

Product Change Notification

K3841-Q/K3842-Q/K3843-B µATX & K3851-R ATX

General Information

Date	February 08, 2024
Author	Product Center Boards

Affected Motherboards

Products	K384x µATX <i>Alder Lake</i> Motherboard Series (Industrial/Extended Lifecycle)
	K385x ATX <i>Alder Lake</i> Motherboard Series (Industrial)

Motherboard Part No.	Customer Order Code	Chipset (PCH)
K3841-Q1	F5110-V193	iQ670E *)
K3842-Q1 (single LAN)	F5110-V191	iQ670
K3842-Q2 (Dual LAN)	F5110-V189	iQ670
K3843-B1	F5110-V190	iB660
K3843-B2 (Reduced Feature Set)	F5110-V188	iB660
K3851-R1	F5110-V194	iR680E

*) For initial volume production, Intel Q670 instead of Intel Q670E PCH may have been used.
No technical impact due to usage of Q670 PCH!

Motherboard Datasheets

[FTP-Link: DS K3841-Q1](#)
[FTP-Link: DS K3842-Q1/-Q2](#)
[FTP-Link: DS K3843-B1](#)
[FTP-Link: DS K3843-B2](#)
[FTP-Link: DS K3851-R1](#)

Released Operating Systems

Mother-board	MS Windows 7	MS Windows 10 32 Bit	MS Windows 10 64 Bit	MS Windows 11 64 Bit	MS Windows Server 2022 64 Bit	Linux
K3841-Q	-	-	✓ ¹⁾	✓ ²⁾	✓ ³⁾	✓ ⁴⁾
K3842-Q K3843-B	-	-	✓ ¹⁾	✓ ²⁾	-	✓ ⁴⁾
K3851-R	-	-	✓ ¹⁾	✓ ²⁾	(planned)	✓ ⁴⁾

- 1) Approved Version: MS Windows 10 LTSC 21H2
- 2) Approved Version: Windows 11 Pro build 10.0.22000
- 3) "Running" – no full approval, basic tests performed with MS Windows Server 2022 build 10.0.20348
- 4) "Running" – no full approval, basic tests performed with Ubuntu 22.04 LTS, Kernel 5.15

Released Drivers (MS Windows 10/MS Windows 11)

[FTP-Link: Drivers AlderLake](#)

Released BIOS Versions

Initial released BIOS for K384x-xx2: AMI Aptio V5.0.0.25 **BIOS R1.1.0**
Initial released BIOS for K384x-xx3: AMI Aptio V5.0.0.25 **BIOS R2.6.0**
Initial released BIOS for K3851-R: AMI Aptio V5.0.0.25 **BIOS R2.1.0**

Further BIOS ECN details are available here:

[FTP-Link: BIOS & BIOS-Release Notes K3841-Q](#)

[FTP-Link: BIOS & BIOS-Release Notes K3842-Q](#)

[FTP-Link: BIOS & BIOS-Release Notes K3843-B](#)

[FTP-Link: BIOS & BIOS-Release Notes K3851-R](#)

PCN Overview

Motherboard	Chipset	Part No.	Revision	Reason for PCN	PCN Date
K3841-Q	iQ670E	K3841-Q12 (PCB Rev.2)	REV: 0100xxxxxx	Initial Launch; BIOS R1.1.0	07/2022
			REV: 0101xxxxxx	Updated BIOS R1.2.0	09/2022
			REV: 0102xxxxxx	Updated onboard sequencing firmware. No functional changes!	10/2022
			REV: 0103xxxxxx	BIOS R1.4.0 implemented See BIOS ECN for details	12/2022
			REV: 0104xxxxxx	Additional source for DDR5 memory sockets added. No functional changes!	05/2023
			REV: 0105xxxxxx	BIOS R2.6.0 implemented. See BIOS ECN for details; Improved margin on CPU protection circuit.	07/2023
			REV: 0106xxxxxx	Updated sequencing controller firmware; minor BOM updates ⁽²⁾	10/2023
			REV: 0107xxxxxx	BIOS R2.10.0 implemented See BIOS ECN for details	12/2023
		K3841-Q13 (PCB Rev.3)	REV: 0100xxxxxx	Updated PCB to Rev3 ⁽¹⁾ BIOS R2.6.0	07/2023
			REV: 0101xxxxxx	Updated sequencing controller firmware; minor BOM updates ⁽²⁾	10/2023
			REV: 0102xxxxxx	BIOS R2.10.0 implemented See BIOS ECN for details	12/2023

PCN Overview (continued)

Motherboard	Chipset	Part No.	Revision	Reason for PCN	PCN Date
K3842-Q	iQ670	K3842-Q12 (PCB Rev.2) (Single LAN)	REV: 0100xxxxxx	Initial Launch; BIOS R1.1.0	07/2022
			REV: 0101xxxxxx	Updated BIOS R1.2.0	09/2022
			REV: 0102xxxxxx	Updated onboard sequencing firmware. No functional changes!	10/2022
			REV: 0103xxxxxx	BIOS R1.4.0 implemented See BIOS ECN for details	12/2022
			REV: 0104xxxxxx	Additional source for DDR5 memory sockets added. No functional changes!	05/2023
			REV: 0105xxxxxx	BIOS R2.6.0 implemented. Improved margin on CPU protection circuit.	07/2023
			REV: 0106xxxxxx	Updated sequencing controller firmware; minor BOM updates ⁽²⁾	10/2023
			REV: 0107xxxxxx	BIOS R2.10.0 implemented See BIOS ECN for details	12/2023
		K3842-Q13 (PCB Rev.3) (Single LAN)	REV: 0100xxxxxx	Updated PCB to Rev3 ⁽¹⁾ BIOS R2.6.0	07/2023
			REV: 0101xxxxxx	Updated sequencing controller firmware; minor BOM updates ⁽²⁾	10/2023
			REV: 0102xxxxxx	BIOS R2.10.0 implemented See BIOS ECN for details	12/2023

PCN Overview (continued)

Motherboard	Chipset	Part No.	Revision	Reason for PCN	PCN Date
K3842-Q	iQ670	K3842-Q22 (PCB Rev.2) (Dual LAN)	REV: 0100xxxxxx	Initial Launch; BIOS R1.4.0	02/2023
			REV: 0101xxxxxx	Additional source for DDR5 memory sockets added. No functional changes!	05/2023
			REV: 0102xxxxxx	BIOS R2.6.0 implemented. Improved margin on CPU protection circuit.	07/2023
			REV: 0103xxxxxx	Updated sequencing controller firmware; minor BOM updates ⁽²⁾	10/2023
			REV: 0104xxxxxx	BIOS R2.10.0 implemented See BIOS ECN for details	12/2023
		K3842-Q23 (PCB Rev.3) (Dual LAN)	REV: 0100xxxxxx	Updated PCB to Rev3 ⁽¹⁾ BIOS R2.6.0	07/2023
			REV: 0101xxxxxx	Updated sequencing controller firmware; minor BOM updates ⁽²⁾	10/2023
			REV: 0102xxxxxx	BIOS R2.10.0 implemented See BIOS ECN for details	12/2023

PCN Overview (continued)

Motherboard	Chipset	Part No.	Revision	Reason for PCN	PCN Date
K3843-B	iB660	K3843-B12 (PCB Rev.2)	REV: 0100xxxxxx	Initial Launch; BIOS R1.1.0	07/2022
			REV: 0101xxxxxx	Updated BIOS R1.2.0	09/2022
			REV: 0102xxxxxx	Updated onboard sequencing firmware. No functional changes!	10/2022
			REV: 0103xxxxxx	BIOS R1.4.0 implemented	12/2022
			REV: 0104xxxxxx	Additional source for DDR5 memory sockets added. No functional changes!	05/2023
			REV: 0105xxxxxx	BIOS R2.6.0 implemented. Improved margin on CPU protection circuit.	07/2023
			REV: 0106xxxxxx	Updated sequencing controller firmware; minor BOM updates ⁽²⁾	10/2023
			REV: 0107xxxxxx	BIOS R2.10.0 implemented See BIOS ECN for details	01/2024
		K3843-B13 (PCB Rev.3)	REV: 0100xxxxxx	Updated PCB to Rev3 ⁽¹⁾ BIOS R2.6.0	07/2023
			REV: 0101xxxxxx	Updated sequencing controller firmware; minor BOM updates ⁽²⁾	10/2023
			REV: 0102xxxxxx	BIOS R2.10.0 implemented See BIOS ECN for details	01/2024
		K3843-B23 (PCB Rev.3) "Reduced Feature Set"	REV: 0100xxxxxx	Initial Launch BIOS R2.10.0	01/2024

PCN Overview (continued)

Motherboard	Chipset	Part No.	Revision	Reason for PCN	PCN Date
K3851-R	iR680E	K3851-R12 (PCB Rev.2)	REV: 0100xxxxxx	Initial Launch, BIOS R2.1.0	02/2023
			REV: 0101xxxxxx	Additional source for DDR5 memory sockets added. No functional changes!	05/2023
			REV: 0102xxxxxx	Updated sequencing controller firmware; several BOM updates ⁽²⁾	12/2023
			REV: 0103xxxxxx	BIOS R2.9.0 implemented See BIOS ECN for details	12/2023
			REV: 0104xxxxxx	Additional source for DDR5 memory sockets added. No functional changes!	02/2024

Notes / Detailed Explanations

(1) Updated PCB version to Rev3 (“-Qx3” respectively “-Bx3”)

- Support for PEG slot bifurcation (x16 > x8/x8) added
- Support for full RS232 feature set on COM3/COM4 added
- Support for BIOS/OS Watchdog added
- Fixed audio pop noise on Windows shutdown
- Fixed no boot with external TPM module
- Fixed radio LED on feature connector is always off
- Improved battery voltage measurement
- Some minor improvements

(2) Updated Firmware V0308 for sequencing controller

- Implemented in order to prevent sporadic CATERR after S3-mode

Minor BOM updates

- Capacitors adjusted in order to improve Realtime Clock (RTC) accuracy
- Capacitors adjusted in order to improve CMOS Battery lifetime

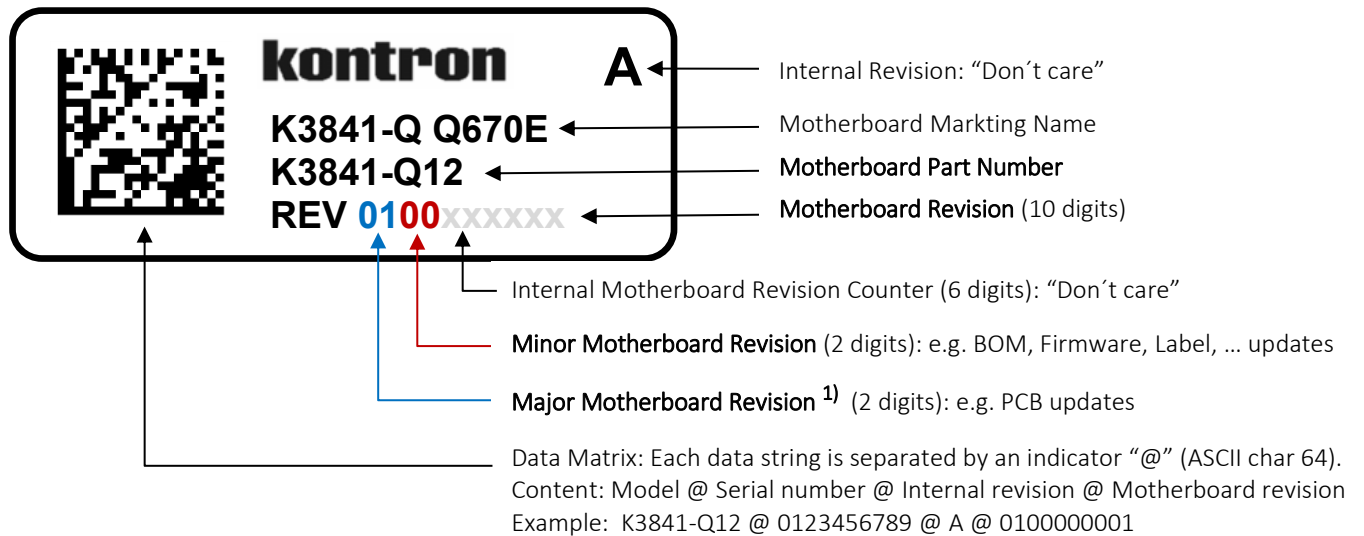
K3851-R: Changes as above, plus:

- Improved Bifurcation support
- Improved PCI slot support
- Improved margin on CPU protection circuit

Besides hardware/component changes, upcoming BIOS changes will also increase the motherboard revision.
See following section *Motherboard Labelling and Revision Scheme* for further details.

Motherboard Labelling and Revision Scheme

Motherboard sample revision label:



1) Motherboard part number example:

K3841-Q12:

- » **K3841-Q12:** Kontron boards family (technology based family)
- » **K3841-Q12:** Formfactor and board variant
- » **K3841-Q12:** Number for derivate of board model
- » **K3841-Q12:** PCB version

2) Major revision is always "01" for first release to manufacturing, even "PCB version" on the revision label (Q12) indicates that this is already the second PCB version.

For evaluation/pre-production motherboards the major revision is marked with alphabetic letters (0A, 0B, ...).

Example:

Development revision of K3841-Q1 motherboard: **0B02xxxxxx**

Initial released motherboard revision: **0100xxxxxx**

PCN Revision History

Date	Revision Overview
02/2024	K3851: Additional source for DDR5 memory sockets added. No functional changes!
01/2024	K3843-B1: BIOS R2.10.0 implemented K3843-B2: Initial launch; BIOS R2.10.0
12/2023	K3851-R: Several BOM updates; BIOS R2.9.0 implemented (two separate PCNs) K3841-Q/K3842-Q: BIOS R2.10.0 implemented
10/2023	K384x: Updated sequencing controller firmware; minor BOM updates (RTC accuracy, battery lifetime)
07/2023	K384x: BIOS R2.6.0 implemented, Updated PCB to Rev3
05/2023	K384x/K385x: Additional source for DDR5 memory sockets added. No functional changes!
03/2023	Launch for K3842-Q2 and K3851-R
12/2022	K384x: BIOS R1.4.0 implemented
10/2022	K384x: Updated sequencing controller firmware. No functional changes!
09/2022	Launch for K384x motherboard series; Updated BIOS R1.2.0

CONTACT INFORMATION

Entity	Product Center Boards
E-Mail	Pcmb-sales@kontron.com