UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ZHUHAI COSMX BATTERY CO., LTD.,
Petitioner

v.

NINGDE AMPEREX TECHNOLOGY LIMITED,
Patent Owner

Case IPR2025-00431
U.S. Patent No. 11,799,131 B2

PETITIONER'S OBJECTIONS TO EVIDENCE SUBMITTED WITH PATENT OWNER'S PRELIMINARY RESPONSE

Petitioner Zhuhai CosMX Battery Co., Ltd. ("Petitioner") hereby objects to certain evidence submitted by Ningde Amperex Technology Limited ("Patent Owner") with the Patent Owner Preliminary Response ("POPR," Paper 11) in the above-captioned proceeding. In accordance with 37 C.F.R. § 42.64(b)(1), these objections are being timely filed and served within ten (10) business days of the institution of trial (Paper 15).

I. EXHIBIT 2015

Exhibit 2015 is described as the Declaration of Dean R. Wheeler, Ph.D., in Support of Patent Owner's Preliminary Response. Petitioner objects to Exhibit 2015, including specifically to the extent it includes subject matter that is not permitted pursuant to FRE 602 and/or 702-703, including without limitation, to the extent that the declaration presents as "facts" information that is outside the personal knowledge of the declarant and/or to the extent that the testimony is not based on sufficient facts or data or the product of reliable principles and methods reliably applied in this case. *See, e.g.*, Exhibit 2015, ¶¶17-53, 54-289. Petitioner further objects to the portions of Exhibit 2015 that cite an exhibit objected to herein for the reasons stated herein.

II. EXHIBIT 2004

Exhibit 2004 is described on Patent Owner's Exhibit List as Summons to attend oral proceedings in German Case No. 3 Ni 12/23 (EP) ("Germany Order 1"). Petitioner objects to Exhibit 2004 under FRE 401, 402, and 403 as irrelevant and/or

more prejudicial than probative, as this exhibit pertains to a foreign (German) proceeding regarding a different patent.

III. EXHIBIT 2005

Exhibit 2005 is described on Patent Owner's Exhibit List as Summons to attend oral proceedings in German Case No. 3 Ni 12/24 (EP) ("Germany Order 2"). Petitioner objects to Exhibit 2005 under FRE 401, 402, and 403 as irrelevant and/or more prejudicial than probative, as this exhibit pertains to a foreign (German) proceeding regarding a different patent.

IV. EXHIBIT 2006

Exhibit 2006 is described on Patent Owner's Exhibit List as Docket Navigator Statistics for Judge Rodney Gilstrap (accessed May 5, 2025). Petitioner objects to Exhibit 2006 as lacking authentication under FRE 901. Petitioner further objects to Exhibit 2006 under FRE 401, 402, and 403 because it is irrelevant to the validity of the '131 Patent and/or more prejudicial than probative.

V. EXHIBIT 2007

Exhibit 2007 is described on Patent Owner's Exhibit List as Docket, *Ningde Amperex Tech. Ltd. v. Zhuhai CosMX Battery Co.*, No. 2:22-cv-00232 (E.D. Tex.). Petitioner objects to Exhibit 2007 under FRE 401, 402, and 403 because it is irrelevant to the validity of the '131 Patent and/or more prejudicial than probative, as it is the docket for a separate litigation that did not involve the '131 Patent.

VI. EXHIBIT 2008

Exhibit 2008 is described on Patent Owner's Exhibit List as Joint Motion for Entry of Protective Order, *Ningde Amperex Tech. Ltd. v. Zhuhai CosMX Battery Co.*, No. 2:24-cv-00728-JRG, ECF No. 30 (E.D. Tex. Feb. 11, 2025). Petitioner objects to Exhibit 2008 under FRE 401, 402, and 403 because it is irrelevant to the validity of the '131 Patent and/or more prejudicial than probative.

VII. EXHIBIT 2009

Exhibit 2009 is described on Patent Owner's Exhibit List as Amended Final Judgment, *Ningde Amperex Tech. Ltd. v. Zhuhai CosMX Battery Co.*, No. 2:22-cv-00232, ECF No. 427 (E.D. Tex. Sept. 3, 2024). Petitioner objects to Exhibit 2009 under FRE 401, 402, and 403 because it is irrelevant to the validity of the '131 Patent and/or more prejudicial than probative, as it is the final judgment in a separate case that did not involve the '131 Patent.

VIII. EXHIBIT 2010

Exhibit 2010 is described on Patent Owner's Exhibit List as Article, *Lithium battery manufacturer ATL won injunction against its Chinese rival COSMX in German Court*, China IP Today (April 6, 2024). Petitioner objects to Exhibit 2010 under FRE 901 as lacking authentication. Petitioner further objects under FRE 401, 402, and 403 because it is irrelevant to the validity of the '131 Patent and/or more

prejudicial than probative, as it a news article regarding a litigation that did not involve the ’131 Patent.

IX. EXHIBIT 2011

Exhibit 2011 is described on Patent Owner’s Exhibit List as General Docket, *Ningde Amperex Tech. Ltd. v. Zhuhai CosMX Battery Co.*, No. 25-1037 (CAFC). Petitioner objects to Exhibit 2011 under FRE 401, 402, and 403 because it is irrelevant to the validity of the ’131 Patent and/or more prejudicial than probative, as it is the docket for a pending appeal regarding a litigation that did not involve the ’131 Patent.

X. EXHIBIT 2013

Exhibit 2013 is described on Patent Owner’s Exhibit List as Darts IP Reports: CN109301326, CN104466097, CN206490141, CN108352492 (May 6, 2025). Petitioner objects to Exhibit 2013 under FRE 901 as lacking authentication. Petitioner further objects under FRE 401, 402, and 403 because it is irrelevant to the validity of the ’131 Patent and/or more prejudicial than probative, as it is a report regarding the status of various Chinese patents that are unrelated to the ’131 Patent or any of the prior art relied upon by Petitioner.

XI. EXHIBIT 2014

Exhibit 2014 is described on Patent Owner’s Exhibit List as Dec. 20, 2021 memo titled “New PE2E Search Tool Using AI Search Features” by Acting Deputy

Director Andrew Hirshfeld. Petitioner objects to Exhibit 2014 under FRE 901 as lacking authentication. Petitioner further objects under FRE 401, 402, and 403 because it is irrelevant to the validity of the '131 Patent and/or more prejudicial than probative, as the availability of the PE2E Search Tool does not inform whether the '131 Patent is invalid.

XII. EXHIBIT 2017

Exhibit 2017 is described on Patent Owner's Exhibit List as Sigma-Aldrich Safety Data Sheet, "Lithium hexafluorophosphate solution in ethylene carbonate-d4 (99 atom % D) and ethyl-d5 methyl-d3 carbonate (98 atom % D), 1.0 M LiPF6 in EC-d4/EMC-d8=3:7 (v/v), battery grade," dated July 11, 2016. Petitioner objects to Exhibit 2017 under FRE 901 as lacking authentication. Petitioner further objects to Exhibit 2017 as containing hearsay under FRE 801 and FRE 802 to the extent that Patent Owner intends to rely on it to prove the truth of any matter asserted therein.

XIII. EXHIBIT 2018

Exhibit 2018 is described on Patent Owner's Exhibit List as Safety Data Sheet, "Lithium Hexafluorophosphate in EC/EMC 3:7," dated September 2018. Petitioner objects to Exhibit 2018 under FRE 901 as lacking authentication. Petitioner further objects to Exhibit 2018 as containing hearsay under FRE 801 and FRE 802 to the extent that Patent Owner intends to rely on it to prove the truth of any matter asserted therein.

XIV. EXHIBIT 2019

Exhibit 2019 is described on Patent Owner's Exhibit List as Sigma-Aldrich Product Specification, "Lithium hexafluorophosphate solution - in ethylene carbonate and diethyl carbonate, 1.0M LiPF6 in EC/DEC=50/50 (v/v), battery grade." Petitioner objects to Exhibit 2019 under FRE 901 as lacking authentication. Petitioner further objects to Exhibit 2019 as containing hearsay under FRE 801 and FRE 802 to the extent that Patent Owner intends to rely on it to prove the truth of any matter asserted therein.

XV. EXHIBIT 2020

Exhibit 2020 is described on Patent Owner's Exhibit List as Sigma-Aldrich Product Specification, "Lithium hexafluorophosphate solution - in diethyl carbonate, 1.0M LiPF6 in DEC, battery grade." Petitioner objects to Exhibit 2020 under FRE 901 as lacking authentication. Petitioner further objects to Exhibit 2020 as containing hearsay under FRE 801 and FRE 802 to the extent that Patent Owner intends to rely on it to prove the truth of any matter asserted therein.

XVI. EXHIBIT 2021

Exhibit 2021 is described on Patent Owner's Exhibit List as Sigma-Aldrich Product Specification, "Lithium hexafluorophosphate solution - in ethylene carbonate and dimethyl carbonate, 1.0M LiPF6 in EC/DMC=50/50 (v/v), battery grade." Petitioner objects to Exhibit 2021 under FRE 901 as lacking authentication.

Petitioner further objects to Exhibit 2021 as containing hearsay under FRE 801 and FRE 802 to the extent that Patent Owner intends to rely on it to prove the truth of any matter asserted therein.

XVII. EXHIBIT 2023

Exhibit 2023 is described on Patent Owner's Exhibit List as Wenbo Zhang et al., *Interfacial processes and influence of composite cathode microstructure controlling the performance of all-solid-state lithium batteries*, 9 ACS Applied Materials & Interfaces, 17835–17845 (2017). Petitioner objects to Exhibit 2023 under FRE 901 as lacking authentication. Petitioner further objects to Exhibit 2023 as containing hearsay under FRE 801 and FRE 802 to the extent that Patent Owner intends to rely on it to prove the truth of any matter asserted therein.

XVIII. EXHIBIT 2024

Exhibit 2024 is described on Patent Owner's Exhibit List as BYU DIPPR® (Design Institute for Physical Properties) Thermophysical Properties Laboratory Data Information Sheet for n-Propyl Propionate. Petitioner objects to Exhibit 2024 under FRE 901 as lacking authentication. Petitioner further objects to Exhibit 2024 as containing hearsay under FRE 801 and FRE 802 to the extent that Patent Owner intends to rely on it to prove the truth of any matter asserted therein.

XIX. EXHIBIT 2025

Exhibit 2025 is described on Patent Owner's Exhibit List as 2016 Batteries Conference GRC, available at: https://www.grc.org/batteries-conference/2016/ (accessed on 12 May 2025). Petitioner objects to Exhibit 2025 under FRE 901 as lacking authentication. Petitioner further objects to Exhibit 2025 as containing hearsay under FRE 801 and FRE 802 to the extent that Patent Owner intends to rely on it to prove the truth of any matter asserted therein. Petitioner further objects to Exhibit 2025 under FRE 401, 402, and 403 as irrelevant to the validity of the '131 Patent and/or more prejudicial than probative, as it is merely the schedule for a conference.

XX. EXHIBIT 2026

Exhibit 2026 is described on Patent Owner's Exhibit List as Hubs – Department of Energy, available at: https://www.energy.gov/hubs (accessed on 12 May 2025). Petitioner objects to Exhibit 2026 under FRE 901 as lacking authentication. Petitioner further objects to Exhibit 2026 as containing hearsay under FRE 801 and FRE 802 to the extent that Patent Owner intends to rely on it to prove the truth of any matter asserted therein. Petitioner further objects to Exhibit 2026 under FRE 401, 402, and 403 as irrelevant to the validity of the '131 Patent and/or more prejudicial than probative, as it is merely a Department of Energy webpage.

XXI. EXHIBIT 2027

Exhibit 2027 is described on Patent Owner's Exhibit List as DOE Energy Innovation Hubs, available at: https://science.osti.gov/bes/Research/DOE-Energy-Innovation-Hubs (accessed on 12 May 2025). Petitioner objects to Exhibit 2027 under FRE 901 as lacking authentication. Petitioner further objects to Exhibit 2027 as containing hearsay under FRE 801 and FRE 802 to the extent that Patent Owner intends to rely on it to prove the truth of any matter asserted therein. Petitioner further objects to Exhibit 2027 under FRE 401, 402, and 403 as irrelevant to the validity of the '131 Patent and/or more prejudicial than probative, as it is merely a Department of Energy webpage.

XXII. EXHIBIT 2028

Exhibit 2028 is described on Patent Owner's Exhibit List as Amir-Sina Hamedi, Fezzeh Pouraghajan, Fei Sun, Mojdeh Nikpour, & Dean R. Wheeler, Interplay of Electrode Heterogeneity and Lithium Plating, 169 020551 J. Electrochem. Soc. (2022). Petitioner objects to Exhibit 2028 under FRE 901 as lacking authentication. Petitioner further objects to Exhibit 2028 as containing hearsay under FRE 801 and FRE 802 to the extent that Patent Owner intends to rely on it to prove the truth of any matter asserted therein.

XXIII. EXHIBIT 2029

Exhibit 2029 is described on Patent Owner's Exhibit List as Fei Sun and Dean R. Wheeler, The Effects of Lithium Ions and pH on the Function of Polyacrylic Acid Binder for Silicon Anodes, 170 080502 J. Electrochem. Soc. (2023). Petitioner objects to Exhibit 2029 under FRE 901 as lacking authentication. Petitioner further objects to Exhibit 2029 as containing hearsay under FRE 801 and FRE 802 to the extent that Patent Owner intends to rely on it to prove the truth of any matter asserted therein.

XXIV. EXHIBIT 2030

Exhibit 2030 is described on Patent Owner's Exhibit List as Fezzeh Pouraghajan, Andrea I. Thompson, Emilee E. Hunter, Brian Mazzeo, Jake Christensen, Ram Subbaraman, Michael Wray, & Dean Wheeler, The Effects of Cycling on Ionic and Electronic Conductivities of Li-ion Battery Electrodes, 492 229636 J. of Power Sources (2021). Petitioner objects to Exhibit 2030 under FRE 901 as lacking authentication. Petitioner further objects to Exhibit 2030 as containing hearsay under FRE 801 and FRE 802 to the extent that Patent Owner intends to rely on it to prove the truth of any matter asserted therein.

XXV. EXHIBIT 2031

Exhibit 2031 is described on Patent Owner's Exhibit List as Amir-Sina Hamedi, Edmund M. Shumway, & Dean R. Wheeler, Electrode-Level Modeling of

Silicon Anodes for Improved Cell Design, 171 120539 J. Electrochem. Soc. (2024). Petitioner objects to Exhibit 2031 under FRE 901 as lacking authentication. Petitioner further objects to Exhibit 2031 as containing hearsay under FRE 801 and FRE 802 to the extent that Patent Owner intends to rely on it to prove the truth of any matter asserted therein.

XXVI. EXHIBIT 2032

Exhibit 2032 is described on Patent Owner's Exhibit List as Jerome Workman, A Comprehensive Review of Spectroscopic Techniques for Lithium-Ion Battery Analysis, (Dec. 4, 2024), https://doi.org/10.56530/spectroscopy.ii3689u3. Petitioner objects to Exhibit 2032 under FRE 901 as lacking authentication. Petitioner further objects to Exhibit 2032 as containing hearsay under FRE 801 and FRE 802 to the extent that Patent Owner intends to rely on it to prove the truth of any matter asserted therein.

XXVII. EXHIBIT 2033

Exhibit 2033 is described on Patent Owner's Exhibit List as Anup Barai et al., *A Comparison of Methodologies for the Non-Invasive Characterisation of Commercial Li-Ion Cells*, 72 Progress in Energy and Combustion Science 1-31 (2019). Petitioner objects to Exhibit 2033 under FRE 901 as lacking authentication. Petitioner further objects to Exhibit 2033 as containing hearsay under FRE 801 and

FRE 802 to the extent that Patent Owner intends to rely on it to prove the truth of any matter asserted therein.

XXVIII. EXHIBIT 2034

Exhibit 2034 is described on Patent Owner's Exhibit List as *Lithium-ion Battery Design: Effects of Optimal Compaction Density*, available at: https://www.neware.net/news/lithium-ion-battery-design-effects-of-optimal-compaction-density/230/83.html (accessed on May 23, 2025). Petitioner objects to Exhibit 2034 under FRE 901 as lacking authentication. Petitioner further objects to Exhibit 2034 as containing hearsay under FRE 801 and FRE 802 to the extent that Patent Owner intends to rely on it to prove the truth of any matter asserted therein.

XXIX. EXHIBIT 2035

Exhibit 2035 is described on Patent Owner's Exhibit List as Shu Lu, et al., *Binder-Free LiCo02/Carbon Nanotube Cathodes for High-Performance Lithium Ion Batteries,* 24 Adv. Mater. 2294-2298 (2012). Petitioner objects to Exhibit 2035 under FRE 901 as lacking authentication. Petitioner further objects to Exhibit 2035 as containing hearsay under FRE 801 and FRE 802 to the extent that Patent Owner intends to rely on it to prove the truth of any matter asserted therein.

XXX. EXHIBIT 2036

Exhibit 2036 is described on Patent Owner's Exhibit List as Lei-Lei Lu, et al., *Wood-Inspired High-Performance Ultrathick Bulk Battery Electrodes,* Adv. Mater.

1706745 (2018). Petitioner objects to Exhibit 2036 under FRE 901 as lacking authentication. Petitioner further objects to Exhibit 2036 as containing hearsay under FRE 801 and FRE 802 to the extent that Patent Owner intends to rely on it to prove the truth of any matter asserted therein.

XXXI. EXHIBIT 2037

Exhibit 2037 is described on Patent Owner's Exhibit List as Yasuhiko Takahashi, et al., *Structure and electron density analysis of electrochemically and chemically delithiated $LiCoO_2$ single crystals*, 180 Journal of Solid State Chemistry 313-321 (2007), https://doi.org/10.1016/j.ssc.2006.10.018. Petitioner objects to Exhibit 2037 under FRE 901 as lacking authentication. Petitioner further objects to Exhibit 2037 as containing hearsay under FRE 801 and FRE 802 to the extent that Patent Owner intends to rely on it to prove the truth of any matter asserted therein.

XXXII. EXHIBIT 2038

Exhibit 2038 is described on Patent Owner's Exhibit List as Carbon Black, Available at: https://pubchem.ncbi.nlm.nih.gov/compound/carbon%20black, (accessed on May 23, 2025). Petitioner objects to Exhibit 2038 under FRE 901 as lacking authentication. Petitioner further objects to Exhibit 2038 as containing hearsay under FRE 801 and FRE 802 to the extent that Patent Owner intends to rely on it to prove the truth of any matter asserted therein.

XXXIII. EXHIBIT 2039

Exhibit 2039 is described on Patent Owner's Exhibit List as Sankar Mandal, et al., *The Role of Carbon Black in LiMn204-Based Composites as Cathodes for Rechargeable Lithium Batteries*, 148 J. Electrochem. Soc. A24-A29 (2001). Petitioner objects to Exhibit 2039 under FRE 901 as lacking authentication. Petitioner further objects to Exhibit 2039 as containing hearsay under FRE 801 and FRE 802 to the extent that Patent Owner intends to rely on it to prove the truth of any matter asserted therein.

XXXIV. EXHIBIT 2040

Exhibit 2040 is described on Patent Owner's Exhibit List as Ethylene Carbonate, https://www.m-chemical.co.jp/en/products/departments/mcc/c2/product /120098 l_791 0.html (accessed on June 8, 2025). Petitioner objects to Exhibit 2040 under FRE 901 as lacking authentication. Petitioner further objects to Exhibit 2040 as containing hearsay under FRE 801 and FRE 802 to the extent that Patent Owner intends to rely on it to prove the truth of any matter asserted therein.

Respectfully submitted,

LEE & HAYES, P.C.

/James D. Stein/

James D. Stein
Registration No. 63,782
Lead Counsel for Petitioner

Date: August 28, 2025

CERTIFICATE OF SERVICE (37 C.F.R. §§ 42.6(e)), 42.105(a))

I certify that the above-captioned **PETITIONER'S OBJECTIONS TO EVIDENCE SUBMITTED WITH PATENT OWNER'S PRELIMINARY RESPONSE** was served in its entirety upon the Patent Owner on August 28, 2025, by email to the following addresses:

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Respectfully submitted,

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Date: August 28, 2025