December 14, 2020

Revision History

PCN#	Issue Date	Description
04A-20	December 14, 2020	Initial release

Subject: PCN#04A-20 Notification of Changes to CrossLink™ Data Sheet and CrossLink™ Automotive Data Sheet

Dear Lattice Customer,

Lattice Semiconductor is providing this notification of changes to the CrossLink Family Data Sheet (FPGA-DS-02007) and CrossLink Automotive Family Data Sheet (FPGA-DS-02013).

Change Description

CrossLink Family Data Sheet Changes:
The new CrossLink Family Data Sheet (FPGA-DS-02007 version 1.7 dated December 2020) and CrossLink Automotive Family Data Sheet (FPGA-DS-02013 version 1.7 dated December 2020) have added a restriction on the power-up sequence of the supplies on the device. This restriction is included in a new section 4.5 of the datasheet. Section 4.5 is shown below.

4.5. Power Supply Sequence Requirements

CrossLink includes the following supplies:

V_{CC} – Core supply

V_{CCGPLL} – PLL supply

V_{CCAUX} – Auxiliary supply

V_{CCIOX} (includes V_{CCIO0}, V_{CCIO1} and V_{CCIO2}) – Bank I/O driver supply

V_{CCA_DPHYX} (includes V_{CCA_DPHY0} and V_{CCA_DPHY1}) – D-PHY analog supply

V_{CCPLL_DPHYX} (includes V_{CCPLL_DPHY0} and V_{CCPLL_DPHY1}) – D-PHY PLL supply

V_{CCMU_DPHY1} – V_{CCA_DPHY1} and V_{CCPLL_DPHY1} supplies for WLCSP36 package

It is recommended to bring up power supplies in the following order. Note that there is no specific timing delay between the power supplies.

Power Supply Power-Up Sequence:

1. *V_{CCIOX} supplies should be powered-up first, before the other supplies. V_{CCIOx} must reach a level of 0.6 V before any subsequent power supplies are ramped.*

2. *V_{CC}/V_{CCGPLL}/V_{CCA_DPHYX}/V_{CCPLL_DPHYX}/V_{CCMU_DPHY1} should be powered-up next, after V_{CCIOX} has reached a level of 0.6 V or higher.*

3. *V_{CCAUX} must be powered up at the same time or after V_{CC}. If V_{CC} and V_{CCAUX} are powered up concurrently, at no point can the V_{CCAUX} supply be higher than V_{CC} until the point when V_{CC} has reached the minimum operating voltage.*

Power Supply Power-Down Sequence:

1. *There are no sequencing requirements for the Power-Down of the device. In the event that any supply is powered down below the POR trip point, then all supplies should be powered down before the device can be powered up following the above described sequence.*

In addition to the power sequencing requirements that have been added, several minor clarifications or improvements in descriptions have been added to other sections of the datasheet. Please reference the Data Sheet Revision History included in each document for details on these other updates.

Affected Products

The Ordering Part Numbers (OPNs) affected by the CrossLink Family Data Sheet changes are as follows:

> LIF-MD6000-6UWG36ITR
> LIF-MD6000-6UMG64I
> LIF-MD6000-6MG81I
> LIF-MD6000-6JMG80I
> LIF-MD6000-6KMG80I

The Ordering Part Numbers (OPNs) affected by the CrossLink Automotive Family Data Sheet changes are as follows:

> LIA-MD6000-6MG81E
> LIA-MD6000-6JMG80E
> LIA-MD6000-6KMG80E

Note: This PCN also affects all package, grade and tape/reel options and any custom devices (i.e. factory programmed, special test, etc.) which are derived from any of the devices listed above.

Datasheet Specifications

The updated CrossLink Family Data Sheet (FPGA-DS-02007 version 1.7 dated December 2020) and CrossLink Automotive Family Data Sheet (FPGA-DS-02013 version 1.7 dated December 2020) with the above changes are available on the Lattice website. The datasheet updates do not require bitstream changes.

Recommended Action

All new designs should adhere to the updated sequencing requirements as shown in the updated section 4.5.

If a customer determines that they have an existing system which does not meet the requirements of section 4.5, Lattice recommends consulting with the appropriate Lattice technical support to assess any risks that may be associated with the customer's supply sequencing.

Customers who have further questions regarding these changes are encouraged to contact local technical field support or file a request through Lattice's technical support portal.

PCN Timing

The datasheet changes are effective immediately and retroactively. There are no changes to the devices, therefore samples are not applicable to these data sheet changes.

Lattice PCNs are available on the Lattice website. Please sign up to receive e-mail PCN alerts by registering here. If you already have a Lattice web account and wish to receive PCN alerts, you can do so by logging into your account and making edits to your subscription options.

Sincerely,

Lattice PCN Administration