

# PCN-20230616 TE0741-04 to TE0741-05 Hardware Revision Change

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<b>Company</b>	Trenz Electronic GmbH
<b>PCN Number</b>	PCN-20230616
<b>Title</b>	TE0741-04 to TE0741-05 Hardware Revision Change
<b>Subject</b>	Hardware Revision Change
<b>Issue Date</b>	2023-06-27

## Products Affected

This change affects all Trenz Electronic TE0741 SoMs: TE0741-04\*.

Affected Product	Replacement
TE0741-04-A2C-1-A	TE0741-05-A2C-1-A
TE0741-04-A2I-1-A	TE0741-05-A2I-1-A
TE0741-04-B2C-1-AF	TE0741-05-B2C-1-AF
TE0741-04-B2C-1-A	TE0741-05-B2C-1-A
TE0741-04-B2I-1-A	TE0741-05-B2I-1-A
TE0741-04-D2C-1-A	TE0741-05-D2C-1-A
TE0741-04-D2I-1-A	TE0741-05-D2I-1-A
TE0741-04-G2C-1-A	TE0741-05-G2C-1-A
TE0741-04-G2I-1-A	TE0741-05-G2I-1-A
TE0741-04-B3E-1-AF	-

## Changes

### #1 Added pull-up resistor R34 for signal net "EN1".

**Type:** Schematic Change

**Reason:** Remove floating signal situation.

**Impact:** Module powers-up automatically when VIN and 3.3VIN is available. Baseboard needs to handle signal "EN1" to determine power-up and power-down.

## #2 Added pull-up resistor R43 for signal net "PROG\_B".

**Type:** Schematic Change

**Reason:** Remove floating signal situations and enable signal detection by CPLD.

**Impact:** None. Firmware reflects it but custom firmware needs to be updated by customer.

## #3 Added pull-up resistor R49 for signal net "CLK\_EN".

**Type:** Schematic Change

**Reason:** Remove floating signal situation.

**Impact:** Clock (U3) powers-up automatically when 3.3V is available. FPGA (U1) can only disable clock. FPGA-firmware-design needs to be checked by customer.

## #4 Changed Load Switch TPS27081ADDCR (Q1) to Load Switch MP5077GG-Z (U17) and adapted circuit.

**Type:** Schematic Change

**Reason:** BOM Optimization.

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

## #5 Added external compensation (R44, R45, C102, C103) for DCDCs LTM4638 (U14, U15).

**Type:** Schematic Change

**Reason:** Improve power rail quality.

**Impact:** None. Improvements in electrical characteristics.

## #6 Added diode D5 between signal nets "INIT" and "PROG\_B".

**Type:** Schematic Change

**Reason:** Keep FPGA in reset while signal "PROG\_B" is low during initial power-up.

**Impact:** None.

## #7 Changed power supervisor TPS3805H33DCKR (U11) to STM6710LWB6F and adapted circuits.

**Type:** Schematic Change

**Reason:** Improved power monitoring.

**Impact:** Improved power monitoring circuit by supervising additional voltage rails. If monitored voltages are out of range signal "PG\_ALL" is triggered.

## #8 Connected all possible nets in FPGA (U1) banks 32, 33, and 34 to GND.

**Type:** Schematic Change

**Reason:** Improved ESD protection.

**Impact:** None. Improved ESD protection.

## #9 Changed revision ID signal "REV\_ID0" from "GND" to "3.3V".

**Type:** Schematic Change

**Reason:** Revision ID indication.

**Impact:** None. Firmware reflects it but custom firmware needs to be updated by customer.

## #10 Added UKCA logo.

**Type:** PCB Change

**Reason:** Required for export to UK.

**Impact:** None.

## #11 Signal trace lengths changed.

**Type:** PCB change

**Reason:** Result of changes above.

**Impact:** Changed trace length have to be taken into account in existing designs. The trace length for new revision will be available in [4x5 series pinout generator](#). Please check if change in trace length still matches your requirements. Adaption of carrier may be necessary.

## #12 Updated overview.

**Type:** Documentation Update

**Reason:** Documentation improvement.

**Impact:** None.

## #13 Updated power diagram.

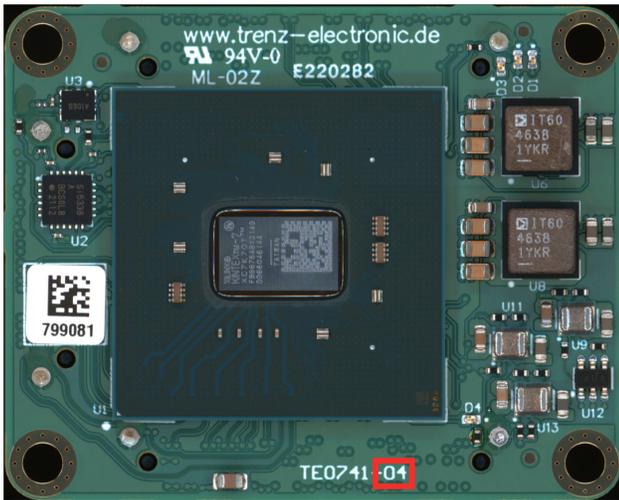
**Type:** Documentation Update

**Reason:** Documentation improvement.

**Impact:** None.

## Method of Identification

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



## Production Shipment Schedule

From January 2024, 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](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-20230616)
- 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.