

Product Change Notification (PCN): Verdin iMX8M Mini 0055 and 0059 - eMMC and CAN clock source changes

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1. Affected Product Numbers

End of Life Product		Replacement Product	
Part Number	Product Name	Part Number	Product Name
00551101	0055 Verdin iMX8M Mini Quad 2GB WB IT V1.1B	00551104	0055 Verdin iMX8M Mini Quad 2GB WB IT V1.1E
00551103	0055 Verdin iMX8M Mini Quad 2GB WB IT V1.1D		
00591101	0059 Verdin iMX8M Mini Quad 2GB IT V1.1B	00591102	0059 Verdin iMX8M Mini Quad 2GB IT V1.1C

2. Product Phase-in / Phase-out Schedule

End of Life Product		Replacement Product	
Part Number	Estimated Schedule	Part Number	Estimated Schedule
00551101	Q2 2022	00551104	Q2 2022
00551103	Q2 2022		
00591101	Q2 2022	00591102	Q2 2022

Customers are strongly encouraged to convert their designs to the replacement parts listed above. Compatibility of the end of life parts with future software releases is not guaranteed. Toradex also advises customers to carefully validate the new product version before their production release, since the product has not yet reached the Volume Product life-cycle state.

3. Change Details

Change #1: eMMC

The eMMC part Micron MTFC16GAPALBH-IT/MTFC16GAPALBH-AAT has been replaced with the Kingston EMMC16G-IB29-90F01.

Change #2: CAN clock source frequency

The frequency of the CAN clock source has been changed from 20MHz to 40MHz.

4. Customer Impact

Hardware

- The NAND cell type and arrangement implemented by the eMMC have changed from 2D MLC to 3D TLC. Depending on the use case, this may have an impact on the behavior, the performance and the lifetime of the eMMC. For more information, please refer to [the related article](#) on our Developer Website.
- The CAN clock source frequency increase enables the achievement of higher CAN data rates.

Software

- eMMC changes usually do not affect customer software, however, please validate your use case. The Kingston eMMC features a different hardware area boot partition size compared to the Micron part. Toradex uses the last block of the primary hardware area boot partition to store important information such as the module's serial number in the so-called Config Block. Due to the different hardware area boot partition size the absolute location of this Config Block changed. All Toradex provided software calculates the Config Block address relative to the end of the hardware area boot partition, hence there is no software impact for standard software. Customers who explicitly write the Config Block to a fixed eMMC block number need to update the block number. It is recommended to review and test your software, especially if you have customized Toradex-provided software or used your own software to take advantage of eMMC-specific features. A common process to find such customizations is in the customer's factory programming process.
- Starting from the 5.7.0+devel-202206 Embedded Linux BSP Monthly Release, the default CAN clock source frequency configuration is changing from 20MHz to 40MHz. From this release onwards, when used in combination with preceding hardware versions of the product, the CAN interface won't be functional (out-of-the-box). In those cases, the functionality of the CAN interface can be recovered via modifying the Device Tree and setting the CAN clock source frequency to 20MHz.

5. Contact

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