


This document provides late-breaking information about device support in the Altera® Quartus® II software version 11.1 SP2. For information about disk space and system requirements, refer to the **readme.txt** file in your **altera/<version number>/quartus** directory.

-  For information about new features, EDA tool version support, and existing and resolved software issues, refer to the *Quartus II Software Release Notes*.

This document contains the following sections:

- “Device Support and Pin-Out Status”
- “Memory Recommendations” on page 3
- “Timing and Power Models” on page 6
- “Changes in Device Support” on page 8

Device Support and Pin-Out Status

This section contains information about the device support status in the Quartus II software version 11.1 SP2.

Full Device Support

Full compilation, simulation, timing analysis, and programming support is now available for the new device listed in [Table 1](#).

Table 1. Device with Full Support

| Device Family | Device |
|---------------|-----------|
| Stratix® V | 5SGXEB6ES |

Advance Device Support

Compilation, simulation, and timing analysis support is provided for the devices listed in [Table 2](#) that will be released in the near future. The Compiler generates pin-out information for these devices in this release, but does not generate programming files.

Table 2. Devices with Advance Support

| Device Family | Devices | |
|---------------|-----------|-----------|
| Arria® V | 5AGXBB1 | 5AGXBB3 |
| | 5AGXBB5 | 5AGXBB7 |
| | 5AGXFB1 | 5AGXFB3 |
| | 5AGXFB5 | 5AGXFB7 |
| | 5AGXFB3ES | 5AGXMB1 |
| | 5AGXMB3 | 5AGXMB3ES |
| | 5AGXMB5 | 5AGXMB7 |
| Stratix V | 5SGSED6 | 5SGSED8 |
| | 5SGSMD3 | 5SGSMD4 |
| | 5SGSMD5 | 5SGSMD6 |
| | 5SGSMD8 | 5SGTMC5 |
| | 5SGTMC7 | 5SGXEA3 |
| | 5SGXEA4 | 5SGXEA5 |
| | 5SGXEA7 | 5SGXEA9 |
| | 5SGXEAB | 5SGXEB5 |
| | 5SGXEB6 | 5SGXMA3 |
| | 5SGXMA4 | 5SGXMA5 |
| | 5SGXMA7 | 5SGXMA9 |
| | 5SGXMAB | 5SGXMB5 |
| | 5SGXMB6 | |

Initial Information Device Support

Compilation, simulation, and timing analysis support is provided for the devices listed in [Table 3](#) that will be released in upcoming versions of the Quartus II software. Programming files and pin-out information are not generated for these devices in this release.

Table 3. Devices with Initial Information Support

| Device Family | Devices | |
|---------------|---------|---------|
| Cyclone® V | 5CGXBC7 | 5CGXFC7 |
| Arria V | 5AGXBA1 | 5AGXBA3 |
| | 5AGXBA5 | 5AGXBA7 |
| | 5AGXFA5 | 5AGXFA7 |
| | 5AGXMA1 | 5AGXMA3 |
| | 5AGXMA5 | 5AGXMA7 |

Memory Recommendations

A full installation of the Quartus II software requires up to 10 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 .sof files 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.

Table 4 lists the memory required to process designs targeted for Altera devices.

Table 4. Memory Recommendations

| Family | Device | Recommended Physical RAM | |
|-------------|---|--------------------------|---------|
| | | 32-bit | 64-bit |
| Arria GX | EP1AGX20 | 512 MB | 512 MB |
| | EP1AGX35, EP1AGX50, EP1AGX60 | 1.0 GB | 1.5 GB |
| | EP1AGX90 | 1.5 GB | 2.0 GB |
| Arria II GX | EP2AGX45 | 1.0 GB | 1.5 GB |
| | EP2AGX65 | 1.5 GB | 2.0 GB |
| | EP2AGX95, EP2AGX125, EP2AGX190 | 3.0 GB | 4.0 GB |
| | EP2AGX260 | 4.0 GB | 6.0 GB |
| Arria II GZ | EP2AGZ225 | 3.0 GB | 4.0 GB |
| | EP2AGZ300 | 4.0 GB | 6.0 GB |
| | EP2AGZ350 | N/A | 8.0 GB |
| Arria V | 5AGXB1 | N/A | 8.0 GB |
| | 5AGXB3 | | 12.0 GB |
| | 5AGXB5 | | |
| | 5AGXB7 | | |
| Cyclone | All | 512 MB | 512 MB |
| Cyclone II | EP2C5, EP2C8, EP2C15, EP2C20 | 512 MB | 512 MB |
| | EP2C35, EP2C50 | 1.0 GB | 1.5 GB |
| | EP2C70 | 1.5 GB | 2.0 GB |
| Cyclone III | EP3C5, EP3C10, EP3C16, EP3C25, EP3C40 | 512 MB | 512 MB |
| | EP3C55, EP3C80 | 768 MB | 1.0 GB |
| | EP3C120 | 1.5 GB | 2.0 GB |

Table 4. Memory Recommendations (Continued)

| Family | Device | Recommended Physical RAM | |
|----------------|---|--------------------------|---------|
| | | 32-bit | 64-bit |
| Cyclone III LS | EP3CLS70, EP3CLS100 | 1.5 GB | 2.0 GB |
| | EP3CLS150, EP3CLS200 | 3.0 GB | 4.0 GB |
| Cyclone IV E | EP4CE6, EP4CE10, EP4CE15, EP4CE22, EP4CE30, EP4CE40 | 512 MB | 512 MB |
| | EP4CE55, EP4CE75 | 768 MB | 1.0 GB |
| | EP4CE115 | 1.0 GB | 1.5 GB |
| Cyclone IV GX | EP4CGX15, EP4CGX22, EP4CGX30 | 512 MB | 512 MB |
| | EP4CGX50, EP4CGX75 | 1.0 GB | 1.5 GB |
| | EP4CGX110, EP4CGX150 | 1.5 GB | 2.0 GB |
| Cyclone V | 5CGXC7 | 3.0 GB | 4.0 GB |
| HardCopy® II | HC210, HC210W | 1.5 GB | 2.0 GB |
| | HC220, HC230, HC240 | 3.0 GB | 4.0 GB |
| HardCopy III | HC325 | N/A | 8.0 GB |
| | HC335 | | 12.0 GB |
| HardCopy IV | HC4E25 | N/A | 8.0 GB |
| | HC4GX15 | | 12.0 GB |
| | HC4E35, HC4GX25 | | 16.0 GB |
| | HC4GX35 | | 20.0 GB |
| MAX® | All | 512 MB | 512 MB |
| MAX II | All | 512 MB | 512 MB |
| MAX V | All | 512 MB | 512 MB |
| Stratix | EP1S10, EP1S20 | 512 MB | 512 MB |
| | EP1S25, EP1S30, EP1S40, EP1S60 | 1.0 GB | 1.5 GB |
| | EP1S80 | 1.5 GB | 2.0 GB |
| Stratix GX | EP1SGX10 | 512 MB | 512 MB |
| | EP1SGX25, EP1SGX40 | 1.0 GB | 1.5 GB |
| Stratix II | EP2S15 | 512 MB | 512 MB |
| | EP2S30 | 1.0 GB | 1.5 GB |
| | EP2S60, EP2S90 | 1.5 GB | 2.0 GB |
| | EP2S130, EP2S180 | 3.0 GB | 4.0 GB |
| Stratix II GX | EP2SGX30, EP2SGX60 | 1.0 GB | 1.5 GB |
| | EP2SGX90 | 1.5 GB | 2.0 GB |
| | EP2SGX130 | 3.0 GB | 4.0 GB |

Table 4. Memory Recommendations (Continued)

| Family | Device | Recommended Physical RAM | |
|-------------|--|--------------------------|---------|
| | | 32-bit | 64-bit |
| Stratix III | EP3SL50, EP3SE50, EP3SL70 | 1.0 GB | 1.5 GB |
| | EP3SE80 | 1.5 GB | 2.0 GB |
| | EP3SL110, EP3SE110, EP3SL150, EP3SL200 | 3.0 GB | 4.0 GB |
| | EP3SE260, EP3SL340 | 4.0 GB | 6.0 GB |
| Stratix IV | EP4SGX70 | 1.5 GB | 2.0 GB |
| | EP4SE230 EP4SGX110, EP4SGX230, EP4S40G2, EP4S100G2 | 3.0 GB | 4.0 GB |
| | EP4SGX290 | 4.0 GB | 6.0 GB |
| | EP4SE360 EP4SGX360, EP4S100G3, EP4S100G4 | N/A | 8.0 GB |
| | EP4SGX530, EP4SE530, EP4SE820, EP4S40G5, EP4S100G5 | N/A | 12.0 GB |
| Stratix V | 5SGXA3, 5SGXA4, 5SGSD3, 5SGSD4, 5SGTC5 | N/A | 12.0 GB |
| | 5SGXA5, 5SGXB5, 5SGSD5 | N/A | 16.0 GB |
| | 5SGXA7, 5SGXB6, 5SGSD6, 5SGSD8, 5SGTC7 | N/A | 20.0 GB |
| | 5SGXA9, 5SGXAB | N/A | 24.0 GB |
| | 5SEE9, 5SEEB | N/A | 28.0 GB |

Timing and Power Models

Table 5 lists a summary of timing and power model status in the current version of the Quartus II software.

Table 5. Devices with Timing and Power Models

| Device Family | Device | Timing Model Status | Power Model Status |
|----------------|-----------|---------------------|--------------------|
| Arria II GX | EP2AGX45 | Final – 10.0 | Final – 10.0 |
| | EP2AGX65 | | |
| | EP2AGX95 | | |
| | EP2AGX125 | Final – 10.0 SP1 | |
| | EP2AGX190 | | |
| | EP2AGX260 | | |
| Arria II GZ | All | Final – 10.1 | Final – 10.1 |
| Arria V | All | Preliminary | Preliminary |
| Cyclone III LS | EPC3LS70 | Final – 10.0 | Final – 10.0 SP1 |
| | EPC3LS100 | | |
| | EPC3LS150 | | |
| | EPC3LS200 | | |
| Cyclone IV E | All 1.0V | Final – 10.0 SP1 | Final – 10.0 SP1 |
| | All 1.2V | Final – 10.0 | |
| Cyclone IV GX | EP4CGX15 | Final – 10.1 | Final – 11.0 |
| | EP4CGX22 | Final – 11.0 | |
| | EP4CGX30 | | Final – (1) |
| | EP4CGX50 | Final – 11.0 | Final –11.1 |
| | EP4CGX75 | | |
| | EP4CGX110 | Final – 10.1 | Final – 11.0 |
| | EP4CGX150 | | |
| Cyclone V | All | Preliminary | Preliminary |
| HardCopy III | All | Correlated – 11.1 | Preliminary |
| HardCopy IV E | All | Correlated – 11.1 | Preliminary |
| HardCopy IV GX | All | Correlated – 11.1 | Preliminary |
| MAX V | All | Final – 11.0 | Final – 11.0 |

Table 5. Devices with Timing and Power Models (Continued)

| Device Family | Device | Timing Model Status | Power Model Status | |
|--|-----------|---------------------|--------------------|-------------|
| Stratix IV | EP4SE230 | Final – 9.1 SP1 | Final – 10.0 | |
| | EP4SGX180 | | | |
| | EP4SGX230 | | | |
| | EP4S40G2 | | | |
| | EP4S100G2 | | | |
| | EP4SE360 | Final – 9.1 SP2 | | |
| | EP4SE530 | | | |
| | EP4SGX290 | | | |
| | EP4SGX360 | | | |
| | EP4SGX530 | | | |
| | EP4S40G5 | | | |
| | EP4S100G3 | | | |
| | EP4S100G4 | | | |
| | EP4S100G5 | Final – 10.0 | Final – 10.1 | |
| | EP4SGX70 | | | |
| | EP4SGX110 | | | |
| | | EP4SE820 | Final – 10.0 SP1 | |
| | Stratix V | All | Preliminary | Preliminary |
| (1) EP4CGX30BF14 and EP4CGX30CF19 are final in 11.0, EP4CGX30CF23 final in 11.1. | | | | |

The current version of the Quartus II software also includes final timing and power models for the Arria GX, Cyclone, Cyclone II, Cyclone III, HardCopy II, MAX, MAX II, MAX IIZ, Stratix, Stratix GX, Stratix II, Stratix II GX, and Stratix III device families. Timing models for these device families became final in the Quartus II software versions 9.0 and earlier.

Changes in Device Support

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

Change Notifications

This section provides notifications for changes to devices.

Device Support Not Fixed



For the latest known issues related to the Quartus II software, refer to the Knowledge Base: <http://www.altera.com/support/kdb/kdb-search.jsp>

Negative pin location assignments not supported for MAX V LVDS pair

Description

The Quartus II software does not support pin location assignments for the negative pin of an LVDS pair for MAX V devices.

Workaround

Assign positive pins.

Applies to MAX V devices

Device Support Fixed

This section provides details for device support that has been fixed.

Stratix V ES timing model update

Description

Stratix V ES timing models have been improved for accuracy, based on volume ES silicon correlation. You should recompile, retime closing, and regenerate programming files for your Stratix V designs with the Quartus II software version 11.1 SP2.

Applies to Stratix V devices

Stratix V M20K read data incorrect

Description

Stratix V M20K read data is incorrect when the ECC is turned ON, the ECC feature is used, and the logical RAM used requires multiple M20K blocks to implement.

Applies to Stratix V devices

HardCopy IV GX timing model data corrected

Description

If you use PCI express IP (Gen1 or Gen2) with a `coreclk` operating frequency greater than or equal to 250 MHz, you may see set-up failures for transfer from PCIE_HIP to core with an excessively large μ Tco delay. Incorrect data was used in the Quartus II software version 11.1 and the data has been corrected in SP1.

Applies to HardCopy IV GX devices

Stratix V resource counts corrected

Description

Resource counts for Stratix V device 5SGXEA5 were incorrect in the Quartus software version 11.1. This issue is fixed in the Quartus II software version 11.1 SP1.

Applies to Stratix V devices

Arria V change to pin tables

Description

In the Quartus II software version 11.1, for Arria V devices 5AGXB3 and 5AGXB1 F1517 the pinouts have been changed as follows:

- R9 changed from NC to VccD
- T31 changed from NC to VccD
- U9 changed from NC to VccA
- V31 changed from NC to VccA

This issue is fixed in the Quartus II software version 11.1.

Applies to Arria V devices

