Form **PTO-1595** (Rev. 6-12) OMB No. 0651-0027 (exp. 04/30/2018)

U.S. DEPARTMENT OF COMMERCE United States Patent and Trademark Office

RECORDATION FORM COVER SHEET PATENTS ONLY						
To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.						
1. Name of conveying party(ies)	2. Name and address of receiving party(ies)					
Akash KUMAR,	Name: Qualcomm Incorporated					
Sai Pradeep VENKATRAMAN, Ankita	Internal Address:					
Additional name(s) of conveying party(les) attached? Yes X No. 3. Nature of conveyance/Execution Date(s):	Street Address: 5775 Morehouse Drive					
Execution Date(s)05/20/2018; 05/21/2018; and 05/20/2018						
Security Agreement Change of Name	City: San Diego State:CA					
Joint Research Agreement						
Government Interest Assignment	Country 110 71: 02424 4744					
Executive Order 9424, Confirmatory License	Country: US Zip 92121-1714					
Other	Additional name(s) & address(es) attached? Yes No					
4. Application or patent number(s):	document serves as an Oath/Declaration (37 CFR 1.63).					
A. Patent Application No.(s)	B. Patent No.(s)					
15/938,911						
Additional numbers attached? Yes XNo						
5. Name and address to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved: 01					
Name: Silicon Valley Patent Group LLP						
	7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40.00					
Internal Address:	7. Total fee (37 CFR 1.21(h) & 3.41) \$_40.00					
Internal Address:	7. Total fee (37 CFR 1.21(h) & 3.41) \$_40.00 X Authorized to be charged to deposit account					
Internal Address: Street Address: 4010 Moorpark Ave., Suite 210	Authorized to be charged to deposit account					
	Authorized to be charged to deposit account Enclosed					
Street Address: 4010 Moorpark Ave., Suite 210	Authorized to be charged to deposit account Enclosed None required (government interest not affecting title)					
Street Address: 4010 Moorpark Ave., Suite 210 City: San Jose	Authorized to be charged to deposit account Enclosed None required (government interest not affecting title) 8. Payment Information					
Street Address: 4010 Moorpark Ave., Suite 210 City: San Jose State: CA Zip: 95117	Authorized to be charged to deposit account Enclosed None required (government interest not affecting title) 8. Payment Information Deposit Account Number 50-2263					
Street Address: 4010 Moorpark Ave., Suite 210 City: San Jose State: CA Zip: 95117 Phone Number: 408-378-7777 ext. 115	Authorized to be charged to deposit account Enclosed None required (government interest not affecting title) 8. Payment Information					
Street Address: 4010 Moorpark Ave., Suite 210 City: San Jose State: CA Zip: 95117 Phone Number: 408-378-7777 ext. 115 Docket Number:	Authorized to be charged to deposit account Enclosed None required (government interest not affecting title) 8. Payment Information Deposit Account Number 50-2263					
Street Address: 4010 Moorpark Ave., Suite 210 City: San Jose State: CA Zip: 95117 Phone Number: 408-378-7777 ext. 115 Docket Number: Email Address: patentadmin@svpatentgroup.com	Authorized to be charged to deposit account Enclosed None required (government interest not affecting title) 8. Payment Information Deposit Account Number 50-2263 Authorized User Name Michael J. Halbert					
Street Address: 4010 Moorpark Ave., Suite 210 City: San Jose State: CA Zip: 95117 Phone Number: 408-378-7777 ext. 115 Docket Number: Email Address: patentadmin@svpatentgroup.com 9. Signature: /Michael J. Halbert/ Signature Michael J. Halbert	Authorized to be charged to deposit account Enclosed None required (government interest not affecting title) 8. Payment Information Deposit Account Number 50-2263 Authorized User Name Michael J. Halbert 2018-06-04 Date Total number of pages including cover 05					
Street Address: 4010 Moorpark Ave., Suite 210 City: San Jose State: CA Zip: 95117 Phone Number: 408-378-7777 ext. 115 Docket Number: Email Address: patentadmin@svpatentgroup.com 9. Signature: //Michael J. Halbert/Signature Michael J. Halbert Name of Person Signing	Authorized to be charged to deposit account Enclosed None required (government interest not affecting title) 8. Payment Information Deposit Account Number 50-2263 Authorized User Name Michael J. Halbert 2018-06-04 Date					

PATENT
QUALCOMM Ref. No. 175879
Page 1 of 2

ASSIGNMENT

WHEREAS, WE,

- 1. Akash KUMAR, a citizen of India, having a mailing address located at 5775 Morehouse Drive, San Diego, California, 92121, and a resident of Hyderabad, India,
- 2. Sai Pradeep VENKATRAMAN, a citizen of India, having a mailing address located at 2719 Taft Avenue, Santa Clara, CA 95051, and a resident of Santa Clara, CA,
- 3. Ankita, a citizen of India, having a mailing address located at 5775 Morehouse Drive, San Diego, California, 92121, and a resident of Hyderabad, India,

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 METHOD AND APPARATUS FOR V2X ASSISTED POSITIONING DETERMINATION USING POSITIONING REFERENCE SIGNAL SIGNALS (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). 15/938,911 filed March 28, 2018, Qualcomm Reference No. 175879, and all provisional applications relating thereto, (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

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QUALCOMM Ref. No. 175879
Page 2 of 2

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	Kyderabed	, on 20th May 2018	(Auxi		
	LOCATION	DATE	Akash KUMAR		
Done at		, on	. •		
	LOCATION	DATE	Sai Pradeep VENKATRAMAN		
Done at	Advibad	_, on 20th Hay 2018	Ankita		
	LOCATION	DATE	Ankita		

PATENT
- QUALCOMM Ref. No. 175879
Page 1 of 2

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WHEREAS, WE,

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RECORDED: 06/04/2018

QUALCOMM Ref. No. 175879

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

	LOCATION		DATE		Ankita			
Done at		, on	8			***	to the second	
en e	LOCATION		DATE		Sai Pradeep	VEIYKA	HTRAMAN	Ī,
Done at <u>S</u>	anta Clara	_, on	5/21/20	18	V= f.	7 <u>~</u>	1	
LOCATION		DATE			Akash KUMAR			
Done at		_, on						