PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT7134000

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Takahito JO	12/02/2021
Yasushi SAITO	12/06/2021
Tomoyuki SAKATA	12/03/2021
Masaaki TABATA	12/07/2021
Teruo HARA	12/06/2021
Shunya TAKEUCHI	12/06/2021
Hideki MATSUNAGA	12/08/2021
Keisuke TERAMOTO	12/08/2021
Hiroshi KOBAYASHI	12/01/2021
Takeshi AMAKAWA	12/02/2021

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, Chuo-ku
City:	Osaka-shi, Osaka
State/Country:	JAPAN
Postal Code:	541-0041
Name:	TOYOTA JIDOSHA KABUSHIKI KAISHA
Street Address:	1, Toyota-cho
City:	Toyota-shi, Aichi
State/Country:	JAPAN
	DATENT

PATENT REEL: 058727 FRAME: 0049

507087163

Postal Code:	471-8571
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PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	17629159

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
Email: email@oliff.com
Correspondent Name: JOHN A. RADI
Address Line 1: OLIFF PLC

Address Line 2: P.O. BOX 320850

Address Line 4: ALEXANDRIA, VIRGINIA 22320-4850

ATTORNEY DOCKET NUMBER:	198478
NAME OF SUBMITTER:	KEIVONA GRAY
SIGNATURE:	/KeiVona Gray/
DATE SIGNED:	01/21/2022
	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 4

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PATENT REEL: 058727 FRAME: 0050

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)	Takahito JO	(2)	Yasushi SAITO	
(1-8)	Legal Name(s)	(3) <u>T</u>	omoyuki SAKATA	(4)	Masaaki TABATA	
	of Inventor(s)	(5) <u>T</u>	Ceruo HARA	(6)	Shunya TAKEUCHI	
		(7) F	Hideki MATSUNAGA	(8)	Keisuke TERAMOTO	
		(9) H	Iiroshi KOBAYASHI	(10)	Takeshi AMAKAWA	
		the undersig		are her	ood and valuable consideration paid to each of eby acknowledged, each undersigned agrees to	
(9A)	Insert Name of First Assignee	(9A)	AUTONETWORKS TECHNOLOGIES	, LTD.		
(10A)	Insert Address of First Assignee	(10A)	1-14, Nishisuehiro-cho, Yokkaichi-shi,	Mie 51(D-8503, JAPAN	
(9 B)	Insert Name of Second Assignee	(9B)	SUMITOMO WIRING SYSTEMS, LT	D,		
(10B)	Insert Address of Second Assignee	(10B)	1-14, Nishisuehiro-cho, Yokkaichi-shi, l	Mie 510	O-8503, JAPAN	
(9C)	Insert Name of Third Assignee	(9C)	SUMITOMO ELECTRIC INDUSTRIES, LTD.			
(10C)	Insert Address of Third Assignee	(10C)	5-33, Kitahama 4-chome, Chuo-ku, Osaka-shi, Osaka 541-0041, JAPAN			
(9 D)	Insert Name of Fourth Assignee	(9D)	TOYOTA JIDOSHA KABUSHIKI KAISHA			
(10 D)	Insert Address of Fourth Assignee	(10 D)	1, Toyota-cho, Toyota-shi, Aichi 471-8571, JAPAN			
		the entire ri invention, a continuation	after designated as the Assignees) and Assignees' heirs, successors, assigns and legal representatives, ire right, title and interest for the United States of America as defined in 35 U.S.C. §100, in the on, and in all applications for patent including any and all provisional, non-provisional, divisional, ration, international, substitute and reissue application(s), and all Letters Patent, extensions, reissues xamination certificates that may be granted on the invention known as			
(11)	Insert Identification such as Title, Case Number, or Foreign	(11)	FERMINAL-EQUIPPED ELECTRIC WI	RE		
	Application Number (Attorney Docket No. 198478), filed on even date herewith or as					
(12)	Alternative Identification for	(12)	U.S. Application Number 17/6	29,15	59	
	filed applications	filed	Janaury 21, 2022			

- 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.

(13) 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.

PATENT REEL: 058727 FRAME: 0051 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.

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

Date	December 2, 202/	Inventor Signature	Jakahi to JO Takahi to JO	(SEAL)	
Date	December 6, 2021	Inventor Signature	Jasushi Saito Yasushi SAITO	(SEAL)	
Date	Decembers. 2021	Inventor Signature	Tomoyuki SAKATA	(SEAL)	
Date	December 7. 2021	Inventor Signature	Masaaki Tabata Masaaki TABATA	(SEAL)	
Date	December 6, 2021	Inventor Signature	Teruo HARA	(SEAL)	
Date	December 6.2021	Inventor Signature	Shunya TAKEUCHI Shunya TAKEUCHI	(SEAL)	
Date	December 8, 2021	Inventor Signature	Hideki Matsunaga Hideki MATSUNAGA	(SEAL)	
Date	Pecember 8, 2021	Inventor Signature	Keisuke Teramoto	(SEAL)	
Date		Inventor Signature	Hiroshi KOBAYASHI	(SEAL)	
Date		Inventor Signature	Takeshi AMAKAWA	(SEAL)	
This assignment should preferably be signed before: (a) a Notary Public if within the U.S.A. (b) a U.S. Consul if outside the U.S.A. If either, then it should be signed before at least two witnesses who also sign here:					
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) _T	akahito JO	(2)	Yasushi SAITO		
(1-8)	Legal Name(s)	(3) T	omoyuki SAKATA	(4)	Masaaki TABATA		
	of Inventor(s)	(5) T	eruo HARA	(6)	Shunya TAKEUCHI		
		(7) _F	Hideki MATSUNAGA	(8)	Keisuke TERAMOTO		
		(9) F	Hiroshi KOBAYASHI	(10)	Takeshi AMAKAWA		
		the undersig	ation of the sum of one dollar (\$1.00) and gned, the receipt and sufficiency of which hereby does assign, transfer and set over t	are here	ood and valuable consideration paid to each of eby acknowledged, each undersigned agrees to		
(9A)	Insert Name of First Assignee	(9A)	AUTONETWORKS TECHNOLOGIES	, LTD.			
(10A)	Insert Address of First Assignee	(10A)	1-14, Nishisuehiro-cho, Yokkaichi-shi, I	Mie 510)-8503, JAPAN		
(9B)	Insert Name of Second Assignee	(9B)	SUMITOMO WIRING SYSTEMS, LTI	Э.			
(10B)	Insert Address of Second Assignee	(10B)	1-14, Nishisuehiro-cho, Yokkaichi-shi, I	Mic 510)-8503, JAPAN		
(9C)	Insert Name of Third Assignee	(9C)	SUMITOMO ELECTRIC INDUSTRIE	SUMITOMO ELECTRIC INDUSTRIES, LTD.			
(10C)	Insert Address of Third Assignee	(10C)	5-33, Kitahama 4-chome, Chuo-ku, Osaka-shi, Osaka 541-0041, JAPAN				
(9D)	Insert Name of Fourth Assignee	(9D)	TOYOTA JIDOSHA KABUSHIKI KA	TOYOTA JIDUSHA KABUSHIKI KAISHA			
(10D)	Insert Address of Fourth Assignee	(10D)	1, Toyota-cho, Toyota-shi, Aichi 471-8571, JAPAN				
	•	(hereinafter designated as the Assignees) and Assignees' heirs, successors, assigns and legal representatives, the entire right, title and interest for the United States of America as defined in 35 U.S.C. §100, in the invention, and in all applications for patent including any and all provisional, non-provisional, divisional, continuation, international, substitute and reissue application(s), and all Letters Patent, extensions, reissues and reexamination certificates that may be granted on the invention known as					
(11)	Insert Identification such as Title, Case	(11)	FERMINAL-EQUIPPED ELECTRIC WI	RE			
	Number, or Foreign Application Number	(Attorney	y Docket No. 198478), filed	on even date herewith or as		
(12)	Alternative	(12)	U.S. Application Number17/6	29.15	59		
	Identification for						
	filed applications	filed	Janaury 21, 2022				

- 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.

(13)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.

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

Date		Inventor Signature	44/44/4	(SEAL)
			Takahito JO	
Date		Inventor Signature		(SEAL)
			Yasushi 8AlTO	
Date		Inventor Signature	Works and the second se	(SEAL)
			Tomoyuki SAKATA	
Date		Inventor Signature		(SEAL)
	A	2	Masaaki TABATA	• ` ′
Date	<i></i>	Inventor Signature		(SEAL)
	<u> </u>		Teruo HARA	
Date		Inventor Signature		(SEAL)
	Name (State Control of the Control o		Shunya TAXEUCHI	· (/
Date		Inventor Signature		(SEAL)
			Hideki MATSUNAGA	_ (02,12)
Date		Inventor Signature		(SEAL)
Date	Westerfall (Control of the Control o	THE	Keisuke TERAMOTO	. (0112)
Date	December 1, 2021	Inventor Signature	Heroshi Robayashi	(SFAL)
			Hiroshi KOBAYASIII	(02113)
Dute	December 2, 2021	Inventor Signature	Takeshi Amakana	(SEAL)
	W. Michael Marine for some of the second	•	Takeshi AMAKAWA	_ (~~~)
				i
cither,	This assignment should preferably be signed then it should be signed before at least two with		c if within the U.S.A. (b) a U.S. Consul if outside the	U.S.A. If
Date		Witness _		
Date		Witness		