

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT3297061

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
PHILIP L. NORTHCOTT	03/26/2013
PETER GRAUMANN	04/08/2013
STEPHEN BATES	09/30/2014
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	PMC-Sierra, Inc.
<b>Street Address:</b>	1380 Bordeaux Drive
<b>City:</b>	Sunnyvale
<b>State/Country:</b>	CALIFORNIA
<b>Postal Code:</b>	94089
<b>PROPERTY NUMBERS Total: 5</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	13844448
Application Number:	13844463
Application Number:	13844474
Application Number:	13844486
Application Number:	13844499
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(949)760-9502
<i>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.</i>	
<b>Phone:</b>	3105513450
<b>Email:</b>	efiling@knobbe.com
<b>Correspondent Name:</b>	MICHAEL S. OKAMOTO
<b>Address Line 1:</b>	2040 MAIN STREET
<b>Address Line 2:</b>	14TH FLOOR
<b>Address Line 4:</b>	IRVINE, CALIFORNIA 92614
<b>ATTORNEY DOCKET NUMBER:</b>	DATUMTE.077A1-5
<b>NAME OF SUBMITTER:</b>	MICHAEL S. OKAMOTO
<b>SIGNATURE:</b>	/Michael S. Okamoto/
<b>DATE SIGNED:</b>	04/03/2015

PATENT

**Total Attachments: 4**

source=Assignment - DATUMTE.077A1-5#page1.tif

source=Assignment - DATUMTE.077A1-5#page2.tif

source=Assignment - DATUMTE.077A1-5#page3.tif

source=Assignment - DATUMTE.077A1-5#page4.tif

### ASSIGNMENT

WHEREAS, Philip L. Northcott, a Canadian citizen, residing in Coquitlam, Canada, Peter Graumann, a Canadian citizen, residing in Calgary, Canada, and Stephen Bates, a Canadian Citizen, residing in Canmore, Canada (individuals hereinafter "ASSIGNOR") invented certain new and useful improvements, technology, inventions, developments, ideas or discoveries collectively hereinafter referred to as the "Work" for which the Patent Applications identified below have been filed with the United States Patent and Trademark Office (hereinafter the "Applications");

Attorney Docket	Appl. No.	Title
DATUMTE.077A1	13/844,448	SYSTEMS AND METHODS FOR MAPPING FOR SOLID-STATE MEMORY
DATUMTE.077A2	13/844,463	SYSTEMS AND METHODS FOR STORING DATA FOR SOLID-STATE MEMORY
DATUMTE.077A3	13/844,474	SYSTEMS AND METHODS FOR DECODING DATA FOR SOLID-STATE MEMORY
DATUMTE.077A4	13/844,486	SYSTEMS AND METHODS FOR RECLAIMING MEMORY FOR SOLID-STATE MEMORY
DATUMTE.077A5	13/844,499	SYSTEMS AND METHODS FOR ADAPTING TO CHANGING CHARACTERISTICS OF MULTI-LEVEL CELLS IN SOLID-STATE MEMORY

AND WHEREAS, PMC-Sierra, Inc., a Delaware Corporation, with its principal place of business at 1380 Bordeaux Drive, Sunnyvale, California (hereinafter the "ASSIGNEE"), desires to acquire the entire right, title, and interest in and to the Applications and the Work:

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby acknowledges that ASSIGNOR has sold, assigned, transferred and set over, and by these presents does hereby sell, assign, transfer and set over, unto said ASSIGNEE, its successors, legal representatives and assigns, the entire right, title, and interest throughout the world in the Applications and the Work, including all provisional applications relating thereto (if any), and all nonprovisional applications claiming priority thereto, including, all divisions, continuations, continuations-in-part, reissues, and reexaminations thereof, and all Letters Patent of the United States which may be granted thereon and all reissues and extensions thereof, and all rights of priority under International Conventions and any related Letters Patent which may hereafter be granted or filed in any country or countries foreign to the United States, all extensions, renewals and reissues thereof; and ASSIGNOR hereby authorizes and requests the Commissioner of Patents of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents on applications as aforesaid, to issue all related Letters Patent to the ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND ASSIGNOR DOES HEREBY sell, assign, transfer, and convey to said ASSIGNEE, its successors, legal representatives, and assigns all claims for damages and all remedies arising out of any violation of the rights assigned hereby that may have accrued prior to the date of assignment to said ASSIGNEE, or may accrue hereafter, including, but not limited to, the right to sue for, collect, and retain damages for past infringements of said Letters Patent before or after issuance.

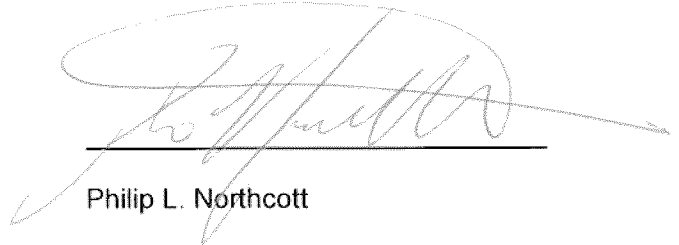
AND ASSIGNOR DOES HEREBY covenant and agree that ASSIGNOR will communicate to said ASSIGNEE, its successors, legal representatives and assigns, any facts known to ASSIGNOR respecting the Work, and testify in any legal proceeding, assist in the preparation of any other

Application No.: see table  
Filing Date: March 15, 2013

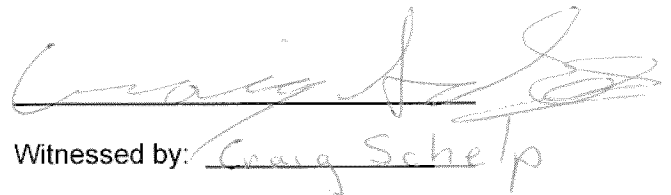
Docket Number: DATUMTE.077A1-077A5  
Page 2 of 4

provisional or non-provisional applications relating to the Applications and the Work or any improvements made thereto, sign all lawful papers, execute and make all rightful oaths and/or declarations in connection with the Applications and the Work including any improvements made thereto, any patent applications filed therefrom, and any continuing application filed from any of the aforementioned applications, and generally do everything possible to aid the ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper patent protection for the Work in all countries.

This 26 day of March, 2013.



Philip L. Northcott

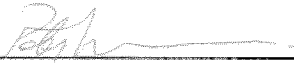


Witnessed by: Craig Schelp

Application No.: see table  
Filing Date: March 15, 2013

Docket Number: DATUMTE.077A1-077A5  
Page 3 of 4

This 8<sup>th</sup> day of April, 2013.



Peter Graumann



Witnessed by: Jonathan Eskitt

Application No.: see table  
Filing Date: March 15, 2013

Docket Number: DATUMTE.077A1-077A5  
Page 4 of 4

This 30 day of September, 2014.



Stephen Bates



Witnessed by: Aoiie Brogan

15103450  
032613