

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT4727268

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
RAYSPAN CORPORATION	02/23/2011
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	TYCO ELECTRONICS SERVICES GMBH
<b>Street Address:</b>	RHEINSTRASSE 20
<b>City:</b>	CH-8200 SCHAFFHAUSEN
<b>State/Country:</b>	SWITZERLAND
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	13932998
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	
<i>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.</i>	
<b>Email:</b>	request@slwip.com
<b>Correspondent Name:</b>	SCHWEGMAN LUNDBERG & WOESSNER, P.A.
<b>Address Line 1:</b>	PO BOX 2938
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<b>ATTORNEY DOCKET NUMBER:</b>	3404.005US2
<b>NAME OF SUBMITTER:</b>	KRISTEN DAME
<b>SIGNATURE:</b>	/Kristen Dame/
<b>DATE SIGNED:</b>	12/11/2017
<b>Total Attachments: 7</b>	
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RECORDATION FORM COVER SHEET  
PATENTS ONLY

Atty Ref/Docket No.: 3404.005US2

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):

Rayspan Corporation

Additional name(s) of conveying party(ies) attached?

Yes  No

3. Nature of conveyance:

Assignment  Merger  
 Security Agreement  Change of Name  
 Other

Execution Date: February 23, 2011

2. Name and address of receiving party(ies):

Name: Tyco Electronics Services GMBH

Street Address: Rheinstrasse 20

City: CH-8200 Schaffhausen

Country: Switzerland

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

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. 13/932,998, Filed July 1, 2013

B. Patent No.(s)

Additional numbers attached?  Yes  No

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

Name: Timothy J. Christman

Address:

Swegman Lundberg & Woessner, P.A.  
P.O. Box 2938  
Minneapolis, Minnesota 55402--0938

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41): \$ 0.00

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.

Timothy J. Christman/Reg. No. 59,481

Name of Person Signing



Signature

December 11, 2017

Date

Total number of pages including cover sheet: 7

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

**PATENT**  
**REEL: 044352 FRAME: 0101**

## PATENT ASSIGNMENT

**THIS PATENT ASSIGNMENT** ("Assignment") is made and entered into as of this \_\_\_\_ day of February, 2011, ("Effective Date"), by and between Rayspan Corporation, a Delaware corporation, having a principal place of business at 11975 El Camino Real, San Diego, California 92130, USA ("Assignor"), and Tyco Electronics Services GMBH, a corporation organized under the laws of Switzerland, having a principal place of business at Rheinstrasse 20, CH-8200 Schaffhausen, Switzerland ("Assignee").

**WHEREAS**, Assignor and Assignee are parties to that certain Intellectual Property Purchase and Assignment Agreement dated as of the Effective Date (the "IPPAA"), pursuant to which Assignor has agreed to sell, and Assignee has agreed to purchase, certain assets of Assignor;

**WHEREAS**, Assignor is the sole and exclusive owner of the entire right, title and interest in and to the Acquired Patents (as defined in the IPPAA), including, without limitation, (i) the United States patents and patent applications set forth on Schedule A attached hereto, (ii) the foreign patents and patent applications set forth on Schedule B attached hereto; and

**WHEREAS**, Assignee wishes to acquire from Assignor, and Assignor wishes to assign to Assignee, the entire right, title and interest in and to the Acquired Patents.

**NOW, THEREFORE**, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Assignor hereby sells, assigns, transfers and sets over to Assignee, the entire right, title and interest in and to the Acquired Patents, for the United States and for all foreign countries, including, without limitation, any continuations, divisions, continuations-in-part, reissues, reexaminations, extensions and foreign equivalents thereof, and all other corresponding rights that are or may be secured under the laws of the United States or any foreign country, now or hereafter in effect, including, without limitation, the subject matter of all claims which may be obtained therefrom, together with all income, royalties, damages or payments accrued, due or payable as of the Effective Date or thereafter, including, without limitation, all claims for damages by reason of past, present or future infringement or other unauthorized use of the Acquired Patents, with the right to sue for, and collect the same, in each case, for Assignee's own use and enjoyment and for the use and enjoyment of its successors, assigns and other legal representatives, as fully and entirely as the same would have been held and enjoyed by Assignor if this Assignment had not been made.

Assignor hereby authorizes and requests the Commissioner of Patents and Trademarks, and the corresponding entities or agencies in any applicable foreign countries, to record Assignee as the assignee and owner of the Acquired Patents.

Assignor hereby irrevocably appoints Assignee and its successors, assigns and other legal representatives and each of them to be its attorney to execute or sign any document or do any other acts, matters or things which Assignee may consider necessary or desirable for the purpose of carrying out or in any way giving effect to the terms and provisions of this Assignment and Assignor hereby ratifies and confirms and agrees to ratify and confirm whatsoever Assignee shall lawfully do in the premises.

IN WITNESS WHEREOF, the Assignor and the Assignee have caused this Assignment to be executed and delivered by their duly authorized officers as of the Effective Date.

RAYSPAN CORPORATION

TYCO ELECTRONICS SERVICES GMBH.

By: *Nish Mehta*

By: \_\_\_\_\_

Name: *Nish Mehta*

Name: \_\_\_\_\_

Title: *President / CEO*

Title: \_\_\_\_\_

## EXHIBIT A

LICENSED PATENTS(U.S. PATENTS AND PATENT APPLICATIONS)

	Title	Country	Applic. No./ Filing Date	Pub. No./ Pub. Date	Patent No./ Issue Date	Assignment Reel/Frame	Rayspan Ref.
1	Antennas, devices and systems based on metamaterial structures	U.S.	<del>11/741674</del> 4/27/2007	20080258981	7764232 7/27/2010	019284 / 0178	0002US- UT2
2	Antennas, devices and systems based on metamaterial structures	U.S.	<del>12/785226</del> 5/21/2010	20100283692		024526 / 0136	0002US- CT1
3	Antennas, devices and systems based on metamaterial structures	U.S.	<del>12/785246</del> 5/21/2010	20100283705		019284 / 0178	0002US- DIV1
4	Antennas based on metamaterial structures	U.S.	<del>11/844982</del> 8/24/2007	20080048917	7592957 9/22/2009	019919 / 0909	0003US- UT1
5	Antennas based on metamaterial structures	U.S.	<del>12/562114</del> 9/17/2009	20100238081	7847739 12/7/2010	023596 / 0137	0003US- CT1
6	Antenna structures	U.S.	<del>12/914936</del> 10/28/2010			025327 / 0331	0003US- CT2
7	Metamaterial antenna array with radiation pattern shaping and beam switching	U.S.	<del>12/050107</del> 3/17/2008	20080258993	7855696 12/21/2010	022171 / 0131	0007US- UT1
8	Metamaterial antenna array with radiation pattern shaping and beam switching	U.S.	<del>12/849623</del> 8/3/2010	20110026624		024790 / 0099	0007US- CT1

	Title	Country	Applic. No./ Filing Date	Pub. No./ Pub. Date	Patent No./ Issue Date	Assignment Reel/Frame	Rayspan Ref.
9	Single-layer metallization and via-less metamaterial structures	U.S.	12/250477 10/13/2008	20090128446		022155 / 0715	0009US- UT1
10	Metamaterial structures with multilayer metallization and via	U.S.	12/270410 11/13/2008	20090135087		022155 / 0938	0010US- UT1
11	Advanced active metamaterial antenna systems	U.S.	12/400525 3/9/2009	20090245146		022647 / 0388	0016US- UT1
12	Single-feed multi-cell metamaterial antenna devices	U.S.	12/408642 3/20/2009	20090251385		022780 / 0794	017US-UT1
13	Non-planar metamaterial antenna structures	U.S.	12/465571 5/13/2009	20090295660		022750 / 0411	0021US- UT1
14	Metamaterial antennas for wideband operations	U.S.	12/536422 8/5/2009	20100045554		023308 / 0650	0025US- UT1
15	Frequency-tunable metamaterial antenna apparatus	U.S.	12/546571 8/24/2009	20100060544		023462 / 0885	0026US- UT1
16	Metamaterial loaded antenna devices	U.S.	12/563035 9/18/2009	20100073254		023463 / 0717	0029US- UT1
17	Tunable metamaterial antenna structures	U.S.	12/619109 11/16/2009	20100123635		023623 / 0102	0031US- UT1
18	Planar Antenna Test Fixture	U.S.	29/354806			023874 / 0187	0035US- DS1
19	Multi-band composite right and left handed (CRLH) slot antenna	U.S.	12/723540 3/12/2010	20100231470		024089 / 0468	0036US- UT1
20	Balanced metamaterial antenna device	U.S.	12/716852 3/3/2010	20100225554		024053 / 0966	0037US- UT1

	Title	Country	Applic. No./ Filing Date	Pub. No./ Pub. Date	Patent No./ Issue Date	Assignment Reel/Frame	Rayspan Ref.
21	High gain metamaterial antenna device	U.S.	12/722481 3/11/2010	20100231464		024110 / 0274	0038US- UT1
22	Metamaterial Antenna with Mechanical Connection	U.S.	12/604306 10-22-1009			023462/033 4	0039US- UT1
23	Antenna devices having frequency-dependent connection to electrical ground	U.S.	12/649906 12-20-2009			023719 / 0770	0050US- UT1
24	Multi-port frequency band coupled antennas	US	12/922932 11/9/2009			023961 / 0300	0051US- UT1
<b>PROVISIONAL APPLICATIONS</b>							
25	PCB antenna layout	U.S.	61/328080 4-26-2010			024415 / 0030	0062US- PV1
26	Hollow cell CRLH antenna devices	U.S.	61/345481 5-17-2010			024268 / 0081	0053USPV1
27	Alignment key and support structures for non-planar mtrm antennas	U.S.	61/301041 2-3-2010			023898 / 0001	0055US- PV1
28	Multi-elevated and distributed metamaterial antenna device	U.S.	61/311206 3-5-2010			024129 / 0815	0056US- PV1
29	Multi-functional composite right and left handed (CRLH) antenna device	U.S.	61/310220 3-3-2010			024050 / 0611	0057US- PV1
30	Hybrid metamaterial antenna structures	US	61/310623 3-3-2010			024117 / 0327	0058US- PV1

	Title	Country	Applic. No./ Filing Date	Pub. No./ Pub. Date	Patent No./ Issue Date	Assignment Reel/Frame	Rayspan Ref.
31	Hybrid metamaterial antenna structures	US	61/332,620 5-7-2010			024117/032 7	0058US- PV2
32	Hybrid metamaterial antenna structures	U.S.	61/366520 7-21-2010			024742 / 0785	0058US- PV3
33	PCB antenna layout	U.S.	61/328080 4-26-2010			024415 / 0030	0062US- PV1
34	Meshed metamaterial antenna structures	U.S.	61/332320 5-7-2010			024389 / 0352	0063US- PV1
35	Antenna Structures	US	61/413,917 11-15-2010			023898/000 1	0055US- PV2
36	Tunable metamaterial antenna structures	US	61/372,426 8-10-2010			024840 / 0468	0031US- PV2
37	Metamaterial antenna device with mechanical connection	US	61/322,260 4-8-2010			024216 / 0962	0039US- UT1
38	Hollow cell CRLH antenna devices	US	61/320,481 4-2-2010			024268 / 0081	0059US- PV1