### PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3824129

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
Hideki NOMURA	02/23/2016
Hiroki HIRAI	02/25/2016
Junichi ONO	02/22/2016
Takuji OOTSUKA	02/22/2016
Takehiro HOSOKAWA	02/23/2016
Tatsuya HASE	02/29/2016
Kazuo NAKASHIMA	02/29/2016
Kazuhiro GOTO	02/18/2016
Makoto MIZOGUCHI	03/18/2016

### **RECEIVING PARTY DATA**

Name:	AUTONETWORKS TECHNOLOGIES, LTD.
Street Address:	1-14, NISHISUEHIRO-CHO
City:	YOKKAICHI-SHI, MIE
State/Country:	JAPAN
Postal Code:	510-8503
Name:	SUMITOMO WIRING SYSTEMS, LTD.
Street Address:	1-14, NISHISUEHIRO-CHO
City:	YOKKAICHI-SHI, MIE
State/Country:	JAPAN
Postal Code:	510-8503
Name:	SUMITOMO ELECTRIC INDUSTRIES, LTD.
Street Address:	5-33, KITAHAMA 4-CHOME
Internal Address:	СНОО-КО
City:	OSAKA-SHI, OSAKA
State/Country:	JAPAN
Postal Code:	541-0041
Name:	KYUSHU UNIVERSITY, NATIONAL UNIVERSITY CORPORATION
Street Address:	6-10-1 HAKOZAKI
Internal Address:	HIGASHI-KU
City:	FUKUOKA-SHI, FUKUOKA

PATENT REEL: 038244 FRAME: 0987

503777483

State/Country:	JAPAN
Postal Code:	812-8581

#### **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	15028561

#### **CORRESPONDENCE DATA**

**Fax Number:** (703)836-2787

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: 703-836-6400
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Correspondent Name: JAMES A. OLIFF

Address Line 1: OLIFF PLC

Address Line 2: P.O. BOX 320850

Address Line 4: ALEXANDRIA, VIRGINIA 22320-4850

ATTORNEY DOCKET NUMBER:	170698
NAME OF SUBMITTER:	CHANDEL LAWRENCE
SIGNATURE:	/Chandel Lawrence/ for James A. Oliff
DATE SIGNED:	04/11/2016

#### **Total Attachments: 9**

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# ASSIGNMENT (BEING FILED FOR DUAL PURPOSE UNDER 37 CFR 1.63(e)) For Application with Filing Date on or after September 16, 2012

## ASSIGNMENT (Four Assignees)

	Insert	(1)	Hideki NOMURA	(2)	Hiroki HIRAI
(1-9)	Legal Name(s)	(3)	Junichi ONO	(4)	Takuji OOTSUKA
	of Inventor(s)	(5)	Takehiro HOSOKAWA	(6)	Tatsuya HASE
		(7)	Kazuo NAKASHIMA	(8)	Kazuhiro GOTO
		(9)	Makoto MIZOGUCHI	•	
		the under	eration of the sum of one dollar (\$1.00) ar rsigned, the receipt and sufficiency of whi ad hereby does assign, transfer and set over	ch are l	r good and valuable consideration paid to each of hereby acknowledged, each undersigned agrees to
(10A)	Insert Name of First Assignee	(10A)	Autonetworks Technologies, Ltd.		
(11A)	Insert Address of First Assignce	(11A)	1-14, Nishisuehiro-cho, Yokkaichi-shi,	Mie 5	10-8503, Japan
(10B)	Insert Name of Second Assignee	(10B)	Sumitomo Wiring Systems, Ltd.		
(11B)	Insert Address of Second Assignce	(11B)	1-14, Nishisuehiro-cho, Yokkaichi-shi, Mie 510-8503, Japan		
(10C)	Insert Name of Third Assignce	(10C)	Sumitomo Electric Industries, Ltd.		
(11C)	Insert Address of Third Assignee	(I1C)	5-33, Kitahama 4-chome, Chuo-ku, Osaka-shi, Osaka 541-0041, Japan		
(10D)	Insert Name of Third Assignee	(10D)	Kyushu University, National University Corporation		
(11D)	Insert Address of Third Assignce	(11D)	6-10-1 Hakozaki, Higashi-ku, Fukuoka	-shi, Fı	ukuoka 812-8581, Japan
		the entire invention continual	right, title and interest for the United State, and in all applications for patent includi	tes of Ang any	heirs, successors, assigns and legal representatives, america as defined in 35 U.S.C. §100, in the and all provisional, non-provisional, divisional, ion(s), and all Letters Patent, extensions, reissues invention known as
(12)	Insert Identification such as Title, Case	(12)	ELECTRICAL CONNECTION STR	UCTI	JRE
	Number, or Foreign Application Number	(Attorne	y Docket No.		), filed on even date herewith or as
(13)	Alternative	(13) U	S. Application Number		
	Identification for			······ <b>/</b>	
	filed applications	filed			

- 1) Each undersigned agrees to execute all papers necessary in connection with any application and/or patent for the invention and also to execute separate assignments in connection with such applications and patents as the Assignees may deem necessary.
- 2) Each undersigned agrees to execute all papers necessary in connection with any interference or post-grant proceeding which may be declared concerning any application or patent for the invention and to cooperate with the Assignees in every way possible in obtaining evidence and going forward with such interference or post-grant proceeding.
- 3) Each undersigned agrees to execute all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements.
- 4) Each undersigned agrees to perform all affirmative acts which may be necessary to obtain, maintain or confirm by reissue or reexamination a grant of a valid United States patent to the Assignees.
- 5) Each undersigned authorizes and requests the Commissioner of the U.S. Patent and Trademark Office to issue any and all patents resulting from said application(s) to the said Assignees, as Assignees of the entire interest, and covenants that he or she has full right to convey the entire interest herein assigned, and that he or she has not executed, and will not execute, any agreement(s) in conflict herewith, and agrees that this assignment is binding on Assignor and Assignor's heirs, successors, assigns and legal representatives.
- 6) Each undersigned hereby grants the firm of OLIFF PLC, the power to insert on this assignment any further identification that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

#### (14) Declaration

As an above named inventor, I hereby declare that:

I believe I am the original inventor or an original joint inventor of a claimed invention (or claimed design) in the above-identified application for which this declaration is being submitted.

The application was made or authorized to be made by me.

I have reviewed and understand the contents of the above-identified application, including the claims, and am aware of the duty to disclose to the Office all information known to me to be material to patentability as defined in 37 CFR §1.56.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

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In witness whereof	, executed by	the undersigned on	the date(s) opposite	the undersigned name(s
--------------------	---------------	--------------------	----------------------	------------------------

Date	February 23, 2016	Inventor Signature	Hideki Nomura	(SEAL)
Date	February 20. 2016	Inventor Signature	Húrchi Hirai	_ (SEAL)
Date	February 22,2016	Inventor Signature	Junichi ONO	_ (SEAL)
Date	tebruary 22, 2016	Inventor Signature	Takuja Dotsuta	_ (SEAL)
Date	The February 23, 2016	Inventor Signature	Takuji OOTSUKA Takahiro HoroKurwar	_ (SEAL)
Date	February 29-2016	Inventor Signature	Tatsuya Hase	_ (SEAL)
	February 29. 2016	Inventor Signature	Tatsuya HASE Kazuo Nakashima	_ (SEAL)
Date		Inventor Signature	Kazuo NAKASHIMA	_ (SEAL)
Date		Inventor Signature	Kazuhiro GOTO	_ (SEAL)
	This assignment should preferably be signed	I before: (a) a Notary Pu	Makoto MIZOGUCHI blic if within the U.S.A. (b) a U.S. Consul if outside	the U.S.A. II
neither	then it should be signed before at least two wi	itnesses who also sign he	те:	
Date		Witness		
Date		Witness		

## ASSIGNMENT (BEING FILED FOR DUAL PURPOSE UNDER 37 CFR 1.63(e)) For Application with Filing Date on or after September 16, 2012

### ASSIGNMENT (Four Assignees)

	Insert	(1)	HIGERI NOMUKA	(2)	Hiroki HIRAI
(1-9)	Legal Name(s)	(3)	unichi ONO	(4)	Takuji OOTSUKA
	of Inventor(s)	(5)	Takehiro HOSOKAWA	(6)	Tatsuya HASE
		(7) I	Kazuo NAKASHIMA	(8)	Kazuhiro GOTO
		(9)	Makoto MIZOGUCHI	-	
		the under	eration of the sum of one dollar (\$1.00) a signed, the receipt and sufficiency of whi id hereby does assign, transfer and set over	ch are I	r good and valuable consideration paid to each of hereby acknowledged, each undersigned agrees to
(10A)	Insert Name of First Assignee	(10A)	Autonetworks Technologies, Ltd.		
(11A)	Insert Address of First Assignee	(11A)	1-14, Nishisuehiro-cho, Yokkaichi-shi,	Mie 51	0-8503, Japan
(10B)	Insert Name of Second Assignee	(10B)	Sumitomo Wiring Systems, Ltd.		
(11B)	Insert Address of Second Assignce	(11B)	1-14, Nishisuehiro-cho, Yokkaichi-shi, Mie 510-8503, Japan		
(10C)	Insert Name of Third Assignce	(10C)	Sumitomo Electric Industries, Ltd.		
(11C)	Insert Address of Third Assignee	(IIC)	5-33, Kitahama 4-chome, Chuo-ku, Osaka-shi, Osaka 541-0041, Japan		
(10 <b>D</b> )	Insert Name of Third Assignce	(10D)	Kyushu University, National University Corporation		
(11D)	Insert Address of Third Assignce	(11D)	6-10-1 Hakozaki, Higashi-ku, Fukuoka	-shi, Fu	kuoka 812-8581, Japan
		the entire invention continuat	right, title and interest for the United Sta, and in all applications for patent includi	tes of Ang any	heirs, successors, assigns and legal representatives, unerica as defined in 35 U.S.C. §100, in the and all provisional, non-provisional, divisional, on(s), and all Letters Patent, extensions, reissues invention known as
(12)	Insert Identification such as Title, Case	(12)	ELECTRICAL CONNECTION STR	UCTL	RE
	Number, or Foreign Application Number	(Attorney	/ Docket No.		), filed on even date herewith or as
(13)	Alternative	(13) U.	S. Application Number		
	Identification for				
	filed applications	filed			

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- 4) Each undersigned agrees to perform all affirmative acts which may be necessary to obtain, maintain or confirm by reissue or reexamination a grant of a valid United States patent to the Assignees.
- 5) Each undersigned authorizes and requests the Commissioner of the U.S. Patent and Trademark Office to issue any and all patents resulting from said application(s) to the said Assignees, as Assignees of the entire interest, and covenants that he or she has full right to convey the entire interest herein assigned, and that he or she has not executed, and will not execute, any agreement(s) in conflict herewith, and agrees that this assignment is binding on Assignor and Assignor's heirs, successors, assigns and legal representatives.
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In witness whereof, executed by the undersigned on the date(s) opposite the undersigned name(s).

Date		Inventor Signature		(SEAL)
			Hideki NOMURA	
Date		Inventor Signature	Alaka da	(SEAL)
			Hiroki HIRAI	
Date		Inventor Signature	•	(SEAL)
			Junichi ONO	
Date		Inventor Signature		(SEAL)
			Takuji OOTSUKA	
Date		Inventor Signature		(SEAL)
			Takehiro HOSOKAWA	
Date		Inventor Signature		(SEAL)
			Tatsuya HASE	
Date		Inventor Signature		_ (SEAL)
			Kazuo NAKASHIMA	. 10
Date	February 18. 2016	Inventor Signature	Kazuhiro Goto	(SEAL)
	•		Kazuhiro GOTO	
Date		Inventor Signature		_ (SEAL)
			Makolo MIZOGUCHI.	
neither,	This assignment should preferably be signed then it should be signed before at least two	ned before: (a) a Notary Pul witnesses who also sign he	olic if within the U.S.A. (b) a U.S. Consul if outside tre:	the U.S.A. If
Date		Witness		
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		(7)	Kazuo NAKASHIMA	(8)	Kazuhiro GOTO	
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		***				

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In witness whereof, executed by the undersigned on the date(s) opposite the undersigned name(s).

Date		Inventor Signature		_ (SEAL)
			Hideki NOMURA	
Date		Inventor Signature		(SEAL)
			Hiroki HIRAI	
Date		Inventor Signature		_ (SEAL)
			Junichi ONO	
Date		Inventor Signature	Water and the second se	(SEAL)
			Takuji OOTSUKA	
Date		Inventor Signature		(SEAL)
			Takehiro HOSOKAWA	
Date		Inventor Signature	•	(SEAL)
			Tatsuya HASE	
Date		Inventor Signature		_ (SEAL)
			Kazuo NAKASHIMA	
Date		Inventor Signature		(SEAL)
r			Kazuhiyo GOTO	/
Date	MAR, 18, 2016	Inventor Signature	/waster of control	(SEAL)
		,	Makolo MIZOGUEHI	
neither,	This assignment should preferably be signed then it should be signed before at least two v	ed before: (a) a Notary Put witnesses who also sign he	olic if within the U.S.A. (b) a U.S. Consul if outside tre:	the U.S.A. If
Date		Witness		
Date		Witness _		