

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>Erik Visser</td> <td>12/05/2011</td> </tr> <tr> <td>Yinyi Guo</td> <td>12/05/2011</td> </tr> <tr> <td>Mofei Zhu</td> <td>12/05/2011</td> </tr> <tr> <td>Sang-Uk Ryu</td> <td>12/15/2011</td> </tr> <tr> <td>Lae-Hoon Kim</td> <td>12/14/2011</td> </tr> <tr> <td>Jongwon Shin</td> <td>12/05/2011</td> </tr> </tbody> </table>		Name	Execution Date	Erik Visser	12/05/2011	Yinyi Guo	12/05/2011	Mofei Zhu	12/05/2011	Sang-Uk Ryu	12/15/2011	Lae-Hoon Kim	12/14/2011	Jongwon Shin	12/05/2011
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Lae-Hoon Kim	12/14/2011														
Jongwon Shin	12/05/2011														
RECEIVING PARTY DATA															
Name:	QUALCOMM Incorporated														
Street Address:	5775 Morehouse Drive														
City:	San Diego														
State/Country:	CALIFORNIA														
Postal Code:	92121-1714														
PROPERTY NUMBERS Total: 2															
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13280295</td> </tr> <tr> <td>Application Number:</td> <td>61406376</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13280295	Application Number:	61406376								
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Application Number:	13280295														
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CORRESPONDENCE DATA															
Fax Number:	(801)606-2774														
Phone:	801-537-1700														
Email:	wla-admin@austin-rapp.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:	Wesley L. Austin														
Address Line 1:	170 S. Main St., Ste. 735														
Address Line 4:	Salt Lake City, UTAH 84101														
ATTORNEY DOCKET NUMBER:	102823; 102823P1														

OP \$80.00 13280295

NAME OF SUBMITTER:

Wesley L. Austin

Total Attachments: 18

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ASSIGNMENT

WHEREAS, WE,

1. **Erik Visser**, a citizen of **Luxembourg**, having a mailing address located at 5775 Morehouse Drive, San Diego, California 92121-1714, and a resident of **San Diego, CA**,
2. **Yinyi Guo**, a citizen of **China**, having a mailing address located at 5775 Morehouse Drive, San Diego, California 92121-1714, and a resident of **San Diego, CA**,
3. **Mofei Zhu**, a citizen of **China**, having a mailing address located at 5775 Morehouse Drive, San Diego, California 92121-1714, and a resident of **San Diego, CA**,
4. **Sang-Uk Ryu**, a citizen of **Republic of Korea**, having a mailing address located at 5775 Morehouse Drive, San Diego, California 92121-1714, and a resident of **San Diego, CA**,
5. **Lae-Hoon Kim**, a citizen of **Republic of Korea**, having a mailing address located at 5775 Morehouse Drive, San Diego, California 92121-1714, and a resident of **San Diego, CA**,
6. **Jongwon Shin**, a citizen of **Republic of Korea**, having a mailing address located at 5775 Morehouse Drive, San Diego, California 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 **DECOMPOSITION OF MUSIC SIGNALS USING BASIS FUNCTIONS WITH TIME-EVOLUTION INFORMATION** (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). **13/280,295** filed **October 24, 2011**, Qualcomm Reference No. **102823**, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). **61/406,376**, filed **October 25, 2010**, Qualcomm

Reference No. **102823P1**, (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 12/5/2011
LOCATION DATE


Erik Visser

Done at _____, on _____
LOCATION DATE

Yinyi Guo

Done at _____, on _____
LOCATION DATE

Mofei Zhu

Done at _____, on _____
LOCATION DATE

Sang-Uk Ryu

Done at _____, on _____
LOCATION DATE

Lae-Hoon Kim

Done at _____, on _____
LOCATION DATE

Jongwon Shin

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Done at _____, on _____
LOCATION DATE

Erik Visser

Done at San Diego, on 12/5/11
LOCATION DATE

Yinyi Guo

Done at _____, on _____
LOCATION DATE

Mofei Zhu

Done at _____, on _____
LOCATION DATE

Sang-Uk Ryu

Done at _____, on _____
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Lae-Hoon Kim

Done at _____, on _____
LOCATION DATE

Jongwon Shin

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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 Erik Visser

Done at _____, on _____
LOCATION DATE Yinyi Guo

Done at Qualcomm, on 12/05/2011
LOCATION DATE Mofei Zhu
Mofei Zhu

Done at _____, on _____
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Done at _____, on _____
LOCATION DATE Lae-Hoon Kim

Done at _____, on _____
LOCATION DATE Jongwon Shin

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Done at _____, on _____
LOCATION DATE

Erik Visser

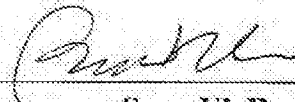
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Lae-Hoon Kim

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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). **13/280,295** filed **October 24, 2011**, Qualcomm Reference No. **102823**, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). **61/406,376**, filed **October 25, 2010**, Qualcomm

Reference No. **102823P1**, (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 Erik Visser

Done at _____, on _____
LOCATION DATE Yinyi Guo

Done at _____, on _____
LOCATION DATE Mofei Zhu

Done at _____, on _____
LOCATION DATE Sang-Uk Ryu

Done at San Diego, CA, USA, on 12/14/2011
LOCATION DATE  Lac-Hoon Kim

Done at _____, on _____
LOCATION DATE Jongwon Shin

ASSIGNMENT

WHEREAS, WE,

1. **Erik Visser**, a citizen of **Luxembourg**, having a mailing address located at 5775 Morehouse Drive, San Diego, California 92121-1714, and a resident of **San Diego, CA**,
2. **Yinyi Guo**, a citizen of **China**, having a mailing address located at 5775 Morehouse Drive, San Diego, California 92121-1714, and a resident of **San Diego, CA**,
3. **Mofei Zhu**, a citizen of **China**, having a mailing address located at 5775 Morehouse Drive, San Diego, California 92121-1714, and a resident of **San Diego, CA**,
4. **Sang-Uk Ryu**, a citizen of **Republic of Korea**, having a mailing address located at 5775 Morehouse Drive, San Diego, California 92121-1714, and a resident of **San Diego, CA**,
5. **Lae-Hoon Kim**, a citizen of **Republic of Korea**, having a mailing address located at 5775 Morehouse Drive, San Diego, California 92121-1714, and a resident of **San Diego, CA**,
6. **Jongwon Shin**, a citizen of **Republic of Korea**, having a mailing address located at 5775 Morehouse Drive, San Diego, California 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 **DECOMPOSITION OF MUSIC SIGNALS USING BASIS FUNCTIONS WITH TIME-EVOLUTION INFORMATION** (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). **13/280,295** filed **October 24, 2011**, Qualcomm Reference No. **102823**, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). **61/406,376**, filed **October 25, 2010**, Qualcomm

Reference No. **102823P1**, (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

Erik Visser

Done at _____, on _____
LOCATION DATE

Yinyi Guo

Done at _____, on _____
LOCATION DATE

Mofei Zhu


Done at _____, on _____
LOCATION DATE

Sang-Uk Ryu

Done at _____, on _____
LOCATION DATE

Lae-Hoon Kim

Done at San Diego, on 12/05/2011
LOCATION DATE



Jongwon Shin