505782557 11/20/2019

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
KEISHI KOSAKA	10/29/2019
YASUHIKO MATSUNAGA	10/29/2019
EIJI HANKUI	10/29/2019
HIROSHI TOYAO	10/29/2019
OSAMU HASHIGUCHI	10/31/2019

RECEIVING PARTY DATA

Name:	NEC CORPORATION
Street Address:	7-1, SHIBA 5-CHOME
City:	MINATO-KU, TOKYO
State/Country:	JAPAN
Postal Code:	108-8001
Name:	JAPAN AVIATION ELECTRONICS INDUSTRY, LIMITED
Name: Street Address:	JAPAN AVIATION ELECTRONICS INDUSTRY, LIMITED 21-1, DOGENZAKA 1-CHOME
Street Address:	21-1, DOGENZAKA 1-CHOME

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	29709359

CORRESPONDENCE DATA

Fax Number: (703)836-7419

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: 7038366620

Email: ann.elkins@bipc.com

Correspondent Name: BUCHANAN INGERSOLL & ROONEY PC

Address Line 1: 1737 KING STREET

Address Line 2: SUITE 500

Address Line 4: ALEXANDRIA, VIRGINIA 22314

PATENT REEL: 051059 FRAME: 0682

505782557

ATTORNEY DOCKET NUMBER:	0074822-000066
NAME OF SUBMITTER:	ANN ELKINS
SIGNATURE:	/Ann Elkins/
DATE SIGNED:	11/20/2019
	This document serves as an Oath/Declaration (37 CFR 1.63).
Total Attachments: 4 source=CombDeclAssign#page1.tif source=CombDeclAssign#page2.tif source=CombDeclAssign#page3.tif source=CombDeclAssign#page4.tif	

PATENT REEL: 051059 FRAME: 0683

Attorney Docket No. <u>0074822-000066</u> Client Reference No. <u>3300AY0009US01</u> Application No. <u>29/709,359</u>

COMBINED DECLARATION AND ASSIGNMENT (JOINT)

As one of the below named inventors, I hereby declare that this Combined Declaration and Assignment is directed to:

(1)	\boxtimes	U.S. application number or PCT application number <u>29/709.359</u> , filed on <u>October 1-2019</u> , entitled <u>ANTENNA</u> ; or
(2)		the attached application entitled

<u>DECLARATION</u>

As one of the below named inventors, I further declare that:

The above-identified application was made or authorized to be made by me.

I believe that I am an original joint inventor of a claimed invention in the application.

I have reviewed and understand the contents of the above-identified application, including the claims.

I acknowledge the duty to disclose to the U.S. Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, § 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.

ASSIGNMENT -

THIS ASSIGNMENT, by the undersigned inventors (hereinafter referred to as "the Assignors"), respectively, witnesseth:

WHEREAS, the Assignors have invented certain new and useful improvements set forth in an application for Letters Patent of the United States, which is a nonprovisional application;

WHEREAS, NEC CORPORATION, a corporation duly organized under and pursuant to the laws of Japan and having a principal place of business at 7-1, Shiba 5-chome, Minato-ku, Tokyo 106-8001 Japan, and JAPAN AVIATION ELECTRONICS INDUSTRY, LIMITED, a corporation duly organized under and pursuant to the laws of Japan and having a principal place of business at 21-1, Dogenzaka 1-chome, Shibuya-ku, Tokyo 150-043 Japan (hereinafter referred to as "the Assignees"), are desirous of acquiring the entire right, title, and interest in and to said inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications, including provisional applications for Letters Patent of the United States or other countries claiming priority to said application, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon.

NOW, THEREFORE, for good and sufficient consideration, the receipt of which is hereby acknowledged, the Assignors have sold, assigned, transferred, and set over, and by these presents do sell, assign, transfer, and set over, unto the Assignees, their successors, legal representatives, and assigns the entire right, title, and interest in and to the above-mentioned inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications for Letters Patent of the United States or other countries claiming priority to said applications, and any and all Letters Patent or Patents of the United States of America and all foreign countries that may be granted therefor and thereon, and in and to any and all applications claiming priority to said applications, divisions, continuations, and continuations-in-part of said applications, and reissues and extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed

Buchanan Ingersoll & Rooney re

Page 1 of 2

Attorney Docket No. 0074822-000068 Client Reference No. 3300AY0009US01 Application No. 29/709,359

by the Assignees, for their own use and behoof and the use and behoof of their successors, legal representatives, and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted as fully and entirely as the same would have been held and enjoyed by the Assignors had this sale and assignment not been made;

AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignees, its successors, legal representatives, and assigns, that, at the time of execution and delivery of these presents, the Assignors are the sole and lawful owners of the entire right, title, and interest in and to the inventions set forth in said applications and said applications, including provisional applications, above-mentioned, and that the same are unencumbered, and that the Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth;

AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignees, their successors, legal representatives, and assigns that the Assigners will, whenever counsel of the Assignees, or the counsel of their successors, legal representatives, and assigns, shall advise that any proceeding in connection with said inventions or said applications for Letters Patent or Patents, or any proceeding in connection with Letters Patent or Patents for said inventions in any country, including interference proceedings, is lawful and desirable, or that any application claiming priority to said application, division, continuation, or continuation-in-part of any applications for Letters Patent or Patents, or any reissue or extension of any Letters Patent or Patents to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful caths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement, and defense of Letters Patent or Patents for said inventions, without charge to the Assignees, their successors, legal representatives, and assigns, but at the cost and expense of the Assignees, their successors, legal representatives, and assigns.

AND the Assignors hereby request the Commissioner of Patents to issue any and all said Letters Patent of the United States to the Assignees as the Assignees of said inventions, the Letters Patent to be issued for the sole use and behoof of the Assignees, their successors, legal representatives, and assigns.

October 29, 2019	Keishi KOSAKA	Reishi Rosala
Date	Name	Signature
October 29, 2019	Yasuhiko MATSUNAGA Name	Ganhibo Matauraga
October 29, 2019	Eiji HANKUI	Ciji Hankui
Date	Name	Signature
October 29, 2019	Hiroshi TOYAO) Wushi Foyat Signature
Dale	Name	with wrong a
	Osamu HASHIGUCHI	
Date	Name	Signature

Page 2 of 2

Attorney Docket No. <u>0074822-000066</u> Client Reference No. <u>3300AY0009US01</u> Application No. <u>29/709,359</u>

COMBINED DECLARATION AND ASSIGNMENT (JOINT)

As one of the below named inventors, I hereby declare that this Combined Declaration and Assignment is directed to:

(1)	Ø	U.S. application number or PCT application number <u>29/709,359</u> , filed on <u>October 14 2019</u> , entitled <u>ANTENNA</u> ; or
(2)		the attached application entitled

<u>DECLARATION</u>

As one of the below named inventors, I further declare that:

The above-identified application was made or authorized to be made by me.

I believe that I am an original joint inventor of a claimed invention in the application.

I have reviewed and understand the contents of the above-identified application, including the claims.

I acknowledge the duty to disclose to the U.S. Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, § 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.

<u>ASSIGNMENT</u>

THIS ASSIGNMENT, by the undersigned inventors (hereinafter referred to as "the Assignors"), respectively, witnesseth:

WHEREAS, the Assignors have invented certain new and useful improvements set forth in an application for Letters Patent of the United States, which is a nonprovisional application;

WHEREAS, <u>NEC CORPORATION</u>, a corporation duly organized under and pursuant to the laws of <u>Japan</u> and having a principal place of business at <u>7-1</u>, <u>Shiba 5-chome</u>, <u>Minato-ku</u>, <u>Tokyo 108-8001 Japan</u>, and <u>JAPAN AVIATION ELECTRONICS INDUSTRY</u>, <u>LIMITED</u>, a corporation duly organized under and pursuant to the laws of <u>Japan</u> and having a principal place of business at <u>21-1</u>, <u>Dogenzaka 1-chome</u>, <u>Shibuya-ku</u>, <u>Tokyo 150-0043 Japan</u> (hereinafter referred to as "the Assignees"), are desirous of acquiring the entire right, title, and interest in and to said inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications, including provisional applications for Letters Patent of the United States or other countries claiming priority to said application, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon.

NOW, THEREFORE, for good and sufficient consideration, the receipt of which is hereby acknowledged, the Assignors have sold, assigned, transferred, and set over, and by these presents do self, assign, transfer, and set over, unto the Assignees, their successors, legal representatives, and assigns the entire right, title, and interest in and to the above-mentioned inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications for Letters Patent of the United States or other countries claiming priority to said applications, and any and all Letters Patent or Patents of the United States of America and all foreign countries that may be granted therefor and thereon, and in and to any and all applications claiming priority to said applications, divisions, continuations, and continuations-in-part of said applications, and reissues and extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed

Buchanan Ingersoll & Rooney PC

Page 1 of 2

Attorney Docket No. <u>0074822-000066</u> Client Reference No. <u>3300AY0009US01</u> Application No. <u>29/709.359</u>

by the Assignees, for their own use and behoof and the use and behoof of their successors, legal representatives, and assigns, to the full and of the term or terms for which Letters Patent or Patents may be granted as fully and entirely as the same would have been held and enjoyed by the Assignors had this sale and assignment not been made;

AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignees, its successors, legal representatives, and assigns, that, at the time of execution and delivery of these presents, the Assignors are the sole and lawful owners of the entire right, title, and interest in and to the inventions set forth in said applications and said applications, including provisional applications, abovementioned, and that the same are unencumbered, and that the Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth;

AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignees, their successors, legal representatives, and assigns that the Assignors will, whenever counsel of the Assignees, or the counsel of their successors, legal representatives, and assigns, shall advise that any proceeding in connection with said inventions or said applications for Letters Patent or Patents, or any proceeding in connection with Letters Patent or Patents for said inventions in any country, including interference proceedings, is lawful and desirable, or that any application claiming priority to said application, division, continuation, or continuation-in-part of any applications for Letters Patent or Patents, or any reissue or extension of any Letters Patent or Patents to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement, and defense of Letters Patent or Patents for said inventions, without charge to the Assignees, their successors, legal representatives, and assigns, but at the cost and expense of the Assignees, their successors, legal representatives, and assigns;

AND the Assignors hereby request the Commissioner of Patents to issue any and all said Letters Patent of the United States to the Assignees as the Assignees of said inventions, the Letters Patent to be issued for the sole use and behoof of the Assignees, their successors, legal representatives, and assigns.

	Keishi KOSAKA	
Date	Name .	Signature
	Yasuhiko MATSUNAGA	
Date	Name	Signature
	Eiji HANKUI	
Date	Name	Signature
	Hiroshi TOYAO	
Date	Name	Signature:
October 31, 2019	Osamu HASHIGUCHI	<u> Doomu Hadrigudii</u> Signature
Date	Name	Signature

Page 2 of 2

REEL: 051059 FRAME: 0687