

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT5365563

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
KUO-CHUN LEE	12/12/2018
ARVIND VARDARAJAN SANTHANAM	12/12/2018
SRINIVASAN BALASUBRAMANIAN	01/30/2019
REZA SHAHIDI	02/01/2019
AZIZ GHOLMIEH	12/14/2018
YONGSHENG SHI	02/01/2019
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	
Property Type	Number
Application Number:	62550298
Application Number:	16109262
CORRESPONDENCE DATA	
Fax Number:	(571)432-0808
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>	
Phone:	5714320800
Email:	Jcato@harrityllp.com
Correspondent Name:	HARRITY AND HARRITY, LLP
Address Line 1:	11350 RANDOM HILLS ROAD
Address Line 2:	SUITE 600
Address Line 4:	FAIRFAX, VIRGINIA 22030
ATTORNEY DOCKET NUMBER:	0097-0342/175639
NAME OF SUBMITTER:	SARA STESNEY
SIGNATURE:	/Sara Stesney/
DATE SIGNED:	02/07/2019

PATENT

Total Attachments: 15

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ASSIGNMENT

WHEREAS, WE,

1. **Kuo-Chun LEE**, a citizen of the **United States of America**, having a mailing address located at **5775 Morehouse Drive, San Diego, California 92121** and a resident of **San Diego, CA**,
2. **Arvind Vardarajan SANTHANAM**, a citizen of the **United States of America**, having a mailing address located at **5775 Morehouse Drive, San Diego, California 92121** and a resident of **San Diego, CA**,
3. **Srinivasan BALASUBRAMANIAN**, a citizen of the **United States of America**, having a mailing address located at **7755 Chadamy Way, San Diego, CA 92130**, and a resident of **San Diego, CA**,
4. **Reza SHAHIDI**, a citizen of the **United States of America**, having a mailing address located at **5775 Morehouse Drive, San Diego, California 92121** and a resident of **San Diego, CA**,
5. **Aziz GHOLMIEH**, a citizen of the **United States of America**, having a mailing address located at **5775 Morehouse Drive, San Diego, California 92121** and a resident of **Del Mar, CA**,
6. **Yongsheng SHI**, a citizen of **Canada**, having a mailing address located at **5775 Morehouse Drive, San Diego, California 92121** 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 **TECHNIQUES AND APPARATUSES FOR SEARCH, MEASUREMENT, AND ICON DISPLAY IN NEW RADIO NON-STANDALONE MODE** (collectively the "INVENTIONS") for which WE have executed and/or may execute one or more patent applications therefore; 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). **16/109,262** filed **August 22, 2018**, Qualcomm Reference No. **175639**, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). **62/550,298** filed **August 25, 2017**, Qualcomm Reference No. **175639P1**, (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 covenant that WE will not execute any writing or do any act whatsoever conflicting with these presents.

Done at San Diego, on 12/12/2018 Kuo-Chun LEE
LOCATION DATE

Done at SAN DIEGO, on 12/12/2018 Arvind Vardarajan SANTHANAM
LOCATION DATE

Done at _____, on _____
LOCATION DATE Srinivasan BALASUBRAMANIAN

Done at _____, on _____
LOCATION DATE Reza SHAHIDI

Done at _____, on _____
LOCATION DATE Aziz GHOLMIEH

Done at _____, on _____
LOCATION DATE Yongsheng SHI

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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). **16/109,262** filed **August 22, 2018**, Qualcomm Reference No. **175639**, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). **62/550,298** filed **August 25, 2017**, Qualcomm Reference No. **175639P1**, (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 covenant that WE will not execute any writing or do any act whatsoever conflicting with these presents.

Done at _____, on _____
LOCATION DATE Kuo-Chun LEE

Done at _____, on _____
LOCATION DATE Arvind Vardarajan SANTHANAM

Done at San Diego, on 01/30/2017
LOCATION DATE Srinivasan BALASUBRAMANIAN

Done at _____, on _____
LOCATION DATE Reza SHAHIDI

Done at _____, on _____
LOCATION DATE Aziz GHOLMIEH

Done at _____, on _____
LOCATION DATE Yongsheng SHI

ASSIGNMENT

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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.

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been filed or may be filed hereafter for said INVENTIONS in the United States, including but not limited to U.S. Application No(s). **16/109,262** filed **August 22, 2018**, Qualcomm Reference No. **175639**, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). **62/550,298** filed **August 25, 2017**, Qualcomm Reference No. **175639P1**, (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;

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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 covenant that WE will not execute any writing or do any act whatsoever conflicting with these presents.

Done at _____, on _____
LOCATION DATE Kuo-Chun LEE

Done at _____, on _____
LOCATION DATE Arvind Vardarajan SANTHANAM

Done at _____, on _____
LOCATION DATE Srinivasan BALASUBRAMANIAN

Done at San Diego, on 2/1/2019
LOCATION DATE 
Reza SHAHIDI

Done at _____, on _____
LOCATION DATE Aziz GHOLMIEH

Done at _____, on _____
LOCATION DATE Yongsheng SHI

ASSIGNMENT

WHEREAS, WE,

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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 **TECHNIQUES AND APPARATUSES FOR SEARCH, MEASUREMENT, AND ICON DISPLAY IN NEW RADIO NON-STANDALONE MODE** (collectively the "INVENTIONS") for which WE have executed and/or may execute one or more patent applications therefore; 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.

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been filed or may be filed hereafter for said INVENTIONS in the United States, including but not limited to U.S. Application No(s). **16/109,262** filed **August 22, 2018**, Qualcomm Reference No. **175639**, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). **62/550,298** filed **August 25, 2017**, Qualcomm Reference No. **175639P1**, (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;

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LOCATION DATE Kuo-Chun LEE

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LOCATION DATE Arvind Vardarajan SANTHANAM

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LOCATION DATE Reza SHAHIDI

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LOCATION DATE Aziz GHOLMIEH

Done at _____, on _____
LOCATION DATE Yongsheng SHI

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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 covenant that WE will not execute any writing or do any act whatsoever conflicting with these presents.

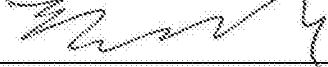
Done at _____, on _____
LOCATION DATE Kuo-Chun LEE

Done at _____, on _____
LOCATION DATE Arvind Vardarajan SANTHANAM

Done at _____, on _____
LOCATION DATE Srinivasan BALASUBRAMANIAN

Done at _____, on _____
LOCATION DATE Reza SHAHIDI

Done at _____, on _____
LOCATION DATE Aziz GHOLMIEH

Done at San Diego, on 02/01/2009
LOCATION DATE 
Yongsheng SHI