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

MAXEON SOLAR PTE. LTD., Plaintiff and Counterclaim Defendant, v. HANWHA SOLUTIONS CORPORATION and HANWHA ENERGY CORPORATION, Defendants and Counterclaim Plaintiffs.	CIVIL ACTION NO. 2:24-cv-262-JRG JURY TRIAL DEMANDED

DEFENDANT HANWHA SOLUTIONS CORPORATION'S ANSWER, AFFIRMATIVE DEFENSES, AND COUNTERCLAIMS TO PLAINTIFF MAXEON SOLAR PTE. LTD.'S COMPLAINT FOR PATENT INFRINGEMENT

Defendant Hanwha Solutions Corporation ("HSC") submits the following Answer, Affirmative Defenses, and Counterclaims to Plaintiff Maxeon Solar Pte. Ltd.'s Complaint for Patent Infringement. Except as expressly admitted, HSC denies each of the allegations of the Complaint.

1. HSC lacks knowledge or information sufficient to form a belief as to the truth of the allegations set forth in this paragraph, and therefore denies the same.

2. HSC lacks knowledge or information sufficient to form a belief as to the truth of the allegations set forth in this paragraph, and therefore denies the same.

3. HSC lacks knowledge or information sufficient to form a belief as to the truth of the allegations set forth in this paragraph, and therefore denies the same.

4. HSC denies the allegations set forth in the first and fourth sentence of this paragraph. HSC admits the allegations set forth in the second and third sentences of this paragraph.

With respect to footnote 1 of this paragraph, HSC admits the first sentence and denies the second sentence. HSC denies any remaining allegations in this paragraph.

5. HSC states that comparing TOPCon technology to "conventional solar cell technologies" depends on a variety of factors, and that those factors may be interrelated. Whether "TOPCon technology is an improvement over conventional cell technologies" is case specific and depends on what criteria is used to define an improvement; therefore, HSC denies the allegations in this paragraph.

6. The document cited in paragraph 6 speaks for itself. To the extent the paragraph alleges anything about the Asserted Patents, including regarding their validity or enforceability, HSC denies the allegations in this paragraph.

7. HSC lacks knowledge or information sufficient to form a belief as to the truth of the allegations set forth in this paragraph, and therefore denies the same.

8. HSC admits to the allegations in this paragraph.

9. No response is required on behalf of HSC because the allegations in this paragraph are solely directed at HEC.

10. With respect to the first sentence of this paragraph, HSC admits that https://www.hanwha.com/newsroom/news/feature-stories/growth-models-for-renewables-its-time-for-more-investment-innovation-and-industry-leadership.do states that "Qcells' Q.ANTUM, a proprietary Passivated Emitter Rear Cell (PERC) technology, set the industry standard by boosting the amount of electricity a solar module generates," and that https://media.q-cells.com/v/FllBdFI1/ shows a point on a timeline for 2012 that states "Q.ANTUM" and "The World's First Commercialized PERC." With respect to the second sentence of this paragraph, HSC admits that https://us.qcells.com/energy-harvesting-technology/ states "+7% Power Output

compared to standard BSF cell (PERT technology)." With respect to footnote 2 of this paragraph, HSC lacks knowledge or information sufficient to form a belief as to the truth of the allegations, and therefore denies the same. HSC otherwise denies the allegations in this paragraph.

11. HSC admits that https://media.q-cells.com/v/FllBdFI1/ states "GET READY FOR A NEW ERA OF SOLAR" and "Q.TRON is highly efficient N-type solar module based on Q.ANTUM NEO Technology." HSC admits that the screenshot in paragraph 11 appears to be a still image from the 29 second mark of https://www.youtube.com/watch?v=vO2u9hopL3A&list=PPSV and that the video states "And now, 2022, Qcells is opening a new era of solar with its latest Q.ANTUM NEO technology." HSC otherwise denies the allegations in this paragraph.

12. With respect to the first sentence of this paragraph, HSC admits that https://media.q-cells.com/v/FllBdFI1/ states "Within Q.ANTUM NEO solar cells (N-type), passivation layer and electrical interconnection functionality are integrated in the NEO Power Transmitter layer. This allows for a full area passivation and full area contact at the same time thus overcoming the PERC limitations." With respect to the second sentence of this paragraph, HSC admits that https://us.qcells.com/energy-harvesting-technology/ states "+12.7% Power Output compared to standard PERC technology solar module" in connection with Q.ANTUM NEO. HSC otherwise denies the allegations in this paragraph.

13. HSC denies the allegations in the first sentence of paragraph 13. HSC admits that https://us.qcells.com/wp-content/uploads/2024/03/Flyer_Q.TRON_Residential_Flyer_Rev02.pdf states "Q.TRON is Qcells' latest TOPCon N-type panel, incorporating cutting-edge and proprietary Q.ANTUM NEO Technology." HSC admits that https://www.q-cells.eu/en/press-releases/detail?tx_news_pi1%5Baction%5D=detail&tx_news_pi1%5Bcontroller%5D=News&tx

_news_pi1%5Bnews%5D=179&cHash=51dac6916e76006abe3eda52302350bb states "Q.ANTUM NEO is based on a TopCON-type cell structure that incorporates passivating contact technology to deliver higher efficiencies than typical PERC-type cells." HSC otherwise denies the allegations in this paragraph.

14. With respect to the first sentence of this paragraph, HSC admits that Benjamin G. Lee et al., "Towards >25% Efficiency of Passivating-Contact Solar Cells in Mass Production," SiliconPV 2023, 13th Int'l Conf. on Crystalline Silicon (published Feb. 22, 2024) is authored by individuals affiliated with Hanwha Q Cells GmbH, states that "Modules developed using Q.antum Neo passivating-contact cells also exhibit excellent efficiencies," and contains a Figure 6 titled "Performance of Q.Tron module with 132 M6-size half-cells, using Q.antum Neo technology." With respect to the second sentence of this paragraph, HSC admits that the same article includes a Figure 3 that shows a "Learning curve of cell efficiency over time at Qcells, showing approx. 9.5%abs yearly improvement" with Q.ANTUM Neo plotted beginning between "D 17" and "D 19." HSC otherwise denies the allegations in this paragraph.

15. HSC admits that this purports to be an action for alleged patent infringement and that this Court has subject matter jurisdiction over the action.

16. This paragraph contains conclusions of law to which no response is required. To the extent a response is required, HSC denies the allegations in the first sentence of this paragraph. With respect to the second sentence of this paragraph, HSC admits that https://www.hanwha.com/content/dam/hanwha/download/Hanwha-Snapshot-2023-en.pdf is titled "Hanwha Snapshot 2023" and states, referring to Hanwha Group, that "Hanwha is South Korea's seventh-largest business group with a diverse portfolio that includes innovative businesses in the areas of energy, ocean, aerospace, finance, and retail & services. As a multinational

company ranked in the Fortune Global 500, we boast a robust network of domestic and global affiliates…" With respect to the third sentence of this paragraph, HSC admits that the same document states "We have secured a reputation as a reliable and committed partner in major global markets, including the U.S. and Europe, by offering a diverse portfolio of energy solutions including solar power, hydrogen, wind power, and LNG." HSC denies any remaining allegations in this paragraph.

17. With respect to the first sentence of this paragraph, HSC admits that https://www.hanwha.com/content/dam/hanwha/news_and_media/Hanwha_at_a_glance/gallery/pdf/hanwha_global_presence_usa.pdf describes certain aspects of Hanwha Group's "presence" in the United States. With respect to the second sentence of this paragraph, HSC admits that the document states "Prospects abound in the U.S., where Hanwha first established its presence in 1982. Hanwha's American businesses are major players in the manufacture, sale, and support of a wide variety of products. These include solar power solutions, aircraft engines, automotive parts, industrial equipment, security systems, and chemicals. Because of this, Hanwha is making a push to further expand its American operations, focusing on disruptive high-tech and sustainable enterprises as well as finance and start-up incubation." HSC denies any remaining allegations in this paragraph.

18. HSC admits that https://www.hanwhasolutions.com/en/ states "Charging the world with solar power" and "The head office, which is located in Seoul, Korea, plays a crucial role in managing Hanwha Solutions global network. Hanwha Solutions aspires to expand its global network to proactively respond to changes in the global market." HSC otherwise denies the allegations in this paragraph.

19. HSC admits that, at the time of the complaint, the image in paragraph 19 appeared in https://www.hanwhasolutions.com/static/en/data/Hanwha_Solutions_PPT_2023_EN.pdf and that such document stated, "Qcells Division" followed by "A provider of total energy solutions, from solar modules and systems to renewable energy plant development/construction and energy retail." HSC otherwise denies the allegations in this paragraph.

20. HSC admits that, at the time of the complaint, https://www.hanwhasolutions.com/en/ stated "Qcells Division is a global provider of complete energy solutions. We are actively pursuing businesses in major global markets by not only producing solar cells and modules in the midstream sector, but also securing downstream value chains, which includes renewable energy power plant development, construction, and operation as well as energy retail service." HSC otherwise denies the allegations in this paragraph.

21. With respect to the first sentence of this paragraph, HSC admits that the document identified as "2023 Hanwha Solutions Company Overview" identifies Seoul, South Korea as the "Global Executive HQ," Thalheim, Germany as the "Technology & Innovation HQ," and other sites globally for "Qcells Division." With respect to the second sentence of this paragraph, HSC admits that the Qcells Division has one manufacturing site in Dalton, Georgia and a sales network in Irvine, California. With respect to footnote 4 of this paragraph, HSC admits that https://www.hanwhasolutions.com/en/cs/news/view?idx=653&ref=%2Fen%2Fcs%2Fnews%2Flist states "Hanwha said it will spend $170 million building a 1.4-gigawatt solar module production facility in Dalton, Georgia, where Qcells already operates a 1.7 gigawatt module factory. With the newly-built factory expected to come online as early as the first half of 2023, Qcells' total production capacity in the U.S. will exceed 3 gigawatt – equivalent to one-third of current US solar module production capacity," and that https://us.qcells.com/our-locations/ lists sales offices for

Hanwha Q CELLS America Inc. and Hanwha Q CELLS USA Corp. at 300 Spectrum Center Drive, Suite 500, Irvine, CA 92618 and a manufacturing site for Hanwha Q CELLS USA Inc. at 300 Nexus Drive, Dalton, GA 30721. HSC otherwise denies the allegations in this paragraph.

22. HSC admits that the document identified as Hanwha's United States Brochure states "According to the Q1 2022 U.S. PV Leaderboard report by Wood Mackenzie Power & Renewables, Hanwha Solutions' Qcells division continues to maintain the No. 1 market share in the U.S. residential and commercial solar markets with 24.1% and 20.6% of the market share, respectively" and "Recently, Hanwha Solutions' Qcells division completed the construction of a 168-MW solar power plant in the United States. This solar farm, located in Texas, can power 30,000 homes and is one of only two solar power plants in the state with over 100 MW in capacity." HSC admits that, at the time of the complaint, https://www.hanwha.com/en/news_and_media/stories/sustainability/plugging-into-the-sun-how-hanwha-is-leading-with-innovations-in-solar-energy.html was titled "Plugging into the Sun: How Hanwha is Leading with Innovations in Solar Energy," and states "Hanwha Q CELLS' solar modules installed at a power plant in Texas, U.S." HSC otherwise denies the allegations in this paragraph and states that the referenced power plant in Texas does not use the Accused Products.

23. With respect to the first sentence of this paragraph, HSC admits that it has direct and indirect U.S. subsidiaries, including Hanwha Q CELLS America Inc., Hanwha Q CELLS USA Corp., and Hanwha Q CELLS USA Inc. HSC denies that it directs or controls these entities. With respect to the second sentence of this paragraph, HSC admits that https://us.qcells.com/our-locations/ states that Hanwha Q CELLS America Inc. and Hanwha Q CELLS USA Corp. have sales offices in Irvine, CA and that Hanwha Q CELLS USA Inc. has a manufacturing facility in Dalton, GA. HSC otherwise denies the allegations in this paragraph.

24. With respect to the first sentence of this paragraph, HSC admits that https://us.qcells.com/blog/operations-have-commenced-at-its-coniglio-solar-project-located-in-fannin-county-texas-and-interconnecting-in-the-north-ercot-load-zone/ states "Q CELLS USA Corp. ('HQC US') develops, invests, and delivers photovoltaic (PV) and battery energy storage system (BESS) projects through Development and Engineering, Procurement, and Construction (EPC) solutions in North America." With respect to the second sentence of this paragraph, HSC admits that the same website states "Q CELLS USA Corp. announced last week that operations have commenced at its Coniglio Solar Project, located in Fannin County, Texas and interconnecting in the North ERCOT load zone" and "The Coniglio project comprises 404,712 Q.PEAK DUO L-G8.2 415W solar modules, supplied by Q CELLS America Inc. and 42 inverters," that the website is dated December 14, 2021, and that Fannin County is in this District. HSC states that the referenced power plant in Texas does not use the Accused Products, as the same website makes clear: "The Coniglio project comprises 404,712 ***Q.PEAK DUO*** L-G8.2 415W solar modules." (emphasis added). HSC otherwise denies the allegations in this paragraph.

25. With respect to the first sentence of this paragraph, HSC admits that https://us.qcells.com/blog/qcells-announces-solar-panel-manufacturing-expansion-will-be-in-dalton-georgia/ is dated May 26, 2022, and states "Qcells, the world's leading clean energy solutions provider, announces today that its new solar panel manufacturing facility will be located in Dalton, Georgia. The $171 million investment will boost production of advanced photovoltaic modules that will help the U.S. achieve its goals of decarbonizing the electric grid and creating good-paying manufacturing jobs." With respect to the second sentence of this paragraph, HSC admits the same website states "Located near the company's existing 1.7-gigawatt factory in Dalton, the expansion will bring Qcells' total capacity in the U.S. to 3.1 gigawatts, equivalent to

one-third of the country's solar module manufacturing capacity." With respect to the third sentence of this paragraph, HSC admits the same website states "The new facility will produce 1.4 gigawatts of solar modules per year made with Qcells' next generation photovoltaic cells, a high efficiency tunnel oxide passivated contact technology, better known as TOPCon." With respect to the fourth sentence of this paragraph, HSC admits that https://us.qcells.com/complete-energy-solutions/our-commitment/ states "Qcells currently operates the largest solar module factory of its kind in the United States, based in Dalton, Georgia." HSC otherwise denies the allegations in this paragraph.

26. HSC admits that https://us.qcells.com/complete-energy-solutions/our-commitment/ states "In January 2023, Qcells announced the largest investment in U.S. solar history to build a complete and sustainable solar supply chain in the United States. With this announcement, Qcells will have a production capacity of 8.4 GW by 2024 and a total of 4,000 clean energy jobs. These investments underscores Qcells' commitment to USA manufacturing." HSC otherwise denies the allegations in this paragraph.

27. With respect to the first sentence of this paragraph, HSC admits that https://www.qpartnerus.com/qpp/s/article/Qcells-SREC-Program-Flyer-Texas is a June 2023 document about the "Qcells Texas SREC Program," but denies that HSC has "Texas-based solar customers." With respect to the second sentence of this paragraph, HSC admits that SREC stands for Solar Renewable Energy Credit and that the flyer states "SRECs are credits that represent the positive environmental impact of generating one megawatt-hour (MWh) of electricity from solar energy." With respect to the third sentence of this paragraph, HSC admits that the flyer states "Qcells' Texas SREC Program allows you to transfer your solar renewable energy credits (SRECs) to Qcells, and we will give you an eGift card ($10 per kW)." HSC states that the SREC Program

does not relate to the Accused Products and that it is not currently available in Texas. *See* https://partners.es.qcells.com/SREC-signup/ ("Currently, the Qcells SREC program is only available for PV system owners in California and Massachusetts."). HSC otherwise denies the allegations in this paragraph.

28. With respect to the first sentence of this paragraph, HSC states that it is unclear what meaning Maxeon is ascribing to the term "operate," but on HSC's understanding, Axia Solar Corporation is not operated by Hanwha Q CELLS America Inc. HSC admits that, at the time of the complaint, https://axiasolarusa.com/ stated "We're a one-stop-shop that owns every aspect of the home solar experience. From solar equipment manufacturing and sales to solar financing, installation, service and beyond." With respect to the second sentence of this paragraph, HSC admits that the same website, at the time of the complaint, stated "Axia by Qcells proudly serves residents across California, Florida, and Texas." With respect to the third sentence of this paragraph, HSC admits that https://axiasolarusa.com/locations/texas/ states "Axia Solar takes great pride in providing Texas residents with effortless solar solutions that support energy independence and power up lifestyles." With respect to footnote 5 of this paragraph, HSC denies that Axia Solar is located at "400 Spectrum Center Drive, Suite 1400, Irvine, California 92618," and states that Axia Solar is located at 300 Spectrum Center Drive Suite 500, Irvine, CA 92618, which is the same address as Hanwha Q CELLS America Inc. HSC otherwise denies the allegations in this paragraph.

29. HSC denies that it has manufactured the Accused Products in the United States, including in Texas. HSC states that the Accused Products are manufactured by Hanwha Q CELLS USA Inc. in Dalton, Georgia. HSC denies that HSC sells the Accused Products to customers in the United States, including customers in Texas. HSC denies that Axia Solar is involved in

manufacturing of the Accused Products. HSC admits that Axia Solar has contracted for sale of certain of the Accused Products in Texas. HSC otherwise denies the allegations in this paragraph.

30. HSC denies the allegations in this paragraph.

31. HSC states that it is unclear what meaning Maxeon is ascribing to the term "corporate presence," and on that basis denies the allegations of the first sentence of this paragraph. With respect to the second sentence of this paragraph, HSC admits that https://www.hanwha.com/en/products_and_services/affiliates/ hanwha_q_cells.html, at the time of the complaint, was titled "Hanwha Q CELLS" and stated "Since our entry into the solar energy business in 2010, the Hanwha Group has transformed Hanwha Q CELLS into the world's leading producer of solar cells and modules." With respect to the second sentence of this paragraph, HSC admits that the same document, at the time of the complaint, stated "In Q1 2019, we penetrated the US market and began our acceleration to expand into the country by building a 1.7GW capacity module plant in the US state of Georgia." HSC otherwise denies the allegations in this paragraph.

32. HSC denies the allegations in this paragraph.

33. HSC denies the allegations in this paragraph.

34. HSC denies the allegations in this paragraph.

35. This paragraph contains conclusions of law to which no response is required. To the extent that the paragraph is deemed to contain factual allegations, HSC denies the allegations in this paragraph.

36. This paragraph contains conclusions of law to which no response is required. To the extent that the paragraph is deemed to contain factual allegations, HSC denies the allegations in this paragraph.

37. This paragraph contains conclusions of law to which no response is required. To the extent the paragraph is deemed to contain factual allegations, venue is proper in this judicial district, but the Central District of California is a more convenient venue for all parties.

38. No response is required on behalf of HSC because the allegations in this paragraph are solely directed at HEC.

39. No response is required on behalf of HSC because the allegations in this paragraph are solely directed at HEC.

40. No response is required on behalf of HSC because the allegations in this paragraph are solely directed at HEC.

41. No response is required on behalf of HSC because the allegations in this paragraph are solely directed at HEC.

42. No response is required on behalf of HSC because the allegations in this paragraph are solely directed at HEC.

43. No response is required on behalf of HSC because the allegations in this paragraph are solely directed at HEC.

44. No response is required on behalf of HSC because the allegations in this paragraph are solely directed at HEC.

45. No response is required on behalf of HSC because the allegations in this paragraph are solely directed at HEC.

46. No response is required on behalf of HSC because the allegations in this paragraph are solely directed at HEC.

47. No response is required on behalf of HSC because the allegations in this paragraph are solely directed at HEC.

48. No response is required on behalf of HSC because the allegations in this paragraph are solely directed at HEC.

49. No response is required on behalf of HSC because the allegations in this paragraph are solely directed at HEC.

50. No response is required on behalf of HSC because the allegations in this paragraph are solely directed at HEC.

51. HSC admits that Maxeon purports to assert the ’516, ’053, and ’315 patents against HSC.

52. HSC admits that Maxeon has attached as Exhibit 1 to its Complaint what it purports to be a copy of the ’516 patent, that it is entitled “Front Contact Solar Cell with Formed Emitter,” that the named inventor is Peter John Cousins, and that the date of issue is shown as July 17, 2012. HSC otherwise denies the allegations in this paragraph and specifically denies that the ’516 patent is valid, including for the reasons set forth below.

53. This paragraph contains conclusions of law to which no response is required. To the extent that this paragraph is deemed to contain factual allegations, HSC denies the allegations in this paragraph.

54. HSC admits that Maxeon has attached as Exhibit 2 to the Complaint what it purports to be a copy of the ’053 patent, that it is entitled “Front Contact Solar Cell with Formed Emitter,” that the named inventor is Peter John Cousins, and that the issue date is shown as November 4, 2014. HSC otherwise denies the allegations in this paragraph and specifically denies that the ’053 patent is valid, including for the reasons set forth below.

55. This paragraph contains conclusions of law to which no response is required. To the extent that this paragraph is deemed to contain factual allegations, HSC denies the allegations in this paragraph.

56. HSC admits that Maxeon has attached as Exhibit 3 to the Complaint what it purports to be a copy of the ’315 patent, that it is entitled “Solar Cells with Improved Lifetime, Passivation and/or Efficiency,” that the named inventors are David D. Smith, Tim Dennis, and Russelle De Jesus Tabajonde, and that the issue date is shown as February 15, 2022. HSC otherwise denies the allegations in this paragraph and specifically denies that the ’315 patent is valid, including for the reasons set forth below.

57. This paragraph contains conclusions of law to which no response is required. To the extent that this paragraph is deemed to contain factual allegations, HSC denies the allegations in this paragraph.

58. HSC lacks knowledge or information sufficient to form a belief as to the truth of the allegations set forth in this paragraph, and therefore denies the same.

59. With respect to the first sentence of this paragraph, HSC denies that it designs, manufactures, imports, sells, and/or offers to sell solar modules with “Q.ANTUM NEO Technology” including Q.TRON solar modules in the U.S., but admits that it is involved in the design of Q.ANTUM NEO technology outside of the U.S. With respect to the second sentence of this paragraph, HSC admits that Q.TRON BLK-G1+ Series, Q.TRON BLK M-G2+ Series, Q.TRON XL-G2.3/BFG, Q.TRON SMART BLK-G1+, and Q.TRON SMART-G1+ are products in the Q.TRON solar module series. With respect to the third sentence of this paragraph, HSC denies the allegations. HSC otherwise denies the allegations in this paragraph.

60. HSC incorporates by reference its answers to paragraphs 1-59 above.

61. HSC lacks knowledge or information sufficient to form a belief as to the truth of the allegations set forth in this paragraph, and therefore denies the same.

62. This paragraph contains conclusions of law to which no response is required. To the extent that this paragraph is deemed to contain factual allegations, HSC denies the allegations in this paragraph.

63. HSC denies the allegations in this paragraph.

64. HSC denies the allegations in this paragraph.

65. HSC admits to the allegations in this paragraph.

66. HSC admits that the cited "Hanwha Q.ANTUM Neo Analysis" document includes and describes Figure 1, as depicted in this paragraph. HSC admits that page 2 of the cited "Hanwha Q.ANTUM Neo Analysis" document states: "At Qcells, we have developed the Q.antum Neo technology, which is a n-type cell with passivating-contact technology (Fig. 1)." HSC admits that page 2 of the cited "Hanwha Q.ANTUM Neo Analysis" states: "The overall process flow from the raw wafer to finished cell is outlined in Fig. 2. The main steps include: wafer texturing, boron emitter diffusion, edge isolation, deposition of the passivating contact, cleaning, dielectrics deposition, and metallization." For the remaining allegations in this paragraph, Maxeon has used, referenced, or incorporated claim terms (e.g., "solar cell having a front side facing the sun to collect solar radiation during normal operation and a backside opposite the front side" and "a substrate having a textured front surface"); it is unclear what meaning Maxeon is ascribing to the claim terms, and on that basis, HSC denies those allegations.

67. HSC admits that the cited "Hanwha Q.ANTUM Neo Analysis" document includes and describes Figure 1. HSC admits that page 2 of the cited "Hanwha Q.ANTUM Neo Analysis" document states: "The cell has a p+, boron-doped emitter on the front side, and has the n-type

passivating contact on the rear." HSC admits that page 5 of the cited "Hanwha Q.ANTUM Neo Analysis" states: "An analysis of the energy loss channels for the cells was done, aided by Quokka2 (Fig. 3). It shows that the cells' rear-side is nearly perfect; this is not surprising considering that the n-polysilicon passivation stack achieves J0,pass ~ 2 fA/cm², calculated from QSSPC measurements on test wafers." For the remaining allegations in this paragraph, Maxeon has used, referenced, or incorporated claim terms (e.g., "an emitter layer formed over a back surface of the substrate"); it is unclear what meaning Maxeon is ascribing to the claim terms, and on that basis, HSC denies those allegations.

68. For the allegations in this paragraph, Maxeon has used, referenced, or incorporated claim terms (e.g., "the emitter layer forming a backside junction with the substrate"). It is unclear what meaning Maxeon is ascribing to the claim terms, and on that basis, HSC denies those allegations.

69. HSC admits that the cited "Hanwha Q.ANTUM Neo Analysis" document refers to "TOPCon" as "tunnel-oxide passivated contact" and includes a diagram captioned with "Energy loss of 25.3% TOPCon cell." HSC admits that the cited "Hanwha Q.ANTUM Neo Analysis" document includes and describes Figure 1, as depicted in Paragraph 66. HSC admits that the cited "Qcells plugs in Completely Clean Energy for Intersolar Europe 2022" document states that "Q.ANTUM NEO is based on a TopCON-type cell structure that incorporates passivating contact technology to deliver higher efficiencies than typical PERC-type cells." For the remaining allegations in this paragraph, Maxeon has used, referenced, or incorporated claim terms (e.g., "oxide layer formed between the back surface of the substrate and the emitter layer"); it is unclear what meaning Maxeon is ascribing to the claim terms, and on that basis, HSC denies those allegations.

70. HSC admits that the cited "Hanwha Q.ANTUM Neo Analysis" includes a Figure 1 that includes the language "front-side metallization" and "n-type passivating contact" and that the document states "This was accomplished by: firstly, engineering the front metal contact to decrease its recombination and improve its contact to silicon; secondly and in concern, the optimization of the emitter, including its dopant profile and surface passivation." For the remaining allegations in this paragraph, Maxeon has used, referenced, or incorporated claim terms (e.g., "first metal contact," "front side," and "the substrate"); it is unclear what meaning Maxeon is ascribing to the claim terms, and on that basis, HSC denies those allegations.

71. HSC admits that the cited "Hanwha Q.ANTUM Neo Analysis" includes a Figure 1 that includes the language "rear-side metallization" and "n-type passivating contact." For the remaining allegations in this paragraph, Maxeon has used, referenced, or incorporated claim terms (e.g., "second metal contact," "the emitter layer" and "backside"); it is unclear what meaning Maxeon is ascribing to the claim terms, and on that basis, HSC denies those allegations.

72. With respect to the first sentence of this paragraph, HSC admits that the cited "Hanwha Q.ANTUM Neo Analysis" includes a Figure 1 that includes the language "rear-side metallization" and "front-side metallization." HSC further states that the first sentence of the paragraph does not refer to the Accused Products. With respect to the second sentence of this paragraph, HSC admits that https://us.qcells.com/wp-content/uploads/2024/01/Qcells_Data_sheet_Q.TRON_BLK_M-G2_series_405-430_DA_2023-12_Rev02_NA.pdf includes a table of Electrical Characteristics for the Q.TRON BLK M-G2+ Series. For the remaining allegations in this paragraph, Maxeon has used, referenced, or incorporated claim terms ("first metal contact" and "second metal contact"); it is unclear what meaning Maxeon is ascribing to the claim terms, and on that basis, HSC denies those allegations.

73. HSC denies the allegations in this paragraph.

74. HSC admits to the allegations in this paragraph.

75. HSC denies the allegations in this paragraph.

76. HSC denies the allegations in this paragraph.

77. HSC incorporates by reference its answers to paragraphs 1-76 above.

78. HSC lacks knowledge or information sufficient to form a belief as to the truth of the allegations set forth in this paragraph, and therefore denies the same.

79. This paragraph contains conclusions of law to which no response is required. To the extent this paragraph is deemed to contain factual allegations, HSC denies the allegations in this paragraph.

80. HSC denies the allegations in this paragraph.

81. HSC denies the allegations in this paragraph.

82. HSC admits to the allegations in this paragraph.

83. HSC admits that the cited "Hanwha Q.ANTUM Neo Analysis" includes a Figure 1 and uses the phrase "TOPCon." For the remaining allegations in this paragraph, HSC denies them.

84. With respect to the second sentence of this paragraph, HSC admits that the cited "Hanwha Q.ANTUM Neo Analysis" states "The higher efficiencies possible with passivating-contact cell concepts such as tunnel-oxide passivated contact (TOPCon) [1] and heterojunction (HJT) are a major reason for the shift towards these technologies as PERC nears the ends of its efficiency roadmap" and "Energy loss analysis of 25.3% TOPCon cell." HSC admits that the cited "Qcells plugs in Completely Clean Energy for Intersolar Europe 2022" document states "Q.ANTUM NEO is based on a TopCON-type cell structure that incorporates passivating contact technology to deliver higher efficiencies than typical PERC-type cells." With respect to the third

sentence of this paragraph, HSC admits that the cited "Hanwha Q.ANTUM Neo Analysis" includes a Figure 1 that states "n-type passivating contact." For the remaining allegations in this paragraph, Maxeon has used, referenced, or incorporated claim terms (e.g., "an oxide layer," "a silicon substrate," "the substrate," and "the emitter layer"); it is unclear what meaning Maxeon is ascribing to the claim terms, and on that basis, HSC denies those allegations.

85. With respect to the first sentence of this paragraph, HSC admits that the cited "Hanwha Q.ANTUM Neo Analysis" states "The higher efficiencies possible with passivating-contact cell concepts such as tunnel-oxide passivated contact (TOPCon) [1] and heterojunction (HJT) are a major reason for the shift towards these technologies as PERC nears the ends of its efficiency roadmap" and includes a Figure 1 that uses the language "n-type passivating contact." With respect to the second sentence of this paragraph, the same document states "It shows that the cells' rear-side is nearly perfect; this is not surprising considering that the n-polysilicon passivation stack achieves J0,pass ~ 2 fA/cm², calculated from QSSPC measurements on test wafers." For the remaining allegations in this paragraph, Maxeon has used, referenced, or incorporated claim terms (e.g., "oxide layer," "layer of polysilicon," and "forming a layer of polysilicon over the oxide layer"); it is unclear what meaning Maxeon is ascribing to the claim terms, and on that basis, HSC denies those allegations.

86. HSC admits that the cited "Hanwha Q.ANTUM Neo Analysis" uses the language "n-type passivating contact," and states "It shows that the cells' rear-side is nearly perfect; this is not surprising considering that the n-polysilicon passivation stack achieves J0,pass ~ 2 fA/cm², calculated from QSSPC measurements on test wafers." For the remaining allegations in this paragraph, Maxeon has used, referenced, or incorporated claim terms (e.g., "layer of polysilicon" and "diffusing dopants into the layer of polysilicon to form a backside junction with the silicon

substrate"); it is unclear what meaning Maxeon is ascribing to the claim terms, and on that basis, HSC denies those allegations.

87. HSC admits that the cited "Hanwha Q.ANTUM Neo Analysis" includes a Figure 1 which depicts a p+-type emitter. For the remaining allegations in this paragraph, Maxeon has used, referenced, or incorporated claim terms (e.g., "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"); it is unclear what meaning Maxeon is ascribing to the claim terms, and on that basis, HSC denies those allegations.

88. HSC admits that the cited "Hanwha Q.ANTUM Neo Analysis" uses the language "front-side metallization" and "n-type." For the remaining allegations in this paragraph, Maxeon has used, referenced, or incorporated claim terms (e.g., "metal contact," "silicon substrate," and "forming a metal contact on the front surface of the silicon substrate, wherein the metal contact is electrically coupled to the silicon substrate"); it is unclear what meaning Maxeon is ascribing to the claim terms, and on that basis, HSC denies those allegations.

89. HSC admits to the allegations in this paragraph.

90. HSC denies the allegations in this paragraph.

91. HSC denies the allegations in this paragraph.

92. HSC incorporates by reference its answers to paragraphs 1-91 above.

93. HSC lacks knowledge or information sufficient to form a belief as to the truth of the allegations set forth in this paragraph, and therefore denies the same.

94. This paragraph contains conclusions of law to which no response is required. To the extent this paragraph is deemed to contain factual allegations, HSC denies the allegations in this paragraph.

95. HSC denies the allegations in this paragraph.

96. HSC denies the allegations in this paragraph.

97. HSC admits to the allegations in this paragraph.

98. HSC admits that the cited "Hanwha Q.ANTUM Neo Analysis" includes a Figure 1. For the remaining allegations in this paragraph, Maxeon has used, referenced, or incorporated claim terms (e.g., "a solar cell having a front side facing the sun to collect solar radiation during normal operation and a back side opposite the front side"); it is unclear what meaning Maxeon is ascribing to the claim terms, and on that basis, HSC denies those allegations.

99. HSC admits that the cited "Hanwha Q.ANTUM Neo Analysis" includes a Figure 1 that uses the language "n-type passivating contact." For the remaining allegations in this paragraph, Maxeon has used, referenced, or incorporated claim terms (e.g., "a silicon substrate"); it is unclear what meaning Maxeon is ascribing to the claim terms, and on that basis, HSC denies those allegations.

100. HSC admits that the cited "Hanwha Q.ANTUM Neo Analysis" includes a Figure 1. For the remaining allegations in this paragraph, Maxeon has used, referenced, or incorporated claim terms (e.g., "the silicon substrate" and "dopant concentration of approximately less than or equal to 2×10^{18} cm^{-3}"); it is unclear what meaning Maxeon is ascribing to the claim terms, and on that basis, HSC denies those allegations.

101. HSC admits that the cited "Hanwha Q.ANTUM Neo Analysis" document refers to "TOPCon" as "tunnel-oxide passivated contact" and includes a diagram captioned with "Energy loss of 25.3% TOPCon cell." HSC admits that the cited "Qcells plugs in Completely Clean Energy for Intersolar Europe 2022" document says that "Q.ANTUM NEO is based on a TopCON-type cell structure that incorporates passivating contact technology to deliver higher efficiencies than

typical PERC-type cells." For the remaining allegations in this paragraph, Maxeon has used, referenced, or incorporated claim terms (e.g., "a dielectric region" and "the silicon substrate"); it is unclear what meaning Maxeon is ascribing to the claim terms, and on that basis, HSC denies those allegations.

102. HSC admits that the cited "Hanwha Q.ANTUM Neo Analysis" includes a Figure 1 that uses the language "n-type passivating contact," "The cell has a p+, boron-doped emitter on the front side, and has the n-type passivating contact on the rear," and "It shows that the cells' rear-side is nearly perfect; this is not surprising considering that the n-polysilicon passivation stack achieves J0,pass ~ 2 fA/cm², calculated from QSSPC measurements on test wafers." For the remaining allegations in this paragraph, Maxeon has used, referenced, or incorporated claim terms (e.g., "the first emitter layer"); it is unclear what meaning Maxeon is ascribing to the claim terms, and on that basis, HSC denies those allegations.

103. HSC admits that the cited "Hanwha Q.ANTUM Neo Analysis" includes a Figure 1 that uses the language "rear-side metallization." For the remaining allegations in this paragraph, Maxeon has used, referenced, or incorporated claim terms (e.g., "a first metal contact" and "the first emitter layer"); it is unclear what meaning Maxeon is ascribing to the claim terms, and on that basis, HSC denies those allegations.

104. HSC denies the allegations in this paragraph.

105. HSC admits to the allegations in this paragraph.

106. HSC denies the allegations in this paragraph.

107. HSC denies the allegations in this paragraph.

PRAYER FOR RELIEF

HSC denies that Maxeon is entitled to any relief requested in its Prayer for Relief, either as prayed or otherwise.

DEMAND FOR JURY TRIAL

HSC admits that Maxeon has requested a jury trial pursuant to Federal Rule of Civil Procedure 38.

AFFIRMATIVE DEFENSES[1]

HSC reserves the right to amend its Answer, including asserting additional defenses as discovery progresses. HSC alleges the following affirmative defenses:

FIRST DEFENSE – FAILURE TO STATE A CLAIM

1. Maxeon's Complaint fails to state a claim upon which relief can be granted, including because Maxeon fails to allege that HSC conducts any infringing activity in the U.S.

SECOND DEFENSE – NON-INFRINGEMENT OF THE '516 PATENT

2. HSC has not infringed, and does not infringe, any valid claim of the '516 patent directly, indirectly, contributorily, by inducement, under the doctrine of equivalents, or in any other manner, at least because Maxeon has not shown that the Accused Products or their use meet every limitation of any claim of the '516 patent.

THIRD DEFENSE – INVALIDITY OF THE '516 PATENT

3. The asserted claims of the '516 patent are invalid for failure to comply with one or more conditions for patentability, including without limitation those set forth in one or more of 35 U.S.C. §§ 101, 102, 103, 112, and/or 116, and the rules, regulations, and laws pertaining thereto.

FOURTH DEFENSE – NON-INFRINGEMENT OF THE '053 PATENT

4. HSC has not infringed, and does not infringe, any valid claim of the '053 patent directly, indirectly, contributorily, by inducement, under the doctrine of equivalents, or in any

[1] Nothing herein should be construed as an admission that HSC agrees with any of Maxeon's express or implied claim constructions.

other manner, at least because Maxeon has not shown that the Accused Products or their use meet every limitation of any claim of the ’053 patent.

FIFTH DEFENSE – INVALIDITY OF THE ’053 PATENT

5. The asserted claims of the ’053 patent are invalid for failure to comply with one or more conditions for patentability, including without limitation those set forth in one or more of 35 U.S.C. §§ 101, 102, 103, 112, and/or 116, and the rules, regulations, and laws pertaining thereto.

SIXTH DEFENSE – NON-INFRINGEMENT OF THE ’315 PATENT

6. HSC has not infringed, and does not infringe, any valid claim of the ’315 patent directly, indirectly, contributorily, by inducement, under the doctrine of equivalents, or in any other manner, at least because Maxeon has not shown that the Accused Products or their use meet every limitation of any claim of the ’315 patent.

SEVENTH DEFENSE – INVALIDITY OF THE ’315 PATENT

7. The asserted claims of the ’315 patent are invalid for failure to comply with one or more conditions for patentability, including without limitation those set forth in one or more of 35 U.S.C. §§ 101, 102, 103, 112, and/or 116, and the rules, regulations, and laws pertaining thereto.

EIGHTH DEFENSE – EQUITABLE DOCTRINES

8. Plaintiff’s claims of infringement against HSC are barred in whole or in part by equitable doctrines, including the doctrines of patent misuse, collateral estoppel, and/or other applicable equitable doctrines.

NINTH DEFENSE – LIMITATION OF DAMAGES

9. Plaintiff’s claim for damages, if any, is limited under at least 35 U.S.C. §§ 286 and/or 288. To the extent Maxeon or its licensees practice the asserted patents, Plaintiff’s claim for damages is limited under 35 U.S.C. § 287. Maxeon is further barred from assessing damages

for any accused products or services that are used or manufactured for the United States under 28 U.S.C. § 1498.

TENTH DEFENSE – PROSECUTION HISTORY ESTOPPEL

10. Maxeon is estopped from construing any claim of the ’516, ’053, and/or ’315 patents to be infringed or have been infringed, either literally or under the doctrine of equivalents, by any method or product manufactured, used, imported, sold or offered for sale by HSC in view of the prior art and/or because of admissions and statements the applicant or Maxeon made to the USPTO during prosecution of the applications leading to the issuance of the ’516, ’053, and/or ’315 patents and/or *inter partes* review proceedings.

ELEVENTH DEFENSE – ENSNAREMENT

11. To the extent Maxeon claims infringement under the doctrine of equivalents, its claims are barred under the ensnarement doctrine, which prohibits a patentee from asserting an infringement theory under the doctrine of equivalents that encompasses, or “ensnares,” the prior art.

TWELFTH DEFENSE – NO ENTITLEMENT TO INJUNCTION

12. Plaintiff is not entitled to an injunction with respect to the Asserted Patents under any theory because Plaintiff has not and will not suffer irreparable harm, Plaintiff has not shown that it practices the patents, Plaintiff is not without an adequate remedy at law, and/or public policy concerns weigh against any equitable relief.

RESERVATION OF ADDITIONAL DEFENSES

13. HSC reserves any and all additional defenses available under Section 35 of the United States Code, the rules, regulations, or laws related thereto, the Federal Rules of Civil

Procedure, the Rules of this Court, and/or otherwise in law or equity, now existing, or later arising, as may be discovered.

HSC'S COUNTERCLAIMS

1. Counterclaim Plaintiff HSC counterclaims against Counterclaim Defendant Maxeon as follows.

2. Maxeon has asserted that HSC infringes United States Patent Nos. 8,222,516 ("'516 patent"), 8,878,053 ("'053 patent"), and 11,251,315 ("'315 patent") (collectively, "the Asserted Patents").

3. Specifically, Maxeon has accused solar modules with "Q.ANTUM NEO Technology," including the Q.TRON BLK-G1+ Series, Q.TRON BLK M-G2+ Series, Q.TRON XL-G2.3/BFG, Q.TRON SMART BLK-G1, Q.TRON SMART-G1+ ("Accused Products") of infringement.

THE PARTIES

4. HSC is a corporation organized and existing under the laws of the Republic of Korea. Its principal place of business is located at 24F, 86, Cheonggyecheon-ro, Jung-gu, Seoul, Republic of Korea, 04541.

5. Maxeon has alleged it 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.

JURISDICTION AND VENUE

6. These counterclaims arise under Title 35 of the United States Code and the Declaratory Judgment Act, 28 U.S.C. § 2201 *et seq*.

7. This Court has subject matter jurisdiction over these counterclaims pursuant to 28 U.S.C. §§ 1331, 1338(a), 2201, and 2202.

8. Maxeon is subject to personal jurisdiction in this District arising out of its purposeful acts and/or transactions directed toward this District, including but not limited to Maxeon specifically availing itself of the jurisdiction of this Court by instituting this action.

9. Venue is proper over Maxeon in this District pursuant to at least 28 U.S.C. §§ 1391 and 1400, although a more appropriate and convenient forum for resolution of this dispute is the Central District of California.

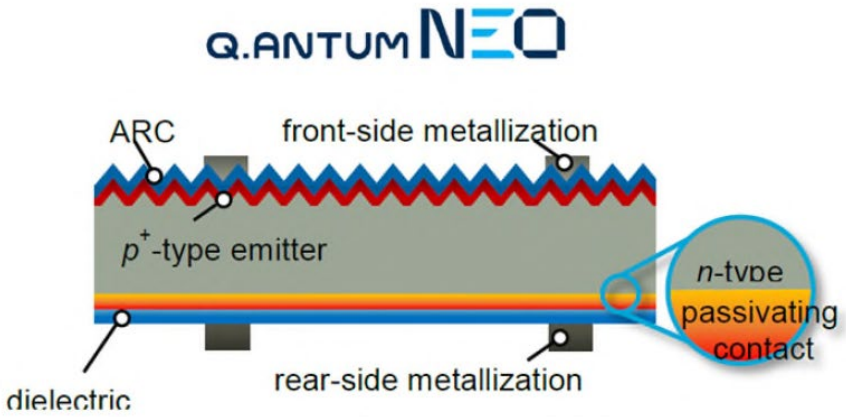
10. An actual and justiciable controversy exists between HSC and Maxeon. Maxeon has asserted that HSC infringes one or more claims of the ’516, ’053, and ’315 patents. HSC denies that it infringes any valid claim of the ’516, ’053, and ’315 patents.

FIRST COUNTERCLAIM – DECLARATORY JUDGMENT OF NON-INFRINGEMENT OF ’516 PATENT

11. HSC repeats and incorporates by reference the allegations of paragraphs 1-10 of its counterclaims.

12. The manufacture, use, sale, offer for sale and/or importation of any apparatus, system, device, product, or method of HSC accused in this action of infringing the ’516 patent does not now infringe (directly, contributorily, or by inducement) and has not in the past infringed (directly, contributorily, or by inducement) the ’516 patent, either literally or under the doctrine of equivalents.

13. For example, as shown in Maxeon’s complaint, the Q.ANTUM NEO solar cell does not have “an emitter layer formed over a back surface of the substrate, the emitter layer forming a backside junction with the substrate,” as required by claim 9 of the ’516 patent. Instead, the Q.ANTUM NEO solar cell’s emitter (i.e., the “p+-type emitter”) is on the front side of the solar cell such that the emitter forms a frontside junction with the substrate, as shown in the below image.



14. An actual and justiciable controversy exists between HSC and Maxeon as to whether HSC infringes any valid claim of the ’516 patent because Maxeon has brought this action alleging HSC infringes the ’516 patent and HSC denies this allegation.

15. Absent a declaration of non-infringement, Maxeon will continue to wrongfully assert the ’516 patent against HSC and thereby cause HSC injury.

16. Pursuant to the Declaratory Judgment Act, 28 U.S.C. §§ 2201 *et seq*., HSC is entitled to a declaration by this Court that HSC does not infringe any valid claim of the ’516 patent under any theory, either directly or indirectly (by way of inducement and/or contributory infringement), literally or through the doctrine of equivalents, willfully or otherwise.

17. This is an exceptional case entitling HSC to an award of its attorneys’ fees incurred in connection with this action pursuant to 35 U.S.C. § 285.

SECOND COUNTERCLAIM – DECLARATORY JUDGMENT OF INVALIDITY OF ’516 PATENT

18. HSC repeats and incorporates by reference the allegations of paragraphs 1-17 of its counterclaims.

19. Maxeon contends that the ’516 patent is valid. HSC denies Maxeon’s contention and states that the ’516 patent and each of the asserted claims are invalid for failing to meet one or more of the conditions for patentability including without limitation those set forth in one or more

of 35 U.S.C. §§ 101, 102, 103, 112, and/or 116, and the rules, regulations, and laws pertaining thereto.

20. For example, at least under Maxeon's apparent interpretation of the claims, the written description of the '516 patent would not reasonably convey to those skilled in the art that the inventor had possession of the claimed subject matter as of the effective filing date.

21. The '516 patent was also neither novel nor nonobvious at the time of the purported invention. For example, at least under Maxeon's apparent interpretation of the claims, and to the extent that the claims of the '516 patent are not indefinite, all limitations of the asserted claims of the '516 patent were well known before the alleged priority date of the '516 patent. By way of example, at least under Maxeon's apparent interpretation of the claims, the features of the claims were well known in the prior art, including but not limited to: International Pub. 2009/094575; International Pub. 2009/094578; U.S. Patent Pub. No. 2002/0142500; EP 1,732,142A1; Gan and Swanson, Polysilicon Emitters for Silicon Concentrator Solar Cells, IEEE Conference on Photovoltaic Specialists, Vol. 1, Pages 245-250 (1990); U.S. Patent Pub. No. 2005/0268963; Kwark et al., SIPOS Heterojunction Contacts to Silicon, 1984 International Electron Devices Meeting (1984), Pages 742-745; CN 1949545A; U.S. Patent No. 6,262,359; JP07-106611; Yablonovitch et al., A 720 mV Open Circuit Voltage SiOx:c-Si:SiOx Double Heterostructure Solar Cell, Appl. Phys. Lett. 47, Pages 1211–1213 (1985).

22. An actual and justiciable controversy exists between HSC and Maxeon as to whether the '516 patent is valid because Maxeon brought this action alleging the '516 patent is valid and HSC denies this allegation.

23. Absent a declaration of invalidity, Maxeon will continue to wrongfully assert the '516 patent against HSC and thereby cause HSC injury.

24. Pursuant to the Declaratory Judgment Act, 28 U.S.C. § 2201 *et seq.*, and the Patent Act, 35 U.S.C. § 100 *et seq.*, HSC requests a declaration by this Court that the asserted claims of the ’516 patent are invalid.

25. This is an exceptional case entitling HSC to an award of its attorneys’ fees incurred in connection with this action pursuant to 35 U.S.C. § 285.

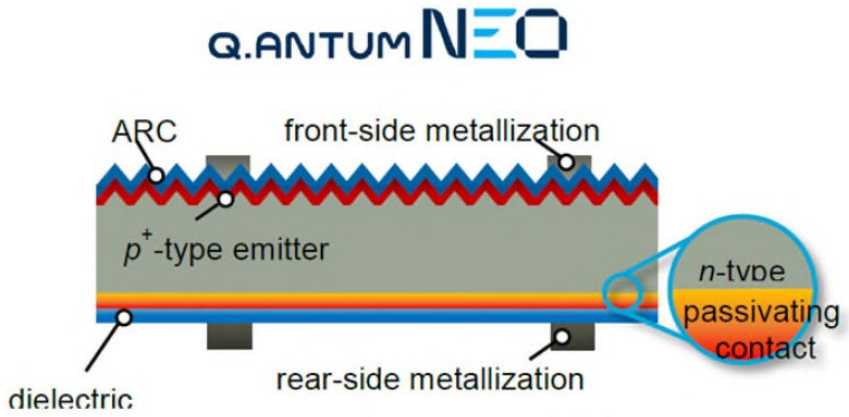
THIRD COUNTERCLAIM – DECLARATORY JUDGMENT OF NON-INFRINGEMENT OF ’053 PATENT

26. HSC repeats and incorporates by reference the allegations of paragraphs 1-25 of its counterclaims.

27. The manufacture, use, sale, offer for sale and/or importation of any apparatus, system, device, product, or method of HSC accused in this action of infringing the ’053 patent does not now infringe (directly, contributorily, or by inducement) and has not in the past infringed (directly, contributorily, or by inducement) the ’053 patent, either literally or under the doctrine of equivalents.

28. For example, as shown in Maxeon’s complaint, the Q.ANTUM NEO solar cell is not manufactured by a method that includes “forming a layer of polysilicon over a back surface of a silicon substrate,” “forming a first dopant source layer over the layer of polysilicon,” and “diffusing dopants from the first dopant source layer to the layer of polysilicon to form a backside junction with the silicon substrate,” as required by claim 9 of the ’053 patent. As another example, as shown in Maxeon’s complaint, the Q.ANTUM NEO solar cell is not manufactured by a method that includes “forming an oxide layer over a back surface of a silicon substrate,” “forming a layer of polysilicon over the oxide layer,” and “diffusing dopants into the layer of polysilicon to form a backside junction with the silicon substrate,” as required by claim 16 of the ’053 patent. Instead, the Q.ANTUM NEO solar cell’s emitter is on the front side of the solar cell such that the emitter

(i.e., the "p+-type emitter") forms a frontside junction with the substrate, as shown in the below image.



29. An actual and justiciable controversy exists between HSC and Maxeon as to whether HSC infringes any valid claim of the '053 patent because Maxeon has brought this action alleging HSC infringes the '053 patent and HSC denies this allegation.

30. Absent a declaration of non-infringement, Maxeon will continue to wrongfully assert the '053 patent against HSC and thereby cause HSC injury.

31. Pursuant to the Declaratory Judgment Act, 28 U.S.C. §§ 2201 *et seq*., HSC is entitled to a declaration by this Court that HSC does not infringe any valid claim of the '053 patent under any theory, either directly or indirectly (by way of inducement and/or contributory infringement), literally or through the doctrine of equivalents, willfully or otherwise.

32. This is an exceptional case entitling HSC to an award of its attorneys' fees incurred in connection with this action pursuant to 35 U.S.C. § 285.

FOURTH COUNTERCLAIM – DECLARATORY JUDGMENT OF INVALIDITY OF '053 PATENT

33. HSC repeats and incorporates by reference the allegations of paragraphs 1-32 of its counterclaims.

34. Maxeon contends that the ’053 patent is valid. HSC denies Maxeon’s contention and states that the ’053 patent and each of the asserted claims are invalid for failing to meet one or more of the conditions for patentability including without limitation those set forth in one or more of 35 U.S.C. §§ 101, 102, 103, 112, and/or 116, and the rules, regulations, and laws pertaining thereto.

35. For example, at least under Maxeon’s apparent interpretation of the claims, the written description of the ’516 patent would not reasonably convey to those skilled in the art that the inventor had possession of the claimed subject matter as of the effective filing date.

36. The ’053 patent was also neither novel nor nonobvious at the time of the purported invention. For example, at least under Maxeon’s apparent interpretation of the claims, and to the extent that the claims of the ’053 patent are not indefinite, all of the limitations of the asserted claims of the ’053 patent were well known before the alleged priority date of the ’053 patent. By way of example, at least under Maxeon’s apparent interpretation of the claims, the features of the claims were well known in the prior art, including but not limited to: International Pub. 2009/094575; International Pub. 2009/094578; U.S. Patent Pub. No. 2002/0142500; EP 1,732,142A1; Gan and Swanson, Polysilicon Emitters for Silicon Concentrator Solar Cells, IEEE Conference on Photovoltaic Specialists, Vol. 1, Pages 245-250 (1990); Hartiti et al., Low Temperature Formation of Emitter and BSF by Rapid Thermal Co-Diffusion of P, Al or B, Dec. 5-9, 1994, IEEE, First WCPEC; U.S. Patent Pub. No. 2005/0268963; Kwark et al., SIPOS Heterojunction Contacts to Silicon, 1984 International Electron Devices Meeting (1984), Pages 742-745; CN 1949545A; U.S. Patent No. 6,262,359; JP07-106611; Sivohthaman et al., Rapid Thermal Processing of Conventionally and Electromagnetically Case 100 cm2 Multicrystalline Silicon, May 13-17, 1996, IEEE, 25th PVSC; U.S. Patent No. 6,998,288; Yablonovitch et al., A

720 mV Open Circuit Voltage SiOx:c-Si:SiOx Double Heterostructure Solar Cell, Appl. Phys. Lett. 47, Pages 1211–1213 (1985).

37. An actual and justiciable controversy exists between HSC and Maxeon as to whether the ’053 patent is valid because Maxeon brought this action alleging the ’053 patent is valid and HSC denies this allegation.

38. Absent a declaration of invalidity, Maxeon will continue to wrongfully assert the ’053 patent against HSC and thereby cause HSC injury.

39. Pursuant to the Declaratory Judgment Act, 28 U.S.C. § 2201 *et seq.*, and the Patent Act, 35 U.S.C. § 100 *et seq.*, HSC requests a declaration by this Court that the asserted claims of the ’053 patent are invalid.

40. This is an exceptional case entitling HSC to an award of its attorneys’ fees incurred in connection with this action pursuant to 35 U.S.C. § 285.

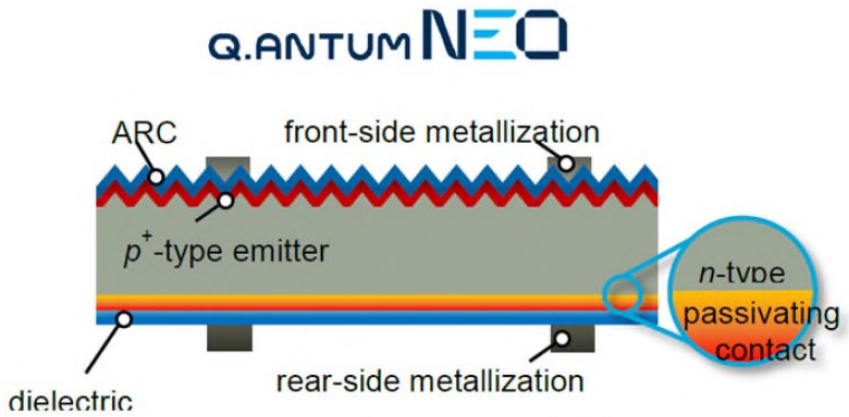
FIFTH COUNTERCLAIM – DECLARATORY JUDGMENT OF NON-INFRINGEMENT OF ’315 PATENT

41. HSC repeats and incorporates by reference the allegations of paragraphs 1-40 of its counterclaims.

42. The manufacture, use, sale, offer for sale and/or importation of any apparatus, system, device, product, or method of HSC accused in this action of infringing the ’315 patent does not now infringe (directly, contributorily, or by inducement) and has not in the past infringed (directly, contributorily, or by inducement) the ’315 patent, either literally or under the doctrine of equivalents.

43. For example, as shown in Maxeon’s complaint, the Q.ANTUM NEO solar cell does not have “a dielectric region formed over the silicon substrate, wherein the dielectric region is formed over the back side of the solar cell” and “a first emitter region having metal impurities

formed over the dielectric region," as required by claim 10 of the '315 patent. Instead, the Q.ANTUM NEO solar cell's emitter (i.e., the "p+-type emitter") is on the front side of the solar cell, as shown in the below image included in Maxeon's complaint.



44. An actual and justiciable controversy exists between HSC and Maxeon as to whether HSC infringes any valid claim of the '315 patent because Maxeon has brought this action alleging HSC infringes the '315 patent and HSC denies this allegation.

45. Absent a declaration of non-infringement, Maxeon will continue to wrongfully assert the '315 patent against HSC and thereby cause HSC injury.

46. Pursuant to the Declaratory Judgment Act, 28 U.S.C. §§ 2201 *et seq*., HSC is entitled to a declaration by this Court that HSC does not infringe any valid claim of the '315 patent under any theory, either directly or indirectly (by way of inducement and/or contributory infringement), literally or through the doctrine of equivalents, willfully or otherwise.

47. This is an exceptional case entitling HSC to an award of its attorneys' fees incurred in connection with this action pursuant to 35 U.S.C. § 285.

SIXTH COUNTERCLAIM – DECLARATORY JUDGMENT OF INVALIDITY OF '315 PATENT

48. HSC repeats and incorporates by reference the allegations of paragraphs 1-47 of its counterclaims.

49. Maxeon contends that the ’315 patent is valid. HSC denies Plaintiff’s contention and states that the ’315 patent and each of the asserted claims are invalid for failing to meet one or more of the conditions for patentability including without limitation those set forth in one or more of 35 U.S.C. §§ 101, 102, 103, 112, and/or 116, and the rules, regulations, and laws pertaining thereto.

50. For example, the asserted claims of the ’315 patent, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.

51. The ’315 patent was also neither novel nor nonobvious at the time of the purported invention. For example, at least under Plaintiff’s apparent interpretation of the claims, and to the extent that the claims of the ’315 patent are not indefinite, all of the limitations of the asserted claims of the ’315 patent were well known before the alleged priority date of the ’315 patent. By way of example, at least under Plaintiff’s apparent interpretation of the claims, the features of the claims were well known in the prior art, including but not limited to: U.S. Patent Pub. No. 2014/0311567; U.S. Patent Pub. No. 2016/0155877; U.S. Patent No. 8,207,444; “High-Efficiency Back-Contact Back-Junction Silicon Solar Cells”; U.S. Patent Pub. No. 2016/0155866; “Gettering in silicon-on-insulator wafers: experimental studies and modelling”; U.S. Patent Pub. No. 2014/0166095; “Interdigitated Back Contact Solar Cell Analysis and Design Recommendations for Space Use”; U.S. Patent Pub. No. 2016/0155885; U.S. Patent Pub. No. 2015/0162483; and the SunPower Gen III solar cell.

52. An actual and justiciable controversy exists between HSC and Maxeon as to whether the ’315 patent is valid because Maxeon brought this action alleging the ’315 patent is valid and HSC denies this allegation.

53. Absent a declaration of invalidity, Maxeon will continue to wrongfully assert the ’315 patent against HSC and thereby cause HSC injury.

54. Pursuant to the Declaratory Judgment Act, 28 U.S.C. § 2201 *et seq.*, and the Patent Act, 35 U.S.C. § 100 *et seq.*, HSC requests a declaration by this Court that the asserted claims of the ’315 patent are invalid.

55. This is an exceptional case entitling HSC to an award of its attorneys’ fees incurred in connection with this action pursuant to 35 U.S.C. § 285.

DEMAND FOR JURY TRIAL

56. Pursuant to Federal Rule of Civil Procedure 38(b), HSC demands trial by jury on all issues so triable as to the Counterclaims and Defenses.

PRAYER FOR RELIEF

WHEREFORE, having fully answered and counterclaimed, HSC respectfully prays that this Court:

a. Dismiss Maxeon’s Complaint with prejudice and order that Maxeon take nothing from HSC;

b. Enter judgment in favor of HSC and against Maxeon on Maxeon’s claims for patent infringement;

c. Declare that all asserted claims of the ’516 patent are not infringed and invalid;

d. Declare that all asserted claims of the ’053 patent are not infringed and invalid;

e. Declare that all asserted claims of the ’315 patent are not infringed and invalid;

f. Award to HSC all costs, expenses, and reasonable attorneys’ fees, pursuant to 35 U.S.C. § 285; and

g. Award HSC such other and further relief as the Court may deem just and proper.

HSC reserves all rights to amend or supplement its Answer in accordance with the Federal Rules of Civil Procedure.

Dated: November 15, 2024

Respectfully submitted,

/s/ *Shaun W. Hassett*

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