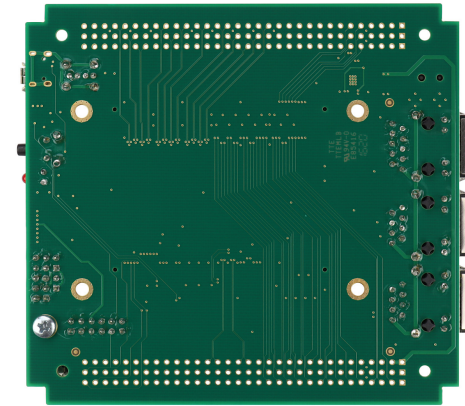
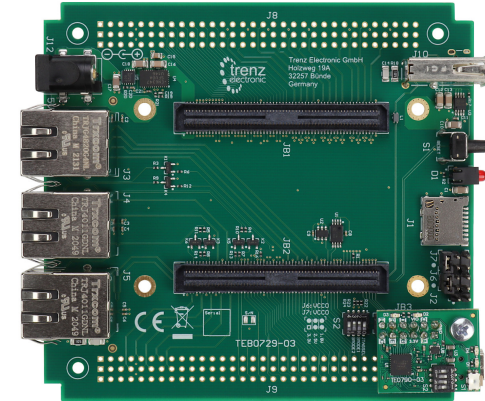
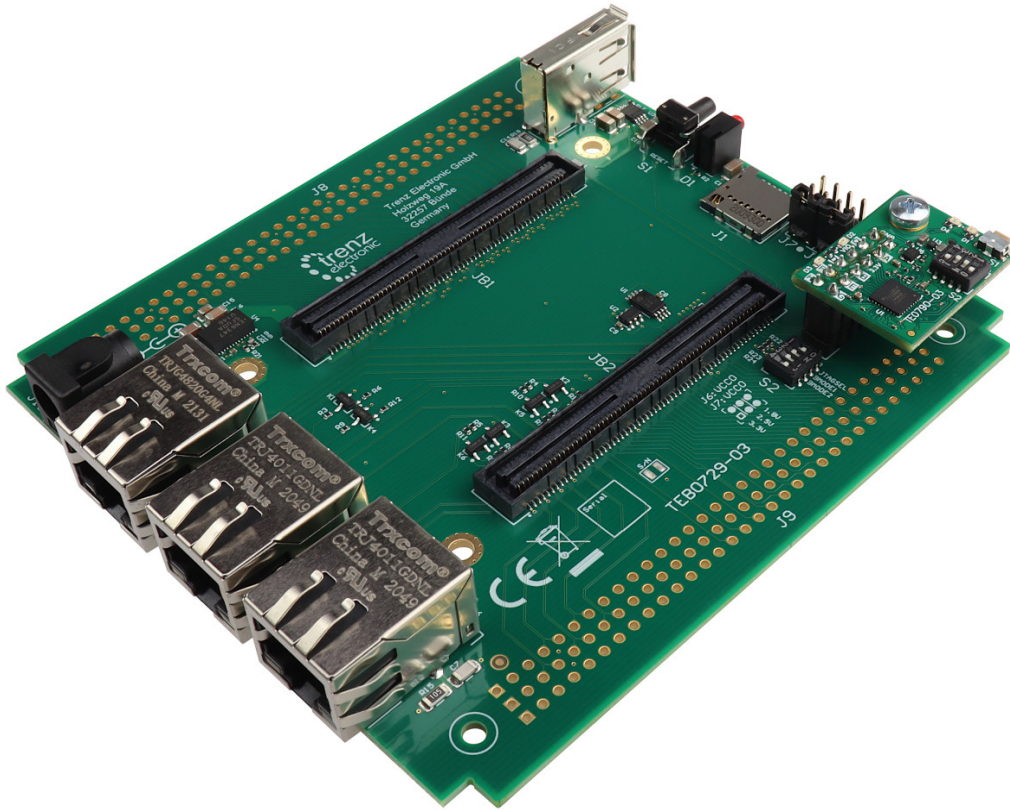




Regarding the usage of our schematics and alike documentation for Trenz baseboard TEB0729.

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	ED/VG
Checked by	VT/ED
Assembly variant	A
Created by	ED
Modified by	ED
Modified at	2025-06-23



Title: TEB0729 – Legal Notices

A4 Number: TEB0729 A

Rev. 04

Date: 23.06.2025 Copyright: Trenz Electronic GmbH
Filename: Legal Notices Baseboards.SchDoc

Page 1 of 11

1

2

3

4

A

REV	DATE	Description	
-01	-	Initial Release	-
-02	-	1) Changed VCCIO (3.3V -> VIN33) on XMOD 2) Added pull-up resistors R22..R24 to JTAGSEL, BOOT_MODE1, BOOT_MODE2 3) Changed micro-USB 4) Changed magjack connectors 5) Lib component update 6) Added thermal vias to mounting holes 7) Added visual serial number 8) Changed 2.1mm power jack THT on SMD	-
-03	-	1) New design of reset circuit. JB2 pin 89 and J9 B30 was connected by net RST_STATUS (Source - CPLD TE0729). JB2 pin 91, JB3 pin 11 (XMOD), S1 (button) connected by net NRST_IN (connected to CPLD TE0729 and supervisor U21 pin 3 (manual reset)) 2) ETH1_CTREF, ETH2_CTREF disconnected from JB2. C3/C4 and C5/C6 disconnected from one another. 3) J3 pin 10, J4 pin 8, J5 pin 8 connected to net FGND.	-
	23.11.2017	4) U8 MP5010ADQ-LF-Z replaced to MP5010BDQ-LF-Z	
-04	2025-07	1) Changed DCDC (U4) from EN6347Q1 to MPM3860GQW-Z. 2) Changed input protection (U5) from MP5010BDQ-LF-Z to LTC4365ITS8#TRMPBF. 3) Added input protection fuse (F1), diode (D2), capacitor (C32) and common mode choke (L2). 4) Added ESD protection (U6) for USB. 5) Changed USB connector (J11) from Micro USB B to Micro USB A/B. 6) Added additional decoupling capacitor: 6.1) C27 for U3. 6.2) C28 and C29 for J1. 7) Added zero Ohm resistor (R32, R33) for USB OTG settings 8) Added ferrite bead (L3) to connect RJ45 ETH connector (J3A, J3B, J3C) signal Frame to GND (default: not assembled) 9) Added jumper (JP3). 10) Added pull-up resistor (R34) for signal USB_OC. 11) Added pull-up resistor (R36) for signal MIO0. 12) Added testpoints (TP1 ... TP20). 13) Changed capacitor (C12, C13) from 47 µF to 4.7 µF for variant "B". 14) Changed 100 µF, 6.3 V capacitor (C1, C10) to 2 x 47 µF, 16 V (C1, C10, C30, C31). 15) Changed 47 µF capacitor (C12, C13, C16) from 6.3 V to 16 V. 16) Changed resistor (R16) from 0402 to 0603. 17) Changed three pin pin header (J2) and two times six pin pin header (J6, J7) to three times five pin pin header (J2). 18) Changed fiducials to standard style. 19) Removed track-it pad completely from PCB. 20) Updated address on PCB. 21) Added UKCA logo. 22) Added legal notices, power overview and system overview. Updated page count and order. 23) Updated revision history.	ED/VG

B

C

C

D

trenz

electronic

Title:TEB0729 – Revision Changes List

A4

Number:TEB0729A

Rev.04

Date:23.06.2025

Copyright: Trenz Electronic GmbH

Page 2 of 11

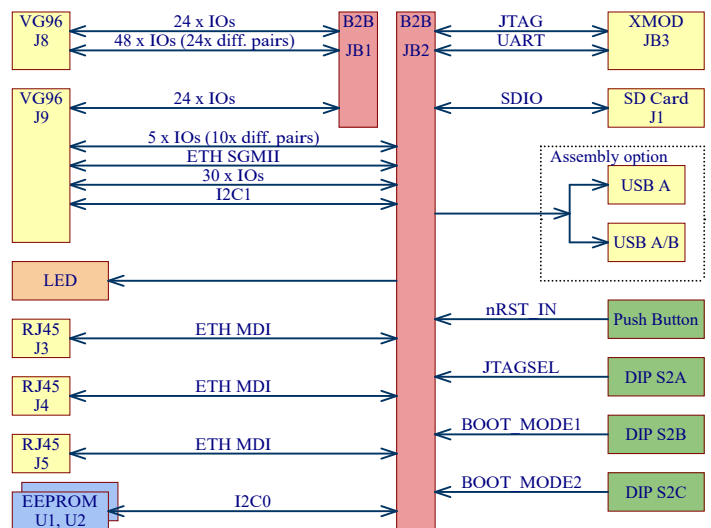
Filename: Revision_Changes.SchDoc

1

2

3

4



Legend:

B2B Connector

Connector

LED Interface

Switchable Interface

On-board Components

TEB0729

Power

Supported Voltage Ranges:

Power Rail	Direction	Range	Tolerance	Description	Note
5VIN	IN	5.0 V	+/- 5 %	Baseboard Power	Baseboard Power Supply supplied via power socket [J12].
5VIN	OUT	5.0 V	+/- 5 %	Power for VG96	Baseboard Power Supply supplies environment via VG96 connector [J9A].
VBAT_IN	IN/OUT	-	-	Module Battery Power	Supplied via pin header [J2C]. Module dependent range.
3.3V	IN	3.3 V	+/- 3 %	Micromodule Power	Baseboard periphery.
2.5V	IN	2.5 V	+/- 3 %	Micromodule Power	Baseboard periphery.
1.8V	IN	1.8 V	+/- 3 %	Micromodule Power	Baseboard periphery.
USB-VBUS_R	OUT	5.0 V	+/- 5 %	Baseboard Power	USB power supply.
VIN33	OUT	3.3 V	+/- 3 %	Power for Module	Main module power supply.
VCCIO_13	OUT	-	-	Micromodule Power	Dependent on baseboard/module combination and on baseboard settings.
VCCIO_33	OUT	-	-	Micromodule Power	Dependent on baseboard/module combination and on baseboard settings.

I2C Address:

Device	I2C ADDR	Note
I2C0		
EEPROM [U1]	0x55	-
EEPROM [U2]	0x53	-
I2C1		
VG96 [J9A]	-	Depends on connection.

Title:TEB0729 – System Overview

A4

Number:TEB0729A

Rev.04

Date:23.06.2025

Copyright: Trenz Electronic GmbH

Page 3 of 11

Filename:TEB0729-Overview.SchDoc

Special notes:

Serial
Serial
Serialnumber 6,3 x 6.3mm

MECH1
TE Address Overlay

LOGO ADDRESS

LOGO1
TE Logo PRINT Layer

LOGO PRINT

CE
CE Logo on Top Overlay

CE-TOPOVERLAY

UKCA
UKCA Logo on Top Overlay

UKCA-TOPOVERLAY

RoHS
RoHS Logo on Top Overlay

RoHS-TOPOVERLAY

WEEE
WEEE Logo on Top Overlay

WEEE-TOPOVERLAY

Mount.Hole 3.2mm

Mount.Hole 3.2mm

GND

GND

Mount.Hole 3.2mm

Mount.Hole 3.2mm

GND

GND

FIDU-DOT - mini

FIDU-DOT - mini

FIDU-DOT - mini

PM1
FIDU-DOT - mini

PM2
FIDU-DOT - mini

PM3
FIDU-DOT - mini

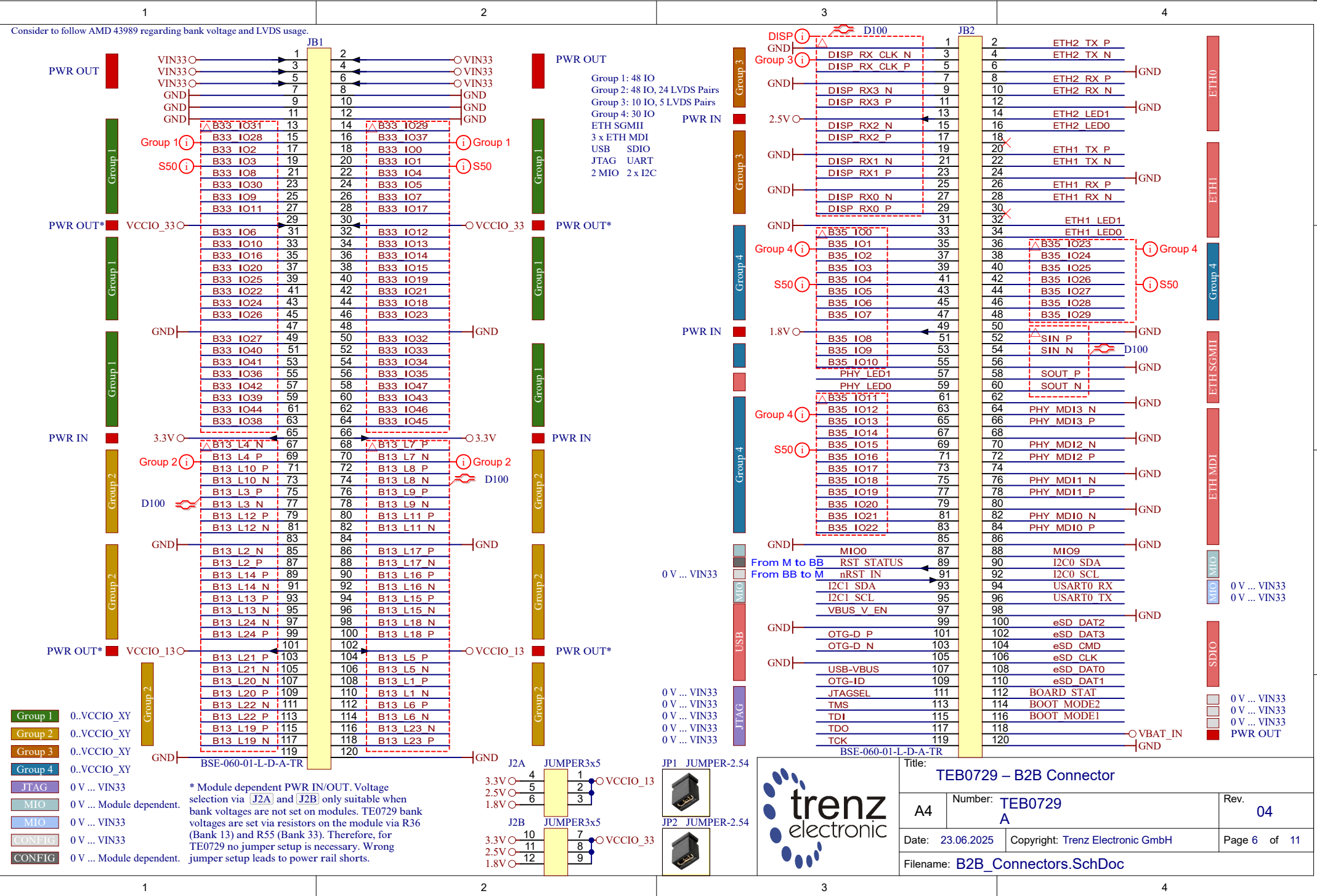
PM4

PM5

PM6



Title: TEB0729		
A4	Number: TEB0729 A	Rev. 04
Date: 23.06.2025	Copyright: Trenz Electronic GmbH	Page 5 of 11
Filename: TEB0729.SchDoc		



1

2

3

4

A

B

C

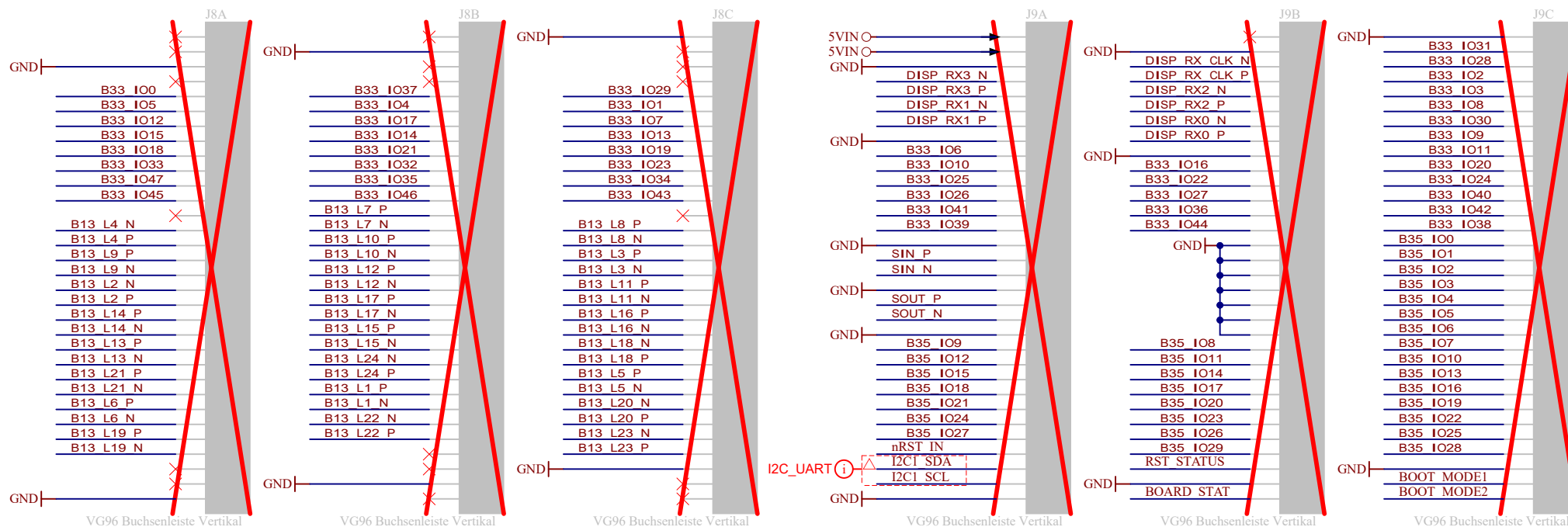
D

A

B

C

D



B35 IO29 R16 0R USB OC 1%



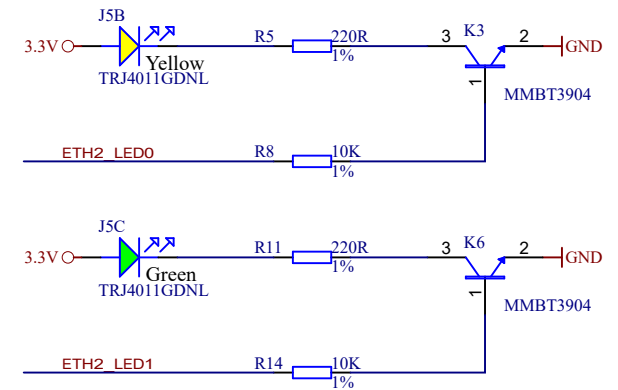
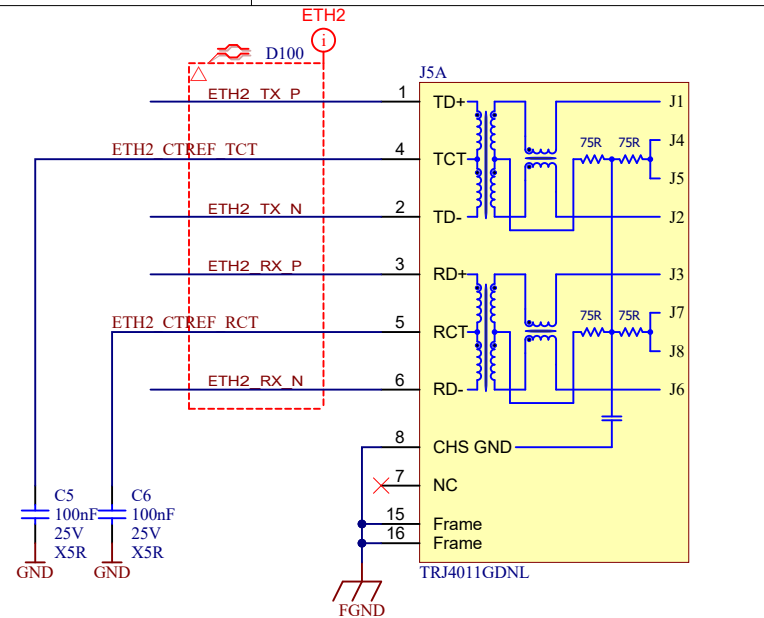
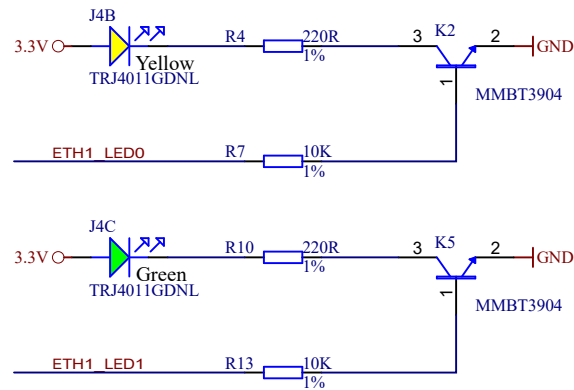
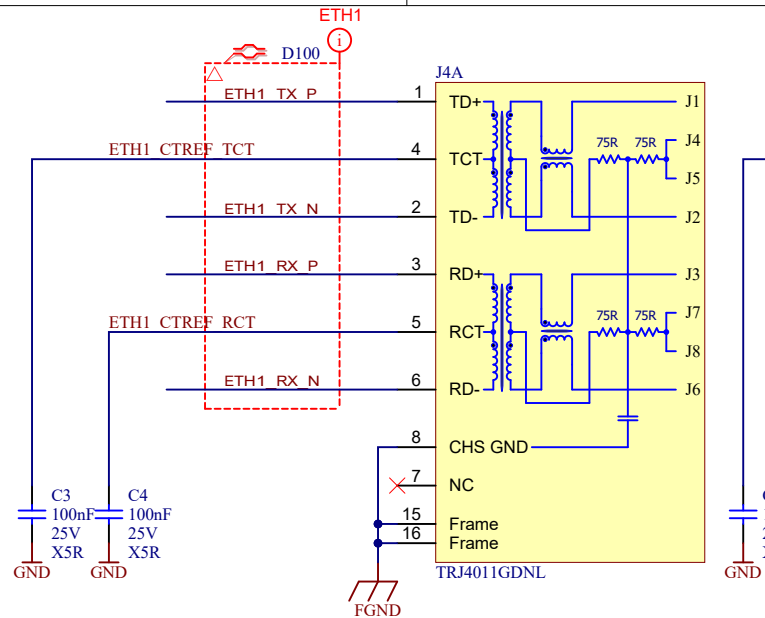
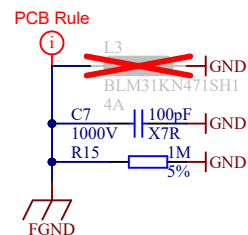
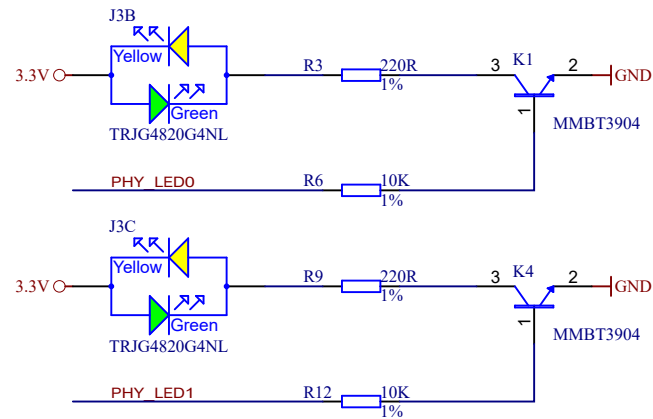
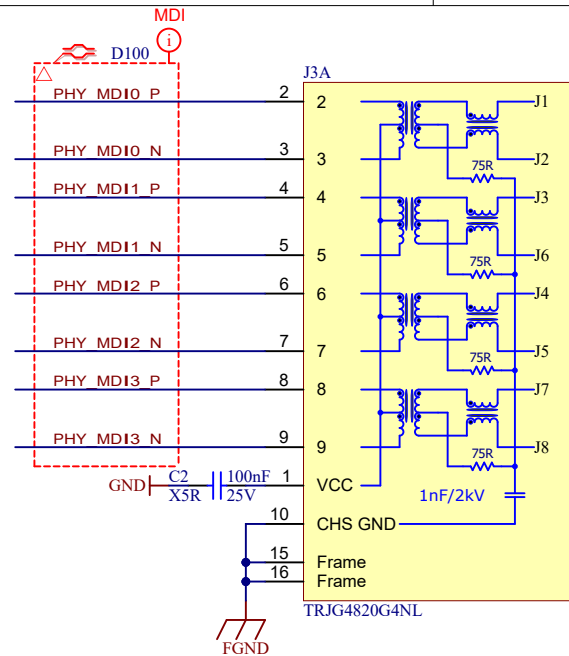
Title: TEB0729 – External Connector			
A4	Number: TEB0729 A		Rev. 04
Date: 23.06.2025		Copyright: Trenz Electronic GmbH	Page 7 of 11
Filename: VG_CONN.SchDoc			

1

2

3

4



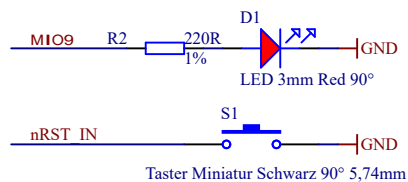
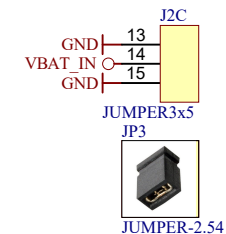
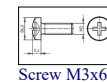
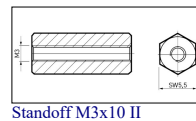
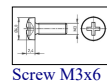
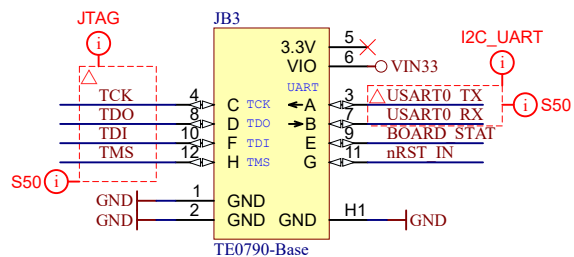
Title: TEB0729 – Ethernet Connector		
A4	Number: TEB0729 A	Rev. 04
Date: 23.06.2025	Copyright: Trenz Electronic GmbH	
Filename: Ethernet.SchDoc		Page 8 of 11

1

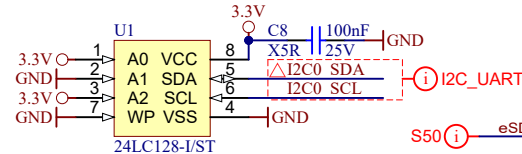
2

3

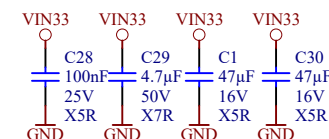
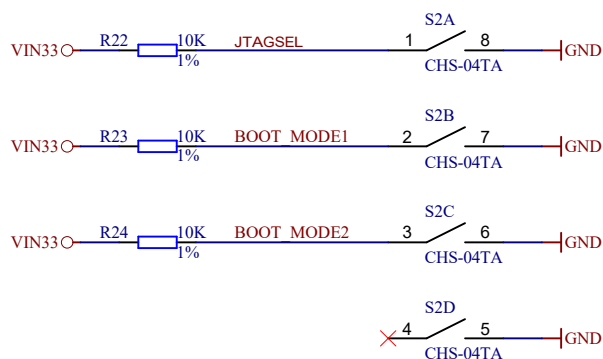
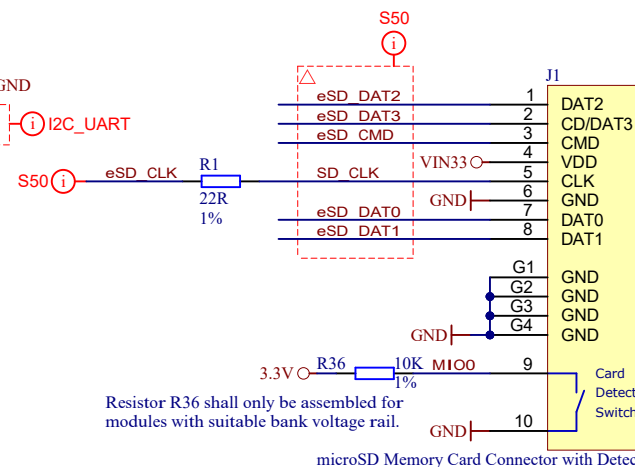
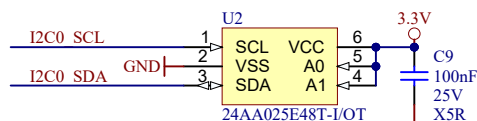
4



I2C Address: 0x55



I2C Address: 0x53



Title: TEB0729 – LED-Switch-SD			
A4	Number: TEB0729 A		Rev. 04
Date: 23.06.2025		Copyright: Trenz Electronic GmbH	Page 10 of 11
Filename: LED SW BUT.SchDoc			

1

2

3

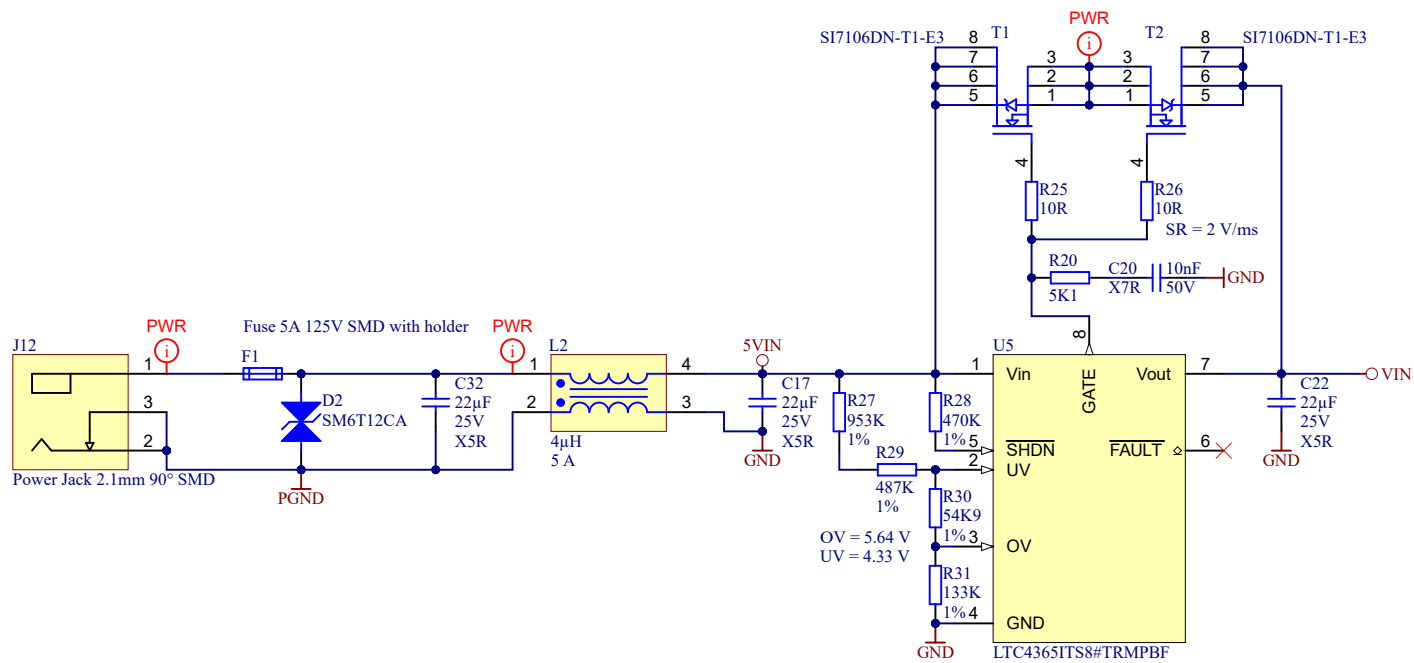
4

1

2

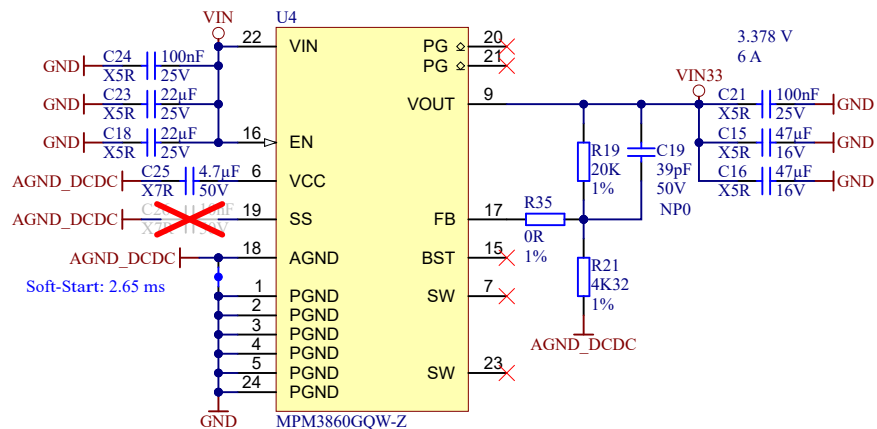
3

4



PWR

Testpoints on top and bottom:	
Testpoints on top:	Testpoints on bottom:
5VIN ○ TP1	5VIN ○ TP2
VIN ○ TP3	VIN ○ TP4
USB-VBUS_R ○ TP5	USB-VBUS_R ○ TP6
VBAT_IN ○ TP7	VBAT_IN ○ TP8
VIN33 ○ TP9	VIN33 ○ TP10
3.3V ○ TP11	3.3V ○ TP12
2.5V ○ TP13	2.5V ○ TP14
1.8V ○ TP15	1.8V ○ TP16
VCCIO_13 ○ TP17	VCCIO_13 ○ TP18
VCCIO_33 ○ TP19	VCCIO_33 ○ TP20



Title: TEB0729 – Power		
A4	Number: TEB0729 A	Rev. 04
Date: 23.06.2025	Copyright: Trenz Electronic GmbH	Page 11 of 11
Filename: POWER.SchDoc		

1

2

3

4