



November 16, 2020

**Subject: PCN#02A-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 15.5mW ± 1mW for XO2, XO3L, and XO3LF. That increase will be 43.5mW ± 1mW for XO3D, and 41.0mW ± 1mW for Platform Manager 2. For parts with a core VCC of 1.2v, the increase will be 5.3mW ± 1mW.

## **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
  - XO2-10000HC, XO2-10000HE, XO2-10000ZE

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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](http://www.latticesemi.com/techsupport).

Sincerely,

Lattice PCN Administration

November 16, 2020

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## Affected OPNs - PCN#02A-20

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LCMXO2-1200HC-4MG132C  
LCMXO2-1200HC-4MG132I  
LCMXO2-1200HC-4SG32C  
LCMXO2-1200HC-4SG32I  
LCMXO2-1200HC-4TG100C  
LCMXO2-1200HC-4TG100CTR  
LCMXO2-1200HC-4TG100I  
LCMXO2-1200HC-4TG144C  
LCMXO2-1200HC-4TG144I  
LCMXO2-1200HC-5MG132C  
LCMXO2-1200HC-5MG132I  
LCMXO2-1200HC-5TG100C  
LCMXO2-1200HC-5TG100I  
LCMXO2-1200HC-5TG144C  
LCMXO2-1200HC-5TG144I  
LCMXO2-1200HC-6MG132C  
LCMXO2-1200HC-6SG32I  
LCMXO2-1200HC-6TG100C  
LCMXO2-1200HC-6TG100I  
LCMXO2-1200HC-6TG144C  
LCMXO2-1200HC-6TG144I  
LCMXO2-1200UHC-4FTG256C  
LCMXO2-1200UHC-4FTG256I  
LCMXO2-1200UHC-5FTG256I  
LCMXO2-1200UHC-6FTG256I  
LCMXO2-1200ZE-1MG132I  
LCMXO2-1200ZE-1SG32I  
LCMXO2-1200ZE-1TG100C  
LCMXO2-1200ZE-1TG100I  
LCMXO2-1200ZE-1TG144I  
LCMXO2-1200ZE-1UWG25ITR50  
LCMXO2-1200ZE-3MG132I  
LCMXO2-2000HC-4BG256C  
LCMXO2-2000HC-4BG256I  
LCMXO2-2000HC-4FTG256C  
LCMXO2-2000HC-4FTG256I  
LCMXO2-2000HC-4MG132C  
LCMXO2-2000HC-4TG100C  
LCMXO2-2000HC-4TG100I  
LCMXO2-2000HC-4TG144C  
LCMXO2-2000HC-4TG144I  
LCMXO2-2000HC-4TG144IAGR  
LCMXO2-2000HC-5BG256C  
LCMXO2-2000HC-5BG256I  
LCMXO2-2000HC-5MG132C  
LCMXO2-2000HC-5MG132I

LCMXO2-2000HC-5TG100I  
LCMXO2-2000HC-5TG144I  
LCMXO2-2000HC-6BG256I  
LCMXO2-2000HC-6FTG256I  
LCMXO2-2000HC-6MG132C  
LCMXO2-2000HC-6MG132I  
LCMXO2-2000HC-6TG100I  
LCMXO2-2000HC-6TG144C  
LCMXO2-2000HE-4BG256I  
LCMXO2-2000HE-4MG132I  
LCMXO2-2000HE-4TG100C  
LCMXO2-2000HE-6MG132C  
LCMXO2-2000UHC-4FG484C  
LCMXO2-2000UHC-4FG484I  
LCMXO2-2000UHC-6FG484C  
LCMXO2-2000UHC-6FG484I  
LCMXO2-2000ZE-1TG100C  
LCMXO2-2000ZE-1UWG49ITR1K  
LCMXO2-2000ZE-2TG100I  
LCMXO2-2000ZE-3TG100C  
LCMXO2-2000ZE-3TG100I  
LCMXO2-256HC-4MG132C  
LCMXO2-256HC-4SG32C  
LCMXO2-256HC-4SG32I  
LCMXO2-256HC-4SG48C  
LCMXO2-256HC-4SG48I  
LCMXO2-256HC-4TG100C  
LCMXO2-256HC-4TG100I  
LCMXO2-256HC-4UMG64I  
LCMXO2-256HC-5SG32C  
LCMXO2-256HC-5SG32I  
LCMXO2-256HC-5SG48C  
LCMXO2-256HC-5TG100I  
LCMXO2-256HC-5UMG64C  
LCMXO2-256HC-6SG32C  
LCMXO2-256HC-6UMG64I  
LCMXO2-256ZE-1SG32C  
LCMXO2-256ZE-1SG32I  
LCMXO2-256ZE-1TG100I  
LCMXO2-256ZE-2TG100I  
LCMXO2-256ZE-3SG32I  
LCMXO2-4000HC-4BG256I  
LCMXO2-4000HC-4FTG256C  
LCMXO2-4000HC-4FTG256C2U  
LCMXO2-4000HC-4FTG256I  
LCMXO2-4000HC-4MG132C  
LCMXO2-4000HC-4MG132I

LCMXO2-4000HC-4QN84C  
LCMXO2-4000HC-4QN84I  
LCMXO2-4000HC-4TG144C  
LCMXO2-4000HC-4TG144I  
LCMXO2-4000HC-5BG256I  
LCMXO2-4000HC-5BG332I  
LCMXO2-4000HC-5FG484C  
LCMXO2-4000HC-5FG484I  
LCMXO2-4000HC-5FTG256C  
LCMXO2-4000HC-5MG132C  
LCMXO2-4000HC-5QN84C  
LCMXO2-4000HC-5TG144C  
LCMXO2-4000HC-5TG144I  
LCMXO2-4000HC-6BG256C  
LCMXO2-4000HC-6BG256I  
LCMXO2-4000HC-6FG484I  
LCMXO2-4000HC-6FTG256I  
LCMXO2-4000HC-6MG132I  
LCMXO2-4000HC-6QN84C  
LCMXO2-4000HC-6TG144C  
LCMXO2-4000HC-6TG144I  
LCMXO2-4000HE-4BG256I  
LCMXO2-4000HE-4MG132I  
LCMXO2-4000HE-4TG144I  
LCMXO2-4000HE-5MG132C  
LCMXO2-4000HE-6MG132C  
LCMXO2-4000HE-6MG132I  
LCMXO2-4000ZE-1FTG256I  
LCMXO2-4000ZE-1TG144I  
LCMXO2-4000ZE-1TG144IAMS  
LCMXO2-4000ZE-3MG132C  
LCMXO2-4000ZE-3MG132I  
LCMXO2-4000ZE-3TG144I  
LCMXO2-640HC-4MG132C  
LCMXO2-640HC-4MG132I  
LCMXO2-640HC-4SG48C  
LCMXO2-640HC-4SG48I  
LCMXO2-640HC-4TG100C  
LCMXO2-640HC-4TG100C2U  
LCMXO2-640HC-4TG100I  
LCMXO2-640HC-4TG100ITR  
LCMXO2-640HC-5SG48C  
LCMXO2-640HC-5TG100I  
LCMXO2-640HC-6MG132I  
LCMXO2-640HC-6TG100C  
LCMXO2-640HC-6TG100I  
LCMXO2-640UHC-4TG144C

LCMXO2-640UHC-4TG144I  
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LCMXO2-640ZE-1MG132C  
LCMXO2-640ZE-1TG100C  
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LCMXO2-7000HC-4BG332I  
LCMXO2-7000HC-4FG484C  
LCMXO2-7000HC-4FTG256C  
LCMXO2-7000HC-4FTG256I  
LCMXO2-7000HC-4FTG256IAK7  
LCMXO2-7000HC-4TG144C  
LCMXO2-7000HC-4TG144I  
LCMXO2-7000HC-5BG332I  
LCMXO2-7000HC-5FG484I  
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LCMXO2-7000HC-6BG256I  
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LCMXO2-7000HC-6TG144C  
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LCMXO3L-1300C-5BG256C  
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LCMXO3LF-9400C-6BG256C  
LCMXO3LF-9400C-6BG256CALV  
LCMXO3LF-9400C-6BG256I  
LCMXO3LF-9400C-6BG256IALV  
LCMXO3LF-9400E-5BG256I  
LCMXO3LF-9400E-5BG400I  
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