

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT6349745

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
BELAL HAMZEH	11/16/2018
PETER SMYTH	11/16/2018
LIN CHENG	11/15/2018
JIM O'CONNOR	11/15/2018
ERIC WINKELMAN	11/15/2018
THOMAS H. WILLIAMS	11/15/2018
STEVE ARENDT	11/15/2018
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	CABLE TELEVISION LABORATORIES, INC.
<b>Street Address:</b>	858 COAL CREEK CIRCLE
<b>City:</b>	LOUISVILLE
<b>State/Country:</b>	COLORADO
<b>Postal Code:</b>	80027
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	16876229
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(303)661-9199
<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>Phone:</b>	3036619100
<b>Email:</b>	p.calderwood@cablelabs.com
<b>Correspondent Name:</b>	CABLE TELEVISION LABORATORIES, INC.
<b>Address Line 1:</b>	858 COAL CREEK CIRCLE
<b>Address Line 4:</b>	LOUISVILLE, COLORADO 80027
<b>ATTORNEY DOCKET NUMBER:</b>	61925CIP2DIV
<b>NAME OF SUBMITTER:</b>	PAMELA CALDERWOOD
<b>SIGNATURE:</b>	/Pamela Calderwood/
<b>DATE SIGNED:</b>	10/14/2020

**Total Attachments: 4**

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**WORLDWIDE ASSIGNMENT**

WHEREAS, WE,

**Belal Hamzeh**, a citizen of the **UNITED STATES**, having a residence in **Boulder, CO**

**Peter Paul Smyth**, a citizen of the **UNITED KINGDOM**, having a residence in **Newbourne, UK**

**Lin Cheng**, a citizen of **CHINA**, having a residence in **Superior, CO**

**Jim O'Connor**, a citizen of the **UNITED STATES**, having a residence in **Idaho Springs, CO**

**Eric Winkelman**, a citizen of the **UNITED STATES**, having a residence in **Boulder, CO**

**Thomas H. Williams**, a citizen of the **UNITED STATES**, having a residence in **Longmont, CO**

**Steve Arendt**, a citizen of the **UNITED STATES**, having a residence in **Longmont, CO**

(hereinafter “**ASSIGNORS**”), have made a contribution to an invention entitled “**SYSTEMS AND METHODS FOR INTERFERENCE DETECTION IN SHARED SPECTRUM CHANNELS**” as set forth and described in U.S. Application No. **16/191,211**, filed **November 14, 2018**. This application is a continuation in part of U.S. Application Ser. No. **16/142,933**, filed **September 26, 2018**, which prior application is a continuation in part of U.S. Application Ser. No. **15/809,658**, filed **November 10, 2017**, now U.S. Patent No. **10,116,381**, which claims the benefit of and priority to U.S. Provisional Patent Application Ser. No. **62/420,124**, filed **November 10, 2016**. U.S. Application Ser. No. **16/142,933** further claims the benefit of and priority to U.S. Provisional Patent Application Ser. No. **62/563,185**, filed **September 26, 2017**, U.S. Provisional Patent Application Ser. No. **62/564,115**, filed **September 27, 2017**, U.S. Provisional Patent Application Ser. No. **62/609,071**, filed **December 21, 2017**, U.S. Provisional Patent Application Ser. No. **62/617,882**, filed **January 16, 2018**, U.S. Provisional Patent Application Ser. No. **62/621,354**, filed **January 24, 2018**, U.S. Provisional Patent Application Ser. No. **62/621,673**, filed **January 25, 2018**, U.S. Provisional Patent Application Ser. No. **62/623,923**, filed **January 30, 2018**, and U.S. Provisional Patent Application Ser. No. **62/682,306**, filed **June 8, 2018**. The present application further claims the benefit of and priority to U.S. Provisional Patent Application Ser. No. **62/585,644**, filed **November 14, 2017**.

WHEREAS, **CABLE TELEVISION LABORATORIES, INC** (hereinafter "**ASSIGNEE**"), having its principal place of business at **858 COAL CREEK CIRCLE, LOUISVILLE, CO 80027**, is desirous of acquiring the whole right, title and interest in and to said application for Letters Patent, and any continuations, divisions, extensions, substitutions, reissues and reexaminations thereof;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN, BE IT KNOWN, that we, the said **ASSIGNORS**, for and in consideration of valuable considerations unto us moving from said **ASSIGNEE**, at or before the ensealing and delivery of these presents, the receipt and sufficiency of which is hereby acknowledged, have sold, assigned, transferred and conveyed and by these presents do sell, assign, transfer and convey, unto said **ASSIGNEE**, its successors and assigns, the entire right, title and interest in and to the said invention entitled "**SYSTEMS AND METHODS FOR INTERFERENCE DETECTION IN SHARED SPECTRUM CHANNELS**" and any and all improvements thereto, and in and to said application and any division, continuation or continuation-in-part thereof, and in and to any Letters Patent of the United States which may be issued on any of said applications, and any reissues thereof, and in and to any and all applications for Letters Patent filed in foreign countries for said invention or improvements including all priority rights, and any and all Letters Patent which may be granted in foreign countries therefor, and in and to any other applications based in whole or in part on any of the foregoing, TO HAVE AND TO HOLD THE SAME to the full end of the term or terms for which any and all said Letters Patent may be granted;

AND we, the said **ASSIGNORS**, do hereby authorize and request the Commissioner of Patents and Trademarks to issue the said Letters Patent of the United States to said **ASSIGNEE**, as the assignee of the entire right, title and interest in and to the same, for the sole use and benefit of said **ASSIGNEE**, its successors and assigns;

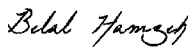
AND we, the said **ASSIGNORS**, for the considerations aforesaid, do hereby covenant and agree to and with said **ASSIGNEE**, its successors and assigns, that we have the full power to make this assignment, and that the rights assigned are not encumbered by any grant, license or right heretofore given, and that we, our executors or administrators, shall and will do all lawful acts and things and make, execute and deliver without further compensation, any and all other instruments in writing, further applications, papers, affidavits, powers of attorney, assignments, and other documents which, in the opinion of counsel for said **ASSIGNEE**, its successors and assigns, may be required or necessary more effectively to secure to and vest in said **ASSIGNEE**, its successors and assigns, the entire right, title and interest in and to said invention and improvements, applications, Letters Patent, rights, titles, benefits, privileges, and advantages hereby sold, assigned, transferred and conveyed, and that we will sign any applications for reissue which may be desired by the owner of the patent or patents which may be issued for the said invention or improvements.

AND we, the said **ASSIGNORS**, hereby authorize and request the attorneys of **ARMSTRONG TEASDALE LLP** to insert in the spaces provided above, the title of the invention, filing date, application number, and attorney's docket number of said application when known.

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IN WITNESS WHEREOF, I, the said **ASSIGNOR**, have executed this Assignment on  
November 16, 2018 | 8:23 PM PST

DocuSigned by:

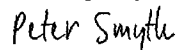


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**Belal Hamzeh**

IN WITNESS WHEREOF, I, the said **ASSIGNOR**, have executed this Assignment on  
November 16, 2018 | 3:30 AM MST

DocuSigned by:



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**Peter Paul Smyth**

IN WITNESS WHEREOF, I, the said **ASSIGNOR**, have executed this Assignment on  
November 15, 2018 | 1:02 PM MST

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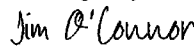


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**Lin Cheng**

IN WITNESS WHEREOF, I, the said **ASSIGNOR**, have executed this Assignment on  
November 15, 2018 | 12:51 PM MST

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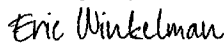


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**Jim O'Connor**

IN WITNESS WHEREOF, I, the said **ASSIGNOR**, have executed this Assignment on  
November 15, 2018 | 12:05 PM MST

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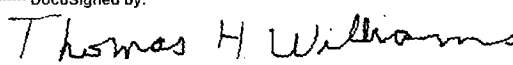


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**Eric Winkelman**

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IN WITNESS WHEREOF, I, the said **ASSIGNOR**, have executed this Assignment on  
November 15, 2018 | 12:03 PM MST

DocuSigned by:  
  
71E74AD9300C409...  
Thomas H. Williams

IN WITNESS WHEREOF, I, the said **ASSIGNOR**, have executed this Assignment on  
November 15, 2018 | 12:27 PM MST

DocuSigned by:  
  
106E1777EE26450...  
Steve Arendt