

## PATENT ASSIGNMENT COVER SHEET

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<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
BEE YEE NG	07/29/2016
GAIK MING CHAN	07/29/2016
JEFFREY CHRISTOPHER CHROMCZAK	08/03/2016
HERMAN HENRY SCHMIT	07/26/2016
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<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15228989
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<b>SIGNATURE:</b>	/MATTHEW G. OSTERHAUS/
<b>DATE SIGNED:</b>	08/21/2017
<b>Total Attachments: 4</b>	
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## ASSIGNMENT

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency and adequacy of which are hereby acknowledged, the undersigned, does hereby:

SELL, ASSIGN AND TRANSFER to Altera Corporation (the "Assignee"), a corporation of the State of Delaware, having a place of business at 101 Innovation Drive, San Jose, California 95134, the entire right, title and interest, for the United States and all foreign countries in and to any and all improvements which are disclosed in the application for United States Letters Patent, which is entitled "LUTRAM DUMMY READ SCHEME DURING ERROR DETECTION AND CORRECTION," and which may be further identified below, such application and all divisional, continuing, substitute, renewal, reissue and all other applications for patent which have been or shall be filed in the United States, including all provisional and non-provisional applications, and all foreign countries on any of such improvements; all original and reissued patents which have been or shall be issued in the United States and all foreign countries on such improvements; and specifically including the right to file foreign applications under the provisions of any convention or treaty and claim priority based on such application in the United States;

AUTHORIZE AND REQUEST that any attorney associated with PTO Customer No. 83515 delete, insert, or alter any information identifying this application, or any related application, below after execution of this assignment;

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such improvements to the Assignee;

WARRANT AND COVENANT that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been or will be made to others by the undersigned, and that the full right to convey the same as herein expressed is possessed by the undersigned;

COVENANT, when requested and at the expense of the Assignee, to carry out in good faith the intent and purpose of this assignment, the undersigned will (1) execute all provisional, non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all such improvements; (2) execute all rightful oaths, declarations, assignments, powers of attorney and other papers; (3) communicate to the Assignee all facts known to the undersigned relating to such improvements and the history thereof; (4) cooperate with the Assignee in any interference, opposition, dispute, or litigation involving any of the applications or patents for such improvements; and (5) generally do everything possible which the Assignee shall consider desirable for vesting title to such improvements in the Assignee, and for securing, maintaining and enforcing proper patent protection for such improvements;

TO BE BINDING on the heirs, assigns, representatives and successors of the undersigned and extend to the successors, assigns and nominees of the Assignee.

### Additional Application Information

U.S. Provisional Application Serial No. \_\_\_\_\_, filed on \_\_\_\_\_

U.S. Non-Provisional Application Serial No. 15/228,989, filed on August 4, 2016

International Application Serial No. \_\_\_\_\_, filed on \_\_\_\_\_

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(Signature): \_\_\_\_\_  
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Date: 29 July, 2016

Inventor 2:

(Signature): Gaik Ming Chan  
Name: Gaik Ming Chan

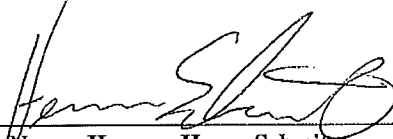
Date: 29 July 2016

**Inventor 3:**

(Signature):   
Name: **Jeffrey Christopher Chromczak**

Date: August 3, 2016

Inventor 4:

(Signature):   
Name: Herman Henry Schmit

Date: July 26, 2016