



Customer Information Notification

202005006IU01

Issue Date: 27-Aug-2020
Effective Date: 28-Aug-2020

UPDATE

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QUALITY

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| <input type="checkbox"/> Wafer Fab Process | <input type="checkbox"/> Assembly Process | <input type="checkbox"/> Product Marking | <input type="checkbox"/> Test Location | <input type="checkbox"/> Design |
| <input type="checkbox"/> Wafer Fab Materials | <input type="checkbox"/> Assembly Materials | <input type="checkbox"/> Mechanical Specification | <input type="checkbox"/> Test Process | <input type="checkbox"/> Errata |
| <input type="checkbox"/> Wafer Fab Location | <input type="checkbox"/> Assembly Location | <input type="checkbox"/> Packing/Shipping/Labeling | <input type="checkbox"/> Test Equipment | <input type="checkbox"/> Electrical spec./Test coverage |
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Incorrect Voltage Setting with Risk of Damage to i.MX 8M Mini and i.MX 8M Nano

Description

This customer information notification (CIN) has updated information and supersedes CIN 202005006I.

The Low-dropout (LDO) linear regulators, LDO1 and LDO2 output voltage on the ROHM PMICs BD71837, BD71840, BD71847 and BD71850 are incorrectly configured in the NXP supplied Linux BSP GA releases. This impacts certain i.MX 8M Mini and i.MX 8M Nano NXP reference designs and/or customer designs using the specific ROHM PMIC's.

Affected NXP Linux software BSP GA releases:

- Linux LTS release L4.14.98_2.3.0
 - o Referenced by branch imx_4.14.90_2.3.0 with tag rel_imx_4.14.98_2.3.0
- Linux LTS release L4.19.35_1.1.0
 - o Referenced by branch imx_4.19.35_1.1.0 with tag rel_imx_4.19.35_1.1.0
- Linux LTS release L5.4.3_2.0.0
 - o Referenced by branch imx_5.4.3_2.0.0 with tag rel_imx_5.4.3_2.0.0

NXP recommends all impacted users to upgrade to the latest software version or applying the patches

detailed below to prevent any damage to the SoC IO's and impact device reliability.

NXP Linux software branches that have the resolution:

- Linux LTS release L4.14.98_2.3.0 referenced by the HEAD of the branch imx_4.14.98_2.3.0
- Linux LTS release L4.19.35_1.1.0 referenced by the HEAD of the branch imx_4.19.35_1.1.0
- Linux LTS release L5.4.3_2.0.0 referenced by the HEAD of the branch imx_5.4.3_2.0.0

Software patch details in the Code Aurora Forum (CAF):

For L4.14.98_2.3.0, the git log references are:

- MLK-23275-1: ARM64: dts: freescale: fsl-imx8mm-evk: correct ldo1/ldo2 voltage
- MLK-23275-2: ARM64: dts: freescale: fsl-imx8mn-ddr4-evk: correct ldo1/ldo2 voltage
- MLK-23275-3: regulator: bd71837: correct ldo1/ldo2 group

For L4.19.35_1.1.0, the git log references are:

- MLK-23275-1: ARM64: dts: freescale: fsl-imx8mm-evk: correct ldo1/ldo2 voltage
- MLK-23275-2: ARM64: dts: freescale: fsl-imx8mn-ddr4-evk: correct ldo1/ldo2 voltage
- MLK-23275-3: regulator: bd71837: correct ldo1/ldo2 group

For L5.4.3_2.0.0, the git log references are:

- MLK-23275-1: ARM64: dts: freescale: fsl-imx8mm-evk: correct ldo1/ldo2 voltage
- MLK-23275-2: ARM64: dts: freescale: fsl-imx8mn-ddr4-evk: correct ldo1/ldo2 voltage
- MLK-23844-1: ARM64: dts: freescale: imx8mn-ddr4-evk: cleanup Rhom pmic
- MLK-23844-2: ARM64: dts: freescale: imx8mm: correct VDDARM@1.6GHz

Latest software releases can be found at: <https://www.nxp.com/imxlinux>

Reason

The LDO1 and LDO2 output voltage on the ROHM BD71837, BD71840, BD71847 and BD71850 PMICs are incorrectly configured and do not comply with the respective i.MX 8M Mini and i.MX 8M Nano device specifications and may damage device IO's connected to the specific voltage rails. There is no impact of this incorrect voltage configuration on the ROHM PMICs.

- LD01 @3.0V is connected to NVCC_SNVS_1V8 supply rail
- LD02 @0.9V is connected to VDD_SNVS_0V8 supply rail

Identification of Affected Products

Not applicable.

Update Information

Added additional information and updated the impact of the affected products.

Anticipated Impact on Form, Fit, Function, Reliability or Quality

Operating the i.MX 8M Mini and i.MX 8M Nano SoC's at higher voltages may cause damage to the IO that can potentially affect function, reliability, and impact product longevity.

Data Sheet Revision

No impact to existing datasheet

Disposition of Old Products

Not applicable.

Remarks

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Changed Orderable Part#	Changed Part 12NC	Changed Part Number	Changed Part Description	Package Outline	Package Name	Status	Product Line
MIMX8MM6CVTKZAA	935378345557	MIMX8MM6CVTKZAA	mScale 845S 14X14FCBGA	SOT1967-1	LFBGA486	RFS	Apps Processors
MIMX8MN1CVTIZAA	935391873557	MIMX8MN1CVTIZAA	i.MX 8M Nano Arm Cortex	SOT1967-1	LFBGA486	RFS	Apps Processors
8MMINID4-EVK	935377451598	8MMINID4-EVK	8MMINID4-EVK		HWONLY	RFS	Apps Processors
MIMX8MM6DVTLZAA	935378338557	MIMX8MM6DVTLZAA	mScale 845S 14X14FCBGA	SOT1967-2	LFBGA486	RFS	Apps Processors
MIMX8MN4DVTJZAA	935390507557	MIMX8MN4DVTJZAA	8M Nano 815S 14X14FCBGA	SOT1967-1	LFBGA486	RFS	Apps Processors
MIMX8MN2DVTJZAA	935391122557	MIMX8MN2DVTJZAA	i.MX 8M Nano Arm Cortex	SOT1967-1	LFBGA486	RFS	Apps Processors
MIMX8MM5CVTKZAA	935378344557	MIMX8MM5CVTKZAA	mScale 845S 14X14FCBGA	SOT1967-1	LFBGA486	RFS	Apps Processors
MIMX8MN6DVTJZAA	935390509557	MIMX8MN6DVTJZAA	8M Nano 815S 14X14FCBGA	SOT1967-1	LFBGA486	RFS	Apps Processors
MIMX8MN3CVTIZAA	935391875557	MIMX8MN3CVTIZAA	i.MX 8M Nano Arm Cortex	SOT1967-1	LFBGA486	RFS	Apps Processors
MIMX8MN4CVTIZAA	935391876557	MIMX8MN4CVTIZAA	i.MX 8M Nano Arm Cortex	SOT1967-1	LFBGA486	RFS	Apps Processors
MIMX8MN5CVTIZAA	935391877557	MIMX8MN5CVTIZAA	i.MX 8M Nano Arm Cortex	SOT1967-1	LFBGA486	RFS	Apps Processors
MIMX8MN6CVTIZAA	935391878557	MIMX8MN6CVTIZAA	i.MX 8M Nano Arm Cortex	SOT1967-1	LFBGA486	RFS	Apps Processors
MIMX8MN5DVTJZAA	935390508557	MIMX8MN5DVTJZAA	8M Nano 815S 14X14FCBGA	SOT1967-1	LFBGA486	RFS	Apps Processors
8MMINILPD4-EVK	935370664598	8MMINILPD4-EVK	8MMINILPD4-EVK		HWONLY	RFS	Apps Processors
MIMX8MM5DVTLZAA	935378337557	MIMX8MM5DVTLZAA	mScale 845S 14X14FCBGA	SOT1967-1	LFBGA486	RFS	Apps Processors
MIMX8MN1DVTJZAA	935390505557	MIMX8MN1DVTJZAA	8M Nano 815S 14X14FCBGA	SOT1967-1	LFBGA486	RFS	Apps Processors
MIMX8MN2CVTIZAA	935391874557	MIMX8MN2CVTIZAA	i.MX 8M Nano Arm Cortex	SOT1967-1	LFBGA486	RFS	Apps Processors
MIMX8MN3DVTJZAA	935390506557	MIMX8MN3DVTJZAA	8M Nano 815S 14X14FCBGA	SOT1967-1	LFBGA486	RFS	Apps Processors
8MNANOD4-EVK	935386251598	8MNANOD4-EVK	8MNANOD4-EVK		HWONLY	RFS	Apps Processors