Product Change Notification

1 PCN Information

Title	Product Change Notification		
PCN Number	PCN-1906-MA50-0010	Issue Date (yyyy-mm-dd)	2019-11-19
PCN Revision	1.2	Effective Date (yyyy-mm-dd)	2019-11-19
Refers to Change Order	ECO-002036 (B.0 to B.1) ECO-002162 (B.1 to B.2)	Expiration Date (yyyy-mm-dd)	N/A
Refers to Change Request	N/A	Authors	SDA, DJA

2 Product Identification

2.1 Product Data

	Pre-Conversion	Post-Conversion
Product Name	conga-MA5	conga-MA5
Product Number P/N	See appendix	See appendix
Serial Number S/N	N/A	N/A
Lot Number	N/A	N/A
Hardware Revision	B.0	B.2
BIOS Revision	N/A	N/A
congatec Board Controller Revision	N/A	N/A

2.2 Means of Distinguishing Changed Products

		Remark
Product Number	☐	
Hardware Revision	☑	
Lot Code	☐	
Label	☐	
Other	☐	

3   Description and Reason of Change

AVL	☐	Product Improvement	☑
Material	☐	BIOS Release	☐
Assembly Process	☐	Firmware Release	☐
Assembly BOM	☐	Datasheet/Manual	☐
Testing	☐	DFM	☐
Manufacturing Site	☐	Other	☐
Equipment	☐		

3.1   Hardware Change

Changes from B.0 to B.1

1. Updated Intel Apollo Lake SoC to F-1 stepping. F.1 stepping for Atom processor SKUs is physically and electrically drop-in compatible. No change to form and fit but with changes to improve functionality for embedded and industrial use condition applications.

    The package height of F-1 stepping for Intel Celeron N3350 and Intel Pentium N4200 processor SKUs increased by 0.066mm compared to the previous stepping and therefore these variants are no longer physically drop-in compatible (see note below). Changes to improve functionality for embedded and industrial use condition applications are included.

    Refer to the 'Errata sheet for congatec designs based on Intel Apollo Lake' from congatec and Intel's documentation 'Intel Apollo Lake/Apollo Lake - I Dashboard - Lite (RDC# 573991)' for more information.

✏️ **Note**

The increase of F.1 stepping package height for the Intel Celeron N3350 and Intel Pentium N4200 processor SKUs has an impact on congatec passive cooling solutions compatibility. conga-MA5 Celeron and Pentium SKUs hardware revision B.1 and B.2 are not compatible with PN: 048054 conga-MA5/CSP-T, PN: 048056 conga-MA5/HSP-T hardware revision X.2 and PN: 048055 conga-MA5/CSP-B, PN: 048057 conga-MA5/HSP-B hardware revision X.3. Only hardware revision X.3 of PN: 048054 conga-MA5/CSP-T, PN: 048056 conga-MA5/HSP-T and hardware revision X.4 of PN: 048055 conga-MA5/CSP-B, PN: 048057 conga-MA5/HSP-B congatec passive cooling solutions can be used with conga-MA5 Celeron and Pentium SKUs hardware revision B.1 and B.2.

There is no change to the package height of the Intel Atom E39xx processors and therefore no compatibility issues with congatec passive cooling solutions.

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2. Adjusted value of serial resistors for eMMC and Fast SPI interface in order to meet the requirements of Intel Apollo Lake SoC F-1 stepping.

Changes from B.1 to B.2

1. Adjusted value of serial resistors for SD card interface in order to meet the requirements of Intel Apollo Lake SoC F-1 stepping.

2. Changed product name to match Intel's naming convention for Celeron and Pentium SKUs. The "E" has been removed from the numbering naming convention.

Note

Hardware revision B.1 was never used for mass production.

4 Impact of the change (positive or negative) on fit, form, function & reliability

4.1 Quality and Reliability

The changes listed in section 3 improve the product quality and reliability performance.

4.2 Software Compatibility

Fully software compatible with previous revision.

It is highly recommended to use BIOS revision MA50Rx46 or newer in order to support the latest MCU (CPU microcode update) for the new Intel Apollo Lake F-1 stepping.

4.3 Hardware Compatibility

Fully hardware compatible with the previous revision with the exception of what is described in this document in section '3.1 Hardware Changes'.

✏️ *Note*

The change described within this PCN does not affect the functionality of the modules. congatec is not obligated to perform an update on modules that have already been delivered or on modules that are pending delivery unless explicitly mentioned herein. If you have any questions about this matter please contact your local congatec AG representative.

5 Product/Revision Discontinuation

All previous product revisions are set to EOL status (End-Of-Life).

After the release of this PCN there will be a transition time of 3 months whereby a delivery may consist of products based on previous revisions as well as new revisions. After the completion of the transition time, only products based on the new revision will be delivered. This does not include products that fall under the RMA process.

6 Contact Information

congatec Contact	Technical Solution Center
Fax	+49-991-2700-111
eMail	support@congatec.com

7   Customer Acknowledgment of Receipt

congatec AG records indicate that you require written notification of this change. Fill in the acknowledgment below and eMail this document to the eMail address above to request additional information. If congatec AG does not receive acknowledgment within 30 days of this notice it will be assumed that this change is acceptable. congatec AG reserves the right to ship either version manufactured after the process change effective date until the inventory on the earlier version has been depleted.

Customer Name	
Title	
Phone	
Fax	
eMail	

8   Revision History

Revision	Date (yyyy-mm-dd)	Author	Changes
1.0	2019-11-19	SDA, DJA	Initial Release
1.1	2019-11-29	DJA	Corrected item 1 of change description from B.0 to B.1. Added naming convention changes to B.1 to B.2 change description.
1.2	2020-01-20	SDA	Added height information of Intel Celeron and Pentium processors to section 3.1

9   Appendix: congatec revision description

The product information can be derived from the congatec product label:

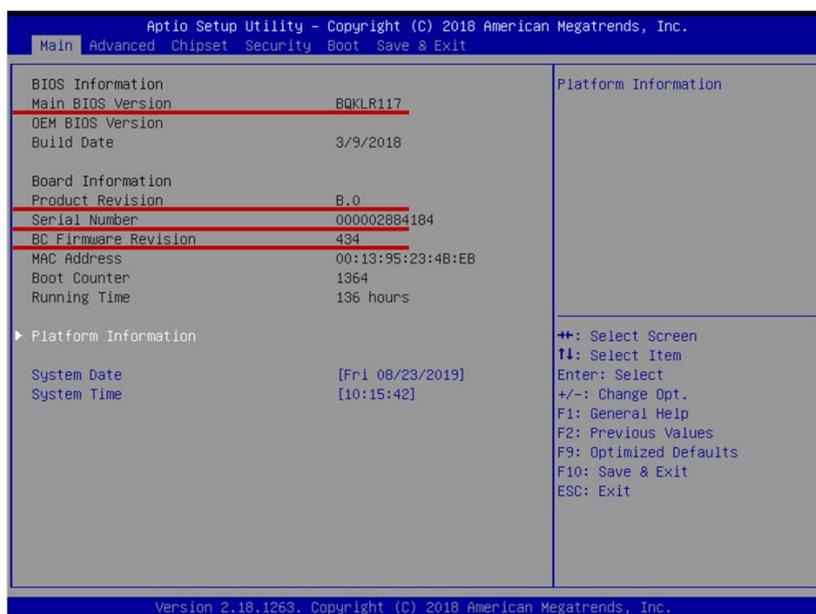Part Number   Hardware Revision   Serial Number

The BIOS can be determined during BIOS POST. The Main BIOS Version, Product Revision, Serial Number and Firmware Revision (Board Controller Firmware) can be determined in the BIOS Setup Utility (Main Menu):

BIOS POST

BIOS Setup Utility

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9.1   Pre/Post Revision Table

pre-conv. P/N	post-conv. P/N	pre-conv. Rev.	post-conv. Rev.	pre-conv. Lot	post-conv. Lot
048000	048000	B.0	B.2	N/A	N/A
048001	048001	B.0	B.2	N/A	N/A
048002	048002	B.0	B.2	N/A	N/A
048010	048010	B.0	B.2	N/A	N/A
048011	048011	B.0	B.2	N/A	N/A
048012	048012	B.0	B.2	N/A	N/A
048020	048020	B.0	B.2	N/A	N/A
048022	048022	B.0	B.2	N/A	N/A