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| <b>Company</b>    | Trenz Electronic GmbH                             |
| <b>PCN Number</b> | PCN-20260217                                      |
| <b>Title</b>      | TEM0001-01 to TEM0001-02 Hardware Revision Change |
| <b>Subject</b>    | Hardware Revision Change                          |
| <b>Issue Date</b> | 2026-02-18                                        |

## Products Affected

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This change affects all Trenz Electronic TEM0001 SoMs: TEM0001-01\*.

| <b>Affected Product</b> | <b>Replacement</b> |
|-------------------------|--------------------|
| TEM0001-01A-ABC-2       | TEM0001-02-ABC42-A |

## Changes

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#1 Changed DCDC EP53A7HQL (U8, U10) to MPM3834CGPA-Z, adapted power circuit and changed power on sequence from starting both DCDCs together to start at first DCDC U10 and then DCDC U8.

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**Type:** Schematic Change

**Reason:** EOL of Component.

**Impact:** None. Minor changes in electrical characteristics.

#2 Changed SDRAM (U2) from W9864G6JT-6 to W9864G6KT-6 and adapted power decoupling circuit.

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**Type:** BOM change

**Reason:** EOL of component.

**Impact:** None. New DDR timings may be considered in designs. SDRAM setup used in Trenz reference designs is known to work still.

### #3 Changed MEMS oscillator (U7) from DSC6011ME2B-012.0000T to SiT8008BI-73-XXS-12.000000E.

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**Type:** PCB Change

**Reason:** BOM optimization.

**Impact:** Reduced frequency stability from  $\pm 25$  ppm to  $\pm 50$  ppm. Increased temperature range from -20 °C -70 °C to -40 °C - 85 °C. Minor changes in electrical characteristics.

### #4 Changed USB 2.0 Micro-B receptacle 105017-0001 (J9) to 629105150521.

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**Type:** Schematic Change

**Reason:** Product improvement.

**Impact:** None. Minor changes in mechanical characteristics.

### #5 Added USB filter (L4) for FTDI USB signals.

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**Type:** Schematic Change

**Reason:** Improve signal integrity.

**Impact:** None. Minor changes in electrical characteristics.

### #6 Added ESD protection diode (D11) for USB.

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**Type:** Schematic Change

**Reason:** ESD Protection.

**Impact:** None. Added ESD protection.

### #7 Added M2S025 compatibility.

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- Added PLL filter assembly option (R43, R44, C50 ... C53) (default: not assembled).
- Changed capacitor (C10) from 470 nF to 100 nF.
- Changed capacitor (C36) from 4.7  $\mu$ F to 22  $\mu$ F.

**Type:** Schematic Change

**Reason:** Add compatibility with M2S025 and follow Microchip recommendation AC393 figure 1-1.

**Impact:** None. Minor changes in electrical characteristics.

### #8 Added pull-down resistor (R45) for signal JTAG TCK.

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**Type:** Schematic Change

**Reason:** Improve signal integrity. Follow Microchip recommendation AC393 table 1-14.

**Impact:** None. Minor changes in electrical characteristics.

## #9 Added external pull-up resistor (R20) and debounce capacitor (C48) for button (S2).

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**Type:** Schematic Change

**Reason:** Improve signal integrity.

**Impact:** None. Minor changes in electrical characteristics.

## #10 Added pull-up resistor (R36, R37, R38) for SPI signal (F\_CS [CS#], F\_D2 [WP#], F\_D3 [HOLD#]) for flash (U1).

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**Type:** Schematic Change

**Reason:** Implement proper initial conditions regardless on the state of FPGA and used flash.

**Impact:** None. Minor changes in electrical characteristics.

## #11 Added ferrite bead (L3).

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**Type:** Schematic Change

**Reason:** Improve signal integrity.

**Impact:** None. Minor changes in electrical characteristics.

## #12 Added additional decoupling capacitor (C49, C65 ... C97).

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**Type:** Schematic Change

**Reason:** Improve power supply rail integrity.

**Impact:** None. Minor changes in electrical characteristics.

## #13 Changed capacitor (C24, C25) from 27 pF to 18 pF.

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**Type:** Schematic Change

**Reason:** BOM optimization.

**Impact:** None. Minor changes in electrical characteristics.

## #14 Changed 100 nF capacitor (C7) from 25 V, 0402 to 6.3 V, 0201.

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**Type:** Schematic Change

**Reason:** BOM optimization.

**Impact:** None. Minor changes in electrical characteristics.

## #15 Changed capacitor (C37) from 4.7 $\mu$ F, 0402 to 47 $\mu$ F, 0603.

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**Type:** Schematic Change

**Reason:** Improve power supply rail integrity.

**Impact:** None. Minor changes in electrical characteristics.

## #16 Changed capacitor (C13) from 10 $\mu$ F, 0805 to 22 $\mu$ F, 0603.

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**Type:** Schematic Change

**Reason:** BOM optimization.

**Impact:** None. Minor changes in electrical characteristics.

## #17 Added test point (TP1 ... TP6).

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**Type:** Schematic Change

**Reason:** Voltage monitoring improvement.

**Impact:** None.

## #18 Added RoHS logo.

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**Type:** PCB Change

**Reason:** Improve product classification identification.

**Impact:** None.

## Method of Identification

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



## Production Shipment Schedule

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This change takes place with immediate effect. 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

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

- [forum.trenz-electronic.de](https://forum.trenz-electronic.de)
- [wiki.trenz-electronic.de](https://wiki.trenz-electronic.de)
- [support@trenz-electronic.de](mailto:support@trenz-electronic.de) (subject = PCN-20260217)
- phone
  - national calls: 05741 3200-0
  - international calls: 0049 5741 3200-0

## Disclaimer

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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.