



January 14, 2021

Subject: PCN#02B-20 Power Calculator Update for All XO2 and Derivative (XO2/XO3L/XO3LF/XO3D/PlatformManager2) Devices

Dear Lattice Customer,

Lattice Semiconductor is providing this notification of a change to the Power Calculator tool that is used in Lattice Diamond™ 3.12 software (Release Date: December 8, 2020).

This PCN covers one change to the calculation of the MCLK (oscillator) entry to the MISC tab of Power Calculator. This change affects the software only, and has no impact to silicon or hardware.

Change Description

This change is a modification to how Power Calculator computes power for the MCLK when it is used. The power consumed by the used MCLK in Power Calculator will increase. The default setting of MCLK is to be used. Thus this change will affect the Power Calculator in instances when it is brought up in default settings (blank pattern), or in any Estimation or Calculation for non-default settings (user pattern) where MCLK is used. When the MCLK is unused, there will be no effect on Power Calculator.

The magnitude of the power increase will vary depending on the voltage. For parts with a core VCC of 2.5v or 3.3v, the increase will be $15.5\text{mW} \pm 1\text{mW}$ for XO2, XO3L, and XO3LF. That increase will be $43.5\text{mW} \pm 1\text{mW}$ for XO3D, and $41.0\text{mW} \pm 1\text{mW}$ for Platform Manager 2. For parts with a core VCC of 1.2v, the increase will be $5.3\text{mW} \pm 1\text{mW}$.

Affected Devices

The devices whose power calculation is affected by the change in this PCN are as follows:

- **XO2 Family**
 - XO2-256HC, XO2-256ZE
 - XO2-640HC, XO2-640UHC, XO2-640ZE
 - XO2-1200HC, XO2-1200UHC, XO2-1200ZE
 - XO2-2000HC, XO2-2000HE, XO2-2000UHC, XO2-2000UHE, XO2-2000ZE
 - XO2-4000HC, XO2-4000HE, XO2-4000UHC, XO2-4000ZE
 - XO2-7000HC, XO2-7000HE, XO2-7000ZE

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- **XO3L Family**
 - XO3L-640E
 - XO3L-1300C, XO3L-1300E
 - XO3L-2100C, XO3L-2100E
 - XO3L-4300C, XO3L-4300E
 - XO3L-6900C, XO3L-6900E
 - XO3L-9400C, XO3L-9400E
- **XO3LF Family**
 - XO3LF-640E
 - XO3LF-1300C, XO3LF-1300E
 - XO3LF-2100C, XO3LF-2100E
 - XO3LF-4300C, XO3LF-4300E
 - XO3LF-6900C, XO3LF-6900E
 - XO3LF-9400C, XO3LF-9400E
- **XO3D Family**
 - XO3D-4300HC, XO3D-4300ZC, XO3D-4300HE, XO3D-4300ZE
 - XO3D-9400HC, XO3D-9400ZC, XO3D-9400HE, XO3D-9400ZE
- **Platform Manager 2 Family**
 - LPTM21, LPTM21L

Affected Software

This change will take effect on Lattice Diamond 3.12 (Release Date: December 8), and will continue for all subsequent releases going forward.

Data Sheet Specifications

This change will have no effect on the Data Sheets for these products.

PCN Timing

The software changes are effective upon release of Diamond 3.12.

Recommended Customer Action

Lattice recommends recalculating Power for all of the parts affected by this change to determine if there is an impact to their application.

Customers may contact Lattice for additional information by referencing this PCN in a technical support case at www.latticesemi.com/techsupport.

Sincerely,

Lattice PCN Administration

November 16, 2020

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