

**UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS**

SHANGHAI JINKO GREEN ENERGY
ENTERPRISE MANAGEMENT CO., LTD.
and ZHEJIANG JINKO SOLAR CO., LTD.

Plaintiffs,

v.

SEG SOLAR, INC., PT SEG SOLAR
MANUFAKTUR INDONESIA, SEG
ENERGY SINGAPORE PTE LTD., NEW
ENERGY IMPORTS INC., SEG
MANUFACTURING INC., and SEG SOLAR
JIANGSU CO. LTD.,

Defendants.

Case No. 4:25-cv-5226

**PLAINTIFFS' DISCLOSURE OF ASSERTED CLAIMS
AND PRELIMINARY INFRINGEMENT CONTENTIONS**

Pursuant to Federal Rule of Civil Procedure 26(a) and the Court's Scheduling Order (Dkt. No. 38), Jinko Green Energy Enterprise Management Co., Ltd. and Zhejiang Jinko Solar Co., Ltd. ("Jinko" or "Plaintiffs") hereby provides its Initial Infringement Contentions to SEG Solar, Inc., PT SEG Solar Manufaktur Indonesia, SEG Energy Singapore PTE Ltd., New Energy Imports, Inc., SEG Manufacturing Inc., and SEG Solar Jiangsu Co. Ltd. (collectively, "SEG" or "Defendants") for Jinko's U.S. Patent No. 11,824,136 (the "'136 Patent"). The attached claim chart **Exhibit A** outlines Jinko's initial infringement contentions for the '136 Patent.

Discovery is ongoing, and these infringement contentions are based on the best information available to Jinko at this time and Jinko's belief of that information. Jinko provides these Infringement Contentions, including the contentions set forth herein and in the attached exhibits, based on information currently available to Jinko, its present understanding, and without the benefit of full document discovery, deposition, or the claim construction process. The citations in this document and the attached exhibits are only exemplary. For example, where Jinko cites a portion of a document or other information, Jinko incorporates the entirety of the document or other information by reference. Jinko further reserves the right to use and rely on additional information, including information that will be obtained and/or clarified during discovery in this case and any other related proceeding. Jinko reserves the right to supplement or amend its Infringement Contentions based on any information obtained or clarified as this action progresses, through discovery, claim construction, or otherwise.

I. PATENT LOCAL RULE 3.1(A)-(F) ASSERTED CLAIMS AND CLAIM CHARTS

Defendants infringe the following claims of the '136 Patent: claims 1–3, 5–9, 11–15, and 17–20. The chart identifying how each element of each asserted claim is found within the accused products is provided as **Exhibit A**. The citations in the claim charts are representative of the TOPCon N-Type products, where SEG-420-BTD-BG has been chosen as a representative example, but all other SEG Accused Products (as defined below, also referred to as the Accused Devices) infringe the '136 Patent, literally or under the doctrine of equivalents, because similar or materially identical solar panels, structures, or identified instrumentalities or disclosures are found in each of the other SEG Accused Products. Where Plaintiff cites to sections representing a certain accused device, that citation is representative for all other SEG Accused Devices, including all prior and future versions and all substantially similar equivalents unless otherwise noted. As

discussed more below, Jinko also specifically accuses of infringement—for purposes of its indirect infringement allegations—any finished product in the U.S. that incorporates one or more SEG Accused Devices. Plaintiff reserves the right to assert additional claims, amend these claim charts, as well as other information contained in this document and exhibits hereto, and to incorporate new information learned during the course of discovery.

A. SUMMARY OF INFRINGEMENT CONTENTIONS

SEG infringes Jinko's Asserted Patents, literally and under the doctrine of equivalents, by making, using, offering to sell, selling, and/or importing into the United States the SEG Accused Products below.

SEG has further actively induced infringement of the SEG Accused Products and continues to do so. In addition, Defendants actively contribute to infringement of the above claims of the '136 Patent by selling to downstream customers and end-users infringing products which are imported into the United States, where they are offered and sold by Defendants' downstream customers and resellers. Jinko specifically accuses of direct infringement any finished product in the U.S. that incorporates one or more SEG Accused Products (examples of which are provided below), and this direct infringement underlies the indirect infringement by Defendants.

1. Direct Infringement

Jinko contends that SEG directly infringes or has infringed under § 35 U.S.C. 271(a) for at least the asserted claims as identified herein by making, using, offering to sell, and selling one or more of its TOPCon N-Type products, and any substantially similar solar panels (whether commercialized or in development) including any fully assembled products and sub-components thereof, and including but not limited to: SEG-435-BTE-BG, SEG-440-BTE-BG, SEG-445-BTE-BG, SEG-450-BTE-BG, SEG-455-BTE-BG, SEG-460-BTE-BG, SEG-495-BTD-BG, SEG-500-

BTD-BG, SEG-505-BTD-BG, SEG-510-BTD-BG, SEG-515-BTD-BG, SEG-610-BTC-BG, SEG-615-BTC-BG, SEG-620-BTC-BG, SEG-625-BTC-BG, SEG-630-BTC-BG, SEG-635-BTC-BG, SEG-700-BTC-BG, SEG-705-BTC-BG, SEG-710-BTC-BG, SEG-715-BTC-BG, SEG-720-BTC-BG, SEG-725-BTC-BG, SEG-420-BTD-BG, SEG-425-BTD-BG, SEG-430-BTD-BG, SEG-435-BTD-BG, SEG-440-BTD-BG, SEG-445-BTD-BG, SEG-475-BTB-BG, SEG-480-BTB-BG, SEG-485-BTB-BG, SEG-490-BTB-BG, SEG-495-BTB-BG, SEG-575-BTA-BG, SEG-580-BTA-BG, SEG-585-BTA-BG, SEG-590-BTA-BG, SEG-595-BTA-BG, SEG-600-BTA-BG, SEG-620-BTZ-BG, SEG-625-BTZ-BG, SEG-630-BTZ-BG, SEG-635-BTZ-BG, SEG-640-BTZ-BG, and any substantially similar equivalents thereof (collectively, “SEG Accused Products” or “Accused Devices” or “Accused Products”).

Defendants directly infringe in multiple ways. SEG manufactures the SEG Accused Products in the United States and then offers and sells them to customers in the United States, including on its website <https://www.segsolar.com/products>. SEG imports solar cells from their solar cell suppliers and overseas manufacturing facilities, manufactures the SEG Accused Products in the United States, and then offers and sells them to customers in the United States, including on its website <https://www.segsolar.com/products>. SEG imports the SEG Accused Products from overseas manufacturing facilities and then offers and sells them to customers in the United States, including on its website <https://www.segsolar.com/products>. SEG also uses manufacturing facilities overseas for the SEG Accused Products and then offers and sells them to customers in the United States. Defendants have sold and supplied SEG Accused Products to their customers in multiple projects in the United States, including Oregon, Pennsylvania, New Jersey, Texas, Florida, and Missouri, to name just a few (E.g., Dkt. No. 1 at ¶17.)

2. Indirect Infringement

SEG further indirectly infringes under 35 U.S.C. § 271(b) by actively inducing infringement of the asserted claims as identified herein. Defendants induce or contribute to the infringement by anyone who makes, uses, offers to sell, sells, or imports in the United States any SEG Accused Products or any downstream product that incorporates any SEG Accused Product, which downstream product is also a SEG Accused Product. SEG is also committing/has committed contributory infringement under 35 U.S.C. § 271(c) by making, using, offering for sale, and/or selling in the United States the SEG Accused Products.

Defendants induce infringement through distributors and manufacturers to sell the Accused Devices in the United States. Defendants have induced the distributors, manufacturers, customers, and end-users to infringe in the United States by actively intending and encouraging sales into the United States by working with these distributors, manufacturers, customers, and end-users to utilize SEG's Accused Products that Defendants know are for use in the United States. For example, SEG induces others to use the SEG Accused Products knowing that the SEG Accused Products would be used in the United States, thereby causing manufacturers, distributors, manufacturers, customers, and end-users, each intermediary entity in the supply-chain, and end-users to infringe the '136 Patent in the United States:

- SEG induces project developers to use the Accused Products in their projects in Oregon, Pennsylvania, New Jersey, Texas, Florida, and Missouri, to name just a few (E.g., Dkt. No. 1 at ¶17.)
- Other customers who purchase SEG Accused Products in the U.S.

SEG actively induces infringement by these end-users, distributors, and downstream customers, including by using its technical and marketing materials, and provides continued

support to its customers by offering a twelve-year product warranty, which is further backed by a 30-year warranty for power output. SEG also actively contributes to infringement of the '136 Patent by accused downstream infringing products that incorporate the SEG Accused Products.

Upon information and belief, SEG has had knowledge of the Asserted Patent since its issuance because, as an active competitor to Jinko, SEG would have periodically investigated Jinko's patent portfolio, and its applicability to SEG's products. Moreover, upon information and belief, SEG has had knowledge of the Asserted Patent and Jinko's allegations of infringement since at least December 6, 2024. On that date, Jinko filed a lawsuit alleging infringement of the Asserted Patent by several defendants in the Northern District of California in *Shanghai Jinko Green Energy Enterprise Management Co., Ltd. et al v. Abalance Corporation et al*, Case No. 3-24-cv-08828. Jinko also filed a lawsuit alleging infringement of the Asserted Patent by several defendants in the Southern District of Texas in *Shanghai Jinko Green Energy Enterprise Management Co., Ltd. et al v. Waaree Solar Americas Inc. et al*, Case No. 4-25-cv-532 on February 7, 2025. Upon information and belief, SEG receives solar cells that infringe the '136 Patent from their Indonesia manufacturing facility and their other solar cell suppliers. Upon information and belief, it is customary for a component supplier who has been accused of infringement to inform its customers of an allegation of infringement. Upon information and belief, SEG employees have been kept informed of recent news in the solar industry, including an identification of Jinko's lawsuits in California and in Texas and its allegations of infringement. Upon information and belief, SEG was informed of Jinko's lawsuits and claims of infringement of the Asserted Patent for the solar cells that SEG uses at least as early as December 6, 2024. Upon information and belief, SEG continued using the infringing solar cells despite knowledge of their infringement of the '136 Patent.

SEG reserves the right to supplement these contentions with a further identification of third parties whom Defendants contribute to infringement by or induce to infringe, including through further identification of such parties in discovery. Any such further identified parties shall be incorporated by reference herein.

B. PATENT LOCAL RULE 3.1(F) AND (G) – PRIORITY

The '136 Patent claims priority to Chinese Application 2021-10895225.8 which was filed on August 4, 2021. The '136 Patent thusly bears a priority date of August 4, 2021. The '136 Patent is subject to post-AIA law.

C. PATENT LOCAL RULE 3.1(H) – EMBODYING PRODUCTS

The embodying products may include, but not limited to, various module types (e.g., Jinko Solar's Tiger Neo and Eagle G6 series of solar modules), including JKM625N-66HL4M-BDV, JKM630N-66HL4M-BDV, JKM635N-66HL4M-BDV, JKM640N-66HL4M-BDV, JKM645N-66HL4M-BDV, JKM650N-66HL4M-BDV, JKM625N-78HL4-BDV, JKM630N-78HL4-BDV, JKM635N-78HL4-BDV, JKM640N-78HL4-BDV, JKM645N-78HL4-BDV, JKM650N-78HL4-BDV, JKM575N-72HL4-BDV, JKM580N-72HL4-BDV, JKM585N-72HL4-BDV, JKM590N-72HL4-BDV, JKM595N-72HL4-BDV, JKM600N-72HL4-BDV, JKM580N-72HL4-(V), JKM585N-72HL4-(V), JKM590N-72HL4-(V), JKM595N-72HL4-(V), JKM600N-72HL4-(V), JKM605N-72HL4-(V), JKM610N-66HL4M-(V), JKM615N-66HL4M-(V), JKM620N-66HL4M-(V), JKM625N-66HL4M-(V), JKM630N-66HL4M-(V), JKM635N-66HL4M-(V), JKM605N-66HL4M-BDV, JKM610N-66HL4M-BDV, JKM615N-66HL4M-BDV, JKM620N-66HL4M-BDV, JKM625N-66HL4M-BDV, JKM630N-66HL4M-BDV, JKM495N-54HL4M-BDV, JKM500N-54HL4M-BDV, JKM505N-54HL4M-BDV, JKM510N-54HL4M-BDV, JKM515N-54HL4M-BDV, JKM520N-54HL4M-BDV, JKM490N-60HL4-V,

JKM495N-60HL4-V, JKM500N-60HL4-V, JKM505N-60HL4-V, JKM510N-60HL4-V, JKM515N-60HL4-V, JKM435N-54HL4R-(V), JKM440N-54HL4R-(V), JKM445N-54HL4R-(V), JKM450N-54HL4R-(V), JKM455N-54HL4R-(V), JKM460N-54HL4R-(V), JKM450N-48HL4M-DV, JKM455N-48HL4M-DV, JKM460N-48HL4M-DV, JKM465N-48HL4M-DV, JKM470N-48HL4M-DV, JKM475N-48HL4M-DV, JKM445N-48HL4M-BDV, JKM450N-48HL4M-BDV, JKM455N-48HL4M-BDV, JKM460N-48HL4M-BDV, JKM465N-48HL4M-BDV, JKM470N-48HL4M-BDV, JKM450N-48HL4M-DB, JKM455N-48HL4M-DB, JKM460N-48HL4M-DB, JKM465N-48HL4M-DB, JKM470N-48HL4M-DB, JKM475N-48HL4M-DB, JKM560N-72HL4-TV, JKM565N-72HL4-TV, JKM570N-72HL4-TV, JKM575N-72HL4-TV, JKM580N-72HL4-TV, JKM420N-54HL4-B, JKM425N-54HL4-B, JKM430N-54HL4-B, JKM570N-72HL4-BDH, JKM570N-72HL4-BDV, JKM575N-72HL4-BDH, JKM555N-72HL4-BDV, JKM565N-72HL4-BDV, JKM570N-72HL4-BDV, JKM580N-72HL4-BDX, JKM585N-72HL4-BDX, JKM590N-72HL4-BDX, JKM555N-72HL4-TV, JKM435N-54HL4-B, JKM440N-54HL4-B, JKM595N-72HL4-BDX, and JKM600N-72HL4-BDX.

II. PATENT LOCAL RULE 3.2 DOCUMENT PRODUCTION ACCOMPANYING DISCLOSURE

Documents accompanying the L.P.R. 3.2 production have been provided as: JINKO_SEG0000001-0000730. Production of license agreements naming the patent-in-suit will occur upon entry of the protective order.

Dated: April 23, 2026

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CERTIFICATE OF SERVICE

I certify that on this 23rd of April, the foregoing was served via email on the counsel of record listed below.

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EXHIBIT A

EXHIBIT A – Infringement Chart for U.S. Patent No. 11,824,136 (the “’136 Patent”)

The accused products may include, but not limited to, various module types (e.g., SEG’s Alpine N and Yukon N series of solar modules), including SEG-435-BTE-BG, SEG-440-BTE-BG, SEG-445-BTE-BG, SEG-450-BTE-BG, SEG-455-BTE-BG, SEG-460-BTE-BG, SEG-495-BTD-BG, SEG-500-BTD-BG, SEG-505-BTD-BG, SEG-510-BTD-BG, SEG-515-BTD-BG, SEG-610-BTC-BG, SEG-615-BTC-BG, SEG-620-BTC-BG, SEG-625-BTC-BG, SEG-630-BTC-BG, SEG-635-BTC-BG, SEG-700-BTC-BG, SEG-705-BTC-BG, SEG-710-BTC-BG, SEG-715-BTC-BG, SEG-720-BTC-BG, SEG-725-BTC-BG, SEG-420-BTD-BG, SEG-425-BTD-BG, SEG-430-BTD-BG, SEG-435-BTD-BG, SEG-440-BTD-BG, SEG-445-BTD-BG, SEG-475-BTB-BG, SEG-480-BTB-BG, SEG-485-BTB-BG, SEG-490-BTB-BG, SEG-495-BTB-BG, SEG-575-BTA-BG, SEG-580-BTA-BG, SEG-585-BTA-BG, SEG-590-BTA-BG, SEG-595-BTA-BG, SEG-600-BTA-BG, SEG-620-BTZ-BG, SEG-625-BTZ-BG, SEG-630-BTZ-BG, SEG-635-BTZ-BG, SEG-640-BTZ-BG, and all substantially similar equivalents thereof.

(See generally <https://www.segsolar.com/Public/Uploads/uploadfile/files/20250424/SEG435450BTEFullBlackBG210REN.pdf>, <https://www.segsolar.com/Public/Uploads/uploadfile/files/20260305/SEG440460BTEBG210RFullBlackEN.pdf>, <https://www.segsolar.com/Public/Uploads/uploadfile/files/20250424/SEG495510BTDFullBlackBG210REN.pdf>, <https://www.segsolar.com/Public/Uploads/uploadfile/files/20260305/SEG495515BTDBG210RFullBlackEN.pdf>, <https://www.segsolar.com/Public/Uploads/uploadfile/files/20241227/SEG700715BTCBG210EN.pdf>, <https://www.segsolar.com/Public/Uploads/uploadfile/files/20260305/SEG705725BTCBG210EN.pdf>, <https://www.segsolar.com/Public/Uploads/uploadfile/files/20241227/SEG610625BTCBG210REN.pdf>, <https://www.segsolar.com/Public/Uploads/uploadfile/files/20260305/SEG615635BTCBG210REN-448.pdf>, <https://www.segsolar.com/Public/Uploads/uploadfile/files/20250424/SEG430445BTDFullBlackBG182EN.pdf>, <https://www.segsolar.com/Public/Uploads/uploadfile/files/20260305/SEG425445BTDBG182FullBlackEN.pdf>, <https://www.segsolar.com/Public/Uploads/uploadfile/files/20250424/SEG480495BTBBG182EN.pdf>, <https://www.segsolar.com/Public/Uploads/uploadfile/files/20260305/SEG475495BTBBG182EN.pdf>, <https://www.segsolar.com/Public/Uploads/uploadfile/files/20250424/SEG580595BTABG182EN.pdf>, <https://www.segsolar.com/Public/Uploads/uploadfile/files/20260416/SEG580600BTABG182EN.pdf>, <https://www.segsolar.com/Public/Uploads/uploadfile/files/20241227/SEG625640BTZBG182EN.pdf>, <https://www.segsolar.com/Public/Uploads/uploadfile/files/20260305/SEG620640BTZBG182EN.pdf>, https://cdn.mycd.com/images/Products/ZZ0000/ZZ3098/00000/ZZ309800015_DS.pdf, https://cdn.mycd.com/images/Products/ZZ0000/ZZ3098/00000/ZZ309800017_DS.pdf.)

A chart of claims 1-3, 5-9, 11-15, and 17-20 against exemplary SEG-420-BTD-BG is provided below.

Annotations and identification of elements in this chart are preliminary, are not final, nor are they intended to limit Plaintiff’s identification of claim elements in Defendants’ infringing products. Furthermore, the SEG-420-BTD-BG in the claim chart is provided as representative, and Plaintiff reserves the right to identify additional products and claims and identify further representative products as discovery progresses. Plaintiff reserves the right to amend, supplement, expand, modify, or narrow its identifications in

EXHIBIT A – Infringement Chart for U.S. Patent No. 11,824,136 (the “’136 Patent”)

the accused products as it develops facts during discovery, based on the Court’s claim constructions, or for any other allowable purpose in this action.

'136 Patent Claim Limitation	SEG (SEG-420-BTD-BG)
1[preamble] A solar cell, comprising:	The SEG-420-BTD-BG provides a solar cell.  A front side photo of the SEG-420-BTD-BG photovoltaic module is provided below. As shown, the SEG-420-BTD-BG includes 108 solar cells (with an example solar cell identified in a yellow box).

EXHIBIT A – Infringement Chart for U.S. Patent No. 11,824,136 (the “136 Patent”)

'136 Patent Claim Limitation	SEG (SEG-420-BTD-BG)
	
1[a] a semiconductor substrate,	The SEG-420-BTD-BG includes a “semiconductor substrate.” The high-angle annular dark field (“HAADF”) image of the rear side of the SEG-420-BTD-BG and its element analysis of the energy-dispersive X-ray spectroscopy (“EDS”) maps provided below demonstrate that the SEG-420-BTD-BG includes a semiconductor substrate (as marked by the dashed red box).

EXHIBIT A – Infringement Chart for U.S. Patent No. 11,824,136 (the “136 Patent”)

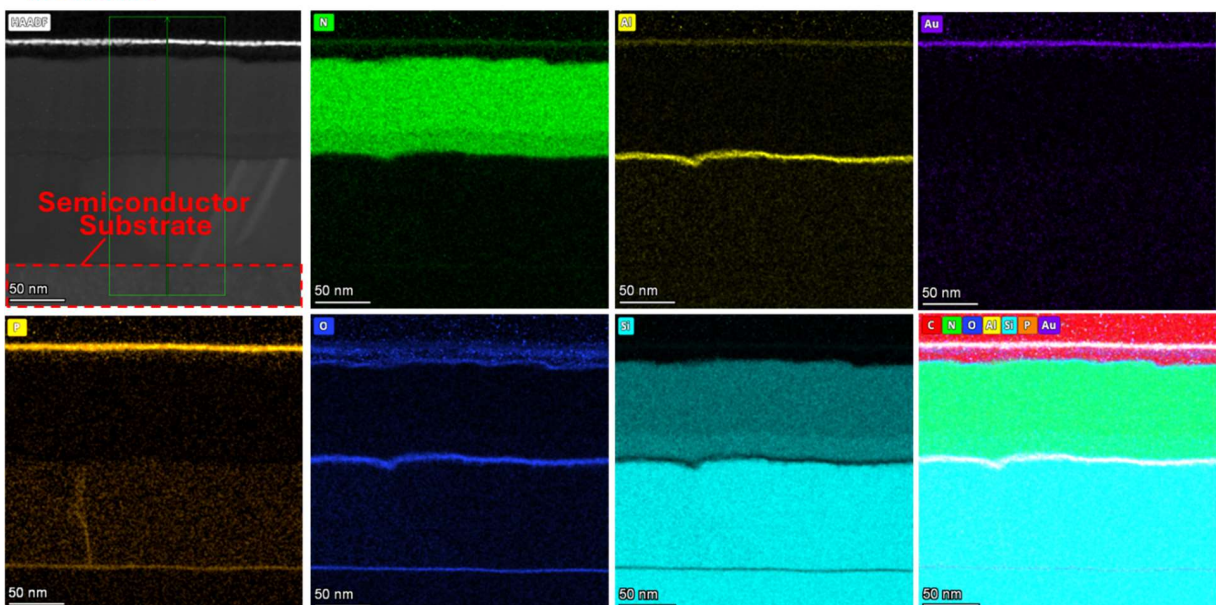
'136 Patent Claim Limitation	SEG (SEG-420-BTD-BG)
	Rear side 
1[b] wherein a rear surface of the semiconductor substrate has a first texture structure, the first texture structure has a non-pyramid-shaped microstructure and includes two or more first substructures at least partially stacked on one another,	The SEG-420-BTD-BG provides a rear surface of the semiconductor substrate has a first texture structure, the first texture structure has a non-pyramid microstructure and includes two or more first substructures at least partially stacked on one another. The below laser confocal microscopy images of the SEG-420-BTD-BG (with the main image on the right and the 3D image on the left) show that a rear surface of the semiconductor substrate in the SEG-420-BTD-BG has a first texture structure that has a non-pyramid-shaped microstructure. For instance, the first texture structure includes two first substructures A and B partially stacked on one another (in the black oval), as shown in the main image (right) and have different heights, as shown in different colors in the 3D image (left), in which blue represents the lowest height, red represents the highest height, and other colors represent heights in between.

EXHIBIT A – Infringement Chart for U.S. Patent No. 11,824,136 (the “136 Patent”)

'136 Patent Claim Limitation	SEG (SEG-420-BTD-BG)
	The above 3D image with a height legend (color bar) is provided below.

EXHIBIT A – Infringement Chart for U.S. Patent No. 11,824,136 (the “136 Patent”)

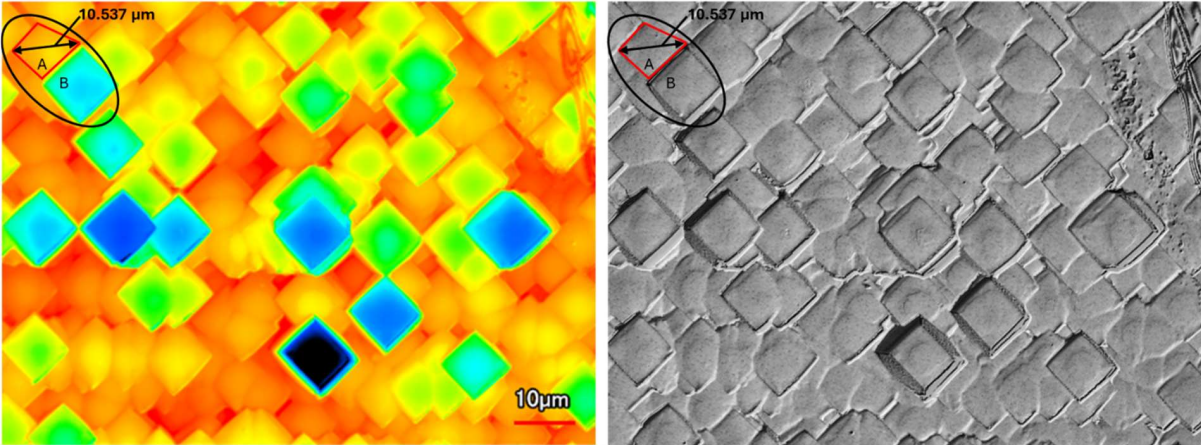
'136 Patent Claim Limitation	SEG (SEG-420-BTD-BG)
1[c] a top surface of the first substructure is a polygonal plane,	The SEG-420-BTD-BG provides a top surface of the first substructure is a polygonal plane. The exemplary laser confocal microscopy images provided above in limitation 1[b] show a top surface of the first substructure (<i>e.g.</i>, first substructure A) is a polygonal plane. 
1[d] and a one-dimensional size of the top surface of the outermost first substructure is less than or equal to 45 μm;	The SEG-420-BTD-BG provides a one-dimensional size of the top surface of the outermost first substructure is less than or equal to 45 μm. As shown in the laser confocal microscopy images provided above in limitation 1[b], an example of the “outermost first substructure” is the first substructure A, and a diagonal (as an example of the “one-dimensional size,” denoted by bi-directional arrow) of the top surface of the first substructure A is 10.537 μm, which is less than 45μm and thus satisfies the claim limitation.

EXHIBIT A – Infringement Chart for U.S. Patent No. 11,824,136 (the “136 Patent”)

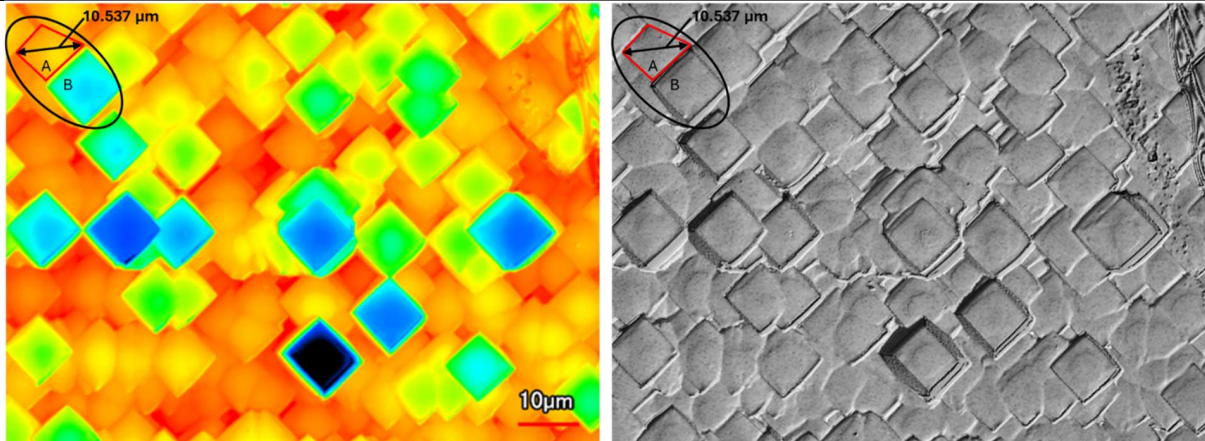
'136 Patent Claim Limitation	SEG (SEG-420-BTD-BG)
	
1[e] and wherein a front surface of the semiconductor substrate has a second texture structure, the second texture structure includes a pyramid-shaped microstructure, the pyramid-shaped microstructure includes a top portion away from the front surface of the semiconductor substrate and a bottom portion close to the front surface of the semiconductor substrate, and in a direction away from the front surface and perpendicular to the front surface, a distance between the top portion and the bottom portion of the pyramid-shaped microstructure is less than or equal to 5 μm;	The SEG-420-BTD-BG provides a front surface of the semiconductor substrate has a second texture structure, the second texture structure includes a pyramid-shaped microstructure, the pyramid-shaped microstructure includes a top portion away from the front surface of the semiconductor substrate and a bottom portion close to the front surface of the semiconductor substrate, and in a direction away from the front surface and perpendicular to the front surface, a distance between the top portion and the bottom portion of the pyramid-shaped microstructure is less than or equal to 5 μm. As shown in the below Scanning Electron Microscopy (SEM) image of the front side of the SEG-420-BTD-BG (left), the SEG-420-BTD-BG includes the front surface of the semiconductor substrate having a second textual structure including a plurality of pyramid-shaped microstructures. The Transmission Electron Microscopy (TEM) image on the right below shows an example pyramid-shaped microstructure (in the blue oval) corresponding to the pyramid-shaped microstructure in the blue circle in the SEM image on the left below. The example pyramid-shaped microstructure includes a top portion away from the front surface of the semiconductor substrate and a bottom portion close to the front surface of the semiconductor substrate. As indicated by the green lines, a distance between the top portion and the bottom portion of the pyramid-shaped microstructure in a direction (as shown in the blue arrow) away from the front surface and perpendicular to the front surface is 1.28 μm, less than 5 μm.

EXHIBIT A – Infringement Chart for U.S. Patent No. 11,824,136 (the “’136 Patent”)

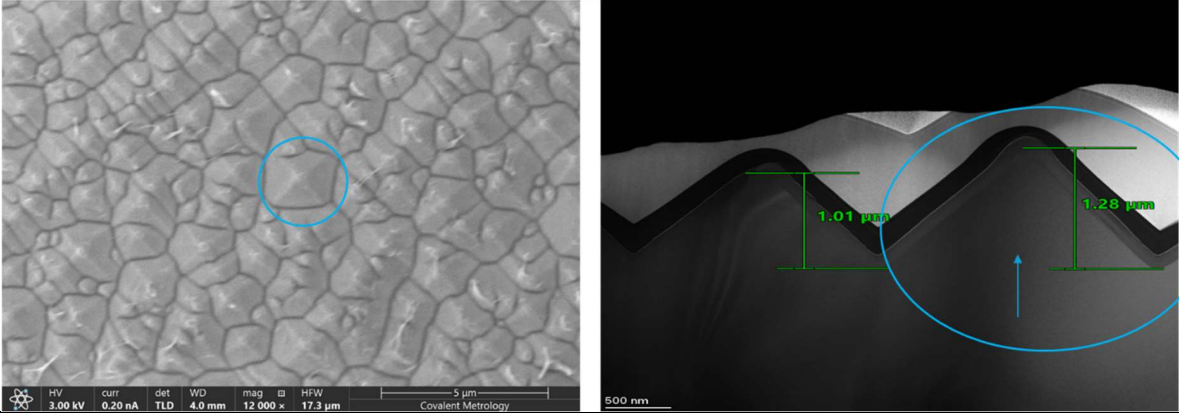
'136 Patent Claim Limitation	SEG (SEG-420-BTD-BG)
	
1[f] a first passivation layer located on the second texture structure of the front surface of the semiconductor substrate;	The SEG-420-BTD-BG provides a first passivation layer located on the second texture structure of the front surface of the semiconductor substrate. The HAADF image of the front side and its element analysis of the EDS maps below demonstrate that the SEG-420-BTD-BG includes a first passivation layer (as labeled in yellow) located on the second texture structure of the front surface of the semiconductor substrate (as marked in the dashed red box and labeled in red).

EXHIBIT A – Infringement Chart for U.S. Patent No. 11,824,136 (the “136 Patent”)

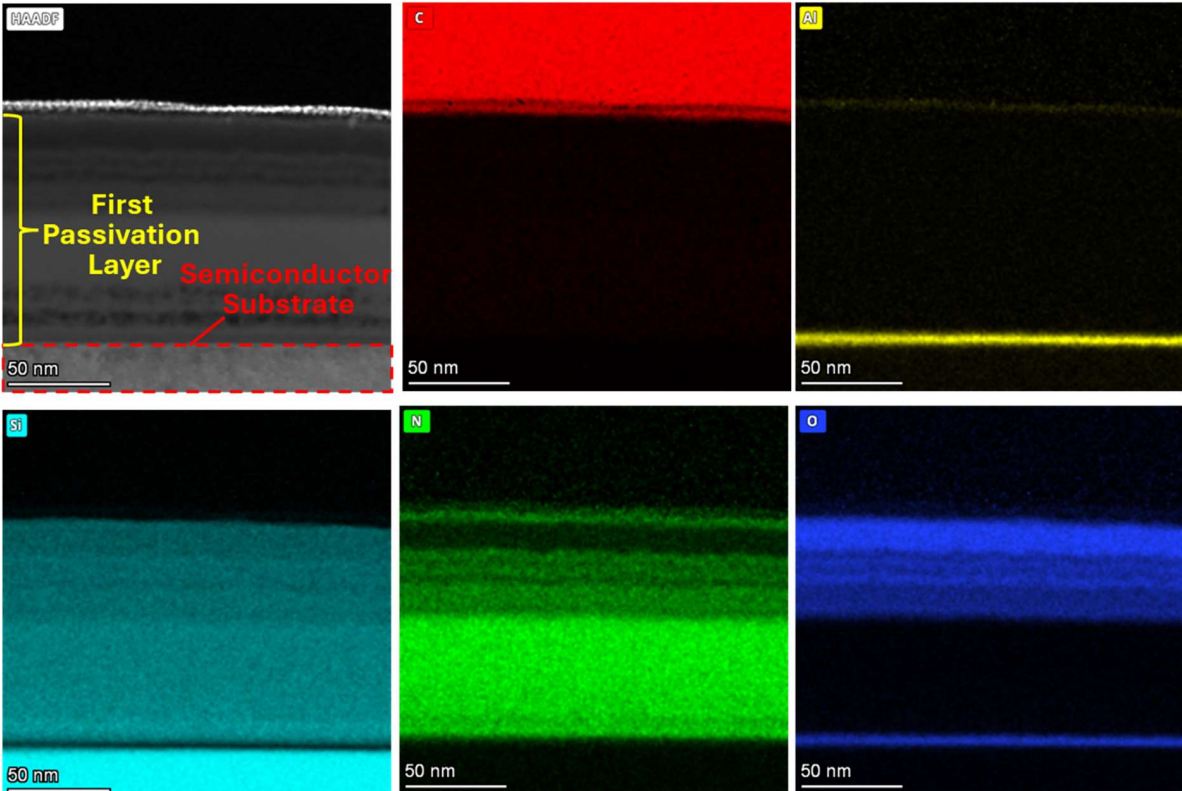
'136 Patent Claim Limitation	SEG (SEG-420-BTD-BG)
	Front side 
1[g] a tunnel oxide layer located on the first texture structure of the rear surface of the semiconductor substrate;	The SEG-420-BTD-BG provides a tunnel oxide layer located on the first texture structure of the rear surface of the semiconductor substrate. The HAADF image of the rear side of the SEG-420-BTD-BG and the element analysis as discussed in limitation 1[a] demonstrate that the SEG-420-BTD-BG includes a tunnel oxide layer (as marked by the solid blue box and labeled in blue) located on the rear surface of the semiconductor substrate (as marked by the dashed red box) having the first texture structure.

EXHIBIT A – Infringement Chart for U.S. Patent No. 11,824,136 (the “136 Patent”)

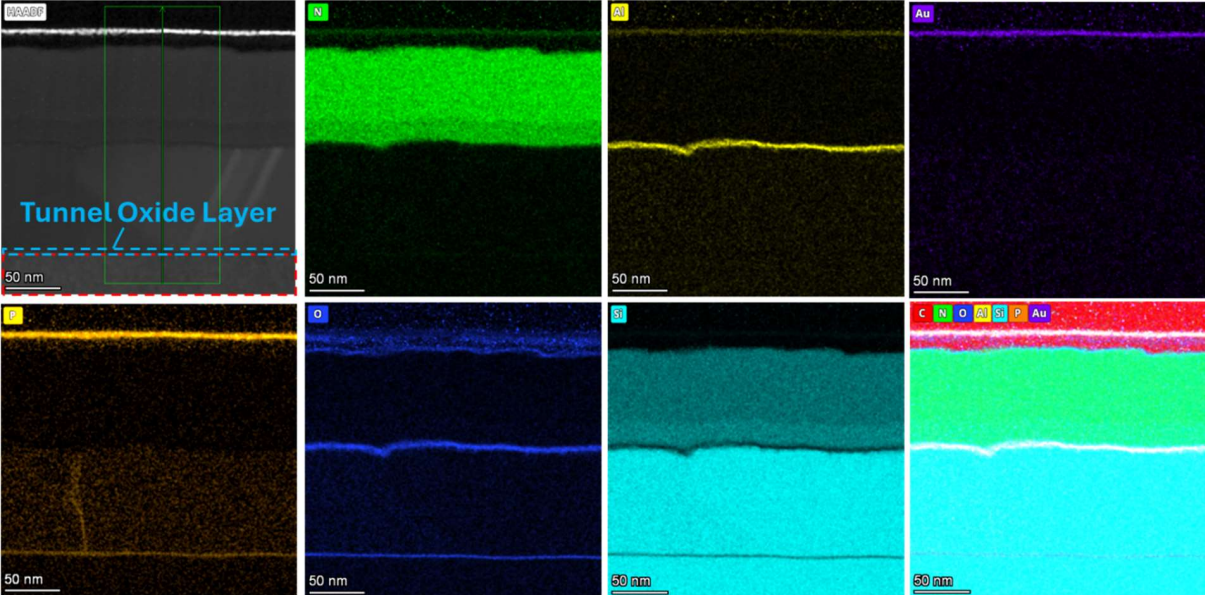
'136 Patent Claim Limitation	SEG (SEG-420-BTD-BG)
	Rear side 
1[h] a doped conductive layer located on a surface of the tunnel oxide layer; and	The SEG-420-BTD-BG provides a doped conductive layer located on a surface of the tunnel oxide layer. The HAADF image of the rear side of the SEG-420-BTD-BG and the element analysis discussed in limitation 1[a] confirm that the SEG-420-BTD-BG includes a doped conductive layer (as marked by the dashed green box and labeled in green) located on a surface of the tunnel oxide layer (as marked by the solid blue box).

EXHIBIT A – Infringement Chart for U.S. Patent No. 11,824,136 (the “136 Patent”)

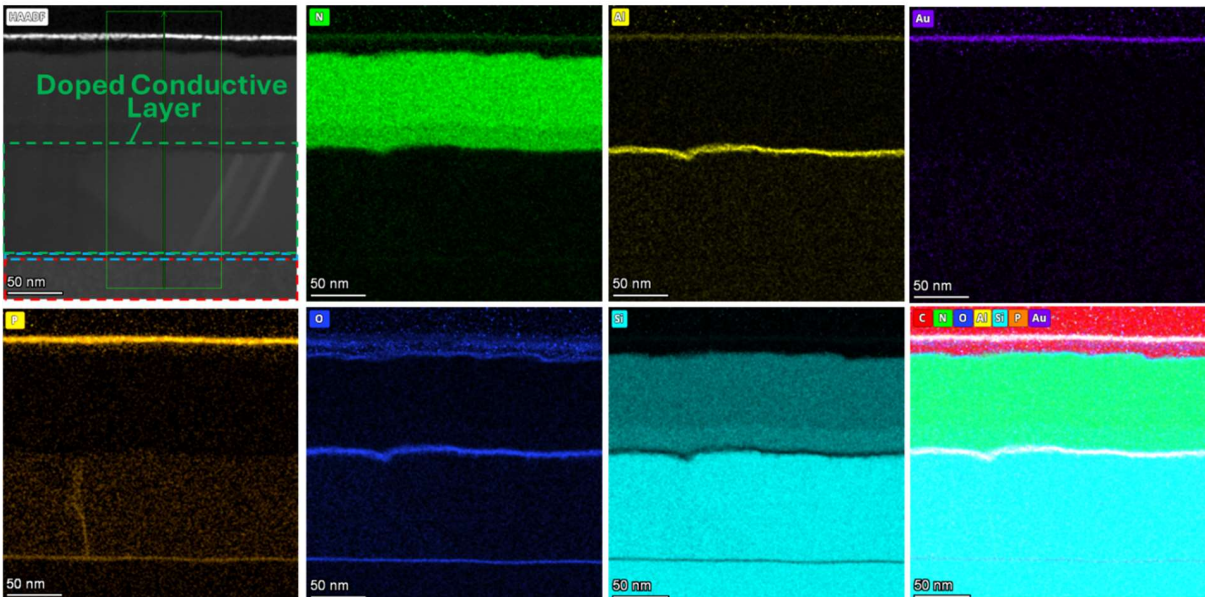
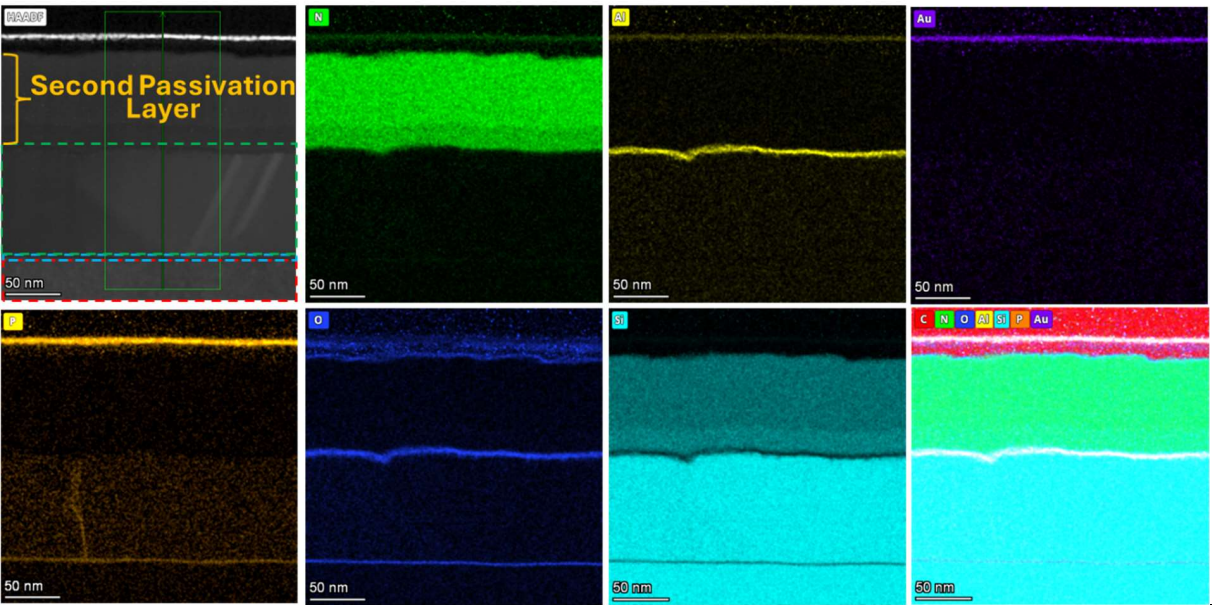
'136 Patent Claim Limitation	SEG (SEG-420-BTD-BG)
	Rear side 
1[i] a second passivation layer located on a surface of the doped conductive layer.	The SEG-420-BTD-BG provides a second passivation layer located on a surface of the doped conductive layer. Further, the HAADF image of the rear side of the SEG-420-BTD-BG and the element analysis discussed in limitation 1[a] confirm that the SEG-420-BTD-BG includes a second passivation layer (as marked by the solid orange box and labeled in orange) located on a surface of the doped conductive layer (as marked by the dashed green box).

EXHIBIT A – Infringement Chart for U.S. Patent No. 11,824,136 (the “136 Patent”)

'136 Patent Claim Limitation	SEG (SEG-420-BTD-BG)
	Rear side 
2. The solar cell according to claim 1, wherein for the two or more first substructures at least partially stacked on one another, in the direction away from the rear surface and perpendicular to the rear surface, a distance between the top surface of the outermost first substructure and the top surface of the adjacent first substructure is equal to or less than 2 μm.	The SEG-420-BTD-BG provides that for the two or more first substructures at least partially stacked on one another, in the direction away from the rear surface and perpendicular to the rear surface, a distance between the top surface of the outermost first substructure and the top surface of the adjacent first substructure is equal to or less than 2 μm. As shown in the laser confocal microscopy images provided above in limitation 1[b], the exemplary first substructures, A and B, are partially stacked on one another. Specifically, the first substructure A is the “outermost first substructure”, and the first substructure B is the “adjacent first substructure”.