

Company	Trenz Electronic GmbH
PCN Number	PCN-20250523
Title	TEF1002-02 to TEF1002-03 Hardware Revision Change
Subject	Hardware Revision Change
Issue Date	2025-11-01

PCN Revision History

Date	Revision	Status	Description
 2025-10-20	v.11	Final	- Modified changes: #2, #3, #6, #11, #12, #14, #18 - Added changes: #20, #21, #22, #23, #24, #25, #26
2025-05-28	v.9	Preliminary	Initial Release

Products Affected

This change affects all Trenz Electronic TEF1002 Carrier: TEF1002-02*.

Affected Product	Replacement
TEF1002-02	TEF1002-03-A

Changes

#1 Removed FireFly connector (REV02: J11, J13, J14, J18, SNAP2, SNAP3) and changed/updated/removed related circuit.

Type: Schematic Change

Reason: Simplifying access to user input/output interfaces and improving their functional capabilities.

Impact: FireFly interface not available anymore. CPLD firmware reflects it but custom CPLD firmware needs to be updated by customer.

#2 Added CRUVI HS interface and changed/updated related circuit.

- Added CRUVI HS connector (J11 [REV03]).
- Added DCDC MPM3834CGPA-Z (U21) and resistor (R88) assembly option (default: not assembled) to supply power rail "VADJ_CRUVI" either from DCDC or from power rail "VCCIOA".
- Connected DCDC (U21) power good signal to system controller (U11) pin D13.

Type: Schematic Change

Reason: Simplifying access to user input/output interfaces and improving their functional capabilities.

Impact: CRUVI HS interface available. CPLD firmware reflects it but custom CPLD firmware needs to be updated by customer.

#3 Removed FTDI EEPROM AMD-Licence key (MISC1) and added resistor (R89).

Type: Firmware Change

Reason: Change according to FTDI programming method released by AMD with Tool Version 2022.2 and newer (UG980- Chapter: Programming FTDI Devices for Vivado Hardware Manager Support).

Impact: AMD Licence key is compatible with AMD Tools greater and equal 2017.1 release. Programmer will be identified as 'Xilinx/TExxxxxxxxx' where the x is the serial number of the board filled with leading zeros, see [AMD FTDI JTAG Programmer#IdentificationofAMD/TrenzLicence](#).

#4 Changed DCDC LTM4638EY#PBF (U9) to MPQ8633BGLE-Z and adapted power circuit.

Type: Schematic Change

Reason: BOM Optimization.

Impact: None. Increased output current capability. Minor changes in electrical characteristics.

#5 Changed DCDC EN6338QI (U10, U14) to MPM3834CGPA and adapted power circuit.

- Connected power good signal for DCDC (U21) to system controller (U11) pin H1.

Type: Schematic Change

Reason: EOL of Component.

Impact: None. Minor changes in electrical characteristics.

#6 Changed DCDC EN5335QI (U1) to MIC24046YFL, added power supply translator (U19, U20) for management signals and adapted power circuit.

Type: Schematic Change

Reason: EOL of Component.

Impact: Power supply selection option 1.25 V and 0.8 V removed. Increased output current capability. Minor changes in electrical characteristics.

#7 Changed load switch TPS27081ADDCR (REV02: Q1, Q3, Q4) to MP5077GG-Z (REV03: U17, U18, U16) and adapted circuit.

Type: Schematic Change

Reason: BOM Optimization.

Impact: None. Increased current output capability. Minor changes in electrical characteristics.

#8 Changed MEMS oscillator (U7) from SiT8008AI-73-XXS-12.000000E to SiT8008BI-73-XXS-12.000000E.

Type: Schematic Change

Reason: EOL of Component.

Impact: None. Clock revision changed.

#9 Changed MOSFET (T1, T2) from SIS444DN-T1-GE3 to Si7114ADN-T1-GE3.

Type: Schematic Change

Reason: EOL of Component.

Impact: None. Minor changes in electrical characteristics.

#10 Changed USB input protection diode (U5, U13) position.

Type: Schematic Change

Reason: Improve USB input protection.

Impact: None. Minor changes in electrical characteristics.

#11 Changed capacitor (C11, C12) from 100 nF, 25 V, X5R to 10 nF, 16 V, X7R.

Type: Schematic Change

Reason: Follow AMD PCIe PS-GTR recommendation.

Impact: None. Minor changes in electrical characteristics.

#12 Changed capacitor (C9, C10) from 100 nF, 25 V, 10 % to 220 nF, 6.3 V, 20 %.

Type: Schematic Change

Reason: Follow AMD PCIe PS-GTR recommendation.

Impact: None. Minor changes in electrical characteristics.

#13 Changed capacitor (C37) from 100 nF, 6.3 V, 10 %, 0201 to 10 μ F, 10 V, 20 %, 0402.

Type: Schematic Change

Reason: Follow SFP+ recommendation.

Impact: None. Minor changes in electrical characteristics.

#14 Changed inductor (L6, L7) from 1 μ H (74479787210A) to 4.7 μ H (74438335047).

Type: Schematic Change

Reason: Follow SFP+ recommendation.

Impact: None. Minor changes in electrical characteristics.

#15 Changed 4.7 μ F capacitor (C73, C80) from 6.3 V, 0402 to 10 V, 0603.

Type: Schematic Change

Reason: Increase voltage rating.

Impact: None. Minor changes in electrical characteristics.

#16 Changed capacitor (C38, C41) from 10 uF, 16 V, X7R, 10 %, 0805 to 22 µF, 10 V, X5R, 20 %, 0603.

Type: Schematic Change

Reason: Follow SFP+ recommendation.

Impact: None. Minor changes in electrical characteristics.

#17 Removed track-it traceability pad (S/N1) from PCB.

Type: Schematic Change

Reason: EOL of Component.

Impact: None.

#18 Added additional test points (TP2, TP5, TP8, TP12 ... TP14, TP16, TP22 ... TP24, TP26 ... TP37).

Type: Schematic Change

Reason: Improve measurement possibilities.

Impact: None.

#19 Added UKCA-, ESD- and RoHS logo.

Type: PCB Change

Reason: Improve product classification identification.

Impact: None.

#20 Changed RJ45 connector (J9) from TRJG4820G4NL to 74991114411, added resistor (R117 [default: not assembled]), R118 [default: assembled]) and set capacitor (C19) to not assembled.

Type: Schematic Change

Reason: Improve EMI behaviour.

Impact: None.

#21 Added pull-up resistor (R101) and testpoint TP32.

Type: Schematic Change

Reason: Improve power measurement handling.

Impact: None.

#22 Changed resistor (R63) from 1 kOhm to 1.05 kOhm.

Type: BOM Change

Reason: BOM Optimization.

Impact: None. Minor changes in electrical characteristics.

#23 Changed resistor (R6) from 10 kOhm to 5.1 kOhm.

Type: BOM Change

Reason: Improve signal integrity.

Impact: None. Improved signal status.

#24 Changed resistor (R36) from 49.9 Ohm, 0.063 W, 0402 to 33 Ohm, 0.05 W, 0201.

Type: BOM Change

Reason: BOM Optimization.

Impact: None. Minor changes in electrical characteristics.

#25 Changed 1 μ F capacitor (C21, C23) from 6.3 V to 25 V.

Type: Schematic Change

Reason: BOM Optimization.

Impact: None. Minor changes in electrical characteristics.

#26 Changed 10 μ F capacitor (C1, C33, C34) from 16 V, X7R, 10 %, 0805 to 10 V, X5R, 20 %, 0402.

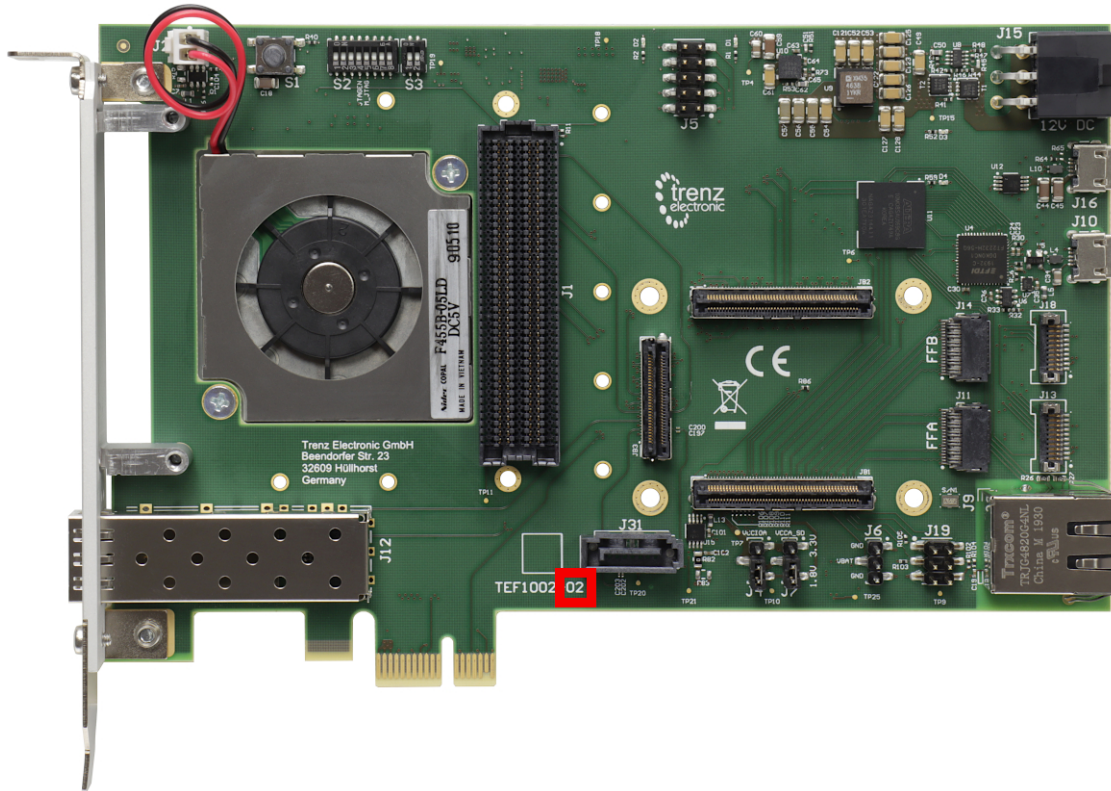
Type: Schematic Change

Reason: BOM Optimization.

Impact: None. Minor changes in electrical characteristics.

Method of Identification

The revision number is shown on the top side of the PCB.



Production Shipment Schedule

From May 2026 after old stock is gone. If the new revision is not suitable for your application and still the former revision of the board is needed, please contact us.

Contact Information

If you have any questions related to this PCN, please contact Trenz Electronics Technical Support at

- forum.trenz-electronic.de
- wiki.trenz-electronic.de
- support@trenz-electronic.de (subject = PCN-20250523)
- phone
 - national calls: 05741 3200-0
 - international calls: 0049 5741 3200-0

Disclaimer

Any projected dates in this PCN are based on the most current product information at the time this PCN is being issued, but they may change due to unforeseen circumstances. For the latest schedule and any other information, please contact your local Trenz Electronic sales office, technical support or local distributor.

This PCN follows JEDEC Standard J-STD-046.