



CUSTOMER ADVISORY

ADV1902

Stratix® 10 FPGA Firmware Updates

Change Description

Intel Programmable Solutions Group (“Intel PSG,” formerly Altera) is notifying customers of Stratix 10 firmware updates.

It was recently determined that the Stratix 10 firmware is not applying optimized on-chip voltage regulator trim settings and therefore may cause a slight timing model mis-correlation. Optimized settings, available through a firmware update, will restore the correlation. It is required that customers apply this updated firmware to future Stratix 10 devices.

This firmware update:

- does not require recompilation or change design timing;
- has no impact on design functionality or performance;
- has no impact on power specifications as power models in EPE are already based on optimized regulator trim settings;
- has no impact to form, fit, or function.

Recommended Actions

Please refer to the following table to determine the appropriate actions for the firmware update:

Table 1

Customer Design Status	Customer Deployment Timeframe	Recommended Actions
Intel Stratix 10 designs in production	For devices deployed by customers before end of June 2019.	<ul style="list-style-type: none">▪ Bitstream regeneration is optional.▪ No adverse impact from regenerating the bitstream if you want a single POF.▪ Optionally download the patch to regenerate the bitstream.

	For devices deployed by customers after end of June 2019.	<ul style="list-style-type: none"> ▪ Bitstream regeneration is required. ▪ Firmware update applies optimized on-chip voltage regulator trim settings that improves timing correlation, to accommodate future natural manufacturing variations. ▪ Download the patch to regenerate the bitstream or migrate to Intel Quartus Prime Pro Edition software version 19.1 (includes updated firmware) by end of June 2019.
Designs not in production	All devices	<ul style="list-style-type: none"> ▪ Download the patch to regenerate the bitstream or migrate to Intel Quartus Prime Pro Edition software version 19.1 (includes updated firmware).

For details on the patches, steps to apply the patch, and steps to regenerate the bitstream, refer to the following knowledge database link:

https://www.intel.com/content/altera-www/global/en_us/index/support/support-resources/knowledge-base/component/2019/is-there-an-update-to-intel--stratix--10-firmware-.html

For any additional questions or support please contact your local Field Applications Engineer (FAE) or submit an IPS ticket at the [My Intel](#) support page.

Products Affected

All Intel Stratix 10 FPGA devices.

The list of affected OPNs can be downloaded in Excel form:

<https://www.intel.com/content/dam/www/programmable/us/en/pdfs/literature/pcn/adv1902-opn-list.xlsx>

Reason for Change

Due to an inconsistency between the Intel Stratix 10 firmware and internal manufacturing testing, firmware was not applying optimized on-chip voltage regulator trim settings and therefore may cause a slight timing model mis-correlation. Optimized settings are applied using updated firmware and will restore the correlation.

Change Implementation

Table 2

Milestone	Date of Availability
Patches with updated Intel Stratix 10 firmware in Intel Quartus Prime Pro Edition Software version 18.0.1, 18.1, 18.1.1, 18.1.2	Now
Patches with updated Intel Stratix 10 firmware in Intel Quartus Prime Pro Edition Programmer version 18.0.1, 18.1, 18.1.1, 18.1.2	Now

The updated Intel Stratix 10 firmware will be available in the Intel Quartus Prime Pro Software version 19.1 and all subsequent versions.

Contact

For more information, please contact your local Field Applications Engineer (FAE) or submit a IPS ticket at the [My Intel](#) support page.

Customer Notifications Subscription

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<https://www.intel.com/content/www/us/en/programmable/my-intel/mal-emailsub/technical-updates.html>

Revision History

Date	Rev	Description
04/05/2019	1.0.0	Initial Release

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