505125432 10/03/2018

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5172194

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JERROLD V. HAUCK	04/14/2017
ALEJANDRO J. MARQUEZ	04/10/2017
TIMOTHY R. PAASKE	04/14/2017
INDRANIL S. SEN	04/10/2017
HERVE SIBERT	04/11/2017
YANNICK L. SIERRA	04/10/2017
RAMAN S. THIARA	04/10/2017

RECEIVING PARTY DATA

Name:	APPLE INC.
Street Address:	ONE APPLE PARK WAY
City:	CUPERTINO
State/Country:	CALIFORNIA
Postal Code:	95014

PROPERTY NUMBERS Total: 1

Property Type	Number	
Application Number:	16090007	

CORRESPONDENCE DATA

Fax Number: (408)341-3098

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.

Phone: 408-341-3000

Email: Juanita.Briscoe@wbd-us.com

Correspondent Name: JAMES C. SCHELLER

Address Line 1: P.O. BOX 7037

Address Line 2: WOMBLE BOND DICKINSON (US) LLP

Address Line 4: ATLANTA, GEORGIA 30357-0037

ATTORNEY DOCKET NUMBER:	04860.P31383US1
NAME OF SUBMITTER:	JAMES C. SCHELLER, REG. NO. 31,195
SIGNATURE:	/James C. Scheller/
DATE SIGNED:	10/03/2018

505125432 PATENT REEL: 047060 FRAME: 0631

Total Attachments: 12
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PATENT REEL: 047060 FRAME: 0632

ASSIGNMENT OF PATENT APPLICATION	Attorney Docket No.: 04860.P31383PCT
For good and valuable consideration, the receipt and	sufficiency of which is hereby
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Indranil S. Sen, Herve Sibert, Yannick L. Sierra, Raman S.	Thiara ,
hereby sell, assign, and transfer to Apple Inc.	7
a <u>corporation</u> of <u>Cali</u>	fornia,
(Type of Assignee: e.g., corporation, company, partnership, university,	
having a principal place of business at 1 Infinite Loop, C	
("Assignee"), and its successors, assigns, and legal represent the United States and all foreign countries, in and to any and disclosed in the application (provisional or non-provisional) non-provisional application may have a declaration executed concurrently herewith and which application (provisional or	d all inventions or improvements that are for the United States patent which for the d by the undersigned prior hereto or
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agree that said Assignee may apply for and receive a improvements in its own name; and that, when requested, w Assignee, its successors, assigns, and legal representatives, t purpose of this Assignment, the undersigned will execute all applications, utility applications, design applications, division continued prosecution applications, continuation-in-part applications, reissue applications, reexaminations, extension	ithout charge to, but at the expense of, said to carry out in good faith the intent and I provisional applications, non-provisional applications, continuation applications, blications, substitute applications, renewal

and all said inventions or improvements; execute all rightful oaths, assignments, powers of attorney, and other papers; communicate to said Assignee, its successors, assigns, and representatives all facts known to the undersigned relating to said inventions or improvements and the history thereof; and generally assist said Assignee, its successors, assigns, or representatives in securing and maintaining proper patent protection for said inventions or improvements and for vesting title to said inventions or improvements, and all applications for patents and all patents on said inventions or improvements, in

said Assignee, its successors, assigns, and legal representatives; and
-1- Rev. 1/08/2010

14	17	
Date	_, 20 <u>/7</u>	Name. Jerrold V. Hauck
Date	_, 20	Name: Alejandro J. Marquez
Date		Name. Alejanoro J. Warquez
Date	, 20	Name: Timothy R. Paaske
Date	_, 20	Name: Indranil S. Sen
T	_, 20	Name II and Cit at
Date		Name: Herve Sibert
Date	, 20	Name: Yannick L. Sierra
Date	_, 20	Name: Raman S. Thiara
		Assignment Document Return Address: BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP 1279 Oakmead Parkway
		Sunnyvale, CA 94085-4040 (408) 720-8300

ASSIGNMENT OF PATENT APPLICATION	Attorney Docket No.: 04860.P31383PCT
For good and valuable consideration, the receipt and	sufficiency of which is hereby
acknowledged, I/we, the undersigned,	Alejandro J. Marquez, Timothy R. Paaske.
Indranil S. Sen, Herve Sibert, Yannick L. Sierra, Raman S. 7	Гhiara,
hereby sell, assign, and transfer to Apple Inc.	
a <u>corporation</u> of <u>Calif</u> (Type of Assignee: e.g., corporation, company, partnership, university,	fornia , etc.)
having a principal place of business at 1 Infinite Loop, C	Supertino, CA, 95014,
("Assignee"), and its successors, assigns, and legal represent the United States and all foreign countries, in and to any and disclosed in the application (provisional or non-provisional) non-provisional application may have a declaration executed concurrently herewith and which application (provisional or	I all inventions or improvements that are for the United States patent which for the I by the undersigned prior hereto or
METHODS AND ARCHITECTURES FO	OR SECURE RANGING
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United States Patent Application Number PCT/US2017/027792	filedApril 14, 2017,
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agree that said Assignee may apply for and receive a improvements in its own name; and that, when requested, wi Assignee, its successors, assigns, and legal representatives, to purpose of this Assignment, the undersigned will execute all	ithout charge to, but at the expense of, said o carry out in good faith the intent and

agree that said Assignee may apply for and receive a patent or patents for said inventions or improvements in its own name; and that, when requested, without charge to, but at the expense of, said Assignee, its successors, assigns, and legal representatives, to carry out in good faith the intent and purpose of this Assignment, the undersigned will execute all provisional applications, non-provisional applications, utility applications, design applications, divisional applications, continuation applications, continued prosecution applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions, and all other patent applications on any and all said inventions or improvements; execute all rightful oaths, assignments, powers of attorney, and other papers; communicate to said Assignee, its successors, assigns, and representatives all facts known to the undersigned relating to said inventions or improvements and the history thereof; and generally assist said Assignee, its successors, assigns, or representatives in securing and maintaining proper patent protection for said inventions or improvements and for vesting title to said inventions or improvements, and all applications for patents and all patents on said inventions or improvements, in said Assignee, its successors, assigns, and legal representatives; and

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Rev. 1/08/2010

Each Inventor: Please Sign and Date Below:

	_, 20	
Date		Name: Jerrold V. Hauck
4-10 Date	,20 <u>/</u> Z	Name: Alejandro J. Marquez
	, 20	
Date	_,	Name: Timothy R. Paaske
()4/10 Date	, 2017	Name: Indranil S. Sen
Date	2	Name. Indraini S. Sen
	_, 20	
Date		Name: Herve Sibert
	_, 20	
Date		Name: Yannick L. Sierra
	_, 20	
Date		Name: Raman S. Thiara

ASSIGNMENT OF PATENT APPLICATION	Attorney Docket No.: 04860.P31383Z2
For good and valuable consideration, the receipt and	sufficiency of which is hereby
acknowledged, I/we, the undersigned,Jerrold V. Hauck, A	Alejandro J. Marquez, Timothy R. Paaske,
Indranil S. Sen, Herve Sibert, Yannick L. Sierra, Raman S. 7	<u>l'hiara</u> ,
hereby sell, assign, and transfer to Apple Inc.	
a <u>corporation</u> of <u>Calif</u> (Type of Assignee: e.g., corporation, company, partnership, university, or	fornia ,
having a principal place of business at <u>1 Infinite Loop, C</u>	Supertino, CA, 95014,
("Assignee"), and its successors, assigns, and legal represent the United States and all foreign countries, in and to any and disclosed in the application (provisional or non-provisional) non-provisional application may have a declaration executed concurrently herewith and which application (provisional or	all inventions or improvements that are for the United States patent which for the by the undersigned prior hereto or
METHODS AND ARCHITECTURES FO	OR SECURE RANGING
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[I/we hereby authorize an attorney or agent for said a number and filing date of said patent application who	
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said Assignee, its successors, assigns, and legal representatives; and

- 1 - Rev. 1/08/2010

PATENT REEL: 047060 FRAME: 0637

Each	Inventor:	Please	Sign	and Date	Below:

, 20	Name: Jerrold V. Hauck
	ranic. Jenota V. Hauer
, 20	Name: Alejandro J. Marquez
4/14, 2017	Ti RA
Date	Name: Timothy R. Paäske
, 20	Name: Indranil S. Sen
, 20	
Date	Name: Herve Sibert
, 20	Name: Yannick L. Sierra
, 20	
Date	Name: Raman S. Thiara

ASSIGNMENT OF PATENT APPLICATION	Attorney Docket No.: 04860.P31383PCT
For good and valuable consideration, the receipt and	sufficiency of which is hereby
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Indranil S. Sen, Herve Sibert, Yannick L. Sierra, Raman S.	Thiara,
hereby sell, assign, and transfer to Apple Inc.	3
a <u>corporation</u> of <u>Cal</u> (Type of Assignee: e.g., corporation, company, partnership, university,	ifornia , etc.)
having a principal place of business at 1 Infinite Loop, 6	Cupertino, CA, 95014
("Assignee"), and its successors, assigns, and legal represent the United States and all foreign countries, in and to any and disclosed in the application (provisional or non-provisional) non-provisional application may have a declaration execute concurrently herewith and which application (provisional or	d all inventions or improvements that are for the United States patent which for the d by the undersigned prior hereto or
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- 1 - Rev. 1/08/2010

PATENT REEL: 047060 FRAME: 0639

Each Inventor: Please Sign and Date Below:

20	Name: Jerrold V. Hauck
, 20	Name: Alejandro J. Marquez
, 20	Name: Timothy R. Paaske
, 20	Name: Indranil S. Sen
April 11, 2017 Date	Name: Herve Sibert
, 20	Name: Yannick L. Sierra
, 20	Name: Raman S. Thiara

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Each Inventor: Please Sign and Date Below:

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Date , 2		Jerrold V. Hauck
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Date		Alejandro J. Marquez
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Date		Timothy R. Paaske
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Date	Name	Indranil S. Sen
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Date	Name	: Herve Sibert
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4/10,2	017	
Date	Name	Raman S. Thiara

Assignment Document Return Address:
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP
1279 Oakmead Parkway
Sunnyvale, CA 94085-4040
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