505280064 01/15/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5326836

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JERROLD V. HAUCK	11/26/2018
ALEJANDRO J. MARQUEZ	01/10/2019
TIMOTHY R. PAASKE	12/12/2018
INDRANIL S. SEN	10/01/2018
HERVE SIBERT	11/06/2018
YANNICK L. SIERRA	09/20/2018
RAMAN S. THIARA	10/01/2018

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

Address Line 4: ATLANTA, GEORGIA 30357-0037

ATTORNEY DOCKET NUMBER:	4860.P31383US1
NAME OF SUBMITTER:	JAMES C. SCHELLER, REG. NO. 31,195
SIGNATURE:	/James C. Scheller/
DATE SIGNED:	01/15/2019

505280064 PATENT REEL: 048016 FRAME: 0901

Total Attachments: 14 source=P31383US1_Assignment#page1.tif source=P31383US1_Assignment#page2.tif source=P31383US1_Assignment#page3.tif source=P31383US1_Assignment#page4.tif source=P31383US1_Assignment#page5.tif source=P31383US1_Assignment#page6.tif source=P31383US1_Assignment#page7.tif source=P31383US1_Assignment#page8.tif source=P31383US1_Assignment#page9.tif source=P31383US1_Assignment#page10.tif source=P31383US1_Assignment#page11.tif source=P31383US1_Assignment#page12.tif source=P31383US1_Assignment#page13.tif source=P31383US1_Assignment#page13.tif source=P31383US1_Assignment#page14.tif

PATENT REEL: 048016 FRAME: 0902

ASSIGNMENT OF PATENT APPLICATION	Attorney Docket No.: 04860.P31383US1
For good and valuable consideration, the receipt and	d sufficiency of which is hereby
acknowledged, I/we, the undersigned,Jerrold V. Hauck,	Alejandro J. Marquez, Timothy R. Paaske,
Indranil S. Sen, Herve Sibert, Yannick L. Sierra, Raman S.	Thiara ,
hereby sell, assign, and transfer to Apple Inc.	,
a <u>corporation</u> of <u>Cal</u> (Type of Assignee: e.g., corporation, company, partnership, university	lifornia , r, etc.)
having a principal place of business at One Apple Park	Way, Cupertino, CA, 95014,
("Assignee"), and its successors, assigns, and legal represer the United States and all foreign countries, in and to any an disclosed in the application (provisional or non-provisional non-provisional application may have a declaration execute concurrently herewith and which application (provisional or	ad all inventions or improvements that are) for the United States patent which for the ed by the undersigned prior hereto or
METHODS AND ARCHITECTURES F	FOR SECURE RANGING
said patent application also identified as follows (when kno	wn):
[I/we hereby authorize an attorney or agent for said number and filing date of said patent application wh	Assignee to insert below the application hen known.]
United States Patent Application Number 16/090,007	filed September 28, 2018,
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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, to 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 and all said inventions or improvements; execute all rightful and other papers; communicate to said Assignee, its success	rithout 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, plications, substitute applications, renewal as, and all other patent applications on any I oaths, assignments, powers of attorney,

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Each Inventor: Please Sign and Date Below:

11/26	_, 20 <u> K</u>	111~
Date	<u> </u>	Name Jerrold V. Hauck
Date		Name: Alejandro J. Marquez
Date	2 0	Name: Timothy R. Paaske
Date	20	Name: Indranil S. Sen
Date		Name: Herve Sibert
Date	20	Name: Yannick L. Sierre
Date	. 20	Name: Raman S. Thiara

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Date	Name: Jerrold V. Hauck
Jan 10, 20 19 Date	Name: Alejandro J. Marquez
, 20	Name: Timothy R. Paaske
, 20	Name: Indranil S. Sen
, 20	Name: Herve Sibert
, 20	Name: Yannick L. Sierra
, 20	
Date	Name: Raman S. Thiara

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ASSIGNMENT OF PATENT APPLICATION	Attorney Docket No.: 04860.P31383US1
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Indranil S. Sen, Herve Sibert, Yannick L. Sierra, Raman S. 7	<u>Thiara</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 One Apple Park V	
("Assignee"), and its successors, assigns, and legal representative 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	tatives, the entire right, title, and interest for lall inventions or improvements that are for the United States patent which for the lay the undersigned prior hereto or
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Each Inventor: Please S	ign <u>and Date</u> Below:
, 20	
Date	Name: Jerrold V. Hauck

, 20	
Date	Name: Aleiandro I. Marquez

12/12,2019	Fin R Am
Date	Name: Timothy R. Paaske

, 20			
Date	Name:	Indranil S.	. Sen

, 20		
Date	Name: Herve Sibert	

ASSIGNMENT OF PATENT APPLICATION	Attorney Docket No.: 04860.P31383US1
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a <u>corporation</u> of <u>Calif</u> (Type of Assignee: e.g., corporation, company, partnership, university, or	fornia ,
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Date	, 20	Name: Jerrold V. Hauck
		Total Control Control
Date	, 20	Name: Alejandro J. Marquez
Date	, 20	Name: Timothy R. Paaske
101/	_,20_18	Indrictan
Date		Name: Indranil S. Sen
Date,	, 20	Name: Herve Sibert
Date	, 20	Name: Yannick L. Sierra
	, 20	
Date		Name: Raman S. Thiara
		Assignment Document Return Address:
		WOMBLE BOND DICKINSON (US) LL P.O. BOX 7037
		ATLANTA, GA 30357-0037 (404) 872-7000

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hereby sell, assign, and transfer to Apple Inc.
a <u>corporation</u> of <u>California</u> (Type of Assignee: e.g., corporation, company, partnership, university, etc.)
having a principal place of business at One Apple Park Way, Cupertino, CA, 95014
("Assignee"), and its successors, assigns, and legal representatives, the entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions or improvements that are disclosed in the application (provisional or non-provisional) for the United States patent which for the non-provisional application may have a declaration executed by the undersigned prior hereto or concurrently herewith and which application (provisional or non-provisional) is entitled
METHODS AND ARCHITECTURES FOR SECURE RANGING
said patent application also identified as follows (when known);
[I/we hereby authorize an attorney or agent for said Assignee to insert below the application number and filing date of said patent application when known.]
United States Patent Application Number 16/090,007 filed September 28, 2018,
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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

PATENT REEL: 048016 FRAME: 0911

Rev. 1/08/2010

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WOMBLE BOND DICKINSON (US) LLI P.O. BOX 7037 ATLANTA, GA 30357-0037 (404) 872-7000

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- 1 - Rev. 1/08/2010

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