



PCN #	Issue Date	Description
03A-20	Dec. 7, 2020	Revision of iCE40 UltraPlus™ Data Sheets – High Frequency configuration support for NVCM will be removed. Software version affected by this PCN is Lattice Radiant 2.1

Subject: PCN# 03A-20 Notification of a Revision of iCE40 UltraPlus™ Data Sheets

Dear Lattice Customer,

Lattice is providing this notification of our intent to revise the Lattice iCE40 UltraPlus™ Data Sheets. The revision pertains to the removal to support High frequency configuration using built-in NVCM.

See Table 1 for the summary of changes to the data sheets listed below.

- Lattice iCE40 UltraPlus Family Data sheet FPGA-DS-02008 Version 1.9 release in December 2020

4.27. SPI Master or NVCM Configuration Time

Table 4.23. SPI Master or NVCM Configuration Time^{1,2}

Symbol	Parameter	Conditions	Max	Unit
t _{CONFIG}	POR/CRESET_B to Device I/O Active	All devices – Low Frequency (Default)	140	ms
		All devices – Medium frequency	50	ms
		All devices – High frequency ³		

Notes:

1. Assumes sysMEM Block is initialized to an all zero pattern if they are used.
2. The NVCM download time is measured with a fast ramp rate starting from the maximum voltage of POR trip point.
3. High frequency is supported only on SPI Master.

Table 1 – Updated Datasheet Table 4.23

The High Frequency condition will only be supported on the SPI Master. NVCM will not support the high frequency condition. This is indicated by note #3 in Data Sheet Table 4.23.

The high/fast frequency NVCM configuration is a supplemental function when the customer uses built-in NVCM to configure the device. This function is not active without explicit selection by the designer. Designs that do not use this function are not affected by this PCN. Designs that utilize this feature are referred to medium frequency NVCM configuration option.

AFFECTED DEVICES

This PCN affects all devices listed in Table 2.

NOTE: This PCN also affects any custom devices (i. e. factory programmed, special test, etc.) which are derived from any of the devices listed. All shipments of the indicated devices prior to this PCN are also affected. The OPNs remain unchanged for all affected devices.

Product Family	Product Line	Package Type	Ordering Part Number
Lattice iCE40 UltraPlus	iCE40UP3K	30-ball WLCSP	iCE40UP3K-UWG30ITR
		30-ball WLCSP	iCE40UP3K-UWG30ITR1K
	iCE40UP5K	48-ball QFN	iCE40UP5K-SG48I
		30-ball WLCSP	iCE40UP5K-UWG30ITR
		30-ball WLCSP	iCE40UP5K-UWG30ITR1K

Table 2- Affected Device List

DATA SHEET SPECIFICATIONS

The revised Lattice UltraPlus data sheet (FPGA-DS-02008 Version 1.9, December 2020) reflects these changes.

SOFTWARE SUPPORT

Lattice Radiant Software 2.1 has been modified to remove Fast Oscillator Frequency for bit stream generation.

TIMING

These data sheet changes are effective immediately.

RESPONSE

Those customers using Fast Oscillator Frequency are advised to use Medium Oscillator Frequency for bit stream generation.

CONTACT

If you have any questions or require additional information, please contact pcn@latticesemi.com

Sincerely,

Lattice Semiconductor PCN Administration