

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

Assignment ID: PATI104943

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT	
<b>NATURE OF CONVEYANCE:</b>	Amended and Restated Patent Security Agreement	
<b>CONVEYING PARTY DATA</b>		
	<b>Name</b>	<b>Execution Date</b>
	Quantum IR Technologies, LLC	03/19/2024
<b>RECEIVING PARTY DATA</b>		
<b>Company Name:</b>	East West Bank, as Agent	
<b>Street Address:</b>	135 North Los Robles Avenue	
<b>Internal Address:</b>	6th Floor	
<b>City:</b>	Pasadena	
<b>State/Country:</b>	CALIFORNIA	
<b>Postal Code:</b>	91101	
<b>PROPERTY NUMBERS Total: 10</b>		
<b>Property Type</b>	<b>Number</b>	
<b>Patent Number:</b>	10132669	
<b>Patent Number:</b>	10740898	
<b>Patent Number:</b>	10810858	
<b>Patent Number:</b>	10914653	
<b>Patent Number:</b>	11461901	
<b>Patent Number:</b>	11703279	
<b>Patent Number:</b>	11885566	
<b>Application Number:</b>	18147622	
<b>Application Number:</b>	18355859	
<b>Application Number:</b>	18154711	
<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>Phone:</b>	3128637141	
<b>Email:</b>	kristen.lange@goldbergkohn.com	
<b>Correspondent Name:</b>	Kristen N. Lange, Paralegal	
<b>Address Line 1:</b>	c/o Goldberg Kohn Ltd.	
<b>Address Line 2:</b>	55 E. Monroe Street, Suite 3300	
<b>Address Line 4:</b>	Chicago, ILLINOIS 60603	

PATENT

<b>ATTORNEY DOCKET NUMBER:</b>	7562.014
<b>NAME OF SUBMITTER:</b>	Kristen Lange
<b>SIGNATURE:</b>	Kristen Lange
<b>DATE SIGNED:</b>	03/19/2024
	This document serves as an Oath/Declaration (37 CFR 1.63).
<b>Total Attachments: 5</b> source=10. Amended and Restated Patent Security Agreement#page1.tif source=10. Amended and Restated Patent Security Agreement#page2.tif source=10. Amended and Restated Patent Security Agreement#page3.tif source=10. Amended and Restated Patent Security Agreement#page4.tif source=10. Amended and Restated Patent Security Agreement#page5.tif	

## AMENDED AND RESTATED PATENT SECURITY AGREEMENT

THIS AMENDED AND RESTATED PATENT SECURITY AGREEMENT ("Patent Security Agreement"), dated as of March 19, 2024, is made by QUANTUM IR TECHNOLOGIES, LLC, a Utah limited liability company ("Grantor"), in favor of EAST WEST BANK, as Agent (as defined in the Loan Agreement referred to below).

### WITNESSETH:

WHEREAS, pursuant to the Loan and Security Agreement dated as of August 18, 2022 (as amended and restated pursuant to that certain Amended and Restated Loan and Security Agreement dated as of December 20, 2023, as further amended and restated pursuant to that certain Second Amended and Restated Loan and Security Agreement of even date herewith and as such may be further amended, restated, supplemented or otherwise modified from time to time, the "Loan Agreement") among Grantor, as borrower, the other Loan Parties from time to time party thereto, the Lenders from time to time party thereto and Agent, Lenders have agreed to make extensions of credit to Grantor upon the terms and subject to the conditions set forth therein;

WHEREAS, Grantor and Agent entered into that certain Patent Security Agreement dated as of August 18, 2022 (as heretofore amended or modified, the "Original Agreement") and Grantor has granted to Agent a security interest in the patents listed on Schedule 1 thereto;

WHEREAS, pursuant to the Loan Agreement, Grantor is required to execute and deliver this Patent Security Agreement, which will amend and restate the Original Agreement in its entirety;

NOW, THEREFORE, in consideration of the premises and to induce Agent and Lenders to enter into the Loan Agreement and to induce Lenders to make its extensions of credit to Grantor thereunder, Grantor hereby agrees with Agent as follows:

Section 1. Defined Terms. Capitalized terms used herein without definition are used as defined in the Loan Agreement.

Section 2. Grant of Security Interest in Patent Collateral. Grantor, as collateral security for the prompt and complete payment and performance when due (whether at stated maturity, by acceleration or otherwise) of the Obligations, hereby grants to Agent, for the benefit of the Secured Parties, a security interest in and to, all of its right, title and interest in, to and under the following Collateral of Grantor (the "Patent Collateral"):

- a. all of its Patents, including, without limitation, those referred to on Schedule 1 hereto;
- b. all divisionals, continuations, continuations-in-part, reissues, reexaminations, or extensions of the foregoing; and
- c. all income, royalties, damages, proceeds and payments at any time due or payable or asserted under and with respect to any of the foregoing, including, without

limitation, all rights to sue and recover at law or in equity for any past, present and future infringement, misappropriation, dilution, violation or other impairment thereof.

Section 3.     Loan Agreement. The security interest granted pursuant to this Patent Security Agreement is granted in conjunction with the security interest granted to Agent, for the benefit of the Secured Parties, pursuant to the Loan Agreement and Grantor hereby acknowledges and agrees that the rights and remedies of Agent with respect to the security interest in the Patent Collateral made and granted hereby are more fully set forth in the Loan Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein.

Section 4.     Grantor Remains Liable. Grantor hereby agrees that, anything herein to the contrary notwithstanding, Grantor is subject to the terms and conditions of the Loan Agreement with respect to prosecution, defense, enforcement or any other necessary or desirable actions in connection with its Patents subject to a security interest hereunder.

Section 5.     Authorization To Supplement. If Grantor shall obtain rights to any new patent application or issued patent or become entitled to the benefit of any patent application or patent for any divisional, continuation, continuation-in-part, reissue, or reexamination of any existing patent or patent application, the provisions of this Patent Security Agreement shall automatically apply thereto. Grantor hereby authorizes Agent unilaterally to modify this Patent Security Agreement by amending Schedule 1 to include any new patent rights of Grantor. Notwithstanding the foregoing, no failure to so modify this Patent Security Agreement or amend Schedule 1 shall in any way affect, invalidate or detract from Agent's continuing security interest in all Collateral, whether or not listed on Schedule 1.

Section 6.     Counterparts. This Patent Security Agreement may be executed in any number of counterparts and by different parties in separate counterparts, each of which when so executed shall be deemed to be an original and all of which taken together shall constitute one and the same agreement. Delivery of an executed counterpart of a signature page of this Patent Security Agreement by facsimile or in electronic (i.e., "pdf" or "tif") format shall be effective as delivery of a manually executed counterpart of this Patent Security Agreement.

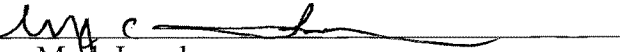
Section 7.     Governing Law. This Patent Security Agreement and the rights and obligations of the parties hereto shall be subject to the provisions regarding choice of law and venue, jury trial waiver and judicial reference set forth in Section 12 of the Loan Agreement, and such provisions are incorporated herein by this reference, mutatis mutandis.

Section 8.     Amendment and Restatement. This Patent Security Agreement amends and restates in its entirety the Original Agreement and shall not act as a termination, release or novation of the Original Agreement.

[SIGNATURE PAGES FOLLOW]

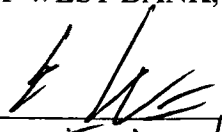
IN WITNESS WHEREOF, Grantor has caused this Patent Security Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

QUANTUM IR TECHNOLOGIES, LLC, as Grantor

By:   
Name: Mark Israelsen  
Title: Chief Executive Officer

ACCEPTED AND AGREED  
as of the date first above written:

EAST WEST BANK, as Agent

By:   
Name: Eric Watson  
Title: Senior Vice President

SCHEDULE 1  
TO  
PATENT SECURITY AGREEMENT

Patents and Patent Applications

Patents

<b>PATENT</b>	<b>APPL. NUMBER</b>	<b>FILE DATE</b>	<b>PATENT NUMBER</b>	<b>ISSUE DATE</b>
Methods and systems for tank level monitoring and alerting	15/197574	06/29/16	10132669	11/20/18
Methods and systems for hotspot detection	15/197536	06/29/16	10740898	08/11/20
Infrared imaging systems and methods for gas leak detection	16/400774	05/01/19	10810858	10/20/20
Infrared imaging systems and methods for oil leak detection	16/400757	05/01/19	10914653	02/09/21
Methods and systems for hotspot detection	16/926597	07/10/20	11461901	10/04/22
Rotary kiln thermal monitoring and cooling systems	17/017345	09/10/20	11703279	07/18/23
Rotary kiln preheater thermal monitoring systems	17/017400	09/10/20	11885566	01/30/24
Rotary kiln brick layer thermal monitoring systems	18/147622	12/28/22	n/a	n/a
Methods of rotary kiln thermal monitoring and cooling	18/355859	07/20/23	n/a	n/a
Rotary kiln interior coating analytics and monitoring systems	18/154711	01/13/23	n/a	n/a