

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

HANWHA SOLUTIONS CORPORATION,

Petitioner,

v.

MAXEON SOLAR PTE. LTD.,

Patent Owner.

Case No. IPR2024-01198

U.S. Patent No. 11,251,315

**PETITIONER'S OPPOSITION TO PATENT OWNER'S
MOTION TO EXCLUDE**

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I. INTRODUCTION

Maxeon Solar's Motion to Exclude ("Motion" or "Mot.") should be denied.

The Petition was supported by extensive evidence demonstrating the obviousness of the challenged claims, including Dr. Holman's testimony and multiple corroborating references. Petitioner's Reply further explained how Maxeon's Patent Owner Response and testimony of Maxeon's expert, Dr. Fred Schubert, confirmed the obviousness of the challenged claims. Petitioner's Reply also included additional ancillary exhibits that were either introduced at Dr. Schubert's deposition or used to corroborate Dr. Holman's testimony.

Maxeon's Motion does not challenge Dr. Holman's testimony or any reference in the Petition's grounds. Instead, Maxeon resorts to raising meritless challenges to the ancillary references submitted by Petitioner. Maxeon's Motion misstates the undisputed record evidence, mischaracterizes Petitioner's reliance on the challenged evidence, and advances legally incorrect arguments. Petitioner respectfully suggests that the challenged claims should be evaluated based on a complete record, and that Maxeon's Motion should be denied in its entirety.

II. LEGAL STANDARD

A. Motions to Exclude

The November Consolidated Trial Practice Guide sets forth the type of relief that can be requested in a motion to exclude:

A motion to exclude must explain why the evidence is not admissible (e.g., relevance or hearsay) but may not be used to challenge the sufficiency of the evidence to prove a particular fact. A motion to exclude is not a vehicle for addressing the weight to be given evidence—arguments regarding weight should appear only in the merits documents.

Pat. Trial & Appeal Bd. Consol. Prac. Guide § II.K. “Patent Owner, as the moving party, bears the burden of establishing that it is entitled to the requested relief.” *Intuitive Surgical, Inc. v. P Tech, LLC*, IPR2020-00650, Paper 33, at 40 (P.T.A.B. Sept. 8, 2021) (citing 37 C.F.R. §§42.20(c), 42.62(a)).

III. ARGUMENT

A. Exhibits 1018, 1034, and 1120 Should Not Be Excluded

Exhibits 1018, 1034, and 1120 are Ph.D theses dated years before the '315 patent's December 22, 2014, earliest possible priority date. These exhibits were provided to support Dr. Holman's testimony regarding the technical background and knowledge of a POSITA. Maxeon's contention that these exhibits should be excluded because they are not prior art printed publications lacks merit. Mot., 3-6.

As an initial matter, Maxeon's motion is procedurally improper. “[T]he issue of whether there is sufficient evidence in the record ... to demonstrate that [an exhibit] is a printed publication ... should be presented in the [substantive papers]—not a motion to exclude.” *Chicago Mercantile Exch., Inc. v. 5th Mkt., Inc.*,

CBM2014-00114, Paper 35 at 51 (P.T.A.B. Aug. 18, 2015); *see also Protect Animals With Satellites, LLC v. OnPoint Sys., LLC*, IPR2021-01483, Paper 69 at 64 (P.T.A.B. Mar. 2, 2023) (same). As stated above, Petitioner does not rely on Exhibits 1018, 1034, or 1120 as prior art. Therefore, whether each was publicly available as a printed publication is immaterial. Instead, Petitioner only relies on these exhibits as background technical information and for corroborating Dr. Holman's testimony regarding the knowledge of a POSITA.

In any event, Petitioner has established that Exhibits 1018, 1034, and 1120 were publicly available before December 2014, as each exhibit is dated before then. *See* Ex.1018, 1 (dated May 2005); Ex.1034 (dated June 2002); Ex.1120, iii (copyright date of 2011). Maxeon has not identified any evidence to the contrary that warrants exclusion. *See* Mot., 3-6; *see Hulu, LLC v. Sound View Innovations, LLC*, IPR2018-01039, Paper 29 at 17-18 (P.T.A.B. Dec. 20, 2019) (precedential) (“[T]he indicia on the face of a reference, such as printed dates and stamps, are considered as part of the totality of the evidence.”) (citation omitted); *see also Nobel Biocare Servs. AG v. Intradent USA, Inc.*, 903 F.3d 1365, 1376 (Fed. Cir. 2018), as amended (Sept. 20, 2018) (publication's “date is relevant evidence that supports the Board's finding of public accessibility”).

The authenticity and availability of these exhibits were also established by the Declarations of Gilbert Smolenski that were served as supplemental evidence. Ex.1140, ¶¶4, 17; Ex.1141, ¶21. Mr. Smolenski's declarations detail how Exhibits 1018, 1034, and 1120 were obtained and attests to their authenticity. There is no countervailing evidence in the record. Indeed, Maxeon identifies no basis to challenge the representations in Mr. Smolenski's declarations, and Maxeon chose not to depose Mr. Smolenski about the contents of his declarations. *See Costar Realty Info., Inc. v. Clantech, Inc.*, IPR2022-00799, Paper 77 at 54-55 (P.T.A.B. Nov. 21, 2023) (holding that attorney declarations were sufficient to authenticate exhibits). Nor does Maxeon identify any reason why these exhibits are unreliable from the face of the documents.

Regardless, even if Exhibits 1018, 1034, and 1120 are not prior art (they are), they should not be excluded, as they are relevant to the technology background and knowledge of a POSITA. *See Yeda Rsch. v. Mylan Pharms. Inc.*, 906 F.3d 1031, 1041 (Fed. Cir. 2018) (stating that non-prior art may be relied on for "indicating the level of ordinary skill in the art, what certain terms would mean to one with ordinary skill in the art, and how one with ordinary skill in the art would have under-stood a prior art disclosure"). At best, Maxeon's arguments go to the weight of the evidence, not its admissibility. *See Xactware Sols., Inc. v. Pictometry Int'l Corp.*, IPR2016-

00594, Paper 46 at 7 (P.T.A.B. Aug. 24, 2017) (citations omitted) (“A motion to exclude is the wrong vehicle to challenge public availability, which is a substantive issue that goes to the sufficiency of the evidence, not to admissibility.”).

Finally, any suggestion by Maxeon that these exhibits are hearsay is without merit. Mot., 5. These exhibits are not hearsay because they are being offered as evidence of what they describe, and not for the truth of the matters asserted. *See Grunenthal GmbH v. Antecip Bioventures II LLC*, PGR2019-00026, Paper 24 at 45-47 (P.T.A.B. July 28, 2020) (rejecting hearsay objection and finding statement regarding copyright date admissible as evidence of publication date). To the extent these exhibits are hearsay (they are not), they may still be relied on by Dr. Holman in forming his opinions. *See* Fed. R. Evid. 703; *Casper Sleep Inc. v. Werner Media Partners, LLC*, IPR2024-00474, Paper 60 at 80 (P.T.A.B. Apr. 24, 2025) (“materials considered by Petitioner’s expert witnesses in forming their conclusions and opinions [are] admissible here pursuant to Fed. R. Evid 703”).

B. Exhibits 1031, 1054, 1081, 1082, 1107, 1116, 1128, 1130, 1132, And 1135 Should Not Be Excluded

Contrary to Maxeon’s suggestion (Mot., 6), Exhibits 1031, 1054, 1081, 1082, 1107, 1116, 1128, 1130, 1132, and 1135 are admissible. First, these exhibits are not relied on as themselves being pieces of prior art, and it is thus immaterial whether they were publicly available. Regardless, these exhibits are indisputably relevant,

as they corroborate Dr. Holman's testimony. Second, the authenticity of these exhibits is supported by Mr. Smolenski's declarations. Ex.1140, ¶¶15, 30, 44, 45; Ex.1141, ¶¶11, 18, 28, 30, 32, 33. Mr. Smolenski's declarations detail how these exhibits were obtained and attest to their authenticity. *Costar*, IPR2022-00799, Paper 77 at 54-55. Third, these exhibits are not hearsay because they are being offered as evidence of what they describe, and not for the truth of the matters asserted. Fed. R. Evid. 801(c), 1972 Adv. Comm. Note. ("If the significance of an offered statement lies solely in the fact that it was made, no issue is raised as to the truth of anything asserted, and the statement is not hearsay."). Even if they are hearsay (they are not), they may still be relied on by Dr. Holman in forming his opinions. *See* Fed. R. Evid. 703; *Casper*, IPR2024-00474, Paper 60 at 80. Thus, Maxeon's generic argument that these exhibits should be excluded should be rejected.

Maxeon makes a scattershot of additional arguments with respect to these exhibits. Mot., 6-11. As detailed below, Maxeon's arguments are without merit.

1. The Listed Dates On Exhibits 1054 And 1130 Are Not Hearsay

A document's "date is relevant evidence that supports the Board's finding of public accessibility." *Nobel*, 903 F.3d at 1376. A copyright date on the face of a document, or a "received on" or "accepted on" date, is not hearsay when it is offered

to corroborate the publication date. *Grunenthal*, PGR2019-00026, Paper 24 at 45-47. A publication date on the face of the document, used to corroborate publication, is hearsay but is admissible under the Rule 807 residual hearsay exception. *See* Fed. R. Evid. 807; *Grunenthal*, PGR2019-00026, Paper 24 at 45 (“Assuming that ‘October 2011’ is hearsay, it is still admissible evidence under Rule 807”). Exhibit 1054 has a copyright date printed on the document, which is admissible non-hearsay, because it is not offered for the truth of the copyright date but for corroboration of the publication date. Exhibit 1130 has a publication date printed on the document, which *Grunenthal* explains is admissible under the residual hearsay exception because the date on the document itself is “more probative on the point for which it is offered than any other evidence that the proponent can obtain through reasonable efforts.” Fed. R. Evid. 807(a)(2); *Grunenthal*, PGR2019-00026, Paper 24, at 45-46. Maxeon’s reliance on *Insight Technology, Inc. v. SureFire, LLC* is unpersuasive: not only are the dates in *Insight* being relied on as corroboration of availability rather than truth of the listed date, but *Insight* also did not consider that the dates printed on a document may be the most probative information as to when the document became available and thus subject to the residual hearsay exception. *See Insight Tech., Inc. v. SureFire, LLC*, Civil No. 04-cv-74-JD, 2007 WL 3244092, at *6 (D.N.H. Nov. 1, 2007) (stating that dates on documents are hearsay when offered to

prove the date, “unless an exception applies or the date can be proven by other means”).

2. Exhibits 1031, 1054, 1081, 1082, 1107, 1116, 1128, 1130, 1132, And 1135 Are Authenticated

The authenticity of Exhibits 1031, 1054, 1081, 1082, 1107, 1116, 1128, 1130, 1132, and 1135 is supported by Mr. Smolenski's declarations. Ex.1140, ¶17, 30, 44, 45; Ex. 1141, ¶11, 18, 28, 30, 32, 33. “Authentication is a low bar, requiring only a rational basis that the exhibits are what they are asserted to be.... FRE 901(b)(1) explains that testimony of a witness with knowledge ‘that an item is what it is claimed to be’ may satisfy the authentication requirement.” *Costar*, IPR2022-00799, Paper 77 at 54-55; *see supra* section III.A. Exhibits 1140 and 1141 by Mr. Smolenski are sufficient to authenticate these exhibits because they provide a rational basis that the exhibits are what they are asserted to be. Maxeon chose not to depose Mr. Smolenski about the contents of his declarations, which detail how the exhibits were obtained, that they were available, and that they are authentic. There is no countervailing evidence in the record. Nor does Maxeon identify any reason why Exhibits 1031, 1054, 1081, 1082, 1107, 1116, 1128, 1130, 1132, and 1135 are not reliable from the faces of the documents.

Maxeon's attempts to cast doubt on the specific URLs from which these exhibits were found are unavailing. Exhibits 1140 and 1141 state the titles and dates

for the challenged exhibits and the URLs or other sources where they were found. For Exhibit 1031 by Bultman et al., Mr. Smolenski provides a different website, ResearchGate, that corroborates the publication date. Exhibit 1140, ¶15. Contrary to Maxeon's assertions, the provision of two websites from which exhibit 1031 could have been obtained further supports its availability and authenticity. Exhibit 1140, ¶30 also provides the URL from which Exhibit 1054 was obtained, and it is irrelevant that Maxeon appears not to know of the URL "posharp.com." Mot., at 7. Exhibit 1140, ¶30 establishes the authenticity of Exhibit 1054 and Maxeon does not argue that "posharp.com" is an unreliable source. The links to Exhibits 1081 and 1082 appear to have changed in the months since the exhibits were downloaded, but this does not cast doubt on whether they are true and accurate copies of the exhibits obtained from the URLs when the Petition was prepared, as Exhibit 1140 explains. Ex.1140, ¶44-45. Furthermore, Exhibit 1141, ¶¶18, 30 state the URLs where Exhibits 1116 and 1130 were found, and that they are true and accurate copies. Maxeon's arguments that these exhibits are from "random website[s]" and that Exhibit 1116 was found through a "Google search" bear only on the weight of the evidence, not on the authenticity of the exhibits. Mot., 9-10. Exhibits 1140 and 1141 by Mr. Smolenski authenticate the challenged exhibits because they state what the exhibits are, where they came from, and the relevant dates for the exhibits. This

is sufficient for authentication. *See* Fed. R. Evid. 901(b)(1); *Costar*, IPR2022-00799, Paper 77 at 54-55.

3. Exhibits 1031, 1081, 1082, 1116, 1130, 1132, And 1135 Are Not Hearsay

Maxeon's specific arguments that Exhibits 1031, 1081, 1082, 1116, 1130, 1132, and 1135 are hearsay fail because the exhibits are offered as evidence of what they describe, not for the truth of the matters asserted. *See* Fed. R. Evid. 801(c), 1972 Adv. Comm. Note.

First, the website relied on to authenticate the publication date of Exhibit 1031 is not hearsay because Petitioner has not offered "researchgate.net" into evidence. Fed. R. Evid. 801(c)(2). Exhibit 1140 by Mr. Smolenski cites researchgate.net to authenticate the date of Exhibit 1031. Ex.1140, ¶15. Maxeon's argument (Mot., 6-7) that the website is hearsay is inapposite and should be rejected because Petitioner does not seek to admit the website researchgate.net or the webpage containing the date relied on in Exhibit 1140. Petitioner seeks to admit Exhibit 1031 itself, which Maxeon has not suggested is hearsay. Petitioner relies on researchgate.net only in the context of Exhibit 1140, ¶15 to corroborate the publication date of 1031.

Second, Maxeon obliquely suggests that Exhibits 1081 and 1082 (both SunPower Corp.'s press releases) are hearsay, (Mot., 8), which is incorrect because they are the statements of a party opponent. Dr. Holman's declaration cites these

exhibits to support his opinion that solar cells can be fabricated using semiconductor technology. Ex.1003, ¶203. An opposing party's statement is not hearsay, and "when a party stands in the shoes of a declarant or the declarant's principal, hearsay statements made by the declarant or principal are admissible against the party." Fed. R. Evid. 801, 2024 Adv. Comm. Note. Here, the statements in Exhibits 1081 and 1082 were made by the SunPower, and Maxeon stands in the shoes of SunPower as a "spin-off" of SunPower. *See* Maxeon, Why Maxeon, <https://www.maxeon.com/why-maxeon-overview> (last visited November 9, 2025) ("Following our spin-off from SunPower Corporation in 2020, we took on a new name, Maxeon Solar Technologies, but kept the same mission...").

Third, Maxeon's assertions that Exhibits 1116 and 1130 are hearsay are incorrect because the exhibits are admissible as market reports. *See* Fed. R. Evid. 803(17); Mot., 9-10. Exhibit 1116 is a price trend report discussing the price of polysilicon and other pricing data. Exhibit 1130 is a news report discussing wafer production numbers and the general state of the solar panel market.

Fourth, Exhibit 1132 is an admissible screenshot of a webpage used to reinforce the reputability of the Marvin reference's study. Contrary to Maxeon's argument, Exhibit 1132's nature as a screenshot does not render it hearsay. Mot., 11. A screenshot is not a "statement" under Fed. R. Evid. 801, which is defined as

“a person’s oral assertion, written assertion, or nonverbal conduct, if the person intended it as an assertion.” Fed. R. Evid. 801(a). Screenshots and web-archives are not oral or written assertions or nonverbal conduct, nor are they performed by a “person.” Screenshots and web-archives are merely digital copies of the contents of web pages or computer screens. Maxeon is also incorrect that Exhibit 1132 is hearsay because it is not cited for the truth of the matter asserted (*i.e.*, that the Aerospace Corp. has provided research and development for over 50 years). Rather than being offered to prove the length of time the Aerospace Corp. has been in business, the statements in Exhibit 1132 are relevant because the fact they were made shows the reliability of Marvin’s study. *See* Ex.1089-Reply-Decl., ¶¶96 n.10.

Fifth, Maxeon incorrectly argues Exhibit 1135 is hearsay. Mot., 11. Exhibit 1135 is not hearsay because it is being offered as evidence of what it describes, not for the truth of the matters asserted. *See* Ex.1089-Reply-Decl., ¶¶18, 120.

Finally, to the extent the above exhibits are deemed hearsay (they are not), the exhibits may still be relied on by Dr. Holman in forming his opinions. *See* Fed. R. Evid. 703.

4. Exhibits 1081, 1082, 1107, 1116, and 1128 Are Relevant

Maxeon’s suggestion that Exhibits 1081, 1082, 1107, and 1116 are not relevant (Mot., 8-10) is without merit. Each exhibit corroborates Dr. Holman’s

testimony and is thus relevant to the knowledge of a POSITA. *Yeda Rsch. v. Mylan Pharms. Inc.*, 906 F.3d 1031, 1041 (Fed. Cir. 2018). At best, Maxeon's objections go to the weight of the evidence, not their admissibility. *See Xactware Sols., Inc. v. Pictometry Int'l Corp.*, IPR2016-00594, Paper 46, at 7 (P.T.A.B. Aug. 24, 2017) (citations omitted). Exhibits 1081 and 1082 contain information about the impact of silicon semiconductor manufacturing on the solar industry. Exhibit 1107 provides evidence of how a POSITA would understand the term "impurities." Exhibit 1116 shows the price of polysilicon over time and bears on the availability of wafers.

Exhibit 1128 is not relied on as prior art and is relevant and admissible. Exhibit 1128 is relied on by Dr. Holman to explain the background knowledge of a POSITA regarding conventional front surface fields as of December 2014. *See* Ex.1089-Reply-Decl., ¶86. Exhibit 1141 by Mr. Smolenski provides the title and authorship of Exhibit 1128. Ex.1141, ¶28. Maxeon's argument that Exhibit 1128 is inadmissible because it is not prior art is incorrect. Mot., 10. Furthermore, Exhibit 1128 is relevant because it corroborates statements made in other exhibits that are not subject to challenge. *See id.*

C. Exhibits 1091, 1092, And 1136 Should Not Be Excluded

Contrary to Maxeon's suggestion (Mot., 11-13), Exhibits 1091, 1092, and 1136 (Declaration and Deposition Transcript of Dr. David Carroll in IPR2024-01038

and Deposition Transcript of Dr. Douglas Ruby in IPR2024-01199 and IPR2024-01203, respectively) are not hearsay and should not be excluded. Because these exhibits are not hearsay, it is immaterial whether any hearsay exception applies. As “a non-jury tribunal with administrative expertise, [the Board] is well-positioned to determine and assign appropriate weight to evidence presented.” *Corning Inc. v. DSM IP Assets B.V.*, IPR2013-00053, Paper 66 at 19 (P.T.A.B. May 1, 2014).

Petitioner introduced Exhibits 1091, 1092, and 1136 as evidence of what they describe, not for the truth of their content. Fed. R. Evid 801(c), 1972 Adv. Comm. Note. For example, Exhibit 1091 is cited in Petitioner's Reply to show what Maxeon disputes about gettering, not for the substance of Dr. Carroll's testimony about gettering. *Compare* Pet. Reply, Paper 36 at 10 (“**Maxeon does not dispute** that gettering was common in 2014...”)*with* Ex.1091-Carroll-CSI-Decl., ¶38 (“In 2014, two common ways of reducing such impurities were...a process called ‘gettering.’”). As another example, Exhibit 1092 is cited to show the inconsistency between a past position of Maxeon's expert and Maxeon's current position, not for the substance of Dr. Carroll's testimony about silicon wafer quality. *Compare* Pet. Reply, Paper 36 at 1 (“**Maxeon's original expert, Dr. Carroll, admitted** that ‘gettering’ was ‘necessary’ because the solar industry in 2014 used ‘lower[-]quality silicon’ wafers...”)*with* Ex.1092-Carroll-CSI-Tr., 25:14-15 (“the silicon solar industry

typically uses a lower grade of silicon...”). And Exhibit 1136 is cited, for example, in Dr. Holman's Reply Declaration to corroborate his testimony about what a POSITA would have understood, not for the substance of Dr. Ruby's testimony about the use of simulations. *Compare* Ex.1089-Reply-Decl., ¶118 (“*A POSITA would have understood* that simulations can be used to show general trends as different parameters...”)*with* Ex.1136-Ruby-Tr. at 66:1-4 (“I would use the computer modeling to determine whether an improvement in a certain parameter, or change in a certain parameter would result in an improvement to performance.”).

D. Exhibit 1090 Should Not Be Excluded

Exhibit 1090 should not be excluded because Petitioner has served the Errata sheet on Maxeon and herewith files the Errata sheet as Exhibit 1142, which Maxeon agrees overcomes the objection. *See* Mot., 15.

IV. CONCLUSION

For the foregoing reasons, Maxeon's Motion should be denied.

Respectfully submitted,

Date: November 13, 2025

By: /David L. Cavanaugh/
David L. Cavanaugh
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Counsel for Petitioner

CERTIFICATE OF SERVICE

I hereby certify that, on November 13, 2025, I caused a true and correct copy
of the following materials:

- Petitioner's Opposition to Patent Owner's Motion to Exclude
- Petitioner's Table of Exhibits
- Exhibits 1140-1142

to be served via electronic service on the counsel of record for Patent Owner:

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Petitioner's Table of Exhibits

No.	Description
1001	U.S. Patent No. 11,251,315 B2 ("USP315")
1002	File History for U.S. Patent No. 11,251,315 B2 (App. No. 16/877,255) ("USP315FH")
1003	Declaration of Dr. Zachary Holman Regarding U.S. Patent No. 11,251,315 ("Decl.")
1004	Declaration of June Munford ("Munford-Decl.")
1005	Complaint for Patent Infringement, <i>Maxeon Solar Pte. Ltd. v. Hanwha Solutions Corp., et al.</i> , Civil Action No. 2:24-cv-262 (E.D. Tex. Apr. 19, 2024), ECF No. 1 ("Complaint")
1006	U.S. Patent App. Pub. No. 2014/0311567 ("Choi")
1007	U.S. Patent No. 8,207,444 ("Cousins")
1008	D.C. Marvin, S.L. Froedege, "Interdigitated Back Contact Solar Cell Analysis and Design Recommendations for Space Use," Space Systems Division Air Force Systems Command, Report 88D-TR-90-04 ("Marvin")
1009	RESERVED
1010	F. Granek, High-Efficiency Back Contact Back-Junction Silicon Solar Cells (2009) (Ph.D. Dissertation, Fraunhofer Institute for Solar Energy Systems ISE) ("Granek")
1011	U.S. Patent App. Pub. No. 2013/0240029 ("Smith")
1012	A.A. Istratov, H. Väinölä, W. Huber, E. R. Weber, "Gettering in silicon-on-insulator wafers: experimental studies and modelling," Semicond. Sci. Technol. 20: 568–575 (April 2005) ("Istratov")
1013	EP1732142A1 ("Froitzheim")
1014	JP07-106611 ("Okayasu") (Translation)
1015	Translation Declaration for Okayasu
1016	N. G. Tarr, "A polysilicon emitter solar cell," IEEE Electron Device Letters, vol. 6, no. 12, pp. 655-658, Dec. 1985 ("Tarr")

No.	Description
1017	U.S. Patent No. 6,262,359 ("Meier")
1018	Zachary C. Holman, Electron Transport in Amorphous Silicon (May 2005) (Thesis Presented to The Division of Mathematics and Natural Sciences, Reed College) ("Holman-Thesis")
1019	P.J. Verlinden, R.A. Sinton, K. Wickham, R.A. Crane, and R.M. Swanson, "Backside-contact silicon solar cells with improved efficiency for the '96 world solar challenge," in Proceedings of the 14th European Photovoltaic Solar Energy Conference, Barcelona, Spain, 96-9 (1997) ("Verlinden")
1020	R.A. Sinton and R.M. Swanson, "Simplified backside-contact solar cells," IEEE Transactions on Electron Devices, 37 (2), 348-52, (1990) ("Sinton")
1021	R.R. King, R.A. Sinton, R.M. Swanson, "Studies of Diffused Phosphorous Emitters: Saturation Current, Surface Recombination Velocity, and Quantum Efficiency," IEEE Transactions On Electron Devices, Vol. 37, No. 2 (Feb. 1990) ("King")
1022	W.P. Mulligan, D.H. Rose, M.J. Cudzinovic, D.M. De Ceuster, K.R. McIntosh, D.D. Smith, and R.M. Swanson, Manufacture of solar cells with 21% efficiency, in Proceedings of the 19th European Photovoltaic Solar Energy Conference, Paris, France, 387-90 (2004) ("Mulligan")
1023	J. Nelson, The Physics of Solar Cells, Imperial College Press, Chapters 1, 3, 4, 7, 9, 10 (2003) ("Nelson")
1024	R. F. Pierret, Semiconductor Device Fundamentals, Addison-Wesley Publishing Company, Inc., Excerpts from Chapters 1-4 (1996) ("Pierret")
1025	S.J. Fonash, Solar Cell Device Physics, Elsevier, Excerpts from Chapter 2 (2d Ed. 2010) ("Fonash")
1026	C. Hu, R.M. White, Solar Cells: From Basics to Advanced Systems, McGraw-Hill, Chapter 3 (1983) ("Hu")

No.	Description
1027	O. von Roos, B. Anspaugh, "The Front Surface Field Solar Cell, A New Concept," Proceedings of the 13th IEEE PVSEC, pp. 1119-1120 (1978) ("von Roos")
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1089	Reply Declaration of Dr. Zachary Holman Regarding U.S. Patent No. 11,251,315 ("Reply-Decl.")
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1141	Declaration of Gilbert T. Smolenski Regarding Exhibits 1093-1097, 1100, 1103-1104, 1107-1108, 1111-1116, 1118-1122, 1124-1132, 1135, 1137-1139
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