

## PATENT ASSIGNMENT COVER SHEET

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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>RAVI PALANISWAMY</td> <td>09/17/2013</td> </tr> <tr> <td>AROKIARAJ JESUDOSS</td> <td>09/17/2013</td> </tr> <tr> <td>ALEJANDRO ALDRIN II AGCAOILI NARAG</td> <td>09/17/2013</td> </tr> <tr> <td>JAMES R. WHITE</td> <td>06/12/2013</td> </tr> <tr> <td>FONG LIANG TAN</td> <td>09/17/2013</td> </tr> <tr> <td>ANDREW J. OUDERKIRK</td> <td>09/18/2013</td> </tr> <tr> <td>JUSTINE A. MOONEY</td> <td>10/21/2013</td> </tr> <tr> <td>NATHAN P. KREUTTER</td> <td>09/17/2013</td> </tr> <tr> <td>QIHONG NIE</td> <td>09/17/2013</td> </tr> <tr> <td>JIAN XIA GAO</td> <td>09/17/2013</td> </tr> </tbody> </table>		Name	Execution Date	RAVI PALANISWAMY	09/17/2013	AROKIARAJ JESUDOSS	09/17/2013	ALEJANDRO ALDRIN II AGCAOILI NARAG	09/17/2013	JAMES R. WHITE	06/12/2013	FONG LIANG TAN	09/17/2013	ANDREW J. OUDERKIRK	09/18/2013	JUSTINE A. MOONEY	10/21/2013	NATHAN P. KREUTTER	09/17/2013	QIHONG NIE	09/17/2013	JIAN XIA GAO	09/17/2013
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RECEIVING PARTY DATA																							
<table border="1"> <tr> <td>Name:</td> <td>3M INNOVATIVE PROPERTIES COMPANY</td> </tr> <tr> <td>Street Address:</td> <td>P.O. BOX 33427</td> </tr> <tr> <td>City:</td> <td>ST. PAUL</td> </tr> <tr> <td>State/Country:</td> <td>MINNESOTA</td> </tr> <tr> <td>Postal Code:</td> <td>55133-3427</td> </tr> </table>		Name:	3M INNOVATIVE PROPERTIES COMPANY	Street Address:	P.O. BOX 33427	City:	ST. PAUL	State/Country:	MINNESOTA	Postal Code:	55133-3427												
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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>13883386</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13883386																		
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Application Number:	13883386																						
CORRESPONDENCE DATA																							
Fax Number:	(651)736-3833																						
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Email:	rchery@mmm.com																						
<i>Correspondence will be sent via US Mail when the email attempt is unsuccessful.</i>																							
Correspondent Name:	3M INNOVATIVE PROPERTIES COMPANY																						
Address Line 1:	PO BOX 33427																						

CH \$40.00 13883386

Address Line 4: ST. PAUL, MINNESOTA 55133-3427

ATTORNEY DOCKET NUMBER: 67018US006

NAME OF SUBMITTER: RACHELLE CHERY

Signature: /Rachelle Chery/

Date: 10/22/2013

**Total Attachments: 18**

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**ASSIGNMENT OF APPLICATION**

Whereas I/we, the below named inventor(s), with residence and citizenship as indicated below, have made an invention in


**FLEXIBLE LED DEVICE FOR THERMAL MANAGEMENT AND METHOD OF MAKING**

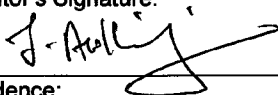
- ☐ for which an application for a United States Patent is being filed contemporaneously herewith;
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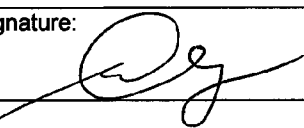
Now, therefore, for good and valuable consideration, receipt of which is acknowledged, I/we have agreed to assign and transfer and do hereby assign and transfer unto the 3M INNOVATIVE PROPERTIES COMPANY, a wholly-owned subsidiary of 3M COMPANY, and a corporation of Delaware, having its principal office at Saint Paul, Minnesota, its successors and assigns, the entire right, title, and interest in and to the said invention and application, and in and to any division or continuation (in whole or in part) of said application, and in and to any and all improvements in the said invention made by me or made jointly with others (provided any such improvement is made during, or within one year after the termination of, my employment with 3M COMPANY and any of its existing or future subsidiaries), and in and to any and all Letters Patent, reexaminations, reissues, or extensions thereof, of the United States of America and countries foreign thereto (including the right to apply for Letters Patent, Utility Models, or Inventors' Certificates in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), which have been or may be granted thereon or on any divisional, continuation (in whole or in part), renewal, reexamination, reissue, or other or further application based in whole or in part upon the said invention or improvements thereon, to be held and enjoyed as fully and exclusively as they would have been by me/us had this assignment and transfer not been made;

I/We do further agree for myself/ourselves and for my/our heirs, executors, and administrators, to execute and deliver without further consideration any further applications, assignments, and documents, and to perform such other acts as I/we lawfully may, that may be deemed necessary by said Company, its successors, assigns, and nominees, fully to secure its right, title, and interest as aforesaid and to obtain or maintain Letters Patent, Utility Models, or Inventors' Certificates in any and all countries; and


I/We do hereby authorize and request the Commissioner of Patents to issue any and all Letters Patent which may be granted upon any of the said applications, to said 3M Innovative Properties Company, as the assignee of the entire right, title, and interest therein.

Given Name (first and middle [if any]): <b>Ravi</b>	Family Name or Surname: <b>PALANISWAMY</b>	
Inventor's Signature: 	Date: 17/09/2013	
Residence: Singapore	Country: SG	Citizenship: IN

Given Name (first and middle [if any]): <b>Arokiaraj</b>	Family Name or Surname: <b>JESUDOSS</b>	
Inventor's Signature: 	Date: 17/09/2013	
Residence: Singapore	Country: SG	Citizenship: IN

Given Name (first and middle [if any]): <b>Alejandro Aldrin II Agcaoili</b>	Family Name or Surname: <b>NARAG</b>	
Inventor's Signature: 	Date: 17/9/13	
Residence: Singapore	Country: SG	Citizenship: PH

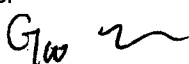
Given Name (first and middle [if any]): <b>James R.</b>	Family Name or Surname: <b>WHITE</b>	
Inventor's Signature:	Date:	
Residence: Singapore	Country: SG	Citizenship: USA

Given Name (first and middle [if any]): <b>Fong Liang</b>	Family Name or Surname: <b>TAN</b>	
Inventor's Signature: 	Date: 17/9/13	
Residence: Singapore	Country: SG	Citizenship: SG

Given Name (first and middle [if any]): <b>Andrew J.</b>	Family Name or Surname: <b>OUDERKIRK</b>	
Inventor's Signature:	Date:	
Residence: St. Paul, MN	Country: USA	Citizenship: USA
Given Name (first and middle [if any]): <b>Justine A.</b>	Family Name or Surname: <b>MOONEY</b>	
Inventor's Signature:	Date:	
Residence: Austin, TX	Country: USA	Citizenship: USA

Given Name (first and middle [if any]): <b>Nathan P.</b>	Family Name or Surname: <b>KREUTTER</b>	
Inventor's Signature:	Date:	
Residence: Austin, TX	Country: USA	Citizenship: USA

Given Name (first and middle [if any]): <b>Qihong</b>	Family Name or Surname: <b>NIE</b>	
Inventor's Signature:	Date:	
Residence: Woodbury, MN	Country: USA	Citizenship: CN

Given Name (first and middle [if any]): <b>Jian Xia</b>	Family Name or Surname: <b>GAO</b>	
Inventor's Signature: 	Date: 11/09/2013	
Residence: Singapore	Country: SG	Citizenship: SG

**ASSIGNMENT OF APPLICATION**

Whereas I/we, the below named inventor(s), with residence and citizenship as indicated below, have made an invention in

**FLEXIBLE LED DEVICE FOR THERMAL MANAGEMENT AND METHOD OF MAKING**

- ☐ for which an application for a United States Patent is being filed contemporaneously herewith;
- ☒ for which an application for a United States Patent identified as U.S. Patent Application No. 13/883386, was filed on May 3, 2013;
- ☒ which application is identified as PCT International Patent Application No. PCT/US2011/057977; filed October 27, 2011;

Now, therefore, for good and valuable consideration, receipt of which is acknowledged, I/we have agreed to assign and transfer and do hereby assign and transfer unto the 3M INNOVATIVE PROPERTIES COMPANY, a wholly-owned subsidiary of 3M COMPANY, and a corporation of Delaware, having its principal office at Saint Paul, Minnesota, its successors and assigns, the entire right, title, and interest in and to the said invention and application, and in and to any division or continuation (in whole or in part) of said application, and in and to any and all improvements in the said invention made by me or made jointly with others (provided any such improvement is made during, or within one year after the termination of, my employment with 3M COMPANY and any of its existing or future subsidiaries), and in and to any and all Letters Patent, reexaminations, reissues, or extensions thereof, of the United States of America and countries foreign thereto (including the right to apply for Letters Patent, Utility Models, or Inventors' Certificates in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), which have been or may be granted thereon or on any divisional, continuation (in whole or in part), renewal, reexamination, reissue, or other or further application based in whole or in part upon the said invention or improvements thereon, to be held and enjoyed as fully and exclusively as they would have been by me/us had this assignment and transfer not been made;

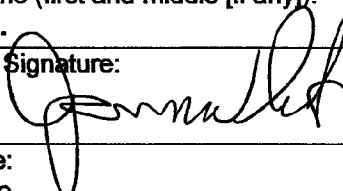
I/We do further agree for myself/ourselves and for my/our heirs, executors, and administrators, to execute and deliver without further consideration any further applications, assignments, and documents, and to perform such other acts as I/we lawfully may, that may be deemed necessary by said Company, its successors, assigns, and nominees, fully to secure its right, title, and interest as aforesaid and to obtain or maintain Letters Patent, Utility Models, or Inventors' Certificates in any and all countries; and

I/We do hereby authorize and request the Commissioner of Patents to issue any and all Letters Patent which may be granted upon any of the said applications, to said 3M Innovative Properties Company, as the assignee of the entire right, title, and interest therein.

Given Name (first and middle [if any]): <b>Ravi</b>	Family Name or Surname: <b>PALANISWAMY</b>	
Inventor's Signature:	Date:	
Residence: Singapore	Country: SG	Citizenship: IN

Given Name (first and middle [if any]): <b>Arokiaraj</b>	Family Name or Surname: <b>JESUDOSS</b>	
Inventor's Signature:	Date:	
Residence: Singapore	Country: SG	Citizenship: IN

Given Name (first and middle [if any]): <b>Alejandro Aldrin Il Agcaoili</b>	Family Name or Surname: <b>NARAG</b>	
Inventor's Signature:	Date:	
Residence: Singapore	Country: SG	Citizenship: PH

Given Name (first and middle [if any]): <b>James R.</b>	Family Name or Surname: <b>WHITE</b>	
Inventor's Signature: 	Date: 6/12/2013	
Residence: Singapore	Country: SG	Citizenship: USA

Given Name (first and middle [if any]): <b>Fong Liang</b>	Family Name or Surname: <b>TAN</b>	
Inventor's Signature:	Date:	
Residence: Singapore	Country: SG	Citizenship: SG

Given Name (first and middle [if any]): <b>Andrew J.</b>	Family Name or Surname: <b>OUDERKIRK</b>	
Inventor's Signature:	Date:	
Residence: St. Paul, MN	Country: USA	Citizenship: USA
Given Name (first and middle [if any]): <b>Justine A.</b>	Family Name or Surname: <b>MOONEY</b>	
Inventor's Signature:	Date:	
Residence: Austin, TX	Country: USA	Citizenship: USA

Given Name (first and middle [if any]): <b>Nathan P.</b>	Family Name or Surname: <b>KREUTTER</b>	
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Given Name (first and middle [if any]): <b>Qihong</b>	Family Name or Surname: <b>NIE</b>	
Inventor's Signature:	Date:	
Residence: Woodbury, MN	Country: USA	Citizenship: CN

Given Name (first and middle [if any]): <b>Jian Xia</b>	Family Name or Surname: <b>GAO</b>	
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**ASSIGNMENT OF APPLICATION**

Whereas I/we, the below named inventor(s), with residence and citizenship as indicated below, have made an invention in

FLEXIBLE LED DEVICE FOR THERMAL MANAGEMENT AND METHOD OF MAKING
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- ☐ for which an application for a United States Patent is being filed contemporaneously herewith;
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- ☒ which application is identified as PCT International Patent Application No. PCT/US2011/057977; filed October 27, 2011;

Now, therefore, for good and valuable consideration, receipt of which is acknowledged, I/we have agreed to assign and transfer and do hereby assign and transfer unto the 3M INNOVATIVE PROPERTIES COMPANY, a wholly-owned subsidiary of 3M COMPANY, and a corporation of Delaware, having its principal office at Saint Paul, Minnesota, its successors and assigns, the entire right, title, and interest in and to the said invention and application, and in and to any division or continuation (in whole or in part) of said application, and in and to any and all improvements in the said invention made by me or made jointly with others (provided any such improvement is made during, or within one year after the termination of, my employment with 3M COMPANY and any of its existing or future subsidiaries), and in and to any and all Letters Patent, reexaminations, reissues, or extensions thereof, of the United States of America and countries foreign thereto (including the right to apply for Letters Patent, Utility Models, or Inventors' Certificates in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), which have been or may be granted thereon or on any divisional, continuation (in whole or in part), renewal, reexamination, reissue, or other or further application based in whole or in part upon the said invention or improvements thereon, to be held and enjoyed as fully and exclusively as they would have been by me/us had this assignment and transfer not been made;

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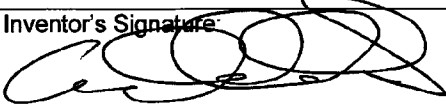
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Given Name (first and middle [if any]): <b>Andrew J.</b>	Family Name or Surname: <b>OUDERKIRK</b>	
Inventor's Signature: 	Date: <b>Sept 18, 2013</b>	
Residence: St. Paul, MN	Country: USA	Citizenship: USA

Given Name (first and middle [if any]): <b>Justine A.</b>	Family Name or Surname: <b>MOONEY</b>	
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Inventor's Signature:	Date:	
Residence: St. Paul, MN	Country: USA	Citizenship: USA
Given Name (first and middle [if any]): <b>Justine A.</b>	Family Name or Surname: <b>MOONEY</b>	
Inventor's Signature: <i>Justine A. Mooney</i>	Date: <i>10/21/2013</i>	
Residence: Austin, TX	Country: USA	Citizenship: USA

Given Name (first and middle [if any]): <b>Nathan P.</b>	Family Name or Surname: <b>KREUTTER</b>	
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- ☒ for which an application for a United States Patent identified as U.S. Patent Application No. 13/883386, was filed on May 3, 2013;
- ☒ which application is identified as PCT International Patent Application No. PCT/US2011/057977; filed October 27, 2011;

Now, therefore, for good and valuable consideration, receipt of which is acknowledged, I/we have agreed to assign and transfer and do hereby assign and transfer unto the 3M INNOVATIVE PROPERTIES COMPANY, a wholly-owned subsidiary of 3M COMPANY, and a corporation of Delaware, having its principal office at Saint Paul, Minnesota, its successors and assigns, the entire right, title, and interest in and to the said invention and application, and in and to any division or continuation (in whole or in part) of said application, and in and to any and all improvements in the said invention made by me or made jointly with others (provided any such improvement is made during, or within one year after the termination of, my employment with 3M COMPANY and any of its existing or future subsidiaries), and in and to any and all Letters Patent, reexaminations, reissues, or extensions thereof, of the United States of America and countries foreign thereto (including the right to apply for Letters Patent, Utility Models, or Inventors' Certificates in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), which have been or may be granted thereon or on any divisional, continuation (in whole or in part), renewal, reexamination, reissue, or other or further application based in whole or in part upon the said invention or improvements thereon, to be held and enjoyed as fully and exclusively as they would have been by me/us had this assignment and transfer not been made;

I/We do further agree for myself/ourselves and for my/our heirs, executors, and administrators, to execute and deliver without further consideration any further applications, assignments, and documents, and to perform such other acts as I/we lawfully may, that may be deemed necessary by said Company, its successors, assigns, and nominees, fully to secure its right, title, and interest as aforesaid and to obtain or maintain Letters Patent, Utility Models, or Inventors' Certificates in any and all countries; and

I/We do hereby authorize and request the Commissioner of Patents to issue any and all Letters Patent which may be granted upon any of the said applications, to said 3M Innovative Properties Company, as the assignee of the entire right, title, and interest therein.

Given Name (first and middle [if any]): <b>Ravi</b>	Family Name or Surname: <b>PALANISWAMY</b>	
Inventor's Signature:	Date:	
Residence: Singapore	Country: SG	Citizenship: IN

Given Name (first and middle [if any]): <b>Arokiaraj</b>	Family Name or Surname: <b>JESUDOSS</b>	
Inventor's Signature:	Date:	
Residence: Singapore	Country: SG	Citizenship: IN

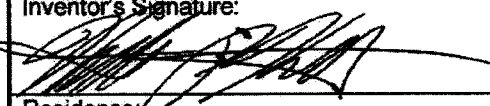
Given Name (first and middle [if any]): <b>Alejandro Aldrin II Agcaoli</b>	Family Name or Surname: <b>NARAG</b>	
Inventor's Signature:	Date:	
Residence: Singapore	Country: SG	Citizenship: PH

Given Name (first and middle [if any]): <b>James R.</b>	Family Name or Surname: <b>WHITE</b>	
Inventor's Signature:	Date:	
Residence: Singapore	Country: SG	Citizenship: USA

Given Name (first and middle [if any]): <b>Fong Liang</b>	Family Name or Surname: <b>TAN</b>	
Inventor's Signature:	Date:	
Residence: Singapore	Country: SG	Citizenship: SG



Given Name (first and middle [if any]): <b>Andrew J.</b>	Family Name or Surname: <b>OUDERKIRK</b>	
Inventor's Signature:	Date:	
Residence: St. Paul, MN	Country: USA	Citizenship: USA
Given Name (first and middle [if any]): <b>Justine A.</b>	Family Name or Surname: <b>MOONEY</b>	
Inventor's Signature:	Date:	
Residence: Austin, TX	Country: USA	Citizenship: USA

Given Name (first and middle [if any]): <b>Nathan P.</b>	Family Name or Surname: <b>KREUTTER</b>	
Inventor's Signature: 	Date: 9/17/2013	
Residence: Austin, TX	Country: USA	Citizenship: USA

Given Name (first and middle [if any]): <b>Qihong</b>	Family Name or Surname: <b>NIE</b>	
Inventor's Signature:	Date:	
Residence: Woodbury, MN	Country: USA	Citizenship: CN

Given Name (first and middle [if any]): <b>Jian Xia</b>	Family Name or Surname: <b>GAO</b>	
Inventor's Signature:	Date:	
Residence: Singapore	Country: SG	Citizenship: SG

Case No.: 67018US006

**ASSIGNMENT OF APPLICATION**

Whereas I/we, the below named inventor(s), with residence and citizenship as indicated below, have made an invention in

**FLEXIBLE LED DEVICE FOR THERMAL MANAGEMENT AND METHOD OF MAKING**

- ☐ for which an application for a United States Patent is being filed contemporaneously herewith;
- ☒ for which an application for a United States Patent identified as U.S. Patent Application No. 13/883386, was filed on May 3, 2013;
- ☒ which application is identified as PCT International Patent Application No. PCT/US2011/057977; filed October 27, 2011;

Now, therefore, for good and valuable consideration, receipt of which is acknowledged, I/we have agreed to assign and transfer and do hereby assign and transfer unto the 3M INNOVATIVE PROPERTIES COMPANY, a wholly-owned subsidiary of 3M COMPANY, and a corporation of Delaware, having its principal office at Saint Paul, Minnesota, its successors and assigns, the entire right, title, and interest in and to the said invention and application, and in and to any division or continuation (in whole or in part) of said application, and in and to any and all improvements in the said invention made by me or made jointly with others (provided any such improvement is made during, or within one year after the termination of, my employment with 3M COMPANY and any of its existing or future subsidiaries), and in and to any and all Letters Patent, reexaminations, reissues, or extensions thereof, of the United States of America and countries foreign thereto (including the right to apply for Letters Patent, Utility Models, or Inventors' Certificates in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), which have been or may be granted thereon or on any divisional, continuation (in whole or in part), renewal, reexamination, reissue, or other or further application based in whole or in part upon the said invention or improvements thereon, to be held and enjoyed as fully and exclusively as they would have been by me/us had this assignment and transfer not been made;

I/We do further agree for myself/ourselves and for my/our heirs, executors, and administrators, to execute and deliver without further consideration any further applications, assignments, and documents, and to perform such other acts as I/we lawfully may, that may be deemed necessary by said Company, its successors, assigns, and nominees, fully to secure its right, title, and interest as aforesaid and to obtain or maintain Letters Patent, Utility Models, or Inventors' Certificates in any and all countries; and

I/We do hereby authorize and request the Commissioner of Patents to issue any and all Letters Patent which may be granted upon any of the said applications, to said 3M Innovative Properties Company, as the assignee of the entire right, title, and interest therein.

Given Name (first and middle [if any]): <b>Ravi</b>	Family Name or Surname: <b>PALANISWAMY</b>	
Inventor's Signature:	Date:	
Residence: Singapore	Country: SG	Citizenship: IN

Given Name (first and middle [if any]): <b>Aroklaraj</b>	Family Name or Surname: <b>JESUDOSS</b>	
Inventor's Signature:	Date:	
Residence: Singapore	Country: SG	Citizenship: IN

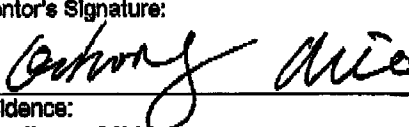
Given Name (first and middle [if any]): <b>Alejandro Aldrin Il Agcaolll</b>	Family Name or Surname: <b>NARAG</b>	
Inventor's Signature:	Date:	
Residence: Singapore	Country: SG	Citizenship: PH

Given Name (first and middle [if any]): <b>James R.</b>	Family Name or Surname: <b>WHITE</b>	
Inventor's Signature:	Date:	
Residence: Singapore	Country: SG	Citizenship: USA

Given Name (first and middle [if any]): <b>Fong Liang</b>	Family Name or Surname: <b>TAN</b>	
Inventor's Signature:	Date:	
Residence: Singapore	Country: SG	Citizenship: SG

Given Name (first and middle [if any]): <b>Andrew J.</b>		Family Name or Surname: <b>OUDERKIRK</b>	
Inventor's Signature:		Date:	
Residence: <b>St. Paul, MN</b>	Country: <b>USA</b>	Citizenship: <b>USA</b>	
Given Name (first and middle [if any]): <b>Justine A.</b>		Family Name or Surname: <b>MOONEY</b>	
Inventor's Signature:		Date:	
Residence: <b>Austin, TX</b>	Country: <b>USA</b>	Citizenship: <b>USA</b>	

Given Name (first and middle [if any]): <b>Nathan P.</b>		Family Name or Surname: <b>KREUTTER</b>	
Inventor's Signature:		Date:	
Residence: <b>Austin, TX</b>	Country: <b>USA</b>	Citizenship: <b>USA</b>	

Given Name (first and middle [if any]): <b>Qihong</b>		Family Name or Surname: <b>NIE</b>	
Inventor's Signature: 		Date: <b>09/17/2013</b>	
Residence: <b>Woodbury, MN</b>	Country: <b>USA</b>	Citizenship: <b>CN</b>	

Given Name (first and middle [if any]): <b>Jian Xia</b>		Family Name or Surname: <b>GAO</b>	
Inventor's Signature:		Date:	
Residence: <b>Singapore</b>	Country: <b>SG</b>	Citizenship: <b>SG</b>	