

PATENT ASSIGNMENT

Electronic Version v1.1
 Stylesheet Version v1.1

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>Stefan Geirhofer</td> <td>12/13/2011</td> </tr> <tr> <td>Tingfang Ji</td> <td>12/13/2011</td> </tr> <tr> <td>Peter Gaal</td> <td>12/13/2011</td> </tr> <tr> <td>Aleksandar Damnjanovic</td> <td>12/15/2011</td> </tr> <tr> <td>Juan Montojo</td> <td>12/14/2011</td> </tr> <tr> <td>Tao Luo</td> <td>12/13/2011</td> </tr> <tr> <td>Wanshi Chen</td> <td>12/13/2011</td> </tr> <tr> <td>Kapil Bhattad</td> <td>12/14/2011</td> </tr> </tbody> </table>		Name	Execution Date	Stefan Geirhofer	12/13/2011	Tingfang Ji	12/13/2011	Peter Gaal	12/13/2011	Aleksandar Damnjanovic	12/15/2011	Juan Montojo	12/14/2011	Tao Luo	12/13/2011	Wanshi Chen	12/13/2011	Kapil Bhattad	12/14/2011
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RECEIVING PARTY DATA																			
<table border="1"> <tr> <td>Name:</td> <td>Qualcomm Incorporated</td> </tr> <tr> <td>Street Address:</td> <td>5775 Morehouse Drive</td> </tr> <tr> <td>City:</td> <td>San Diego</td> </tr> <tr> <td>State/Country:</td> <td>CALIFORNIA</td> </tr> <tr> <td>Postal Code:</td> <td>92121-1714</td> </tr> </table>		Name:	Qualcomm Incorporated	Street Address:	5775 Morehouse Drive	City:	San Diego	State/Country:	CALIFORNIA	Postal Code:	92121-1714								
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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>13349073</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13349073														
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Application Number:	13349073																		
CORRESPONDENCE DATA																			
Fax Number:	(213)629-7401																		
Phone:	2136297400																		
Email:	dcipdocket@arentfox.com																		
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i>																			
Correspondent Name:	Lew Edward V. Macapagal																		
Address Line 1:	555 West Fifth St, 48th Floor																		
Address Line 4:	Los Angeles, CALIFORNIA 90013																		

OP \$40.00 13349073

ATTORNEY DOCKET NUMBER:	030284.02398
NAME OF SUBMITTER:	Lew Edward V. Macapagal
<p>Total Attachments: 12</p> <p>source=111040_Assign-AsFiled-Jan-12-2012#page1.tif source=111040_Assign-AsFiled-Jan-12-2012#page2.tif source=111040_Assign-AsFiled-Jan-12-2012#page3.tif source=111040_Assign-AsFiled-Jan-12-2012#page4.tif source=111040_Assign-AsFiled-Jan-12-2012#page5.tif source=111040_Assign-AsFiled-Jan-12-2012#page6.tif source=111040_Assign-AsFiled-Jan-12-2012#page7.tif source=111040_Assign-AsFiled-Jan-12-2012#page8.tif source=111040_Assign-AsFiled-Jan-12-2012#page9.tif source=111040_Assign-AsFiled-Jan-12-2012#page10.tif source=111040_Assign-AsFiled-Jan-12-2012#page11.tif source=111040_Assign-AsFiled-Jan-12-2012#page12.tif</p>	

ASSIGNMENT

WHEREAS, WE,

1. **Stefan Geirhofer**, a citizen of **Austria**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714** and a resident of **San Diego, CA**,
2. **Tingfang Ji**, a citizen of **China**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714** and a resident of **San Diego, CA**,
3. **Peter Gaal**, a citizen of **United States of America**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714** and a resident of **San Diego, CA**,
4. **Aleksandar Damnjanovic**, a citizen of **United States of America**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714** and a resident of **Del Mar, CA**,
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7. **Wanshi Chen**, a citizen of **China**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714** and a resident of **San Diego, CA**,
8. **Kapil Bhattad**, a citizen of **India**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714** and a resident of **San Diego, CA**,

have conceived of one or more processes, methods, machines, articles of manufacture, designs, compositions of matter, inventions, discoveries or new or useful improvements relating to **COOPERATION AND OPERATION OF MACRO NODE AND REMOTE RADIO HEAD DEPLOYMENTS IN HETEROGENEOUS NETWORKS** (collectively the "INVENTIONS") for which WE have executed and/or may execute one or more patent applications therefor; and

WHEREAS, **QUALCOMM Incorporated** (hereinafter "**ASSIGNEE**"), a Delaware corporation, having a place of business at **5775 Morehouse Drive, San Diego, California 92121-1714, U.S.A.**, desires to acquire or otherwise obtain the entire right, title, and interest in and to said **INVENTIONS**, including all inventions related thereto or thereof, all patent applications therefor, and all patents that have granted or may be granted hereafter thereon, including but not limited to those identified below.

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, WE do hereby acknowledge that WE have sold, assigned, conveyed, and transferred, and by these presents do hereby sell, assign, convey, and transfer, unto ASSIGNEE, its successors, its legal representatives, and its assigns, the entire right, title, and interest throughout the world in and to said INVENTIONS, including all patent applications therefor that may have been filed or may be filed hereafter for said INVENTIONS in the United States, including but not limited to U.S. Application No(s). 13/349,073 filed 1/12/2012, Docket No. **111040**, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). **61/442,129**, filed **February 11, 2011**, Docket No. **111040P1**, together with U.S. Provisional Application No(s). **61/442,690**, filed **February 14, 2011**, Docket No. **111040P2**, together with U.S. Provisional Application No(s). **61/442,087**, filed **February 11, 2011**, Docket No. **111041P1**, (and do hereby authorize ASSIGNEE and its representative to hereafter add herein such application number(s) and/or filing date(s) when known), and all divisional applications, renewal applications, continuation applications, continuation-in-part applications, and design applications thereof, and all issued patents of the United States which may have granted or may be granted hereafter thereon and all reissues, renewals, reexaminations, and extensions to any of the foregoing and all patents issuing thereon in the United States;

AND WE further do acknowledge and agree that WE have sold, assigned, conveyed, and transferred, and by these presents do hereby sell, assign, convey, and transfer, unto ASSIGNEE, its successors, its legal representatives, and its assigns, all rights of priority under International Conventions, Treaties, or Agreements, and the entire right, title, and interest throughout the world in said INVENTIONS, including all inventions related thereto or thereof, and all patent applications therefor that may have been filed or may be filed hereafter for said INVENTIONS in any foreign country, countries, or treaty/union organizations, and all divisional applications, renewal applications, continuation applications, continuation-in-part applications, patent of addition applications, confirmation applications, validation applications, utility model applications, and design applications thereof, and all issued patents which may have granted or may be granted hereafter for said INVENTIONS in any country or countries foreign to the United States, and all reissues, renewals, reexaminations, and extensions thereof;


AND WE DO HEREBY authorize and request 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 or registrations, to issue all patents for said INVENTIONS to said ASSIGNEE, its successors, its legal representatives and its assigns, in accordance with the terms of this instrument;

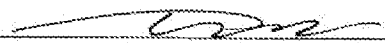
AND WE DO HEREBY sell, assign, transfer, and convey to said ASSIGNEE, its successors, its legal representatives, and its assigns all claims for damages and all remedies arising out of or relating to any violation(s) of any of the rights assigned hereby that have or may have accrued prior to the date of assignment to said ASSIGNEE, or may accrue hereafter, including, but not limited to the right to sue for, seek, obtain, collect, recover, and retain damages and any ongoing or prospective royalties to which WE may be entitled, or that WE may collect

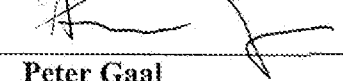
for any infringement or from any settlement or agreement related to any of said patents before or after issuance;

AND WE HEREBY covenant and agree that WE will communicate promptly to said ASSIGNEE, its successors, its legal representatives, and its assigns, any facts known to us respecting said INVENTIONS, and will testify in any legal proceeding, sign all lawful papers, execute all applications and certificates, make all rightful declarations and/or oaths, and provide all lawful assistance to said ASSIGNEE, its successors, its legal representatives and its assigns, to obtain and enforce patent protection for said INVENTIONS in all countries;

AND WE HEREBY represent that WE have full and exclusive, unencumbered right to sell, assign, convey and transfer all subject matter herein, and hereby covenant that WE have not and will not execute any writing or do any act whatsoever conflicting with these presents.

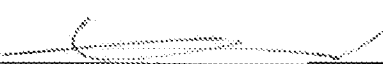
Done at San Diego, on 12/13/2011
LOCATION DATE 
Stefan Gerhofer

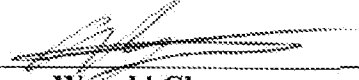
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Done at _____, on _____
LOCATION DATE Aleksandar Damnjanovic

Done at _____, on _____
LOCATION DATE Juan Montojo

Done at San Diego, on 12/13/2011
LOCATION DATE 
Tao Luo

Done at San Diego, on 12/13/2011
LOCATION DATE 
Wanshi Chen

Done at _____, on _____
LOCATION DATE Kapil Bhattad

ASSIGNMENT

WHEREAS, WE,

1. **Stefan Geirhofer**, a citizen of **Austria**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714** and a resident of **San Diego, CA**,
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8. **Kapil Bhattad**, a citizen of **India**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714** and a resident of **San Diego, CA**,

have conceived of one or more processes, methods, machines, articles of manufacture, designs, compositions of matter, inventions, discoveries or new or useful improvements relating to **COOPERATION AND OPERATION OF MACRO NODE AND REMOTE RADIO HEAD DEPLOYMENTS IN HETEROGENEOUS NETWORKS** (collectively the "INVENTIONS") for which WE have executed and/or may execute one or more patent applications therefor; and

WHEREAS, **QUALCOMM Incorporated** (hereinafter "**ASSIGNEE**"), a Delaware corporation, having a place of business at **5775 Morehouse Drive, San Diego, California 92121-1714, U.S.A.**, desires to acquire or otherwise obtain the entire right, title, and interest in and to said **INVENTIONS**, including all inventions related thereto or thereof, all patent applications therefor, and all patents that have granted or may be granted hereafter thereon, including but not limited to those identified below.

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, WE do hereby acknowledge that WE have sold, assigned, conveyed, and transferred, and by these presents do hereby sell, assign, convey, and transfer, unto ASSIGNEE, its successors, its legal representatives, and its assigns, the entire right, title, and interest throughout the world in and to said INVENTIONS, including all patent applications therefor that may have been filed or may be filed hereafter for said INVENTIONS in the United States, including but not limited to U.S. Application No(s). 13/349,073 filed 1/12/2012, Docket No. **111040**, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). **61/442,129**, filed **February 11, 2011**, Docket No. **111040P1**, together with U.S. Provisional Application No(s). **61/442,690**, filed **February 14, 2011**, Docket No. **111040P2**, together with U.S. Provisional Application No(s). **61/442,087**, filed **February 11, 2011**, Docket No. **111041P1**, (and do hereby authorize ASSIGNEE and its representative to hereafter add herein such application number(s) and/or filing date(s) when known), and all divisional applications, renewal applications, continuation applications, continuation-in-part applications, and design applications thereof, and all issued patents of the United States which may have granted or may be granted hereafter thereon and all reissues, renewals, reexaminations, and extensions to any of the foregoing and all patents issuing thereon in the United States;

AND WE further do acknowledge and agree that WE have sold, assigned, conveyed, and transferred, and by these presents do hereby sell, assign, convey, and transfer, unto ASSIGNEE, its successors, its legal representatives, and its assigns, all rights of priority under International Conventions, Treaties, or Agreements, and the entire right, title, and interest throughout the world in said INVENTIONS, including all inventions related thereto or thereof, and all patent applications therefor that may have been filed or may be filed hereafter for said INVENTIONS in any foreign country, countries, or treaty/union organizations, and all divisional applications, renewal applications, continuation applications, continuation-in-part applications, patent of addition applications, confirmation applications, validation applications, utility model applications, and design applications thereof, and all issued patents which may have granted or may be granted hereafter for said INVENTIONS in any country or countries foreign to the United States, and all reissues, renewals, reexaminations, and extensions thereof;

AND WE DO HEREBY authorize and request 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 or registrations, to issue all patents for said INVENTIONS to said ASSIGNEE, its successors, its legal representatives and its assigns, in accordance with the terms of this instrument;

AND WE DO HEREBY sell, assign, transfer, and convey to said ASSIGNEE, its successors, its legal representatives, and its assigns all claims for damages and all remedies arising out of or relating to any violation(s) of any of the rights assigned hereby that have or 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, seek, obtain, collect, recover, and retain damages and any ongoing or prospective royalties to which WE may be entitled, or that WE may collect

for any infringement or from any settlement or agreement related to any of said patents before or after issuance;


AND WE HEREBY covenant and agree that WE will communicate promptly to said ASSIGNEE, its successors, its legal representatives, and its assigns, any facts known to us respecting said INVENTIONS, and will testify in any legal proceeding, sign all lawful papers, execute all applications and certificates, make all rightful declarations and/or oaths, and provide all lawful assistance to said ASSIGNEE, its successors, its legal representatives and its assigns, to obtain and enforce patent protection for said INVENTIONS in all countries;

AND WE HEREBY represent that WE have full and exclusive, unencumbered right to sell, assign, convey and transfer all subject matter herein, and hereby covenant that WE have not and will not execute any writing or do any act whatsoever conflicting with these presents.

Done at _____, on _____
LOCATION DATE **Stefan Geirhofer**

Done at _____, on _____
LOCATION DATE **Tingfang Ji**

Done at _____, on _____
LOCATION DATE **Peter Gaal**

Done at San Diego, on 12/15/11
LOCATION DATE 
Aleksandar Damnjanovic

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Done at _____, on _____
LOCATION DATE **Kapil Bhattad**

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have conceived of one or more processes, methods, machines, articles of manufacture, designs, compositions of matter, inventions, discoveries or new or useful improvements relating to **COOPERATION AND OPERATION OF MACRO NODE AND REMOTE RADIO HEAD DEPLOYMENTS IN HETEROGENEOUS NETWORKS** (collectively the "INVENTIONS") for which WE have executed and/or may execute one or more patent applications therefor; and

WHEREAS, **QUALCOMM Incorporated** (hereinafter "**ASSIGNEE**"), a Delaware corporation, having a place of business at **5775 Morehouse Drive, San Diego, California 92121-1714, U.S.A.**, desires to acquire or otherwise obtain the entire right, title, and interest in and to said **INVENTIONS**, including all inventions related thereto or thereof, all patent applications therefor, and all patents that have granted or may be granted hereafter thereon, including but not limited to those identified below.

PATENT

Docket No. **111040**

Page 2 of 3

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, WE do hereby acknowledge that WE have sold, assigned, conveyed, and transferred, and by these presents do hereby sell, assign, convey, and transfer, unto ASSIGNEE, its successors, its legal representatives, and its assigns, the entire right, title, and interest throughout the world in and to said INVENTIONS, including all patent applications therefor that may have been filed or may be filed hereafter for said INVENTIONS in the United States, including but not limited to U.S. Application No(s). 13/349,073 filed 1/12/2012, Docket No. **111040**, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). **61/442,129**, filed **February 11, 2011**, Docket No. **111040P1**, together with U.S. Provisional Application No(s). **61/442,690**, filed **February 14, 2011**, Docket No. **111040P2**, together with U.S. Provisional Application No(s). **61/442,087**, filed **February 11, 2011**, Docket No. **111041P1**, (and do hereby authorize ASSIGNEE and its representative to hereafter add herein such application number(s) and/or filing date(s) when known), and all divisional applications, renewal applications, continuation applications, continuation-in-part applications, and design applications thereof, and all issued patents of the United States which may have granted or may be granted hereafter thereon and all reissues, renewals, reexaminations, and extensions to any of the foregoing and all patents issuing thereon in the United States;

AND WE further do acknowledge and agree that WE have sold, assigned, conveyed, and transferred, and by these presents do hereby sell, assign, convey, and transfer, unto ASSIGNEE, its successors, its legal representatives, and its assigns, all rights of priority under International Conventions, Treaties, or Agreements, and the entire right, title, and interest throughout the world in said INVENTIONS, including all inventions related thereto or thereof, and all patent applications therefor that may have been filed or may be filed hereafter for said INVENTIONS in any foreign country, countries, or treaty/union organizations, and all divisional applications, renewal applications, continuation applications, continuation-in-part applications, patent of addition applications, confirmation applications, validation applications, utility model applications, and design applications thereof, and all issued patents which may have granted or may be granted hereafter for said INVENTIONS in any country or countries foreign to the United States, and all reissues, renewals, reexaminations, and extensions thereof;

AND WE DO HEREBY authorize and request 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 or registrations, to issue all patents for said INVENTIONS to said ASSIGNEE, its successors, its legal representatives and its assigns, in accordance with the terms of this instrument;

AND WE DO HEREBY sell, assign, transfer, and convey to said ASSIGNEE, its successors, its legal representatives, and its assigns all claims for damages and all remedies arising out of or relating to any violation(s) of any of the rights assigned hereby that have or 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, seek, obtain, collect, recover, and retain damages and any ongoing or prospective royalties to which WE may be entitled, or that WE may collect

PATENT

REEL: 027525 FRAME: 0042

PATENT

Docket No. 111040

Page 3 of 3

for any infringement or from any settlement or agreement related to any of said patents before or after issuance;

AND WE HEREBY covenant and agree that WE will communicate promptly to said ASSIGNEE, its successors, its legal representatives, and its assigns, any facts known to us respecting said INVENTIONS, and will testify in any legal proceeding, sign all lawful papers, execute all applications and certificates, make all rightful declarations and/or oaths, and provide all lawful assistance to said ASSIGNEE, its successors, its legal representatives and its assigns, to obtain and enforce patent protection for said INVENTIONS in all countries;

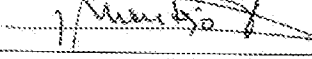
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Done at _____, on _____
LOCATION DATE **Stefan Geirhofer**

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LOCATION DATE **Tingfang Ji**

Done at _____, on _____
LOCATION DATE **Peter Gaal**

Done at _____, on _____
LOCATION DATE **Aleksandar Damjanovic**

Done at Munich, on 12/14/11. 
LOCATION DATE **Juan Montojo**

Done at _____, on _____
LOCATION DATE **Tao Luo**

Done at _____, on _____
LOCATION DATE **Wanshi Chen**

Done at _____, on _____
LOCATION DATE **Kapil Bhattad**

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Docket No. **111040**

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NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, WE do hereby acknowledge that WE have sold, assigned, conveyed, and transferred, and by these presents do hereby sell, assign, convey, and transfer, unto ASSIGNEE, its successors, its legal representatives, and its assigns, the entire right, title, and interest throughout the world in and to said INVENTIONS, including all patent applications therefor that may have been filed or may be filed hereafter for said INVENTIONS in the United States, including but not limited to U.S. Application No(s). 13/349,073 filed 1/12/2012, Docket No. **111040**, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). **61/442,129**, filed **February 11, 2011**, Docket No. **111040P1**, together with U.S. Provisional Application No(s). **61/442,690**, filed **February 14, 2011**, Docket No. **111040P2**, together with U.S. Provisional Application No(s). **61/442,087**, filed **February 11, 2011**, Docket No. **111041P1**, (and do hereby authorize ASSIGNEE and its representative to hereafter add herein such application number(s) and/or filing date(s) when known), and all divisional applications, renewal applications, continuation applications, continuation-in-part applications, and design applications thereof, and all issued patents of the United States which may have granted or may be granted hereafter thereon and all reissues, renewals, reexaminations, and extensions to any of the foregoing and all patents issuing thereon in the United States;

AND WE further do acknowledge and agree that WE have sold, assigned, conveyed, and transferred, and by these presents do hereby sell, assign, convey, and transfer, unto ASSIGNEE, its successors, its legal representatives, and its assigns, all rights of priority under International Conventions, Treaties, or Agreements, and the entire right, title, and interest throughout the world in said INVENTIONS, including all inventions related thereto or thereof, and all patent applications therefor that may have been filed or may be filed hereafter for said INVENTIONS in any foreign country, countries, or treaty/union organizations, and all divisional applications, renewal applications, continuation applications, continuation-in-part applications, patent of addition applications, confirmation applications, validation applications, utility model applications, and design applications thereof, and all issued patents which may have granted or may be granted hereafter for said INVENTIONS in any country or countries foreign to the United States, and all reissues, renewals, reexaminations, and extensions thereof;

AND WE DO HEREBY authorize and request 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 or registrations, to issue all patents for said INVENTIONS to said ASSIGNEE, its successors, its legal representatives and its assigns, in accordance with the terms of this instrument;

AND WE DO HEREBY sell, assign, transfer, and convey to said ASSIGNEE, its successors, its legal representatives, and its assigns all claims for damages and all remedies arising out of or relating to any violation(s) of any of the rights assigned hereby that have or 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, seek, obtain, collect, recover, and retain damages and any ongoing or prospective royalties to which WE may be entitled, or that WE may collect

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for any infringement or from any settlement or agreement related to any of said patents before or after issuance;

AND WE HEREBY covenant and agree that WE will communicate promptly to said ASSIGNEE, its successors, its legal representatives, and its assigns, any facts known to us respecting said INVENTIONS, and will testify in any legal proceeding, sign all lawful papers, execute all applications and certificates, make all rightful declarations and/or oaths, and provide all lawful assistance to said ASSIGNEE, its successors, its legal representatives and its assigns, to obtain and enforce patent protection for said INVENTIONS in all countries;

AND WE HEREBY represent that WE have full and exclusive, unencumbered right to sell, assign, convey and transfer all subject matter herein, and hereby covenant that WE have not and will not execute any writing or do any act whatsoever conflicting with these presents.

Done at _____, on _____
LOCATION DATE **Stefan Geirhofer**

Done at _____, on _____
LOCATION DATE **Tingfang Ji**

Done at _____, on _____
LOCATION DATE **Peter Gaal**

Done at _____, on _____
LOCATION DATE **Aleksandar Damnjanovic**

Done at _____, on _____
LOCATION DATE **Juan Montojo**

Done at _____, on _____
LOCATION DATE **Tao Luo**

Done at _____, on _____
LOCATION DATE **Wanshi Chen**

Done at Bangalore, India, on 12/14/2011
LOCATION DATE **Kapil Bhattad**

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