PATENT ASSIGNMENT COVER SHEET

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| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|---------------|----------------|
| RU YIN NG | 06/11/2015 |
| GARY WALLICHS | 06/09/2015 |
| KEITH DUWEL | 06/10/2015 |

RECEIVING PARTY DATA

| Name: | ALTERA CORPORATION | |
|-----------------|----------------------|--|
| Street Address: | 101 INNOVATION DRIVE | |
| City: | SAN JOSE | |
| State/Country: | CALIFORNIA | |
| Postal Code: | 95134 | |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 14739441 |

CORRESPONDENCE DATA

Fax Number: (408)890-6268

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Email: sjc@eecspatents.com

STEVEN J. CAHILL/ ALTERA CORP. Correspondent Name:

Address Line 1: P.O. BOX 779

Address Line 4: MENLO PARK, CALIFORNIA 94026-0779

| ATTORNEY DOCKET NUMBER: | 101-10800US | |
|-------------------------|--------------------|--|
| NAME OF SUBMITTER: | STEVEN J. CAHILL | |
| SIGNATURE: | /Steven J. Cahill/ | |
| DATE SIGNED: | 06/15/2015 | |

Total Attachments: 4

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> **PATENT** REEL: 035838 FRAME: 0678 503350426

Attorney Docket No.: 101-10800US Altera Reference No.: A04838

ASSIGNMENT OF PATENT APPLICATION

JOINT

WHEREAS, **Ru Yin Ng**, of Bayan Lepas, MY; **Gary Wallichs**, of San Jose, CA, USA; and **Keith Duwel**, of San Jose, CA, USA; hereinafter referred to as "Assignors," are the inventors of any and all new and useful improvements described and set forth in the below-identified application for United States Patent (hereinafter referred to as "Said Patent Application"):

Title of Patent Application: Techniques For Providing Data Rate Changes

Filing Date: June 15, 2015

Application No.: 14/739,441

WHEREAS, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by Assignors, Assignors hereby sell, assign, and transfer to Altera Corporation, a corporation of Delaware, having a principal place of business at 101 Innovation Drive, San Jose, California, USA 95134, (hereinafter referred to as "Assignee"), the entire right, title and interest in and to Said Patent Application, any and all improvements that are disclosed in Said Patent Application, and all foreign counterparts to Said Patent Application (including patent, utility model and industrial designs). The Assignors further sell, transfer, and assign to Assignee the entire right, title, and interest in and to any and all continuation applications, divisional applications, continued prosecution applications, international applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions, all other patent applications that have been or shall be filed in the United States and all foreign countries on any of said improvements, and all other patent applications that have been or shall be filed in the United States and all foreign countries that claim priority to Said Patent Application; and in and to all original patents, reissued patents, registrations, reexamination certificates, and extensions, that have been or shall be issued in the United States and all foreign countries on said improvements; and in and to all rights of priority resulting from the filing of Said Patent Application; and to the right to file foreign applications directly in the name of Assignee and to claim for any such foreign applications any priority rights to which such applications are entitled under international conventions, treaties or otherwise.

The Assignors further agree that the Assignee may apply for and receive a patent or patents for said improvements in its own name; and that, when requested, without charge to said Assignee, its successors, assigns, and legal representatives, to carry out in good faith the intent and purpose of this Assignment, the Assignors will execute all divisional applications, continuation applications, continued prosecution applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions, and all other patent applications on any and all of said improvements; execute all rightful oaths, declarations, assignments, powers of attorney, and other papers; communicate to said Assignee, its successors, assigns, and representatives, all facts known to the Assignors relating to said improvements and the history thereof; and generally assist said Assignee, its successors, assigns, or representatives in securing and maintaining proper patent protection for said improvements and for vesting title to said improvements, and all applications for patents and all patents on said improvements, in said Assignee.

The Assignors covenant with the Assignee, its successors, and assigns that no assignment, grant, mortgage, license, lien, or other agreement affecting the rights and property herein conveyed has been made to others by the Assignors, and that full right to convey the same as herein expressed is possessed by the Assignors.

The Assignors hereby authorize and request the Officials of the United States Patent and Trademark Office and any and all foreign Patent Offices to issue any and all Patents, when granted, to said Assignee

Attorney Docket No.: 101-10800US Altera Reference No.: A04838

ASSIGNMENT OF PATENT APPLICATION

JOINT

WHEREAS, **Ru** Yin **Ng**, of Bayan Lepas, MY; **Gary Wallichs**, of San Jose, CA, USA; and **Keith Duwel**, of San Jose, CA, USA; hereinafter referred to as "Assignors," are the inventors of any and all new and useful improvements described and set forth in the below-identified application for United States Patent (hereinafter referred to as "Said Patent Application"):

Title of Patent Application: Techniques For Providing Data Rate Changes

Filing Date:

Application No.:

WHEREAS, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by Assignors, Assignors hereby sell, assign, and transfer to Altera Corporation, a corporation of Delaware, having a principal place of business at 101 Innovation Drive, San Jose, California, USA 95134, (hereinafter referred to as "Assignee"), the entire right, title and interest in and to Said Patent Application, any and all improvements that are disclosed in Said Patent Application, and all foreign counterparts to Said Patent Application (including patent, utility model and industrial designs). The Assignors further sell, transfer, and assign to Assignee the entire right, title, and interest in and to any and all continuation applications, divisional applications, continued prosecution applications, international applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions, all other patent applications that have been or shall be filed in the United States and all foreign countries on any of said improvements, and all other patent applications that have been or shall be filed in the United States and all foreign countries that claim priority to Said Patent Application; and in and to all original patents, reissued patents, registrations, reexamination certificates, and extensions, that have been or shall be issued in the United States and all foreign countries on said improvements; and in and to all rights of priority resulting from the filing of Said Patent Application; and to the right to file foreign applications directly in the name of Assignee and to claim for any such foreign applications any priority rights to which such applications are entitled under international conventions, treaties or otherwise.

The Assignors further agree that the Assignee may apply for and receive a patent or patents for said improvements in its own name; and that, when requested, without charge to said Assignee, its successors, assigns, and legal representatives, to carry out in good faith the intent and purpose of this Assignment, the Assignors will execute all divisional applications, continuation applications, continued prosecution applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions, and all other patent applications on any and all of said improvements; execute all rightful oaths, declarations, assignments, powers of attorney, and other papers; communicate to said Assignee, its successors, assigns, and representatives, all facts known to the Assignors relating to said improvements and the history thereof; and generally assist said Assignee, its successors, assigns, or representatives in securing and maintaining proper patent protection for said improvements and for vesting title to said improvements, and all applications for patents and all patents on said improvements, in said Assignee.

The Assignors covenant with the Assignee, its successors, and assigns that no assignment, grant, mortgage, license, lien, or other agreement affecting the rights and property herein conveyed has been made to others by the Assignors, and that full right to convey the same as herein expressed is possessed by the Assignors.

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Assignment

Attorney Docket No.: 101-10800US

as the assignee of the entire right, title, and interest in and to the same, for the sole use of said Assignee, its successors, and assigns, to the full end of the term for which said Patents may be granted.

Assignors hereby authorize and request The Law Office of Steven J. Cahill to insert herein above the application number and filing date of Said Patent Application when known.

IN TESTIMONY WHEREOF, Assignors have signed their names on the dates indicated.

| Dated: 11 June 2015 | 2 Professional Contraction of the Contraction of th |
|---------------------|--|
| | Ru Yin Ng |
| Dated: | |
| | Gary Wallichs |
| Dated: | |
| | Keith Duwel |

Assignment

Attorney Docket No.: 101-10800US

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| Dated: | |
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| | Ru Yin Ng |
| Dated: 6/9/15 | Spandle |
| ' | Gary Wallichs |
| Dated: 6/10/15 | Je & May |
| 1 | Keith Duwel |
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