

RECORDATION FORM COVER SHEET  
PATENTS ONLY

Atty Ref/Docket No.: 3169.023US1

Patent and Trademark Office

To the Director of the U.S. Patent and Trademark Office: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):  
Sunil Kumar Rajgopal, Ajay Gummalla, Cheng Jung Lee, Vaneet Pathak  
Additional name(s) of conveying party(ies) attached?  
 Yes  No

2. Name and address of receiving party(ies):  
Name: Rayspan Corporation  
Street Address: 11975 El Camino Real Suite 301  
City: San Diego State: CA Zip: 92130  
Country: United States of America

3. Nature of conveyance:  
 Assignment  Merger  
 Security Agreement  Change of Name  
 Other

Additional name(s) & address(es) attached?  Yes  No

Execution Date: February 1, 2011, January 31, 2011, January 31, 2011, January 28, 2011

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is:

A. Patent Application No.(s)  
Serial No. 13/038,450, filed March 2, 2011

B. Patent No.(s)

Additional numbers attached?  Yes  No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Sandra L. Godsey  
Address: Schwegman, Lundberg & Woessner, P.A.  
P.O. Box 2938  
Minneapolis, MN 55402--0938

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41): \$ 40.00

Enclosed  
 Authorized to be charged to deposit account 19-0743

8. Please charge any additional fees or credit any over payments to our Deposit Account No.: 19-0743

DO NOT USE THIS SPACE

9. Statement and signature.  
To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Sandra L. Godsey/Rcg. No. 42.589  
Name of Person Signing

*Sandra L. Godsey*  
Signature

March 4, 2011  
Date

Total number of pages including cover sheet: 13

Mail documents to be recorded with required cover sheet information to:

Commissioner of Patents and Trademarks  
Mail Stop Assignment Recordation Services  
P.O. Box 1450  
Alexandria, VA 22313-1450

CH \$40.00 190743 13038450

Attorney Docket No. 3169.023US1

**ASSIGNMENT**

WHEREAS, We, Sunil Kumar Rajgopal, residing at 4828 Art Street, Apt #5, San Diego, CA 92115, and Ajay Gummalla, residing at 12920 Carmel Creek Rd, Unit 30, San Diego, CA 92130, and Cheng Jung Lee, residing at 3887 Pell Pl. Unit #434, San Diego, CA 92130, and Vaneet Pathak, residing at 2723 Escala Circle, San Diego, CA 92108, made certain new and useful inventions and improvements which are described in an application for U.S. Letters Patent entitled MULTI-FUNCTIONAL CRLH ANTENNA DEVICE;

WHEREAS, We hereby authorize and request the attorneys, representing Rayspan Corporation on this application, at Schwegman, Lundberg & Woessner, P.A., located at 121 South Eighth Street, Suite 1600, Minneapolis, MN 55402, to insert here in parentheses (Ser. No. 13/038,450; Filing Date: March 2, 2011) the filing date and application number of said application when known.

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency and adequacy of which are hereby acknowledged, the undersigned do hereby:

SELL, ASSIGN AND TRANSFER to Rayspan Corporation (the "Assignee"), a corporation of the State of DE, having a place of business at 11975 El Camino Real, Suite 301, San Diego, CA 92130, the entire right, title and interest for the United States and all foreign countries in and to: any and all inventions and improvements which are disclosed in the identified application for U.S. Letters Patent, and which may be further identified below; such application and all divisional, continuing, substitute, renewal, reissue and all other applications for patent which have been or shall be filed in the United States (including all provisional and non-provisional applications), and in all foreign countries on any of such inventions and/or improvements (including any applications for utility models); all original and reissued patents which have been or shall be issued in the United States and all foreign countries on such inventions and/or improvements; and specifically including the right to file foreign applications under the provisions of any convention or treaty and to claim priority based on the identified application;

AUTHORIZE AND REQUEST that any attorney associated with U.S. PTO Customer No. 21186 may (directly or through his/her designee) delete, insert, or alter any information identifying this application, or any related application, below, after execution of this Assignment;

**Additional Application Information**

*U.S. Provisional Application Serial No. 61/310,220, filed on March 3, 2010.*

*No International or foreign claim for priority is being made at this time.*

## ASSIGNMENT

Assignors: Sunil Kumar Rajgopal et al.  
Title: MULTI-FUNCTIONAL CRLH ANTENNA DEVICE  
Page 2 of 6

---

Docket No: 3169.023US1

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such improvements to the Assignee;

WARRANT AND COVENANT that no assignment, grant, mortgage, license or other agreement affecting the rights and/or property herein conveyed has been or will be made to others by the undersigned, and that the full right to convey the same as herein expressed is possessed by the undersigned;

COVENANT, that when requested and without compensation, but at the expense of the Assignee, in order to carry out in good faith the intent and purpose of this Assignment, the undersigned will (1) execute all provisional, non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all such improvements; (2) execute all rightful oaths, declarations, assignments, powers of attorney and other papers; (3) communicate to the Assignee all facts known to the undersigned relating to such improvements and the history thereof; (4) cooperate with the Assignee in any interference, reexamination, reissue, opposition, dispute, or litigation involving any of the applications or patents for such improvements; and (5) take such further actions as the Assignee shall reasonably consider necessary or desirable for vesting title to such improvements in the Assignee, or for securing, maintaining and enforcing proper patent protection for such improvements;

THIS AGREEMENT IS TO BE BINDING on the heirs, assigns, representatives and successors of the undersigned, and is to extend to the benefit of the successors, assigns and nominees of the Assignee.

AGREED as of the date of my signature below:

ASSIGNMENT

Assignors: Sunil Kumar Rajgopal et al.  
Title: MULTI-FUNCTIONAL CRLII ANTENNA DEVICE  
Page 3 of 6

Docket No: 3169.023US1

Inventor: 1:

(Signature): Sunil Kumar Rajgopal Digitally signed by Sunil Kumar Rajgopal  
DN: cn=Sunil Kumar Rajgopal, o=Sunil Kumar Rajgopal, email=sunil.rajgopal@intel.com, c=US  
09.01.2011 09:01:10-0500  
Name: Sunil Kumar Rajgopal

Date: 02/01/2011

STATE OF CALIFORNIA)

COUNTY OF \_\_\_\_\_)

On this \_\_\_\_\_, day of \_\_\_\_\_, 2011 before me,  
\_\_\_\_\_, personally appeared Sunil Kumar Rajgopal, 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 that he executed the same in his authorized capacity, and that by his 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 State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

[SEAL]

\_\_\_\_\_  
Notary Public

ASSIGNMENT

Docket No: 3169.023US1

Assignors: Sumil Kumar Rajgopal et al.  
Title: MULTI-FUNCTIONAL, CRLH ANTENNA DEVICE  
Page 4 of 6

Inventor: 2:

(Signature): Ajay Gummalla Digitally signed by Ajay Gummalla  
DN: cn=Ajay Gummalla, o=US  
Date: 2011.01.31 14:02:11 -0800  
Name: Ajay Gummalla

Date: 1/31/2011

STATE OF CALIFORNIA)

COUNTY OF \_\_\_\_\_)

On this \_\_\_\_\_, day of \_\_\_\_\_, 2011 before me,  
\_\_\_\_\_, personally appeared Ajay Gummalla, 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 that he executed the same in his authorized capacity, and that  
by his 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 State of California that  
the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

[SEAL]

\_\_\_\_\_  
Notary Public

ASSIGNMENT

Docket No: 3169.023US1

Assignors: Sunil Kumar Rajgopal et al.  
Title: MULTI-FUNCTIONAL CRLH ANTENNA DEVICE  
Page 5 of 6

Inventor: 3:

(Signature): Cheng-Jung Lee Digitally signed by Cheng-Jung Lee  
DN: cn=Cheng-Jung Lee, o=The Inventors, email=cnj@cs.stanford.edu  
Date: 2011.01.31 16:28:13 -0800  
Name: **Cheng Jung Lee**

Date: 01/31/2011

STATE OF CALIFORNIA)

COUNTY OF \_\_\_\_\_)

On this \_\_\_\_\_, day of \_\_\_\_\_, 2011 before me,  
\_\_\_\_\_, personally appeared Cheng Jung Lee, 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 that he executed the same in his authorized capacity, and that  
by his 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 State of California that  
the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

[SEAL]

\_\_\_\_\_  
Notary Public

ASSIGNMENT

Docket No: 3169.023US1

Assignors: Sunil Kumar Rajgopal et al.  
Title: MULTI-FUNCTIONAL CRU ANTENNA DEVICE  
Page 6 of 6

Inventor: 4:

(Signature): \_\_\_\_\_  
Name: **Vanect Pathak**

Date: \_\_\_\_\_

STATE OF CALIFORNIA)

COUNTY OF \_\_\_\_\_)

On this \_\_\_\_\_, day of \_\_\_\_\_, 2011 before me,  
\_\_\_\_\_, personally appeared Vanect Pathak, 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 that he executed the same in his authorized capacity, and that  
by his 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 State of California that  
the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

[SEAL]

\_\_\_\_\_  
Notary Public

Attorney Docket No. 3169.023US1

**ASSIGNMENT**

WHEREAS, We, Sunil Kumar Rajgopal, residing at 4828 Art Street, Apt #5, San Diego, CA 92115, and Ajay Gummalla, residing at 12920 Carmel Creek Rd, Unit 30, San Diego, CA 92130, and Cheng Jung Lee, residing at 3887 Pell Pl. Unit #434, San Diego, CA 92130, and Vaneet Pathak, residing at 2723 Escala Circle, San Diego, CA 92108; made certain new and useful inventions and improvements which are described in an application for U.S. Letters Patent entitled MULTI-FUNCTIONAL CRLH ANTENNA DEVICE;

WHEREAS, We hereby authorize and request the attorneys, representing Rayspan Corporation on this application, at Schwegman, Lundberg & Woessner, P.A., located at 121 South Eighth Street, Suite 1600, Minneapolis, MN 55402, to insert here in parentheses (Ser. No. 13/038450 ; Filing Date: 03/03/2011 ) the filing date and application number of said application when known.

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency and adequacy of which are hereby acknowledged, the undersigned do hereby:

SELL, ASSIGN AND TRANSFER to Rayspan Corporation (the "Assignee"), a corporation of the State of DE, having a place of business at 11975 El Camino Real, Suite 301, San Diego, CA 92130, the entire right, title and interest for the United States and all foreign countries in and to: any and all inventions and improvements which are disclosed in the identified application for U.S. Letters Patent, and which may be further identified below; such application and all divisional, continuing, substitute, renewal, reissue and all other applications for patent which have been or shall be filed in the United States (including all provisional and non-provisional applications), and in all foreign countries on any of such inventions and/or improvements (including any applications for utility models); all original and reissued patents which have been or shall be issued in the United States and all foreign countries on such inventions and/or improvements; and specifically including the right to file foreign applications under the provisions of any convention or treaty and to claim priority based on the identified application;

AUTHORIZE AND REQUEST that any attorney associated with U.S. PTO Customer No. 21186 may (directly or through his/her designee) delete, insert, or alter any information identifying this application, or any related application, below, after execution of this Assignment;

**Additional Application Information**

*U.S. Provisional Application Serial No. 61/310.220, filed on March 3, 2010.*

*No International or foreign claim for priority is being made at this time.*



## ASSIGNMENT

Assignors: Sunil Kumar Rajgopal et al.  
Title: MULTI-FUNCTIONAL CRLH ANTENNA DEVICE  
Page 2 of 6

---

Docket No: 3169.023US1

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such improvements to the Assignee;

WARRANT AND COVENANT that no assignment, grant, mortgage, license or other agreement affecting the rights and/or property herein conveyed has been or will be made to others by the undersigned, and that the full right to convey the same as herein expressed is possessed by the undersigned;

COVENANT, that when requested and without compensation, but at the expense of the Assignee, in order to carry out in good faith the intent and purpose of this Assignment, the undersigned will (1) execute all provisional, non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all such improvements; (2) execute all rightful oaths, declarations, assignments, powers of attorney and other papers; (3) communicate to the Assignee all facts known to the undersigned relating to such improvements and the history thereof; (4) cooperate with the Assignee in any interference, reexamination, reissue, opposition, dispute, or litigation involving any of the applications or patents for such improvements; and (5) take such further actions as the Assignee shall reasonably consider necessary or desirable for vesting title to such improvements in the Assignee, or for securing, maintaining and enforcing proper patent protection for such improvements;

THIS AGREEMENT IS TO BE BINDING on the heirs, assigns, representatives and successors of the undersigned, and is to extend to the benefit of the successors, assigns and nominees of the Assignee.

AGREED as of the date of my signature below:

ASSIGNMENT

Docket No. 3169.023US1

Assignors: Sunil Kumar Rajgopal et al.  
Title: MULTI-FUNCTIONAL CRLH ANTENNA DEVICE  
Page 3 of 6

**Inventor: 1:**

(Signature): \_\_\_\_\_

Name: **Sunil Kumar Rajgopal**

Date: \_\_\_\_\_

STATE OF CALIFORNIA)

COUNTY OF \_\_\_\_\_)

On this \_\_\_\_\_, day of \_\_\_\_\_, 2011 before me,

\_\_\_\_\_, personally appeared Sunil Kumar Rajgopal, 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 that he executed the same in his authorized capacity, and that by his 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 State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

[SEAL]

\_\_\_\_\_

Notary Public

ASSIGNMENT

Docket No: 3169.023US1

Assignors: Sunil Kumar Rajgopal et al.  
Title: MULTI-FUNCTIONAL CRLH ANTENNA DEVICE  
Page 4 of 6

**Inventor: 2:**

(Signature): \_\_\_\_\_  
Name: **Ajay Gummalla**

Date: \_\_\_\_\_

STATE OF CALIFORNIA)

COUNTY OF \_\_\_\_\_)

On this \_\_\_\_\_, day of \_\_\_\_\_, 2011 before me,  
\_\_\_\_\_, personally appeared Ajay Gummalla, 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 that he executed the same in his authorized capacity, and that  
by his 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 State of California that  
the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

[SEAL]

\_\_\_\_\_  
Notary Public

ASSIGNMENT

Docket No: 3169.023US1

Assignors: Sunil Kumar Rajgopal et al.

Title: MULTI-FUNCTIONAL CRLH ANTENNA DEVICE

Page 5 of 6

**Inventor: 3:**

(Signature): \_\_\_\_\_

Name: **Cheng Jung Lee**

Date: \_\_\_\_\_

STATE OF CALIFORNIA)

COUNTY OF \_\_\_\_\_)

On this \_\_\_\_\_, day of \_\_\_\_\_, 2011 before me,

\_\_\_\_\_, personally appeared Cheng Jung Lee, 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 that he executed the same in his authorized capacity, and that by his 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 State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

[SEAL]

\_\_\_\_\_

Notary Public

ASSIGNMENT

Docket No: 3169.023US1

Assignors: Sunil Kumar Rajgopal et al.  
Title: MULTI-FUNCTIONAL CRLH ANTENNA DEVICE  
Page 6 of 6

Inventor: 4:

(Signature):

*Vaneet Pathak*

Name: Vaneet Pathak

Date:

1/28/2011

STATE OF CALIFORNIA)

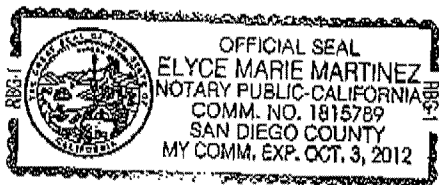
COUNTY OF San Diego)

On this 28<sup>th</sup> day of January, 2011 before me,

Elyce Marie Martinez, personally appeared Vaneet Pathak, 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 that he executed the same in his authorized capacity, and that by his 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 State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



[SEAL]

*Elyce Marie Martinez*

Notary Public