# 504877437 04/19/2018

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4924177

SUBMISSION TYPE:		NEW ASSIGNMENT	NEW ASSIGNMENT		
NATURE OF CONVEYAN	ICE:	ASSIGNMENT			
CONVEYING PARTY DA	ATA				
		Name	Execution Date		
MOSHE LAIFENFELD	03/19/2018				
TAL KAITZ			03/27/2018		
SHINGO MANDAI			03/19/2018		
CRISTIANO L. NICLASS			03/15/2018		
RECEIVING PARTY DA	ТА				
Name:	APPLE	INC.			
Street Address:	ONE AF	PPLE PARK WAY			
City:	CUPER	TINO			
State/Country:	CALIFO	RNIA			
Postal Code:	95014				
	Total: 1	Numbor	7		
PROPERTY NUMBERS Property Type		Number	]		
		<b>Number</b> 15880285			
Property Type	1				
Property Type Application Number: CORRESPONDENCE D Fax Number:	ATA (	(303)223-1111			
Property Type Application Number: CORRESPONDENCE D Fax Number: <i>Correspondence will be</i>	ATA ( e sent to	15880285 (303)223-1111 <b>the e-mail address first; if that is un</b> s			
Property Type Application Number: CORRESPONDENCE D Fax Number: <i>Correspondence will be</i>	ATA ( e sent to provided;	(303)223-1111			
Property Type Application Number: CORRESPONDENCE D Fax Number: Correspondence will be using a fax number, if p	ATA ( e sent to provided;	15880285 (303)223-1111 <i>the e-mail address first; if that is uns ; if that is unsuccessful, it will be ser</i> 303-223-1100 <i>v</i> brown@bhfs.com			
Property Type Application Number: CORRESPONDENCE D Fax Number: <i>Correspondence will be</i> <i>using a fax number, if p</i> Phone: Email: Correspondent Name:	ATA ( e sent to provided;	15880285 (303)223-1111 the e-mail address first; if that is uns ; if that is unsuccessful, it will be ser 303-223-1100 /brown@bhfs.com 5. CRAIG HEMENWAY			
Property Type Application Number: CORRESPONDENCE D Fax Number: <i>Correspondence will be</i> <i>using a fax number, if p</i> Phone: Email: Correspondent Name: Address Line 1:	ATA ( e sent to provided; 3	(303)223-1111 <i>the e-mail address first; if that is uns</i> <i>; if that is unsuccessful, it will be ser</i> 303-223-1100 <i>/</i> brown@bhfs.com 5. CRAIG HEMENWAY 410 SEVENTEENTH STREET			
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Property Type Application Number: CORRESPONDENCE D Fax Number: Correspondence will be using a fax number, if p Phone: Email: Correspondent Name: Address Line 1: Address Line 2: Address Line 4:	ATA ( e sent to provided; 2 2 5 2 5 2 5 2 5 5 2 5 5 5 5 5 5 5 5	(303)223-1111 <i>the e-mail address first; if that is uns</i> <i>; if that is unsuccessful, it will be ser</i> 303-223-1100 /brown@bhfs.com 5. CRAIG HEMENWAY 410 SEVENTEENTH STREET SUITE 2200 DENVER, COLORADO 80202			
Property Type Application Number: CORRESPONDENCE D Fax Number: Correspondence will be using a fax number, if p Phone: Email: Correspondent Name: Address Line 1: Address Line 2: Address Line 4:	ATA ( e sent to provided; 2 2 5 2 5 2 5 2 5 5 2 5 5 5 5 5 5 5 5	(303)223-1111 the e-mail address first; if that is uns ; if that is unsuccessful, it will be ser 303-223-1100 /brown@bhfs.com S. CRAIG HEMENWAY 410 SEVENTEENTH STREET SUITE 2200 DENVER, COLORADO 80202 P33863US1			

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#### **ASSIGNMENT**

WHEREAS, we, Moshe Laifenfeld, whose address is 12 Maskit Street, MS: 6504-1RE, Herzeliya Pituah, Israel 4673312 Israel; Tal Kaitz, whose address is 12 Maskit Street, MS: 6504-1RE, Herzeliya Pituah, Israel 4673312 Israel; Shingo Mandai, whose address is One Infinite Loop, MS: 35-2MP, Cupertino, California 95014; and Cristiano L. Niclass, whose address is One Infinite Loop, MS: 35-2MP, Cupertino, California 95014 (hereinafter, individually and collectively, the "Assignor"), have invented certain new and useful systems, devices, and methods disclosed and described in a utility application for Letters Patent in the United States ("U.S."), titled "Spatial Temporal Weighting in a SPAD Detector," which can be identified in the United States Patent and Trademark Office ("USPTO") by Application No. 15/880,285, filed on January 25, 2018, with attorney docket no. P33863US1 (the "Utility Application"); and

WHEREAS, Assignor desires to assign any and all right, title and interest to said Utility Application, and any provisional, non-provisional, continuation, continuation-in-part, divisional, international, foreign, regional and convention applications corresponding thereto, and any and all Letters Patent of the United States and countries and regions foreign thereto which may grant or have granted thereto or be lodged in relation thereto, any reissue or reexamination thereof or to be obtained therefor, any renewals, or substitutes thereof, and any and all priority rights or priority claims, International Convention rights, any and all rights to collect past damages for infringement of any and all Letters Patent of the United States and countries and regions foreign thereto which may be published, which may grant, or have granted thereto or be lodged in relation thereto, and other benefits accruing to or to accrue to Assignor with respect to the filing of applications for patents or securing of patents in the United States and countries foreign thereto (the "Patent Rights");

WHEREAS, Apple Inc., a corporation organized and existing under the laws of the State of California, and having its principal place of business at One Apple Park Way, Cupertino, California 95014 (the "Assignee"), desires to acquire any and all, right, title, and interest of Assignor in and to the invention(s), the Patent Rights, and in, to, and under any and all Letters Patent to be obtained therefor;

NOW THEREFORE, for the sum of \$1.00 and other good and valuable consideration to Assignor in hand paid, the receipt and sufficiency of which are hereby acknowledged, Assignor has sold, assigned, and transfer and by these presents does hereby sell, assign and transfer to the said Assignee, and said Assignee's legal representatives, successors and assigns, any and all of the entire right, title and interest in and to the invention(s), Patent Rights, and any and all Letters Patent to be obtained therefor;

UPON SAID CONSIDERATION, the Assignor hereby covenants and agrees with the said Assignee that it will not execute any writing or do any act whatsoever conflicting with these presents, and that it will, at any time upon request, without further or additional consideration, but at the expense of the said Assignee, execute such additional assignments and other writings and do such additional acts as said Assignee may deem necessary or desirable to perfect the Assignee's enjoyment of this grant, and render all necessary assistance in making application for and obtaining original, provisionals, non-provisionals, continuations, continuations-in-part, continuing prosecutions, divisionals, renewals, reissues, reexamined or extended Letters Patent of the United States, or of any and all foreign countries, on said Patent Rights, and execute confirmatory assignments or acknowledgments of this assignment as necessary for full enjoyment of the Patent Rights and for recording in foreign patent offices, and in enforcing any rights or choses in action accruing as a result of such Patent Rights, by giving

#### Attorney Docket No. P33863US1

testimony in any proceedings or transactions involving such Patent Rights, and by executing preliminary statements and other affidavits, it being understood that the foregoing covenant and agreement shall bind, and inure to the benefit of, the assigns and legal representatives of both parties;

UPON SAID CONSIDERATION, Assignor represents and warrants that Assignor has the right, title, and authority to execute this Assignment and to convey any and all right, title, and interest in the Patent Rights, and that Assignor has not conveyed nor will convey hereafter all or part of the Patent Rights to a third party;

ASSIGNOR HEREBY AUTHORIZES said Assignee, its successors, and assigns, or anyone it may properly designate, to apply for Letters Patent in the U.S. and any and all foreign countries and regions, in its own name if desired, and additionally to claim priority to the filing date of the Utility Application and otherwise take advantage of the provisions of any international conventions.

ASSIGNOR HEREBY AUTHORIZES Assignee, its successors and assigns, or anyone it may properly designate, to insert in this instrument the application number, filing date, and title of the Utility Application once known.

IN WITNESS WHEREOF, the Assignor hereunto has executed this Assignment upon the date indicated below.

Date: 3-19-18

IN WITNESS WHEREOF, the Assignor hereunto has executed this Assignment upon the date indicated below.

Date:

By:\_\_\_\_\_ Tal Kaitz

IN WITNESS WHEREOF, the Assignor hereunto has executed this Assignment upon the date indicated below.

Date: \_\_\_\_\_

By:\_\_\_\_\_ Shingo Mandai

IN WITNESS WHEREOF, the Assignor hereunto has executed this Assignment upon the date indicated below.

Date:

By:\_\_\_\_\_ Cristiano L. Niclass

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2 of 2

testimony in any proceedings or transactions involving such Patent Rights, and by executing preliminary statements and other affidavits, it being understood that the foregoing covenant and agreement shall bind, and inure to the benefit of, the assigns and legal representatives of both parties;

UPON SAID CONSIDERATION, Assignor represents and warrants that Assignor has the right, title, and authority to execute this Assignment and to convey any and all right, title, and interest in the Patent Rights, and that Assignor has not conveyed nor will convey hereafter all or part of the Patent Rights to a third party;

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IN WITNESS WHEREOF, the Assignor hereunto has executed this Assignment upon the date indicated below.

Date:

By:\_\_\_\_\_ Moshe Laifenfeld

IN WITNESS WHEREOF, the Assignor hereunto has executed this Assignment upon the date indicated below.

Date: 2.3/3/200

By:	au	Vai	Ĭ.		
Tal Kait	2		Ì	and the second	

IN WITNESS WHEREOF, the Assignor hereunto has executed this Assignment upon the date indicated below.

Date:

By:\_\_\_\_\_\_ Shingo Mandai

IN WITNESS WHEREOF, the Assignor hereunto has executed this Assignment upon the date indicated below.

Date:

By: Cristiano L. Niclass

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2 of 2

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UPON SAID CONSIDERATION, Assignor represents and warrants that Assignor has the right, title, and authority to execute this Assignment and to convey any and all right, title, and interest in the Patent Rights, and that Assignor has not conveyed nor will convey hereafter all or part of the Patent Rights to a third party;

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IN WITNESS WHEREOF, the Assignor hereunto has executed this Assignment upon the date indicated below.

Date:

By:\_\_\_\_\_ Moshe Laifenfeld

IN WITNESS WHEREOF, the Assignor hereunto has executed this Assignment upon the date indicated below.

Date:

By:\_\_\_\_\_ Tal Kaitz

IN WITNESS WHEREOF, the Assignor hereunto has executed this Assignment upon the date indicated below.

Date: 3.19.20 (8

By: String Manda

IN WITNESS WHEREOF, the Assignor hereunto has executed this Assignment upon the date indicated below.

Date:

By:\_\_\_\_\_ Cristiano L. Niclass

2 of 2

testimony in any proceedings or transactions involving such Patent Rights, and by executing preliminary statements and other affidavits, it being understood that the foregoing covenant and agreement shall bind, and inure to the benefit of, the assigns and legal representatives of both parties;

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IN WITNES	SS WHEREOF,	the Assignor	hereunto has	executed this	s Assignment upon
the date indicated	i below.				
Date:			8y:		

Moshe Laifenfeld

IN WITNESS WHEREOF, the Assignor hereunto has executed this Assignment upon the date indicated below.

Oate:

Tai Kaitz

IN WITNESS WHEREOF, the Assignor hereunto has executed this Assignment upon the date indicated below.

.....

r. Shingo Mandai

IN WITNESS WHEREOF, the Assignor hereunto has executed this Assignment upon the date indicated below.

Date: March 15, 2018

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Cristiano I. Niclass

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2 of 2

### PATENT REEL: 045592 FRAME: 0448

**RECORDED: 04/19/2018**