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8 UNITED STATES DISTRICT COURT
9 NORTHERN DISTRICT OF CALIFORNIA

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

13 Plaintiffs,

14 v.

15 ABALANCE CORPORATION, WWB
CORPORATION, FUJI SOLAR CO., LTD.,
16 VIETNAM SUNERGY JOINT STOCK
COMPANY, VIETNAM SUNERGY (BAC
17 NINH) COMPANY LIMITED, VSUN
SOLAR USA INC, TOYO CO., LTD., and
18 VIETNAM SUNERGY CELL COMPANY
LTD.,

19 Defendants.
20

Case No. 3:24-cv-8828

COMPLAINT FOR PATENT
INFRINGEMENT

21 Plaintiffs Shanghai Jinko Green Energy Enterprise Management Co., Ltd. (“Shanghai
22 Jinko”) and Zhejiang Jinko Solar Co., Ltd. (“Zhejiang Jinko”) (collectively, “Jinko” or “Plaintiffs”)
23 hereby assert the following claims for patent infringement against Defendants Abalance
24 Corporation (“ABALANCE”), WWB Corporation (“WWB”), Fuji Solar Co., Ltd. (“Fuji Solar”),
25 Vietnam Sunergy Joint Stock Company (“Vietnam Sunergy”), Vietnam Sunergy (BAC NINH)
26 Company Limited (“Vietnam Sunergy (BAC NINH)”), VSUN Solar USA Inc (“VSUN Solar
27 USA”), TOYO Co., Ltd. (“PubCo”), and Vietnam Sunergy Cell Company Limited (“TOYO Solar”)
28 (collectively, “Defendants” or “VSUN”) and alleges as follows:

THE PARTIES

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2 1. Shanghai Jinko is a foreign company organized and existing under the laws of China
3 with its principal place of business at 5F, No. 277 Huqingping Road, Minhang District, Shanghai,
4 China.

5 2. Zhejiang Jinko is a foreign company organized and existing under the laws of China
6 with its principal place of business at 58 Yuan Xi Road, Yuan Hua Town, Haining, Zhejiang
7 Province, China.

8 3. Upon information and belief, ABALANCE is a foreign corporation organized and
9 existing under the laws of Japan with its principal place of business at Tennozu First Tower F16,
10 2-2-4, Higashishinagawa, Shinagawa-ku, Tokyo 140-0002.

11 4. Upon information and belief, WWB is a foreign corporation organized and existing
12 under the laws of Japan with its principal place of business at Tennozu First Tower F5, 2-2-4,
13 Higashishinagawa, Shinagawa-ku, Tokyo 140-0002.

14 5. Upon information and belief, Fuji Solar is a foreign limited company organized and
15 existing under the laws of Japan with its principal place of business at Tennozu First Tower F5, 2-
16 2-4, Higashishinagawa, Shinagawa-ku, Tokyo 140-0002.

17 6. Upon information and belief, Vietnam Sunergy is a foreign joint stock company
18 organized and existing under the laws of Vietnam with its principal place of business at Lot III -
19 Dong Vang, Dinh Tram Industrial Park, Nenh Ward, Viet Yen Town, Bac Giang Province,
20 Vietnam.

21 7. Upon information and belief, Vietnam Sunergy (BAC NINH) is a foreign limited
22 company organized and existing under the laws of Vietnam with its principal place of business at
23 Lot CN-09.1 Thuan Thanh II Industrial Park, Mao Dien Commune, Thuan Thanh District, Bac
24 Ninh Province, Vietnam.

25 8. Upon information and belief, VSUN Solar USA is a corporation organized and
26 existing under the laws of California with its principal place of business at 909 Corporate Way,
27 Fremont, California 94539.

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1 9. Upon information and belief, PubCo is a Cayman Islands exempted company
2 organized and existing under the laws of Cayman Islands with its principal place of business at
3 Tennoz First Tower F5, 2-2-4, Higashi-shinagawa, Shinagawa-ku, Tokyo, Japan 140-0002. PubCo
4 is listed on the NASDAQ Capital Market under the symbol “TOYO.”

5 10. Upon information and belief, Toyo Solar is a foreign limited company organized
6 and existing under the laws of Vietnam with its principal place of business at Lot CN02 Cam Khe
7 Industrial Park, Cam Khe Town, Cam Khe District, Phu Tho Province, Vietnam.

8 **BACKGROUND OF THE PARTIES**

9 11. Jinko is a globally leading photovoltaic (PV) module (“solar panel”) manufacturer
10 and energy storage system integrator. Founded in 2006, Jinko is one of the pioneers in large-scale
11 research and manufacturing of PV products in the world. From the beginning, Jinko has secured a
12 strong global market position through strategic foresight, continuous R&D investment, independent
13 innovation, outstanding product quality, and an extensive sales network. According to the industry
14 research report prepared by China Insights Consultancy Limited (the “CIC Report”), Jinko was the
15 world's largest PV module manufacturer in 2023, with their module shipments accounting for
16 19.3% of the total annual shipment volume among the top 10 module suppliers. Jinko has been the
17 champion in global annual module shipments five times.

18 12. Embracing the mission of “optimizing the energy portfolio and taking responsibility
19 for enabling a sustainable future” (<https://www.jinkosolar.com/en/site/aboutus>), Jinko strategically
20 positions itself in the core segments of the photovoltaic industry chain. It focuses on integrated
21 research, development, and manufacturing of photovoltaic products, as well as providing
22 comprehensive clean energy solutions.

23 13. Jinko prioritized the large-scale production of N-type products starting in 2019.
24 Jinko holds the leading position in the N-type TOPCon segment, with annual shipments of N-type
25 TOPCon modules in 2023 reaching 48.4 GW.

26 14. Jinko has been awarded over 2,800 issued patents, with a proprietary portfolio that
27 includes over 460 industry-leading patents related to N-type TOPCon technology.

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1 15. Jinko has earned numerous accolades for its work in the field. It also pioneered the
2 “vertically integrated” production capacity from silicon wafer and cell to module production in the
3 industry.

4 16. VSUN competes directly against Jinko for customers of solar panels, including
5 products that are designed for the same applications of Jinko products.

6 17. VSUN’s solar panels, including its TOPCON N-type solar panels, use Jinko’s
7 patented technology without authorization.

8 **JURISDICTION AND VENUE**

9 18. This action arises under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*
10 This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and
11 1338(a).

12 19. This Court has personal jurisdiction over Defendants. Defendants conduct business
13 and have committed acts of patent infringement and/or have induced acts of patent infringement by
14 others in this judicial district, the State of California, and elsewhere in the United States.

15 20. Plaintiff incorporates herein the allegations contained in the preceding paragraphs
16 1-19. Venue is proper in this judicial district pursuant to at least 28 U.S.C. § 1391 (b) and (c) and
17 28 U.S.C. § 1400(b). VSUN may be sued in this district because VSUN has a regular and
18 established place of business in this district, and because it commits acts of infringement (*i.e.*, sells
19 and offers to sell accused products) in this district. Specifically, VSUN has a regular and
20 established place of business at 909 Corporate Way, Fremont, California 94539.

21 **ASSERTED PATENTS**

22 21. Jinko is the current owner and assignee of U.S. Patent Nos. 11,581,454 (the “’454
23 Patent”) and 11,824,136 (the “’136 Patent”) (collectively, the “Asserted Patents”).

24 22. The ’454 Patent duly and legally issued on February 14, 2023. The ’454 Patent is
25 valid and enforceable. The ’454 Patent is attached hereto as Exhibit 1.

26 23. The ’136 Patent duly and legally issued on November 21, 2023. The ’136 Patent is
27 valid and enforceable. The ’136 Patent is attached hereto as Exhibit 2.

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1 DG, VSUN635N-156BMH-DG, VSUN625N-156BMH-DG, VSUN630N-156BMH-DG,
2 VSUN620N-156BMH-DG, VSUN615N-156BMH-DG, VSUN610N-156BMH-DG and all
3 substantially similar equivalents thereof.¹ On information and belief, the VSUN575N-144BMH-DG
4 module type is representative of at least the VSUN570N-144BMH-DG, VSUN565N-144BMH-
5 DG, and VSUN560N-144BMH-DG.

6 28. The Accused Solar Panels are displayed on VSUN's website, including at
7 https://www.vsun-solar.com/pro_page/88.html.²

8 29. The VSUN website showcases the Accused Solar Panels being used in the United
9 States: https://www.vsun-solar.com/sol_list.html. For a few, non-exhaustive examples, VSUN's
10 Accused Solar Panels have been sold and used in the United States in at least the following
11 instances:

- 12 • The accused VSUN575N-144BMH-DG model is installed in Manheim,
13 Pennsylvania.³
- 14 • The accused VSUN570N-144BMH-DG model is installed at the Cincinnati Zoo &
15 Botanical Garden in Ohio.⁴

16 30. According to VSUN, it provides continued support to its customers—presumably
17 including its United States customers—by offering twelve years of quality assurance for at least
18 the infringing VSUN575N-144BMH-DG solar panel, which is further backed by a 30-year power
19 output guarantee.⁵

20 31. Upon information and belief, VSUN has had knowledge of the Asserted Patents
21 since their issuance because, as an active competitor to Jinko, VSUN would have periodically
22 investigated Jinko's patent portfolio, and its applicability to VSUN's products.

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25 ¹ See generally <https://www.vsun-solar.com/download/97.html>, https://www.vsun-solar.com/pro_page/88.html, <https://www.vsun-solar.com/download/96.html>, and
26 <https://www.vsun-solar.com/download/95.html>.

27 ² A data sheet for the Accused Solar Panels is further available at the following web
28 address: https://cdn.ensolar.com/z/pp/2023/3/y8j2eswtiix89j/20230109141044062-1-compressed.pdf?_gl=1*1xtljaj*_gcl_au*MTcyOTE0NzE2Mi4xNzI2NzgyNTk4.

³ See https://www.vsun-solar.com/sol_page/379.html.

⁴ See https://www.vsun-solar.com/sol_page/369.html.

⁵ See <https://www.vsun-solar.com/uploads/image/20230727/64c1da329f833.pdf>.

1 32. Defendants have knowledge of the Asserted Patents at least as of the filing of this
2 complaint.

3 **COUNT 1**

4 **(Infringement of U.S. Patent No. 11,581,454)**

5 33. Plaintiff repeats and re-alleges all the allegations above as if fully set forth herein.

6 34. Defendants have directly infringed and continue to infringe, literally and under the
7 doctrine of equivalents, one or more claims of the '454 Patent by making, using, offering to sell,
8 selling, and/or importing into the United States infringing devices without authority in violation of
9 35 U.S.C. § 271(a).

10 35. As alleged herein and in Exhibit 3, Defendants products, including the exemplary
11 products analyzed in Exhibit 3, meet each and every one of the claim limitations of at least claim 1
12 of the '454 Patent.

13 36. Defendants also indirectly infringe one or more claims of the '454 Patent, pursuant
14 to 35 U.S.C. § 271(c), by contributing to direct infringement committed by others, such as
15 customers and end-users, in this District and elsewhere in the United States at least by making,
16 using, offering to sell, importing, and/or selling at least the Accused Solar Panels.

17 37. Defendants have actively induced infringement of the '454 Patent without authority
18 in violation of 35 U.S.C. § 271(b). Defendants continue to induce infringement of the '454 Patent
19 without authority in violation of 35 U.S.C. § 271(b). Specifically, Defendants understand, intend,
20 and encourage their products such as the Accused Solar Panels, to be imported, offered for sale,
21 sold or used in the United States, knowing they infringe at least one claim of the '454 Patent.

22 38. The Accused Solar Panels are a material part of the invention of the '454 Patent, are
23 not staple articles or commodity of commerce, have no substantial non-infringing use, and are
24 known by Defendants to be especially made or adapted for use in the infringement of the '454
25 patent.

26 39. Defendants' infringement of the '454 Patent has been and continues to be willful.

27 40. Defendants' infringement of the '454 Patent has damaged and continues to damage
28 Jinko in an amount yet to be determined, of at least a reasonable royalty.

COUNT 2

(Infringement of U.S. Patent No. 11,824,136)

41. Plaintiffs repeat and re-allege all the allegations above as if fully set forth herein.

42. Defendants have infringed and continue to infringe, literally and under the doctrine of equivalents, one or more claims of the '136 Patent by making, using, offering to sell, selling, and/or importing into the United States infringing devices without authority in violation of 35 U.S.C. § 271(a).

43. As alleged herein and in Exhibit 4, Defendants products, including the exemplary products analyzed in Exhibit 4, meet each and every one of the claim limitations of at least claim 1 of the '136 Patent.

44. Defendants also indirectly infringe one or more claims of the '136 Patent, pursuant to 35 U.S.C. § 271(c), by contributing to or direct infringement committed by others, such as customers and end-users, in this District and elsewhere in the United States at least by making, using, offering to sell, importing, and/or selling at least the Accused Solar Panels.

45. Defendants have actively induced infringement of the '136 Patent without authority in violation of 35 U.S.C. § 271(b). Defendants continue to induce infringement of the '136 Patent without authority in violation of 35 U.S.C. § 271(b). Specifically, Defendants understand, intend, and encourage their products such as the Accused Solar Panels, to be imported, offered for sale, sold or used in the United States, knowing they infringe at least one claim of the '136 Patent.

46. The Accused Solar Panels are a material part of the invention of the '136 Patent, are not staple articles or commodity of commerce, have no substantial non-infringing use, and are known by Defendants to be especially made or adapted for use in the infringement of the '136 patent.

47. Defendants' infringement of the '136 Patent has been and continues to be willful.

48. Defendants' infringement of the '136 Patent has damaged and continues to damage Jinko in an amount yet to be determined, of at least a reasonable royalty.

1 **DAMAGES**

2 49. As a result of Defendants’ acts of infringement, Jinko has suffered and continues to
3 suffer actual and consequential damages. However, Jinko does not yet know the full extent of the
4 infringement and the amount of damages cannot be ascertained except through discovery and
5 special accounting. To the fullest extent permitted by law, Jinko seeks recovery of damages at least
6 for reasonable royalties, lost profits, unjust enrichment, and benefits received by Defendant as a
7 result of using the patented technology. Jinko further seeks any other damages to which Jinko is
8 entitled under law or in equity, including enhanced damages for Defendants’ willful infringement.

9 50. To remedy any ongoing and/or future harm to Jinko caused by Defendants’
10 infringement, Jinko seeks a preliminary and permanent injunction preventing any further
11 infringement.

12 **PRAYER FOR RELIEF**

13 Plaintiffs pray for the following relief:

14 A. A judgment that Defendants have infringed one or more claims of each of the
15 Asserted Patents;

16 B. A preliminary and permanent injunction enjoining Defendants and their officers,
17 directors, agents, servants, affiliates, employees, divisions, branches, subsidiaries, parents, and all
18 others acting in active concert or participation with Defendants, from infringing the Asserted
19 Patents;

20 C. An award of damages resulting from Defendants’ acts of infringement in accordance
21 with 35 U.S.C. § 284;

22 D. A judgment and order finding that Defendants’ acts of infringement were egregious
23 and willful and trebling damages under 35 U.S.C. § 284;

24 E. A judgment and order finding that this is an exceptional case within the meaning of
25 35 U.S.C. § 285 and awarding to Jinko reasonable attorneys’ fees against Defendants;

26 F. A judgment and order requiring Defendants to provide accountings and to pay
27 supplemental damages to Jinko, including, without limitation, prejudgment and post-judgment
28 interest; and

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G. Any and all other relief as the Court may deem just and proper.

JURY TRIAL DEMAND

Jinko hereby demands a trial by jury of all issues so triable.

Dated: December 6, 2024

PERKINS COIE LLP

By: /s/ Miguel J. Bombach
Yun Louise Lu, Bar No. 253114
Miguel J. Bombach, Bar No. 274287
Abigail A. Gardner, Bar No. 334598