

<b>Company</b>	Trenz Electronic GmbH
<b>PCN Number</b>	PCN-20230920
<b>Title</b>	TE0818-01 to TE0818-02 Hardware Revision Change
<b>Subject</b>	Hardware Revision Change
<b>Issue Date</b>	2023-10-04

## 1 Products Affected

This change affects all Trenz Electronic TE0818 SoMs: TE0818-01\*.

Affected Product	Changes	Replacement
TE0818-01-9BE21-AZ	#1...#12	TE0818-02-9BE81-A
TE0818-01-BBE21-AZ	#1...#12	TE0818-02-BBE81-A
TE0818-01-6BE21-A	#2...#12	TE0818-02-6BE81-A
TE0818-01-9BE21-A	#2...#12	TE0818-02-9BE81-A
TE0818-01-9GI21-A	#2...#12	TE0818-02-9GI81-A
TE0818-01-9GI21-AK	#2...#12	TE0818-02-9GI81-AK
TE0818-01-9GI21-AS	#2...#12	TE0818-02-9GI81-AS
TE0818-01-BBE21-A	#2...#12	TE0818-02-BBE81-A
TE0818-01-BGI21-A	#2...#12	TE0818-02-BGI81-A
TE0818-01-9GI81-A	#3...#12	TE0818-02-9GI81-A
TE0818-01-9GI81-AK	#3...#12	TE0818-02-9GI81-AK
TE0818-01-BBE81-A	#3...#12	TE0818-02-BBE81-A

Affected Product	Changes	Replacement
TE0818-01-BBE81-AK	#3...#12	TE0818-02-BBE81-AK

## 2 Changes

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2.1 #1 Changed DCDC (U15, U20, U21, U22, U23, U24, U29, U30, U31, U35, U36, U38, U45) from MUN3CAD03-SE to TPS82085SIL and adapted voltage divider resistors.

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**Type:** BOM Change

**Reason:** TPS82085SIL availability.

**Impact:** Minor changes in electrical characteristics.

2.2 #2 Changed DDR4 SDRAM (U2, U3, U9, U12) from K4A8G165WB-BIRC to K4A8G165WC-BITDTCV.

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**Type:** BOM change

**Reason:** BOM Optimization.

**Impact:** New DDR timing needs to be considered in customer design. Firmware reflects it but custom firmware needs to be updated by customer.

2.3 #3 Added default used external compensation network (R119, C190, C191) and option (R118) to use internal compensation for DCDCs (U18, U37).

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**Type:** Schematic Change

**Reason:** Improve stability.

**Impact:** None. Improved stability.

2.4 #4 Added 470 nF capacitors (C178, C187, C188, C189) to improve VTT net.

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**Type:** Schematic Change

**Reason:** VTT decoupling improvement.

**Impact:** Improved VTT voltage rail reliability.

## 2.5 #5 Added diode (D2) between U41 pin 3 net MR and voltage rail 3.3VIN.

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**Type:** Schematic Change

**Reason:** Protect manual reset pin.

**Impact:** None.

## 2.6 #6 Enabled DDR4 test usage via connecting all DDR4 TEN pins together, pulled them down with resistor (R120) and added testpoint (TP23).

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**Type:** Schematic Change

**Reason:** Enable DDR4 test improvement.

**Impact:** None.

## 2.7 #7 Added testpoints (TP25, TP27, TP29, TP35, TP37...TP79).

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**Type:** Schematic Change

**Reason:** Improve voltage measuring possibilities.

**Impact:** None.

## 2.8 #8 Changed capacitor (C112) size from 0402 to 0201 and voltage rating from 16 V to 10 V.

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**Type:** Schematic Change

**Reason:** BOM Optimization.

**Impact:** None.

## 2.9 #9 Changed ferrid beads (L1, L2, L3, L4, L5, L7) from MPZ0603S121HT000 to BLM15PX800SZ1D.

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**Type:** Schematic Change

**Reason:** BOM Optimization.

**Impact:** None.

## 2.10 #10 Changed ferrid beads (L6, L8) from MPZ1608S221A to BLM15PX800SZ1D.

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**Type:** Schematic Change

**Reason:** BOM Optimization.

**Impact:** None.

## 2.11 #11 Changed signal trace lengths.

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**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 [TE081x series pinout generator](#)<sup>1</sup>. Please check if change in trace length still matches your requirements. Adaption of carrier may be necessary.

## 2.12 #12 Updated documentation overviews.

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**Type:** Documentation Update

**Reason:** Documentation improvement.

**Impact:** None.

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<sup>1</sup> [https://shop.trenz-electronic.de/trenzdownloads/Trenz\\_Electronic/Pinout/TE081x\\_series\\_pinout\\_tracelength.xlsx](https://shop.trenz-electronic.de/trenzdownloads/Trenz_Electronic/Pinout/TE081x_series_pinout_tracelength.xlsx)

## 3 Method of Identification

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



## 4 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.

## 5 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](http://forum.trenz-electronic.de)<sup>2</sup>
- [wiki.trenz-electronic.de](http://wiki.trenz-electronic.de)<sup>3</sup>
- [support@trenz-electronic.de](mailto:support@trenz-electronic.de)<sup>4</sup> (subject = PCN-20230920)
- phone
  - national calls: 05741 3200-0
  - international calls: 0049 5741 3200-0

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<sup>2</sup> <http://forum.trenz-electronic.de/>

<sup>3</sup> <http://wiki.trenz-electronic.de/>

<sup>4</sup> <mailto:support@trenz-electronic.de?subject=PCN-20230920>

## 6 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.