



Intel[®] Quartus[®] Prime Pro Edition

Version 21.2 Software and Device Support Release Notes

Updated for Intel[®] Quartus[®] Prime Design Suite: **21.2**



[Subscribe](#)

[Send Feedback](#)

RN-01082-21.2.0 | 2021.06.21

Latest document on the web: [PDF](#) | [HTML](#)

Contents

1. Intel® Quartus® Prime Pro Edition Version 21.2 Software and Device Support	
Release Notes	3
1.1. New Features and Enhancements	3
1.2. Changes to Software Behavior	5
1.2.1. Deprecated Features and Functions	5
1.2.2. Removed Features and Functions	6
1.3. Operating System Support	8
1.4. Memory Recommendations	8
1.5. Device Support and Pin-Out Status	9
1.5.1. Changes in Device Support	11
1.6. Timing Model, Power Model, and Device Status	13
1.7. IBIS Models	15
1.8. EDA Interface Information	15
1.9. Antivirus Verification	16
1.10. Software Issues Resolved	16
1.11. Software Patches Included in this Release	17
1.12. Latest Known Intel Quartus Prime Software Issues	18
1.13. Intel Quartus Prime Pro Edition Version 21.2 Software and Device Support	
Release Notes Archives	19
1.14. Document Revision History	19

1. Intel® Quartus® Prime Pro Edition Version 21.2 Software and Device Support Release Notes

This document provides late-breaking information about Intel® Quartus® Prime Pro Edition Version 21.2.

For additional information about this software release, refer to the Intel Quartus Prime Pro Edition README file in the following location: `<installation directory>/quartus/readme.txt`

For information about operating system support, refer to the following web page: [Intel FPGA Operating System Support](#).

Related Information

- [Intel Quartus Prime Standard Edition Software and Device Support Release Notes](#)
- [Download Center for FPGAs](#)

1.1. New Features and Enhancements

Intel Quartus Prime Pro Edition Software Version 21.2 includes functional and security updates. Keep your software up-to-date and follow the [technical recommendations](#) that help improve the security of your Intel Quartus Prime installation.

Intel Quartus Prime Pro Edition Software Version 21.2 includes the following new features and enhancements:

- Added support for Intel Agilex™ devices with F-Tile and R-Tile:
 - Added new Support-Logic Generation (`quartus_tlg`) compilation stage. This stage runs before the Analysis & Synthesis compilation stage to support logic generation for F-Tiles and R-Tiles.
The Support-Logic Generation stage contains a Design Analysis stage and a Logic Generation stage that you can run individually from the Design Compilation dashboard.
 - Added Tile Interface Planner for interactive placement refining and incremental placement changes. Run the Tile Interface Planner after Design Analysis to plan F-Tile IP and provide constraints to the Support-Logic Generation stage.
- Enhanced the security of Intel Stratix® 10 devices with the following new features:
 - Physical anti-tamper mitigation
 - Key scrambling for BBRAM
 - User-defined eFuse

- Enhanced the security of Intel Agilex devices with the following new features:
 - Key scrambling for BBRAM
 - User-defined eFuse

Intel Quartus Prime Pro Edition Software Version 21.2 also includes bug fixes. Review [Software Issues Resolved](#) on page 16 and [Software Patches Included in this Release](#) on page 17 to see if this version contains fixes for or otherwise resolves any of your customer service requests.

1.2. Changes to Software Behavior

This section documents instances in which the behavior and default settings of the Intel Quartus Prime Pro Edition software have been changed from earlier releases of the Intel Quartus Prime Pro Edition software.

- Starting with the Intel Agilex device family, the EDA netlist writer does not support IBIS model generation. The EDA netlist writer continues to support IBIS model generation for earlier device families.

You can download IBIS models for all device families from the following web page: [IBIS Models for Intel Devices](#). This page is updated as IBIS models for devices become available.

- Intel FPGA IP cores are transitioning to a new version number scheme. Previously, IP core version numbers aligned with Intel Quartus Prime version numbers.

Under the new scheme, IP core version numbers move to a three-part version numbering scheme (X.Y.Z) that is independent of Intel Quartus Prime version numbers. Changes in the parts of an IP core version number indicate different things and might require actions on your part:

- X: A change in X indicates a major revision of the IP. You must regenerate the IP.
- Y: A change in Y indicates that the IP includes new features, but retains backwards compatible behavior, ports, and parameters with all X level IP cores. Regenerate the IP to include these new features.
- Z: A change in Z indicates that the IP includes bug fixes and minor improvements, but retains backwards compatible behavior, ports, and parameters with all X level IP cores. Regenerate the IP to include the fixes and improvements.

In addition, new IP cores start their version numbering at 1.0.0. Existing IP cores adopt the new numbering scheme but increment the version number from their current version number.

Review your IP core release notes to confirm the versioning scheme for your IP core.

Refer to the Intel Quartus Prime Default Settings File (.qdf), *<Quartus Prime installation directory>/quartus/bin/assignment_defaults.qdf*, for a list of all the default assignment settings for the latest version of the Intel Quartus Prime software.

1.2.1. Deprecated Features and Functions

The functions and features listed in this section have been deprecated but not removed from Intel Quartus Prime Pro Edition Version 21.2 or earlier. Migrate your tools and processes to use the replacement or alternate features and functions before the deprecated features and functions are removed.

Features and Functions Deprecated as of Intel Quartus Prime Pro Edition Version 21.2

No features or functions have been deprecated in Intel Quartus Prime Pro Edition Version 21.2.

Features and Functions Deprecated as of Intel Quartus Prime Pro Edition Version 21.1

No features or functions have been deprecated in Intel Quartus Prime Pro Edition Version 21.1.

Features and Functions Deprecated as of Intel Quartus Prime Pro Edition Version 20.4

No features or functions have been deprecated in Intel Quartus Prime Pro Edition Version 20.4.

Features and Functions Deprecated as of Intel Quartus Prime Pro Edition Version 20.3

The following features and functions are deprecated as of Intel Quartus Prime Pro Edition Version 20.3:

- Support for Cadence* Incisive* Enterprise Simulator (IES).
Use Cadence Xcelium* Parallel Logic Simulation or another supported simulation tool instead. For a list of supported simulation tools, see [EDA Interface Information](#) on page 15.
Starting with Version 21.1, support for Cadence Incisive Enterprise Simulator (IES) is removed.
- Rapid Recompile compile flow
Use ECO compile flow instead.
Starting with Version 21.1, support for Rapid Recompile flow is removed.
- **Report Timing Closure Recommendations** command
Use the **Report DRC** command in Design Assistant instead. The design rule check (DRC) include rules used to report timing closure recommendations.
- Intel Hyperflex™ Retimer Rules (HRR) category in Design Assistant.
The rules in the HRR category have been moved into the Timing Closure Rules (TMC) category and the Reset Rules (RR) category.

1.2.2. Removed Features and Functions

The functions and features listed in this section have been removed from Intel Quartus Prime Pro Edition Version 21.2 or earlier.

Features and Functions Removed from Intel Quartus Prime Pro Edition Version 21.2

No features or functions have been removed from Intel Quartus Prime Pro Edition Version 21.2.

Features and Functions Removed from Intel Quartus Prime Pro Edition Version 21.1

- Removed support for Cadence Incisive Enterprise Simulator (IES).
- Removed Rapid Recompile flow.
- For Intel Stratix 10 devices, removed support for the following Active Serial configuration clock (AS_CLK) frequencies: 133 MHz, 108 MHz.

Features and Functions Removed from Intel Quartus Prime Pro Edition Version 20.4

No features or functions have been removed from Intel Quartus Prime Pro Edition Version 20.4.

Features and Functions Removed from Intel Quartus Prime Pro Edition Version 20.3

As of Intel Quartus Prime Version 20.3, the components that comprised the Intel SoC Embedded Development Suite (EDS) are available only through GitHub.

For details, see the Intel Download Center for FPGAs: <https://fpgasoftware.intel.com/soceds/>.

1.3. Operating System Support

Information about operating system support for the Intel Quartus Prime Design Suite is available on the Operating System Support page of the Intel FPGA website.

Operating System Support Changes in Intel Quartus Prime Pro Edition Version 21.2

There are no operating system support changes in Intel Quartus Prime Pro Edition Version 21.2.

Operating System Support Changes in Intel Quartus Prime Pro Edition Version 21.1

There are no operating system support changes in Intel Quartus Prime Pro Edition Version 21.1.

Operating System Support Changes in Intel Quartus Prime Pro Edition Version 20.4

There are no operating system support changes in Intel Quartus Prime Pro Edition Version 20.4.

Operating System Support Changes in Intel Quartus Prime Pro Edition Version 20.3

Intel Quartus Prime Pro Edition Version 20.3 added support for the following operating systems:

- CentOS* 8.0
- Red Hat* Enterprise Linux* 8
- SUSE* Linux Enterprise Server 15
- Ubuntu* Linux 20 LTS
- Windows Server* 2019

Intel Quartus Prime Pro Edition Version 20.3 removed support for the following operating systems:

- Red Hat Enterprise Linux 6
- Ubuntu Linux 14 LTS

Related Information

[Operating System Support](#)

1.4. Memory Recommendations

A full installation of the Intel Quartus Prime Pro Edition software requires up to 140 GB of available disk space.

Intel recommends that your system be configured to provide virtual memory equal to the recommended physical RAM that is required to process your design.

Note: Peak virtual memory might exceed these recommendations. These recommendations are based on the amount of physical memory required to achieve runtime within 10% of that achieved on hardware with an infinite amount of RAM.

Table 1. Memory Requirements for Processing Designs

These requirements are the same for both Windows and Linux installations.

Family	Device	Recommended Physical RAM
Intel Agilex	AGFA022, AGFA027, AGFB022, AGFB027, AGIB022, AGIB027	64 GB
	AGFA012, AGFA014, AGFB012, AGFB014	32 GB
Intel Arria® 10	10AT115, 10AX115	48 GB
	10AT090, 10AX090	44 GB
	10AS066, 10AX066	32 GB
	10AS057, 10AX057	30 GB
	10AS048, 10AX048	28 GB
	10AS032, 10AX032	24 GB
	10AS027, 10AX027	22 GB
	10AS022, 10AX022	20 GB
	10AS016, 10AX016	18 GB
Intel Cyclone® 10 GX	10CX85, 10CX105, 10CX150, 10CX220	18 GB
Intel Stratix 10	1SD21BP, 1SD280P, 1SG10MH, 1SG210H, 1SG211H, 1SG250H, 1SG250L, 1SG280H, 1SG280L, 1SM21BE, 1SM21BH, 1SM21CH, 1ST210E, 1ST250E, 1ST280E, 1SX210H, 1SX250H, 1SX250L, 1SX280H, 1SX280L	64 GB
	1SG165H, 1SG166H, 1SM16BE, 1SM16BH, 1SM16CH, 1ST165E, 1SX165H	48 GB
	1SD110P, 1SG040H, 1SG065H, 1SG085H, 1SG110H, 1ST040E, 1ST085E, 1ST110E, 1SX065H, 1SX085H, 1SX110H, 1SX040H	32 GB

1.5. Device Support and Pin-Out Status

Table 2. Final Device Support

Final compilation, simulation, timing analysis, and programming support is available for the devices listed in this table. These devices have finalized device models, bitstream, and firmware.

Device Family	Devices
Intel Arria 10	10AS016, 10AS022, 10AS027, 10AS032, 10AS048, 10AS057, 10AS066 10AT090, 10AT115 10AX016, 10AX022, 10AX027, 10AX032, 10AX048, 10AX057, 10AX066, 10AX090, 10AX115
Intel Cyclone 10 GX	10CX085, 10CX105, 10CX150, 10CX220
Intel Stratix 10	1SD110P, 1SD21BP, 1SD280P 1SG040H, 1SG065H, 1SG085H, 1SG10MH, 1SG110H, 1SG165H, 1SG166H, 1SG210H, 1SG211H, 1SG250H, 1SG250L, 1SG280H, 1SG280L 1SM16BE, 1SM16BH, 1SM16CH, 1SM21BE, 1SM21BH, 1SM21CH, 1ST040E, 1ST085E, 1ST110E, 1ST165E, 1ST210E, 1ST250E, 1ST280E
<i>continued...</i>	

Device Family	Devices
	1SX040H, 1SX065H, 1SX085H, 1SX110H, 1SX165H, 1SX210H, 1SX250H, 1SX250L, 1SX280H, 1SX280L

Table 3. Preliminary Device Support

Full compilation, simulation, timing analysis, and programming support is available for the devices listed in this table.

Device Family	Devices
Intel Agilex	AGFA012, AGFA014, AGFA014-R0, AGFA022R25, AGFA027R25 AGFB012, AGFB014, AGFB014-R0, AGFB022R25, AGFB027R25 AGIB027R29-R0
Intel Stratix 10	1SD110P-S1 1SG280H-S3, 1SG280L-S3 1SX280H-S3, 1SX280L-S3

Table 4. Advance Device Support

Compilation, simulation, and timing analysis support is provided for these devices. The compiler generates pinout information for these devices in this release, but does not generate programming files.

Device Family	Devices
Intel Agilex	AGFA022R24, AGFA022R31, AGFA027R24, AGFA027R31 AGFB022R24, AGFB022R31, AGFB027R24, AGFB027R31 AGIB022, AGIB027

Table 5. Initial Device Support

Compilation, simulation, and timing analysis support is provided for these devices. Programming files and pinout information are not generated for these devices in this release.

Device Family	Devices
No devices with this status in Intel Quartus Prime Pro Edition Version 21.2.	

1.5.1. Changes in Device Support

Starting with Intel Quartus Prime Version 20.1, a new device support level was introduced: **Preliminary** device support.

For devices with **Preliminary** device support, Intel Quartus Prime provides full compilation, simulation, timing analysis, and programming support but the device models, bitstreams, and firmware for the devices are not finalized.

Devices with **Final** device support (previously *Full*) have finalized device models, bitstreams, and firmware.

The definitions of **Initial** and **Advance** device support levels are unchanged.

For information about known device issues and workarounds, refer to the following web page: [Intel FPGA Knowledge Base](#).

New Device Support

Support for the following devices is added to Intel Quartus Prime Pro Edition Version 21.2 with **Advance** device support:

- AGFA022R24
- AGFA022R31
- AGFA027R24
- AGFA027R31
- AGFB022R24
- AGFB022R31
- AGFB027R24
- AGFB027R31
- AGIB022
- AGIB027

Support for the following device is added to Intel Quartus Prime Pro Edition Version 21.2 with **Preliminary** device support:

- AGIB027R29-R0

Changed Device Support

Support for the following devices moves from **Preliminary** device support to **Final** device support:

- 1SG065H
- 1SX065H

Support for the following devices moves from **Advance** device support to **Preliminary** device support:

- AGFA012
- AGFA014
- AGFA022R25
- AGFA027R25



- AGFB012
- AGFB014
- AGFB022R25
- AGFB027R25

1.6. Timing Model, Power Model, and Device Status

Only devices with a timing model, power model, and device status of **Final** are suitable for production systems.

Table 6. Timing Model, Power Model, and Device Status for Intel Agilex Devices

Device Family	Device	Timing Model Status	Power Model Status	Device Status
Intel Agilex	AGFA014-R0, AGFB014-R0	Preliminary	Preliminary	Preliminary
	AGFA012, AGFA014, AGFA022, AGFA027, AGFB012, AGFB014, AGFB022, AGFB027	Preliminary	Preliminary	Preliminary
	AGIB022, AGIB027	Preliminary	Preliminary	Preliminary
	AGIB027R29A-R0	Preliminary	Preliminary	Preliminary

Table 7. Timing Model, Power Model, and Device Status for Intel Arria 10 Devices

Device Family	Device	Timing Model Status	Power Model Status	Device Status
Intel Arria 10	10AX016, 10AS016, 10AX022, 10AS022, 10AX027, 10AS027, 10AX032, 10AS032	Final - 16.1 ⁽¹⁾ ⁽²⁾	Final - 17.0	Final - 17.0
	10AX048, 10AS048	Final - 16.0.2 ⁽²⁾	Final - 17.0	Final - 17.0
	10AX057, 10AS057, 10AX066, 10AS066, 10AT090, 10AX090	Final - 16.0.1 ⁽²⁾	Final - 16.0.1	Final - 16.0.1
	10AX115, 10AT115	Final - 16.0 ⁽²⁾	Final - 16.0	Final - 16.0

Table 8. Timing Model, Power Model, and Device Status for Intel Cyclone 10 Devices

Device Family	Device	Timing Model Status	Power Model Status	Device Status
Intel Cyclone 10 GX	10CX085, 10CX105, 10CX150, 10CX220	Final - 17.0	Final - 18.0	Final - 18.0

Table 9. Timing Model, Power Model, and Device Status for Intel Stratix 10 Devices

Device Family	Device	Timing Model Status	Power Model Status	Device Status
Intel Stratix 10	1SG280L, 1SX280L, 1SG250L, 1SX250L	Final - 18.0.1	Final - 18.1.1	Final - 18.1.1
	1SG280H, 1SX280H, 1SG250H, 1SX250H, 1SG210H, 1SX210H, 1SG165H, 1SX165H, 1SG110H, 1SX110H, 1SG085H, 1SX085H	Final - 18.1.1	Final - 18.1.1	Final - 18.1.1
	1ST280E, 1ST250E	Final - 18.1.1	Final - 19.4	Final - 19.4
	1SM21BH, 1SM21CH, 1SM16BH, 1SM16CH	Final - 19.1	Final - 19.1	Final - 19.1
	1SG10MH, 1SG166H, 1SG211H	Final - 19.1	Final - 19.3	Final - 19.3
	1ST210E, 1SM21BE, 1ST165E, 1SM16BE	Final - 19.2	Final - 19.4	Final - 19.4

continued...

⁽¹⁾ Devices with a -1 speed grade were finalized in Intel Quartus Prime software version 17.0

⁽²⁾ All military grade devices were finalized in Intel Quartus Prime software version 18.0.1.



Device Family	Device	Timing Model Status	Power Model Status	Device Status
	1SD280P, 1ST040E, 1ST085E, 1ST110E	Final - 20.1	Final - 20.1	Final - 20.1
	1SD110P	Final - 20.2	Final - 20.2	Final - 20.2
	1SD21BP	Final - 20.3	Final - 20.3	Final - 20.3
	1SG040H, 1SX040H	Final - 20.3	Final - 20.3	Final - 21.1
	1SG065H, 1SX065H	Final - 21.2	Final - 21.2	Final - 21.2

1.7. IBIS Models

Table 10. IBIS Model Status for the Intel Quartus Prime Pro Edition Software Release Version 21.2

Device families have IBIS model statuses that are either Advance, Preliminary, or Final.

Device Family	IBIS Model Status
Intel Agilex	Refer to IBIS Models for Intel Devices .
Intel Arria 10	Final - 16.1.2
Intel Cyclone 10 GX	Final - 17.0
Intel Stratix 10	Final - 18.1

Starting with the Intel Agilex device family, IBIS models are available only online at the following web page: [IBIS Models for Intel Devices](#). This page is updated as IBIS models for devices become available or are updated.

1.8. EDA Interface Information

Table 11. Synthesis Tools Supporting the Intel Quartus Prime Pro Edition Software Release Version 21.2

Synthesis Tools	Version
Mentor Graphics* Precision*	Mentor Graphics Precision versions that support the Intel Quartus Prime software are typically released after the release of the Intel Quartus Prime software. Contact Mentor Graphics for versions of Mentor Graphics* Precision that support Intel Quartus Prime Pro Edition Software Version 21.2.
Synopsys* Synplify*, Synplify Pro*, and Synplify Premier	Synopsys Synplify, Synplify Pro, and Synplify Premier versions that support the Intel Quartus Prime software are typically released after the release of the Intel Quartus Prime software. Contact Synopsys for versions of Synopsys Synplify, Synplify Pro, and Synplify Premier that support Intel Quartus Prime Pro Edition Software Version 21.2.

Table 12. Simulation Tools Supporting the Intel Quartus Prime Pro Edition Software Release Version 21.2

The following simulation tools support RTL and functional gate-level simulation.

Simulation Tools	Version
Aldec* Active-HDL*	11.1 (Windows 32-bit only)
Aldec Riviera-PRO*	2019.10 (64-bit only)
Cadence Xcelium Parallel Logic Simulation	20.09 (64-bit Linux only)
Mentor Graphics ModelSim* PE	2020.4 (Windows 32-bit only)
Mentor Graphics ModelSim SE	2020.4 (64-bit only)
Mentor Graphics ModelSim-Intel FPGA Edition*	2021.1 (32-bit only)
Mentor Graphics Questa* Advanced Simulator	2020.4 (64-bit only)
Questa-Intel FPGA Edition (Beta)	2021.1 (64-bit only)
Synopsys VCS* and VCS MX	Q-2020.03-SP2 (64-bit Linux only)

Mentor Graphics ModelSim-Intel FPGA Edition requires licensing daemon version 11.16.4.0 (or later). You can obtain the licensing daemon from the [Intel FPGA License Daemon Downloads](#) web page.

You can obtain Intel FPGA Edition of simulation tools from the Download Center for FPGAs.

Operating System Support for Mentor Graphics ModelSim-Intel FPGA Edition version 2021.1 (requires 32-bit libraries)

- Red Hat Enterprise Linux 7 (64-bit)
- Red Hat Enterprise Linux 8 (64-bit)
- SUSE Linux Enterprise Server 12 (64-bit)
- Windows* 10 (64-bit)

Related Information

[Download Center for FPGAs](#)

1.9. Antivirus Verification

The Intel Quartus Prime software release version 21.2 has been verified virus free with the following software:

Antivirus Verification Software

McAfee VirusScan Command Line for Linux64 Version: 6.1.3.242
 AV Engine version: 6010.8670 for Linux64.
 Dat set version: 10017 created Jun 16 2021

1.10. Software Issues Resolved

The following customer service requests were fixed or otherwise resolved in Intel Quartus Prime Pro Edition Version 21.2:

Table 13. Issues Resolved in the Intel Quartus Prime Pro Edition Version 21.2

Customer Service Request Numbers							
00546229	00550304	00553373	00554797	00569653	00571983	00572020	00580415
00584087	00584762	00585167	00585396	00586241	00586886	00587231	00591767
00594842	00596657	00597640	00599527	00600321	00600654	00600963	00604379
00604807	00605273	00606036	00606092	00607274	00607754	00608246	00608669
00609862	00610116	00613061	00614234	00617850	04979466	04999901	11352147

1.11. Software Patches Included in this Release

Intel Quartus Prime Pro Edition Version 21.2 contains the following patches for previous versions of Intel Quartus Prime Pro Edition software:

Table 14. Software Patches included in Intel Quartus Prime Pro Edition Version 21.2

Software Version	Patch	Customer Service Request Number
Intel Quartus Prime Version 21.1	0.26	-
Intel Quartus Prime Version 21.1	0.24fw	00575608
Intel Quartus Prime Version 21.1	0.21	00610116
Intel Quartus Prime Version 21.1	0.16	-
Intel Quartus Prime Version 21.1	0.14cl	-
Intel Quartus Prime Version 21.1	0.12	-
Intel Quartus Prime Version 21.1	0.09	-
Intel Quartus Prime Version 21.1	0.08	00606092
Intel Quartus Prime Version 21.1	0.06	-
Intel Quartus Prime Version 21.1	0.04	00553373
Intel Quartus Prime Version 21.1	0.03	-
Intel Quartus Prime Version 21.1	0.02	-
Intel Quartus Prime Version 20.4	0.31	-
Intel Quartus Prime Version 20.3	0.66fw	00607754
Intel Quartus Prime Version 20.3	0.59	00600321
Intel Quartus Prime Version 20.3	0.58	00608669
Intel Quartus Prime Version 20.3	0.56	00587231
Intel Quartus Prime Version 20.2	0.56	00600321
All versions	0.02i	00600654

1.12. Latest Known Intel Quartus Prime Software Issues

Information about known issues that affect Intel Quartus Prime Pro Edition Version 21.2 is available in the Intel Programmable Solutions Knowledge Base.

Table 15. Important Known Issues Affecting Intel Quartus Prime Pro Edition Version 21.2

For the latest information about issues that affect Intel Quartus Prime Pro Edition Version 21.2, refer to *What problems do I need to know about in the Intel Quartus Prime Pro Edition software version 21.2?* in the Intel FPGA Knowledge Base.

Description	Workaround
The design example 10/100/1000Mb Ethernet MAC (FIFOless) with 1000BASE-X/SGMII 2XTBI PCS with E-Tile GXB Transceiver fails to generate in Intel Quartus Prime Pro Edition Version 21.2.	If your design uses the affected IP, do not upgrade to Intel Quartus Prime Pro Edition Version 21.2. For details and the availability of a fix, refer to <i>What problems do I need to know about in the Intel Quartus Prime Pro Edition software version 21.2?</i>
If you use PHY Lite for Parallel Interfaces Intel FPGA IP, you might observe a data slip on the output path for approximately 800 cycles when the IP runs with a VCO clock frequency around 1066 MHz. This process, voltage, temperature (PVT) sensitive issue can occur at random at any time.	If your design uses PHY Lite for Parallel Interfaces Intel FPGA IP, do not upgrade to Intel Quartus Prime Pro Edition Version 21.2. For details and the availability of a fix, refer to <i>What problems do I need to know about in the Intel Quartus Prime Pro Edition software version 21.2?</i>
Configuring your Intel Agilex F-Tile or R-Tile devices via Protocol (CvP) Initialization / CvP Update does not work.	For details, refer to <i>Why is the Configuration via Protocol (CvP) Initialization / CvP Update not functioning in Intel Agilex F-Tile & R-Tile?</i> in the Intel FPGA Knowledge Base.
For Intel Agilex devices, the polarity of the Output Enable signal is incorrect when you control a General Purpose Output Buffer by using an Output Enable signal that is driven directly by the FPGA fabric with using an OE Register in the IO Cell.	For details and the availability of a fix, refer to <i>What problems do I need to know about in the Intel Quartus Prime Pro Edition software version 21.2?</i>
You might see hardware failures when using the Intel Stratix 10 10GBASE-KR PHY IP core.	For details, refer to <i>Why do I see functional errors in hardware when using the Intel Stratix 10 10GBASE-KR PHY IP core?</i>

You can find known issue information for previous versions of the Quartus Prime software on the [Intel FPGA Knowledge Base](#) web page.

Information about known software issues that affect previous versions of the Quartus II software is available on the [Intel Quartus Prime and Quartus II Software Support](#) web page.

Information about issues affecting the Intel FPGA IP Library is available in the release notes for each IP. You can find the IP release notes on the [Intel FPGAs and Programmable Devices Release Notes](#) web page.

Related Information

- [Intel FPGA Knowledge Base](#)
- [Intel Quartus Prime and Quartus II Software Support](#)
- [Intel FPGAs and Programmable Devices Release Notes](#)

1.13. Intel Quartus Prime Pro Edition Version 21.2 Software and Device Support Release Notes Archives

Intel Quartus Prime Pro Edition	Publication
21.1	Intel Quartus Prime Pro Edition Version 21.1 Software and Device Support Release Notes
20.4	Intel Quartus Prime Pro Edition Version 20.4 Software and Device Support Release Notes
20.3	Intel Quartus Prime Pro Edition Version 20.3 Software and Device Support Release Notes
20.2	Intel Quartus Prime Pro Edition Version 20.2 Software and Device Support Release Notes
20.1	Intel Quartus Prime Pro Edition Version 20.1 Software and Device Support Release Notes
19.4	Intel Quartus Prime Pro Edition Version 19.4 Software and Device Support Release Notes
19.3	Intel Quartus Prime Pro Edition Version 19.3 Software and Device Support Release Notes
19.2	Intel Quartus Prime Pro Edition Version 19.2 Software and Device Support Release Notes
19.1	Intel Quartus Prime Pro Edition Version 19.1 Software and Device Support Release Notes
18.1	Intel Quartus Prime Pro Edition Version 18.1 Software and Device Support Release Notes
18.0	Intel Quartus Prime Pro Edition Software and Devices Support Release Notes
17.1	Intel Quartus Prime Pro Edition Software and Devices Support Release Notes
17.0	Intel Quartus Prime Pro Edition Software and Devices Support Release Notes

1.14. Document Revision History

Table 16. The Intel Quartus Prime Pro Edition Software Release Version 21.2 Document Revision History

Document Version	Intel Quartus Prime Version	Changes
2021.06.21	21.2	<ul style="list-style-type: none"> Initial release.