

PATENT ASSIGNMENT

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SUBMISSION TYPE:	NEW ASSIGNMENT										
NATURE OF CONVEYANCE:	ASSIGNMENT										
CONVEYING PARTY DATA											
<table border="1"><thead><tr><th>Name</th><th>Execution Date</th></tr></thead><tbody><tr><td>Hiroyuki ARAI</td><td>08/16/2011</td></tr><tr><td>Takayuki HIRABAYASHI</td><td>07/28/2011</td></tr><tr><td>Takashi ENOMOTO</td><td>07/29/2011</td></tr><tr><td>Sunghyuk YOON</td><td>07/29/2011</td></tr></tbody></table>	Name	Execution Date	Hiroyuki ARAI	08/16/2011	Takayuki HIRABAYASHI	07/28/2011	Takashi ENOMOTO	07/29/2011	Sunghyuk YOON	07/29/2011	
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<table border="1"><tr><td>Name:</td><td>SONY CORPORATION</td></tr><tr><td>Street Address:</td><td>1-7-1 Konan, Minato-ku</td></tr><tr><td>City:</td><td>Tokyo</td></tr><tr><td>State/Country:</td><td>JAPAN</td></tr></table>	Name:	SONY CORPORATION	Street Address:	1-7-1 Konan, Minato-ku	City:	Tokyo	State/Country:	JAPAN			
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PROPERTY NUMBERS Total: 1											
<table border="1"><thead><tr><th>Property Type</th><th>Number</th></tr></thead><tbody><tr><td>Application Number:</td><td>13203434</td></tr></tbody></table>	Property Type	Number	Application Number:	13203434							
Property Type	Number										
Application Number:	13203434										
CORRESPONDENCE DATA											
Fax Number: (703)413-2220											
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Correspondent Name: Oblon, Spivak, et al.											
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ATTORNEY DOCKET NUMBER:	385271US8PCT										
NAME OF SUBMITTER:	Adel Samuel										
Total Attachments: 4 source=385271USAssignment#page1.tif source=385271USAssignment#page2.tif source=385271USAssignment#page3.tif source=385271USAssignment#page4.tif											

OP \$40.00 13203434

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PATENT
REEL: 027146 FRAME: 0750

ASSIGNMENT

WHEREAS, I, as below named inventors, residing at the addresses stated next to our names, am a sole inventor (if only one name is listed below) or a joint inventor (if plural names are listed below) of certain new and useful improvements in
ANTENNA APPARATUS AND COMMUNICATION APPARATUS

for which application for Letters Patent of the United States of America was executed by me on the date indicated next to my name and address;

AND WHEREAS, SONY CORPORATION, a Japanese corporation, with offices at 1-7-1 Konan, Minato-ku, Tokyo, Japan (hereinafter referred to as ASSIGNEE) is desirous of acquiring all interest in, to and under said invention, said application disclosing the invention and in, to and under any Letters Patent or similar legal protection which may be granted therefor in the United States and in any and all foreign countries;

NOW THEREFORE, in consideration of the sum of One Dollar (\$1.00), and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, I, as a sole or joint inventor as indicated below, by these presents do hereby assign, sell and transfer unto the said ASSIGNEE, its successors, assigns, and legal representatives, the entire right, title and interest in the said invention, said application, including any divisions and continuations thereof, and in and to any and all Letters Patent of the United States, and countries foreign thereto, which may be granted for said invention, and in and to any and all priority rights and/or convention rights under the International Convention for the Protection of Industrial Property, Inter-American Convention Relating to Patents, Designs and Industrial Models, and any other international agreements to which the United States of America adheres, and to any other benefits accruing or to accrue to me with respect to the filing of applications for patents or securing of patents in the United States and countries foreign thereto, and I hereby authorize and request the Commissioner of Patents to issue the said United States Letters Patent to said ASSIGNEE, as the assignee of the whole right, title and interest thereto;

And I further agree to execute all necessary or desirable and lawful future documents, including assignments in favor of ASSIGNEE or its designee, as ASSIGNEE or its successors, assigns and legal representatives may from time-to-time present to me and without further remuneration, in order to perfect title in said invention, modifications, and improvements in said invention, applications and Letters Patent of the United States and countries foreign thereto;

And I further agree to properly execute and deliver and without further remuneration, such necessary or desirable and lawful papers for application for foreign patents, for filing subdivisions of said application for patent, and or, for obtaining any reissue or reissues of any Letters patent which may be granted for my aforesaid invention, as the ASSIGNEE thereof shall hereafter require and prepare at its own expense;

And I further agree that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said application, said invention and said Letters Patent and legal equivalents in foreign countries as may be known and accessible to me and will testify as to the same in any interference or litigation related thereto;

And I hereby covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment and sale.

And I hereby authorize and request my attorney(s) of record in this application to insert the serial number and filing date of this application in the spaces that follow: International Application No.: PCT/JP2010/073550, International Filing Date: December 27, 2010

This assignment executed on the dates indicated below.

HIROYUKI ARAI

Name of first or sole inventor

KANAGAWA JAPAN

Residence of first or sole inventor

Hiroyuki Arai

Signature of first or sole inventor

16/08/2011

Execution date of U.S. Patent Application

16/08/2011

Date of this assignment

TAKAYUKI HIRABAYASHI

Name of second inventor

TOKYO JAPAN

Residence of second inventor

Signature of second inventor

Execution date of U.S. Patent Application

Date of this assignment

TAKASHI ENOMOTO

Name of third inventor

CHIBA JAPAN

Residence of third inventor

Signature of third inventor

Execution date of U.S. Patent Application

Date of this assignment

ADDITIONAL INVENTOR(S)

SUNGHYUK YOON

Name of fourth inventor

NAGANO JAPAN

Residence of fourth inventor

Execution date of U.S. Patent Application

Signature of fourth inventor

Date of this assignment

Name of fifth inventor

Execution date of U.S. Patent Application

Residence of fifth inventor

Signature of fifth inventor

Date of this assignment

Name of sixth inventor

Execution date of U.S. Patent Application

Residence of sixth inventor

Signature of sixth inventor

Date of this assignment

Name of seventh inventor

Execution date of U.S. Patent Application

Residence of seventh inventor

Signature of seventh inventor

Date of this assignment

Name of eighth inventor

Execution date of U.S. Patent Application

Residence of eighth inventor

Signature of eighth inventor

Date of this assignment

Name of ninth inventor

Execution date of U.S. Patent Application

Residence of ninth inventor

Signature of ninth inventor

Date of this assignment

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NOW THEREFORE, in consideration of the sum of One Dollar (\$1.00), and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, I, as a sole or joint inventor as indicated below, by these presents do hereby assign, sell and transfer unto the said ASSIGNEE, its successors, assigns, and legal representatives, the entire right, title and interest in the said invention, said application, including any divisions and continuations thereof, and in and to any and all Letters Patent of the United States, and countries foreign thereto, which may be granted for said invention, and in and to any and all priority rights and/or convention rights under the International Convention for the Protection of Industrial Property, Inter-American Convention Relating to Patents, Designs and Industrial Models, and any other international agreements to which the United States of America adheres, and to any other benefits accruing or to accrue to me with respect to the filing of applications for patents or securing of patents in the United States and countries foreign thereto, and I hereby authorize and request the Commissioner of Patents to issue the said United States Letters Patent to said ASSIGNEE, as the assignee of the whole right, title and interest thereto;

And I further agree to execute all necessary or desirable and lawful future documents, including assignments in favor of ASSIGNEE or its designee, as ASSIGNEE or its successors, assigns and legal representatives may from time-to-time present to me and without further remuneration, in order to perfect title in said invention, modifications, and improvements in said invention, applications and Letters Patent of the United States and countries foreign thereto;

And I further agree to properly execute and deliver and without further remuneration, such necessary or desirable and lawful papers for application for foreign patents, for filing subdivisions of said application for patent, and or, for obtaining any reissue or reissues of any Letters patent which may be granted for my aforesaid invention, as the ASSIGNEE thereof shall hereafter require and prepare at its own expense;

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Residence of First or sole inventor

Execution date of U.S. Patent Application

Signature of first or sole inventor

Date of this assignment

TAKAYUKI HIRABAYASHI

Name of second inventor

TOKYO JAPAN

Residence of second inventor

Takayuki Hirabayashi

Signature of second inventor

July 28, 2011

Execution date of U.S. Patent Application

July 28, 2011

Date of this assignment

TAKASHI ENOMOTO

Name of third inventor

CHIBA JAPAN

Residence of third inventor

Takashi Enomoto

Signature of third inventor

July 29, 2011

Execution date of U.S. Patent Application

July 29, 2011

Date of this assignment

ADDITIONAL INVENTOR(S)

SUNGHYUK YOON

Name of fourth inventor

NAGANO JAPAN

Residence of fourth inventor

Sung Hyun Yoon

Signature of fourth inventor

July 29, 2011

Execution date of U.S. Patent Application

July 29, 2011

Date of this assignment

Name of fifth inventor

Execution date of U.S. Patent Application

Residence of fifth inventor

Signature of fifth inventor

Date of this assignment

Name of sixth inventor

Execution date of U.S. Patent Application

Residence of sixth inventor

Signature of sixth inventor

Date of this assignment

Name of seventh inventor

Execution date of U.S. Patent Application

Residence of seventh inventor

Signature of seventh inventor

Date of this assignment

Name of eighth inventor

Execution date of U.S. Patent Application

Residence of eighth inventor

Signature of eighth inventor

Date of this assignment

Name of ninth inventor

Execution date of U.S. Patent Application

Residence of ninth inventor

Signature of ninth inventor

Date of this assignment