Form PTO-1595 (Rev. 03-11) OMB No. 0651-0027 (Bxp. 03/31/2015)	U.S. DEPARTMENT OF COMMER United States Patent and Trademark Off
RECORDAT	ION FORM COVER SHEET
• • •	TENTS ONLY
To the Director of the U.S. Patent and Trademark Off	fice: Please record the attached documents or the new address(es) below.
Name of conveying party(les):	2. Name and address of receiving party(les)
Cyprian Emeka Uzoh (03/07/2012), Charle Woychik (03/07/2012), Terrence Caskey (03/01/2012), Belgacem Haba (01/17/2012)	2), Internal Address:
Additional name(s) of conveying party(les) attached? X Yes	No Street Address:
3. Nature of conveyance/Execution Date(s):	
Execution Date(s): in parentheses after inventor nate	i e e e e e e e e e e e e e e e e e e e
Security Agreement Joint Research Agree	ment City: San Jose
Government Interest Assignment	State: California
Executive Order 9424, Confirmatory License	Country: United States of America Zip: 95134 Additional name(6) & address(e6) Yes X No
Other	attached?
Additional number	
5. Name and address to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved:
Name: Michael T. Hages LERNER, DAVID, LITTENBE KRUMHOLZ & MENTLIK, LI	LP 7, Total fee (37 CFR 1.21(h) & 3.41) \$ 40.00
Internal Address: Alty. Dkt.: TIPI 3.0-742 (TIPI.2212) Street Address: 600 South Avenue West	X Authorized to be charged to deposit account Enclosed None required (government interest not affecting title
Clly: Westfield	8. Payment Information
	7090
Phone Number: 908-654-5000	40.4000
Fax Number: 908-654-7866	Deposit Account Number 12-1095 Authorized User Name Michael T, Hages
Email Address: ataylor@ldlkm.com	Votioning and Hause Harden 15 Leaden
9. Signature:	September 28, 2012
Signature	Date
Michael T. Hages - 57,1 Name of Person Signing	Total number of pages including cover sheet, attachments, and documents: 8
FARTER OF LANGUAGE PROBLEMS	

2917769

PATENT REEL: 029072 FRAME: 0746

	RECORDATION (\$	FORM COVER SHEET (PTO-1595 upplemental sheet)	
Additional Convey	/ing Party(ies)/Exec	ution Date(s) (1. Continued):	
Hiroaki Sato (08/30/2	012), and Philip Dambe	rg (03/07/2012)	
Additional Assign	ees (2. Continued):		
Assignee Name: Internal Address: Street Address:			
City:	State:	Country:	Zip:
Assignee Name: Internal Address: Street Address:			
City:	State:	Country:	.ΖΙρ:
Assignee Name: Internal Address: Street Address:			
City:	State:	Country:	,Zip:
Additional Applica	ations and/or Patents	(4. Continued):	
Additional Patent Applicati 4A, Continued:	on Numbers	Additional Patent Numbers 48. Continued:	
	Additional numbers	attached? Yes No	www.k

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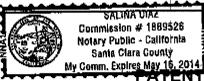
Docket No.: TIPI 3.0-742

	Docket Number (Optional)	
ASSIGNMENT OF UTILITY APPLICATION	TIPI 3.0-742	
Eneka (リネコール)コー	of	
c/o Invensas Corporation; 2702 Orchard Parkway; San Jose, California 95134		
hereafter referred to as assignor, have with others invented certain new and useful improvements in		
HIGH STRENGTH THROUGH-SUBSTRATE VIAS		
Alaxandra 40 2044		
X for which an application for a United States Letters Patent was filed on Application Number 13/293,698		
for which an application for a United States Letters Patent was executed by me on and		
Whereas, Invensas Corporation		
a corporation of Delaware herein referred to as "assignee" who	se mailing address is	
2702 Orchard Parkway; San Jose, California 95134		
is desirous of acquiring the entire right, title and interest in the sa	ame;	
invention and the aforesaid utility patent application and all substitute or reissue applications and patents applied for or gother countries, for said invention, including without limitation priority or benefit of the aforesaid utility application pursuant to priority or benefit and the Commissioner of Patents and Tradepatents on said improvements or resulting therefrom to said as and the undersigned for me and my legal representatives, he further remuneration, to execute and deliver all original, dividetters Patent on said improvements and all assignments there assignee or its representatives all facts known to the undersign to testify in any interferences or other legal proceedings in vinvolved, to sign all lawful papers, make all rightful oaths, and successors, assigns and nominees to obtain petent protectio incident to said applications to be borne and paid by said assign	If original, divisional, continuation, continuation, continuation and all applications and patents for sald Invention claiming all applications and patents for sald Invention claiming or any law or treaty, and including the right to claim such emarks is hereby authorized and requested to issue all seignee herein, as assignee of the entire interest therein; allowed the sald assigns do hereby agree and covenant without isional, continuation, reissue and other applications for of to said assignee or its assigns, to communicate to said ned respecting said improvements, whenever requested, which any of said applications or patents may become to do generally everything necessary to aid assignee, its in for said improvements in all countries, the expenses	
And I do hereby authorize my attorneys to insert on this deed when known.	~~~ <u>~</u>	
March 7, 2012 (Date)	yprai 2. Uz)	
(Date)	(Signature)	
State of California) SS:		
County of Santaclana)		
2/2/2/2	Salina Diaz, Notary Public personally	
on	satisfactory evidence to be the person whose name is a that he same in his/her authorized	
I certify under PENALTY OF PERJURY under the laws of the Scorrect. WITNESS river and end official seal (Notary Public)	Gommission # 1869526 Notary Public - California Santa Clara County My Comm. Expires May 16, 2014 NOTARY SEAL	
*Total of 5 forms are submitted.		

1.D-527\

5 forms are submitted

SALINA DIAZ
Commission # 1869526
Notary Public - California
Santa Clara County
My Comm. Expires May 16, 2014



REEL: 029072 FRAME: 0748

<u></u>	Docket Number (Optional)	
ASSIGNMENT OF UTILITY APPLICATION	TIPI 3.0-742	
Whereas, I, Charles G. Woychlk c/o Invensas Corporation; 2702 Orchard Parkway; San Johereafter referred to as assignor, have with others invented cert		
HIGH STRENGTH THROUGH-SUBSTRATE VIAS x for which an application for a United States Letters Pate	Manager 40, 204	
Application Number 13/293,698 for which an application for a United States Letters Pater		
and		
Whereas, Invensas Corporation a corporation of Delaware herein referred to as "assignee" who: 2702 Orchard Parkway; San Jose, California 95134		
ls desirous of acquiring the entire right, title and interest in the sinow, THEREFORE, in consideration of the sum of one	dollars (\$ 1.00), the receipt whereof	
Is acknowledged, and other good and valuable consideration, assignee my entire right, title and interest for the United Strinvention and the eforesald utility patent application and a substitute or reissue applications and petents applied for or gother countries, for said invention, including without limitation priority or benefit of the aforesaid utility application pursuant to priority or benefit and the Commissioner of Patents and Tradipatents on said improvements or resulting therefrom to said as and the undersigned for me and my legal representatives, he further remuneration, to execute and deliver all original, divitations. Patent on said improvements and all assignments there assignee or its representatives all facts known to the undersign to testify in any interferences or other legal proceedings in vinvolved, to sign all lawful papers, make all rightful oaths, and successors, assigns and nominees to obtain patent protectio incident to said applications to be borne and paid by said assign	ates of America and all other countries in and to said it original, divisional, continuation, continuation-in-part, granted therefor in the United States of America and all all applications and patents for said invention claiming to any law or treaty, and including the right to claim such emarks is hereby authorized and requested to issue all signee herein, as assignee of the entire interest therein; and assigns do hereby agree and covenant without issional, continuation, reissue and other applications for of to said assignee or its assigns, to communicate to said ned respecting said improvements, wherever requested, which any of said applications or patents may become to do generally everything necessary to aid assignee, its in for said improvements in all countries, the expenses	
And I do hereby authorize my attorneys to insert on this deed when known.	the filling date and application number of said application Whether A. Thappens	
3-7-2012 (Dale)	(Signature)	
State of California) SS: County of Sands Close)		
On	ne that hereine executed the same in his/her authorized	
I certify under PENALTY OF PERJURY under the laws of the Scorrect.	state of California that the foregoing paragraph is true and	
WITNESS mill hand and official seal. (Notary Public)	SALINA DIAZ Commission # 1889526 Notary Public - California SattaceAstar Chemby My Comm. Expires May 16, 2014	
x *Total of 5 forms are submitted.		

I.D-527\

	former PTO/SB/15 (8-00) Modified LDC/KAM	
	Docket Number (Optional)	
ASSIGNMENT OF UTILITY APPLICATION	TIPI 3.0-742	
Whereas, I, Terrence Caskey	of	
c/o Invensas Corporation; 2702 Orchard Parkway; San Jo	ose, California 95134	
hereafter referred to as assignor, have with others invented certa		
HIGH STRENGTH THROUGH-SUBSTRATE VIAS		
for which en application for a United States Letters Pate Application Number 13/293,698	ent was filed on November 10, 2011	
for which an application for a United States Letters Patent was executed by me on		
and	,	
Whereas, Invensas Corporation		
a corporation of <u>Delaware</u> herein referred to as "assignee" whos 2702 Orchard Parkway; San Jose, California 95134	e mailing address is	
is desirous of acquiring the entire right, title and interest in the sa	ame;	
NOW, THEREFORE, in consideration of the sum of one is acknowledged, and other good and valuable consideration, assignee my entire right, title and Interest for the United States Invention and the aforesald utility patent application and all substitute or reissue applications and patents applied for or grother countries, for said invention, including without limitation priority or benefit of the aforesaid utility application pursuant to priority or benefit and the Commissioner of Patents and Tracks patents on said improvements or resulting therefrom to said as and the undersigned for me and my legal representatives, her further remuneration, to execute and deliver all original, dividenters Patent on said improvements and all assignments thereous assignee or its representatives all facts known to the undersign to testify in any interferences or other legal proceedings in vilnvolved, to sign all lewful papers, make all rightful oaths, and to successors, assigns and nominees to obtain patent protection incident to said applications to be borne and paid by said assign	tes of America and all other countries in and to said if original, divisional, continuation, continuation-in-part; ranted therefor in the United States of America and all all applications and patents for said invention claiming any law or treaty, and including the right to claim such emarks is hereby authorized and requested to issue all signee herein, as assignee of the entire interest therein; irs and assigns do hereby agree and covenant without islonal, continuation, relesue and other applications for of to said assignee or its assigns, to communicate to said set of the expecting said improvements, whenever requested, which any of said applications or patents may become to do generally everything necessary to ald assignee, its in for said improvements in all countries, the expenses	
And I do hereby authorize my attorneys to insert on this deed t when known.	he filing date and application number of said application	
3/1/2012	1-54	
	1 enere	
(Date)	(Signature)	
State of California) SS: County of Santa Clara)		
County of Santa Chara) S	alina Diaz, Notary Public	
On 3117.012 before me, appeared Terrence Caskey, who proved to me on the basis of subscribed to the within instrument and acknowledged to me capacity, and that by higher-signature on the instrument the perexecuted the instrument.	personally of satisfactory evidence to be the person whose name is that here executed the same in fighther authorized	
I certify under PENALTY OF PERJURY under the laws of the S	tate of California that the foregoing paragraph is true and	
correct.	SALINA DIAZ	
WITNESS my hand and official seek	Commission # 1889528 Notary Public - California	
MONITOR PUBLICATION	Santa Clara County My COMMTAEXATION 16, 2014	
x *Total of 5 forms are submitted.		
X Total of 5 forms are submitted.		

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LD-527\

	former PTO/SB/15 (8-00) Modified LDLK&M
	Docket Number (Optional)
ASSIGNMENT OF UTILITY APPLICATION	TIPI 3.0-742
Whereas, I, Belgacem Haba	of
Whereas, I, Belgacem Haba c/o Invensas Corporation; 2702 Orchard Parkway; San Jo	ose California 95134
hereafter referred to as assignor, have with others invented certi-	ain new and useful improvements in
HIGH STRENGTH THROUGH-SUBSTRATE VIAS	
	November 10, 2011
x for which an application for a United States Letters Pate	ent was filed on
Application Number 13/293,698	
for which an application for a United States Letters Pater	nt was executed by me on,
and	
Whereas, Invensas Corporation	·
a corporation of <u>Delaware</u> herein referred to as "assignee" whose	se mailing address Is
2702 Orchard Parkway; San Jose, California 95134	
is desirous of acquiring the entire right, title and interest in the sa	ame;
NOW. THEREFORE, in consideration of the sum of acknowledged, and other good and valuable consideration, assignee my entire right, title and interest for the United Stainvention and the aforesald utility patent application and all substitute or relesue applications and patents applied for or gother countries, for said invention, including without limitation priority or benefit of the aforesaid utility application pursuant to priority or benefit and the Commissioner of Patents and Tradepatents on said improvements or resulting therefrom to said as and the undersigned for me and my legal representatives, he further remuneration, to execute and deliver all original, dividetters Patent on said improvements and all assignments there assignee or its representatives all facts known to the undersign to testify in any interferences or other legal proceedings in vinvolved, to sign all lawful papers, make all rightful oaths, and successors, assigns and nominees to obtain patent protection incident to said applications to be borne and paid by said assign. And I do hereby authorize my attorneys to insert on this deed to when known.	I as assignor hereby sell, assign and set over to said ates of America and all other countries in and to said original, divisional, continuation, continuation-in-part, tranted therefor in the United States of America and all applications and patents for said invention claiming any law or treaty, and including the right to claim such amarks is hereby authorized and requested to issue all issignee herein, as assignee of the entire interest therein; and assigns do hereby agree and covernant without stonal, continuation, relacue and other applications for of to said assignee or its assigns, to communicate to said med respecting said improvements, whenever requested, which any of said applications or patents may become to do generally everything necessary to aid assignee, its in for said improvements in all countries, the expenses nee.
V17/2017	W.
V17/2012_	Take I
(Dale)	Bel & (Signature)
State of California) SS:	zel8"
County of Saryta Clara)	* · .
On <u>January 17, 2012</u> , before me, <u>Kace</u> appeared <u>Belgacem Haba</u> , who proved to me on the basis of subscribed to the within instrument and acknowledged to me capacity, and that by his/her signature on the instrument the perexecuted the instrument.	A Perriconc, Natory Public personally of satisfactory evidence to be the person whose name is that he/she executed the same in his/her authorized
I certify under PENALTY OF PERJURY under the laws of the S correct. WITNESS my hand and official seal.	RAHEN A. PEHRIGONE Commission 4 1890143 Notary Public - California Santa Clara County My Comm. Expires May 18, 2014
(Notary Public)	MALAKA SEVEN
Comment of the control of the contro	
x *Total of 5 forms are submitted.	

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	former PTO/SBAID (8-00) Modified D) KAM
ASSIGNMENT OF UTILITY APPLICATION	Docket Number (Optional) TIPI 3.0-742
Whereas, I, Hiroaki Sato 50-29 Shikimidai, Asahi-ku, Yokohama, Kanagaw	of of
50-29 Shikimidai, Asani-ku, Yokonania, Kanagan	and useful improvements in
hereafter referred to as assignor, have invented certain new a	and dodien anjarovensense
HIGH STRENGTH THROUGH-SUBSTRATE VIAS	
x for which an application for a United States Latters P Application Number 13/293,698	STORE WAS THE ON
for which an application for a United States Letters Pa	
for which an International Application was filed o	
, designating the United S	states.
And	
Whereas, Invenses Corporation	
a comporation of Delaware herein referred to as "assignee" w	hose mailing address is
2702 Orchard Parkway; San Jose, California 95134	
is desirous of acquiring the entire right, title and interest in the	a same;
is acknowledged, and other good and valuable consideration assignee the entire right, title and interest for the United Str. Invention and the aforesaid utility patent application and all applications and patents applied for or granted therefor in the said invention, including without limitation all applications an of the aforesaid utility application pursuant to any law or tribenefit and the Commissioner of Patents and Trademarks is on eald improvements or resulting therefrom to eaid assigned the undersigned for me and my legal representatives, heirs further remuneration, to execute and deliver all original, dividenters are patent on said improvements and all assignments to said assignee or its representatives all facts known to the requested, to testify in any interferences or other legal province involved, to sign all tawful papers, make all rig to aid assignee, its successors, assigns and nominees to countries, the expenses incident to said applications to be be	a United States of America and all other countries, for dipatents for said Invention claiming priority or benefit eaty, and including the right to claim such priority or shereby authorized and requested to issue all patents a herein, as assignee of the entire interest therein; and and assigns do hereby agree and covenant without sional, continuation, reissue and other applications for pereof to said assignee or its assigns, to communicate undersigned respecting said improvements, whenever ceedings in which any of said applications or patents of the patent protection for said improvements in all other and paid by said assignee.
And I do hereby authorize my attorneys to insert on this	deed the filing date and application number of said
application when known.	
8/3v/ \2	Hiroaki Sato
Witness	
HIROKO SATO Printed Name of Witness	

PATENT REEL: 029072 FRAME: 0752

<u> </u>	Docket Number (Optional)	
ASSIGNMENT OF UTILITY APPLICATION	TIPI 3.0-742	
	HPI 3.0-742	
	of	
731(2) 400 [] 1 11(2) 4 11(2)		
c/o Invensas Corporation; 2702 Orchard Parkway; San J		
hereafter referred to as essignor, have with others invented cert	aln new and useful improvements in	
HIGH STRENGTH THROUGH-SUBSTRATE VIAS	WW	
for which an application for a United States Letters Patent was filed on November 10, 2011		
Application Number 13/293,698 for which an application for a United States Letters Patent was executed by me on		
and		
Whereas, Invensas Corporation		
a corporation of Delaware herein referred to as "assignee" who	se mailing address is	
2702 Orchard Parkway; San Jose, California 95134		
is desirous of acquiring the entire right, little and interest in the s	ame;	
NOW, THEREFORE, in consideration of the sum of <u>one</u> is acknowledged, and other good and valuable consideration,	dollars (\$ 1.00), the receipt whereof	
assignee my entire right, title and Interest for the United Sta	ates of America and all other countries in and to said	
invention and the aforesaid utility patent application and a	Il original, divisional, continuation, continuation-in-part,	
substitute or reissue applications and patents applied for or gother countries, for said invention, including without limitation	all applications and patents for said invention claiming	
priority or benefit of the aforesaid utility application pursuant to	any law or treaty, and including the right to claim such	
priority or benefit and the Commissioner of Patents and Trad patents on said improvements or resulting therefrom to said as	emarks is hereby authorized and requested to issue all science herein as assigned of the entire interest therein:	
and the undersigned for me and my legal representatives, he	irs and assigns do hereby agree and covenant without	
further remuneration, to execute and deliver all original, divi	sional, continuation, release and other applications for	
Letters Patent on said improvements and all essignments there assignee or its representatives all facts known to the undersign		
to testify in any interferences or other legal proceedings in v	which any of said applications or patents may become	
involved, to sign all lawful papers, make all rightful oaths, and successors, assigns and nominees to obtain patent protectio	to do generally everything necessary to aid assignee, its n for said improvements in all countries, the expenses	
incident to said applications to be borne and paid by said assign	nee.	
And I do hereby authorize my attorneys to Insert on this deed	the filing date and application number of said application	
when known.	The first of the approach of the approach of	
/ /		
3/7/12 -		
(Ďate)	(Signature)—	
State of California) SS:		
County of Sartz Clara)		
on $3/7/20/2$ before me,	Salina Diaz, Notary Public personally	
appeared Philip Damberg, who proved to me on the basis of satisfactory evidence to be the person whose name is		
subscribed to the within instrument and acknowledged to me	a that <u>Measher</u> executed the same in his/her authorized	
capacity, and that by his/her-signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.		
I certify under PENALTY OF PERJURY under the laws of the \$	tete of California that the foregoing paragraph is true and	
correct.		
WITNESS my hand and official seal.	SALINA DIAZ	
1/2 / la	Commission # 1889526 S	
(Notary Public)	NSanta Clara County	
I (second t appeal	My Gomm. Expires May 18, 2014	
X Total of 5 forms are submitted.		

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RECORDED: 09/28/2012

PATENT REEL: 029072 FRAME: 0753