IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

MAXEON SOLAR PTE. LTD.,	
Plaintiff,	**CIVIL ACTION NO. 2:24-cv-260**
v.	**JURY TRIAL DEMANDED**
REC SOLAR HOLDINGS AS,	
Defendant.	

COMPLAINT FOR PATENT INFRINGEMENT

Maxeon Solar Pte. Ltd. ("Maxeon") files this complaint for patent infringement ("Complaint") against REC Solar Holdings AS ("REC Solar"), and alleges as follows:

THE PARTIES

Maxeon

1. Maxeon is a limited liability company organized and existing under the laws of Singapore. Its principal place of business is located at 8 Marina Boulevard #05-02, Marina Bay Financial Centre, Singapore 018981.

2. Maxeon's history dates back to 1985, when its predecessor, SunPower Corporation ("SunPower"), was founded by Richard Swanson, a professor of electrical engineering at Stanford University, who conducted groundbreaking research on high-efficiency silicon solar cells. Swanson, often referred to as "The father of solar in the U.S.," led SunPower to become one of the preeminent solar companies in the world, producing high-performance solar panels, systems, and services for residential, commercial, and utility-scale markets. Eric Wesoff, "Dick Swanson Retiring from SunPower, But Not Done," Greentech Media (Oct. 8, 2012). Swanson is also known for suggesting a famous correlation, "that the cost of the photovoltaic cells needed to generate solar

power falls by 20% with each doubling of global manufacturing capacity," referred to as "Swanson's Law." Geoffrey Carr, "Sunny uplands," The Economist (Nov. 21, 2012).

3. Since its inception, SunPower has made major investments in solar technology development and innovation, and has become a global leader in the field. SunPower's innovations are embodied in, and protected by, a large patent portfolio spanning more than 1,650 patents worldwide (including those asserted herein). These innovations have also been successfully implemented in various industries around the world through best-in-class solar panel product lines. Due to SunPower's efforts, continued by Maxeon, today's solar modules are significantly more efficient and sustainable, and solar energy has become a viable alternative to non-renewable energy sources.

4. One specific innovation relates to solar cell technologies that utilize a tunnel oxide layer with a silicon emitter. The term "TOPCon" stands for **t**unnel **o**xide **p**assivated **con**tact, and refers to solar cells that incorporate a thin layer of silicon oxide (e.g., silicon dioxide, SiO_2) to form a tunnel barrier between the silicon wafer and the metal contacts. *See* Feldman, et al., "A Passivated Rear Contact for High-Efficiency n-Type Silicon Solar Cells Enabling High V_{oc}S and *FF* > 82%" at 1 (28th European PV Solar Energy Conference & Exhibition, Paris, Sept. 30 – Oct. 4, 2013) (hereinafter, "Feldman").[1] This oxide layer acts as a passivation layer that reduces the surface recombination of the charge carriers, as well as a tunnel layer that allows the charge carriers to tunnel through the barrier and reach the contacts. SunPower had designed and patented a Front Contact Solar Cell using an oxide layer in this configuration years before the "TOPCon" moniker

[1] The term "TOPCon" appears to have been coined by researchers at the Fraunhofer Institute for Solar Energy Systems (ISE) in 2013. *See* Feldman at 1. Unsurprisingly, these researchers rely on, and cite throughout, research performed by Swanson. *See generally id.*

was ever used. *Compare* asserted U.S. Patent No. 8,222,516, Fig. 1 (annotated) *with* Feldman, Fig. 3.

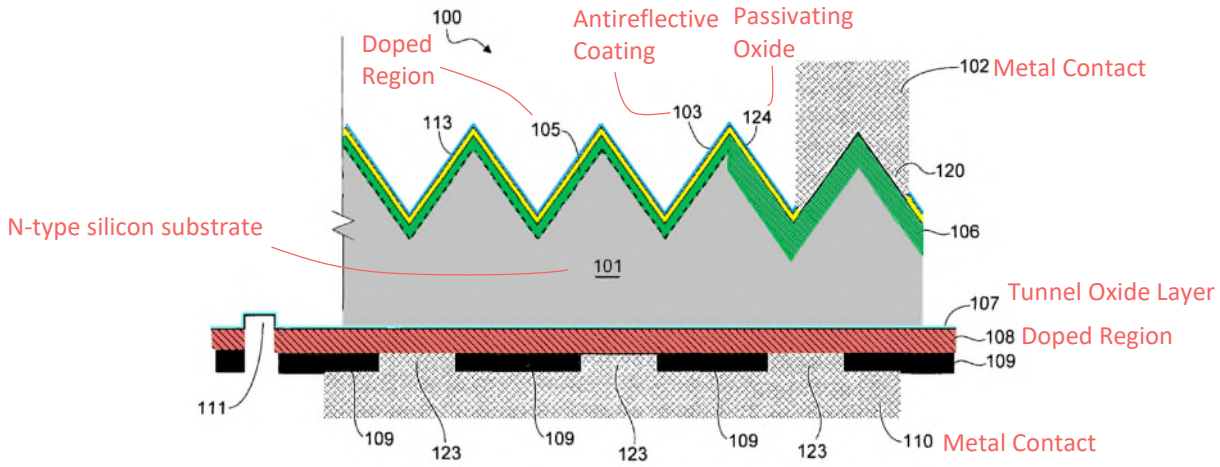


FIG. 1

Exemplary SunPower Front Contact Solar Cell Patent (2008)

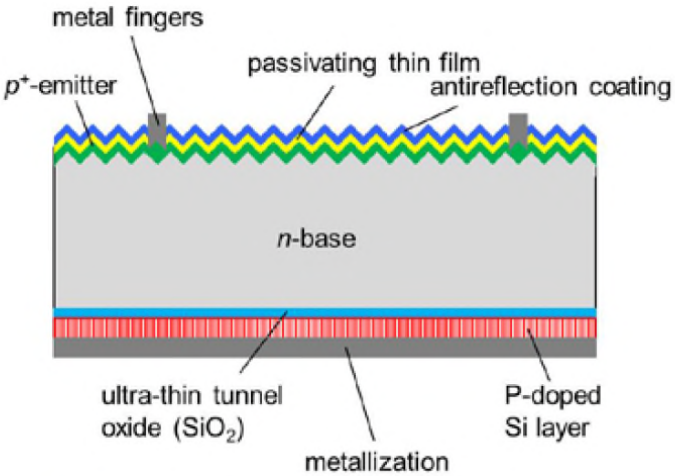


Figure 3: Solar cell with boron-doped emitter at the front and passivated rear contacts.

Feldman "TOPCon" Solar Cell (2013)

5. TOPCon technology is an improvement over conventional solar cell technologies, such as passivated emitter and rear cell ("PERC"), because it can achieve improved operating

characteristics, including higher conversion efficiency and power output. Another benefit to TOPCon technology is its compatibility with existing industrial processes and equipment for solar cell manufacturing, and its ability to be integrated with other solar cell technologies, such as heterojunction, tandem, and bifacial solar cells, to further boost solar cell efficiency and performance. For these reasons, TOPCon technology has emerged as the predominant technology for new expansion and replacement of PERC technology, and has generated significant market interest.

6. In 2020, a group of researchers conducted a patent landscape report related to TOPCon technology and found that "SunPower is the earliest patent assignee among the top six companies" who own the most TOPCon patents and that SunPower's "early patents might be the parent applications of the initial structure of the TOPCon solar cell." Chieh-Wa Tsai, et. al, *Patent Analysis of High Efficiency Tunneling Oxide Passivated Contact Solar Cells*, 13 ENERGIES 3060, 10 (2020); *see also id.*, Fig. 8 (below, red box added).

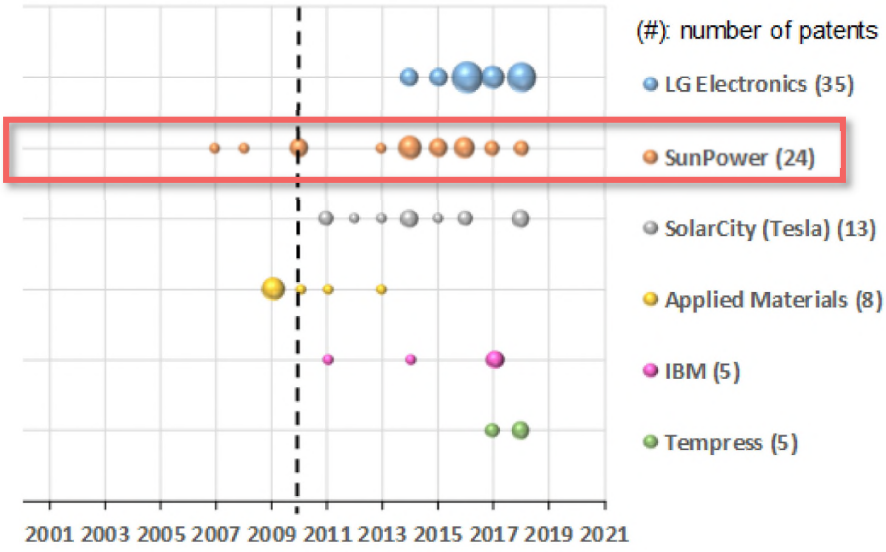


Figure 8. Timeline of technology development of major patent assignees.

TOPCon Patent Analysis (2020)

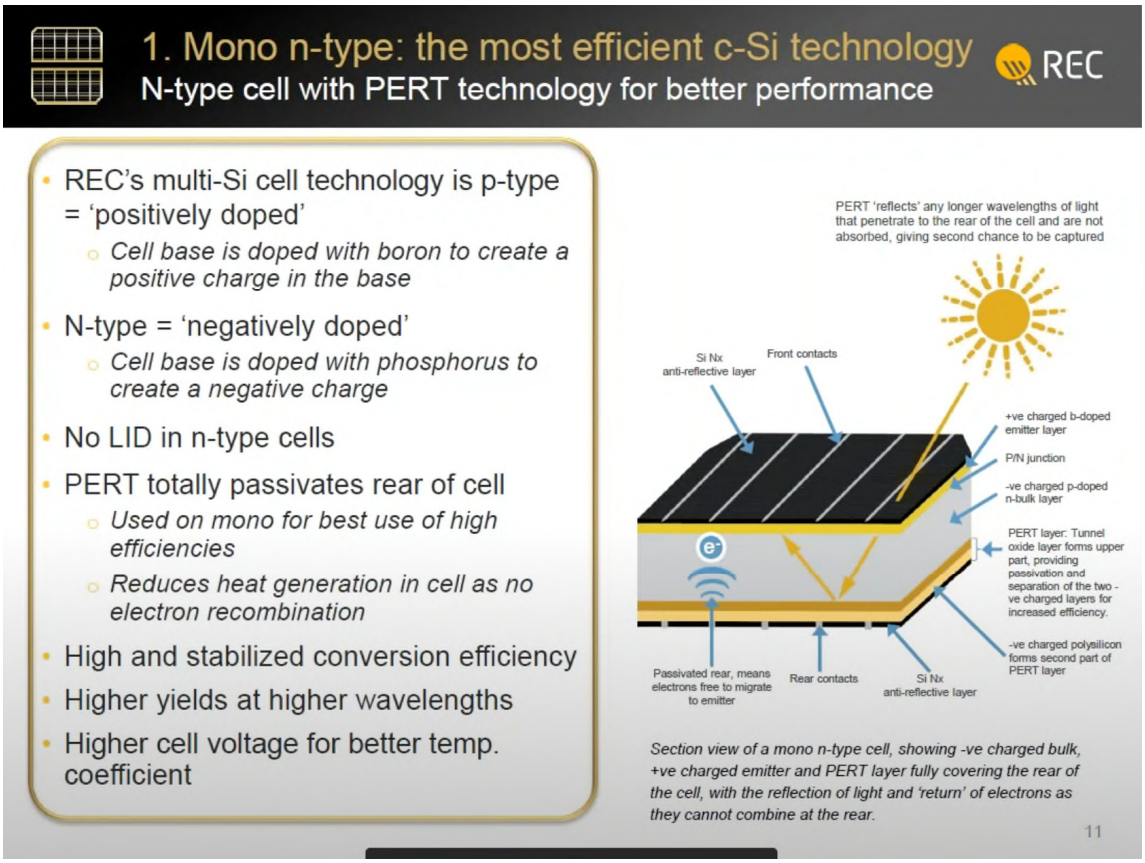
7. In August 2020, SunPower completed a strategic spin-off of its solar panel manufacturing and international operations to Maxeon Solar Technologies, Ltd., which is the ultimate parent company to Maxeon. Maxeon and SunPower continued to develop and commercialize next generation solar panel technologies, with early stage research conducted by SunPower's Silicon Valley-based research and development group, and deployment-focused innovation and scale-up carried out by Maxeon.

REC Solar

8. Upon information and belief, REC Solar is a corporation organized and existing under the laws of Norway. Its principal place of business is located at Fiskåveien 100, 4621 Kristiansand, Norway.

9. In 2018, more than 10 years after SunPower/Maxeon pioneered TOPCon technology—REC Solar launched its "N-Peak Series" of solar panels in the United States. *See* Hot summer for REC Group in the U.S. (Sept. 25, 2018), *available at* https://www.recgroup.com/en/news/hot-summer-rec-group-us.[2] "The name 'N-Peak' for REC indicates a n-type monocrystalline" substrate, which marked a significant shift in REC Solar's technology platform. *See* N Peak REC's most powerful 60 cell module ever! at 1:50-2:29 (Oct. 23, 2018), *available at* https://www.youtube.com/watch?v=5ey10Sr9Clc&list=PPSV (hereinafter, "N-Peak Debut"). The first generation N-Peak Series was promoted as having a PERT (**P**assivated **E**mitter, **R**ear **T**otally-Diffused) cell structure. *See id.* at 13:10-13:43, 20:04-21:36 (partial screenshot below).

[2] Unless otherwise indicated, all websites cited herein were last accessed on April 19, 2024.



N Peak REC's Most Powerful 60 Cell Modules Ever

10. By 2019, REC Solar would claim to have sold "100 MW of REC N-Peak" to customers around the globe, including in the United States, and began selling its N-Peak Black Series (a full black version). *See* 100 by 100 – Exponential success for REC Group's latest innovative solar panel, the REC N-Peak Series (Apr. 25, 2019), *available at* https://www.recgroup.com/en/news/100-100-%E2%80%93-exponential-success-rec-group%E2%80%99s-latest-innovative-solar-panel-rec-n-peak-series.

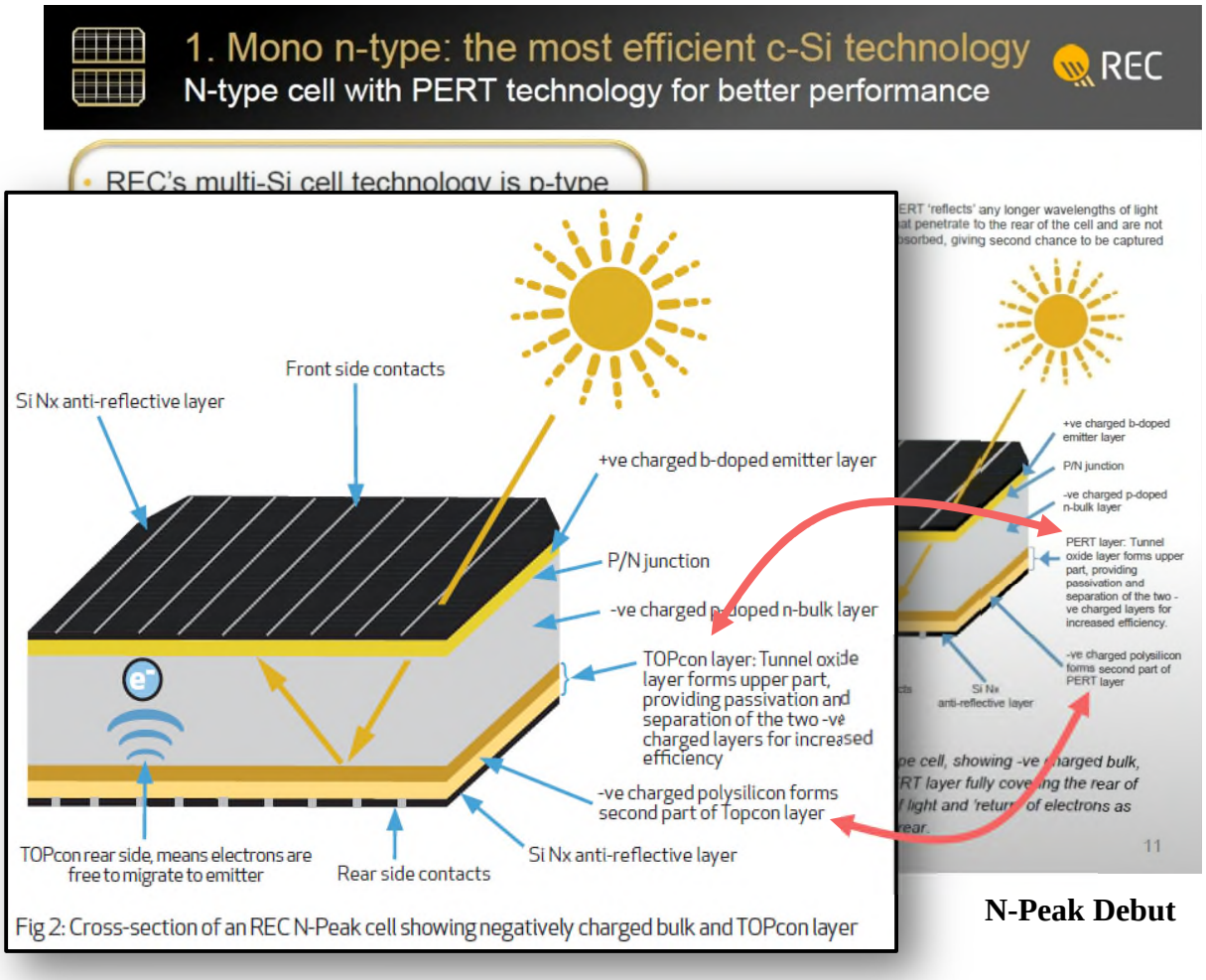
11. REC Solar's promotion of its first-generation N-Peak Series as "PERT technology," however, did not match the structure it described. REC Solar represented that the "PERT layer" of its N-Peak Series had two parts: a "Tunnel oxide layer" and a "charged polysilicon" layer. *See* N-Peak Debut at 20:04. That structure matches a TOPCon structure, not a PERT structure, which later REC Solar would admit when introducing the N-Peak 2 Series:

N-Peak first-gen: a recap

At its release in June 2018, the REC N-Peak was the world's first solar panel to combine n-type mono half-cut cells with a twin-panel design, delivering excellent power output and long-term performance. Combining n-type and TOPCon technology, the high efficiency REC N-Peak Series has helped consumers worldwide to pack more power into tighter spaces and generate more power from fewer panels.

Description of First-Generation N-Peak

See REC Group launches second generation N-Peak solar panel (July 15, 2021), *available at* https://www.recgroup.com/en/news/rec-group-launches-second-generation-n-peak-solar-panel. The N-Peak 2 Series has the same configuration as the first generation series, but is correctly described as a TOPCon structure. *Compare* N-Peak Debut at 20:04 *with* REC N-Peak Technology: How REC uses award-winning technology on an n-type mono platform to provide long term power for lasting performance at 1 (NE-18-32.2021) (hereinafter, "REC Whitepaper") (annotated screenshots shown below), *available at* https://usa.recgroup.com/sites/default/files/documents/wp_-_n-peak_technology_web.pdf?t=1662233336.



N-Peak Debut

REC Whitepaper at 1.

12. In 2022, REC Solar launched its N-Peak 3 Series in the United States, which includes the same TOPCon technology. *See* REC N-Peak 3 Black Series solar panels at 1:41 (Nov. 8, 2022) (screenshot shown below), *available at* https://www.youtube.com/watch?v=-lQzX92wRXg.

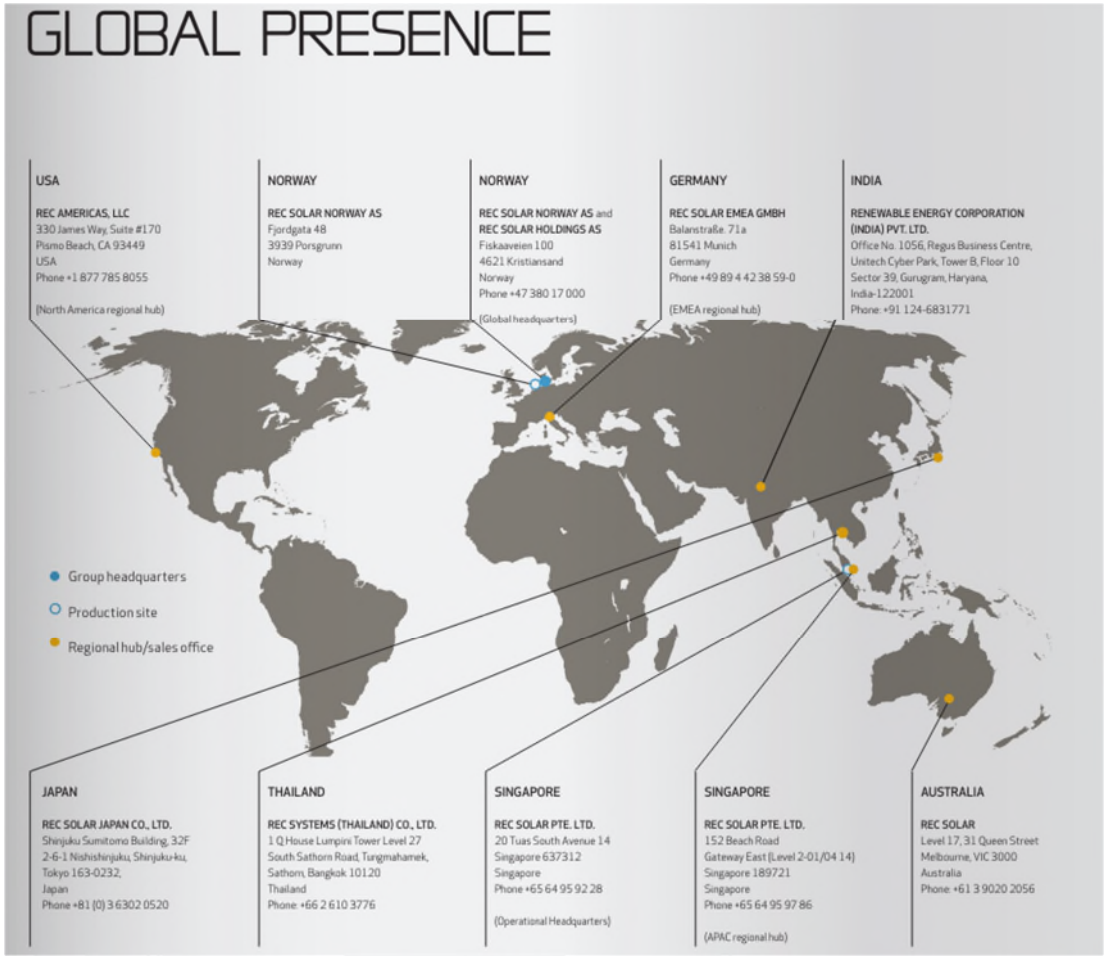
REC N-Peak 3 Black Series solar panels

JURISDICTION AND VENUE

13. This is an action for infringement arising under the patent laws of the United States 35 U.S.C. § 271. Accordingly, this Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

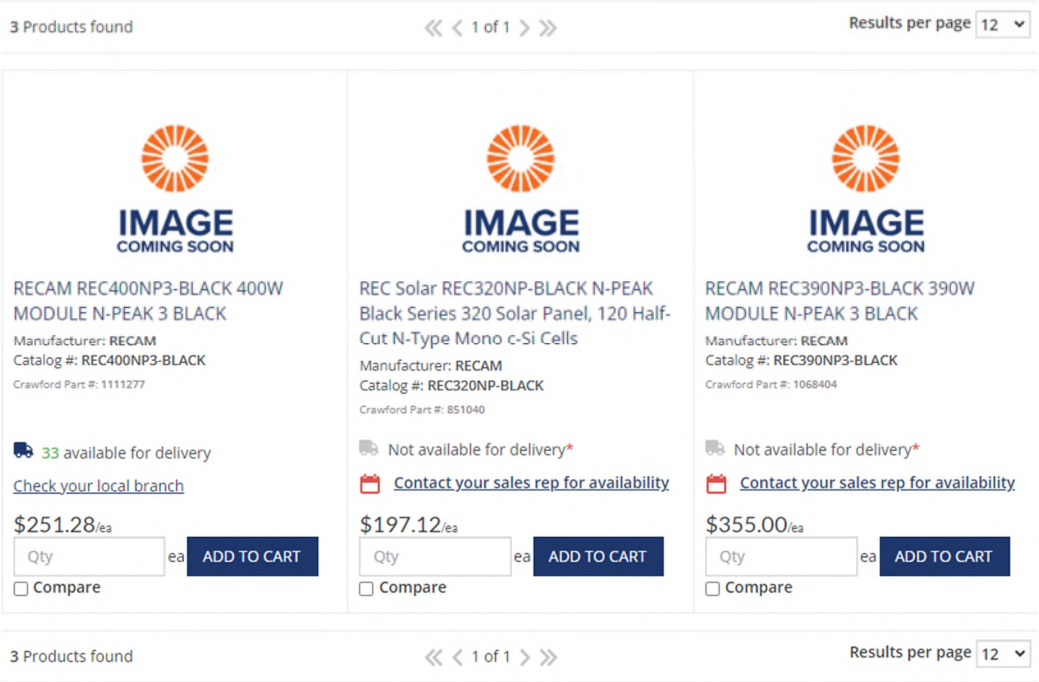
14. Upon information and belief, REC Solar is subject to this Court's specific and general personal jurisdiction pursuant to due process and/or the Texas Long Arm Statute, due at least to its substantial business in this State and District, including: (A) at least part of its infringing activities alleged herein; and (B) regularly doing or soliciting business, engaging in other persistent conduct, and/or deriving substantial revenue from infringing goods offered for sale, sold, and imported in or to Texas, and services provided to Texas residents directly and/or vicariously through and/or in concert with its alter egos, intermediaries, agents, distributors, importers, customers, subsidiaries, and/or consumers. For example, REC Solar states that it is "headquartered in Norway with operational headquarters in Singapore and Regional hubs in North America,

Europe, and Asia-Pacific" and claims that it has "earned the trust of customers **worldwide**." https://apac.recgroup.com/about-rec (emphasis added). Additionally, REC Solar claims to be "a leading global solar energy company" with "around 46 million solar panels produced" and "20.5 MILLION PEOPLE POWERED AT HOME." *Id.* REC Solar has office locations and/or regional hubs in at least nine countries, including in Pismo Beach, California, USA. *See* REC Product Brochure at 1, *available at* https://www.recgroup.com/sites/default/files/print_center/rec_product_brochure_ul_print.pdf (screenshot below).



REC Solar's Global Presence

15. Further, REC Solar maintains commercial websites accessible to the residents of Texas and this District through which REC Solar promotes, markets, advertises, and facilitates the sale and distribution of the Accused Products (as defined later herein). *See, e.g.*, https://usa.recgroup.com/distributors/search?custom_region_filter=107. For example, REC Solar's "Distribution Partner locator" identifies Crawford Electric Supply as a "Platinum Partner" located at 7390 Northcourt Road, Houston, TX 77040, and provides a link to the Crawford Electric Supply website. *Id.* The Crawford Electric Supply website offers for sale at least three of the Accused Products identified as (1) RECAM REC400NP3-BLACK 400W MODULE N-PEAK 3 BLACK (REC400NP3-BLACK); (2) REC Solar REC320NP-BLACK N-PEAK Black Series 320 Solar Panel, 120 Half-Cut N-Type Mono c-Si Cells (REC320NP-BLACK); and (3) RECAM REC390NP3-BLACK 390W MODULE N-PEAK 3 BLACK (REC390NP3-BLACK). https://www.crawfordelectricsupply.com/product/search?q=N-peak (screenshot below).

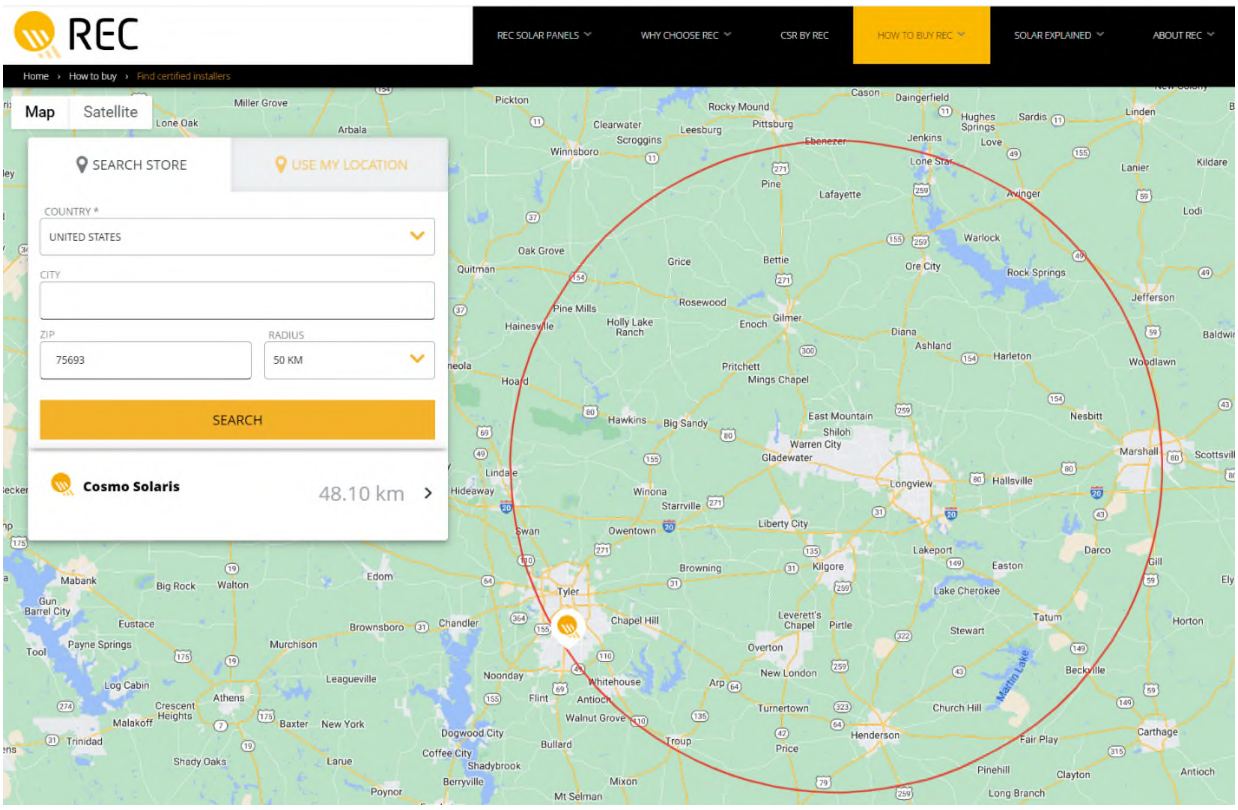


REC Solar's Platinum Distributor's Offerings for N-Peak Products

16. Additionally, REC Solar maintains commercial websites accessible to the residents of Texas and this District through which REC Solar promotes, markets, advertises, and facilitates the sale and installation of the Accused Products through "certified installers." *See, e.g.*, https://usa.recgroup.com/installers/search. REC Solar's "certified installers," including those located in Texas and this District, must complete REC Solar's "REC Certified Solar Professional Program" which requires, in part, that the installer "[a]ttend and pass our REC Certified Solar Professional training sessions" and "[b]uy your REC panels from an REC Distribution Partner and/or directly from REC." Become an REC Certified Solar Professional Brochure at 3 (hereinafter, "CSRP Brochure"), *available at* https://usa.recgroup.com/sites/default/files/documents/20231016_become_an_rcsp_flyer_america_en_web.pdf (screenshot below). REC Solar claims that it equips its certified installers with "a marketing welcome pack allowing you to market your business and REC panels immediately . . . ." https://usa.recgroup.com/rec-certified-solar-professional-program-installers.

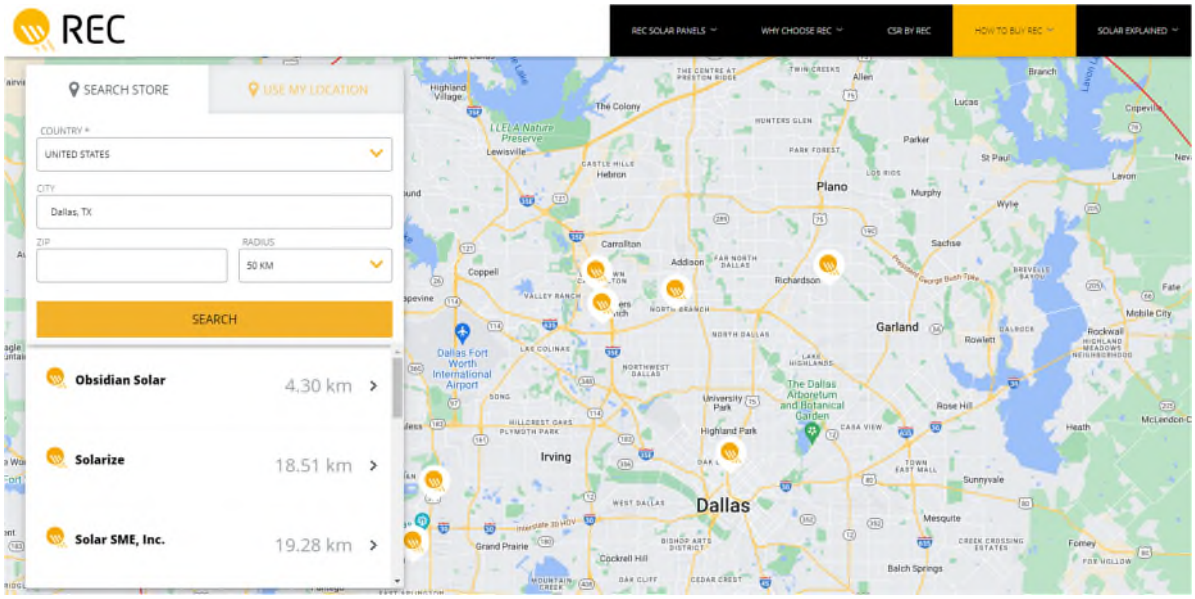
REC Solar's "REC Certified Solar Professional Program"

17. Additionally, REC Solar offers certified installers "[i]nclusion in the REC Installer Locator." CSRP Brochure at 5. REC Solar's commercial website has a "Find certified installers" feature that allows users, including those located in Texas and this District, to search for certified installers in a particular region. https://usa.recgroup.com/installers/search. REC Solar has certified installers in this District including, for example, (1) Mega Watt Solar LLC in Collin County; (2) Cosmo Solaris in Smith County; (3) Grid Solar and Electric LLC in Henderson County; and (4) North Texas Solar in Denton County. *Id.* (selecting different regions on the map to reveal certified installers in the area) (example shown below).

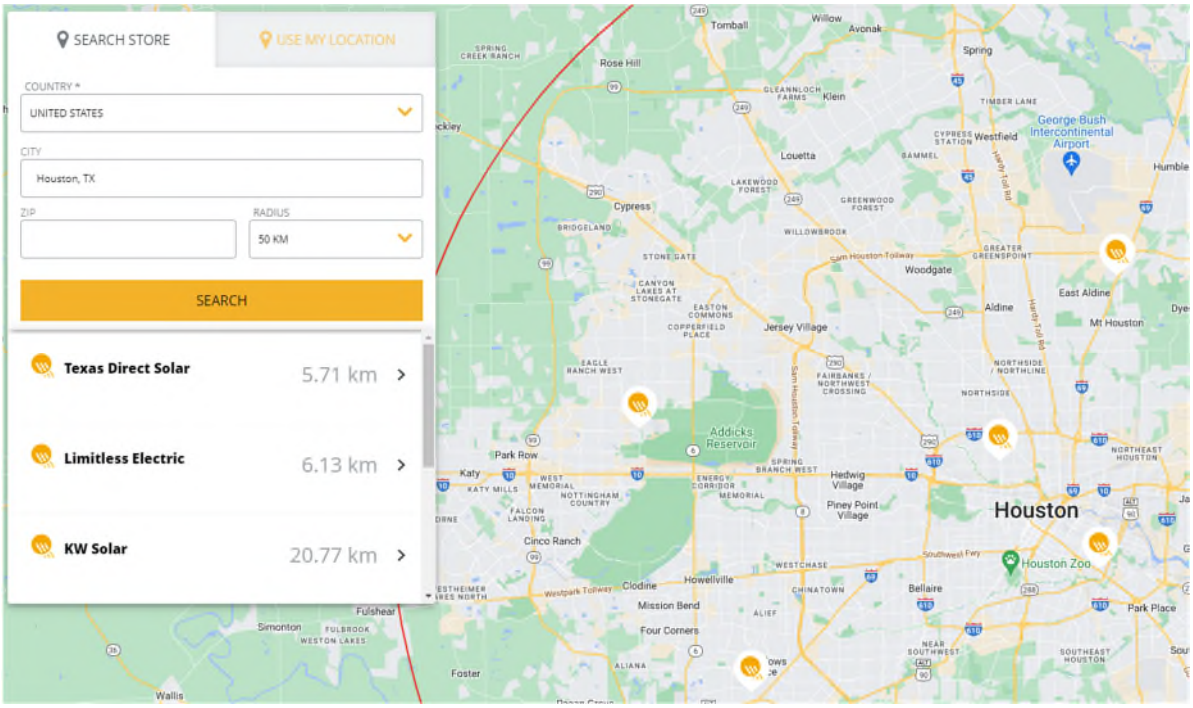


REC Solar's Certified Installers Exemplary Search Results

18. REC Solar also has certified installers throughout Texas including, for example, certified installers in and around both Houston and Dallas.



REC Solar's Certified Installers within 50 km of Dallas, TX



REC Solar's Certified Installers within 50 km of Houston, TX

19. Upon information and belief, one or more models of the REC N-Peak Series is sold and distributed in Texas and in this District.

20. Upon information and belief, one or more models of the REC N-Peak 2 Series is sold and distributed in Texas and in this District.

21. Upon information and belief, one or more models of the REC N-Peak 3 Series is sold and distributed in Texas and in this District. For example, REC Solar sells and distributes this specific model through its distributor Crawford Electric Supply. https://www.crawfordelectricsupply.com/product/search?q=N-peak.

22. This Court has personal jurisdiction over REC Solar, directly or through intermediaries, distributors, importers, customers, subsidiaries, and/or consumers including its U.S.-based, wholly owned subsidiaries, REC Americas LLC and REC US Holdings, Inc. On its own and/or through direction and control of its subsidiaries, REC Solar has committed acts of direct and/or indirect patent infringement within Texas, and elsewhere within the United States,

giving rise to this action, and/or has established minimum contacts with Texas such that personal jurisdiction over REC Solar would not offend traditional notions of fair play and substantial justice.

23. REC Solar maintains a corporate presence in the United States through, at least, REC Americas LLC[3] ("REC Americas"), which is headquartered in California. REC Americas' corporate presence in California ensures that REC Solar remains apprised of its business activities in the United States, and gives REC Solar substantially the business advantage that it would enjoy if it were conducting its business through its own offices or paid agents in the state. Indeed, REC Solar claims that REC Americas is its "North America regional hub" located in the United States. *See* https://www2.recgroup.com/l/547502/2021-02-14/3sds4q; *see also* https://apac.recgroup.com/about-rec ("REC is headquartered in Norway with operational headquarters in Singapore and Regional hubs in North America, Europe, and Asia-Pacific."). As such, REC Americas is a point of contact for REC Solar within the United States, serving as REC Solar's "distributor of solar panels principally to companies in the United States." *See* REC Americas LLC Financial Statement for the year ended 31 December, 2022 at 9 (hereinafter, "REC Americas LLC Financial Stmts."), *available at* https://rilstaticasset.akamaized.net/sites/default/files/2023-08/REC%20Americas%20LLC.pdf.

24. Upon information and belief, REC Solar controls or otherwise directs and authorizes all activities of REC Americas, including REC Americas' manufacturing, using, offering for sale, selling, and/or importing the Accused Products, their components, and/or products containing the same, which incorporate the fundamental technologies covered by the

[3] REC Americas is located at 330 James Way, Suite #150, Pismo Beach, CA 93449. *See Contact*, REC Group, https://www2.recgroup.com/l/547502/2021-02-14/3sds4q.

Asserted Patents (as defined later herein). Upon information and belief, REC Americas is authorized to import, sell, or offer for sale the Accused Products on behalf of its controlling parent. Upon information and belief, REC Solar researches, designs, develops, manufactures, and sells the Accused Products and directs REC Americas to do the same, as well as import, offer for sale, and sell the Accused Products in the United States. Accordingly, REC Americas conducts infringing activities on behalf of REC Solar.

25. Upon information and belief, on its own behalf and/or via its alter egos, representatives, authorized distributors, agents, intermediaries, importers, customers, subsidiaries, and/or consumers maintaining a business presence, operating in, and/or residing in the United States, REC Solar has distributed and sold the Accused Products in Texas, including within this District.

26. Upon information and belief, REC Solar has placed and continues to place the Accused Products into the stream of commerce via established distribution channels comprising at least representatives, customers, distributors (including Houston-based Crawford Electric Supply) and/or its U.S.-based, wholly owned subsidiary REC Americas, for the sale of the Accused Products, with the knowledge and/or intent that those Accused Products are imported, used, offered for sale, sold, and continue to be sold in the United States and Texas, including in this District.

27. In the alternative, the Court has personal jurisdiction over REC Solar under Federal Rule of Civil Procedure 4(k)(2), because the claims for patent infringement in this action arise under federal law, REC Solar is not subject to the jurisdiction of the courts of general jurisdiction of any state, and exercising jurisdiction over REC Solar is consistent with the U.S. Constitution.

28. Venue is proper in this judicial district pursuant to 28 U.S.C. § 1391 because, among other things, REC Solar is not resident in the United States, and thus may be sued in any judicial district, including this one, pursuant to 28 U.S.C. § 1391(c)(3).

THE ASSERTED PATENTS AND TECHNOLOGY

29. The patents-in-suit include Maxeon's United States Patent Nos. 8,222,516 ("the '516 patent"), 8,878,053 ("the '053 patent"), and 11,251,315 ("the '315 patent") (collectively, "the Asserted Patents").

30. On July 17, 2012, the United States Patent and Trademark Office ("USPTO") duly and legally issued the '516 patent, titled "Front Contact Solar Cell with Formed Emitter," to SunPower. The named inventor of the '516 patent is Peter John Cousins. A true and correct copy of the '516 patent is attached as Exhibit 1 to this Complaint.

31. The '516 patent is generally directed to a low-cost, high-efficiency front contact solar cell. The '516 patent discloses and specifically claims novel and non-obvious subject matter that represents improvements over conventional solar cells that were available as of the priority date of the '516 patent.

32. On November 4, 2014, the USPTO duly and legally issued the '053 patent, titled "Front Contact Solar Cell with Formed Emitter," to SunPower. The named inventor of the '053 patent is Peter John Cousins. The '053 patent is a division of the application that issued as the '516 patent. A true and correct copy of the '053 patent is attached as Exhibit 2 to this Complaint.

33. The '053 patent is generally directed to methods for fabricating a low-cost, high-efficiency front contact solar cell. The '053 patent discloses and specifically claims novel and non-obvious subject matter that represents improvements over conventional methods for fabricating solar cells that were available as of the priority date of the '053 patent.

34. On February 15, 2022, the USPTO duly and legally issued the ’315 patent, titled “Solar Cells with Improved Lifetime, Passivation and/or Efficiency,” to SunPower. The named inventors of the ’315 patent are David D. Smith, Tim Dennis, and Russelle De Jesus Tabajonda. A true and correct copy of the ’315 patent is attached as Exhibit 3 to this Complaint.

35. The ’315 patent relates generally to solar cell fabrication processes and structures. The ’315 patent claims novel and non-obvious subject matter that represents improvements over solar cell fabrication processes and structures that were available as of the priority date for the ’315 patent.

36. On December 14, 2022, SunPower assigned the Asserted Patents to Maxeon. Maxeon owns the entire right, title, and interest in and to each of the Asserted Patents.

REC SOLAR’S INFRINGING PRODUCTS AND ACTIVITIES

37. As described in detail above, REC Solar designs, manufactures, imports, sells, and/or offers to sell solar panels with “REC N-Peak Technology,” including N-Peak, N-Peak 2, and N-Peak 3 Series panels. Upon information and belief, these series include at least the following models:

REC N-Peak Series	**REC N-Peak 2 Series**	**REC N-Peak 3 Series**
RECxxxNP	RECxxxNP2	RECxxxNP3
RECxxxNP Plus	RECxxxNP2 Black	RECxxxNP3 Black
RECxxxNP BLK		
RECxxxNP BLK2	*xxx in the type number replaces the power in watts*	
RECxxxNP Black Plus	(e.g., REC400NP3-Black 400W Module N-Peak 3 Black series	
RECxxxNP Plus Black	sold by Crawford Electric Supply)	

Upon information and belief, each of these models and all other models of REC Solar’s N-Peak Series panels that incorporate TOPCon technology (the “Accused Products”) are fabricated in a substantially similar way and/or have substantially similar features, such that each infringes the asserted claims in the same way.

COUNT I

(INFRINGEMENT OF U.S. PATENT NO. 8,222,516)

38. Maxeon re-alleges and incorporates by reference the allegations in paragraphs 1-37 above.

39. Maxeon is the assignee of the ’516 patent. Maxeon has all substantial rights to enforce the ’516 patent, including the right to exclude others and to sue and recover damages for past and future infringement.

40. The ’516 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code.

41. REC Solar has infringed and continues to infringe directly and/or indirectly, either literally or under the doctrine of equivalents, one or more claims of the ’516 patent in this District and elsewhere.

Direct Infringement

42. REC Solar directly infringes at least claims 9 and 10 of the ’516 patent under 35 U.S.C. § 271(a) by making, using, selling, offering for sale in the United States, and/or importing into the United States, without permission, consent, authority or license, the Accused Products, including without limitation the N-Peak, N-Peak 2, and N-Peak 3 Series solar panels. Furthermore, upon information and belief, REC Solar sells and makes the Accused Products outside of the United States, delivers the Accused Products to its customers, distributors, and/or subsidiaries in the United States, or in the case that it delivers the Accused Products outside of the United States, REC Solar does so intending and/or knowing that the Accused Products are destined for the United States, thereby directly infringing at least claims 9 and 10 of the ’516 patent.

43. For example, independent claim 9 of the ’516 patent recites:

> 9. A solar cell having a front side facing the sun to collect solar radiation during normal operation and a backside opposite the front side, the solar cell comprising:
>
> a substrate having a textured front surface;
>
> an emitter layer formed over a back surface of the substrate, the emitter layer forming a backside junction with the substrate;
>
> an oxide layer formed between the back surface of the substrate and the emitter layer;
>
> a first metal contact making an electrical connection to the substrate on the front side of the solar cell; and
>
> a second metal contact making an electrical connection to the emitter layer on the backside of the solar cell, the first metal contact and the second metal contact being configured to allow an external electrical circuit to be powered by the solar cell.

44. The Accused Products include a solar cell having a front side facing the sun to collect solar radiation during normal operation and a backside (or rear side) opposite the front side. *See* REC Whitepaper at 1 (partial screenshot below). The Accused Products' substrate is the "-ve charged p-doped n-bulk layer." *See id.* Upon information and belief, the substrate has a textured front surface. For example, REC has explained that "many cell producers etch the outermost layer of the wafer, giving the silicon a surface with a texture that increases the amount of light absorbed by the silicon." *See* REC Annual Report, "Growing the potential of the sun" (2005), at 10, *available at* https://www.recgroup.com/sites/default/files/documents/rec_annual_report_2005.pdf.

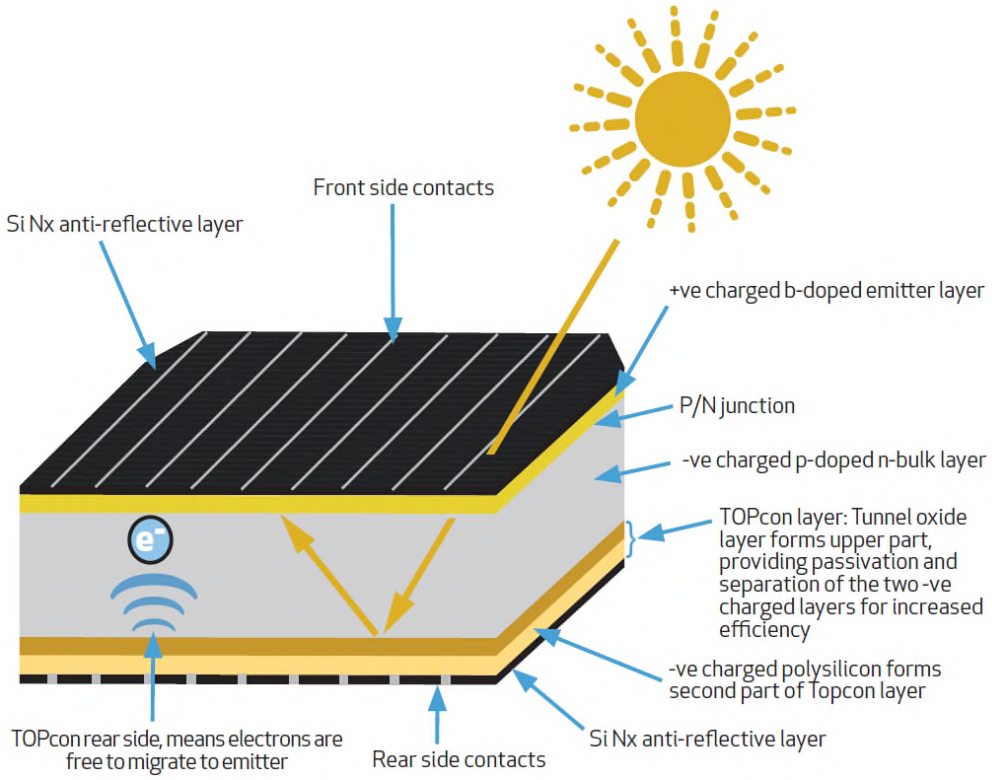


Fig 2: Cross-section of an REC N-Peak cell showing negatively charged bulk and TOPcon layer

REC Whitepaper

45. The Accused Products have a "-ve charged polysilicon" layer, which is an emitter layer formed over a back surface of the N-type Si substrate. *See* REC Whitepaper at 1 (partial screenshot above).

46. The "-ve charged polysilicon" layer (i.e., the emitter layer) in the Accused Products is formed on the backside of the of the solar cell and forms a backside junction with the "-ve charged p-doped n-bulk layer" (i.e., the substrate). *See id.*

47. The Accused Products have a "Tunnel oxide" layer, which is an oxide layer formed between the back surface of the "-ve charged p-doped n-bulk layer" (i.e., the substrate) and the "-ve charged polysilicon" layer (i.e., the emitter layer). *See id.*

48. The Accused Products have "Front side contacts," which include a first metal contact making an electrical connection to the "-ve charged p-doped n-bulk layer" (i.e., the substrate) on the front side of the solar cell. *See id.*

49. The Accused Products have "Rear side contacts," which include a second metal contact making an electrical connection to the "-ve charged polysilicon" layer (i.e., the emitter layer) on the backside (or rear side) of the solar cell. *See id.*

50. The "Front side contacts" (i.e., the first metal contact) on the front side of the solar cell and the "Rear side contacts" (i.e., the second metal contact) on the backside of the solar cell are configured to allow an external electrical circuit to be powered by the solar cell. For example, the REC N-Peak 2 Series datasheet shows the electrical characteristics for powering an external electrical circuit by the solar cell. REC N-Peak 2 Series Datasheet at 2 (partial screenshot below), *available at* https://usa.recgroup.com/sites/default/files/documents/ds_rec_n-peak_2_series_rev_d_us.pdf?t=1713471462.

	ELECTRICAL DATA	Product Code*: RECxxxNP2						
STC	Power Output - P_{MAX} (Wp)	345	350	355	360	365	370	375
	Watt Class Sorting - (W)	0/+5 W	0/+5 W	0/+5 W	0/+5 W	0/+5 W	0/+5 W	0/+5 W
	Nominal Power Voltage - V_{MPP} (V)	32.8	33.1	33.5	33.9	34.3	34.7	35.0
	Nominal Power Current - I_{MPP} (A)	10.52	10.58	10.60	10.62	10.65	10.68	10.72
	Open Circuit Voltage - V_{OC} (V)	40.4	40.6	40.7	40.8	40.9	41.1	41.3
	Short Circuit Current - I_{SC} (A)	11.19	11.27	11.29	11.31	11.36	11.41	11.46
	Panel Efficiency (%)	18.9	19.1	19.4	19.7	20.0	20.3	20.5
NMOT	Power Output - P_{MAX} (Wp)	261	264	268	272	276	280	283
	Nominal Power Voltage - V_{MPP} (V)	30.7	31.0	31.3	31.7	32.1	32.5	32.7
	Nominal Power Current - I_{MPP} (A)	8.50	8.54	8.56	8.58	8.60	8.63	8.66
	Open Circuit Voltage - V_{OC} (V)	37.8	38.0	38.1	38.2	38.2	38.4	38.6
	Short Circuit Current - I_{SC} (A)	9.04	9.10	9.12	9.13	9.18	9.22	9.26

Values at standard test conditions (STC: air mass AM 1.5, irradiance 10.75 W/sq ft (1000 W/m²), temperature 77°F (25°C), based on a production spread with a tolerance of P_{MAX}, V_{OC} & I_{SC} ±3% within one watt class. Nominal module operating temperature (NMOT: air mass AM 1.5, irradiance 800 W/m², temperature 68°F (20°C), windspeed 3.3 ft/s (1 m/s). *Where xxx indicates the nominal power class (P_{MAX}) at STC above.

REC N-Peak 2 Series Electrical Data

Indirect Infringement

51. Upon information and belief, REC Solar has actively induced, under 35 U.S.C. § 271(b), distributors, customers, subsidiaries, importers, and/or consumers (e.g., Crawford Electric Supply) that import, purchase, or sell the Accused Products that include or are made using all of the limitations of one or more claims of the ’516 patent to directly infringe one or more claims of the ’516 patent by using, offering for sale, selling, and/or importing the Accused Products. REC Solar has done so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the ’516 patent. Upon information and belief, REC Solar intends to cause, and has taken affirmative steps to induce infringement by distributors, customers, subsidiaries, and/or consumers by, inter alia, creating advertisements that promote the infringing use of the Accused Products, creating established distribution channels for the Accused Products into and within the United States, manufacturing the Accused Products, distributing or making available instructions or manuals for these products to purchasers and prospective buyers, and/or providing technical support, replacement parts, or services for these products to those purchasers in the United States directly and/or through REC Americas and/or other affiliates and distributors.

52. At a minimum, REC Solar has known of the ’516 patent at least as early as the filing date of this Complaint.

53. Upon information and belief, despite having knowledge of the ’516 patent and knowledge that it is directly and/or indirectly infringing one or more claims of the ’516 patent, REC Solar has nevertheless continued its infringing conduct. REC Solar’s infringing activities relative to the ’516 patent have been, and continue to be willful and deliberate misconduct beyond typical infringement such that Maxeon is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the compensatory amount awarded.

54. Maxeon has been damaged as a result of REC Solar's infringing conduct. REC Solar is liable to Maxeon in an amount that adequately compensates Maxeon for REC Solar's infringement, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT II

(INFRINGEMENT OF U.S. PATENT NO. 8,878,053)

55. Maxeon re-alleges and incorporates by reference the allegations in paragraphs 1-54 above.

56. Maxeon is the assignee of the '053 patent. Maxeon has all substantial rights to enforce the '053 patent, including the right to exclude others and to sue and recover damages for past and future infringement.

57. The '053 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code.

58. REC Solar has infringed and continues to infringe directly, either literally or under the doctrine of equivalents, one or more claims of the '053 patent in this District and elsewhere.

Direct Infringement

59. REC Solar directly infringes at least claims 9, 12, and 14-20 of the '053 patent under 35 U.S.C. § 271(a) by making, using, selling, offering for sale in the United States, and/or importing into the United States, without permission, consent, authority or license, the Accused Products, including without limitation the N-Peak, N-Peak 2, and N-Peak 3 Series solar panels, which are manufactured according to the methods of claims 9, 12, and 14-20. Furthermore, upon information and belief, REC Solar manufactures the Accused Products outside of the United States according to the methods of claims 9, 12, and 14-20, imports the Accused Products into the United States, and delivers the Accused Products to its customers, distributors, and/or subsidiaries in the

United States, or in the case that it delivers the Accused Products outside of the United States, REC Solar does so intending and/or knowing that the Accused Products are destined for the United States, thereby directly infringing at least claims 9, 12, and 14-20 of the ’053 patent pursuant to 35 U.S.C. § 271(g).

60. For example, independent claim 16 of the ’053 patent recites:

> 16. A method of fabricating a solar cell comprising:
>
> forming an oxide layer over a back surface of a silicon substrate;
>
> forming a layer of polysilicon over the oxide layer;
>
> diffusing dopants into the layer of polysilicon to form a backside junction with the silicon substrate;
>
> diffusing dopants into a front surface of the silicon substrate, the front surface of the silicon substrate facing the sun during normal operation; and
>
> forming a metal contact on the front surface of the silicon substrate, wherein the metal contact is electrically coupled to the silicon substrate.

61. Upon information and belief, REC Solar performs the steps of claim 16 because the Accused Products are fabricated according to a “TOPCon” structure, as shown and described in the REC Whitepaper. *See* REC Whitepaper at 1 (partial screenshot below).

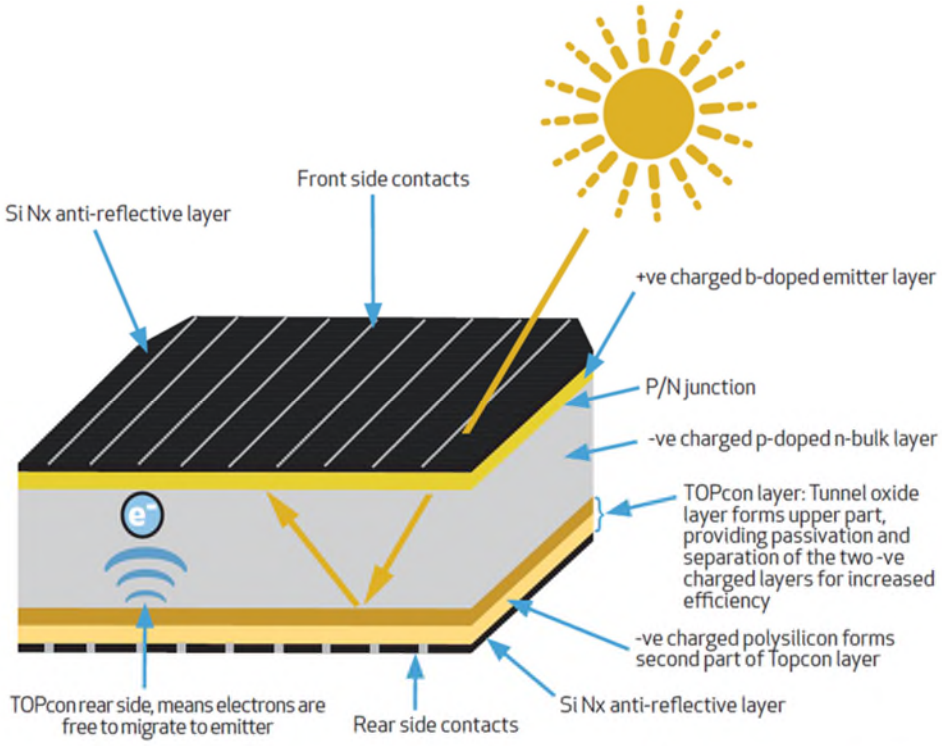


Fig 2: Cross-section of an REC N-Peak cell showing negatively charged bulk and TOPcon layer

REC Whitepaper

62. Upon information and belief, REC Solar performs the step of forming an oxide layer over a back surface of a silicon substrate because the Accused Products have a "Tunnel oxide layer" (i.e., an oxide layer) formed over a back surface of the "-ve charged p-doped n-bulk layer" (i.e., a silicon substrate). *See id.* (partial screenshot above).

63. Upon information and belief, REC Solar performs the step of forming a layer of polysilicon over the oxide layer because the Accused Products have a "-ve charged polysilicon" layer (e.g., a layer of polysilicon) formed over the "Tunnel oxide layer" (i.e., the oxide layer). *See id.*

64. Upon information and belief, REC Solar performs the step of diffusing dopants into the layer of polysilicon to form a backside junction with the silicon substrate because, regarding the "-ve charged polysilicon" layer (e.g., the layer of polysilicon), the description of this layer as

"-ve charged" indicates that dopants have been diffused into the layer of polysilicon to form a backside junction with the "-ve charged p-doped n-bulk layer" (i.e., silicon substrate). *See id.*

65. Upon information and belief, REC Solar performs the step of diffusing dopants into a front surface of the silicon substrate, the front surface of the silicon substrate facing the sun during normal operation, because the Accused Products have a "+ve charged b-doped emitter layer" on a front surface of the "-ve charged p-doped n-bulk layer" (i.e., silicon substrate), which indicates that dopants have been diffused into the front surface of the silicon substrate. *See id.* Upon information and belief, the textured surface is the front surface of the "-ve charged p-doped n-bulk layer" (i.e., silicon substrate) and faces the sun during normal operation. For example, REC Solar has explained that "many cell producers etch the outermost layer of the wafer, giving the silicon a surface with a texture that increases the amount of light absorbed by the silicon." *See* REC Annual Report, "Growing the potential of the sun" (2005), at 10, *available at* https://www.recgroup.com/sites/default/files/documents/rec_annual_report_2005.pdf.

66. Upon information and belief, REC Solar performs the step of forming a metal contact on the front surface of the silicon substrate, wherein the metal contact is electrically coupled to the silicon substrate, because the Accused Products have "Front side contacts" (i.e., a metal contact) on the front surface of the "-ve charged p-doped n-bulk layer" (i.e., silicon substrate). *See* REC Whitepaper at 1. The "Front side contacts" are electronically coupled to the "-ve charged p-doped n-bulk layer" (i.e., silicon substrate). *See id.*

67. At a minimum, REC Solar has known of the '053 patent at least as early as the filing date of this Complaint.

68. Upon information and belief, despite having knowledge of the '053 patent and knowledge that it is directly infringing one or more claims of the '053 patent, REC Solar has

nevertheless continued its infringing conduct. REC Solar's infringing activities relative to the '053 patent have been, and continue to be willful and deliberate misconduct beyond typical infringement such that Maxeon is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the compensatory amount awarded.

69. Maxeon has been damaged as a result of REC Solar's infringing conduct. REC Solar is liable to Maxeon in an amount that adequately compensates Maxeon for REC Solar's infringement, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT III

(INFRINGEMENT OF U.S. PATENT NO. 11,251,315)

70. Maxeon re-alleges and incorporates by reference the allegations in paragraphs 1-69 above.

71. Maxeon is the assignee of the '315 patent. Maxeon has all substantial rights to enforce the '315 patent, including the right to exclude others and to sue and recover damages for past and future infringement.

72. The '315 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code.

73. REC Solar has infringed and continues to infringe directly and/or indirectly, either literally or under the doctrine of equivalents, one or more claims of the '315 patent in this District and elsewhere.

Direct Infringement

74. REC Solar directly infringes at least claims 10-11 and 13-15 of the '315 patent under 35 U.S.C. § 271(a) by making, using, selling, offering for sale in the United States, and/or importing into the United States, without permission, consent, authority or license, the Accused

Products, including without limitation the N-Peak, N-Peak 2, and N-Peak 3 Series solar panels. Furthermore, upon information and belief, REC Solar sells and makes the Accused Products outside of the United States, delivers the Accused Products to its customers, distributors, and/or subsidiaries in the United States, or in the case that it delivers the Accused Products outside of the United States, REC Solar does so intending and/or knowing that the Accused Products are destined for the United States, thereby directly infringing at least claims 10-11 and 13-15 of the ’315 patent.

75. For example, independent claim 10 of the ’315 patent recites:

> 10. A solar cell, the solar cell having a front side which faces the sun during normal operation and a back side opposite the front side, the solar cell comprising:
>
> a silicon substrate, wherein a portion of the silicon substrate has a dopant concentration of approximately less than or equal to 2×10^{18} cm^{-3} and wherein the portion of the silicon substrate is formed at the front side of the solar cell;
>
> a dielectric region formed over the silicon substrate, wherein the dielectric region is formed over the back side of [the] solar [cell];[4]
>
> a first emitter region having metal impurities formed over the dielectric region; and
>
> a first metal contact formed over the first emitter region.

76. The Accused Products include a solar cell having a front side facing the sun to collect solar radiation during normal operation and a back side (or rear side) opposite the front side. *See* REC Whitepaper at 1 (partial screenshot below).

[4] *See* Ex. 3 at Certificate of Correction.

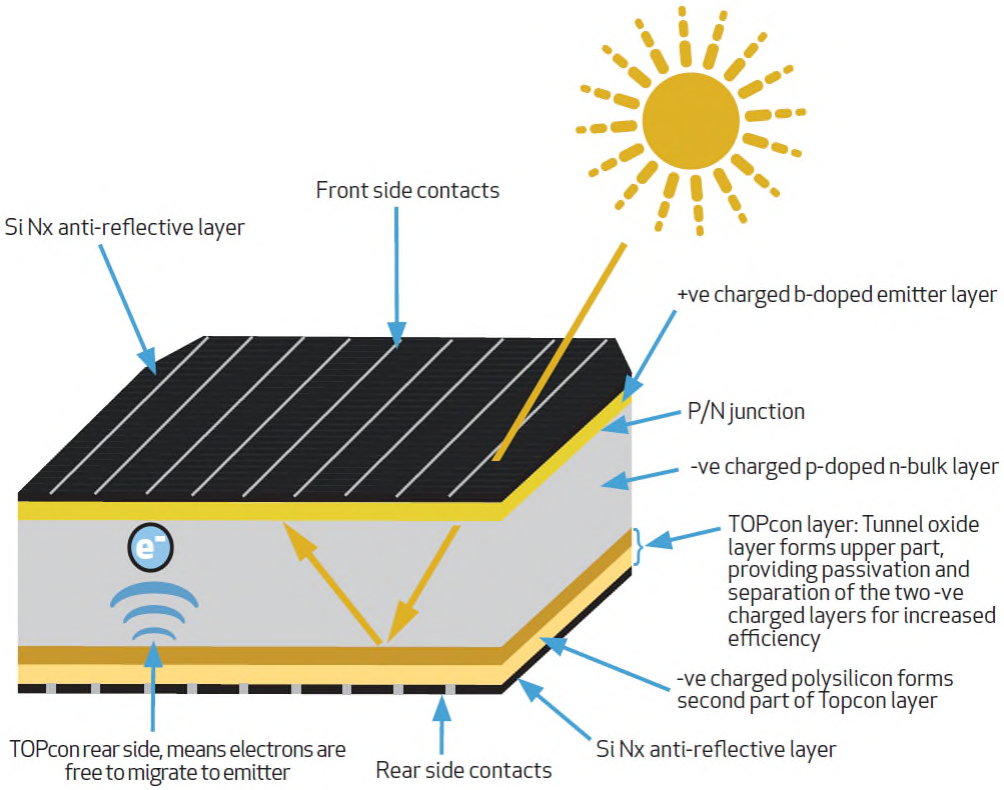


Fig 2: Cross-section of an REC N-Peak cell showing negatively charged bulk and TOPcon layer

REC Whitepaper

77. The Accused Products have a "-ve charged p-doped n-bulk layer" silicon substrate. *See id.* (partial screenshot above).

78. Upon information and belief, the Accused Products have a portion of the "-ve charged p-doped n-bulk layer" (i.e., the silicon substrate) having a dopant concentration of approximately less than or equal to 2×10^{18} cm^{-3}, which is formed on the front side of the solar cell. *See id.*

79. The Accused Products have a "TOPcon layer" which includes a "Tunnel oxide layer" (i.e., a dielectric region) formed over the "-ve charged p-doped n-bulk layer" (i.e., the silicon substrate) on the back side of the solar cell. *See id.*

80. The Accused Products have a "-ve charged polysilicon" layer, which is a first emitter region formed over the "Tunnel oxide layer" (i.e., the first dielectric region). *See id.* Upon information and belief, the "-ve charged polysilicon" layer has metal impurities.

81. The Accused Products have "Rear side contacts," which include a metal contact, formed over the "-ve charged polysilicon" layer (i.e., the first emitter layer).

Indirect Infringement

82. Upon information and belief, REC Solar has actively induced, under 35 U.S.C. § 271(b), distributors, customers, subsidiaries, importers, and/or consumers (e.g., Crawford Electric Supply) that import, purchase, or sell the Accused Products that include or are made using all of the limitations of one or more claims of the '315 patent to directly infringe one or more claims of the '315 patent by using, offering for sale, selling, and/or importing the Accused Products. REC Solar has done so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '315 patent. Upon information and belief, REC Solar intends to cause, and has taken affirmative steps to induce infringement by distributors, customers, subsidiaries, and/or consumers by, inter alia, creating advertisements that promote the infringing use of the Accused Products, creating established distribution channels for the Accused Products into and within the United States, manufacturing the Accused Products, distributing or making available instructions or manuals for these products to purchasers and prospective buyers, and/or providing technical support, replacement parts, or services for these products to those purchasers in the United States directly and/or through REC Americas and/or other affiliates and distributors.

83. At a minimum, REC Solar has known of the '315 patent at least as early as the filing date of this Complaint.

84. Upon information and belief, despite having knowledge of the '315 patent and knowledge that it is directly and/or indirectly infringing one or more claims of the '315 patent,

REC Solar has nevertheless continued its infringing conduct. REC Solar's infringing activities relative to the '315 patent have been, and continue to be willful and deliberate misconduct beyond typical infringement such that Maxeon is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the compensatory amount awarded.

85. Maxeon has been damaged as a result of REC Solar's infringing conduct. REC Solar is liable to Maxeon in an amount that adequately compensates Maxeon for REC Solar's infringement, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

PRAYER FOR RELIEF

WHEREFORE, Maxeon requests the Court to grant the following relief:

A. A judgment that REC Solar has infringed one or more claims of each of the Asserted Patents and/or has induced infringement of the '516 patent and/or '315 patent;

B. A judgment that each of the Asserted Patents is valid and enforceable;

C. A permanent injunction enjoining REC Solar, its employees, agents, officers, directors, attorneys, successors, affiliates, subsidiaries, and assigns, and all of those in active concert and participation with any of the foregoing persons or entities, from infringing or inducing infringement of the Asserted Patents;

D. A judgment for an accounting of all damages and to pay damages adequate to compensate Maxeon for REC Solar's infringement of the Asserted Patents;

E. A judgment that REC Solar has willfully infringed the Asserted Patents;

F. A judgment that the damages award be increased up to three times the actual amount assessed, pursuant to 35 U.S.C. § 284;

G. A judgment requiring REC Solar to pay Maxeon's costs, expenses, and pre-judgment and post-judgment interest for REC Solar's infringement of each of the Asserted Patents pursuant to 35 U.S.C. § 284;

H. A judgment finding that this is an exceptional case and awarding Maxeon its reasonable attorneys' fees pursuant to 35 U.S.C. § 285; and

I. Such other relief that the Court deems just and proper.

DEMAND FOR JURY TRIAL

In accordance with Federal Rule of Civil Procedure 38 and Local Rule CV-38, Maxeon respectfully demands a jury trial of all issues triable to a jury in this action.

Dated: April 19, 2024

Respectfully submitted,

/s/ Eric J. Klein

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