

## 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>Nicola Varanese</td> <td>04/05/2013</td> </tr> <tr> <td>Christian Pietsch</td> <td>04/05/2013</td> </tr> <tr> <td>Juan Montojo</td> <td>04/05/2013</td> </tr> <tr> <td>Christoph Arnold Joetten</td> <td>04/05/2013</td> </tr> </tbody> </table>		Name	Execution Date	Nicola Varanese	04/05/2013	Christian Pietsch	04/05/2013	Juan Montojo	04/05/2013	Christoph Arnold Joetten	04/05/2013
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RECEIVING PARTY DATA											
Name:	QUALCOMM Incorporated										
Street Address:	5775 Morehouse Drive										
City:	San Diego										
State/Country:	CALIFORNIA										
Postal Code:	92121-1714										
PROPERTY NUMBERS Total: 3											
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13853414</td> </tr> <tr> <td>Application Number:</td> <td>61618624</td> </tr> <tr> <td>Application Number:</td> <td>61719326</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13853414	Application Number:	61618624	Application Number:	61719326		
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CORRESPONDENCE DATA											
Fax Number:	4082366641										
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ATTORNEY DOCKET NUMBER:	QCA121885U2										

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NAME OF SUBMITTER:	Drew Herndon
Signature:	/Drew Herndon/
Date:	04/25/2013
<b>Total Attachments: 3</b> source=121885U2_Assignment_AF#page1.tif source=121885U2_Assignment_AF#page2.tif source=121885U2_Assignment_AF#page3.tif	

**ASSIGNMENT**

WHEREAS, WE,

1. **Nicola VARANESE**, a citizen of Italy, having a mailing address located at 5775 Morehouse Drive, San Diego, California, 92121-1714; and a resident of Nuremberg, Germany,
2. **Christian PIETSCH**, a citizen of Germany, having a mailing address located at 5775 Morehouse Drive, San Diego, California, 92121-1714; and a resident of Nuremberg, Germany,
3. **Juan MONTOJO**, a citizen of the United States of America, having a mailing address located at 5775 Morehouse Drive, San Diego, California, 92121-1714; and a resident of Nuremberg, Germany,
4. **Christoph Arnold JOETTEN**, a citizen of Germany, having a mailing address located at 5775 Morehouse Drive, San Diego, California, 92121-1714; and a resident of Wadern, Germany,

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 **Paired OFDM Pilot Symbols** (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). **13/853,414** filed **March 29, 2013**, Qualcomm Reference No. **121885U2**, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). **61/618,624**, filed **March 30, 2012**, Qualcomm Reference No. **121885P1**, **61/719,326**, filed **October 26, 2012**, Qualcomm Reference No. **121885P2**, (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 Nuremberg, on 4/5/2013  
LOCATION DATE

Nicola Varanese  
Nicola Varanese

Done at Nuremberg, on 4/5/2013  
LOCATION DATE

Christian Pietsch  
Christian Pietsch

Done at Nuremberg, on 4/5/2013  
LOCATION DATE

Juan Montojo  
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