

Product Change Notification (PCN): 0133 Ixora V1.2A to 0133 Ixora V1.3A

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1. Affected Product Numbers

End of Life Product		Replacement Product	
Part Number	Product Name	Part Number	Product Name
01331200	Ixora V1.2A	01331300	Ixora V1.3A

2. Product Phase-in / Phase-out Schedule

End of Life Product		Replacement Product	
Part Number	Estimated Schedule	Part Number	Estimated Schedule
01331200	LTB (Last Time Buy): 31.04.2023 Non-cancellable and non- returnable, subject to availability of key components LTS (Last Time Ship): 31.10.2023 The product will be sold until stock levels are depleted.	01331300	Sample: April, 2023 Volume: May, 2023

Customers are strongly encouraged to convert their designs to the replacement parts listed above. Toradex also advises customers to carefully validate the new product version before their production release.

3. Description of the Changes

Change #1: Replaced the MXM3 socket for the Apalis SoM edge connector

- The MXM3 socket MM70-314-310B1-1-R300 for the Apalis SoM edge connector has been replaced with the MM70-314B1-2-R300 (due to an EOL of the former)

Change #2: Changed the HDMI ESD protection solution

- The IP4786CZ32 and HDMI2C1-14HD integrated ESD protection ICs have been replaced with a solution consisting of discrete components (see [the public reference design](#) for more information)

Change #3: Replaced the CAN power switches

- The CAN power switches MIC94070YMT-TR have been replaced with the MIC94073YMT-TR for providing a slower start-up and preventing a potential over-swing on the 5V_SW rail

Change #4: Updated the USB design to meet the bulk capacitance requirements of the USB 3.1 specification

- The USB design has been updated to meet the bulk capacitance requirements of the USB 3.1 specification (see [the public reference design](#) for more information)

Change #5: Added support for CAN FD

- The CAN transceivers ADM3053BRWZ have been replaced with the ADM3057EBRWZ-RL for adding support for CAN FD (when used in combination with a compatible SoM)

Change #6: Improved the determinism of the POWER_ENABLE_MOCI signal

- A transistor-based adaption threshold circuit has been added to the POWER_ENABLE_MOCI signal to improve the determinism of the same
- The change eliminates a potential issue in which the 5V_SW and 3.3V_SW voltage rails of the carrier board would remain on even after triggering a shutdown in software

Change #7: Modified the value of the USB power enable signals' pull-down resistors

- The value of the USB power enable signals' (USBO1_EN and USBH_EN) pull-down resistors has been changed from 100k to 10k
- The lower resistance translates to a stronger pull that helps eliminate a potential issue when the carrier board is used in combination with an Apalis iMX8 SoM (for more information, see the section "*Errata #3: HAR-6830 – Different Reset State of SoC Pins*" in the [Apalis iMX8 SoM errata](#))

Change #8: Improved the ESD protection of various interfaces and features

- ESD protection has been added to the following interfaces and features: audio, microSD, touch, Ethernet, CAN, and push-buttons

Change #9: Replaced the RS232 transceiver with a device that is not prone to backfeeding

- The RS232 transceiver SN65C3243 has been replaced with the MAX3243IDB as the latter is less prone to backfeeding (from the carrier board to the SoM)

Change #10: Changed the HDMI connector to provide compliance with HDMI 2.0

- The HDMI connector has been changed to provide compliance with the HDMI 2.0 specification

Change #11: Changed the rail the WAKE1_MICO# signal

- The rail the WAKE1_MICO# signal is pulled up to has been changed from 3.3V to 3.3 V_SW to eliminate backfeeding from the carrier board to the SoM in the off state (for more information, see the section "*Errata #4: HAR-8891 – WAKE1_MICO# is pulled up to 3.3V instead of 3.3V_SW*" in the [Ixora carrier board errata](#))

Change #12: REACH Compliance

- Minor changes have been implemented to assure long term REACH compliance beyond exception 7a. We are now using PB-free drop in replacements.

Change #13: Other minor changes and improvements

- Other minor changes and improvements have been implemented to improve the product (see [the public reference design](#) for more information)

4. Customer Impact

Hardware

- A slower start-up of the CAN power switches eliminates a potential over-swing on the 5V_SW rail
- The USB design meets the bulk capacitance requirements of the USB 3.1 specification
- CAN FD is supported by the carrier board
- The behavior of the POWER_ENABLE_MOCI signal is more deterministic
- The behavior of the USB power enable signals (USBO1_EN and USBH_EN) is more deterministic
- Additional interfaces/features (audio, microSD, touch, Ethernet, CAN, push-buttons) feature ESD protection
- The RS232 interface is not prone to backfeeding anymore
- HDMI 2.0 is supported by the carrier board
- Backfeeding from the pull-up resistor of the WAKE1_MICO# signal to Apalis SoMs is not happening anymore
- Please carefully verify the new product version in your environment

Software

- There is no software impact to be expected
- Please carefully verify the new product version in your environment

5. Contact

- Please contact Toradex if you have any questions
- For commercial and sales questions, please contact shop@toradex.com
- For technical questions, please contact support@toradex.com