



External Memory Interfaces Intel® Cyclone® 10 FPGA IP Core Release Notes



Contents

1. External Memory Interfaces Intel® Cyclone® 10 GX FPGA IP Core Release Notes.....	3
1.1. External Memory Interfaces Intel Cyclone® 10 GX FPGA IP v19.1.0.....	3
1.2. External Memory Interfaces Intel Cyclone® 10 GX FPGA IP 19.1.....	3
1.3. External Memory Interfaces Intel Cyclone® 10 GX FPGA IP 18.1.1.....	4
1.4. External Memory Interfaces Intel Cyclone® 10 GX FPGA IP 18.1.....	4
1.5. External Memory Interfaces Intel Cyclone 10 GX FPGA IP 18.0.....	4
1.6. Intel Cyclone 10 GX External Memory Interface IP 17.1.....	5



1. External Memory Interfaces Intel® Cyclone® 10 GX FPGA IP Core Release Notes

If a release note is not available for a specific IP version, the IP has no changes in that version. For information on IP update releases up to v18.1, refer to the *Intel® Quartus® Prime Design Suite Update Release Notes*.

IP versions are the same as the Intel Quartus Prime Design Suite software versions up to v19.1. From Intel Quartus Prime Design Suite software version 19.2 or later, IP cores have a new IP versioning scheme.

The IP versioning scheme (X.Y.Z) number changes from one software version to another. A change in:

- X indicates a major revision of the IP. If you update your Intel Quartus Prime software, you must regenerate the IP.
- Y indicates the IP includes new features. Regenerate your IP to include these new features.
- Z indicates the IP includes minor changes. Regenerate your IP to include these changes.

1.1. External Memory Interfaces Intel Cyclone® 10 GX FPGA IP v19.1.0

Table 1. v19.1.0 2019.07.01

Intel Quartus Prime Version	Description	Impact
19.2	Verified in the Intel Quartus Prime software v19.2.	—

1.2. External Memory Interfaces Intel Cyclone® 10 GX FPGA IP 19.1

Table 2. v19.1 April 2019

Description	Impact
Verified in the Intel Quartus Prime software v19.1.	—

Related Information

- [External Memory Interfaces Intel Cyclone 10 GX FPGA IP User Guide](#)
- [External Memory Interfaces Intel Cyclone 10 GX FPGA IP Design Example User Guide](#)

Intel Corporation. All rights reserved. Agilix, Altera, Arria, Cyclone, Enpirion, Intel, the Intel logo, MAX, Nios, Quartus and Stratix words and logos are trademarks of Intel Corporation or its subsidiaries in the U.S. and/or other countries. Intel warrants performance of its FPGA and semiconductor products to current specifications in accordance with Intel's standard warranty, but reserves the right to make changes to any products and services at any time without notice. Intel assumes no responsibility or liability arising out of the application or use of any information, product, or service described herein except as expressly agreed to in writing by Intel. Intel customers are advised to obtain the latest version of device specifications before relying on any published information and before placing orders for products or services.

*Other names and brands may be claimed as the property of others.



- [Intel Quartus Prime Design Suite Release Notes](#)

1.3. External Memory Interfaces Intel Cyclone® 10 GX FPGA IP 18.1.1

Table 3. v18.1.1 December 2018

Description	Impact
Enabled DDR3 x72 support for 10CX085 FBGA672 devices.	—

Related Information

- [External Memory Interfaces Intel Cyclone 10 GX FPGA IP User Guide](#)
- [External Memory Interfaces Intel Cyclone 10 GX FPGA IP Design Example User Guide](#)
- [Intel Quartus Prime Design Suite Release Notes](#)

1.4. External Memory Interfaces Intel Cyclone® 10 GX FPGA IP 18.1

Table 4. v18.1 September 2018

Description	Impact
Verified in the Intel Quartus Prime software v18.1.	Provides external memory interface IP for DDR3 and LPDDR3 protocols for Intel Cyclone® 10 GX devices.

Related Information

- [External Memory Interfaces Intel Cyclone 10 GX FPGA IP User Guide](#)
- [External Memory Interfaces Intel Cyclone 10 GX FPGA IP Design Example User Guide](#)
- [Intel Quartus Prime Design Suite Release Notes](#)

1.5. External Memory Interfaces Intel Cyclone 10 GX FPGA IP 18.0

Table 5. v18.0 May 2018

Description	Impact
Verified in the Intel Quartus Prime software v18.0.	Provides external memory interface IP for DDR3 and LPDDR3 protocols for Intel Cyclone 10 GX devices.

Related Information

- [External Memory Interfaces Intel Cyclone 10 GX FPGA IP User Guide](#)
- [External Memory Interfaces Intel Cyclone 10 GX FPGA IP Design Example User Guide](#)
- [Intel Quartus Prime Design Suite Release Notes](#)



1.6. Intel Cyclone 10 GX External Memory Interface IP 17.1

Table 6. v17.1 November 2017

Description	Impact
Initial release.	Provides external memory interface IP for DDR3 and LPDDR3 protocols for Intel Cyclone 10 GX devices.

Related Information

- [Intel Cyclone 10 GX External Memory Interfaces IP User Guide](#)
- [Intel Cyclone 10 GX External Memory Interfaces IP Design Example User Guide](#)
- [Intel Quartus Prime Design Suite Release Notes](#)