

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT3326045

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	SECURITY INTEREST	
CONVEYING PARTY DATA		
Name		Execution Date
OEWAVES, INC.		04/15/2015
RECEIVING PARTY DATA		
Name:	SQUARE 1 BANK	
Street Address:	406 Blackwell Street	
Internal Address:	Suite 240	
City:	Durham	
State/Country:	NORTH CAROLINA	
Postal Code:	27701	
PROPERTY NUMBERS Total: 56		
Property Type	Number	
Patent Number:	8976822	
Patent Number:	8831056	
Patent Number:	8804231	
Patent Number:	8761603	
Patent Number:	8761555	
Patent Number:	8681827	
Patent Number:	8659814	
Patent Number:	8605760	
Patent Number:	8565274	
Patent Number:	8564869	
Patent Number:	8538270	
Patent Number:	8514400	
Patent Number:	8498539	
Patent Number:	8452139	
Patent Number:	8442088	
Patent Number:	8417076	
Patent Number:	8331409	
Patent Number:	8331008	
Patent Number:	8311376	

PATENT

Property Type	Number
Patent Number:	8289616
Patent Number:	8159736
Patent Number:	8155914
Patent Number:	8155913
Patent Number:	8111722
Patent Number:	8102597
Patent Number:	8094359
Patent Number:	8089684
Patent Number:	7991025
Patent Number:	7965745
Patent Number:	7929589
Patent Number:	7869472
Patent Number:	7813651
Patent Number:	7801189
Patent Number:	7634201
Patent Number:	7587144
Patent Number:	7480425
Patent Number:	7460746
Patent Number:	7400796
Patent Number:	7389053
Patent Number:	7369722
Patent Number:	7362927
Patent Number:	7356214
Patent Number:	7283707
Patent Number:	7260279
Patent Number:	7248763
Patent Number:	7218662
Patent Number:	7187870
Patent Number:	7184451
Patent Number:	7133180
Patent Number:	7062131
Patent Number:	7061335
Patent Number:	6879752
Patent Number:	6853479
Application Number:	14262539
Application Number:	14209625
Application Number:	13442786

CORRESPONDENCE DATA**Fax Number:** (919)354-1278

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: 919-314-3086**Email:** loandocsdept@square1bank.com**Correspondent Name:** SQUARE 1 BANK**Address Line 1:** 406 BLACKWELL STREET**Address Line 2:** SUITE 240**Address Line 4:** DURHAM, NORTH CAROLINA 27701**NAME OF SUBMITTER:**

LEE CONNER

SIGNATURE:

/Lee Conner-adb/

DATE SIGNED:

04/24/2015

Total Attachments: 12

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INTELLECTUAL PROPERTY SECURITY AGREEMENT

THIS INTELLECTUAL PROPERTY SECURITY AGREEMENT is entered into as of April 15, 2015 by and between SQUARE 1 BANK ("*Bank*") and OEWAVES, INC., a Delaware corporation ("*Grantor*").

RECITALS

A. Bank has agreed to make certain advances of money and to extend certain financial accommodations to Grantor (the "*Loans*") in the amounts and manner set forth in that certain Loan and Security Agreement by and between Bank and Grantor dated as of November 2, 2009 (as the same may be amended, modified or supplemented from time to time, the "*Loan Agreement*"; capitalized terms used herein are used as defined in the Loan Agreement).

B. Bank is willing to extend and to continue to extend financial accommodations to Grantor, but only upon the condition, among others, that Grantor shall grant to Bank a security interest in certain Copyrights, Trademarks and Patents to secure the obligations of Grantor under the Loan Agreement.

C. Pursuant to the terms of the Loan Agreement, Grantor has granted to Bank a security interest in all of Grantor's right, title and interest, whether presently existing or hereafter acquired, in, to and under all of the Collateral.

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, and intending to be legally bound, as collateral security for the prompt and complete payment when due of its obligations under the Loan Agreement and all other agreements now existing or hereafter arising between Grantor and Bank, Grantor hereby represents, warrants, covenants and agrees as follows:

AGREEMENT

To secure its obligations under the Loan Agreement and under any other agreement now existing or hereafter arising between Bank and Grantor, Grantor grants and pledges to Bank a security interest in all of Grantor's right, title and interest in, to and under its Intellectual Property (including without limitation those Copyrights, Patents and Trademarks listed on Exhibits A, B and C hereto), and including without limitation all proceeds thereof (such as, by way of example but not by way of limitation, license royalties and proceeds of infringement suits), the right to sue for past, present and future infringements, all rights corresponding thereto throughout the world and all re-issues, divisions continuations, renewals, extensions and continuations-in-part thereof (collectively, "*Intellectual Property Collateral*").

This security interest is granted in conjunction with the security interest granted to Bank under the Loan Agreement. The rights and remedies of Bank with respect to the security interest granted hereby are in addition to those set forth in the Loan Agreement and the other Loan Documents, and those which are now or hereafter available to Bank as a matter of law or equity. Each right, power and remedy of Bank provided for herein or in the Loan Agreement or any of the Loan Documents, or now or hereafter existing at law or in equity shall be cumulative and

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concurrent and shall be in addition to every right, power or remedy provided for herein and the exercise by Bank of any one or more of the rights, powers or remedies provided for in this Intellectual Property Security Agreement, the Loan Agreement or any of the other Loan Documents, or now or hereafter existing at law or in equity, shall not preclude the simultaneous or later exercise by any person, including Bank, of any or all other rights, powers or remedies.

Grantor represents and warrants that Exhibits A, B, and C attached hereto set forth any and all intellectual property rights in connection to which Grantor has registered or filed an application with either the United States Patent and Trademark Office or the United States Copyright Office, as applicable.

SIGNATURE PAGE FOLLOWS

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IN WITNESS WHEREOF, the parties have caused this Intellectual Property Security Agreement to be duly executed by its officers thereunto duly authorized as of the first date written above.

GRANTOR:

Address of Grantor:

OEWAVES, INC.

465 N Halstead St #140

By: L. Maleki

Pasadena, CA 91107

Name: LUTE MALEKI

Title: PRESIDENT & CEO

BANK:

Address of Bank:

SQUARE 1 BANK

406 Blackwell Street, Suite 240

By: Peter Moon

Durham, NC 27701

Name: Peter Moon

Attn: Loan Documentation Department

Title: AVP

SQUARE 1 BANK

EXHIBIT A
COPYRIGHTS

Description	Registration Number	Registration Date
None.		

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EXHIBIT B**PATENTS**

Description	Application Number OR Patent Number	Application OR Filing Date
TUNABLE OPTO-ELECTRONIC OSCILLATOR HAVING OPTICAL RESONATOR FILTER OPERATING AT SELECTED MODULATION SIDE BAND	8976822	3/10/2015
COMPACT OPTICAL ATOMIC CLOCKS AND APPLICATIONS BASED ON PARAMETRIC NONLINEAR OPTICAL MIXING IN WHISPERING GALLERY MODE OPTICAL RESONATORS	8831056	9/9/2014
STABILIZING RF OSCILLATOR BASED ON OPTICAL RESONATOR	8804231	8/12/2014
DYNAMICALLY RECONFIGURABLE SENSOR ARRAYS	8761603	6/24/2014
WIDE-BAND RF PHOTONIC RECEIVERS AND OTHER DEVICES USING TWO OPTICAL MODES OF DIFFERENT QUALITY FACTORS	8761555	6/24/2014
GENERATION OF SINGLE OPTICAL TONE, RF OSCILLATION SIGNAL AND OPTICAL COMB IN A TRIPLE-OSCILLATOR DEVICE BASED ON NONLINEAR OPTICAL RESONATOR	8681827	3/25/2014
PARAMETRIC REGENERATIVE OSCILLATORS BASED ON OPTO-ELECTRONIC FEEDBACK AND OPTICAL REGENERATION VIA NONLINEAR OPTICAL MIXING IN WHISPERING GALLERY MODE OPTICAL RESONATORS	8659814	2/25/2014
FEEDBACK-ENHANCED SELF-INJECTION	8605760	12/10/2013

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LOCKING OF LASERS TO OPTICAL RESONATORS		
OPTICAL LOCKING BASED ON OPTICAL RESONATORS WITH HIGH QUALITY FACTORS	8565274	10/22/2013
VOLTAGE CONTROLLED TUNABLE SINGLE SIDEBAND MODULATORS AND DEVICES BASED ON ELECTRO-OPTIC OPTICAL WHISPERING GALLERY MODE RESONATORS	8564869	10/22/2013
PHOTONIC RF FREQUENCY CONVERSION	8538270	9/17/2013
OPTICAL GYROSCOPE SENSORS BASED ON OPTICAL WHISPERING GALLERY MODE RESONATORS	8514400	8/20/2013
DIELECTRIC PHOTONIC RECEIVERS AND CONCENTRATORS FOR RADIO FREQUENCY AND MICROWAVE APPLICATIONS	8498539	7/30/2013
WIDE-BAND RF PHOTONIC RECEIVERS AND OTHER DEVICES USING TWO OPTICAL MODES OF DIFFERENT QUALITY FACTORS	8452139	5/28/2013
DIFFRACTIVE GRATING COUPLED WHISPERING GALLERY MODE RESONATORS	8442088	5/14/2013
TUNABLE PHOTONIC MICROWAVE OR RADIO FREQUENCY RECEIVERS BASED ON ELECTRO-OPTIC OPTICAL WHISPERING GALLERY MODE RESONATORS	8417076	4/9/2013
LOCKING OF A LASER TO AN OPTICAL INTERFEROMETER THAT IS STABILIZED TO A REFERENCE FREQUENCY	8331409	12/11/2012

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PHOTONIC MICROWAVE AND RF RECEIVERS BASED ON ELECTRO-OPTIC WHISPERING- GALLERY-MODE RESONATORS	8331008	12/11/2012
OPTICAL DEVICES BASED ON CONNECTED AND OPTICALLY COUPLED OPTICAL WHISPERING- GALLERY-MODE-RESONATORS FORMED ON A ROD	8311376	11/13/2012
OPTICAL DEVICES BASED ON OPTICALLY COUPLED OPTICAL WHISPERING GALLERY- MODE RESONATORS FORMED ON A ROD	8289616	10/16/2012
TUNABLE SINGLE SIDEBAND MODULATORS BASED ON ELECTRO-OPTIC OPTICAL WHISPERING GALLERY MODE RESONATORS AND THEIR APPLICATIONS	8159736	4/17/2012
MEASURING PHASE NOISE IN RADIO FREQUENCY, MICROWAVE OR MILLIMETER SIGNALS BASED ON PHOTONIC DELAY	8155914	4/10/2012
PHOTONIC-BASED CROSS-CORRELATION HOMODYNE DETECTION WITH LOW PHASE NOISE	8155913	4/10/2012
LOW-NOISE RF OSCILLATION AND OPTICAL COMB GENERATION BASED ON NONLINEAR OPTICAL RESONATOR	8111722	2/7/2012
STRUCTURES AND FABRICATION OF WHISPERING-GALLERY-MODE RESONATORS	8102597	1/24/2012
ELECTRO-OPTIC WHISPERING-GALLERY-MODE RESONATOR DEVICES	8094359	1/10/2012
PHOTONIC RF AND MICROWAVE PHASE	8089684	1/3/2012

SHIFTERS		
TUNABLE LASERS LOCKED TO WHISPERING GALLERY MODE RESONATORS	7991025	8/2/2011
RF AND MICROWAVE RECEIVERS BASED ON ELECTRO-OPTIC OPTICAL WHISPERING GALLERY MODE RESONATORS	7965745	6/21/2011
DIFFRACTIVE GRATING COUPLED WHISPERING GALLERY MODE RESONATORS	7929589	4/19/2011
OPTICAL LOCKING BASED ON OPTICAL RESONATORS WITH HIGH QUALITY FACTORS	7869472	1/11/2011
TUNABLE RADIO FREQUENCY AND MICROWAVE PHOTONIC FILTERS	7813651	10/12/2010
CROSS MODULATION-BASED OPTO-ELECTRONIC OSCILLATOR WITH TUNABLE ELECTRO-OPTIC OPTICAL WHISPERING GALLERY MODE RESONATOR	7801189	9/21/2010
WIDEBAND RECEIVER BASED ON PHOTONICS TECHNOLOGY	7634201	12/15/2009
TUNABLE RADIO FREQUENCY AND MICROWAVE PHOTONIC FILTERS	7587144	9/8/2009
INTEGRATED OPTO-ELECTRONIC OSCILLATORS	7480425	1/20/2009
TUNABLE MULTI-LOOP OPTO-ELECTRONIC OSCILLATOR WITH TUNABLE RF OR MICROWAVE FILTER BASED ON OPTICAL FILTERING	7460746	12/2/2008

WHISPERING-GALLERY-MODE RESONATOR ARCHITECTURES AND MANUFACTURING PROCESSES	7400796	7/15/2008
TUNABLE FILTERING OF RF OR MICROWAVE SIGNALS BASED ON OPTICAL FILTERING IN MACH-ZEHNDER CONFIGURATION	7389053	6/17/2008
COUPLED AND NON-COUPLED OPTO-ELECTRONIC OSCILLATORS WITH ENHANCED PERFORMANCE	7369722	5/6/2008
TUNABLE RF OR MICROWAVE PHOTONIC FILTERS USING TEMPERATURE-BALANCED WHISPERING GALLERY MODE OPTICAL RESONATORS	7362927	4/22/2008
OPTICAL WAVEGUIDE COUPLER FOR WHISPERING-GALLERY-MODE RESONATORS	7356214	4/8/2008
EVENESCENTLY COUPLING LIGHT BETWEEN WAVEGUIDES AND WHISPERING-GALLERY MODE OPTICAL RESONATORS	7283707	10/16/2007
INTEGRATED OPTO-ELECTRONIC OSCILLATORS	7260279	8/21/2007
OPTICAL RESONATORS WITH REDUCED OH-CONTENT	7248763	7/24/2007
COUPLED OPTO-ELECTRONIC OSCILLATORS WITH LOW NOISE	7218662	5/15/2007
TUNABLE BALANCED OPTO-ELECTRONIC FILTERS AND APPLICATIONS IN OPTO-ELECTRONIC OSCILLATORS	7187870	3/6/2007

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CONTINUOUSLY TUNABLE COUPLED OPTO-ELECTRONIC OSCILLATORS HAVING BALANCED OPTO-ELECTRONIC FILTERS	7184451	2/27/2007
RESONANT IMPEDANCE MATCHING IN MICROWAVE AND RF DEVICE	7133180	11/7/2006
OPTICAL COUPLING FOR WHISPERING-GALLERY-MODE RESONATORS VIA WAVEGUIDE GRATINGS	7062131	6/13/2006
PROCESSING OF SIGNALS WITH REGENERATIVE OPTO-ELECTRONIC CIRCUITS	7061335	6/13/2006
FILM SPACER FOR SETTING THE GAP BETWEEN AN OPTICAL COUPLER AND A WHISPERING-GALLERY MODE OPTICAL RESONATOR	6879752	4/12/2005
APPARATUS AND METHOD FOR COUPLING LIGHT BETWEEN AN OPTICAL RESONATOR AND A SEMICONDUCTOR CHIP WITH A MINIMUM NUMBER OF COMPONENTS AND ALIGNMENT STEPS	6853479	2/8/2005
RESONATOR BASED EXTERNAL CAVITY LASER	14262539	4/25/2014
GENERATION OF MULTIOCTAVE COHERENT LIGHT HARMONICS	14209625	3/13/2014
WIDE-BAND RF PHOTONIC RECEIVERS AND OTHER DEVICES USING TWO OPTICAL MODES OF DIFFERENT QUALITY FACTORS	13902929	5/27/2013
MEASURING PHASE NOISE IN RADIO FREQUENCY, MICOWAVE OR MILLIMETER SIGNALS BASED ON PHOTONIC DELAY	13442786	4/9/2012

OPTICAL LOCKING BASED ON OPTICAL RESONATORS WITH HIGH QUALITY FACTORS	13004809	1/11/2011
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7.



EXHIBIT C
TRADEMARKS

Description	Registration/ Application Number	Registration/ Application Date
None.		

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