO_L10P_AD10P_50 J14 C_LA02_P
C_LA09_N D10 IO_L4N_AD12N_50 IO_L10N_AD10N_50 H14 C_LA02_N
C_LA00_CC_P H11 IO_L5P_HDGC_50 IO_L11P_AD9P_50 H16 C_LA04_P
C_LA00_CC_N G11 IO_L5N_HDGC_50 IO_L11N_AD9N_50 G16 C_LA04_N
C_LA01_CC_P F12 IO_L6P_HDGC_50 IO_L12P_AD8P_50 J16 C_LA03_P
C_LA01_CC_N F11 IO_L6N_HDGC_50 IO_L12N_AD8N_50 J15 C_LA03_N
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FMC_B_B50
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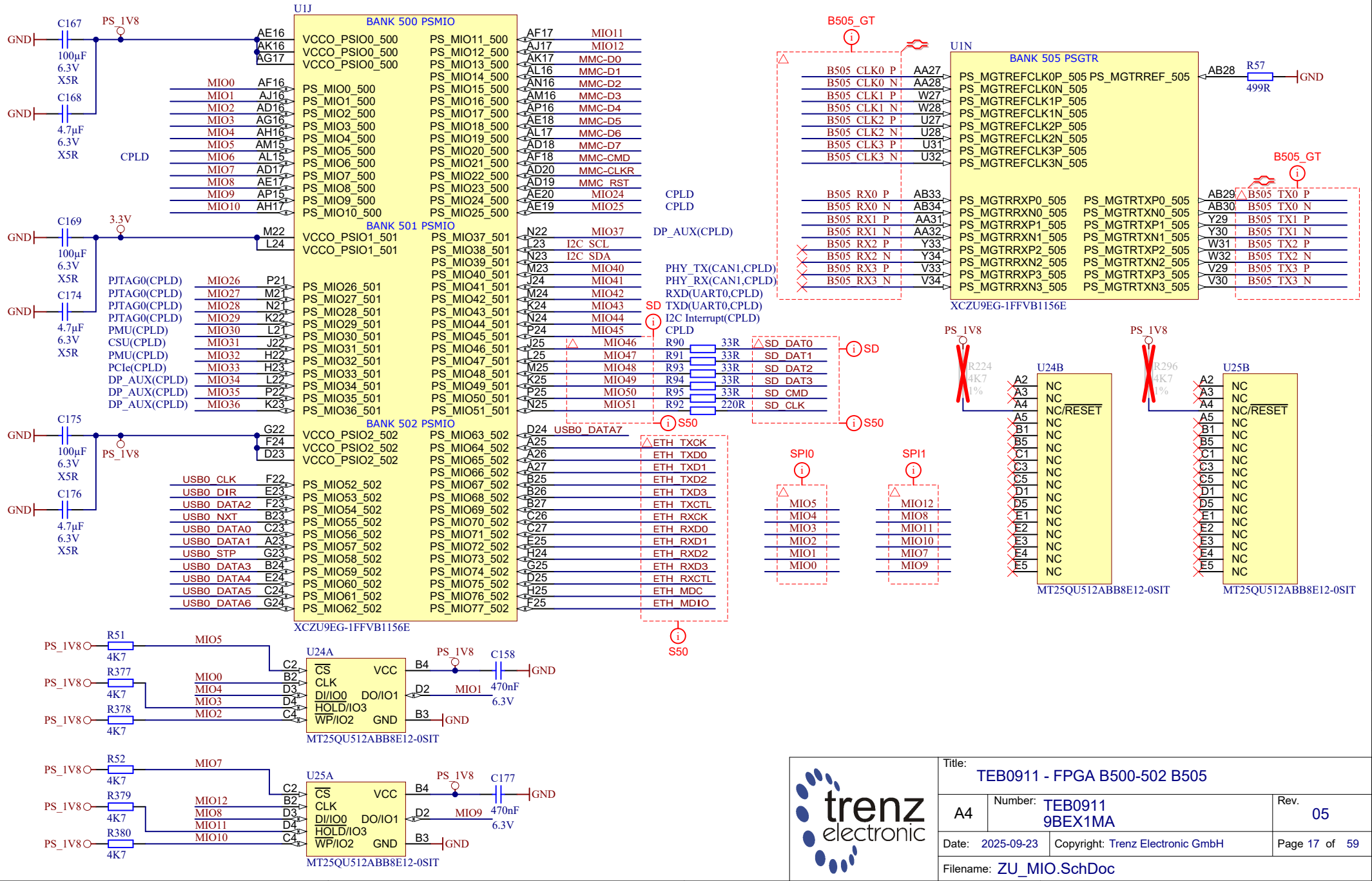

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GND
X5R 6.3V
47µF
Y11
W8
AA9
BANK 66 HP
VCCO_66
VCCO_66
VCCO_66
VREF_66
AD12
VREF_66
R72
1K
1%
GND
D_LA11_P AC12 IO_L1P_T0L_N0_DBC_66 IO_L13P_T2L_N0_GC_QBC_66 Y4 D_LA17_CC_P
D_LA11_N AC11 IO_L1N_T0L_N1_DBC_66 IO_L13N_T2L_N1_GC_QBC_66 Y3 D_LA17_CC_N
D_LA09_P AB11 IO_L2P_T0L_N2_66 IO_L14P_T2L_N2_GC_66 Y5 D_LA18_CC_P
D_LA09_N AB10 IO_L2N_T0L_N3_66 IO_L14N_T2L_N3_GC_66 AA5 D_LA18_CC_N
D_LA07_P AA11 IO_L3P_T0L_N4_AD15P_66 IO_L15P_T2L_N4_AD11P_66 W5 D_LA10_P
D_LA07_N AA10 IO_L3N_T0L_N5_AD15N_66 IO_L15N_T2L_N5_AD11N_66 W4 D_LA10_N
D_LA12_P AB9 IO_L4P_T0U_N6_DBC_AD7P_66 IO_L16P_T2U_N6_QBC_AD3P_66 AB4 D_LA03_P
D_LA12_N AC9 IO_L4N_T0U_N7_DBC_AD7N_66 IO_L16N_T2U_N7_QBC_AD3N_66 AC4 D_LA03_N
D_LA05_P Y12 IO_L5P_T0U_N8_AD14P_66 IO_L17P_T2U_N8_AD10P_66 V4 D_LA20_P
D_LA05_N AA12 IO_L5N_T0U_N9_AD14N_66 IO_L17N_T2U_N9_AD10N_66 V3 D_LA20_N
D_LA04_P Y10 IO_L6P_T0U_N10_AD6P_66 IO_L18P_T2U_N10_AD2P_66 U5 D_LA02_P
D_LA04_N Y9 IO_L6N_T0U_N11_AD6N_66 IO_L18N_T2U_N11_AD2N_66 U4 D_LA02_N
W9 IO_T0U_N12_VRP_66 IO_T2U_N12_66 AA3 B66_T2
FMC_D_B66
R164
240R
1%
GND
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D_LA06_N AC6 IO_L7N_T1L_N1_QBC_AD13N_66 IO_L19N_T3L_N1_DBC_AD9N_66 AC1 D_LA22_N
D_LA08_P AB8 IO_L8P_T1L_N2_AD5P_66 IO_L20P_T3L_N2_AD1P_66 AB3 D_LA21_P
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D_LA19_P W7 IO_L9P_T1L_N4_AD12P_66 IO_L21P_T3L_N4_AD8P_66 AA2 D_LA15_P
D_LA19_N W6 IO_L9N_T1L_N5_AD12N_66 IO_L21N_T3L_N5_AD8N_66 AA1 D_LA15_N
D_LA23_P AB6 IO_L10P_T1U_N6_QBC_AD4P_66 IO_L22P_T3U_N6_DBC_AD0P_66 Y2 D_LA16_P
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D_LA00_CC_P Y8 IO_L11P_T1U_N8_GC_66 IO_L23P_T3U_N8_66 V2 D_LA13_P
D_LA00_CC_N Y7 IO_L11N_T1U_N9_GC_66 IO_L23N_T3U_N9_66 V1 D_LA13_N
D_LA01_CC_P AA7 IO_L12P_T1U_N10_GC_66 IO_L24P_T3U_N10_66 W2 D_LA14_P
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B66_T1 AA8 IO_T1U_N12_66 IO_T3U_N12_66 AB1 B66_T3
XCZU9EG-1FFVB1156E
C85
FMCBC_1V8
U1G
GND
X5R 6.3V
47µF
U7
P8
T9
BANK 67 HP
VCCO_67
VCCO_67
VCCO_67
VREF_67
N14
VREF_67
R73
1K
1%
GND
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C_LA32_N W11 IO_L1N_T0L_N1_DBC_67 IO_L13N_T2L_N1_GC_QBC_67 N11 C_LA17_CC_N
C_LA10_P T13 IO_L2P_T0L_N2_67 IO_L14P_T2L_N2_GC_67 P10 C_LA18_CC_P
C_LA10_N R13 IO_L2N_T0L_N3_67 IO_L14N_T2L_N3_GC_67 P9 C_LA18_CC_N
C_LA13_P U10 IO_L3P_T0L_N4_AD15P_67 IO_L15P_T2L_N4_AD11P_67 M10 C_LA24_P
C_LA13_N T10 IO_L3N_T0L_N5_AD15N_67 IO_L15N_T2L_N5_AD11N_67 _10 C_LA24_N
C_LA12_P T12 IO_L4P_T0U_N6_DBC_AD7P_67 IO_L16P_T2U_N6_QBC_AD3P_67 N9 C_LA19_P
C_LA12_N R12 IO_L4N_T0U_N7_DBC_AD7N_67 IO_L16N_T2U_N7_QBC_AD3N_67 N8 C_LA19_N
C_LA33_P V12 IO_L5P_T0U_N8_AD14P_67 IO_L17P_T2U_N8_AD10P_67 M11 C_LA14_P
C_LA33_N V11 IO_L5N_T0U_N9_AD14N_67 IO_L17N_T2U_N9_AD10N_67 L11 C_LA14_N
C_LA11_P U11 IO_L6P_T0U_N10_AD6P_67 IO_L18P_T2U_N10_AD2P_67 _12 C_LA22_P
C_LA11_N T11 IO_L6N_T0U_N11_AD6N_67 IO_L18N_T2U_N11_AD2N_67 K12 C_LA22_N
W10 IO_T0U_N12_VRP_67 IO_T2U_N12_67 K10 B67_T2
FMC_C_B67
R165
240R
1%
GND
C_LA28_P V8 IO_L7P_T1L_N0_QBC_AD13P_67 IO_L19P_T3L_N0_DBC_AD9P_67 L16 C_LA15_P
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C_LA31_P V6 IO_L8P_T1L_N2_AD5P_67 IO_L20P_T3L_N2_AD1P_67 M15 C_LA16_P
C_LA31_N U6 IO_L8N_T1L_N3_AD5N_67 IO_L20N_T3L_N3_AD1N_67 M14 C_LA16_N
C_LA26_P U9 IO_L9P_T1L_N4_AD12P_67 IO_L21P_T3L_N4_AD8P_67 P12 C_LA25_P
C_LA26_N U8 IO_L9N_T1L_N5_AD12N_67 IO_L21N_T3L_N5_AD8N_67 N12 C_LA25_N
C_LA30_P T7 IO_L10P_T1U_N6_QBC_AD4P_67 IO_L22P_T3U_N6_DBC_AD0P_67 N13 C_LA23_P
C_LA30_N T6 IO_L10N_T1U_N7_QBC_AD4N_67 IO_L22N_T3U_N7_DBC_AD0N_67 M13 C_LA23_N
C_LA27_P R10 IO_L11P_T1U_N8_GC_67 IO_L23P_T3U_N8_67 L13 C_LA21_P
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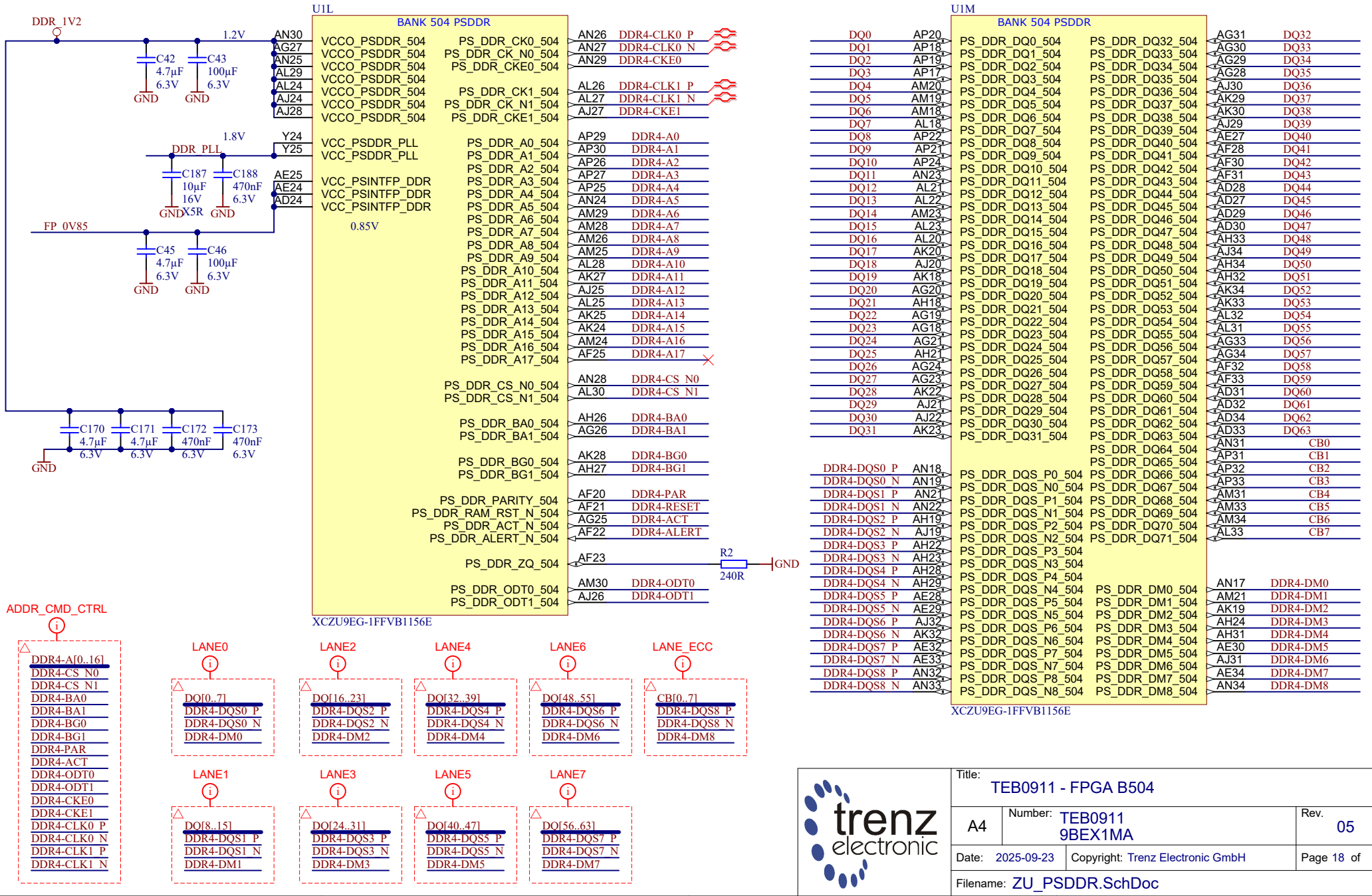

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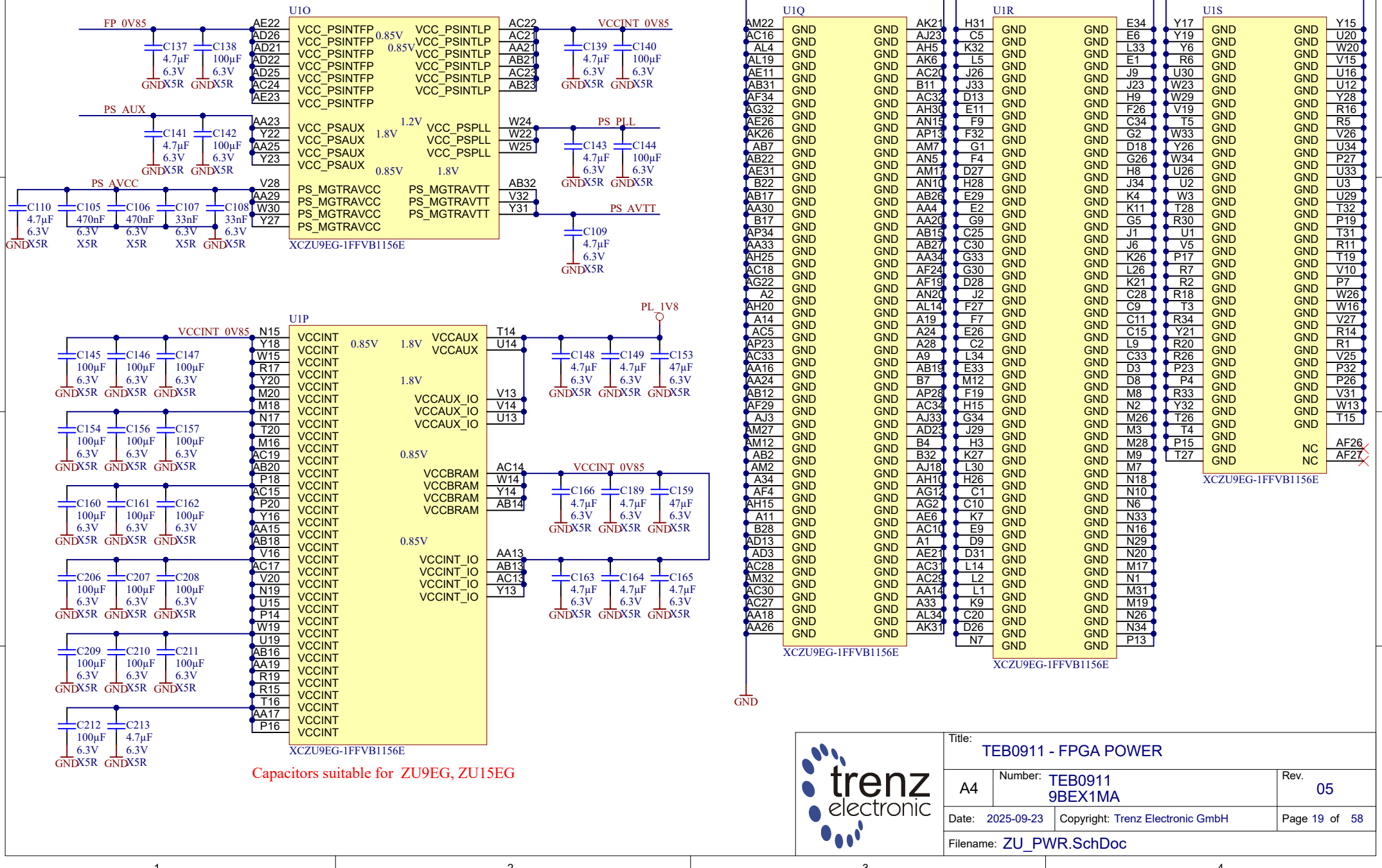



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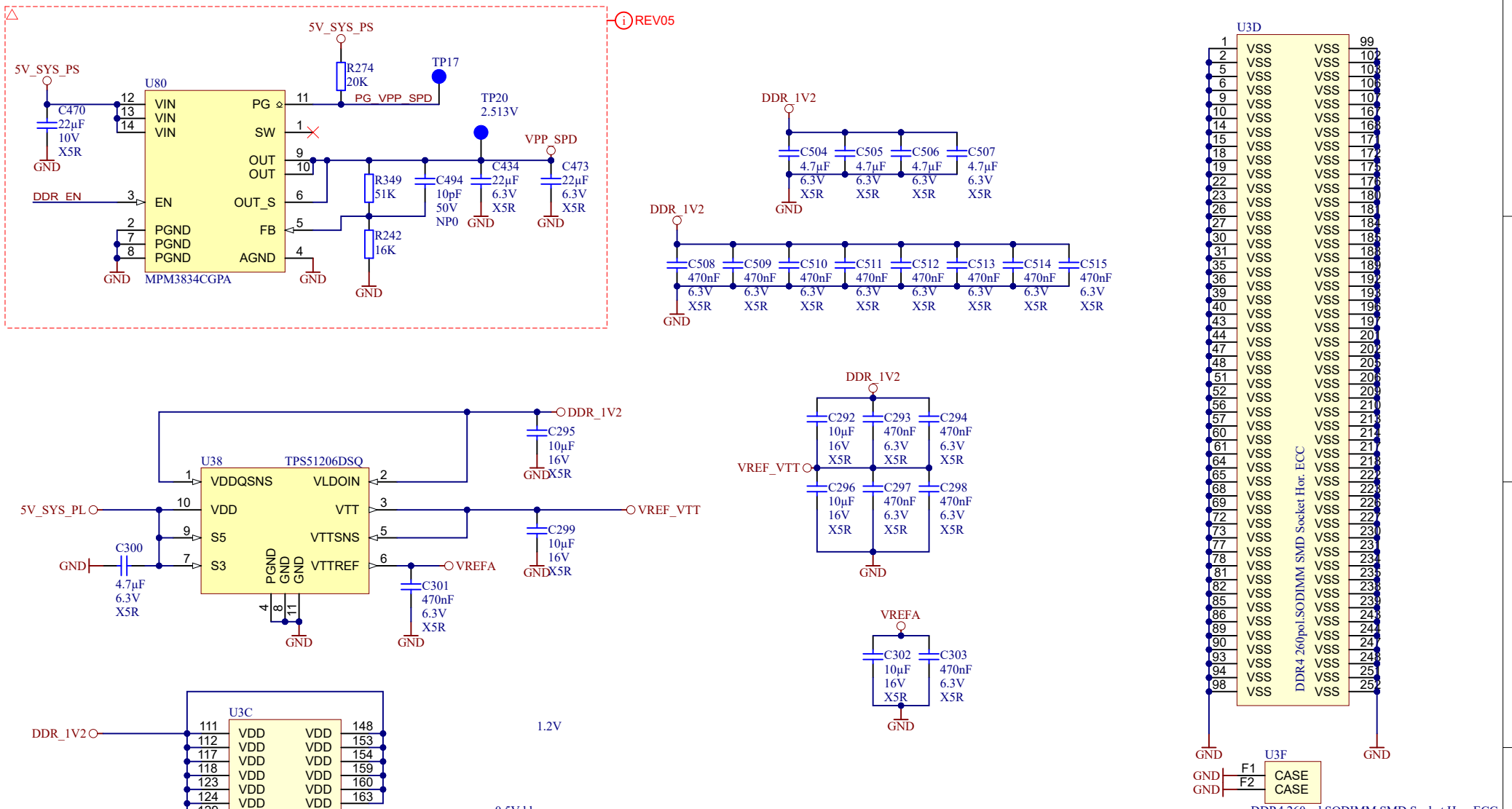



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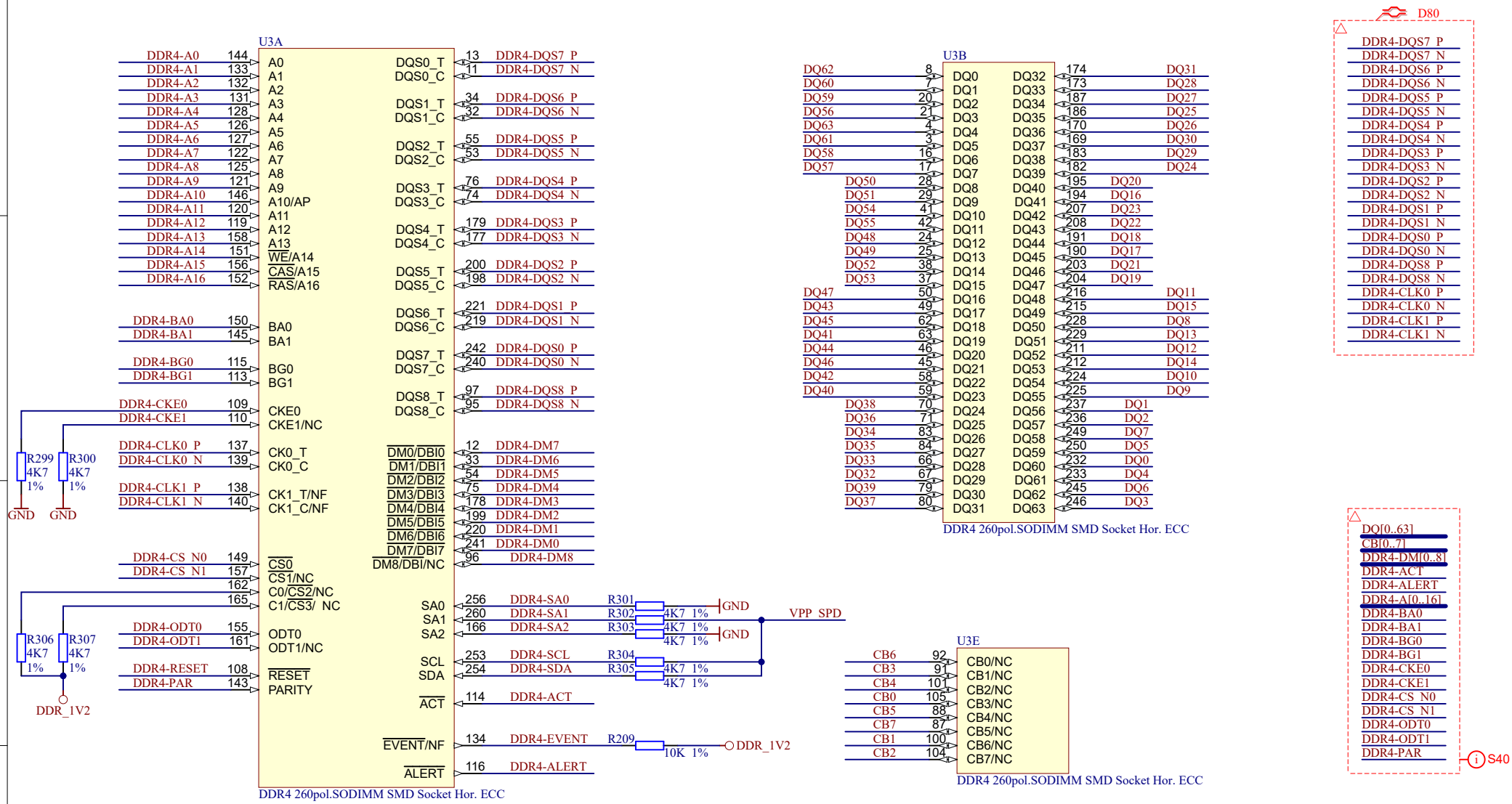
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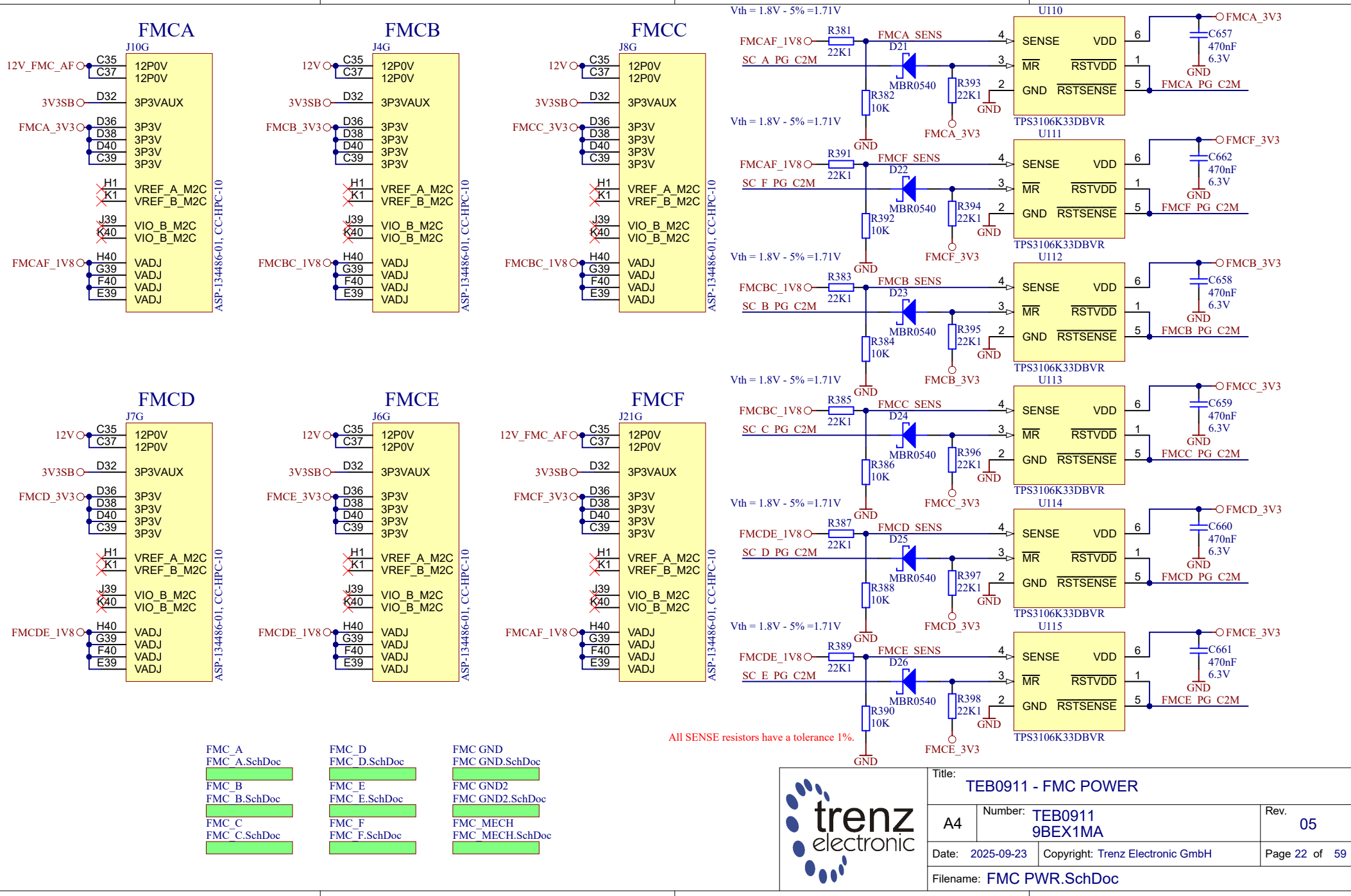

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|---|---|---|---|
| Title: | TEB0911 - FPGA POWER | | |
| A4 | Number: TEB0911 9BEX1MA | | Rev. 05 |
| Date: 2025-09-23 | Copyright: Trenz Electronic GmbH | | Page 19 of 58 |
| Filename: ZU_PWR.SchDoc | | | |

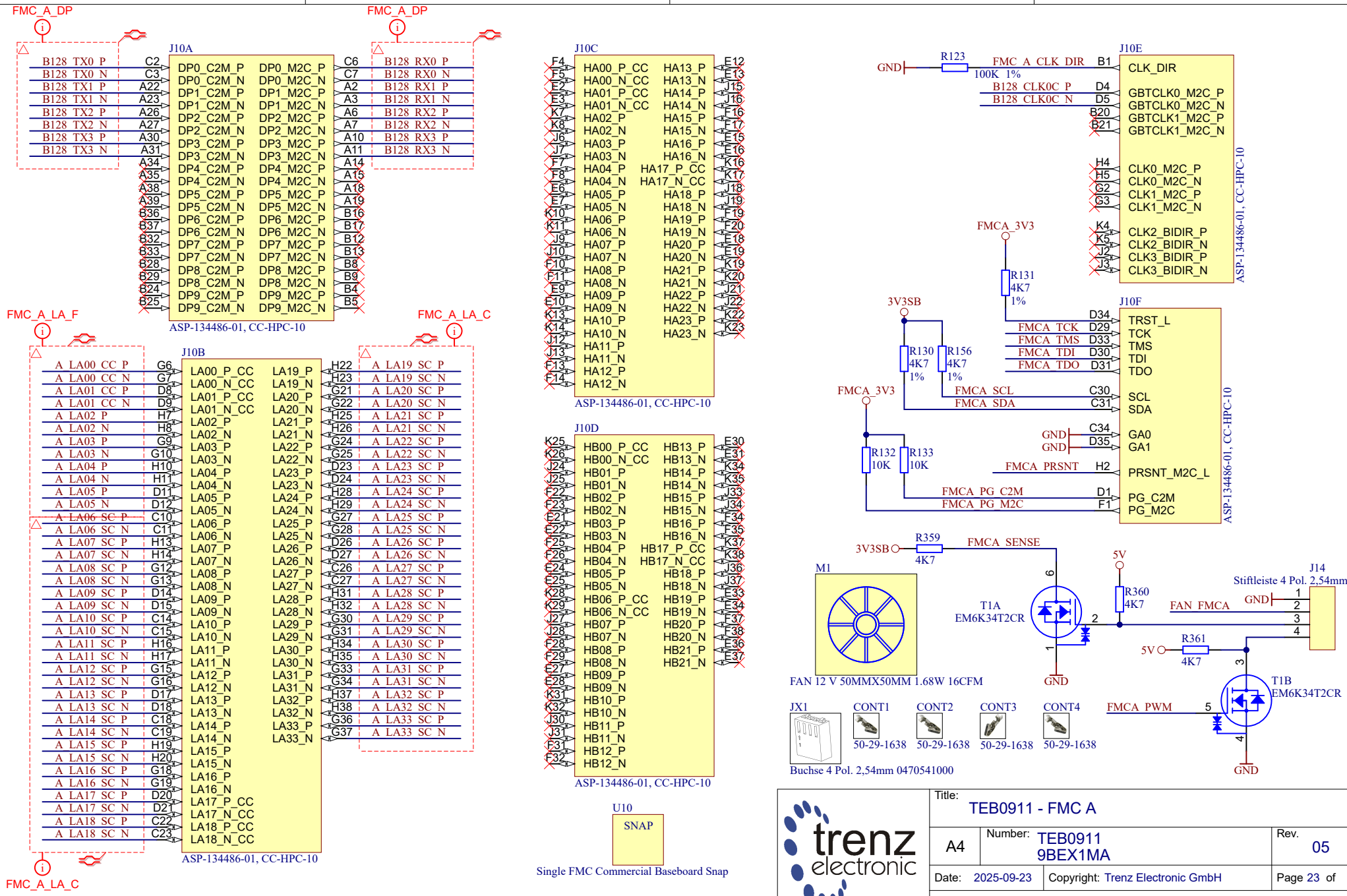



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|---|---|
| Title: | TEB0911 - DDR POWER |
| A4 | Number: TEB0911 9BEX1MA |
| | Rev. 05 |
| Date: 2025-09-23 | Copyright: Trenz Electronic GmbH |
| | Page 20 of 58 |
| Filename: DDR_PWR.SchDoc | |



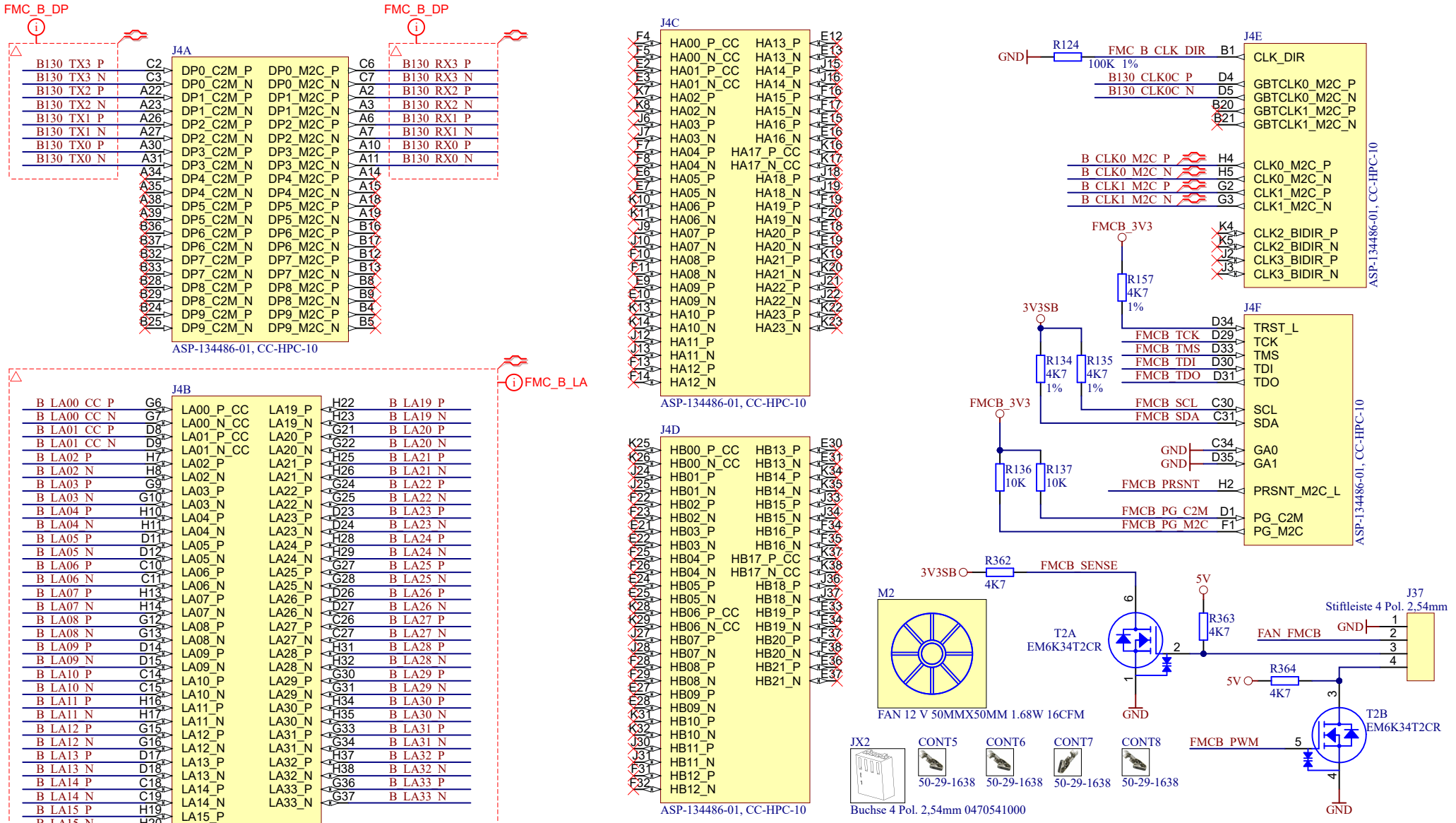

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| trenz electronic | Title: TEB0911 - DDR4 SODIMM | | |
| | A4 | Number: TEB0911 9BEX1MA | Rev. 05 |
| | Date: 2025-09-23 | Copyright: Trenz Electronic GmbH | Page 21 of 59 |
| | Filename: DDR_SODIMM.SchDoc | | |


FMCA
J10G
FMCB
J4G
FMCC
J8G
FMCD
J7G
FMCE
J6G
FMCF
J21G
ASP-134486-01, CC-HPC-10
12P0V
3P3VAUX
3P3V
VREF_A_M2C
VREF_B_M2C
VIO_B_M2C
VADJ
12V_FMC_AF
12V
3V3SB
FMCA_3V3
FMCB_3V3
FMCC_3V3
FMCD_3V3
FMCE_3V3
FMCF_3V3
FMCAF_1V8
FMCBC_1V8
FMCDE_1V8
Vth = 1.8V - 5% =1.71V
U110
U111
U112
U113
U114
U115
TPS3106K33DBVR
SENSE
VDD
MR
RSTVDD
GND
RSTSENSE
MBR0540
FMCA_SENS
FMCF_SENS
FMCB_SENS
FMCC_SENS
FMCD_SENS
FMCE_SENS
SC_A_PG_C2M
SC_F_PG_C2M
SC_B_PG_C2M
SC_C_PG_C2M
SC_D_PG_C2M
SC_E_PG_C2M
FMCA_PG_C2M
FMCF_PG_C2M
FMCB_PG_C2M
FMCC_PG_C2M
FMCD_PG_C2M
FMCE_PG_C2M
All SENSE resistors have a tolerance 1%.
FMC_A
FMC_A.SchDoc
FMC_B
FMC_B.SchDoc
FMC_C
FMC_C.SchDoc
FMC_D
FMC_D.SchDoc
FMC_E
FMC_E.SchDoc
FMC_F
FMC_F.SchDoc
FMC GND
FMC GND.SchDoc
FMC GND2
FMC GND2.SchDoc
FMC_MECH
FMC_MECH.SchDoc
trenz electronic
Title:
TEB0911 - FMC POWER
A4
Number:
TEB0911
9BEX1MA
Rev.
05
Date:
2025-09-23
Copyright:
Trenz Electronic GmbH
Page 22 of 59
Filename:
FMC PWR.SchDoc

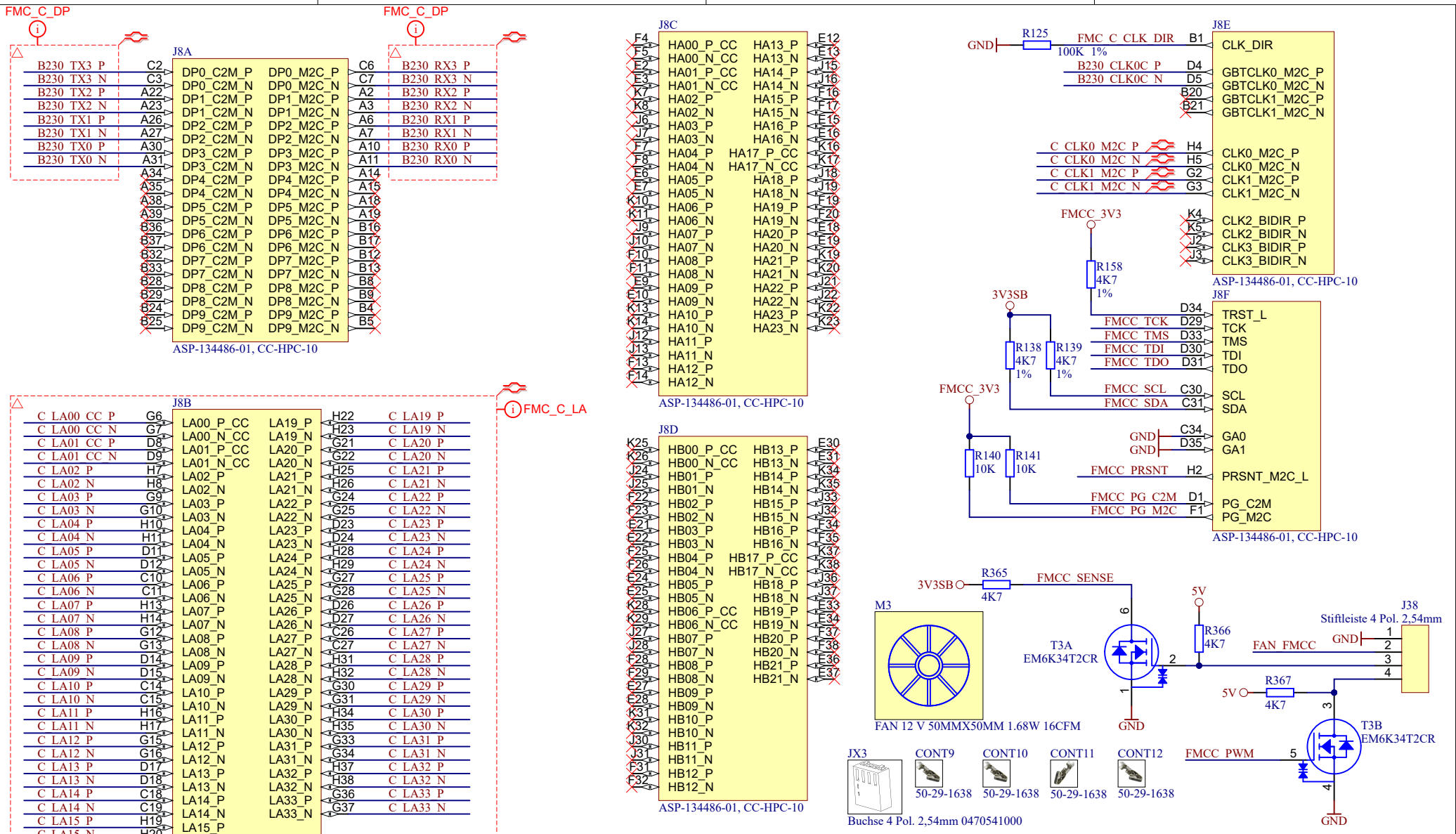


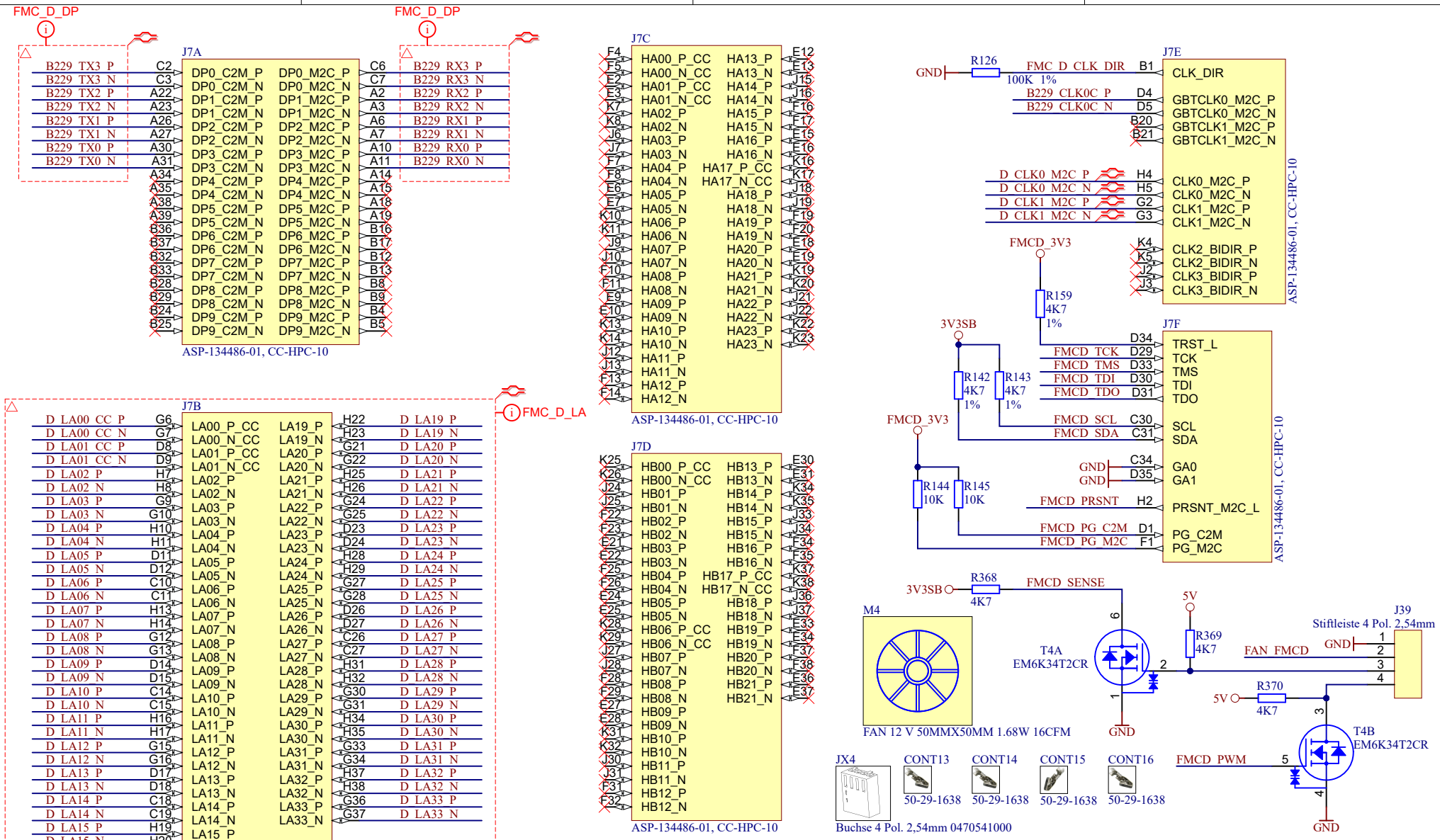

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| | | | |
|---|---|---|---|
| Title: TEB0911 - FMC A | | | |
| A4 | Number: TEB0911 9BEX1MA | | Rev. 05 |
| Date: 2025-09-23 | Copyright: Trenz Electronic GmbH | | Page 23 of 58 |
| Filename: FMC_A.SchDoc | | | |

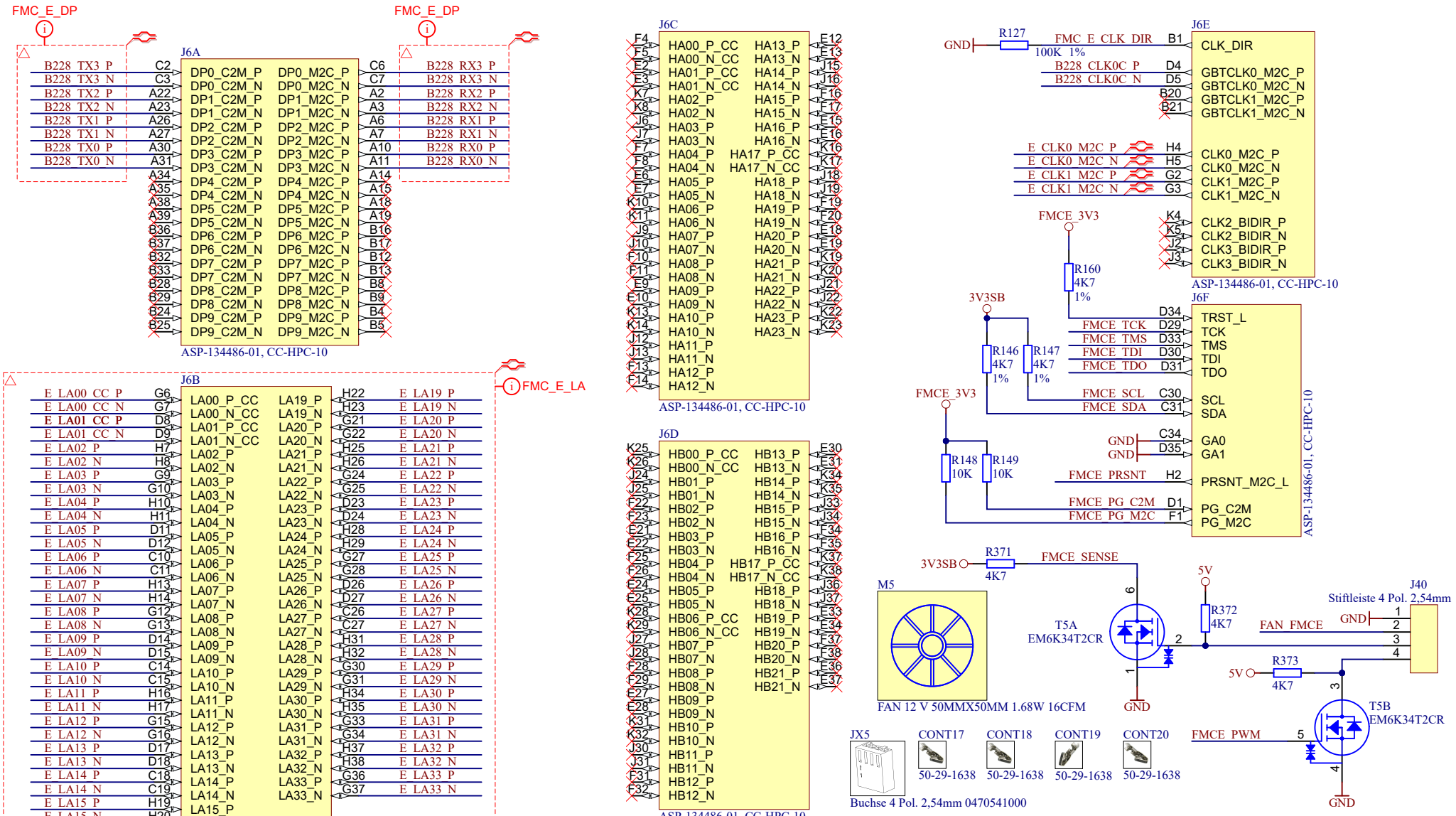



| | | | |
|---|---|---|---|
| Title: TEB0911 - FMC B | | | |
| A4 | Number: TEB0911 9BEX1MA | | Rev. 05 |
| Date: 2025-09-23 | Copyright: Trenz Electronic GmbH | | Page 24 of 59 |
| Filename: FMC_B.SchDoc | | | |


FMC_C_DP
J8A
B230_TX3_P C2
B230_TX3_N C3
B230_TX2_P A22
B230_TX2_N A23
B230_TX1_P A26
B230_TX1_N A27
B230_TX0_P A30
B230_TX0_N A31
DP0_C2M_P DP0_M2C_P C6
DP0_C2M_N DP0_M2C_N C7
DP1_C2M_P DP1_M2C_P A2
DP1_C2M_N DP1_M2C_N A3
DP2_C2M_P DP2_M2C_P A6
DP2_C2M_N DP2_M2C_N A7
DP3_C2M_P DP3_M2C_P A10
DP3_C2M_N DP3_M2C_N A11
DP4_C2M_P DP4_M2C_P A14
DP4_C2M_N DP4_M2C_N A15
DP5_C2M_P DP5_M2C_P A18
DP5_C2M_N DP5_M2C_N A19
DP6_C2M_P DP6_M2C_P B16
DP6_C2M_N DP6_M2C_N B17
DP7_C2M_P DP7_M2C_P B12
DP7_C2M_N DP7_M2C_N B13
DP8_C2M_P DP8_M2C_P B8
DP8_C2M_N DP8_M2C_N B9
DP9_C2M_P DP9_M2C_P B4
DP9_C2M_N DP9_M2C_N B5
ASP-134486-01, CC-HPC-10
FMC_C_DP
B230_RX3_P
B230_RX3_N
B230_RX2_P
B230_RX2_N
B230_RX1_P
B230_RX1_N
B230_RX0_P
B230_RX0_N
J8C
HA00_P_CC HA13_P
HA00_N_CC HA13_N
HA01_P_CC HA14_P
HA01_N_CC HA14_N
HA02_P HA15_P
HA02_N HA15_N
HA03_P HA16_P
HA03_N HA16_N
HA04_P HA17_P_CC
HA04_N HA17_N_CC
HA05_P HA18_P
HA05_N HA18_N
HA06_P HA19_P
HA06_N HA19_N
HA07_P HA20_P
HA07_N HA20_N
HA08_P HA21_P
HA08_N HA21_N
HA09_P HA22_P
HA09_N HA22_N
HA10_P HA23_P
HA10_N HA23_N
HA11_P
HA11_N
HA12_P
HA12_N
ASP-134486-01, CC-HPC-10
J8D
HB00_P_CC HB13_P
HB00_N_CC HB13_N
HB01_P HB14_P
HB01_N HB14_N
HB02_P HB15_P
HB02_N HB15_N
HB03_P HB16_P
HB03_N HB16_N
HB04_P HB17_P_CC
HB04_N HB17_N_CC
HB05_P HB18_P
HB05_N HB18_N
HB06_P_CC HB19_P
HB06_N_CC HB19_N
HB07_P HB20_P
HB07_N HB20_N
HB08_P HB21_P
HB08_N HB21_N
HB09_P
HB09_N
HB10_P
HB10_N
HB11_P
HB11_N
HB12_P
HB12_N
ASP-134486-01, CC-HPC-10
J8E
GND R125 100K 1%
FMC_C_CLK_DIR B1 CLK_DIR
B230_CLK0C_P D4 GBTCLK0_M2C_P
B230_CLK0C_N D5 GBTCLK0_M2C_N
B20 GBTCLK1_M2C_P
B21 GBTCLK1_M2C_N
C_CLK0_M2C_P H4 CLK0_M2C_P
C_CLK0_M2C_N H5 CLK0_M2C_N
C_CLK1_M2C_P G2 CLK1_M2C_P
C_CLK1_M2C_N G3 CLK1_M2C_N
K4 CLK2_BIDIR_P
K5 CLK2_BIDIR_N
J2 CLK3_BIDIR_P
J3 CLK3_BIDIR_N
ASP-134486-01, CC-HPC-10
FMCC_3V3
R158 4K7 1%
3V3SB
R138 4K7 1%
R139 4K7 1%
J8F
D34 TRST_L
FMCC_TCK D29 TCK
FMCC_TMS D33 TMS
FMCC_TDI D30 TDI
FMCC_TDO D31 TDO
FMCC_SCL C30 SCL
FMCC_SDA C31 SDA
C34 GA0
GND D35 GA1
FMCC_PRSNT H2 PRSNT_M2C_L
FMCC_PG_C2M D1 PG_C2M
FMCC_PG_M2C F1 PG_M2C
ASP-134486-01, CC-HPC-10
FMCC_3V3
R140 10K
R141 10K
J8B
C_LA00_CC_P G6 LA00_P_CC LA19_P H22 C_LA19_P
C_LA00_CC_N G7 LA00_N_CC LA19_N H23 C_LA19_N
C_LA01_CC_P D8 LA01_P_CC LA20_P G21 C_LA20_P
C_LA01_CC_N D9 LA01_N_CC LA20_N G22 C_LA20_N
C_LA02_P H7 LA02_P LA21_P H25 C_LA21_P
C_LA02_N H8 LA02_N LA21_N H26 C_LA21_N
C_LA03_P G9 LA03_P LA22_P G24 C_LA22_P
C_LA03_N G10 LA03_N LA22_N G25 C_LA22_N
C_LA04_P H10 LA04_P LA23_P D23 C_LA23_P
C_LA04_N H11 LA04_N LA23_N D24 C_LA23_N
C_LA05_P D11 LA05_P LA24_P H28 C_LA24_P
C_LA05_N D12 LA05_N LA24_N H29 C_LA24_N
C_LA06_P C10 LA06_P LA25_P G27 C_LA25_P
C_LA06_N C11 LA06_N LA25_N G28 C_LA25_N
C_LA07_P H13 LA07_P LA26_P D26 C_LA26_P
C_LA07_N H14 LA07_N LA26_N D27 C_LA26_N
C_LA08_P G12 LA08_P LA27_P C26 C_LA27_P
C_LA08_N G13 LA08_N LA27_N C27 C_LA27_N
C_LA09_P D14 LA09_P LA28_P H31 C_LA28_P
C_LA09_N D15 LA09_N LA28_N H32 C_LA28_N
C_LA10_P C14 LA10_P LA29_P G30 C_LA29_P
C_LA10_N C15 LA10_N LA29_N G31 C_LA29_N
C_LA11_P H16 LA11_P LA30_P H34 C_LA30_P
C_LA11_N H17 LA11_N LA30_N H35 C_LA30_N
C_LA12_P G15 LA12_P LA31_P G33 C_LA31_P
C_LA12_N G16 LA12_N LA31_N G34 C_LA31_N
C_LA13_P D17 LA13_P LA32_P H37 C_LA32_P
C_LA13_N D18 LA13_N LA32_N H38 C_LA32_N
C_LA14_P C18 LA14_P LA33_P G36 C_LA33_P
C_LA14_N C19 LA14_N LA33_N G37 C_LA33_N
C_LA15_P H19 LA15_P
C_LA15_N H20 LA15_N
C_LA16_P G18 LA16_P
C_LA16_N G19 LA16_N
C_LA17_CC_P D20 LA17_P_CC
C_LA17_CC_N D21 LA17_N_CC
C_LA18_CC_P C22 LA18_P_CC
C_LA18_CC_N C23 LA18_N_CC
ASP-134486-01, CC-HPC-10
FMC_C_LA
3V3SB R365 4K7 FMCC_SENSE
M3
FAN 12 V 50MMX50MM 1.68W 16CFM
T3A EM6K34T2CR
5V R366 4K7
J38 Stiftleiste 4 Pol. 2,54mm
FAN_FMCC GND 1 2 3 4
5V R367 4K7
T3B EM6K34T2CR
FMCC_PWM 5
GND
JX3
CONT9 CONT10 CONT11 CONT12
50-29-1638 50-29-1638 50-29-1638 50-29-1638
Buchse 4 Pol. 2,54mm 0470541000
U8
SNAP
Single FMC Commercial Baseboard Snap
trenz electronic
Title: TEB0911 - FMC C
A4
Number: TEB0911 9BEX1MA
Rev. 05
Date: 2025-09-23
Copyright: Trenz Electronic GmbH
Page 25 of 58
Filename: FMC_C.SchDoc

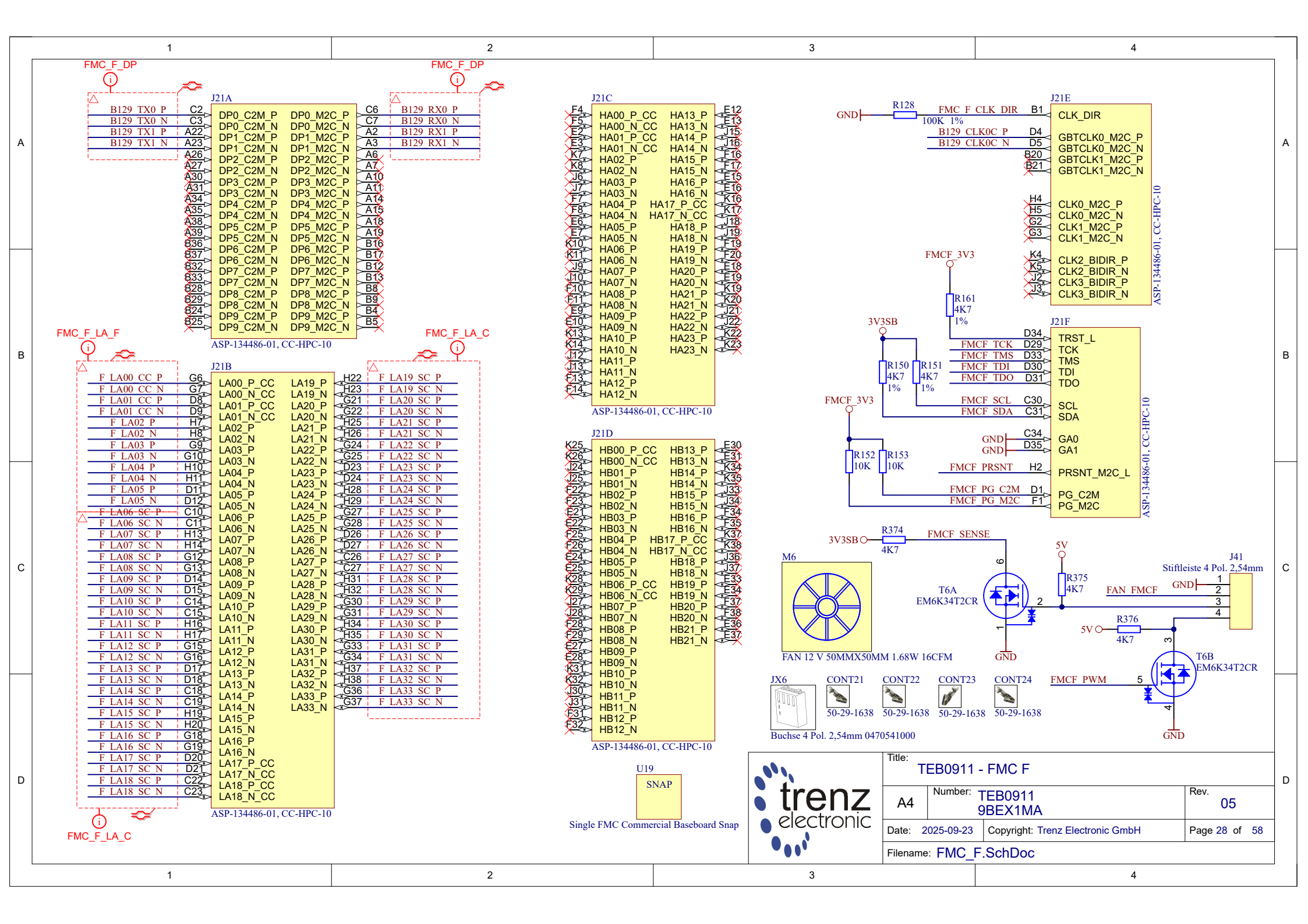



| | | | |
|---|---|---|---|
| Title: TEB0911 - FMC D | | | |
| A4 | Number: TEB0911 9BEX1MA | | Rev. 05 |
| Date: 2025-09-23 | Copyright: Trenz Electronic GmbH | | Page 26 of 58 |
| Filename: FMC_D.SchDoc | | | |



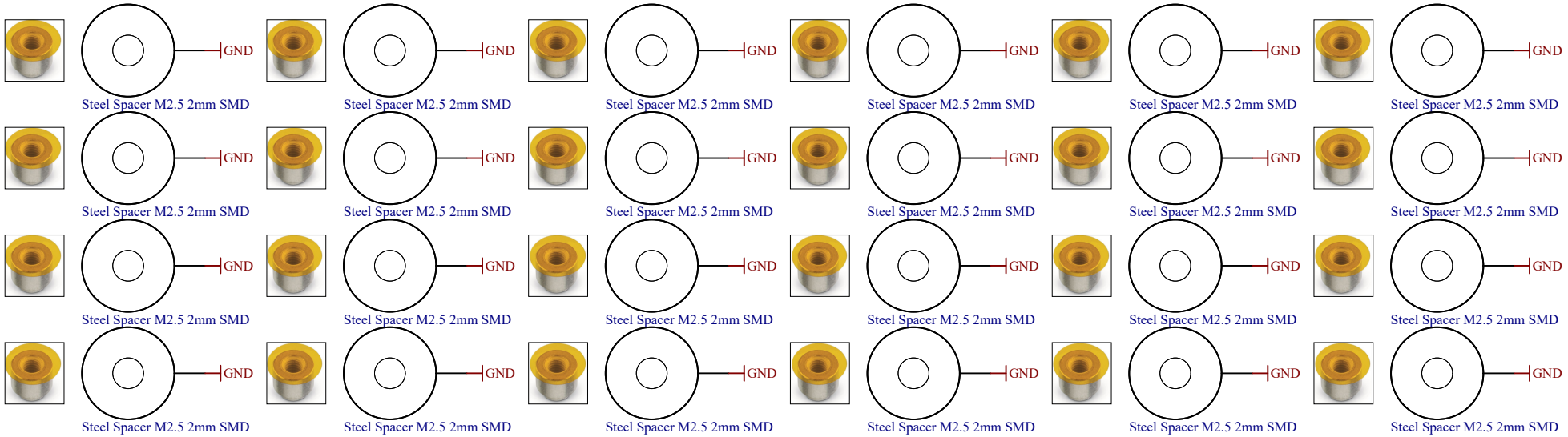

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| | | | |
|---|---|---|---|
| Title: TEB0911 - FMC E | | | |
| A4 | Number: TEB0911 9BEX1MA | | Rev. 05 |
| Date: 2025-09-23 | Copyright: Trenz Electronic GmbH | | Page 27 of 58 |
| Filename: FMC_E.SchDoc | | | |

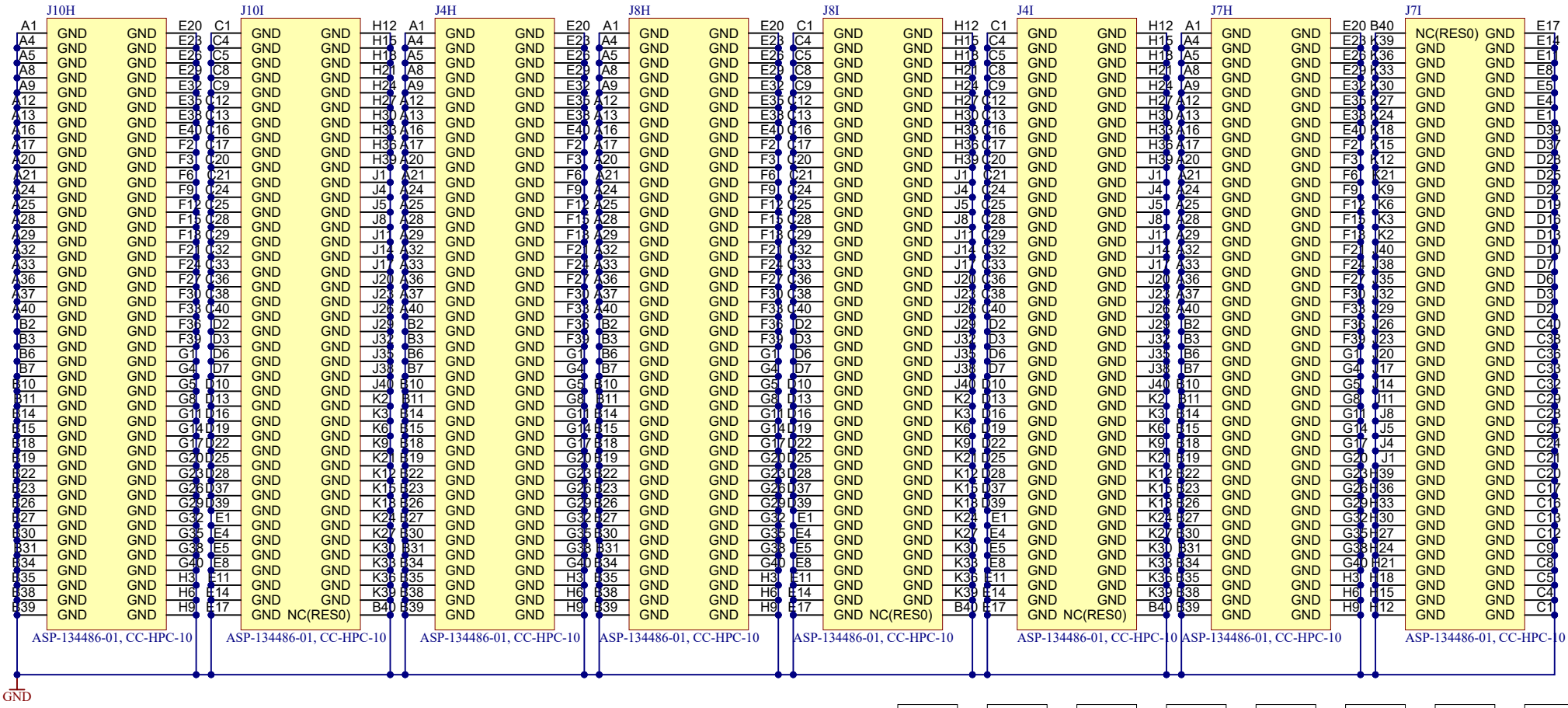

FMC_F_DP
J21A
B129_TX0_P
B129_TX0_N
B129_TX1_P
B129_TX1_N
DP0_C2M_P
DP0_C2M_N
DP1_C2M_P
DP1_C2M_N
DP2_C2M_P
DP2_C2M_N
DP3_C2M_P
DP3_C2M_N
DP4_C2M_P
DP4_C2M_N
DP5_C2M_P
DP5_C2M_N
DP6_C2M_P
DP6_C2M_N
DP7_C2M_P
DP7_C2M_N
DP8_C2M_P
DP8_C2M_N
DP9_C2M_P
DP9_C2M_N
DP0_M2C_P
DP0_M2C_N
DP1_M2C_P
DP1_M2C_N
DP2_M2C_P
DP2_M2C_N
DP3_M2C_P
DP3_M2C_N
DP4_M2C_P
DP4_M2C_N
DP5_M2C_P
DP5_M2C_N
DP6_M2C_P
DP6_M2C_N
DP7_M2C_P
DP7_M2C_N
DP8_M2C_P
DP8_M2C_N
DP9_M2C_P
DP9_M2C_N
ASP-134486-01, CC-HPC-10
FMC_F_DP
B129_RX0_P
B129_RX0_N
B129_RX1_P
B129_RX1_N
FMC_F_LA_F
J21B
F_LA00_CC_P
F_LA00_CC_N
F_LA01_CC_P
F_LA01_CC_N
F_LA02_P
F_LA02_N
F_LA03_P
F_LA03_N
F_LA04_P
F_LA04_N
F_LA05_P
F_LA05_N
F_LA06_SC_P
F_LA06_SC_N
F_LA07_SC_P
F_LA07_SC_N
F_LA08_SC_P
F_LA08_SC_N
F_LA09_SC_P
F_LA09_SC_N
F_LA10_SC_P
F_LA10_SC_N
F_LA11_SC_P
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F_LA13_SC_P
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F_LA16_SC_N
F_LA17_SC_P
F_LA17_SC_N
F_LA18_SC_P
F_LA18_SC_N
LA00_P_CC
LA00_N_CC
LA01_P_CC
LA01_N_CC
LA02_P
LA02_N
LA03_P
LA03_N
LA04_P
LA04_N
LA05_P
LA05_N
LA06_P
LA06_N
LA07_P
LA07_N
LA08_P
LA08_N
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LA09_N
LA10_P
LA10_N
LA11_P
LA11_N
LA12_P
LA12_N
LA13_P
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LA14_P
LA14_N
LA15_P
LA15_N
LA16_P
LA16_N
LA17_P_CC
LA17_N_CC
LA18_P_CC
LA18_N_CC
LA19_P
LA19_N
LA20_P
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LA25_P
LA25_N
LA26_P
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LA28_N
LA29_P
LA29_N
LA30_P
LA30_N
LA31_P
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LA32_P
LA32_N
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ASP-134486-01, CC-HPC-10
FMC_F_LA_C
FMC_F_LA_C
J21C
HA00_P_CC
HA00_N_CC
HA01_P_CC
HA01_N_CC
HA02_P
HA02_N
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HA10_P
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HA11_P
HA11_N
HA12_P
HA12_N
HA13_P
HA13_N
HA14_P
HA14_N
HA15_P
HA15_N
HA16_P
HA16_N
HA17_P_CC
HA17_N_CC
HA18_P
HA18_N
HA19_P
HA19_N
HA20_P
HA20_N
HA21_P
HA21_N
HA22_P
HA22_N
HA23_P
HA23_N
ASP-134486-01, CC-HPC-10
J21D
HB00_P_CC
HB00_N_CC
HB01_P
HB01_N
HB02_P
HB02_N
HB03_P
HB03_N
HB04_P
HB04_N
HB05_P
HB05_N
HB06_P_CC
HB06_N_CC
HB07_P
HB07_N
HB08_P
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HB09_P
HB09_N
HB10_P
HB10_N
HB11_P
HB11_N
HB12_P
HB12_N
HB13_P
HB13_N
HB14_P
HB14_N
HB15_P
HB15_N
HB16_P
HB16_N
HB17_P_CC
HB17_N_CC
HB18_P
HB18_N
HB19_P
HB19_N
HB20_P
HB20_N
HB21_P
HB21_N
ASP-134486-01, CC-HPC-10
U19
SNAP
Single FMC Commercial Baseboard Snap
J21E
GND
R128
100K 1%
FMC_F_CLK_DIR
B129_CLK0C_P
B129_CLK0C_N
CLK_DIR
GBTCLK0_M2C_P
GBTCLK0_M2C_N
GBTCLK1_M2C_P
GBTCLK1_M2C_N
CLK0_M2C_P
CLK0_M2C_N
CLK1_M2C_P
CLK1_M2C_N
CLK2_BIDIR_P
CLK2_BIDIR_N
CLK3_BIDIR_P
CLK3_BIDIR_N
ASP-134486-01, CC-HPC-10
FMCF_3V3
R161
4K7
1%
3V3SB
R150
4K7
1%
R151
4K7
1%
FMCF_TCK
FMCF_TMS
FMCF_TDI
FMCF_TDO
FMCF_SCL
FMCF_SDA
J21F
TRST_L
TCK
TMS
TDI
TDO
SCL
SDA
GA0
GA1
PRSNT_M2C_L
PG_C2M
PG_M2C
ASP-134486-01, CC-HPC-10
FMCF_3V3
R152
10K
R153
10K
GND
GND
FMCF_PRSNT
FMCF_PG_C2M
FMCF_PG_M2C
3V3SB
R374
4K7
FMCF_SENSE
M6
FAN 12 V 50MMX50MM 1.68W 16CFM
T6A
EM6K34T2CR
5V
R375
4K7
J41
Stiftleiste 4 Pol. 2,54mm
FAN_FMCF
GND
5V
R376
4K7
T6B
EM6K34T2CR
FMCF_PWM
GND
JX6
Buchse 4 Pol. 2,54mm 0470541000
CONT21
CONT22
CONT23
CONT24
50-29-1638
50-29-1638
50-29-1638
50-29-1638
trenz electronic
Title: TEB0911 - FMC F
A4
Number: TEB0911 9BEX1MA
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Date: 2025-09-23
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Filename: FMC_F.SchDoc

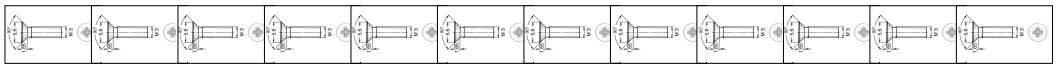
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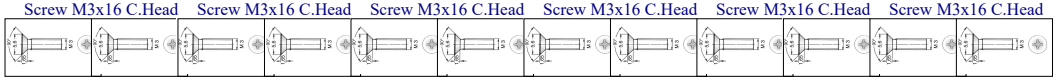
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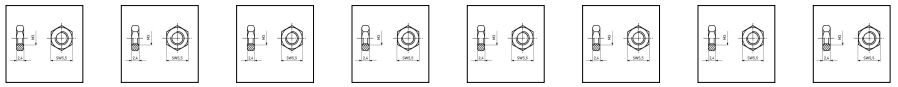

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| | A4 | Number: TEB0911 9BEX1MA | | Rev. 05 |
| | Date: 2025-09-23 | Copyright: Trenz Electronic GmbH | | Page 29 of 58 |
| | Filename: FMC_MECH.SchDoc | | | |



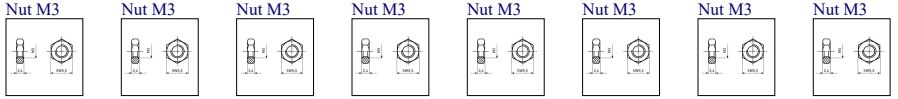





Screw M3x16 C.Head

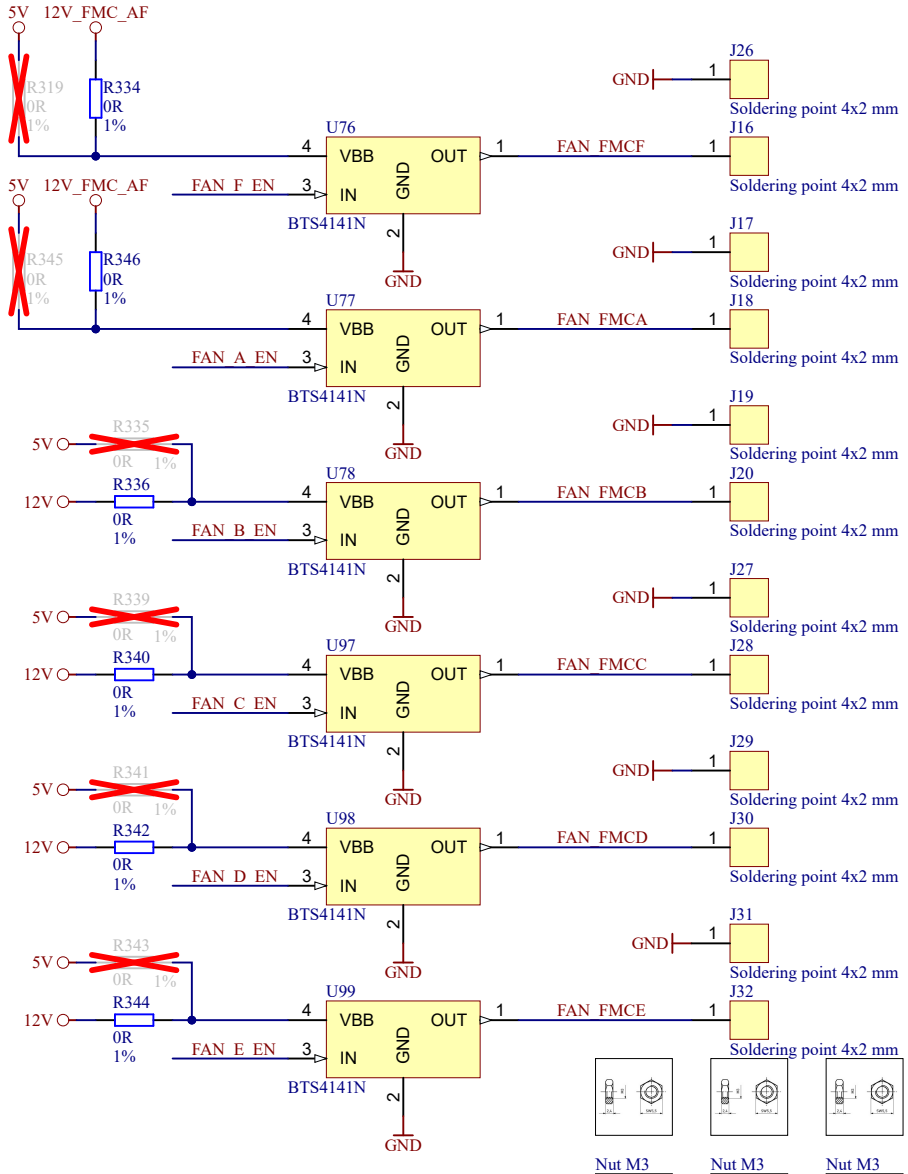


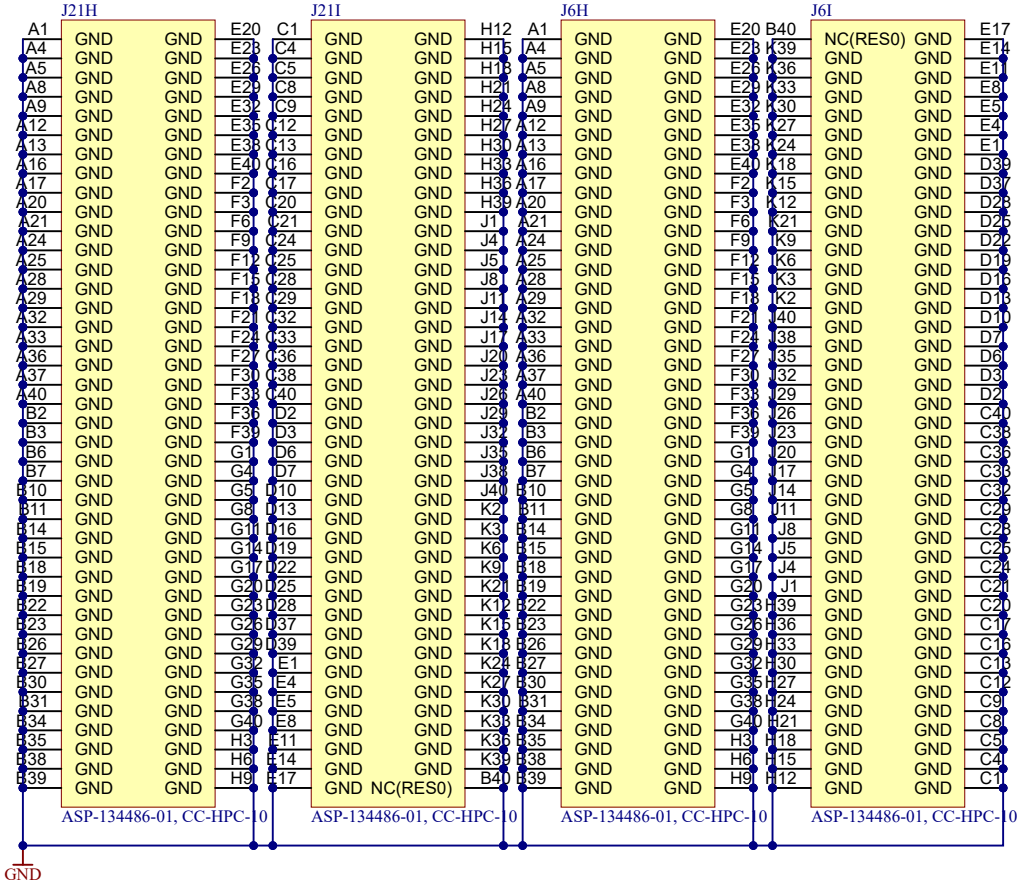
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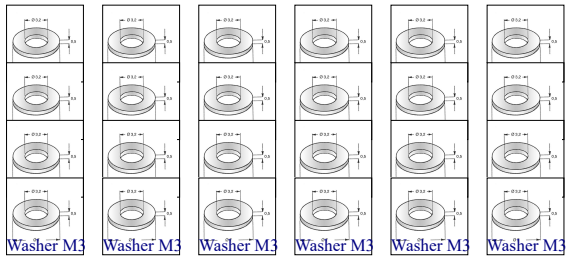


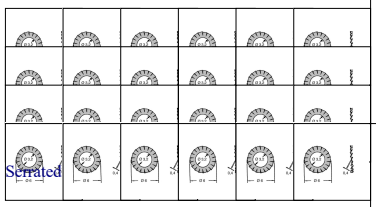
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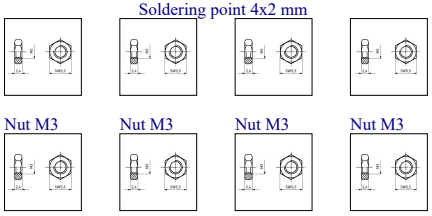
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| A4 | Number: TEB0911 9BEX1MA | | Rev. 05 |
| Date: 2025-09-23 | Copyright: Trenz Electronic GmbH | | Page 30 of 59 |
| Filename: FMC GND.SchDoc | | | |



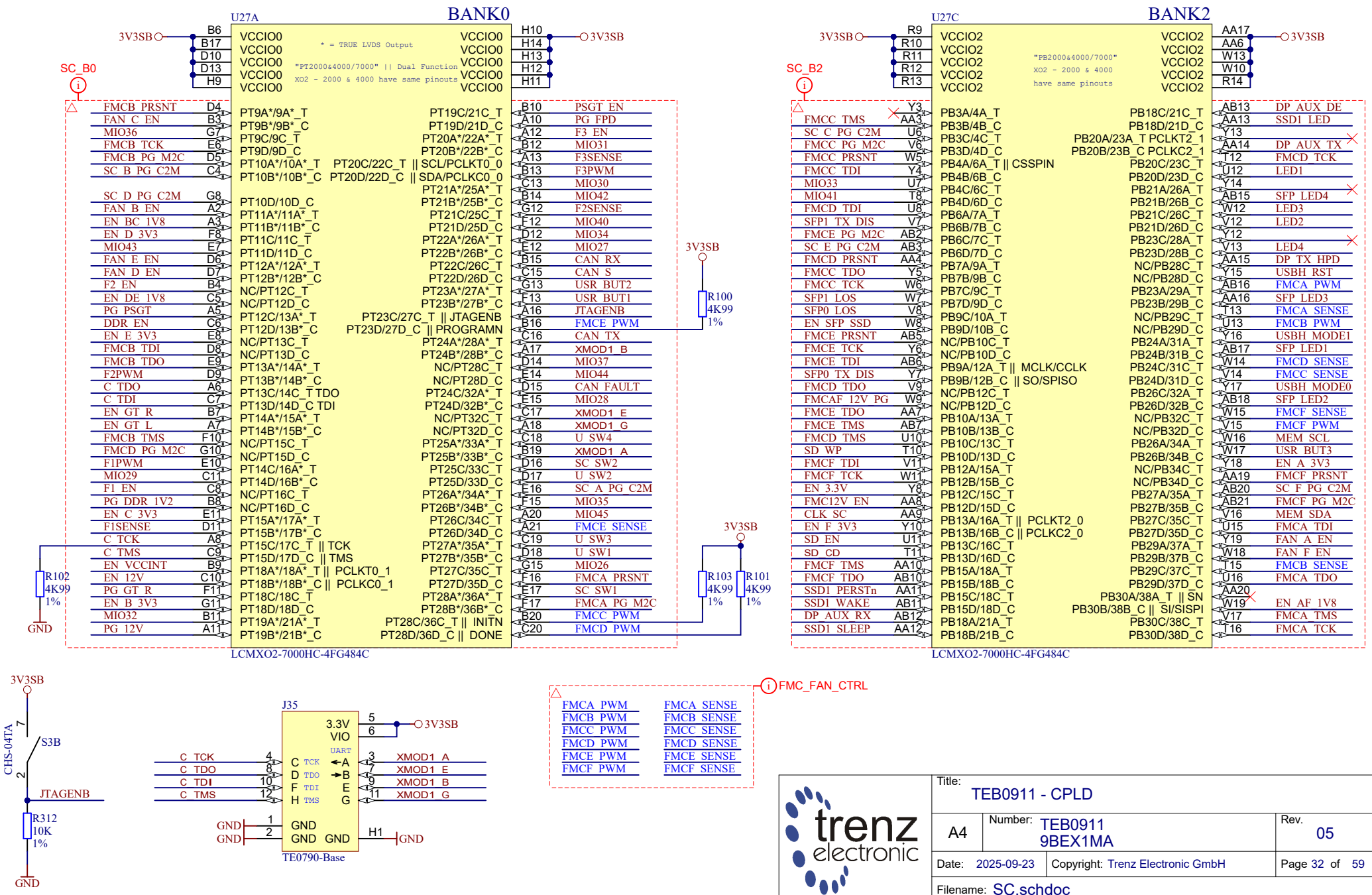



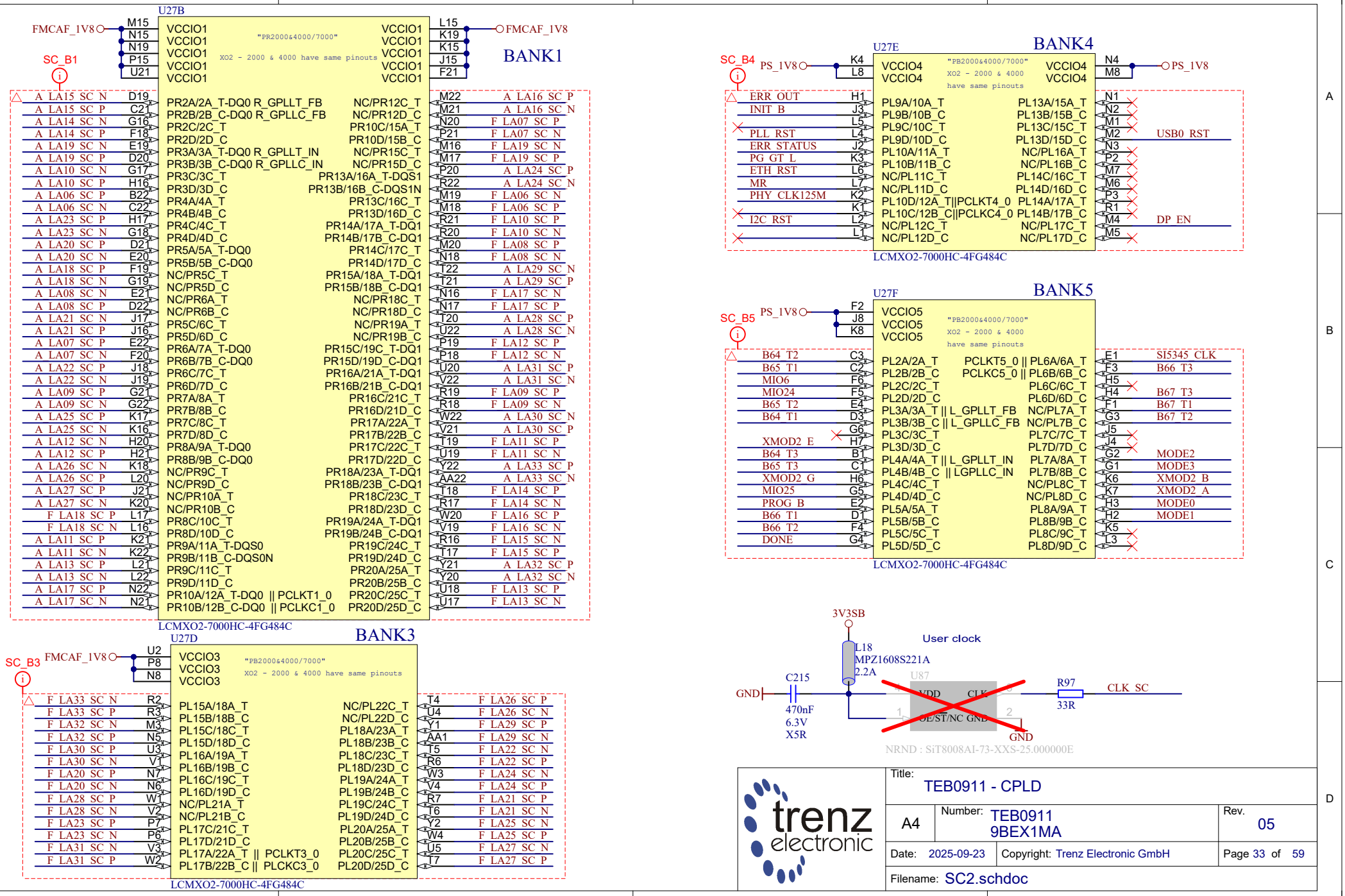



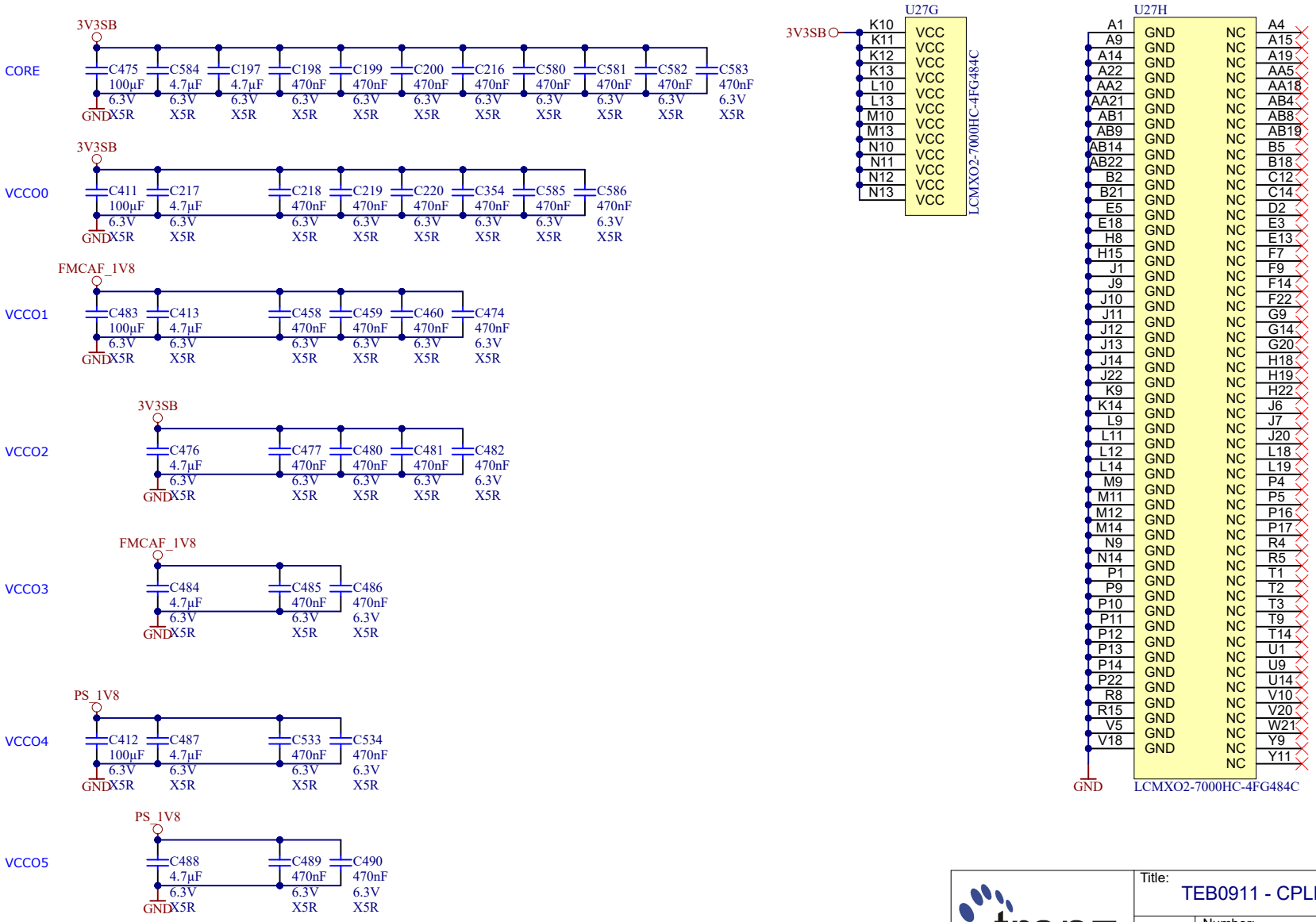

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| Date: 2025-09-23 | Copyright: Trenz Electronic GmbH | | Page 31 of 59 |
| Filename: FMC GND2.SchDoc | | | |

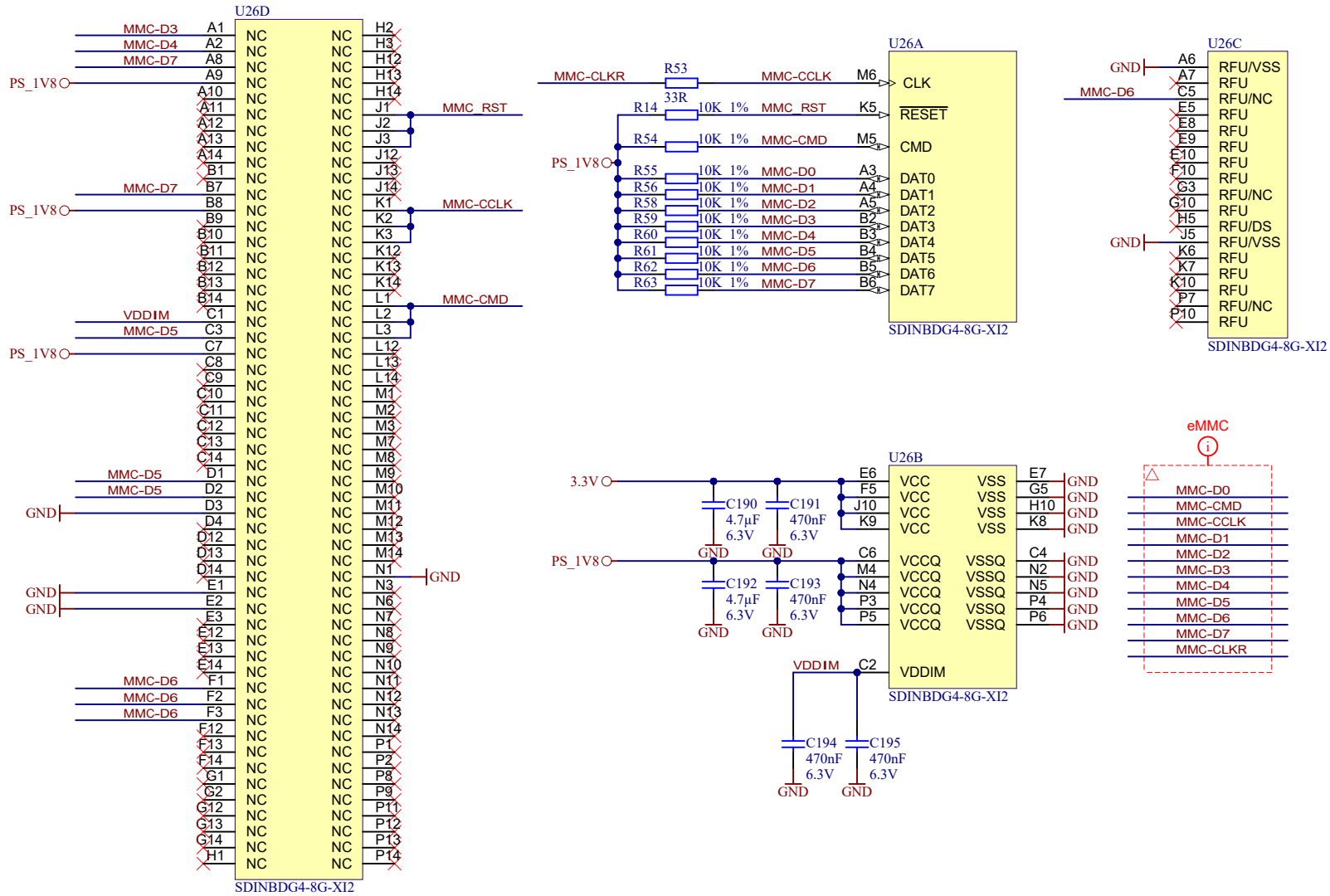



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| Title: TEB0911 - CPLD | | | |
| A4 | Number: TEB0911 9BEX1MA | | Rev. 05 |
| Date: 2025-09-23 | Copyright: Trenz Electronic GmbH | | Page 32 of 59 |
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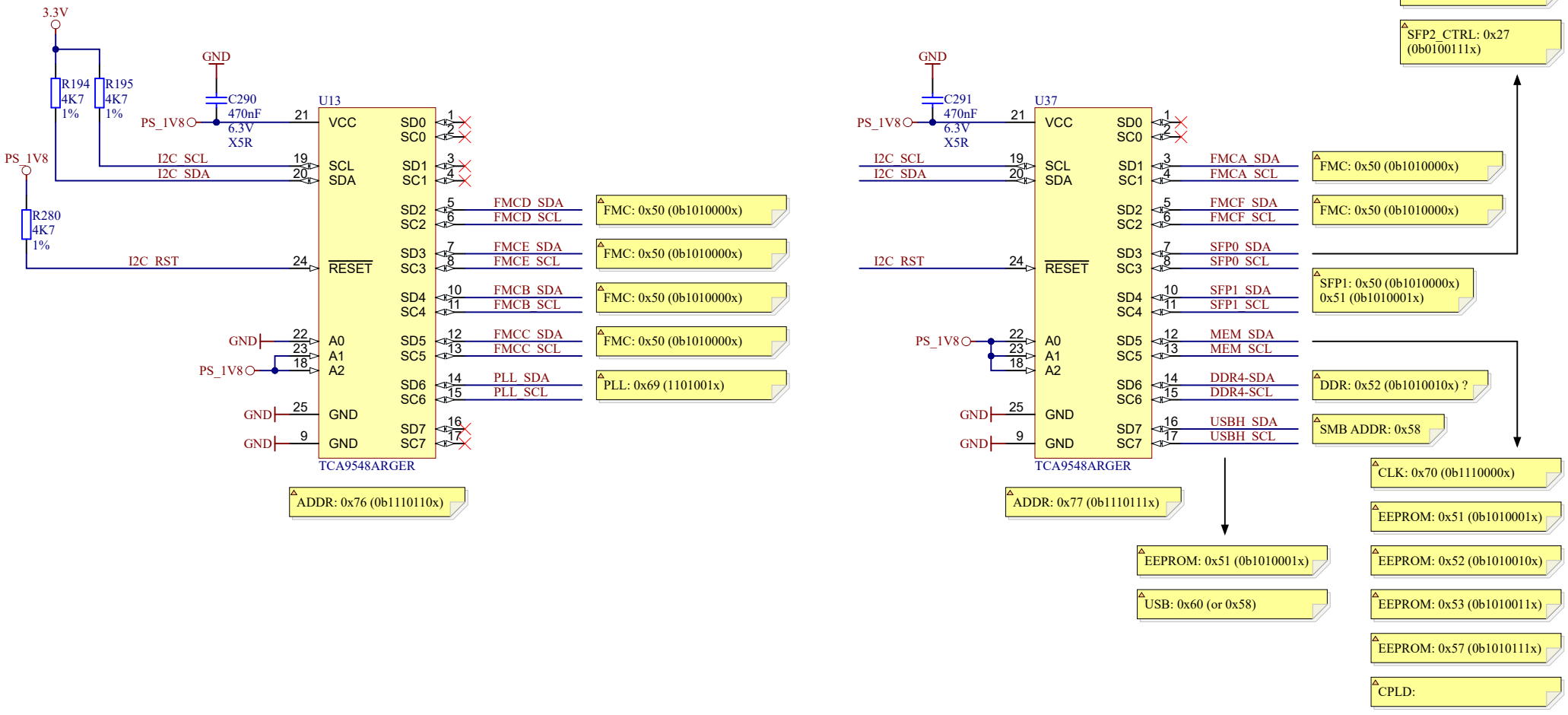



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| Rev. | 05 |
| Date: 2025-09-23 | Copyright: Trenz Electronic GmbH |
| Page 33 of 59 | |
| Filename: | SC2.schdoc |


3V3SB
CORE
C475 100µF 6.3V X5R
C584 4.7µF 6.3V X5R
C197 4.7µF 6.3V X5R
C198 470nF 6.3V X5R
C199 470nF 6.3V X5R
C200 470nF 6.3V X5R
C216 470nF 6.3V X5R
C580 470nF 6.3V X5R
C581 470nF 6.3V X5R
C582 470nF 6.3V X5R
C583 470nF 6.3V X5R
GND
3V3SB
VCCO0
C411 100µF 6.3V X5R
C217 4.7µF 6.3V X5R
C218 470nF 6.3V X5R
C219 470nF 6.3V X5R
C220 470nF 6.3V X5R
C354 470nF 6.3V X5R
C585 470nF 6.3V X5R
C586 470nF 6.3V X5R
GND
FMCAF_1V8
VCCO1
C483 100µF 6.3V X5R
C413 4.7µF 6.3V X5R
C458 470nF 6.3V X5R
C459 470nF 6.3V X5R
C460 470nF 6.3V X5R
C474 470nF 6.3V X5R
GND
3V3SB
VCCO2
C476 4.7µF 6.3V X5R
C477 470nF 6.3V X5R
C480 470nF 6.3V X5R
C481 470nF 6.3V X5R
C482 470nF 6.3V X5R
GND
FMCAF_1V8
VCCO3
C484 4.7µF 6.3V X5R
C485 470nF 6.3V X5R
C486 470nF 6.3V X5R
GND
PS_1V8
VCCO4
C412 100µF 6.3V X5R
C487 4.7µF 6.3V X5R
C533 470nF 6.3V X5R
C534 470nF 6.3V X5R
GND
PS_1V8
VCCO5
C488 4.7µF 6.3V X5R
C489 470nF 6.3V X5R
C490 470nF 6.3V X5R
GND
U27G
3V3SB
K10 VCC
K11 VCC
K12 VCC
K13 VCC
L10 VCC
L13 VCC
M10 VCC
M13 VCC
N10 VCC
N11 VCC
N12 VCC
N13 VCC
LCMXO2-7000HC-4FG484C
U27H
A1 GND
A9 GND
A14 GND
A22 GND
AA2 GND
AA21 GND
AB1 GND
AB9 GND
AB14 GND
AB22 GND
B2 GND
B21 GND
E5 GND
E18 GND
H8 GND
H15 GND
J1 GND
J9 GND
J10 GND
J11 GND
J12 GND
J13 GND
J14 GND
J22 GND
K9 GND
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P13 GND
P14 GND
P22 GND
R8 GND
R15 GND
V5 GND
V18 GND
NC A4
NC A15
NC A19
NC AA5
NC AA18
NC AB4
NC AB8
NC AB19
NC B5
NC B18
NC C12
NC C14
NC D2
NC E3
NC E13
NC F7
NC F9
NC F14
NC F22
NC G9
NC G14
NC G20
NC H18
NC H19
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NC J6
NC J7
NC J20
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NC L19
NC P4
NC P5
NC P16
NC P17
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NC R5
NC T1
NC T2
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NC U1
NC U9
NC U14
NC V10
NC V20
NC W21
NC Y9
NC Y11
GND
LCMXO2-7000HC-4FG484C
trenz electronic
Title: TEB0911 - CPLD
A4
Number: TEB0911 9BEX1MA
Rev. 05
Date: 2025-09-23
Copyright: Trenz Electronic GmbH
Page 34 of 58
Filename: SC_POWER.schdoc

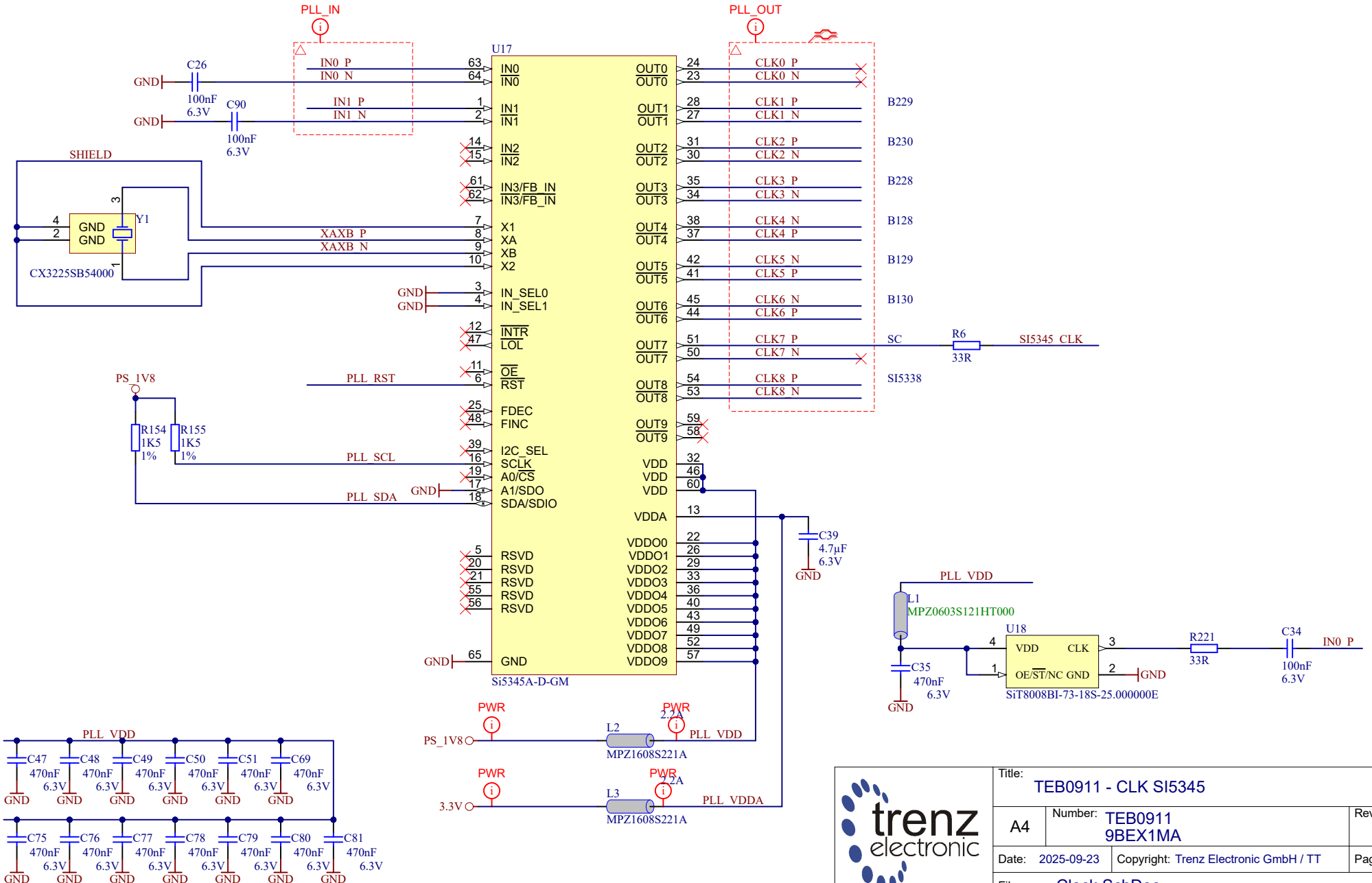



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| trenz electronic | Title: TEB0911 - eMMC | | |
| | A4 | Number: TEB0911 9BEX1MA | Rev. 05 |
| | Date: 2025-09-23 | Copyright: Trenz Electronic GmbH | Page 35 of 59 |
| | Filename: eMMC.SchDoc | | |

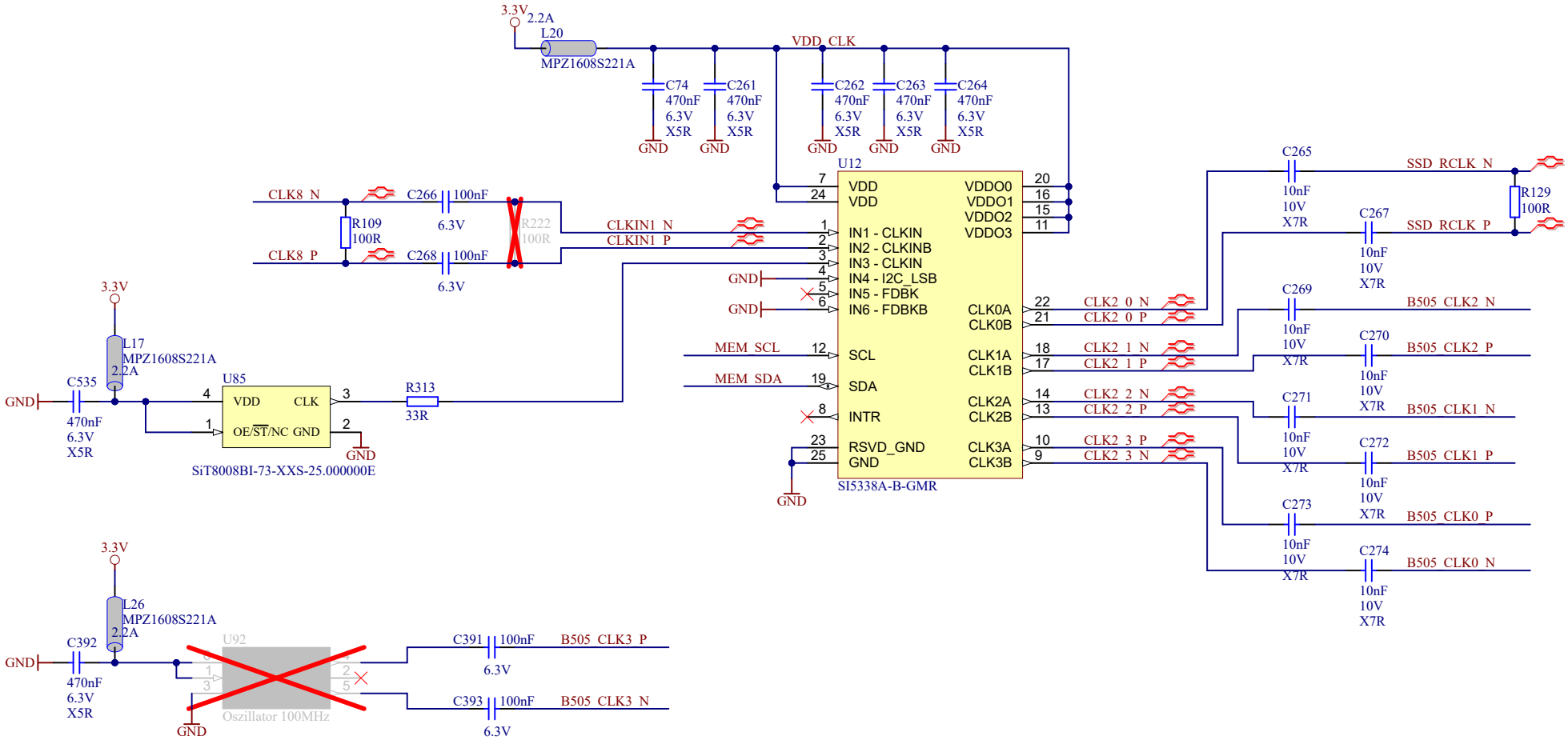



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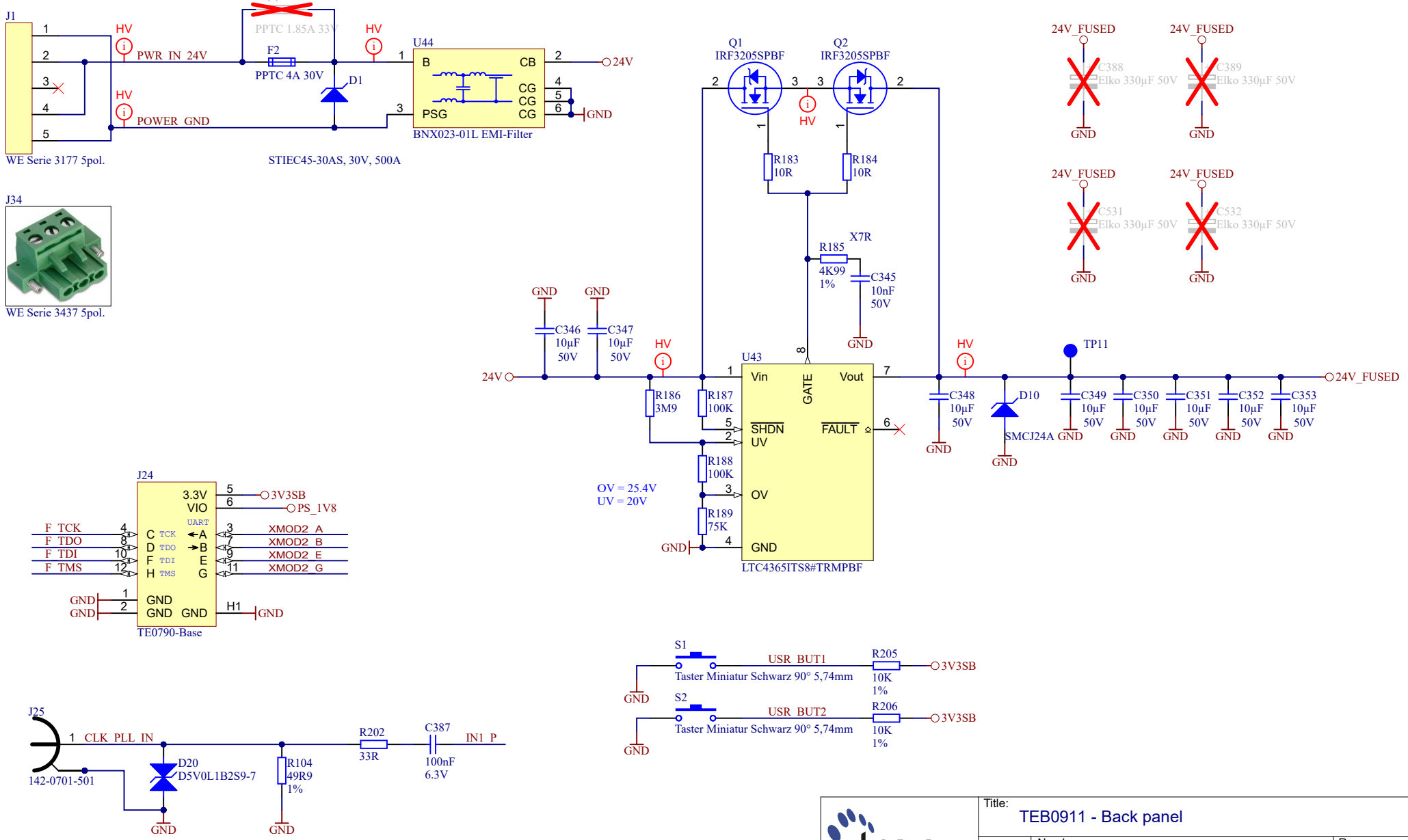
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| Title: TEB0911 - I2C System | | |
| A4 | Number: TEB0911 9BEX1MA | Rev. 05 |
| Date: 2025-09-23 | Copyright: Trenz Electronic GmbH | Page 36 of 58 |
| Filename: I2C_system.schdoc | | |



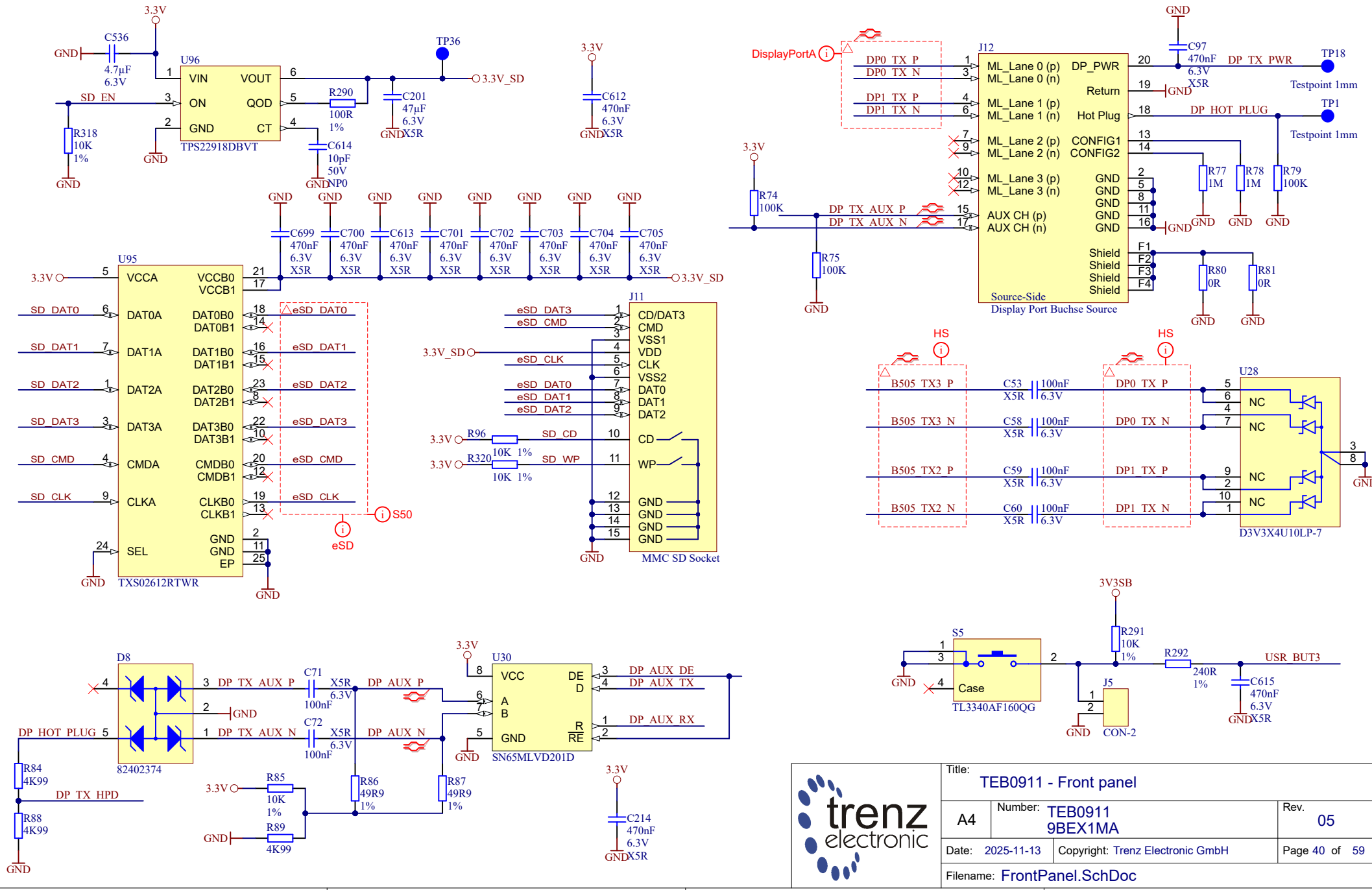

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| A4 | Number: TEB0911 9BEX1MA |
| Rev. | 05 |
| Date: 2025-09-23 | Copyright: Trenz Electronic GmbH / TT |
| Page 37 of 59 | |
| Filename: | Clock.SchDoc |



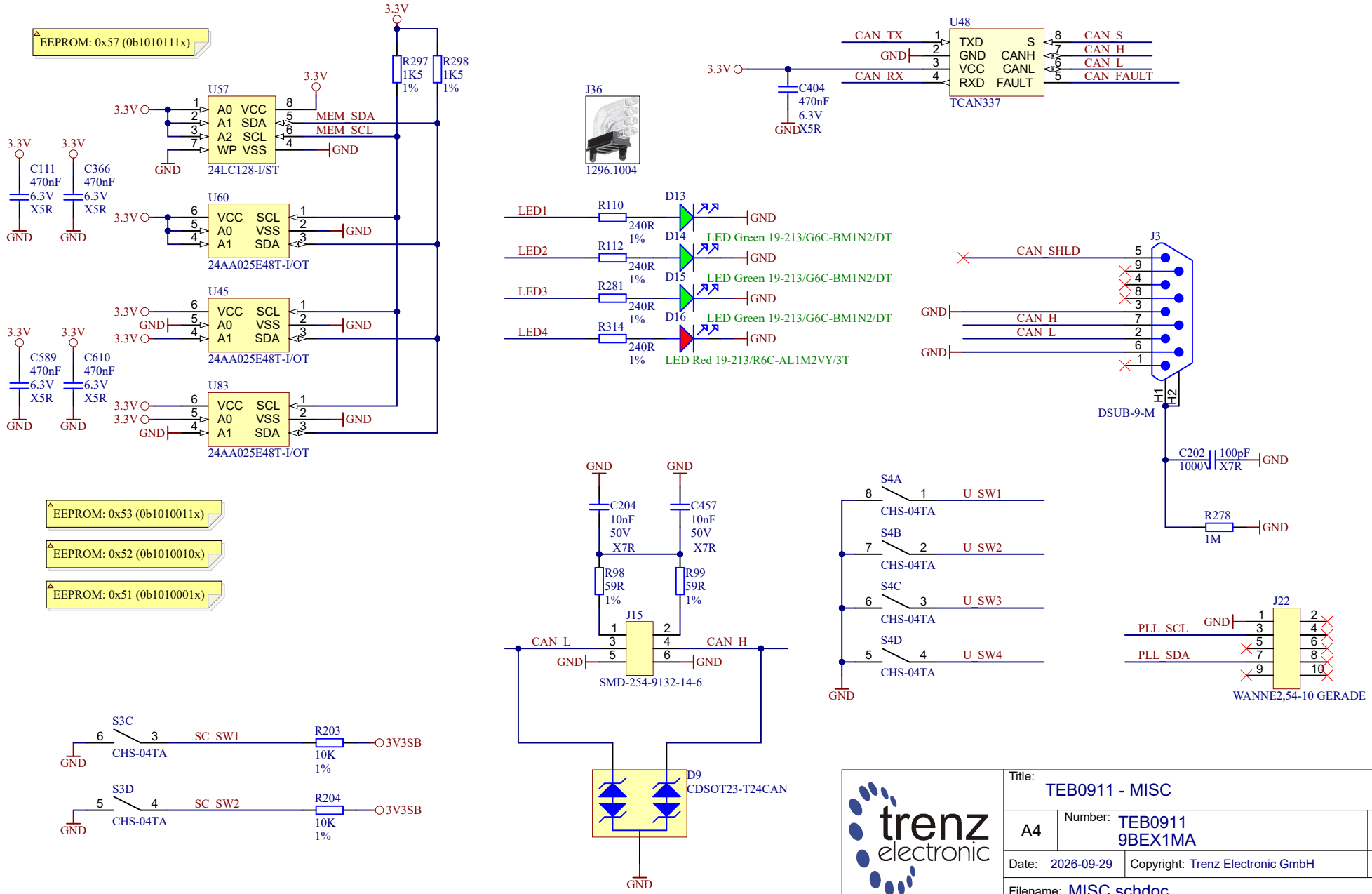

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| Date: 2025-09-23 | Copyright: Trenz Electronic GmbH | | Page 38 of 58 |
| Filename: Clock2.SchDoc | | | |



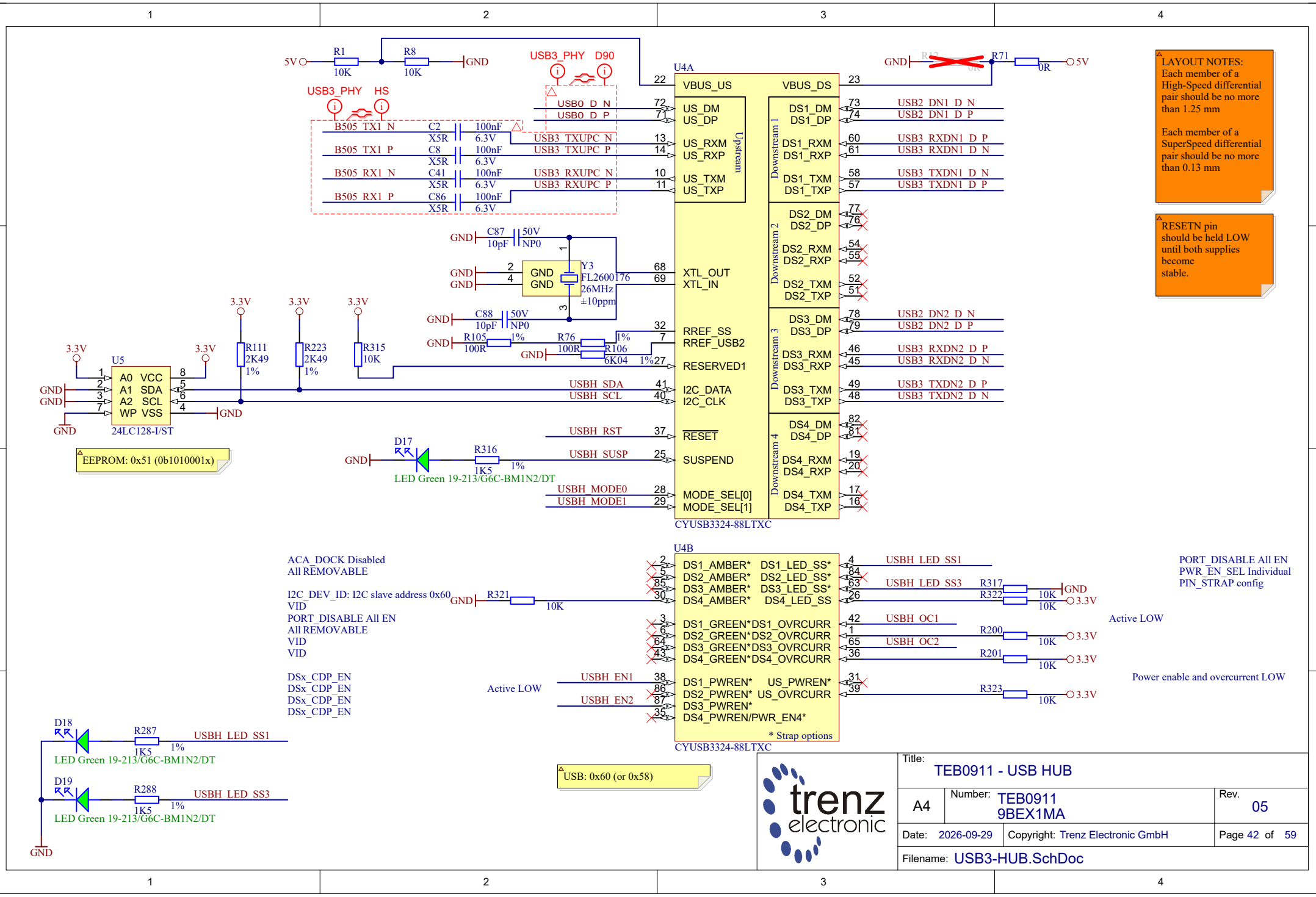

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| | Date: 2025-09-23 | Copyright: Trenz Electronic GmbH | Page 39 of 59 |
| | Filename: BackPanel.SchDoc | | |

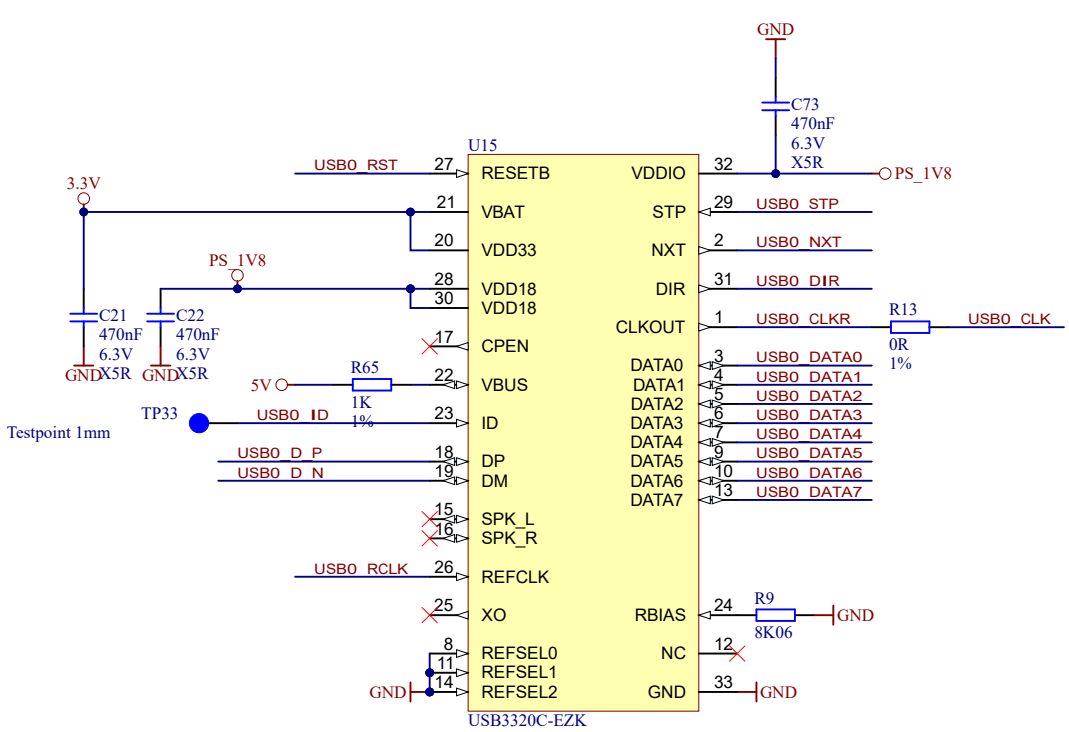


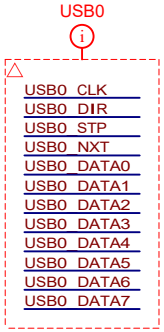

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| A4 | Number: TEB0911 9BEX1MA |
| Rev. | 05 |
| Date: 2025-11-13 | Copyright: Trenz Electronic GmbH |
| Page 40 of 59 | |
| Filename: | FrontPanel.SchDoc |

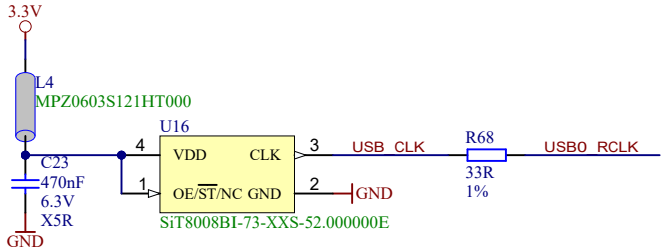



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| Title: TEB0911 - MISC | | | |
| A4 | Number: TEB0911 9BEX1MA | | Rev. 05 |
| Date: 2026-09-29 | Copyright: Trenz Electronic GmbH | | Page 41 of 58 |
| Filename: MISC.schdoc | | | |

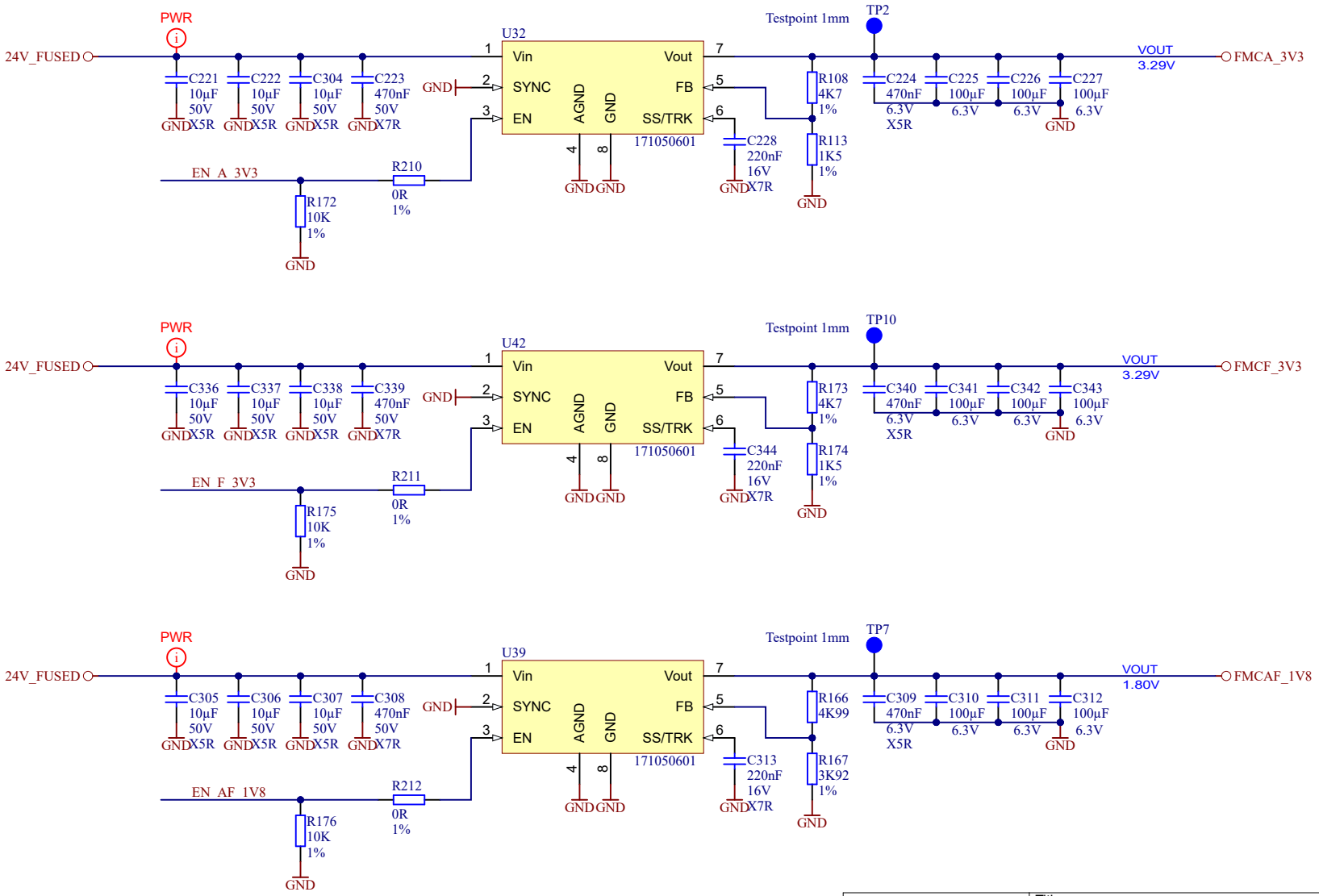

LAYOUT NOTES:
Each member of a High-Speed differential pair should be no more than 1.25 mm
Each member of a SuperSpeed differential pair should be no more than 0.13 mm
RESETN pin should be held LOW until both supplies become stable.
U4A
CYUSB3324-88LTXC
U4B
CYUSB3324-88LTXC
U5
24LC128-I/ST
EEPROM: 0x51 (0b1010001x)
USB: 0x60 (or 0x58)
ACA_DOCK Disabled
All REMOVABLE
I2C_DEV_ID: I2C slave address 0x60
VID
PORT_DISABLE All EN
All REMOVABLE
VID
VID
DSx_CDP_EN
DSx_CDP_EN
DSx_CDP_EN
DSx_CDP_EN
Active LOW
PORT_DISABLE All EN
PWR_EN_SEL Individual
PIN_STRAP config
Active LOW
Power enable and overcurrent LOW
* Strap options
LED Green 19-213/G6C-BM1N2/DT
LED Green 19-213/G6C-BM1N2/DT
LED Green 19-213/G6C-BM1N2/DT
Title: TEB0911 - USB HUB
A4
Number: TEB0911 9BEX1MA
Rev. 05
Date: 2026-09-29
Copyright: Trenz Electronic GmbH
Page 42 of 59
Filename: USB3-HUB.SchDoc



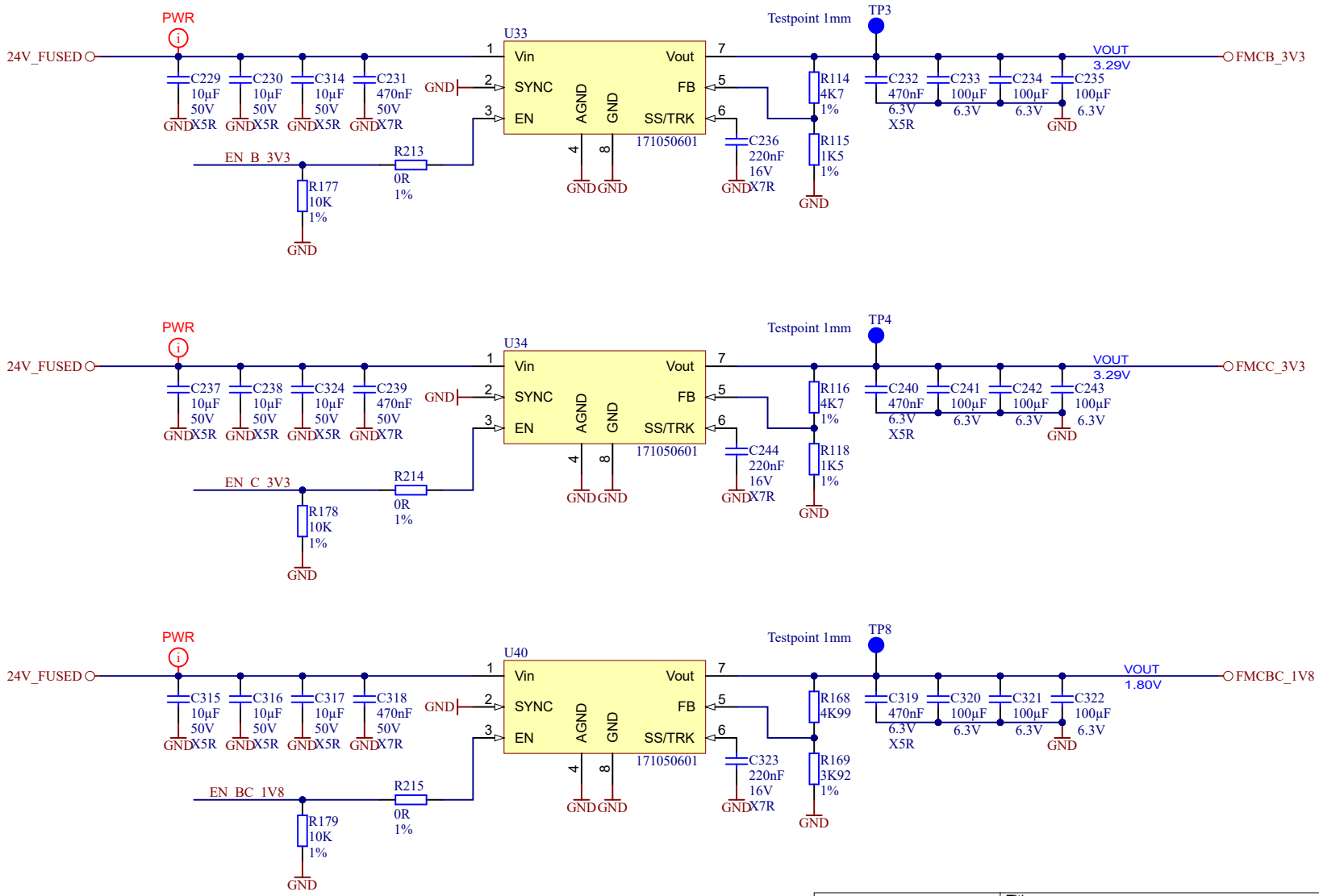



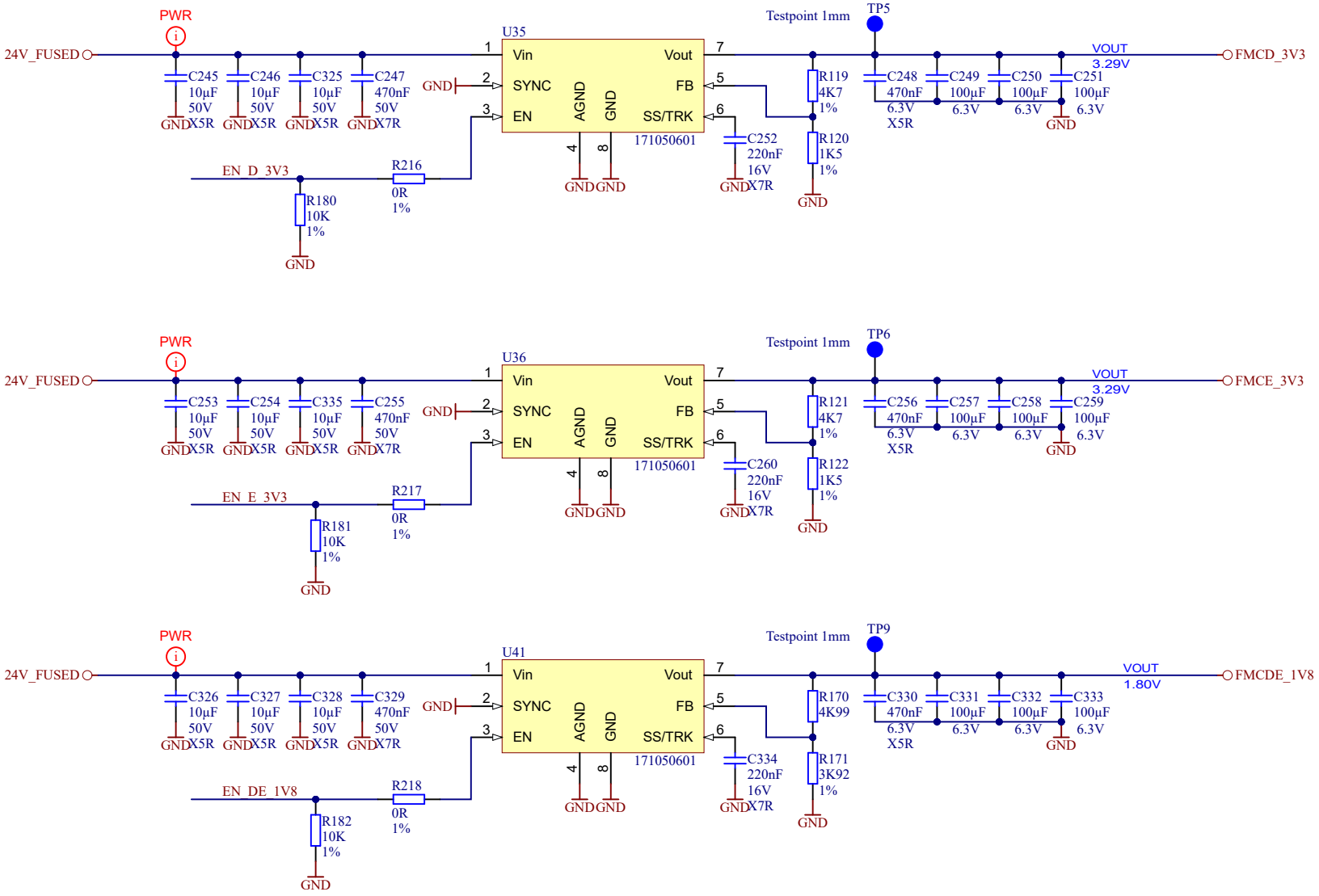

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| A4 | Number: TEB0911 9BEX1MA | | Rev. 05 |
| Date: 2025-09-23 | Copyright: Trenz Electronic GmbH | | Page 43 of 59 |
| Filename: USB-PHY.SchDoc | | | |



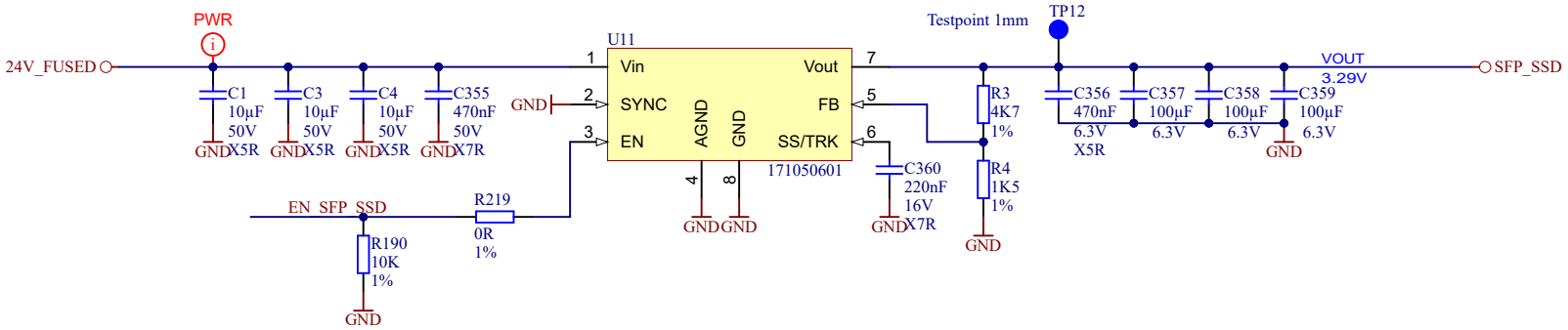

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| Title: TEB0911 - POWER | | | |
| A4 | Number: TEB0911 9BEX1MA | | Rev. 05 |
| Date: 2025-09-23 | Copyright: Trenz Electronic GmbH | | Page 44 of 58 |
| Filename: POWER_1.schdoc | | | |

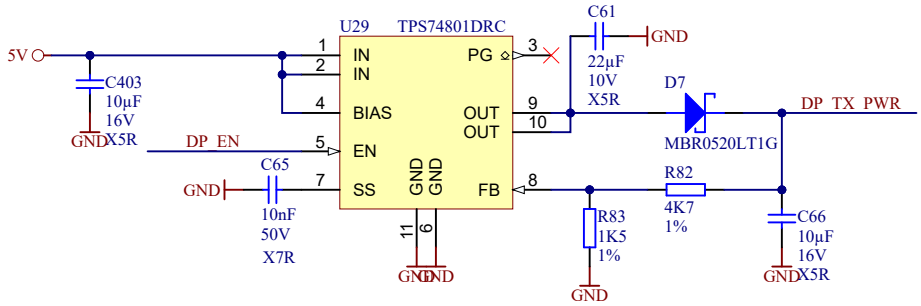



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| Title: TEB0911 - POWER | | |
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| Date: 2025-09-23 | Copyright: Trenz Electronic GmbH | Page 45 of 59 |
| Filename: POWER_2.schdoc | | |

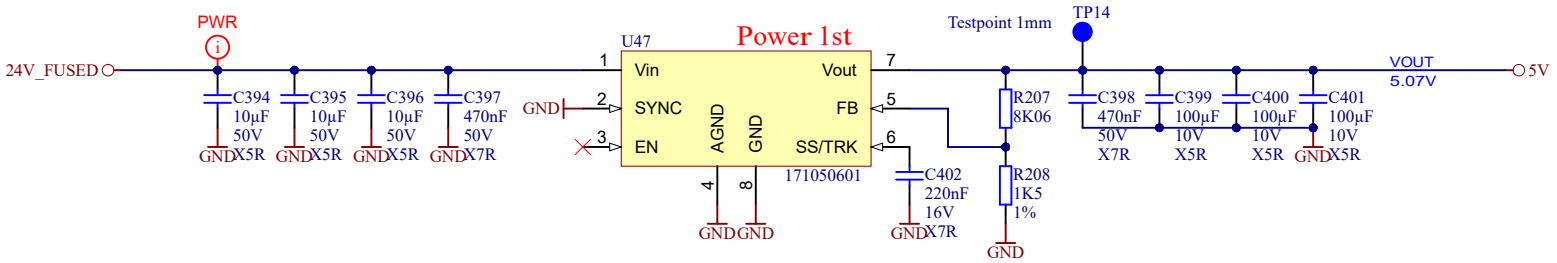


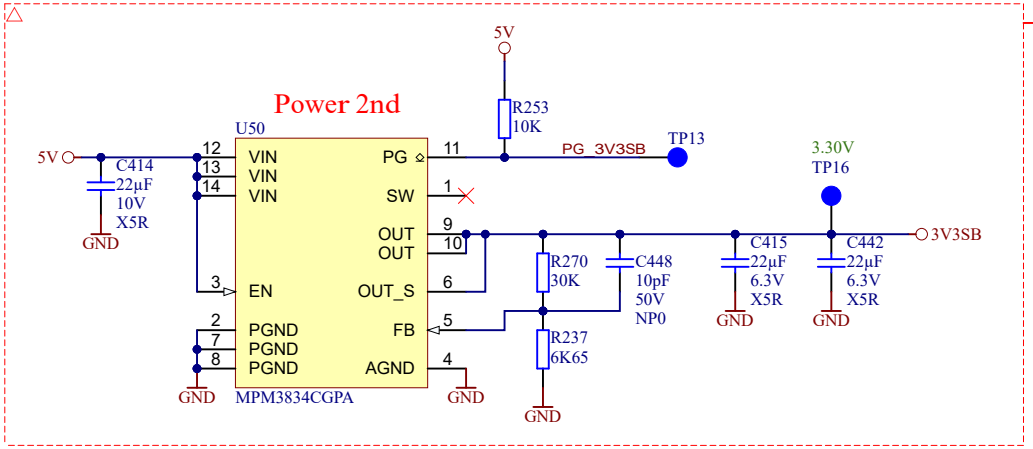

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| trenz electronic | Title: TEB0911 - POWER | | |
| A4 | Number: TEB0911 9BEX1MA | | Rev. 05 |
| Date: 2025-09-23 | Copyright: Trenz Electronic GmbH | | Page 46 of 58 |
| Filename: POWER_3.schdoc | | | |



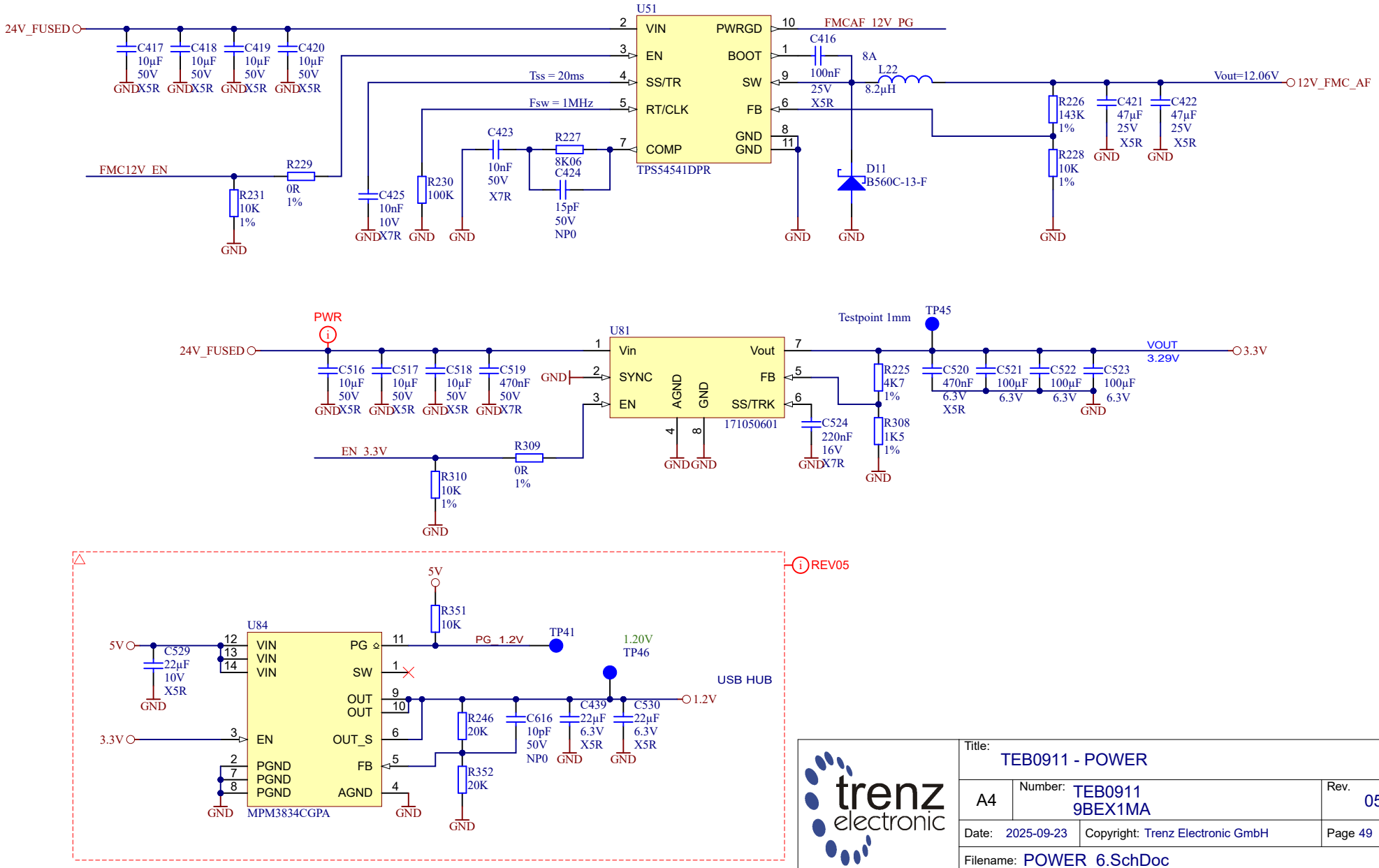




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| Title: TEB0911 - POWER | | | |
| A4 | Number: TEB0911 9BEX1MA | | Rev. 05 |
| Date: 2025-09-23 | Copyright: Trenz Electronic GmbH | | Page 47 of 58 |
| Filename: POWER_4.schdoc | | | |

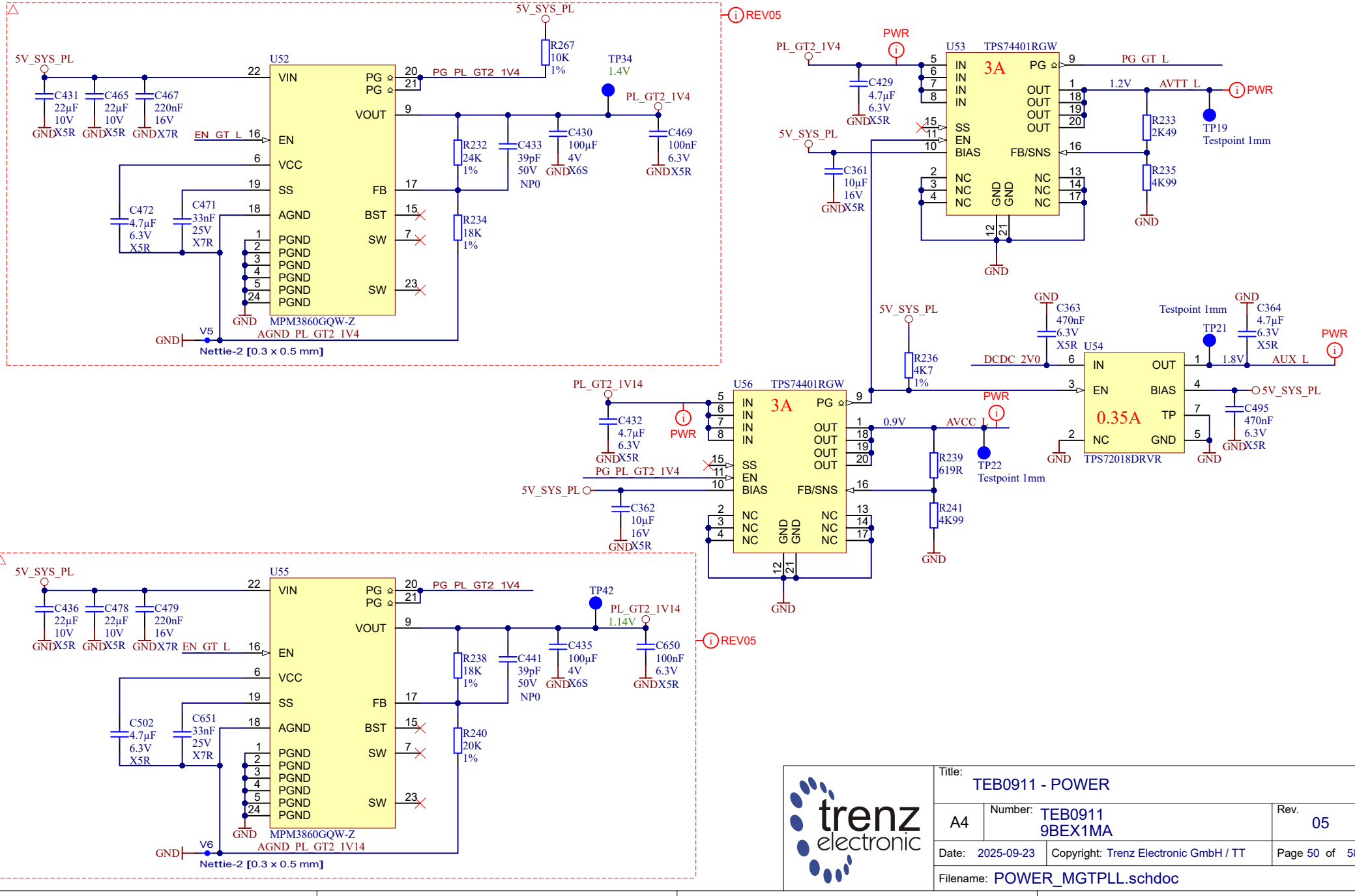


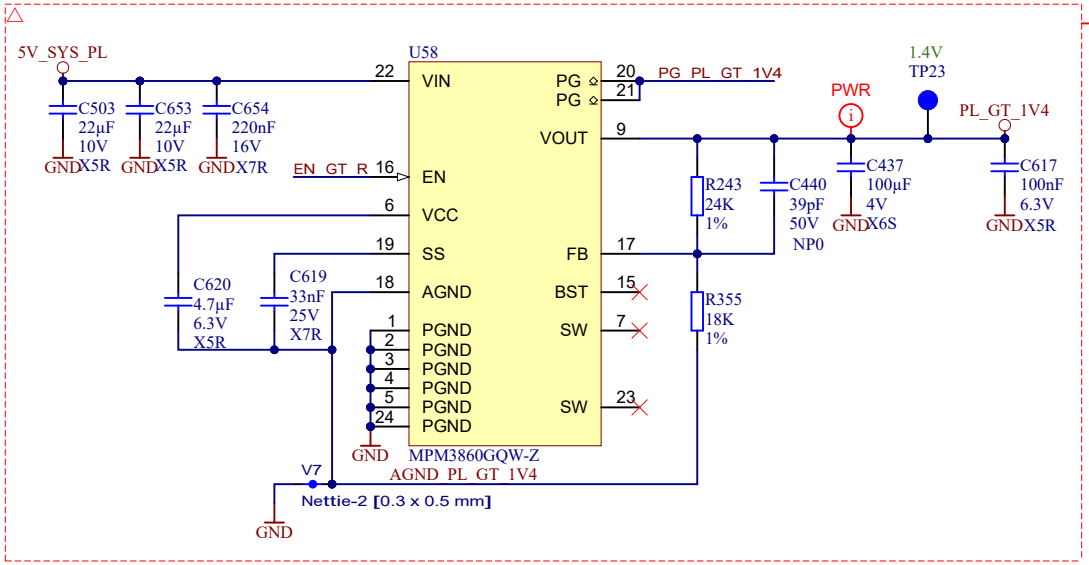



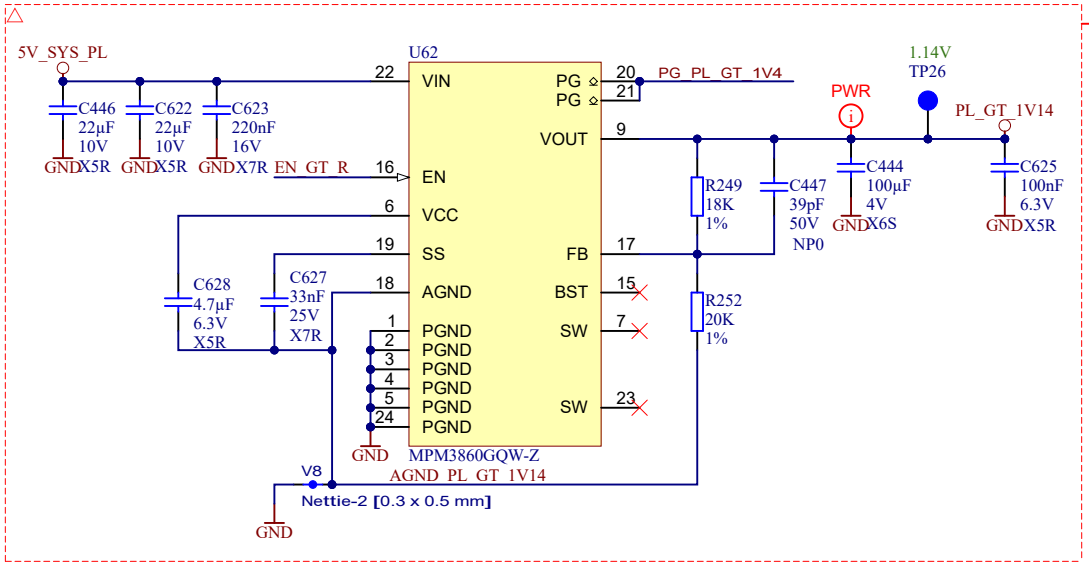

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| trenz electronic | Title: TEB0911 - POWER | | |
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| Date: 2025-09-23 | Copyright: Trenz Electronic GmbH | | Page 48 of 58 |
| Filename: POWER_5.schdoc | | | |

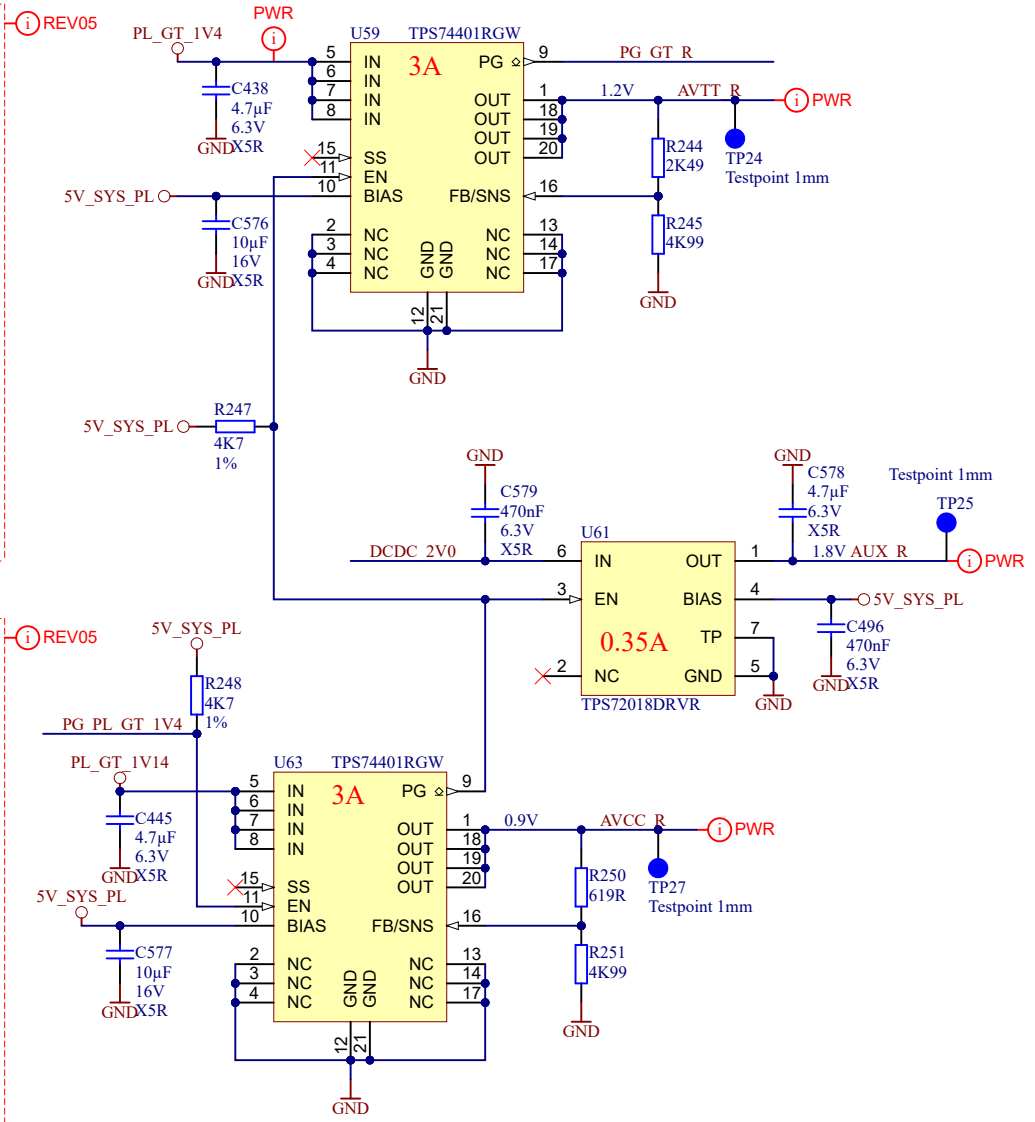



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|---|---|---|
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| Filename: POWER_6.SchDoc | | |


5V_SYS_PL
U52
MPM3860GQW-Z
VIN
PG
VOUT
EN
VCC
SS
FB
AGND
BST
SW
PGND
EN_GT_L
PG_PL_GT2_1V4
PL_GT2_1V4
TP34
1.4V
R267
10K
1%
C431
22µF
10V
C465
22µF
10V
C467
220nF
16V
C472
4.7µF
6.3V
X5R
C471
33nF
25V
X7R
R232
24K
1%
C433
39pF
50V
NP0
C430
100µF
4V
X6S
C469
100nF
6.3V
X5R
R234
18K
1%
AGND_PL_GT2_1V4
V5
Nettie-2 [0.3 x 0.5 mm]
REV05
U53
TPS74401RGW
3A
IN
OUT
PG
SS
EN
BIAS
FB/SNS
NC
GND
PG_GT_L
1.2V
AVTT_L
TP19
Testpoint 1mm
R233
2K49
R235
4K99
C429
4.7µF
6.3V
X5R
C361
10µF
16V
X5R
U54
TPS72018DRVR
0.35A
DCDC_2V0
1.8V
AUX_L
TP21
C363
470nF
6.3V
X5R
C364
4.7µF
6.3V
X5R
C495
470nF
6.3V
X5R
R236
4K7
1%
U56
TPS74401RGW
PL_GT2_1V14
PG_PL_GT2_1V4
0.9V
AVCC_L
TP22
R239
619R
R241
4K99
C432
4.7µF
6.3V
X5R
C362
10µF
16V
X5R
U55
MPM3860GQW-Z
TP42
PL_GT2_1V14
1.14V
C436
22µF
10V
C478
22µF
10V
C479
220nF
16V
C502
4.7µF
6.3V
X5R
C651
33nF
25V
X7R
R238
18K
1%
C441
39pF
50V
NP0
C435
100µF
4V
X6S
C650
100nF
6.3V
X5R
R240
20K
1%
AGND_PL_GT2_1V14
V6
Nettie-2 [0.3 x 0.5 mm]
REV05
PWR
GND
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A4
Number: TEB0911 9BEX1MA
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Filename: POWER_MGTPLL.schdoc

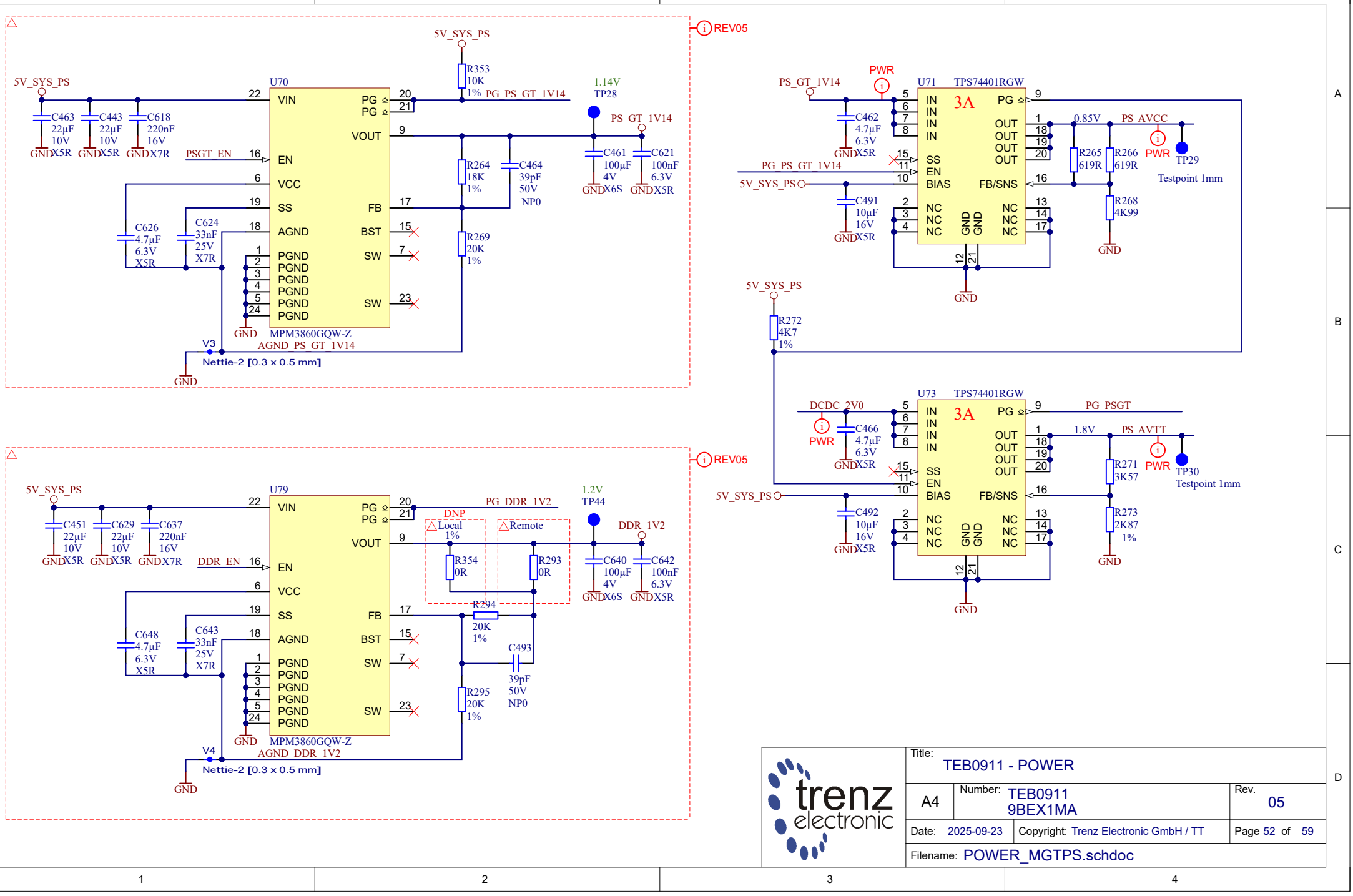


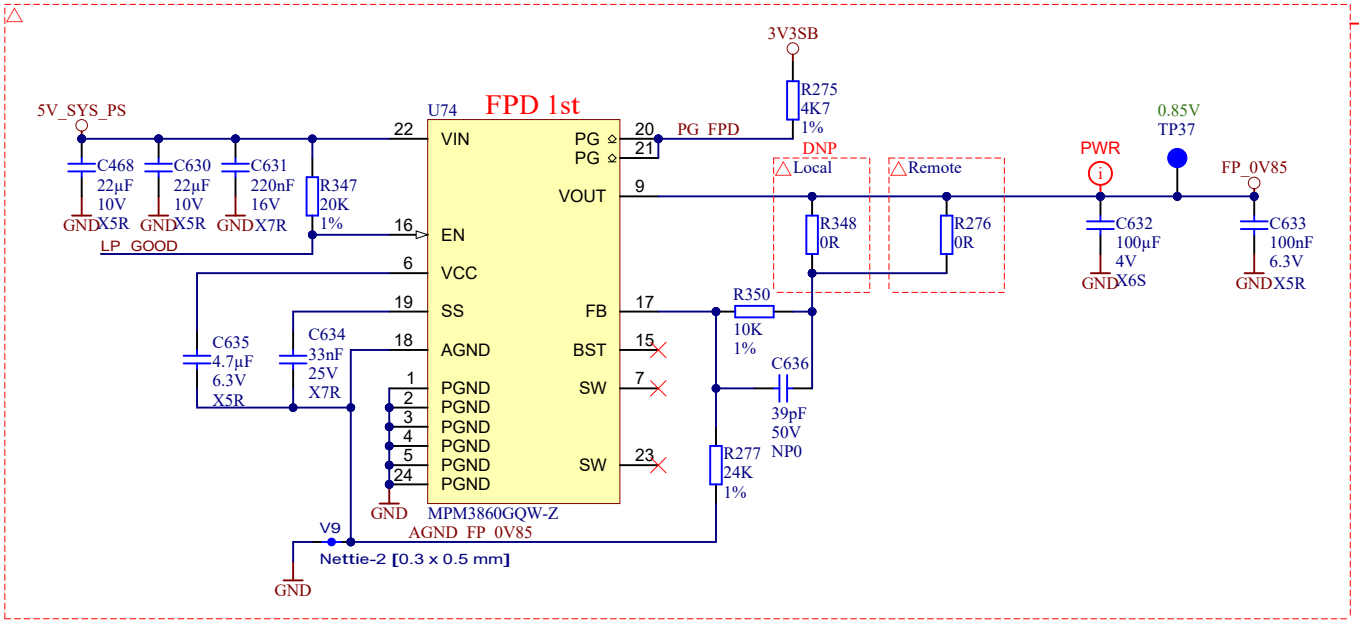



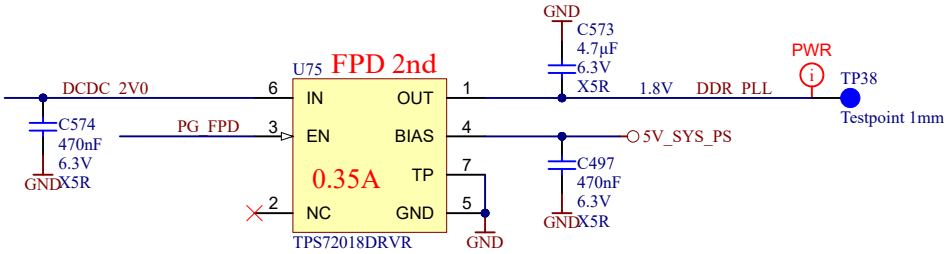

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| A4 | Number: TEB0911 9BEX1MA | | Rev. 05 |
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| Filename: POWER_MGTPLR.schdoc | | | |

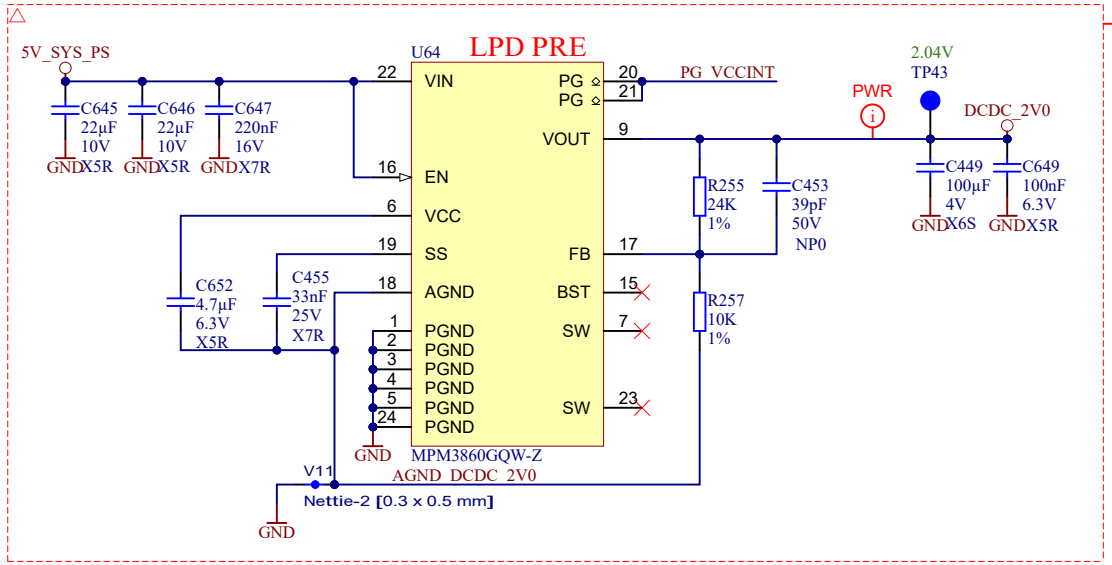


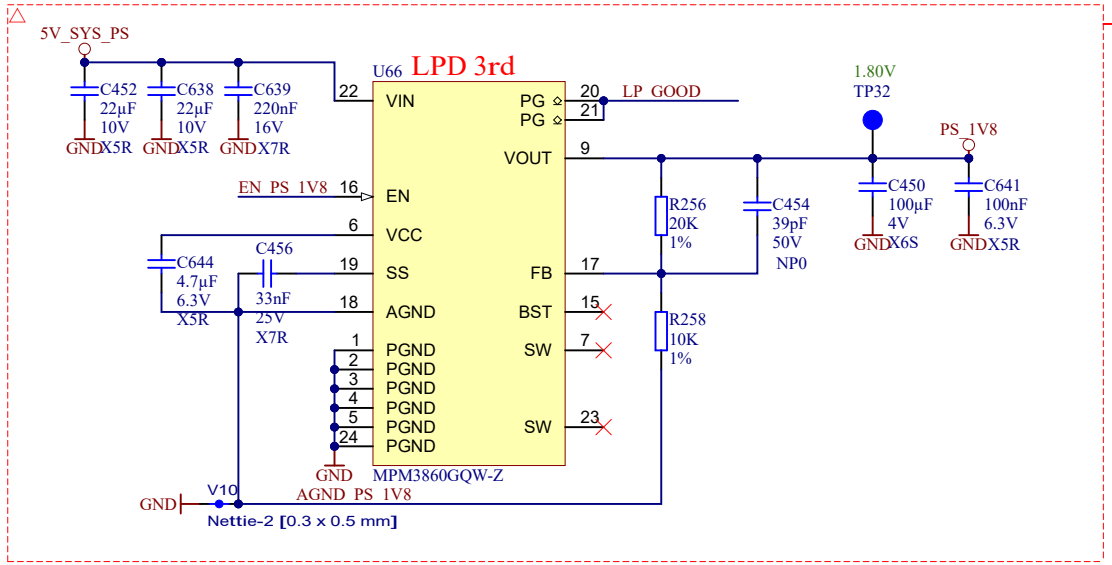

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| trenz electronic | Title: TEB0911 - POWER | |
| A4 | Number: TEB0911 9BEX1MA | Rev. 05 |
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| | Filename: POWER_MGTPS.schdoc | |

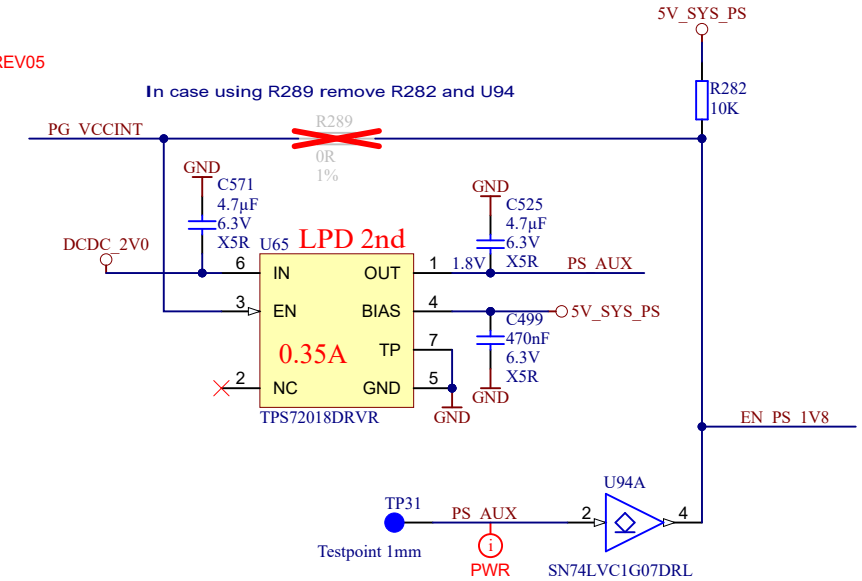


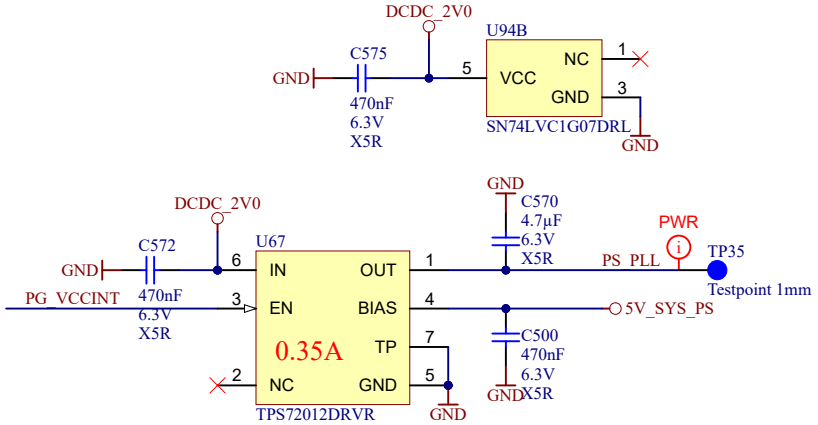




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| trenz electronic | Title: TEB0911 - POWER | | |
| A4 | Number: TEB0911 9BEX1MA | | Rev. 05 |
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| Filename: POWER_PSFP.schdoc | | | |

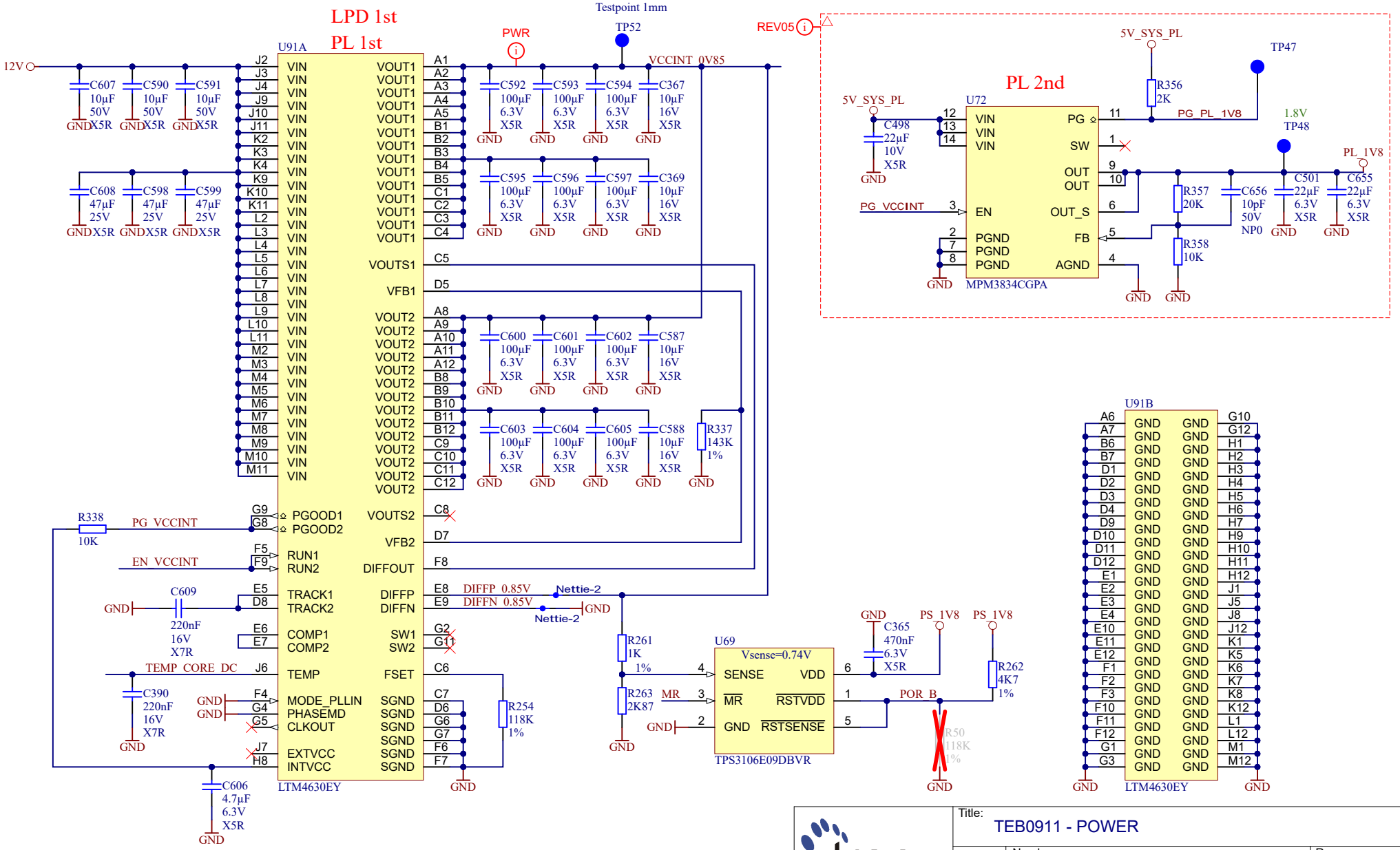


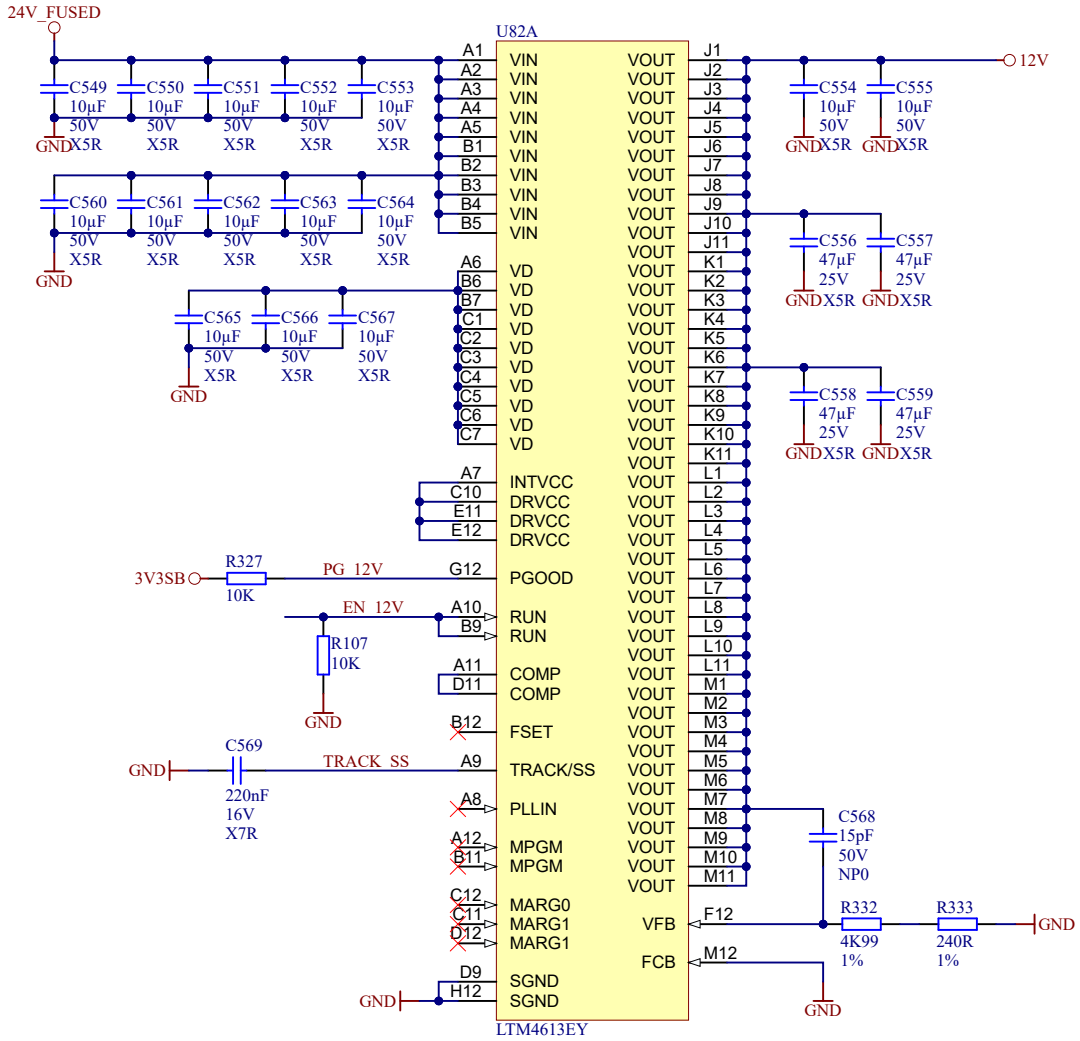



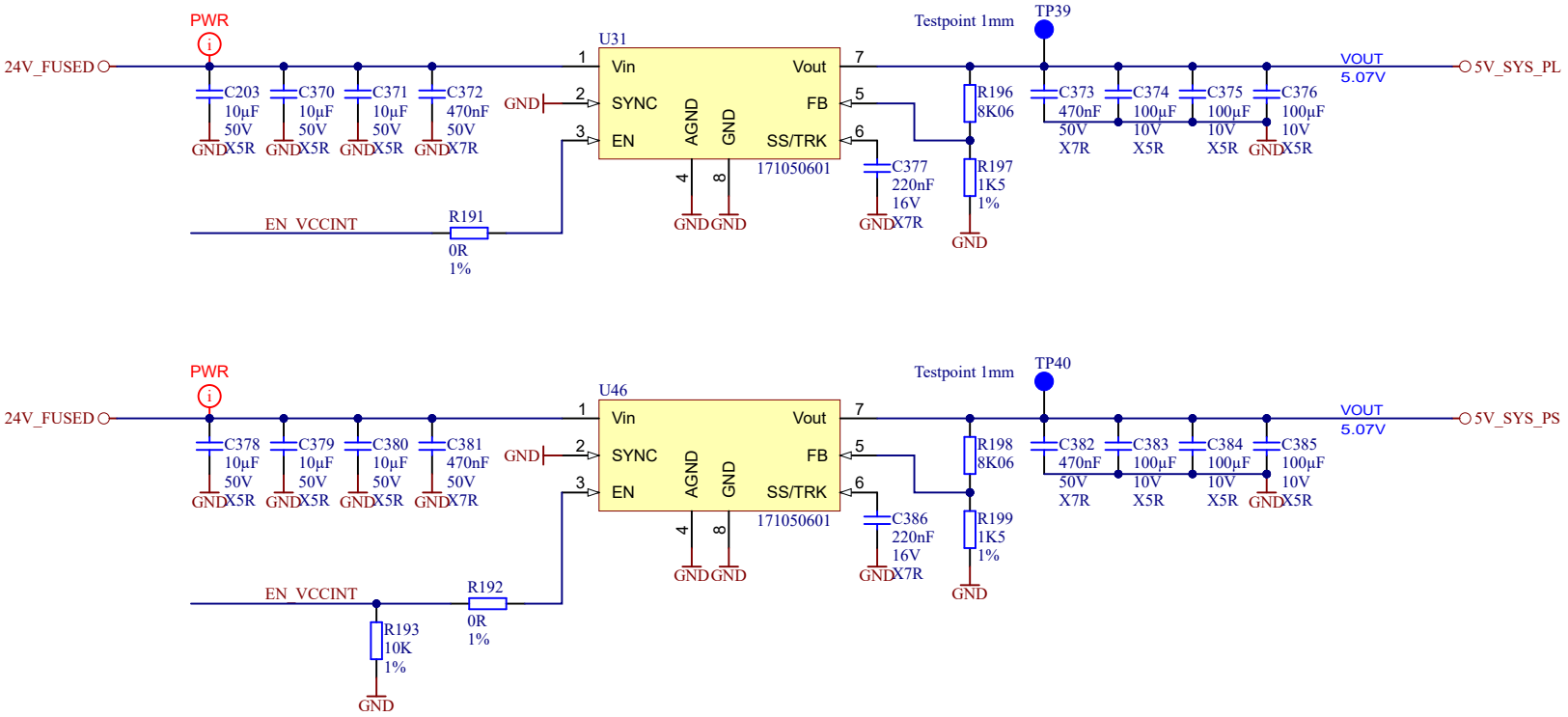

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| trenz electronic | Title: TEB0911 - POWER | | |
| | A4 | Number: TEB0911 9BEX1MA | Rev. 05 |
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| | Filename: POWER_PSLP.schdoc | | |



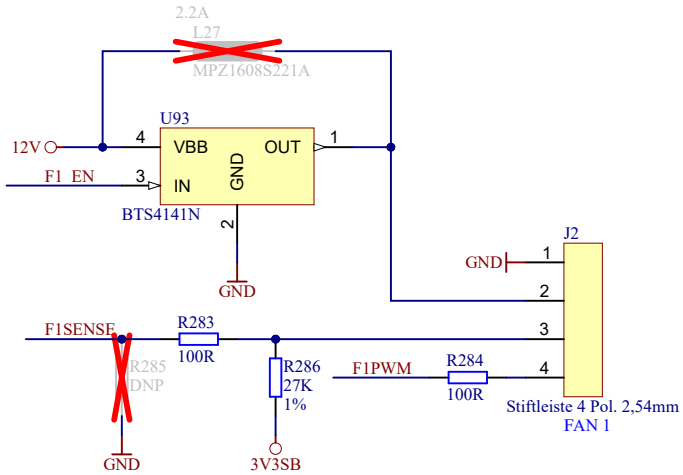

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| trenz electronic | Title: TEB0911 - POWER | | |
| | A4 | Number: TEB0911 9BEX1MA | Rev. 05 |
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| | Filename: PWR_CORE.SchDoc | | |

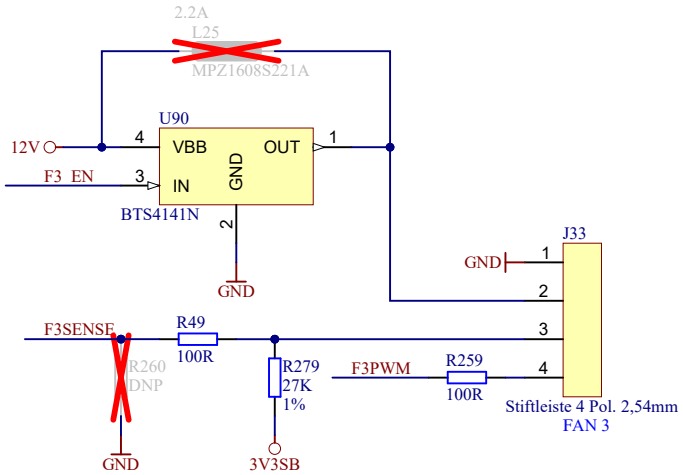


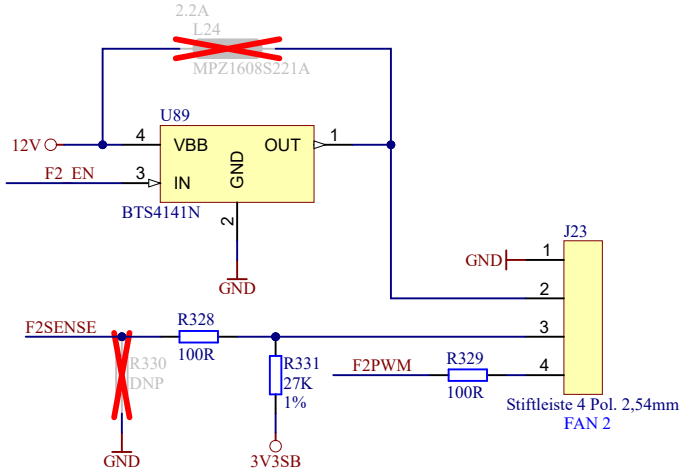

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| A4 | Number: TEB0911 9BEX1MA | | Rev. 05 |
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| Filename: PWR_IN.SchDoc | | | |




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| | Filename: PWR_SYS.SchDoc | | |

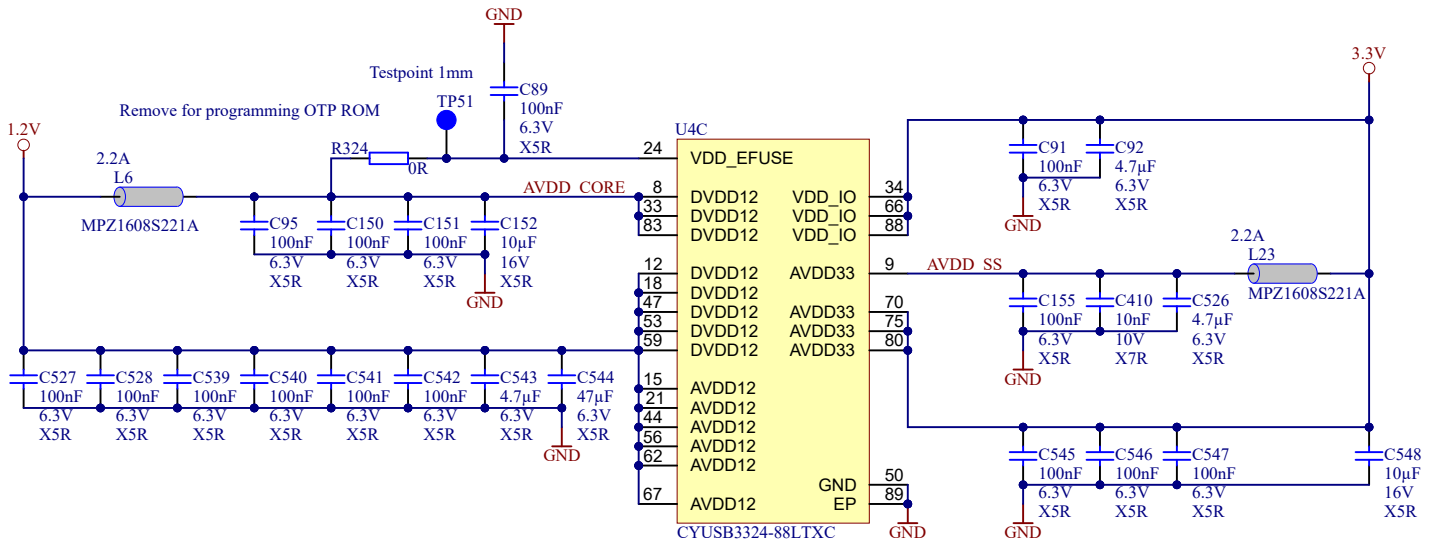



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|---|---|---|
| Title: TEB0911 - FAN connectors | | |
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| Filename: FAN_CON.schdoc | | |




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| Filename: USB3-HUB_PWR.SchDoc | | |