

This document provides late-breaking information about the Altera® Quartus® II software version 14.0.

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For information about operating system support, refer to the **readme.txt** file in your **altera/<version number>/quartus directory**. For the latest information about the MegaCore® IP Library, refer to the *MegaCore IP Library Release Notes and Errata*.



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## New Features & Enhancements

The Quartus II software version 14.0 includes the following new features and enhancements:

- Enhanced device support:
  - Full device support for the following Cyclone<sup>®</sup> V devices: 5CSEA2, 5CSEA4, 5CSXC2, 5CSXC4
- Improvements to Altera's PCI Express<sup>®</sup> (PCIe<sup>®</sup>) intellectual property (IP) solution, including:
  - Superior throughput and IOPS performance to boost your application performance
  - Linux and Windows enterprise ready device drivers to enable the use of free, off-the-shelf I/O subsystem benchmark measurement tools
  - Soft logic blocks, such as scatter-gather list-based direct memory access (DMA) engines and single-root I/O virtualization (SR-IOV)
  - The complete PCIe IP solution is compliant with the Qsys system integration tool and has been streamlined to maximize your productivity
- The IP Catalog and parameter editor replace the MegaWizard<sup>™</sup> Plug-In Manager
- The Quartus II Problem Reporter for quick and easy reporting of software issues
- Support for the USB-Blaster<sup>™</sup> II programming cable
- Support for up to 16 cores, delivering an average compile time speed up of 2X compared with a single-core processor
- Final timing models for Arria<sup>®</sup> V SoCs and Cyclone V SoCs, finalizing the timing models for all V-series SoC families
- Advanced single event upset (SEU) detection IP, to categorize the severity of a soft error during device operation
- Fault Injection Debugger, to simulate soft errors in configuration memory during bench testing
- New features and enhancements to Qsys, including:
  - Expanded ARM<sup>®</sup> AMBA<sup>®</sup> AXI<sup>™</sup> support, including AXI4-Lite, a lightweight version of AXI4, and AXI4-ST for point-to-point connections
  - Bus functional models (BFMs)
  - A new AXI bridge for designers to build network topologies without the bottlenecks of the Avalon<sup>®</sup> Memory Mapped (Avalon-MM) interface

- New features and enhancements to Altera SDK for OpenCL™, including:
  - An emulator to step through the code on an x86 processor and ensure it is functionally correct
  - A detailed optimization report to understand the load and store inner loop dependencies
  - A rapid prototyping tool to tackle the long compile times associated with building an FPGA and run the kernel code on a prebuilt FPGA template
  - A profiler that shows performance insight into the kernel to ensure proper memory coalescence and stall-free hardware pipeline
- The re-architected Rapid Recompile feature provides advanced design flow for Arria V, Cyclone V, and Stratix® V devices to reduce compilation time. Rapid Recompile is recommended for iterative compilation changes that affect a small subset of a large design (i.e. less than 5% of total design logic)
- New features and enhancements to the SignalTap™ II Logic Analyzer, including:
  - User interface enhancements
  - Incremental routing with Rapid Recompile (Arria V, Cyclone V, and Stratix V devices only)
  - Basic OR triggering condition with nested groups
  - Custom trigger HDL object
- Quartus II Help has the following browser compatibility:
  - Local Quartus II Help (Help on a local drive installed by the Altera Installer) is fully compatible with Microsoft Internet Explorer 11, Google Chrome, and Safari 5 running on Windows 7 operating systems
  - Quartus II Web Help (hosted at <http://quartushelp.altera.com/current>) is fully compatible with Microsoft Internet Explorer 11, Mozilla Firefox 28.0, Safari 5, and Google Chrome

## Memory Recommendations

A full installation of the Quartus II software requires up to 21 GB of available disk space on the drive or partition where you are installing the Altera software.

The Quartus II Stand-Alone Programmer requires a minimum of 1 GB of RAM plus additional memory, based on the size and number of SRAM Object Files (.sof) and the size and number of devices being configured.

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

The following table lists the memory required to process designs targeted for Altera devices.

Family	Device	Recommended Physical RAM
Arria II GX	EP2AGX45	1.5 GB
	EP2AGX65	2.0 GB
	EP2AGX95, EP2AGX125, EP2AGX190	4.0 GB
	EP2AGX260	6.0 GB
Arria II GZ	EP2AGZ225	4.0 GB
	EP2AGZ300	6.0 GB
	EP2AGZ350	8.0 GB
Arria V	5AGXA1	6.0 GB
	5AGTC3, 5AGXA3, 5AGXA5	8.0 GB
	5AGXA7, 5AGTC7	10.0 GB
	5AGXB1, 5AGXB3, 5AGTD3, 5ASTD3, 5ASXB3	12.0 GB
	5AGXB5, 5AGTD7, 5AGXB7, 5ASXB5, 5ASTD5	16.0 GB
Arria V GZ	5AGZE1	8.0 GB
	5AGZE3, 5AGZE5	12.0 GB
	5AGZE7	16.0 GB
Cyclone IV E	EP4CE6, EP4CE10, EP4CE15, EP4CE22, EP4CE30, EP4CE40	512 MB
	EP4CE55, EP4CE75	1.0 GB
	EP4CE115	1.5 GB
Cyclone IV GX	EP4CGX15, EP4CGX22, EP4CGX30	512 MB
	EP4CGX50, EP4CGX75	1.5 GB
	EP4CGX110, EP4CGX150	2.0 GB
Cyclone V	5CEA2, 5CGXC3, 5CEA4, 5CGXC4, 5CEA5, 5CGTD5, 5CGXC5, 5CSEA5, 5CSTD5, 5CSXC5, 5CSEA6, 5CSXC6, 5CEA7, 5CGTD7, 5CGXC7, 5CSEA2, 5CSEA4, 5CSXC2, 5CSXC4, 5CSTD6	6.0 GB
	5CEA9, 5CGTD9, 5CGXC9	8.0 GB
MAX V	All	512 MB

<b>Family</b>	<b>Device</b>	<b>Recommended Physical RAM</b>
Stratix IV	EP4SGX70	2.0 GB
	EP4SE230 EP4SGX110, EP4SGX230, EP4S40G2, EP4S100G2	4.0 GB
	EP4SGX290	6.0 GB
	EP4SE360 EP4SGX360, EP4S100G3, EP4S100G4	8.0 GB
	EP4SGX530, EP4SE530, EP4SE820, EP4S40G5, EP4S100G5	12.0 GB
Stratix V	5SGSD3	8.0 GB
	5SGXA3, 5SGSD4, 5SGXA4, 5SGTC5	12.0 GB
	5SGSD5, 5SGXA5, 5SGXB5, 5SGSD6, 5SGXB6	16.0 GB
	5SGTC7, 5SGXA7, 5SGSD8	20.0 GB
	5SGXA9, 5SEE9	24.0 GB
	5SEEB, 5SGXAB, 5SGXB9, 5SGXBB	28.0 GB

## Changes in Device Support

The following section is divided into device support changes according to whether the change is a notification, and whether the change has been fixed or not fixed.

Description	Workaround
<b>Change Notifications</b>	
<b>Device Support Not Fixed</b>	
<p><b>Cannot Upgrade Outdated IP Core Targeting Obsolete Device Family</b></p> <p>If your design includes one or more outdated Altera IP cores that specifically target an unsupported legacy device family and you attempt to upgrade the IP cores (<b>Project &gt; Upgrade IP Components</b>), the Quartus II software issues an error and the upgrade fails. This condition can occur if you restore an archived project that contains an IP core that targets an unsupported legacy family.</p>	<p>To use the IP core in the current version of the Quartus II software, click <b>Tools &gt; IP Catalog</b> and define a new instance of the IP core that targets a supported device family.</p>
<p><b>SignalTap II requires additional logic resources</b></p> <p>Additional logic resources are required in SignalTap II to calculate the CRC values of data shifted out of the device to validate data integrity during JTAG communication. This extra logic uses up to 77 logic elements. No SignalTap II IP functionality is affected by this change. The Quartus II software automatically detects the availability of this CRC calculation. However, this extra logic consumption may not be optimal for your design.</p>	<p>Open the <code>sld_signaltap.vhd</code> top-level SignalTap megafunction plain-text source file in a text editor.</p> <p>Set the <code>SLD_DISABLE_TDO_CRC_GEN</code> parameter to 1.</p>
<p><b>Netlist viewer does not refresh when the design is recompiled</b></p> <p>The Netlist Viewer will not update after recompilation if the Netlist Viewer window is open when you modify and recompile the design by double-clicking on <b>Fitter</b> in the Task pane on the left side of the Quartus II software.</p>	<p>Close the Netlist Viewer window prior to compiling the design, or go to <b>Processing &gt; Start &gt; Start Fitter/Start Analysis and Synthesis</b> when you modify and recompile the design.</p>

Description	Workaround
<p><b>USB Blaster II device drivers not automatically installed on Windows</b></p> <p>The USB-Blaster™ II device drivers require manual installation so that the cable will be properly recognized.</p>	<ol style="list-style-type: none"> <li>1. Plug in the USB-Blaster II.</li> <li>2. Open the <b>Device Manager</b> and right-click on the <b>Unknown device</b> under the <b>Other devices</b> branch.</li> <li>3. Select <b>Update Driver Software</b>.</li> <li>4. Select <b>Browse my computer for driver software</b>.</li> <li>5. Enter the location of the Quartus II software USB-Blaster II driver files directory (&lt;quartus&gt;/drivers/usb-blaster-ii) in the <b>Search for driver software in this location</b> field.</li> <li>6. Click <b>Next</b>.</li> <li>7. Click <b>Install</b> in the <b>Would you like to install this device software?</b> Windows security dialog box.</li> <li>8. Close the <b>Update Driver Software - Altera USB-Blaster II (Unconfigured)</b> successful installation notification. The Device Manager now shows a new branch called <b>JTAG cables with an Altera USB-Blaster II (Unconfigured)</b> node.</li> <li>9. Open the Quartus II Programmer. Within a few seconds, the <b>JTAG cables</b> branch displays two nodes: <b>Altera USB-Blaster II (JTAG interface)</b> and <b>Altera USB-Blaster II (System Console interface)</b>.</li> </ol>
<b>Device Support Fixed</b>	
<p><b>VHDL (*.vho) netlist fails to generate using EDA Netlist Writer in Cyclone V</b></p> <p>When you generate a VHDL simulation netlist (.vho) for Cyclone V devices, the EDA Netlist Writer generates the following message:</p> <pre>Warning (11101): Unable to generate the VHDL EDA simulation netlist files because the Quartus II software does not currently support VHDL post-compilation simulation for the Cyclone V devices.</pre>	<p>This issue is corrected in the Quartus II software version 14.0.</p>

## Changes to Software Behavior

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

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

Items listed in the following table represent cases in which the behavior of the current release of the Quartus II software is different from a previous version.

Description	Workaround
<p><b>The MegaWizard Plug-In Manager has been removed from the Quartus II software release version 14.0</b></p> <p>The IP Catalog and parameter editor replace the MegaWizard Plug-In Manager in the Quartus II software to unify all Altera IP within one GUI. The Quartus II software might generate messages that refer to the MegaWizard Plug-In Manager. Substitute "IP Catalog and parameter editor" for "MegaWizard Plug-In Manager" in these messages.</p>	<p>You can access the IP Catalog by selecting <b>Tools &gt; IP Catalog</b>.</p>
<p><b>The autorun Altera Complete Design Suite installation window does not appear when installing the Quartus II software on Red Hat Enterprise Linux 6</b></p> <p>The autorun Altera Complete Design Suite installation window has been removed from the Quartus II software installation DVD for Red Hat Enterprise Linux 6. The Quartus II software setup wizard window will launch automatically.</p>	<p>There is no workaround.</p>



## Device Support and Pin-Out Status

This section contains information about the device support status in the Quartus II software version 14.0.

### Full Device Support

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

Device Family	Devices	
Cyclone V	5CSEA2	5CSEA4
	5CSXC2	5CSXC4

### Device Support Removed

The following table lists the device families that are no longer supported by the Quartus II software. It lists which software version where support was removed, and the last software version that included support.

Device Family Removed	Support Removed in...	Last Supported in...
Cyclone III	14.0	13.1
Stratix III		
Arria GX	13.1	13.0
Cyclone, Cyclone II		
MAX 3000A, MAX 7000A, MAX 7000AE, MAX 7000B, MAX 7000S		
HardCopy II, HardCopy III, HardCopy IV		
Stratix, Stratix GX, Stratix II, Stratix II GX		

## Timing and Power Models

The following table lists a summary of timing and power model status in the current version of the Quartus II software.

Device Family	Device	Timing Model Status	Power Model Status
Arria V	5AGXB5, 5AGXB7	Final – 12.1 SP1 (1)	Final – 13.1
	5AGTD7		Final – 14.0
	5AGXA1, 5AGXA3, 5AGTC3	Final – 13.0 SP1 (1)	Final – 14.0
	5AGXA5, 5AGXA7	Final – 13.1 (1)	Final – 14.0
	5AGXB1, 5AGXB3, 5AGTD3	Final – 13.0 (1)	Final – 13.1
	5AGTC7	Final – 13.1 (1)	Final – 13.1
Arria V GZ	All	Final – 12.1 SP1 (1)	Final – 13.0
Arria V SoC	5ASXB3, 5ASXB5, 5ASTD3, 5ASTD5	Final – 14.0	Final – 14.0
Cyclone V	5CEA2, 5CEA4, 5CEA7, 5CEA9, 5CGXC7, 5CGXC9, 5CGTD7, 5CGTD9	Final – 13.0 SP1	Final – 13.1
	5CEA5, 5CGXC4, 5CGXC5	Final – 13.1	Final – 13.1
	5CGXC3		Final – 14.0
Cyclone V SoC	5CSEA2, 5CSEA4, 5CSXC2, 5CSXC4	Final – 14.0	Preliminary
	5CSEA5, 5CSEA6, 5CSXC5, 5CSXC6, 5CSTD5, 5CSTD6		Final – 14.0
Stratix V	5SGXA7, 5SGXA5, 5SGTC5, 5SGTC7	Final – 12.1 (1)	Final – 13.0
	5SGSD3, 5SGSD4, 5SGSD5, 5SGXA3, 5SGXA4, 5SGXB5, 5SGXB6, 5SGXAB, 5SGXA9, 5SEE9, 5SEEB, 5SGXB9, 5SGXBB	Final – 12.1 SP1 (1)	Final – 13.0
	5SGSD6, 5SGSD8	Final – 13.0 SP1 (1)	Final – 13.0
<b>Notes:</b>			
(1) The timing model is updated in Quartus II software version 13.1.			

The current version of the Quartus II software also includes final timing and power models for the Arria II GX, Arria II GZ, Cyclone IV E, Cyclone IV GX, MAX II, MAX II Z, MAX V, and Stratix IV device families. Timing models for these device families became final in the Quartus II software versions 11.1 or earlier.

Support for Cyclone III and Stratix III devices has been removed from Quartus II software version 14.0. You must use Quartus II software version 13.1 to design with these device families.

## IBIS Models

The following table lists a summary of IBIS model status in the current version of the Quartus II software.

<b>Device Family</b>	<b>IBIS Model Status</b>
Arria II GX	Correlated with PHY device operation – 11.1
Arria II GZ	Correlated with PHY device operation – 11.1
Arria V	Correlated with PHY device operation – 14.0
Cyclone III LS	Correlated with PHY device operation – 11.1
Cyclone IV E	Correlated with PHY device operation – 11.1
Cyclone IV GX	Correlated with PHY device operation – 11.1
Cyclone V	Correlated with PHY device operation – 14.0
MAX V	Correlated with PHY device operation – 11.1
Stratix III	Correlated with PHY device operation – 11.1
Stratix IV	Correlated with PHY device operation – 11.1
Stratix V	Correlated with PHY device operation – 13.0 SP1

## EDA Interface Information

The Quartus II software version 14.0 supports the following EDA tools.

<b>Synthesis Tools</b>	<b>Version</b>	<b>NativeLink Support</b>
Mentor Graphics® DK Design Suite	5.0 SP5	✓
Mentor Graphics Precision	2014a	✓
Synopsys® Synplify, Synplify Pro, and Synplify Premier	E-2014.03-SP1	✓
<b>Simulation Tools</b>	<b>Version</b>	<b>NativeLink Support</b>
Aldec Active-HDL	9.3 (Windows only)	✓
Aldec Riviera-PRO	2013.10	✓
Cadence INCISIV Enterprise Simulator	13.10.012	✓
Mentor Graphics ModelSim® PE	10.1e	✓
Mentor Graphics ModelSim SE	10.2c	✓
Mentor Graphics ModelSim-Altera	10.1e	✓
Mentor Graphics Questa®	10.2c	✓
Synopsys VCS and VCS MX	2013.06-SP1	✓
<b>Formal Verification Tools (Equivalence Checking)</b>	<b>Version</b>	<b>NativeLink Support</b>
Cadence Encounter Conformal	8.1	—

## Antivirus Verification

The Altera Complete Design Suite version 14.0 has been verified virus free using the following software:

McAfee VirusScan Enterprise + AntiSpyware Enterprise Version: 8.8.0 (8.8.0.975)  
 Scan Engine Version (32 bit): 5600.1067  
 Scan Engine Version (64 bit): 5600.1067  
 DAT Version: 7464.0000

## Software Issues Resolved

The following Customer Service Requests were fixed or otherwise resolved in the Quartus II software version 14.0:

10831903	10839355	10845431	10847148	10847665	10850626	10850847	10853078
10857809	10859223	10860580	10862388	10864507	10868624	10868762	10870029
10871575	10871633	10874828	10875976	10893288	10896065	10905566	10907629
10907977	10908231	10909200	10909425	10910770	10912113	10913001	10916189
10916668	10916985	10920650	10924617	10926296	10926778	10926865	10927858
10930347	10932809	10932893	10933007	10934574	10935062	10935886	10936814
10938543	10938561	10938787	10940078	10940084	10940415	10940873	10941889
10942064	10943075	10943810	10943828	10944490	10944803	10946353	10946486
10947021	10947082	10947960	10948036	10949127	10950374	10950700	10950775
10951462	10951655	10951745	10952009	10952760	10952807	10952969	10953665
10953945	10955981	10956540	10958005	10958021	10958728	10958894	10960821
10961964	10962144	10962337	10962931	10963542	10964193	10964693	10965809
10965992	10966249	10966985	10967202	10967287	10968041	10968102	10968162
10968180	10968999	10969114	10969322	10969612	10969639	10969698	10970080
10970285	10970809	10970922	10971148	10971896	10971903	10971941	10972199
10972239	10972264	10972600	10972799	10972832	10972864	10972976	10973452
10973620	10973709	10973731	10973757	10973978	10974271	10974347	10975010
10975084	10975275	10975374	10975397	10975971	10976871	10976927	10977323
10977390	10977406	10977819	10977841	10977888	10977897	10978087	10978153
10978200	10978466	10978484	10978494	10978639	10978773	10978886	10979025
10979090	10979196	10979585	10979992	10980037	10980340	10980446	10980568
10981217	10981311	10981572	10981778	10981811	10981934	10981936	10981961
10982169	10982210	10982487	10982846	10983030	10983041	10983207	10983291
10983306	10983307	10983343	10983410	10983457	10983636	10983765	10983803
10984092	10984100	10984222	10984477	10984901	10984934	10985066	10985131
10985370	10985429	10985490	10985591	10985811	10985960	10986175	10986367
10986537	10986565	10986738	10986814	10986937	10987109	10987283	10987387
10987433	10987440	10987579	10987706	10987906	10988022	10988139	10988209
10988320	10988398	10988416	10988520	10988723	10988727	10988789	10988880
10988894	10988992	10989119	10989243	10989477	10989490	10989558	10989927

10989946	10990301	10990329	10990367	10990568	10990632	10990690	10990694
10990717	10990772	10990936	10991212	10991388	10991578	10991644	10991647
10991701	10991887	10992060	10992258	10992507	10992616	10992617	10992875
10992885	10992958	10993098	10993202	10993313	10993326	10993387	10993411
10993679	10993751	10994122	10994195	10994198	10994328	10994345	10994350
10994430	10994509	10994538	10994594	10994605	10994764	10994784	10994846
10994923	10994970	10995248	10995333	10995393	10995404	10995524	10995625
10995793	10995942	10995997	10996003	10996106	10996238	10996303	10996962
10997307	10997367	10997388	10997547	10997739	10997745	10998296	10998508
10998760	10998774	10998813	10998831	10998867	10998899	10999141	10999174
10999239	10999285	10999308	10999429	10999563	10999566	10999572	10999575
10999621	10999900	10999994	11000033	11000297	11000517	11000744	11000769
11000881	11001034	11001073	11001078	11001456	11001464	11001481	11001723
11001750	11001795	11001938	11002255	11002291	11002318	11002388	11002390
11002391	11002644	11002709	11002932	11002948	11003003	11003067	11003486
11003505	11003696	11003846	11003861	11004019	11004060	11004093	11004174
11004191	11004357	11004359	11004458	11004548	11004670	11004745	11004806
11004850	11004879	11004934	11004951	11005005	11005015	11005037	11005041
11005393	11005421	11005510	11005635	11005694	11005743	11005766	11005840
11005879	11005902	11005916	11005945	11005954	11006079	11006112	11006196
11006206	11006255	11006336	11006394	11006415	11006810	11006871	11006887
11007021	11007126	11007142	11007158	11007240	11007241	11007320	11007338
11007587	11007616	11007700	11007789	11007840	11008081	11008090	11008125
11008212	11008287	11008408	11008573	11008577	11008589	11008590	11008610
11008773	11008943	11008966	11009018	11009019	11009040	11009102	11009263
11009303	11009458	11009750	11010016	11010047	11010124	11010177	11010196
11010256	11010313	11010666	11010937	11011045	11011290	11011333	11011407
11011487	11011515	11011518	11011604	11012217	11012379	11012418	11012735
11012780	11012810	11012860	11012891	11012929	11012965	11013035	11013392
11013439	11013548	11013755	11013785	11013926	11014255	11014478	11014524
11014585	11014721	11014850	11014970	11015148	11015215	11015355	11015478
11015547	11015744	11016091	11016373	11016477	11016766	11016803	11016830
11016935	11017084	11017101	11017190	11017223	11017296	11017503	11017574
11017597	11017869	11017919	11018474	11019022	11019279	11019343	11019390
11019603	11019960	11020031	11020074	11020108	11020252	11020385	11020489
11020535	11020794	11020830	11021068	11021390	11021440	11021504	11021562
11021792	11022111	11022270	11022551	11022884	11022950	11023236	11023832
11023865	11023937	11024225	11024281	11024415	11024477	11024492	11024574
11024637	11024650	11024802	11024829	11025017	11025019	11025050	11025369
11025397	11025452	11025507	11025523	11025656	11026539	11026816	11026919
11026937	11027151	11027863	11027962	11028159	11028266	11028292	11028392

11028494	11028503	11029436	11029575	11029640	11029729	11029874	11030009
11030075	11030090	11030105	11030182	11030214	11030412	11030510	11030848
11030880	11031383	11031872	11031900	11032318	11032348	11032417	11032546
11032897	11033187	11033343	11033406	11034128	11034187	11034711	11034785
11035169	11035316	11035325	11035702	11035717	11035964	11036489	11036520
11036538	11036639	11036881	11037044	11037436	11037478	11037493	11037702
11038238	11038458	11038593	11038662	11039092	11039391	11040096	11040304
11040453	11041017	11041041	11041063	11041311	11041578	11041820	11042283
11042466	11042666	11042968	11043146	11043157	11043509	11043526	11043542
11043918	11044026	11044033	11044981	11045115	11045632	11046016	11046072
11046557	11047886	11048020	11048079	11048428	11048440	11048756	11048760
11049422	11049972	11050304	11050321	11051020	11052038	11053677	11053823
11053878	11053935	11054183	11054241	11054815	11054859	11055359	11056376
11056439	11057601	—	—	—	—	—	—

## Software Patches Included in this Release

The Quartus II software version 14.0 includes the following patches released for previous versions of the Quartus II software:

Quartus II Software Version	Patch	Customer Service Request Number	Quartus II Software Version	Patch	Customer Service Request Number
13.1.4	4.26	—	13.0sp1	1.62	10994328
13.1.4	4.23	11048760	13.0sp1	1.59	10991887
13.1.4	4.22	11045078, 11050579	13.0sp1	1.58	—
13.1.4	4.18	—	13.0sp1	1.56	—
13.1.4	4.12	—	13.0sp1	1.54	10981572
13.1.4	4.09	11041041	13.0sp1	1.53	10983480
13.1.4	4.07	11038458	13.0sp1	1.52	10981838
13.1.4	4.06	11015744	13.0sp1	1.49	10963295
13.1.4	4.05	—	13.0sp1	1.48	—
13.1.4	4.04	11035325	13.0sp1	1.47	10973624
13.1.3	3.09	11042466	13.0sp1	1.46	10980707
13.1.3	3.08	11046557	13.0sp1	1.43	10984075
13.1.3	3.07	—	13.0sp1	1.42	—
13.1.3	3.06	11038593	13.0sp1	1.41	10963403
13.1.3	3.04	11019022	13.0sp1	1.39	10978851
13.1.3	3.03	11034386	13.0sp1	1.38	10974361

Quartus II Software Version	Patch	Customer Service Request Number	Quartus II Software Version	Patch	Customer Service Request Number
13.1.3	3.02	11015744	13.0sp1	1.36	10971535
13.1.2	2.05	11036080	13.0sp1	1.33	—
13.1.2	2.04	11007587	13.0sp1	1.30	10978946
13.1.2	2.03	—	13.0sp1	1.29	10970892
13.1.2	2.02	11027226	13.0sp1	1.28	10977868
13.1.1	1.07	10985490	13.0sp1	1.26	10963403
13.1.1	1.06	11015764	13.0sp1	1.22	10969193
13.1.1	1.04	11019022	13.0sp1	1.15	10970690, 10965523
13.1	0.89	11055288	13.0sp1	1.14	10934773
13.1	0.81	11029873	13.0sp1	1.13	—
13.1	0.80	11048919	13.0sp1	1.12	10965706
13.1	0.79	11034596	13.0sp1	1.11	10964795
13.1	0.78	11026931	13.0sp1	1.09	10954426
13.1	0.77	11029640	13.0sp1	1.08	—
13.1	0.76	11042666	13.0sp1	1.07	10961417
13.1	0.74	11023252	13.0sp1	1.06	10964014
13.1	0.69	11030866	13.0sp1	1.05	10936052
13.1	0.68	11024802	13.0sp1	1.03	10952117
13.1	0.60	11015744	13.0sp1	1.02	10969012
13.1	0.56	11022522	13.0	0.dp2f	10969193
13.1	0.53	11016787	13.0	0.dp2d	10954322
13.1	0.50	11017190	13.0	0.dp2b	—
13.1	0.49	11007587	13.0	0.48	10957886
13.1	0.45	10971903	13.0	0.47	10992650
13.1	0.44	11004120	13.0	0.46	10977894
13.1	0.42	—	13.0	0.45	10983908
13.1	0.40	10994397	13.0	0.43	—
13.1	0.39	10962447	13.0	0.42	10963228
13.1	0.38	11012735	13.0	0.37	10936899
13.1	0.37	—	13.0	0.36	—
13.1	0.36	11012860	13.0	0.33	10959833



Quartus II Software Version	Patch	Customer Service Request Number	Quartus II Software Version	Patch	Customer Service Request Number
13.1	0.32	10973731, 11001073	13.0	0.32	10959513
13.1	0.28	11009884	13.0	0.30	—
13.1	0.27	11002709	13.0	0.27	—
13.1	0.24	10957886	13.0	0.26	10953890
13.1	0.23	10862388	13.0	0.24	—
13.1	0.21	11006196	13.0	0.16	10914609
13.1	0.20	—	13.0	0.15	—
13.1	0.18	11001456	13.0	0.12	10952117
13.1	0.17	—	13.0	0.10	10915236
13.1	0.16	10862388	13.0	0.09	10922765
13.1	0.15	10992883	13.0	0.08	10931681, 10936280
13.1	0.13	10995333	13.0	0.03	—
13.1	0.11	10845226	12.1sp1	1.dp7u	10965523
13.1	0.09	10990717	12.1sp1	1.dp7r	10964714
13.1	0.07	11004954	12.1sp1	1.dp7i	10952210
13.1	0.05	11001820	12.1sp1	1.dp6k	10938449
13.1	0.04	11002391	12.1sp1	1.dp6h	10941261
13.1	0.02	10995942	12.1sp1	1.71	10977841
13.1	0.01	—	12.1sp1	1.68	10969260
13.0sp1	1.dp5z3	11042283	12.1sp1	1.65	10946604
13.0sp1	1.dp5x	—	12.1sp1	1.64	10941323
13.0sp1	1.dp5s	11001656	12.1sp1	1.62	10944324
13.0sp1	1.dp5o	10981311	12.1sp1	1.59	10943817
13.0sp1	1.dp5n	10995942	12.1sp1	1.58	10915236
13.0sp1	1.dp5l	10990870	12.1sp1	1.57	—
13.0sp1	1.dp5i	10989660	12.1sp1	1.56	10922765
13.0sp1	1.dp5h	—	12.1sp1	1.54	—
13.0sp1	1.dp5e	—	12.1sp1	1.42	10893805
13.0sp1	1.dp5d	10983480	12.1sp1	1.41	—
13.0sp1	1.dp5c	10978851	12.1sp1	1.40	10931208
13.0sp1	1.dp5b	10986814	12.0sp2	2.51	10994120
13.0sp1	1.dp5a	10969193	12.0sp2	2.49	10922765
13.0sp1	1.77	—	11.1sp2	2.57	10961964
13.0sp1	1.75	11042283	11.1sp2	2.54	10922765

Quartus II Software Version	Patch	Customer Service Request Number	Quartus II Software Version	Patch	Customer Service Request Number
13.0sp1	1.74	11029082	11.1sp2	2.52	10937323, 10940796
13.0sp1	1.73	10981572	11.1sp2	2.51	10910695
13.0sp1	1.72	10975971, 10989243, 10973620	11.1sp2	2.50	10922765
13.0 sp1	1.67	10957886	11.0sp1	1.49	11047071
13.0sp1	1.66	11001456	11.0	0.61	10926378

## Latest Known Quartus II Software Issues

For information about known Quartus II software issues, refer to the **Quartus II Software Support** page at the following URL:

<http://www.altera.com/support/software/sof-quartus.html>

You can also find known issue information for current and previous versions of the Quartus II software on the Knowledge Database page at the following URL:

<http://www.altera.com/support/kdb/kdb-index.jsp>

## Document Revision History

The following table shows the revision history for this document.

### Document Revision History

Date	Version	Changes
July 2014	14.0.1	Updated the synthesis tool versions in the “EDA Interface Information” table.
June 2014	14.0	Initial release.