

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT6016115

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
YI-WEN CHEN	08/02/2018
WEI-JUNG CHIEN	08/13/2018
YU-CHEN SUN	08/31/2018
LI ZHANG	08/14/2018
SUNGWON LEE	08/14/2018
XIANG LI	07/28/2018
HSIAO-CHIANG CHUANG	12/20/2018
JIANLE CHEN	10/30/2018
VADIM SEREGIN	08/21/2018
MARTA KARCZEWICZ	08/13/2018
RECEIVING PARTY DATA	
Name:	QUALCOMM INCORPORATED
Street Address:	5775 MOREHOUSE DRIVE
City:	SAN DIEGO
State/Country:	CALIFORNIA
Postal Code:	92121-1714
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	16819955
CORRESPONDENCE DATA	
Fax Number:	(651)735-1102
<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:	651 735 1100
Email:	pairedocketing@ssiiplaw.com
Correspondent Name:	SHUMAKER & SIEFFERT, P. A.
Address Line 1:	1625 RADIO DRIVE, SUITE 100
Address Line 4:	WOODBURY, MINNESOTA 55125
ATTORNEY DOCKET NUMBER:	1414-414US02/174728C1

NAME OF SUBMITTER:	SHIRLEY A. BETLACH
SIGNATURE:	/Shirley A. Betlach/
DATE SIGNED:	03/16/2020

Total Attachments: 28

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ASSIGNMENT

WHEREAS, WE,

1. Yi-Wen CHEN, a citizen of Taiwan, having a mailing address located at 11034 W Ocean Air Dr, Unit 0248, San Diego, CA 92130, and a resident of San Diego, CA,
2. Wei-Jung CHIEN, a citizen of Taiwan, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714, and a resident of San Diego, CA,
3. Yu-Chen SUN, a citizen of Taiwan, having a mailing address located at 938 110th Ave NE Apt.B506, Bellevue, WA 98004, and a resident of Bellevue, WA,
4. Li ZHANG, a citizen of the People's Republic of China, having a mailing address located at 15088 Barolo Ct., San Diego, CA 92127, and a resident of San Diego, CA,
5. Sungwon LEE, a citizen of the Republic of Korea, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714, and a resident of San Diego, CA,
6. Xiang LI, a citizen of the People's Republic of China, having a mailing address located at 10574 Gaylemont Lane, San Diego, CA 92130, and a resident of San Diego, CA,
7. Hsiao-Chiang CHUANG, a citizen of Taiwan, having a mailing address located at 12974 Carmel Creek Road Unit 182, San Diego, CA 92130, and a resident of San Diego, CA,
8. Jianle CHEN, a citizen of the People's Republic of China, having a mailing address located at 10756 Corte De Tiburon, San Diego, CA 92130, and a resident of San Diego, CA,
9. Vadim SEREGIN, a citizen of the Russian Federation, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714, and a resident of San Diego, CA,
10. Marta KARCZEWICZ, a citizen of the 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,

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 **MOTION VECTOR PREDICTION** (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. 16/003,269 filed **June 8, 2018**, Qualcomm Reference No. 174728, and all provisional applications relating thereto together with U.S. Provisional Application No. 62/519,007 filed **June 13, 2017**, Qualcomm Reference No. 174728P1 (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;

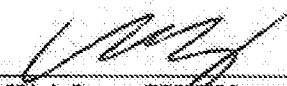
AND WE DO HEREBY authorize and request the Commissioner of Patents of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents on applications or registrations, to issue all patents for said INVENTIONS to said ASSIGNEE, its successors, 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;

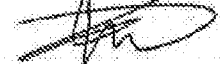
AND WE HEREBY covenant that WE will not execute any writing or do any act whatsoever conflicting with these presents.

Done at _____, on _____
LOCATION DATE Yi-Wen CHEN

Done at San Diego, on 8/13/2018
LOCATION DATE 
Wei-Jung CHEN

Done at _____, on _____
LOCATION DATE Yu-Chen SUN

Done at _____, on _____
LOCATION DATE LI ZHANG

Done at San Diego, on 8/14/2018
LOCATION DATE 
Sungwon LEE

Done at _____, on _____
LOCATION DATE Xiang LI

Done at _____, on _____
LOCATION DATE Hsiao-Chiang CHUANG

Done at _____, on _____
LOCATION DATE Jianle CHEN

Done at San Diego, CA, on 8/21/2018
LOCATION DATE 
Vadim SEREGIN

Done at San Diego, on 13/09/2018
LOCATION DATE 
Marta KARCZEWICZ

ASSIGNMENT

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10. Marta KARCZEWICZ, a citizen of the 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,

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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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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 8/2/2018
LOCATION DATE

Yi-Wen Chen
Yi-Wen CHEN

Done at _____, on _____
LOCATION DATE

Wei-Jung CHIEN

Done at _____, on _____
LOCATION DATE

Yu-Chen SUN

Done at _____, on _____
LOCATION DATE

LI ZHANG

Done at _____, on _____
LOCATION DATE

Sungwon LEE

Done at _____, on _____
LOCATION DATE

Xiang LI

Done at _____, on _____
LOCATION DATE

Hsiao-Chiang CHUANG

Done at _____, on _____
LOCATION DATE

Jianle CHEN

Done at _____, on _____
LOCATION DATE

Vadim SEREGIN

Done at _____, on _____
LOCATION DATE

Marta KARCZEWICZ

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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 **MOTION VECTOR PREDICTION** (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. 16/003,269 filed **June 8, 2018**, Qualcomm Reference No. 174728, and all provisional applications relating thereto together with U.S. Provisional Application No. 62/519,007 filed **June 13, 2017**, Qualcomm Reference No. 174728P1 (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 Yi-Wen CHEN

Done at _____, on _____
LOCATION DATE Wei-Jung CHEN

Done at Bellevue, on 8/31/2008
LOCATION DATE Yu-Chen SUN

Done at _____, on _____
LOCATION DATE Li ZHANG

Done at _____, on _____
LOCATION DATE Sungwon LEE

Done at _____, on _____
LOCATION DATE Xiang LI

Done at _____, on _____
LOCATION DATE Hsiao-Chiang CHUANG

Done at _____, on _____
LOCATION DATE Jianle CHEN

Done at _____, on _____
LOCATION DATE Vadim SEREGIN

Done at _____, on _____
LOCATION DATE Marta KARCZEWICZ

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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 Yi-Wen CHEN

Done at _____, on _____
LOCATION DATE Wei-Jung CHIEN

Done at _____, on _____
LOCATION DATE Yu-Chen SUN

Done at San Diego, on 8/14/2018
LOCATION DATE Li Zhang
LIZHANG

Done at _____, on _____
LOCATION DATE Sungwon LEE

Done at _____, on _____
LOCATION DATE Xiang LI

Done at _____, on _____
LOCATION DATE Hsiao-Chiang CHUANG

Done at _____, on _____
LOCATION DATE Jianle CHEN

Done at _____, on _____
LOCATION DATE Vadim SEREGIN

Done at _____, on _____
LOCATION DATE Marta KARCZEWICZ

ASSIGNMENT

WHEREAS, WE,

1. Yi-Wen CHEN, a citizen of Taiwan, having a mailing address located at 11034 W Ocean Air Dr, Unit 0248, San Diego, CA 92130, and a resident of San Diego, CA,
2. Wei-Jung CHIEN, a citizen of Taiwan, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714, and a resident of San Diego, CA,
3. Yu-Chen SUN, a citizen of Taiwan, having a mailing address located at 938 110th Ave NE Apt.B506, Bellevue, WA 98004, and a resident of Bellevue, WA,
4. Li ZHANG, a citizen of the People's Republic of China, having a mailing address located at 15088 Barolo Ct., San Diego, CA 92127, and a resident of San Diego, CA,
5. Sungwon LEE, a citizen of the Republic of Korea, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714, and a resident of San Diego, CA,
6. Xiang LI, a citizen of the People's Republic of China, having a mailing address located at 10574 Gaylemont Lane, San Diego, CA 92130, and a resident of San Diego, CA,
7. Hsiao-Chiang CHUANG, a citizen of Taiwan, having a mailing address located at 12974 Carmel Creek Road Unit 182, San Diego, CA 92130, and a resident of San Diego, CA,
8. Jianle CHEN, a citizen of the People's Republic of China, having a mailing address located at 10756 Corte De Tiburon, San Diego, CA 92130, and a resident of San Diego, CA,
9. Vadim SEREGIN, a citizen of the Russian Federation, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714, and a resident of San Diego, CA,
10. Marta KARCZEWICZ, a citizen of the 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,

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 **MOTION VECTOR PREDICTION** (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. 16/003,269 filed **June 8, 2018**, Qualcomm Reference No. 174728, and all provisional applications relating thereto together with U.S. Provisional Application No. 62/519,007 filed **June 13, 2017**, Qualcomm Reference No. 174728P1 (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 _____, on _____
LOCATION DATE Yi-Wen CHEN

Done at _____, on _____
LOCATION DATE Wei-Jung CHIEN


Done at _____, on _____
LOCATION DATE Yu-Chen SUN

Done at ~~San Diego~~, on ~~10/20/2018~~
LOCATION DATE LI ZHANG

Done at _____, on _____
LOCATION DATE Sungwon LEE

Done at _____, on _____
LOCATION DATE Xiang LI

Done at _____, on _____
LOCATION DATE Hsiao-Chiang CHUANG

Done at San Diego, on 10/30/2018
LOCATION DATE  Jianle CHEN

Done at _____, on _____
LOCATION DATE Vadim SEREGIN

Done at _____, on _____
LOCATION DATE Marta KARCZEWICZ

ASSIGNMENT

WHEREAS, WE,

1. Yi-Wen CHEN, a citizen of Taiwan, having a mailing address located at 11034 W Ocean Air Dr, Unit 0248, San Diego, CA 92130, and a resident of San Diego, CA,
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4. Li ZHANG, a citizen of the People's Republic of China, having a mailing address located at 15088 Barolo Ct., San Diego, CA 92127, and a resident of San Diego, CA,
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8. Jianle CHEN, a citizen of the People's Republic of China, having a mailing address located at 10756 Corte De Tiburon, San Diego, CA 92130, and a resident of San Diego, CA,
9. Vadim SEREGIN, a citizen of the Russian Federation, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714, and a resident of San Diego, CA,
10. Marta KARCZEWICZ, a citizen of the 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,

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 **MOTION VECTOR PREDICTION** (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. 16/003,269 filed **June 8, 2018**, Qualcomm Reference No. 174728, and all provisional applications relating thereto together with U.S. Provisional Application No. 62/519,007 filed **June 13, 2017**, Qualcomm Reference No. 174728P1 (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;

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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 Yi-Wen CHEN


Done at _____, on _____
LOCATION DATE Wei-Jung CHIEN

Done at _____, on _____
LOCATION DATE Yu-Chen SUN

Done at _____, on _____
LOCATION DATE LI ZHANG

Done at _____, on _____
LOCATION DATE Sungwon LEE

Done at _____, on _____
LOCATION DATE Xiang LI

Done at San Diego, on 12/20/18
LOCATION DATE 
Hsiao-Chiang CHUANG

Done at _____, on _____
LOCATION DATE Jianle CHEN

Done at _____, on _____
LOCATION DATE Vadim SEREGIN

Done at _____, on _____
LOCATION DATE Marta KARCZEWICZ

ASSIGNMENT

WHEREAS, WE,

1. Yi-Wen CHEN, a citizen of Taiwan, having a mailing address located at 11034 W Ocean Air Dr, Unit 0248, San Diego, CA 92130, and a resident of San Diego, CA,
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4. Li ZHANG, a citizen of the People's Republic of China, having a mailing address located at 15088 Barolo Ct., San Diego, CA 92127, and a resident of San Diego, CA,
5. Sungwon LEE, a citizen of the Republic of Korea, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714, and a resident of San Diego, CA,
6. Xiang LI, a citizen of the People's Republic of China, having a mailing address located at 10574 Gaylemont Lane, San Diego, CA 92130, and a resident of San Diego, CA,
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8. Jianle CHEN, a citizen of the People's Republic of China, having a mailing address located at 10756 Corte De Tiburon, San Diego, CA 92130, and a resident of San Diego, CA,
9. Vadim SEREGIN, a citizen of the Russian Federation, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714, and a resident of San Diego, CA,
10. Marta KARCZEWICZ, a citizen of the 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,

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 **MOTION VECTOR PREDICTION** (collectively the "INVENTIONS") for which WE have executed and/or may execute one or more patent applications therefor; and

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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;

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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 Yi-Wen CHEN

Done at _____, on _____
LOCATION DATE Wei-Jung CHEN

Done at _____, on _____
LOCATION DATE Yu-Chen SUN

Done at _____, on _____
LOCATION DATE LI ZHANG

Done at _____, on _____
LOCATION DATE Sungwon LEE

Done at Los Gatos, on 7/28/2018
LOCATION DATE 
Xiang LI

Done at _____, on _____
LOCATION DATE Hsiao-Chiang CHUANG

Done at _____, on _____
LOCATION DATE Jianle CHEN

Done at _____, on _____
LOCATION DATE Vadim SEREGIN

Done at _____, on _____
LOCATION DATE Marta KARCZEWICZ