

## PATENT ASSIGNMENT

Electronic Version v1.1  
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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>Santosh Paul Abraham</td> <td>06/15/2012</td> </tr> <tr> <td>Hemanth Sampath</td> <td>06/27/2012</td> </tr> <tr> <td>Vincent Knowles Jones IV</td> <td>07/02/2012</td> </tr> <tr> <td>Avneesh Agrawal</td> <td>07/02/2012</td> </tr> <tr> <td>Junyi Li</td> <td>06/14/2012</td> </tr> </tbody> </table>		Name	Execution Date	Santosh Paul Abraham	06/15/2012	Hemanth Sampath	06/27/2012	Vincent Knowles Jones IV	07/02/2012	Avneesh Agrawal	07/02/2012	Junyi Li	06/14/2012
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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>13494498</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13494498								
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CORRESPONDENCE DATA													
<p>Fax Number: (858)658-2502          Phone: (858) 651-5205          Email: usdocketing@qualcomm.com  <i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i></p> <p>Correspondent Name: QUALCOMM Incorporated          Address Line 1: 5775 Morehouse Drive          Address Line 4: San Diego, CALIFORNIA 92121-1714</p>													
ATTORNEY DOCKET NUMBER:	112482U1												
NAME OF SUBMITTER:	Julianna Hofmann												

CH \$40.00 13494498

**Total Attachments: 15**

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## ASSIGNMENT

WHEREAS, WE,

1. **Santosh Paul Abraham**, a citizen of United States of America, having a mailing address located at 5775 Morehouse Drive, San Diego, California, 92121, and a resident of San Diego, California, US,
2. **Hemanth Sampath**, a citizen of United States of America, having a mailing address located at 5775 Morehouse Drive, San Diego, California, 92121, and a resident of San Diego, California, US,
3. **Vincent Knowles Jones IV**, a citizen of United States of America, having a mailing address located at 5775 Morehouse Drive, San Diego, California, 92121, and a resident of Redwood City, California, US,
4. **Avneesh Agrawal**, a citizen of United States of America, having a mailing address located at 5775 Morehouse Drive, San Diego, California, 92121, and a resident of San Diego, California, US,
5. **Junyi Li**, a citizen of United States of America, having a mailing address located at 5775 Morehouse Drive, San Diego, California, 92121, and a resident of Chester, California, US,

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 **ENHANCED DISCOVERY PROCEDURES IN PEER-TO-PEER WIRELESS LOCAL AREA NETWORKS (WLANS)** (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). 13/494,498, filed **June 12, 2012**, Qualcomm Reference No. 112482U1, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). 61/496,509, filed **June 13, 2011**, Qualcomm Reference

No. 112482P1, (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 6/15/2012  
LOCATION DATE



Santosh Paul Abraham

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE

Hemanth Sampath

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE

Vincent Knowles Jones IV

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE

Avneesh Agrawal

Done at \_\_\_\_\_, on \_\_\_\_\_  
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Junyi Li

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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). **13/494,498**, filed **June 12, 2012**, Qualcomm Reference No. **112482U1**, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). **61/496,509**, filed **June 13, 2011**, Qualcomm Reference

No. **112482P1**, (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;

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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 Santosh Paul Abraham

Done at San Diego, on 06/27/12  
LOCATION DATE Hemanth Sampath

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Vincent Knowles Jones IV

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Avneesh Agrawal

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Junyi Li



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No. **112482P1**, (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;

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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;


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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 Santosh Paul Abraham

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Hemanth Sampath

Done at Redwood City, CA, on 7/2/12  
LOCATION DATE   
Vincent Knowles Jones IV

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Avneesh Agrawal

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Junyi Li

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WHEREAS, WE,

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Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Santosh Paul Abraham

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Hemanth Sampath

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Vincent Knowles Jones IV

Done at San Diego, on 2nd July, 2012  
LOCATION DATE Avneesh Agrawal  
Avneesh Agrawal

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Junyi Li

**ASSIGNMENT**

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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). **13/494,498**, filed **June 12, 2012**, Qualcomm Reference No. **112482U1**, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). **61/496,509**, filed **June 13, 2011**, Qualcomm Reference

No. 112482P1, (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 Santosh Paul Abraham

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Hemanth Sampath

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Vincent Knowles Jones IV

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Avneesh Agrawal

Done at Bridgewater, NJ, on 06/14/2012  
LOCATION DATE Jiayi Li