

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT3780693

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	RELEASE OF SECURITY INTEREST
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
FIDUS MEZZANINE CAPITAL II, L.P.	03/11/2016
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	CTG ADVANCED MATERIALS, LLC
<b>Street Address:</b>	479 QUADRANGLE DRIVE SUITE-E
<b>City:</b>	BOLINGBROOK
<b>State/Country:</b>	ILLINOIS
<b>Postal Code:</b>	60440
<b>PROPERTY NUMBERS Total: 10</b>	
<b>Property Type</b>	<b>Number</b>
Patent Number:	6942730
Patent Number:	7908722
Patent Number:	8535442
Patent Number:	8559273
Application Number:	13025751
Application Number:	13821400
Application Number:	13957074
Application Number:	14019750
Application Number:	61803025
Application Number:	61849058
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(617)573-5850
<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>	6175735850
<b>Email:</b>	elizabeth.burkhard@hklaw.com
<b>Correspondent Name:</b>	ELIZABETH BURKHARD/HOLLAND & KNIGHT LLP
<b>Address Line 1:</b>	10 ST. JAMES AVENUE
<b>Address Line 4:</b>	BOSTON, MASSACHUSETTS 02116
<b>NAME OF SUBMITTER:</b>	ELIZABETH R. BURKHARD

<b>SIGNATURE:</b>	/Elizabeth Burkhard/
<b>DATE SIGNED:</b>	03/11/2016
<b>Total Attachments: 6</b> source=CTG AM - Release of Security Interest in Patents#page1.tif source=CTG AM - Release of Security Interest in Patents#page2.tif source=CTG AM - Release of Security Interest in Patents#page3.tif source=CTG AM - Release of Security Interest in Patents#page4.tif source=CTG AM - Release of Security Interest in Patents#page5.tif source=CTG AM - Release of Security Interest in Patents#page6.tif	

**RELEASE OF  
GRANT OF SECURITY INTEREST  
IN PATENTS**

**WHEREAS, CTG ADVANCED MATERIALS, LLC**, a Delaware limited liability company (the “Pledgor”), is the owner of the patents and patent applications listed on Schedule A attached hereto, (all such patents, registrations and applications, collectively, the “Patents”); and

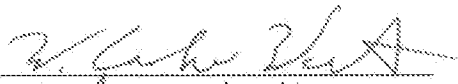
**WHEREAS**, in order to secure certain indebtedness, the Pledgor entered into a Pledge and Security Agreement (as amended, modified, restated or supplemented from time to time, the “Security Agreement”) dated as of October 11, 2013, in favor of Fidus Mezzanine Capital II, L.P., as Collateral Agent (the “Collateral Agent”), and pursuant thereto executed and delivered a Grant of Security Interest in the Patents (“Grant”) as recorded on October 11, 2013 with the United States Patent and Trademark Office on Reel 031395 at Frame 0906 pursuant to which the Pledgor granted to the Collateral Agent, according to the terms of the Security Agreement, a security interest in all of its right, title and interest in and to the Patents;

**NOW, THEREFORE**, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Collateral Agent does hereby release and relinquish, and, to the extent that Collateral Agent has acquired any right, title or interest in or to any of the Patents, does hereby reassign to the Pledgor, without representation or warranty, all of the Collateral Agent’s right, title and interest in and to the Patents listed on the attached Schedule A, together with all proceeds and products thereof, and does hereby agree that the filing of the Grant in the United States Patent and Trademark Office as aforesaid may be removed of record.

FIDUS MEZZANINE CAPITAL II, L.P., as Collateral Agent

By: Fidus Investment GP, LLC, its General Partner

By: Fidus Investment Advisors, LLC, its Manager

By:   
Name: Andrew Wartha  
Title: Manager

Schedule A

**PATENT AND PATENT APPLICATIONS**

**Registered Patents:**

<b>Owner</b>	<b>Patent Number</b>	<b>Patent</b>
CTG Advanced Materials, LLC	6,942,730	HYBRID STOCKBARGER ZONE-LEVELING MELTING METHOD FOR DIRECTED CRYSTALLIZATION AND GROWTH OF SINGLE CRYSTALS OF LEAD MAGNESIUM NIOBATE-LEAD TITANATE (PMN-PT) SOLID SOLUTIONS AND RELATED PIEZOCRYSTALS
CTG Advanced Materials, LLC	7,908,722	A PROCESS FOR THE PREPARATION OF PIEZOELECTRIC CRYSTAL ELEMENTS
CTG Advanced Materials, LLC	8,535,442	CRYSTAL GROWTH SYSTEM AND METHOD FOR LEAD-CONTAINED COMPOSITIONS USING BATCH AUTO-FEEDING
CTG Advanced Materials, LLC	8,559,273	HIGH FREQUENCY PIEZOELECTRIC CRYSTAL COMPOSITES, DEVICES, AND METHOD FOR MANUFACTURING THE SAME

**Applications:**

<b>Owner</b>	<b>Application Number</b>	<b>Description</b>
CTG Advanced Materials, LLC	13/025,751	PROCESS FOR THE PREPARATION OF PIEZOELECTRIC CRYSTAL ELEMENTS AND A PRODUCT THEREOF
CTG Advanced Materials, LLC	13/821,400	HIGH FREQUENCY PIEZOELECTRIC CRYSTAL COMPOSITES, DEVICES, AND METHODS FOR MANUFACTURING THE SAME
CTG Advanced Materials, LLC	13/957,074	CRYSTAL GROWTH SYSTEM AND METHOD FOR LEAD-CONTAINED COMPOSITIONS USING BATCH AUTO-FEEDING
CTG Advanced Materials, LLC	14/019,750	HIGH FREQUENCY PIEZOELECTRIC CRYSTAL COMPOSITES, DEVICES AND

Owner	Application Number	Description
		METHODS FOR MANUFACTURING THE SAME
CTG Advanced Materials, LLC	61/803,025	APPARATUS AND PROCESS FOR THE PREPARATION OF PIEZOELECTRIC CRYSTAL ELEMENTS AND SYSTEMS THEREOF
CTG Advanced Materials, LLC	61/849,058	<p>TITLE ON COVER SHEET FOR PROVISIONAL APPLICATION (PTO/SB/16):</p> <p>NEW TYPE ELECTRO-OPTICAL SINGLE CRYSTAL ELEMENTS, ITS' APPLICATIONS AND THE PREPARATION PROCESSES THEREOF</p> <p>TITLE ON ASSIGNMENT AND ON APPLICATION AS FILED:</p> <p>PIEZOELECTRIC CRYSTAL ELEMENTS OF D24 SHEAR MODE, APPLICATIONS AND PROCESSES FOR THE PREPARATION THEREOF</p> <p>TITLE ON NOTICE OF RECORDATION:</p> <p>TYPE ELECTRO-OPTICAL SINGLE CRYSTAL ELEMENTS, ITS' APPLICATIONS AND THE PREPARATION PROCESSES THEREOF</p>
CTG Advanced Materials, LLC	60/330,915 (Expired)	HYBRID STOCKBARGER ZONE-LEVELING MELTING METHOD FOR DIRECT CRYSTALLIZATION AND GROWTH OF...
CTG Advanced Materials, LLC	60/598,885 (Expired)	PIEZOELECTRIC CRYSTAL ELEMENTS OF SHEAR MODE AND PROCESS FOR THE PREPARATION THEREOF
CTG Advanced Materials, LLC	11/182,704 (Abandoned)	PIEZOELECTRIC CRYSTAL ELEMENTS OF SHEAR MODE AND PROCESS FOR THE PREPARATION THEREOF
CTG Advanced Materials, LLC	11/205,875 (Abandoned)	HYBRID STOCKBARGER ZONE-LEVELING MELTING METHOD FOR DIRECT CRYSTALLIZATION AND GROWTH OF...
CTG Advanced Materials, LLC	60/830,139 (Expired)	CRYSTAL GROWTH METHOD FOR LEAD-CONTAINING

Owner	Application Number	Description
		COMPOSITIONS USING BATCH AUTO-FEEDING
CTG Advanced Materials, LLC	PCT/US2007/073412 (Expired)	CRYSTAL GROWTH METHOD FOR LEAD-CONTAINING COMPOSITIONS USING BATCH AUTO-FEEDING
CTG Advanced Materials, LLC	11/818,735 (Abandoned)	PIEZOELECTRIC CRYSTAL ELEMENTS OF SHEAR MODE AND PROCESS FOR THE PREPARATION THEREOF
CTG Advanced Materials, LLC	12/212,445 (Abandoned)	HYBRID STOCKBARGER ZONE-LEVELING MELTING METHOD FOR DIRECT CRYSTALLIZATION AND GROWTH OF...
CTG Advanced Materials, LLC	PCT/US2011/56230 (Expired)	HIGH FREQUENCY PIEZOELECTRIC CRYSTAL COMPOSITES, DEVICES, AND METHOD FOR MANUFACTURING THE SAME
CTG Advanced Materials, LLC	PCT/US2011/56231 (Expired)	HIGH FREQUENCY PIEZOELECTRIC CRYSTAL COMPOSITES, DEVICES, AND METHOD FOR MANUFACTURING THE SAME
CTG Advanced Materials, LLC	61/344,801 (Expired)	HIGH FREQUENCY (20-100MHZ) PMN-PT-BASED PIEZOELECTRIC CRYSTAL COMPOSITES COMPOSITE-CRYSTAL-ELEMENT, AND THE PREPARATION PROCESSES THEREOF

#### OTHER PATENTS:

#### Applications:

Owner	Country	Application Number	Description
CTG Advanced Materials, LLC	China	CN201180047348	HIGH FREQUENCY PIEZOELECTRIC CRYSTAL COMPOSITES, DEVICES, AND METHODS FOR MANUFACTURING THE SAME
CTG Advanced Materials,	Japan	JP2013-534959	HIGH FREQUENCY

Owner	Country	Application Number	Description
LLC			PIEZOELECTRIC CRYSTAL COMPOSITES, DEVICES, AND METHODS FOR MANUFACTURING THE SAME
CTG Advanced Materials, LLC	South Korea	KR16-2013-7007909	HIGH FREQUENCY PIEZOELECTRIC CRYSTAL COMPOSITES, DEVICES, AND METHODS FOR MANUFACTURING THE SAME
CTG Advanced Materials, LLC	China	CN201180047368.8	HIGH FREQUENCY PIEZOELECTRIC CRYSTAL COMPOSITES, DEVICES, AND METHOD FOR MANUFACTURING THE SAME
CTG Advanced Materials, LLC	Japan	JP2013-534960	HIGH FREQUENCY PIEZOELECTRIC CRYSTAL COMPOSITES, DEVICES, AND METHOD FOR MANUFACTURING THE SAME
CTG Advanced Materials, LLC	South Korea	KR20-2013-7007910	HIGH FREQUENCY PIEZOELECTRIC CRYSTAL COMPOSITES, DEVICES, AND METHOD FOR MANUFACTURING THE SAME