

PATENT ASSIGNMENT

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SUBMISSION TYPE:	NEW ASSIGNMENT										
NATURE OF CONVEYANCE:	ASSIGNMENT										
CONVEYING PARTY DATA											
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Ercan Mehmet Dede</td> <td>09/09/2013</td> </tr> <tr> <td>Tsuyoshi Nomura</td> <td>09/09/2013</td> </tr> <tr> <td>Paul Schmalenberg</td> <td>09/09/2013</td> </tr> <tr> <td>Jae Seung Lee</td> <td>09/02/2013</td> </tr> </tbody> </table>		Name	Execution Date	Ercan Mehmet Dede	09/09/2013	Tsuyoshi Nomura	09/09/2013	Paul Schmalenberg	09/09/2013	Jae Seung Lee	09/02/2013
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Paul Schmalenberg	09/09/2013										
Jae Seung Lee	09/02/2013										
RECEIVING PARTY DATA											
Name:	Toyota Motor Engineering & Manufacturing North America, Inc.										
Street Address:	25 Atlantic Avenue										
City:	Erlanger										
State/Country:	KENTUCKY										
Postal Code:	41018										
PROPERTY NUMBERS Total: 1											
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>14038834</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	14038834						
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CORRESPONDENCE DATA											
Fax Number:	5139778141										
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>											
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Correspondent Name:	Keith G. DeMaggio, Esq.										
Address Line 1:	255 E. Fifth St., Suite 1900										
Address Line 4:	Cincinnati, OHIO 45202										
ATTORNEY DOCKET NUMBER:	22562-854										
NAME OF SUBMITTER:	Keith G. DeMaggio										
Signature:	/Keith G. DeMaggio/										

OP \$40.00 14038834

Date:

09/27/2013

Total Attachments: 3

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JOINT ASSIGNMENT

WHEREAS, we, **ERCAN MEHMET DEDE** of 708 Barton Drive, Ann Arbor, MI 48105, **TSUYOSHI NOMURA** of 1571 Abigail Way, Ann Arbor, MI 48105, **PAUL SCHMALENBERG** of 2421 Lancashire Drive, Ann Arbor, MI 48105 and **JAE SEUNG LEE** of 5861 Villa France, Ann Arbor, MI 48103, hereinafter the *ASSIGNORS*, invented certain new and useful **PRINTED WIRING BOARDS HAVING THERMAL MANAGEMENT FEATURES AND THERMAL MANAGEMENT APPARATUSES COMPRISING THE SAME** for which we executed an application for a United States Patent and for which said application for United States Patent was filed on _____, under

Patent Application Serial No. _____

Attorney Docket No. 2013-002 / 22562-854,

which claims the benefit of U.S. Patent Application Serial No. 61/816,917, filed April 29, 2013;

WHEREAS, the *ASSIGNORS* hereby authorize and request the attorney and/or agent(s) empowered to act on **Toyota Motor Engineering & Manufacturing North America, Inc.'s** behalf in the aforementioned application, to insert above the filing date and application number of said application, when known;

WHEREAS, **Toyota Motor Engineering & Manufacturing North America, Inc.**, a corporation of the State of Kentucky, with a place of business at 25 Atlantic Avenue, Erlanger, KY 41018, hereinafter called the *ASSIGNEE*, is desirous of acquiring the entire right, title and interest in and to said application and the inventions therein disclosed and any Letters Patent that may issue thereon;

AND, WHEREAS, it is the intent of the *ASSIGNORS* to assign all rights to the above referenced application to the *ASSIGNEE*, including, but not limited to, all substantive rights in the above-referenced application as well as the (future) right to claim priority, the right to be granted a patent in any and all countries and Regional Patent Offices, including, without limitation, the PCT Contracting States;

NOW, THEREFORE, for good and valuable consideration, receipt whereof is hereby acknowledged, *ASSIGNORS* hereby sell, assign and transfer unto said *ASSIGNEE*, its successors and assigns, the entire right, title and interest, including the right to claim priority in and to said application, the inventions therein disclosed, and any improvements thereon, and in any and all Letters Patent that may be granted therefor in the United States and its territorial possessions and in any and all countries and Regional Patent Offices, including, without limitation, the PCT Contracting States, and in and to any and all divisions, continuations, substitutions, renewals, re-examinations, extensions and reissues thereof;

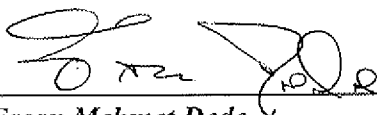
ASSIGNORS hereby authorize and request the Patent Office Officials in the United States and its territorial possessions, and in any and all countries and Regional Patent Offices, including, without limitation, the PCT Contracting States, to issue, when granted, any Letters Patent thereon, and any and all divisions, continuations, substitutions, renewals, re-examinations, extensions and reissues

thereof, to said *ASSIGNEE*, its successors and assigns, as the assignee of the entire right title and interest in and to the same, for the sole use and behalf of the *ASSIGNEE* and the *ASSIGNEE*'s successors and assigns, to the full end of the term for which the Letters Patent may be granted, including the term of any and all divisions, continuations, substitutions, renewals, re-examinations, extensions and reissues thereof, as fully and entirely as the same would have been held by the *ASSIGNORS* had this assignment not been made;

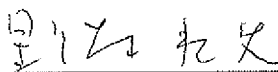
ASSIGNORS hereby authorize said *ASSIGNEE*, its successors and assigns, to file in its own name applications for patent in foreign countries in connection with the inventions hereby transferred, under the International Convention claiming the priority of said United States application or otherwise, and to secure in its own name the Letters Patent issued thereon, including any and all divisions, continuations, substitutions, renewals, re-examinations, extensions and reissues thereof; and

ASSIGNORS hereby agree that, upon request, *ASSIGNORS* will sign all papers, and make all rightful oaths, and do all acts which said *ASSIGNEE*, its successors or assigns, may consider necessary in connection with said United States application, and in connection with any other United States application or foreign applications that may be filed in connection with said inventions, and with any improvements thereon, and in connection with any Letters Patent issued thereon, including any and all divisions, continuations, substitutions, renewals, re-examinations, extensions and reissues thereof.


ASSIGNORS:

By: 

Ercan Mehmet Dede
Date: 9/9/2013

By: 

Tsuyoshi Nomura
Date: 9.9.2013

By: 

Paul Schmalenberg
Date: 9/9/2013

By: _____
Jae Seung Lee
Date: _____

successors and assigns, to the full end of the term for which the Letters Patent may be granted, including the term of any and all divisions, continuations, substitutions, renewals, re-examinations, extensions and reissues thereof, as fully and entirely as the same would have been held by the *ASSIGNORS* had this assignment not been made;

ASSIGNORS hereby authorize said *ASSIGNEE*, its successors and assigns, to file in its own name applications for patent in foreign countries in connection with the inventions hereby transferred, under the International Convention claiming the priority of said United States application or otherwise, and to secure in its own name the Letters Patent issued thereon, including any and all divisions, continuations, substitutions, renewals, re-examinations, extensions and reissues thereof; and

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ASSIGNORS:

By: _____
Ercan Mehmet Dede

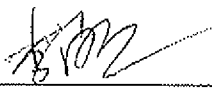
Date: _____

By: _____
Tsuyoshi Nomura

Date: _____

By: _____
Paul Schmalenberg

Date: _____

By:  _____
Jae Seung Lee

Date: 9/2/2013