

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT3951550

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT		
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT		
<b>CONVEYING PARTY DATA</b>			
<b>Name</b>			<b>Execution Date</b>
TECHWELL LLC			03/29/2013
<b>RECEIVING PARTY DATA</b>			
<b>Name:</b>	INTERSIL AMERICAS LLC		
<b>Street Address:</b>	1001 MURPHY RANCH ROAD		
<b>City:</b>	MILPITAS		
<b>State/Country:</b>	CALIFORNIA		
<b>Postal Code:</b>	95035		
<b>PROPERTY NUMBERS Total: 3</b>			
<b>Property Type</b>	<b>Number</b>		
<b>Application Number:</b>	12698037		
<b>Application Number:</b>	12758670		
<b>Application Number:</b>	14320629		
<b>CORRESPONDENCE DATA</b>			
<b>Fax Number:</b>	(202)672-5399		
<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>	650-856-3700		
<b>Email:</b>	apatrick@foley.com		
<b>Correspondent Name:</b>	MARK J. DANIELSON		
<b>Address Line 1:</b>	975 PAGE MILL ROAD		
<b>Address Line 2:</b>	FOLEY & LARDNER, LLP		
<b>Address Line 4:</b>	PALO ALTO, CALIFORNIA 94304-1013		
<b>ATTORNEY DOCKET NUMBER:</b>	113585-0101		
<b>NAME OF SUBMITTER:</b>	MARK J. DANIELSON		
<b>SIGNATURE:</b>	/ Mark J. Danielson /		
<b>DATE SIGNED:</b>	07/07/2016		
<b>Total Attachments: 11</b>			
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## INTELLECTUAL PROPERTY ASSIGNMENT

This Intellectual Property Assignment ('Assignment') is made between:

Techwell LLC (formerly known as Techwell, Inc.), a limited liability company organized and existing under the laws of the State of Delaware, having a principal place of business at 1001 Murphy Ranch Road, Milpitas, CA 95035 USA, hereinafter referred to as "the Assignor," and

Intersil Americas LLC (formerly known as Intersil Americas Inc.), a limited liability company organized and existing under the laws of the State of Delaware, having a principal business address of 1001 Murphy Ranch Road, Milpitas, CA 95035 USA, hereinafter referred to as "the Assignee."

### DEFINITIONS

"Intellectual Property Rights" means all intellectual property, industrial property or other proprietary rights that may exist or be created under the laws of any jurisdiction throughout the world including all of the following, whether registered or unregistered, all applications and registrations therefor (whether pending, existing, abandoned or expired), and any physical embodiments thereof: (i) inventions or discoveries, whether or not patentable, reduced to practice or made the subject of one or more pending patent applications, and whether or not under design or development, invention disclosures, improvements, confidential and proprietary information, know-how and technology, (ii) U.S. and foreign patents, patent applications, patent disclosures, utility and industrial models or other rights relating to the protection of inventions worldwide and all rights related thereto, including all original applications, provisional applications, divisional applications, reissues, re-examinations, extensions, continuations, continuations-in-part, continuing applications, or renewals thereof, all counterparts claiming priority therefrom, (iii) trademarks, service marks, certification marks, trade dress (including packaging and package designs; product inserts, labels or associated artwork), logos, slogans, domain names, internet addresses, uniform resource locators, keywords and purchased search terms, identifying symbols, designs, product names, business and company names, trade names, corporate names, insignia and general intangibles of a similar nature (whether registered or not registered) in the United States and all other nations throughout the world, including all variations, derivations, combinations, registrations and applications for registration or renewals of the foregoing and all goodwill associated therewith, (iv) copyrights in both published and unpublished works (whether or not registered) and registrations and applications for registration or renewals thereof in the United States and all other nations throughout the world, including all works, derivative works, moral rights, renewals, extensions, reversions or restorations associated with such copyrights, now or hereafter provided by law, regardless of the medium of fixation or means of expression, and any other rights of authorship in any other published and unpublished works, including all moral rights in any of the foregoing (v) mask works and registrations and applications for registration or renewals thereof in the United States and all other nations throughout the world, (vi) computer software (including source code, object code, firmware, operating systems and, development tools, files, records, specifications and all media on which any of the foregoing is recorded), (vii) information that derives economic value from not being generally known to other

Persons and all information that is proprietary or confidential to Assignor, including all trade secrets and, whether or not confidential, business information (including pricing and cost information, business and marketing plans and customer and supplier lists) and technology and know-how (including manufacturing and production processes and techniques and, research and development information, patterns, drawings, blueprints, bills of materials, specifications, products in development, processes, applications, and circuits), (viii) industrial designs (whether or not registered), (ix) databases and data collections, and all rights therein throughout the world, and (x) copies and tangible embodiments of any of the foregoing, in whatever form or medium (including electronic media).

## ASSIGNMENT

Assignor is the owner of all right, title, and interest in and to Intellectual Property Rights and Assignee is desirous of acquiring any and all such interest in and to Assignor's said Intellectual Property Rights. Assignor and Assignee are sister companies directly or indirectly owned by the same corporate entity.

NOW, THEREFORE, be it known, that for good and valuable consideration, the receipt of which is hereby acknowledged by Assignor, Assignor's entire right, title and interest in and to said Intellectual Property Rights, including without limitation:

- a. the patents specified in Exhibit A attached hereto and made part of this Assignment;
- b. the patent applications specified in Exhibit B attached hereto and made part of this Assignment;
- c. the registered trademarks specified in Exhibit C attached hereto and made part of this Assignment;
- d. the registered mask works specified in Exhibit D attached hereto and made part of this Assignment;
- e. the registered copyrights specified in Exhibit E attached hereto and made part of this Assignment;
- f. the domain names specified in Exhibit F attached hereto and made part of this Assignment;
- g. the right to file applications for patents, trademarks, or registrations of service marks, trade dress, copyrights, and mask works;
- h. the right to file reissue, re-examination, continuation, or divisional applications;
- i. the right to file extensions;
- j. the right to file statements of use;
- k. the right to sue (i) for, recover and collect damages and costs and attorneys' fees for past, present and future, and (b) for injunctive relief, for infringement or misappropriation; and
- l. the right to license, and collect royalties, license fees, and all other forms of payment on account of such Intellectual Property Rights

is hereby assigned, conveyed and transferred to Assignee.

Assignor hereby authorizes the respective patent office or governmental agency in each jurisdiction to issue any and all patents, certificates of invention, utility models, trademark registrations, copyright registrations, mask work registrations, or other governmental grants or issuances that may be granted upon any of the Intellectual Property Rights in the name of Assignee, as the assignee to the entire interest therein.

The terms and conditions of this Assignment of Intellectual Property Rights will inure to the benefit of Assignee, its successors, assigns, and other legal representatives and will be binding upon Assignor, its successors, assigns, and other legal representatives.

Assignee hereby accepts all right, title and interest granted to it herein.

Assignor agrees that Assignor will make, execute and deliver any and all other instruments in writing including any and all further application papers, affidavits, assignments and other documents, and will communicate to the Assignee, its successors and representatives all facts known to Assignor relating to the Intellectual Property Rights and generally do all things which may be necessary or desirable more effectually to secure to and vest in the Assignee, its successors or assigns the entire right, title and interest in and to the Intellectual Property Rights.

This Agreement contains the complete and entire agreement between the Parties related to the subject matter of this Agreement, and supersedes any previous communications, representations, or agreements, whether verbal or written.

The provisions of this Agreement shall be deemed separable. Therefore, if any part of this Agreement is rendered void, invalid or unenforceable, such rendering shall not affect the validity or enforceability of the remainder of this Agreement.

**{END OF CLAUSES}**

IN WITNESS whereof the parties hereto have executed this Assignment.

Techwell LLC (Assignor)

By: Douglas A. Balog  
Name: Douglas A. Balog  
Title: Assistant Corporate Secretary

Date: March 29, 2013

State of Florida )  
County of Brevard ) SS

On March 29, 2013 before me, Patricia M. Wiles, Notary Public, personally appeared Douglas A. Balog, personally known to me (or 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 capacity as Assistant Corporate Secretary of Techwell LLC, and has proven to me on the basis of satisfactory evidence that he/she had and has the full authority to execute documents on behalf of Techwell LLC and without any countersignature by any other individual, and that by his signature on the instrument the entity, upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.



Patricia M. Wiles  
Notary Public

Intersil Americas LLC (Assignee)

By: Paul A. Bernkopf

Name: Paul A. Bernkopf

Title: Vice President and Asst. Secretary

Date: March 29, 2013

State of Florida            )  
                                      ) SS  
County of Brevard        )

On March 29, 2013 before me, Patricia M. Wiles, Notary Public, personally appeared Paul A. Bernkopf, personally known to me (or 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 capacity as Vice President and Asst. Secretary of Intersil Americas LLC, and has proven to me on the basis of satisfactory evidence that he/she had and has the full authority to execute documents on behalf of Intersil Americas LLC and without any countersignature by any other individual, and that by his signature on the instrument the entity, upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Patricia M. Wiles  
Notary Public



Exhibit A  
Patents

Intersil #	Title	Country	Issue Date	Pat #
SE-2793-AN	TIMING ERROR DETECTOR FOR VESTIGIAL SIDE BAND (VSB)	US	06-Jan-2009	7474990
SE-2794-AN	REDUCING EQUALIZER ERROR PROPAGATION WITH A LOW COMPLEXITY SOFT OUTPUT VITERBI DECODER	US	13-Apr-2010	7697642
SE-2794-AN	REDUCING EQUALIZER ERROR PROPAGATION WITH A LOW COMPLEXITY SOFT OUTPUT VITERBI DECODER	US	05-Jun-2012	8194800
SE-2795-AN	DUAL PDFE SYSTEM WITH FORWARD-BACKWARD VITERBI	US	13-Apr-2010	7697604
SE-2795-AN	DUAL PDFE SYSTEM WITH FORWARD-BACKWARD VITERBI	US	23-Aug-2011	8005136
SE-2804-AN	METHOD FOR DETERMINING THE STEP SIZE FOR AN LMS ADAPTIVE EQUALIZER FOR 8VSB	US	10-Nov-2009	7616685
SE-2830-AN	METHOD AND SYSTEM FOR CARRIER RECOVERY FOR QAM	US	04-Sep-2012	8259859
SE-2831-AN	METHOD AND SYSTEM FOR TRACKING PHASE IN A RECEIVER FOR 8VSB	US	06-Nov-2012	8306153
SE-2840-AN	DIGITAL AUTOMATIC GAIN CONTROL	KR	30-Nov-2012	10-1209385
SE-2831-AN	METHOD AND SYSTEM FOR TRACKING PHASE IN A RECEIVER FOR 8VSB	KR	21-Nov-2011	10-1087327



Exhibit B  
Patent Applications

Intersil #	Title	Country	Filing Date	Apl. #
SE-2793-AN	TIMING ERROR DETECTOR FOR VESTIGIAL SIDE BAND (VSB)	US	06-Jan-2009	12/349454
SE-2794-AN	REDUCING EQUALIZER ERROR PROPAGATION WITH A LOW COMPLEXITY SOFT OUTPUT VITERBI DECODER	KR	17-Oct-2008	10-2008-7025508
SE-2795-AN	DUAL PDFE SYSTEM WITH FORWARD-BACKWARD VITERBI	KR	17-Oct-2008	10-2008-7025509
SE-2796-AN	MIXED FORMAT MEDIA TRANSMISSION SYSTEMS AND METHODS	US	30-Jan-2009	12/363669
SE-2796-AN	MIXED FORMAT MEDIA TRANSMISSION SYSTEMS AND METHODS	CN	01-Feb-2010	CN201080015700.8
SE-2796-AN	MIXED FORMAT MEDIA TRANSMISSION SYSTEMS AND METHODS	TW	01-Feb-2010	99102857
SE-2796-AN	MIXED FORMAT MEDIA TRANSMISSION SYSTEMS AND METHODS	WO	01-Feb-2010	10-022772
SE-2797-AN	ANALOG EQUALIZER SYSTEMS AND METHODS FOR BASEBAND VIDEO SIGNALS	US	01-Feb-2010	12/698061
SE-2800-AN	CONSTELLATION DETECTION IN A MULTI-MODE QAM COMMUNICATION SYSTEM	US	01-Feb-2010	12/698066
SE-2801-AN	CARRIER PHASE OFFSET CORRECTION FOR A QAM SYSTEM	US	01-Feb-2010	12/698071
SE-2802-AN	NOVEL FRAME STRUCTURE FOR A QAM SYSTEM	US	01-Feb-2010	12/698037
SE-2803-AN	SLOC SPOT MONITORING	US	01-Feb-2010	12/698041
SE-2804-AN	METHOD FOR DETERMINING THE STEP SIZE FOR AN LMS ADAPTIVE EQUALIZER FOR 8VSB	US	19-Mar-2007	11/687909
SE-2830-AN	METHOD AND SYSTEM FOR CARRIER RECOVERY FOR QAM	TW	20-Sep-2010	099131942
SE-2830-AN	METHOD AND SYSTEM FOR CARRIER RECOVERY FOR QAM	CN	21-Sep-2010	CN201010572654.3
SE-2831-AN	METHOD AND SYSTEM FOR TRACKING PHASE IN A RECEIVER FOR 8VSB	TW	20-Sep-2010	099131940
SE-2831-AN	METHOD AND SYSTEM FOR TRACKING PHASE IN A RECEIVER FOR 8VSB	CN	21-Sep-2010	CN201010545968.4
SE-2837-AN	SYSTEMS AND METHODS FOR VIDEO CONTENT ANALYSIS	US	02-Sep-2011	13/225269
SE-2837-AN	SYSTEMS AND METHODS FOR VIDEO CONTENT ANALYSIS	WO	02-Sep-2010	CN2010/076567
SE-2840-AN	DIGITAL AUTOMATIC GAIN CONTROL	US	19-Nov-2009	12/622151
SE-2840-AN	DIGITAL AUTOMATIC GAIN CONTROL	TW	05-Nov-2010	099138095
SE-2840-AN	DIGITAL AUTOMATIC GAIN CONTROL	CN	18-Nov-2010	CN201010565897.4

Exhibit C  
Trademarks

CaseNumber	Country	MARK	REG #	REG DATE
T573	US	SLOC	4026574	13-Sep-2011
T573-CN	CN	SLOC	1006411	19-Jun-2009
T573-EP	EM	SLOC	1006411	19-Jun-2009
T573-JP	JP	SLOC	1006411	19-Jun-2009
T573-KR	KR	SLOC	1006411	19-Jun-2009
T573-TW	TW	SLOC	01404962	16-Apr-2010
T-574	US	THOR	3210542	20-Feb-2007
T-574-EU	EM	TECHWELL	4966297	17-Mar-2006
T-574-JP	JP	TECHWELL	5023792	09-Feb-2007
T-574-KR	KR	TECHWELL	40-0795893	23-Jul-2009
T-574-TR	TR	TECHWELL	200731600	08-Jun-2007
T-574-TW	TW	TECHWELL	01243708	01-Jan-2007
T575	US	TECHWELL	3210542	20-Feb-2007
T575-TW	TW	TECHWELL	3210542	20-Feb-2007

CaseNumber	Country	MARK	STATUS	APL #	FILING DATE
T575-EM	EM	TECHWELL	Pending	004966297	17-Mar-2006
T575-JP	JP	TECHWELL	Pending	2006024321	17-Mar-2006
T575-KR	KR	TECHWELL	Pending	40-200-60014274	20-Mar-2006

Exhibit D  
Maskworks  
*None*

Exhibit E  
Copyright  
*None*

Exhibit F  
Domain Names  
[www.techwellinc.com](http://www.techwellinc.com)