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

NINGDE AMPEREX TECHNOLOGY, LIMITED	§	
	§	
Plaintiff,	§	
	§	Civil Case No. 2:24-cv-728-JRG
v.	§	
	§	
ZHUHAI COSMX BATTERY CO., LTD.,	§	
	§	
Defendant.	§	

DEFENDANT'S INITIAL P.R. 3-3 AND 3-4 DISCLOSURES

Ningde Amperex Tech. Exhibit No. 2003
Zhuhai CosMX Battery Co. Ltd. v. Ningde Amperex Tech.
IPR2025-00432, U.S. Patent No. 11,575,148
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I. INTRODUCTION

Pursuant to P.R. 3-3 and 3-4 and the Docket Control Order (Dkt. No. 27), Defendant Zhuhai CosMX Battery Co., Ltd. ("CosMX") hereby discloses its P.R. 3-3 and 3-4 disclosures ("Invalidity Contentions") in view of Plaintiff Ningde Amperex Technology Limited's ("ATL") P.R. 3-1 Disclosure of Asserted Claims and Preliminary Infringement Contentions ("Infringement Contentions"). ATL has not sought to further amend its Infringement Contentions at this time for good cause or otherwise. In the event ATL amends its Infringement Contentions, these Invalidity Contentions may change and CosMX reserves the right to amend or supplement these Invalidity Contentions. CosMX contends that each of ATL's Asserted Claims (as defined below) is invalid under at least 35 U.S.C. §§ 101, 102, 103, and/or 112.

A. Asserted Claims

In its Infringement Contentions, ATL asserts infringement of the following patents and claims (collectively, the "Asserted Patents" and "Asserted Claims"):

- Claims 1–7, 12, and 14–17 of U.S. Patent No. 11,799,131 ("the '131 patent")
- Claims 1–6 and 12–23 of of U.S. Patent No. 11,769,910 ("the '910 Patent");
- Claims 1, 3–6, 8, 10, 12–15, 17, and 19 of U.S. Patent No. 11,575,148 ("the '148 Patent");
- Claims 1, 2, 5–10, and 12–22 of U.S. Patent No. 11,923,498 ("the '498 Patent");
- Claims 1–8, 10–13, 15–17, and 19–20 of U.S. Patent No. 12,015,118 ("the '118 Patent"); and
- Claims 1–4 and 6–10 of U.S. Patent No. 10,964,927 ("the '927 Patent").

These Invalidity Contentions address the Asserted Claims specifically set forth in ATL's Infringement Contentions against CosMX. To the extent ATL attempts to assert infringement any other patents or claims, and if the Court grants ATL leave to do so, CosMX reserves the right to revise, amend, correct, supplement, modify, or clarify these Invalidity Contentions.

B. Ongoing Discovery and Disclosures

CosMX bases these Invalidity Contentions on CosMX's current knowledge and understanding of the Asserted Claims and review of prior art items as of the date of these Invalidity Contentions. CosMX's Invalidity Contentions are made without the benefit of discovery regarding the parties' claim construction contentions, any expert discovery, any third-party discovery, and any claim construction opinion or order by the Court. Accordingly, these Invalidity Contentions are provided without prejudice to CosMX's right to revise, amend, correct, supplement, modify, or clarify these Invalidity Contentions. CosMX also reserves the right to complete its investigation and discovery of the facts, to produce subsequently discovered information, and to introduce such subsequently discovered information at the time of any hearing or trial in this action.

CosMX also bases its Invalidity Contentions on its current understanding of the Asserted Claims in view of ATL's Infringement Contentions. ATL's Infringement Contentions are deficient both facially and substantively. For example, ATL has charted only three products across six patents, vaguely alleging that each is a "representative" product for its respective patent but provides no explanation of what each product supposedly represents or how it is representative. In other instances, it is clear that ATL does not apply the plain and ordinary meaning of the claim language, but it is unclear how ATL is construing the claims. In such cases, CosMX's invalidity contentions are based on CosMX's best understanding of ATL's positions. CosMX reserves its right to amend or supplement these invalidity contentions to the extent ATL clarifies its claim construction positions. These and additional deficiencies have prevented CosMX from understanding fully how ATL is applying the claims for purposes of infringement. ATL has not yet sought leave to supplement or amend its Infringement Contentions to address any of the deficiencies noted above. CosMX reserves the right to seek leave to amend or supplement, and if

granted leave, to amend or supplement these Invalidity Contentions, if ATL supplements or amends its Infringement Contentions or otherwise attempts to address any deficiency.

CosMX incorporates by reference all other bases for invalidity identified in CosMX's Answers, Initial Disclosures, and interrogatory responses in this matter, and during the prosecution of the Asserted Patents and all related patents and/or patent applications. CosMX further incorporates by reference all admissions regarding the Asserted Patents including, but not limited to, admissions in the specifications of the Asserted Patents, and the prosecution of the Asserted Patents and related patents and/or patent applications. CosMX moreover incorporates contentions previously served or subsequently served in any related litigation, including, but not limited to, invalidity contentions made or served in IPR2025-00385 (the '927 Patent); IPR2025-00405 (the '910 Patent), IPR2025-00432 (the '148 Patent), IPR2025-00389 (the '498 Patent), IPR2025-00431 (the '131 Patent) (collectively, "Related Actions"), or made or served in any prior litigations involving the Asserted Patents and related patents, including 2:22-cv-0232-JRG, IPR2023-00586, IPR2023-00587, and IPR2023-00585 (collectively, "Prior Actions").

C. Claim Construction

The Court has not construed the Asserted Claims. CosMX has attempted to read the Asserted Claims to prior art references based on ATL's apparent constructions, to the extent understood, of the Asserted Claims as advanced in ATL's Infringement Contentions. However, nothing stated in these Invalidity Contentions or accompanying claim charts should be treated as an admission or suggestion that ATL's apparent claim constructions are correct, or that any claim terms of the Asserted Claims are not invalid under 35 U.S.C. § 112 for being indefinite, failing to satisfy the written description requirement, failing to satisfy the enablement requirement, or failing to satisfy any other requirement of § 112. In fact, CosMX specifically denies that ATL's apparent claim constructions are proper.

Depending on the Court's construction of the Asserted Claims of the Asserted Patents, and/or positions that ATL or its expert witness(es) may take concerning claim interpretation, infringement, and/or invalidity issues, the asserted prior art references may be of greater or lesser relevance. Given this uncertainty, the charts may reflect alternative applications of the prior art against the Asserted Claims. Thus, no chart or position taken by CosMX should be construed as an admission or a waiver of any particular construction of any claim term. CosMX also reserves the right to challenge any of the claim terms under 35 U.S.C. § 112, including by arguing that they are indefinite, not supported by the written description, not enabled, and/or failing to satisfy any other requirement of § 112.

D. Effective Date

ATL asserts the following under P.R. 3-1(e):

Asserted Patent	Claimed Priority Date
The '131 Patent	September 21, 2018
The '910 Patent	September 21, 2018
The '148 Patent	April 11, 2018
The '498 Patent	January 17, 2014
The '118 Patent	February 26, 2018
The '927 Patent	June 20, 2018

CosMX does not concede that any of the Asserted Claims of the Asserted Patents are entitled to ATL's purported priority dates. CosMX has relied on ATL's disclosures in making these Invalidity Contentions. To the extent ATL seeks and is granted leave to amend its disclosures in an attempt to establish any earlier effective date(s), CosMX reserves the right to

amend these Invalidity Contentions in response, including by disclosing additional prior art or earlier versions or evidence of the prior art disclosed herein.

E. Prior Art Identification and Citation

The accompanying invalidity claim charts cite to particular teachings and disclosures of the prior art references as applied to features of the Asserted Claims. However, a person of ordinary skill in the art ("POSA") may view an item of prior art generally in the context of other publications, literature, products, and understanding. Accordingly, the cited portions are only exemplary and are intended to put ATL on notice of the basis for CosMX's contentions. CosMX has endeavored to identify the most relevant portions of the references, but the references may contain additional support for particular claim limitations. CosMX reserves the right to rely on uncited portions of the prior art references, other documents, and/or prior art products, as well as fact and expert testimony, to provide context or to aid in understanding the cited portions of the references and interpreting the teachings of the prior art and to establish bases for combinations of certain cited references that render the Asserted Claims obvious. CosMX reserves the right to rely on any prior art product referenced, embodied, or described in any of the prior art references identified herein, or which embodies any of the prior art references identified herein. Moreover, CosMX reserves the right to rely on inventor admissions concerning the scope of the prior art relevant to the Asserted Patents found in, *inter alia*, the prosecution histories of the Asserted Patents and related patents and/or patent applications, any testimony or declarations of the named inventors concerning the Asserted Patents or related patents, and any papers or evidence submitted by ATL in connection with this litigation, any other pending or future litigation brought by ATL involving the Asserted Patents or related patents, or *inter partes* review proceedings involving the Asserted Patents or related patents. CosMX also may establish what was known to a POSA through treatises, published industry standards, other publications, products, and/or testimony.

Where the invalidity claim charts cite to a particular figure or table in a reference, the citation should be understood to encompass the caption of the figure or table and other text relating to and/or describing the figure or table. Similarly, where the invalidity claim charts cite to particular text referring to a figure or table, the citation should be understood to include the figure and related figures or tables as well.

The prior art references listed herein and in the accompanying claim charts may disclose the elements of the Asserted Claims explicitly and/or inherently. The prior art references are also relevant for their showing of the state of the art and reasons and motivations for making improvements, additions, and combinations. The suggested obviousness combinations are provided in the alternative to CosMX's anticipation contentions and are not to be construed to suggest that any reference is not itself anticipatory.

Further, the combinations of prior art references contained herein demonstrating the obviousness of the Asserted Patents under 35 U.S.C. § 103 are merely exemplary and are not intended to be exhaustive. All such combinations are intended to include and be in view of the knowledge of a POSA. Additional obviousness combinations of the identified prior art references are possible, and CosMX reserves the right to use any such combination(s) in this Action. In particular, CosMX is currently unaware of the extent, if any, to which ATL will contend that limitations of any particular claim(s) are not disclosed in the art that CosMX has identified as anticipatory. To the extent that ATL does so, CosMX reserves the right to identify other evidence or references that anticipate or render obvious the particular claim(s).

Nothing in these Invalidity Contentions should be treated as an admission that any of CosMX's accused instrumentalities meet any limitation of the Asserted Claims. CosMX denies infringing the Asserted Claims. To the extent that any prior art references identified by CosMX

contains a claim element that is the same as or similar to an element in an accused instrumentality, based on a claim construction inferred from ATL's Infringement Contentions, inclusion of that reference in CosMX's Invalidity Contentions is not a waiver by CosMX of any claim construction or non-infringement position, nor is it an admission or suggestion by CosMX that any accused instrumentality satisfies the limitations of the Asserted Claims under a proper construction of those claims.

F. Additional Reservation of Rights

CosMX reserves all rights to further supplement or modify these Invalidity Contentions, including the prior art disclosed and stated grounds of invalidity. In addition, CosMX reserves the right to prove invalidity of the Asserted Claims on bases other than those required to be disclosed in these disclosures and contentions pursuant to P.R. 3-3.

CosMX's identification in the prior art of claim elements recited in the preamble of any claims is not intended to indicate that any such preamble is limiting. All such disclosures are made only to the extent the preamble is determined to be limiting.

As described above, CosMX also intends to diligently seek discovery from third parties to demonstrate the inventions were in public use, on sale, or otherwise available to the public under 35 U.S.C. § 102(a). CosMX may therefore modify, amend, and/or supplement these Invalidity Contentions if and when further information becomes available.

Subject to the foregoing statements and qualifications, CosMX provides the following:

II. P.R. 3-3 DISCLOSURES AND CONTENTIONS

The following Appendices 131, 910, 148, 498, 118, and 927 (collectively, the "Appendices") include claim charts (as exhibits to each Appendix) of prior art references and products that, alone and/or in combination with other references, render the Asserted Claims of the Asserted Patents invalid under §§ 102 or 103, and further include secondary references that

would have been obvious to combine with the charted prior art references and motivations for making such combinations.

Appendix 131	U.S. Patent No. 11,799,131 ("the '131 Patent")
Appendix 910	U.S. Patent No. 11,769,910 ("the '910 Patent")
Appendix 148	U.S. Patent No. 11,575,148 ("the '148 Patent")
Appendix 498	U.S. Patent No. 11,923,498 ("the '498 Patent")
Appendix 118	U.S. Patent No. 12,015,118 ("the '118 Patent")
Appendix 927	U.S. Patent No. 10,964,927 ("the '927 Patent")

A. P.R. 3-3(a) Disclosures: Identification of Items of Prior Art That Anticipate or Render Obvious Asserted Claims

Subject to CosMX's reservation of rights, the following prior art patents, printed publications, and products, alone and/or in combination, anticipate and/or render obvious the Asserted Claims of the Asserted Patents.

1. The '131 Patent

a. Prior Art Patents and Published Patent Applications

Patent No.	Country of Origin	Issue/Publication Date	Short Title
CN 106099187A	China	November 9, 2016	Zeng
CN 105552439 A	China	May 4, 2016	Zhou
JP 2009-252349 A	Japan	November 9, 2016	Sunose
CN 108023117 A	China	May 11, 2018	Su
2013/0224535	U.S.	August 29, 2013	Matsuoka
2017/0288268 A1	U.S.	October 5, 2017	Kim '268
2015/0017542 A1	U.S.	January 15, 2015	Hirai
2013/0302685 A1	U.S.	November 14, 2013	Kim '685
JP 2018-006046 A	Japan	January 11, 2018	Yamamoto
JP 2018-078052 A	Japan	May 17, 2018	Han
WO 2018/088743 A1	PCT	May 17, 2018	Choi
CN 103000946 A	China	March 20, 2018	Yi

Patent No.	Country of Origin	Issue/Publication Date	Short Title
CN 106099187 A	China	March 27, 2013	Yang
JP 2008-108454 A	Japan	May 8, 2008	Mochizuki

b. Prior Art Products

Product	Company	Available at Least By	Short Title
DP018 / SW-E7 Electrolyte	CapChem / Third Party Manufacturer	March 1, 2018	DP018 / SW-E7 Electrolyte
CA3973A2G-S1 and other CosMX cells containing DP018	CosMX	March 1, 2018	DP018 Cells
DP030	CapChem / Third Party Manufacturer	February 9, 2018	DP030
CA466573F and other CosMX cells containing DP030	CosMX	March 6, 2018	DP030 Cells
DP039 / A4-9M3	CapChem / Third Party Manufacturer	May 10, 2018	DP039 / A4-9M3
CA356088F and other CosMX cells containing DP039	CosMX	June 21, 2018	DP039 Cells
CF41	CapChem / Third Party Manufacturer	August 9, 2018	CF41
CF42	CapChem / Third Party Manufacturer	August 9, 2018	CF42
CHP16	CapChem / Third Party Manufacturer	September 5, 2018	CHP16
CHP17	CapChem / Third Party Manufacturer CapChem /	September 5, 2018	CHP17

Product	Company	Available at Least By	Short Title
	Third Party Manufacturer		
CHP18	CapChem / Third Party Manufacturer	September 5, 2018	CHP18
CL444	CapChem / Third Party Manufacturer	May 26, 2018	CL444
CL470	CapChem / Third Party Manufacturer	January 1, 2017	CL470
CA436580G and other CosMX cells containing CL470	CosMX	January 1, 2017	CL470 Cells
CL471	CapChem / Third Party Manufacturer	September 8, 2018	CL471
Samsung S9+	Samsung	January 28, 2018	Samsung No. 1
Samsung S9+	Samsung	June 6, 2018	Samsung No. 2

2. The ’910 Patent

a. Prior Art Patents and Published Patent Applications

Patent No.	Country of Origin	Issue/Publication Date	Short Title
CN 106099187A	China	November 9, 2016	Zeng
CN 105552439 A	China	May 4, 2016	Zhou
JP 2009-252349 A	Japan	November 9, 2016	Sunose
CN 108023117 A	China	May 11, 2018	Su
2013/0224535	U.S.	August 29, 2013	Matsuoka
2017/0288268 A1	U.S.	October 5, 2017	Kim ’268
JP 2018-006046 A	Japan	January 11, 2018	Yamamoto
WO 2018/088743 A1	PCT	May 17, 2018	Choi
CN 103000946 A	China	March 20, 2018	Yi
CN 106099187 A	China	March 27, 2013	Yang

Patent No.	Country of Origin	Issue/Publication Date	Short Title
JP 2008-108454 A	Japan	May 8, 2008	Mochizuki

b. Prior Art Products

Product	Company	Available at Least By	Short Title
DP018 / SW-E7 Electrolyte	CapChem / Third Party Manufacturer	March 1, 2018	DP018 / SW-E7 Electrolyte
CA3973A2G-S1 and other CosMX cells containing DP018	CosMX	March 1, 2018	DP018 Cells
DP030	CapChem / Third Party Manufacturer	February 9, 2018	DP030
CA466573F and other CosMX cells containing DP030	CosMX	March 6, 2018	DP030 Cells
DP039 / A4-9M3	CapChem / Third Party Manufacturer	May 10, 2018	DP039 / A4-9M3
CA356088F and other CosMX cells containing DP039	CosMX	June 21, 2018	DP039 Cells
CF41	CapChem / Third Party Manufacturer	August 9, 2018	CF41
CF42	CapChem / Third Party Manufacturer	August 9, 2018	CF42
CHP16	CapChem / Third Party Manufacturer	September 5, 2018	CHP16
CHP17	CapChem / Third Party Manufacturer CapChem / Third Party Manufacturer	September 5, 2018	CHP17
CHP18	CapChem / Third Party Manufacturer	September 5, 2018	CHP18
CL444	CapChem / Third Party Manufacturer	May 26, 2018	CL444
CL470	CapChem / Third Party Manufacturer	January 1, 2017	CL470

Product	Company	Available at Least By	Short Title
CA436580G and other CosMX cells containing CL470	CosMX	January 1, 2017	CL470 Cells
CL471	CapChem / Third Party Manufacturer	September 8, 2018	CL471
Samsung S9+	Samsung	January 28, 2018	Samsung No. 1
Samsung S9+	Samsung	June 6, 2018	Samsung No. 2

3. The ’148 Patent

a. Prior Art Patents and Published Patent Applications

Patent No.	Country of Origin	Issue/Publication Date	Short Title
2017/0162849 A1	U.S.	June 8, 2017	Murakami
WO 2015/178351 A1	WIPO	November 26, 2015	Honda
JP 2017-137432A	Japan	August 10, 2017	Tanaka
2012/0228214	U.S.	September 13, 2013	Beard
2016/0013465 A1	U.S.	January 14, 2016	Akiike
2013/0084503 A1	U.S.	April 4, 2013	Ueki
2010-015917A	Japan	January 21, 2010	Sato
2015-65097A	Japan	April 4, 2015	Toyoda

b. Prior Art Products

Product	Company	Available at Least By	Short Title
CA3270C4G Cell/Separator	CosMX	September 1, 2017	CA3270C4G Cell/Separator
CA245065HV Cell/Separator	CosMX	October 7, 2014	CA245065HV Cell/Separator
CA3952A4 Cell/Separator	CosMX	August 1, 2013	CA3952A4 Cell/Separator
ATL 265066 Cell/Separator	ATL	November 2016	ATL 265066 Cell/Separator

Product	Company	Available at Least By	Short Title
Samsung S9+	Samsung	June 20, 2018	S9+ Cell/Separator

4. The ’498 Patent

a. Prior Art Patents and Published Patent Applications

Patent No.	Country of Origin	Issue/Publication Date	Short Title
U.S. Patent Appl. Pub. No. 2011/0111276 to Sato *et al.*	United States	May 12, 2011	Sato
Japan Patent Appl. Pub. No. 2000/067907 to Takemura *et al.*	Japan	March 3, 2000	Takemura
Japan Patent Appl. Pub. No. 2003/068271 to Nakamura *et al.*	Japan	March 7, 2003	Nakamura
Japan Patent Appl. Pub. No. 2010/055906 to Kobayashi *et al.*	Japan	March 11, 2010	Kobayashi
U.S. Patent Appl. Pub. No. 2011/010539 to Oh *et al.*	United States	May 5, 2011	Oh-539
U.S. Patent Appl. Pub. No. 2010/0035144 to Oh *et al.*	United States	February 11, 2010	Oh-144
U.S. Patent Appl. Pub. No. 2004/0096735 to Komatsu *et al.*	United States	May 20, 2004	Komatsu
U.S. Patent Appl. Pub. No. 2007/0172736 to Fujikawa et al.	United States	July 26, 2007	Fujikawa

b. **Prior Art Products**

Product	Company	Available at Least By	Short Title
CA3952A4 Cell/Electrode	China	August 1, 2013	CA3952A4 Cell/Electrode

5. **The ’118 Patent**

a. **Prior Art Patents and Published Patent Applications**

Patent No.	Country of Origin	Issue/Publication Date	Short Title
JP 2013-211096	Japan	October 10, 2013	Ishigaki
2017/0256776 A1	U.S.	September 7, 2017	Saka
CN 202905885 U	China	April 24, 2013	Li
2011/0168550 A1	U.S.	July 14, 2011	Wang
2016/0013480 A1	U.S.	January 14, 2016	Sikha
2013/0302685 A1	U.S.	November 14, 2013	Kim

b. **Prior Art Non-Patent Publications**

Title	Author/ Publisher	Publication Date	Short Title

c. **Prior Art Products**

Product	Company	Available at Least By	Short Title
CA245065HV Cell/Electrode	CosMX	October 7, 2014	CA245065HV Cell/Electrode
CA3270C4G Cell/Electrode	CosMX	September 1, 2017	CA3270C4G Cell/Electrode
CA3952A4 Cell/Electrode	CosMX	June 28, 2013	CA3952A4 Cell/Electrode
ATL 265066 Cell/Electrode	ATL	January 2017	ATL 265066 Cell/Electrode

6. The ’927 Patent

a. Prior Art Patents and Published Patent Applications

Patent No.	Country of Origin	Issue/Publication Date	Short Title
2015/0180002	U.S.	June 25, 2015	Nishikawa
10,559,802	U.S.	February 13, 2014	Zhang

b. Prior Art Non-Patent Publications

Title	Author/ Publisher	Publication Date	Short Title
Deformation and fracture behaviors of microporous polymer separators for lithium ion batteries	RSC Advances	March 2014	Chen

c. Prior Art Products

Product	Company	Available at Least By	Short Title
CA3270C4G Cell/Separator	CosMX	September 1, 2017	CA3270C4G Cell/Separator
CA245065HV Cell/Separator	CosMX	October 7, 2014	CA245065HV Cell/Separator
CA3952A4 Cell/Separator	CosMX	August 1, 2013	CA3952A4 Cell/Separator
ATL 265066 Cell/Separator	ATL	November 2016	ATL 265066 Cell/Separator
Samsung S9+	Samsung	April 11, 2018	S9+ Cell/Separator

B. P.R. 3-3(b) Disclosures: Each Item of Prior Art that Anticipates and/or Renders Obvious the Asserted Claim, and Obviousness Combinations and Motivations

Based on presently known information and the apparent constructions ATL is asserting in its Infringement Contentions, the Appendices to CosMX’s Invalidity Contentions identify for each item of prior art whether it anticipates the Asserted Claims and/or renders the Asserted Claims

obvious. Where all claim elements of the Asserted Claims are identified, either explicitly or inherently as understood by a POSA, in a single charted item of prior art, the Asserted Claims are anticipated by that item of prior art.

To the extent ATL asserts that any of the prior art references charted in the Appendices fail to explicitly or inherently disclose any element of the Asserted Claims, CosMX contends that it would have been obvious to modify such reference to include the allegedly missing element, in view of the knowledge of a POSA and/or in combination (as provided in the chart below) with any of the other prior art references identified in this Section, in the Appendices, and/or admitted prior art of the Asserted Patents.

1. Prior Art Grounds

a. The ’131 Patent (Appendix 131)

Ex. No.	Ground
131-01	Zeng, Hirai, Kim '685
131-02	Zeng, Matsuoka, Hirai, Kim '685
131-03	Zeng, Matsuoka, Kim '268, Hirai, Kim '685
131-04	Zeng, Zhou, Hirai, Kim '685
131-05	Zeng, Hirai, Han
131-06	Zeng, Matsuoka, Hirai, Han
131-07	Zeng, Matsuoka, Kim '268, Hirai, Han
131-08	Zeng, Zhou, Hirai, Han
131-09	Zeng, Sunose, Su
131-10	Zeng, Zhou, Sunose, Su
131-11	Zeng, Matsuoka, Sunose, Su
131-12	Zeng, Matsuoka, Kim '268, Sunose, Su
131-13	Zeng, Mochizuki, Hirai, Kim '685
131-14	Zeng, Mochizuki, Kim '268, Hirai, Kim '685
131-15	Zeng, Mochizuki, Hirai, Han
131-16	Zeng, Mochizuki, Kim '268, Hirai, Han

Ex. No.	Ground
131-17	Zeng, Mochizuki, Sunose, Su
131-18	Zeng, Mochizuki, Kim '268, Sunose, Su
131-19	Zhou, Hirai, Kim '685
131-20	Zhou, Matsuoka, Kim '268, Hirai, Kim '685
131-21	Zhou, Zeng, Hirai, Kim '685
131-22	Zhou, Hirai, Han
131-23	Zhou, Matsuoka, Kim '268, Hirai, Han
131-24	Zhou, Zeng, Hirai, Han
131-25	Zhou, Sunose, Su
131-26	Zhou, Zeng, Sunose, Su
131-27	Zhou, Matsuoka, Kim '268, Sunose, Su
131-28	Choi, Hirai, Kim '685
131-29	Choi, Matsuoka, Hirai, Kim '685
131-30	Choi, Matsuoka, Kim '268, Hirai, Kim '685
131-31	Choi, Hirai, Han
131-32	Choi, Matsuoka, Hirai, Han
131-33	Choi, Matsuoka, Kim '268, Hirai, Han
131-34	Choi, Sunose, Su
131-35	Choi, Matsuoka, Sunose, Su
131-36	Choi, Matsuoka, Kim '268, Sunose, Su
131-37	Choi, Mochizuki, Hirai, Kim '685
131-38	Choi, Mochizuki, Kim '268, Hirai, Kim '685
131-39	Choi, Mochizuki, Hirai, Han
131-40	Choi, Mochizuki, Kim '268, Hirai, Han
131-41	Choi, Mochizuki, Sunose, Su
131-42	Choi, Mochizuki, Kim '268, Sunose, Su
131-43	Yamamoto
131-44	Yamamoto, Zhou
131-45	Yamamoto, Zhou, Sunose, Su
131-46	Yamamoto, Zhou, Hirai

Ex. No.	Ground
131-47	Yamamoto, Zeng
131-48	Yamamoto, Zeng, Sunose, Su
131-49	Yamamoto, Zeng, Hirai
131-50	Yamamoto, Matsuoka
131-51	Yamamoto, Matsuoka, Kim '268
131-52	Yamamoto, Matsuoka, Sunose, Su
131-53	Yamamoto, Matsuoka, Kim '268, Sunose, Su
131-54	Yamamoto, Matsuoka, Hirai
131-55	Yamamoto, Matsuoka, Kim '268, Hirai
131-56	Yamamoto, Sunose, Su
131-57	Yamamoto, Hirai
131-58	Yamamoto, Mochizuki
131-59	Yamamoto, Mochizuki, Kim '268
131-60	Yamamoto, Mochizuki, Sunose, Su
131-61	Yamamoto, Mochizuki, Kim '268, Sunose, Su
131-62	Yamamoto, Mochizuki, Hirai
131-63	Yamamoto, Mochizuki, Kim '268, Hirai
131-64	Kim '268, Yi, Yang, Sunose Su
131-65	Kim '268, Yi, Yang, Hirai
131-66	Kim '268, Yi, Yang, Hirai, Kim '685
131-67	DP018, Sunose, Su, Yamamoto
131-68	DP018, Hirai, Han, Yamamoto, Kim ’685
131-69	DP030, Sunose, Su, and/or Yamamoto
131-70	DP030, Hirai, Han, Yamamoto, Kim ’685
131-71	DP039, Sunose, Su, Yamamoto
131-72	DP039, Hirai, Sunose, Su, Yamamoto
131-73	CF41/CF42, Matsuoka, Sunose, Su, Yamamoto
131-74	CF41/CF42, Hirai, Matsuoka, Han, Kim ’685, Yamamoto
131-75	CHP16/CHP17/CHP18, Sunose, Su, Yamamoto
131-76	CHP16/CHP17/CHP18, Hirai, Han,Yamamoto, and/or Kim ’685

Ex. No.	Ground
131-77	CL444, Sunose, Su, and/or Yamamoto
131-78	CL444, Hirai, Han, Yamamoto, and/or Kim ’685
131-79	CL470, Sunose, Su, Matsuoka, Yamamoto
131-80	CL470, Hirai, Han, Kim ’685, Yamamoto, and/or Matsuoka
131-81	CL471, Sunose, Su, and/or Yamamoto
131-82	CL471, Hirai, Han, Yamamoto, Kim ’685
131-83	Samsung EB-BG965ABA Sunose, Su, and/or Yamamoto
131-84	Samsung EB-BG965ABA Hirai, Han,Yamamoto, and/or Kim ’685
131-85	Samsung EB-BG965ABE, Sunose, Su, Zhou, Zeng, Choi and/or Yamamoto
131-86	Samsung EB-BG965ABE Hirai, Han, and/or Kim
131-87	Zhou, Sunose, Su, Kim ’268
131-88	Zhou, Hirai, Kim ’685, Kim 268

b. The ’910 Patent (Appendix 910)

Ex. No.	Ground
910-01	Zeng
910-02	Zeng, Zhou
910-03	Zeng, Sunose, Su
910-04	Zeng, Matsuoka
910-05	Zeng, Matsuoka, Kim '268
910-06	Zhou, Zeng
910-07	Zhou, Sunose, Su
910-08	Zhou, Kim '268
910-09	Choi
910-10	Choi, Sunose, Su
910-11	Choi, Matsuoka
910-12	Choi, Matsuoka, Kim '268
910-13	Yamamoto
910-14	Yamamoto, Zhou
910-15	Yamamoto, Zeng

Ex. No.	Ground
910-16	Yamamoto, Sunose, Su
910-17	Yamamoto, Matsuoka
910-18	Yamamoto, Matsuoka, Kim '268
910-19	Zeng, Mochizuki
910-20	Zeng, Mochizuki, Kim '268
910-21	Choi, Mochizuki, Matsuoka
910-22	Choi, Mochizuki, Matsuoka, Kim '268
910-23	Yamamoto, Mochizuki, Matsuoka
910-24	Yamamoto, Mochizuki, Matsuoka, Kim '268
910-25	Kim '268, Yi, Yang
910-26	Kim '268, Yi, Yan, Zeng, Yamamoto
910-27	Kim '268, Sunose, Su
910-28	DP018, Zeng, Zhou, Choi, Sunose, Su, Yamamoto
910-29	DP030, Matsuoka, Zhou, Choi, Sunose, Su, Yamamoto
910-30	DP039, Zhou, Choi, Sunose, Su, Yamamoto
910-31	CF41/CF42, Matsuoka, Sunose, Su, Yamamoto
910-32	CHP16/CHP17/CHP18, Matsuoka, Zhou, Choi, Sunose, Su, Yamamoto
910-33	CL444, Matsuoka, Zhou, Choi, Sunose, Su, Yamamoto
910-34	CL471, Matsuoka, Zhou, Choi, Sunose, Su, Yamamoto
910-35	CL470, Matsuoka, Zhou, Choi, Sunose, Su, Yamamoto
910-36	Samsung EB-BG965ABA, Matsuoka, Zeng, Zhou, Choi, Sunose, Su, Yamamoto
910-37	Samsung EB-BG965ABE Zeng, Zhou, Choi, Sunose, Su, Yamamoto

c. The ’148 Patent (Appendix 148)

Ex. No.	Ground
148-01	Murakami
148-02	Murakami and Beard
148-03	Murakami and Akiike
148-04	Murakami and Honda
148-05	Murakami and Tanaka

Ex. No.	Ground
148-06	Beard, Murakami, and Tanaka
148-07	Beard, Akiike, and Tanaka
148-08	Sato and Murakami
148-09	Sato and Beard
148-10	Sato and Akiike
148-11	Sato and Honda
148-12	Sato and Tanaka
148-13	Ueki and Murakami
148-14	Ueki and Beard
148-15	Ueki and Akiike
148-16	Ueki and Honda
148-17	Ueki and Tanaka
148-18	Honda and Murakami
148-19	Honda and Akiike
148-20	Honda and Toyoda
148-21	Toyoda
148-22	Toyoda and Murakami
148-23	Toyoda and Beard
148-24	Toyoda and Akiike
148-25	Toyoda and Honda
148-26	Toyoda and Tanaka
148-27	CA3270C4G Cell/Separator
148-28	CA3270C4G Cell/Separator and Murakami
148-29	CA3270C4G Cell/Separator and Beard
148-30	CA3270C4G Cell/Separator and Akiike
148-31	CA3270C4G Cell/Separator and Honda
148-32	CA3270C4G Cell/Separator and Tanaka
148-33	CA245065HV Cell/Separator
148-34	CA245065HV Cell/Separator and Murakami
148-35	CA245065HV Cell/Separator and Beard

Ex. No.	Ground
148-36	CA245065HV Cell/Separator and Akiike
148-37	CA245065HV Cell/Separator and Honda
148-38	CA245065HV Cell/Separator and Tanaka
148-39	CA3952A4 Cell/Separator
148-40	CA3952A4 Cell/Separator and Murakami
148-41	CA3952A4 Cell/Separator and Beard
148-42	CA3952A4 Cell/Separator and Akiike
148-43	CA3952A4 Cell/Separator and Honda
148-44	CA3952A4 Cell/Separator and Tanaka
148-45	ATL 265066 Cell/Separator
148-46	ATL 265066 Cell/Separator and Murakami
148-47	ATL 265066 Cell/Separator and Beard
148-48	ATL 265066 Cell/Separator and Akiike
148-49	ATL 265066 Cell/Separator and Honda
148-50	ATL 265066 Cell/Separator and Tanaka
148-51	S9+ Cell/Separator
148-52	S9+ Cell/Separator and Murakami
148-53	S9+ Cell/Separator and Beard
148-54	S9+ Cell/Separator and Akiike
148-55	S9+ Cell/Separator and Honda
148-56	S9+ Cell/Separator and Tanaka

d. The ’498 Patent (Appendix 498)

Ex. No.	Ground
498-01	CA3952A4, Komatsu
498-02	CA3952A4, Komatsu, Nakamura
498-03	CA3952A4, Komatsu, Oh-144
498-04	CA3952A4, Komatsu, Sato
498-05	CA3952A4, Sato, Fujikawa
498-06	CA3952A4, Sato, Oh-539
498-07	CA3952A4, Sato, Nakamura

Ex. No.	Ground
498-08	CA3952A4, Sato, Oh-144
498-09	CA3952A4, Takemura, Fujikawa
498-10	CA3952A4, Takemura, Nakamura
498-11	CA3952A4, Takemura, Oh-144
498-12	Sato, Komatsu
498-13	Sato, Takemura
498-14	Sato, Takemura, Fujikawa
498-15	Sato, Takemura, Kobayashi
498-16	Sato, Takemura, Kobayashi, Oh-539, Oh-144
498-17	Sato, Takemura, Nakamura
498-18	Sato, Takemura, Oh-539, Oh-144
498-19	Takemura, Oh-539, Kobayashi
498-20	Takemura, Oh-539, Kobayashi, Oh-144

e. The ’118 Patent (Appendix 118)

Ex. No.	Ground
118-01	Ishigaki
118-02	Ishigaki and Kim
118-03	Ishigaki and Li
118-04	Ishigaki and Saka
118-05	Sikha and Ishigaki
118-06	Sikha and Kim
118-07	Sikha and Li
118-08	Sikha and Saka
118-09	Wang and Ishigaki
118-10	Wang and Kim
118-11	Wang and Li
118-12	Wang and Saka
118-13	CA245065HV Cell/Electrode and Ishigaki
118-14	CA245065HV Cell/Electrode and Wang
118-15	CA3270C4G Cell/Electrode and Ishigaki

Ex. No.	Ground
118-16	CA3270C4G Cell/Electrode and Wang
118-17	CA3952A4 Cell/Electrode and Ishigaki
118-18	CA3952A4 Cell/Electrode and Wang
118-19	ATL 265066 Cell/Electrode and Ishigaki

f. The '927 Patent (Appendix 927)

Ex. No.	Ground
927-01	Nishikawa
927-02	Nishikawa and Chen
927-03	Chen and Zhang
927-04	CA3270C4G Cell/Separator
927-05	CA3270C4G Cell/Separator and Chen
927-06	CA3270C4G Cell/Separator and Nishikawa
927-07	CA3270C4G Cell/Separator and Zhang
927-08	CA245065HV Cell/Separator
927-09	CA245065HV Cell/Separator and Chen
927-10	CA245065HV Cell/Separator and Nishikawa
927-11	CA245065HV Cell/Separator and Zhang
927-12	CA3952A4 Cell/Separator
927-13	CA3952A4 Cell/Separator and Chen
927-14	CA3952A4 Cell/Separator and Nishikawa
927-15	CA3952A4 Cell/Separator and Zhang
927-16	ATL 265066 Cell/Separator
927-17	S9+ Cell/Separator

2. Motivations to Combine

It would have been obvious to a POSA to combine one or more of the prior art references listed above with each of the other references and/or nothing more than his or her own knowledge, education, experience and/or common sense to arrive at the claimed invention. As the Supreme

Court emphasized in *KSR Int'l Co. v. Teleflex, Inc.,* inventions arising from ordinary innovation, ordinary skill, or common sense are not patentable. *See KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 406, 420-422 (2007). In addition, "the combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *Id.* at 416. Because the Asserted Claims simply arrange familiar elements known in the field of the Asserted Patents, with each performing the same function it had been known to perform, and yields no more than what one would expect from such an arrangement, the combinations are obvious as will be explained in more detail in the attached Appendices.

The identified prior art references also use those familiar elements for their primary or well-known purposes in a manner well within the ordinary level of skill in the art. In addition, the identified prior art addresses the same or similar technical issues relating to the Asserted Patents and suggest the same or similar solutions to those issues. Moreover, because there were a finite number of predictable solutions for the problems purportedly solved by the Asserted Patents, a POSA would have had good reason to pursue and/or combine known options and related applications. *Id.* Accordingly, common sense and the knowledge of the prior art render the claims invalid under either Section 102 or Section 103.

The Supreme Court has held that, "[w]hen a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a POSA can implement a predictable variation, Section 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a POSA would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill . . . ." *Id.* at 417. Here, a POSA would have been motivated by market forces to combine or modify references using known

methods that a POSA would have recognized as offering improvements to solutions of that time. The references identified describe methods that were known to offer improvements, and, accordingly, a POSA would have been motivated to combine or modify combined references to include such improvements as will be discussed in more detail in the attached Appendices.

Finally, as further described in the attached Appendices, the motivation to combine the teachings of the prior art references disclosed herein is also found in the references themselves and in: (1) the nature of the problem being solved, (2) the express, implied, and inherent teachings of the prior art, including the admitted prior art of the Asserted Patents, (3) the knowledge of persons of ordinary skill in the art, (4) the fact that the prior art is generally directed towards methods and systems described in the Asserted Patents and/or (5) the predictable results obtained in combining the different elements of the prior art, particularly in light of the well published and known evolution of technologies related to the Asserted Patents.

3. Additional Motivations to Combine

CosMX believes that no showing of a specific motivation to combine the identified prior art references described herein and in the attached charts is required, as each combination of art would have had no unexpected results and at most would have simply represented a known alternative to a POSA. *See id.* at 414-18 (rejecting the Federal Circuit's "rigid" application of the teaching, suggestion, or motivation to combine test, instead espousing an "expansive and flexible" approach). Indeed, the Supreme Court held that a POSA is "a person of ordinary creativity, not an automaton" and "in many cases a personal of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle." *Id.* at 421. Nevertheless, in addition to the information contained in this section and elsewhere in these Invalidity Contentions, CosMX identifies additional exemplary motivations and reasons to combine the cited art for each Asserted Patent in the attached P.R. 3-3(c) claim charts.

4. Additional References

In addition to the prior art listed herein, additional prior art references may be referenced to show the state and evolution of technology at the time of the alleged invention and may be relevant to the validity of the Asserted Claims depending on the claim construction, infringement, and other positions taken by ATL.

C. P.R. 3-3(c) Disclosures: Charts Identifying Where in Each Item of Prior Art Each Element of the Asserted Claim Is Found

Based on presently known information and the apparent constructions ATL is asserting in its Infringement Contentions, the Appendices comprise claim charts that identify where specifically in each alleged item of prior art each limitation of each asserted claim is found as discussed above and shown in Section II(A)(1)-(6) and Section II(B)(1).

D. P.R. 3-3(d) Disclosures: Invalidity Under 35 U.S.C. § 112

The Asserted Claims are invalid for failure to satisfy the written description and enablement requirements of 35 U.S.C. § 112(a), indefinite under 35 U.S.C. § 112(b), and or fail to satisfy the requirements of 35 U.S.C. § 112(d). The below examples are merely exemplary and are not intended to be limiting. CosMX reserves all rights to amend these Invalidity Contentions under 35 U.S.C. § 112, including after the Asserted Claims are ultimately construed by the Court, in response to any interpretation of the Asserted Claims embodied in ATL's infringement positions, and/or to account for any changes in the law concerning invalidity under 35 U.S.C. § 112. CosMX additionally reserves the right to provide additional explanation and/or argument for these Invalidity Contentions under Section 112, including, for example, based on expert testimony.

1. The ’131 Patent

The following claim terms fail the requirements of 35 U.S.C. § 112 and therefore render the Asserted Claims invalid. For example:

“a weight percentage of the dinitrile compound is X…wherein, about 2 wt%≤(X+Y)≤about 8 wt%, and about 0.1≤(X/Y)≤about 6” Claims 1, 14	This claim term is indefinite because the claims and specification fail to explain to a POSA how to determine the dinitrile compound in a given composition. A POSA would understand that an electrolyte may have only a single dinitrile or may have multiple dinitrile compounds. In the case of multiple dinitrile compounds in a particular electrolyte, the ’131 patent does not explain whether the weight percentage of the dinitrile compound X includes both dinitrile compounds or is limited only to one dinitrile compound when assessing its amount and the relationship between the dinitrile compound and the trinitrile compound.

2. The ’910 Patent

The following claim terms fail the requirements of 35 U.S.C. § 112 and therefore render the Asserted Claims invalid. For example:

“a weight percentage of the dinitrile compound is X…wherein, about 2.2 wt%≤(X+Y)≤about 8 wt%, and about 0.1≤(X/Y)≤about 2.3” Claims 1, 12, 20	This claim term is indefinite under 35 U.S.C. § 112 because the claims and specification fail to explain to a POSA how to determine the dinitrile compound in a given composition. A POSA would understand that an electrolyte may have only a single dinitrile or may have multiple dinitrile compounds. In the case of multiple dinitrile compounds in a particular electrolyte, the ’910 patent does not explain whether the weight percentage of the dinitrile compound X includes both dinitrile compounds or is limited only to one dinitrile compound when assessing its amount and the relationship between the dinitrile compound and the trinitrile compound.
“a weight percentage of the trinitrile compound is Y, wherein, about 2.2 wt%≤(X+Y)≤about 8 wt%, and about 0.1≤(X/Y)≤about 2.3, ...and about 0.02≤(Y/Z)≤0.3” Claims 1, 12, 20	This claim term is indefinite under 35 U.SC. § 112 because the claims and specification fail to explain to a POSA how to determine the trinitrile compound in a given composition. A POSA would understand that an electrolyte may have only a single trinitrile or may have multiple trinitrile compounds. In the case of multiple trinitrile compounds in a particular electrolyte, the ’910 patent does not explain whether the weight percentage of the trinitrile compound Y includes the sum of all trinitrile compounds or is limited only to one trinitrile compound when assessing its amount and the relationship between the dinitrile compound and the trinitrile compound.
“only a single-sided coating or a double-	This claim is indefinite for lacking antecedent basis and invalid for failure to satisfy § 112(d). Claim 14 depends from claim 13 and

sided coating present [sic] on the same electrode." Claim 14	extends to embodiments according to claim 13 where only a single-sided coating or a double-sided coating is present on the same electrode. However, claim 13 is limited to embodiments with only a single electrode. There is no second electrode to support the limitation "only a single-sided coating or a double-sided coating present [sic] on the same electrode." Moreover, claim 14 purports to encompass electrodes that either (1) have the single and double sided coating on the same electrode, or (2) have the single and double sided coating on separate electrodes. First, claim 14 purports to be broader than claim 13 by claiming embodiments with multiple electrodes. Moreover, claim 14 encompasses the universe of single- and double- sided electrode coating combinations and does not further limit claim 13.
"wherein the electrode comprises an anode" Claim 15	This claim is indefinite for lacking antecedent basis and invalid for failure to satisfy § 112(d). Claim 15 depends from claim 13. Claim 13 specifies a single electrode "wherein the electrode comprises a cathode." Claim 13 does not provide any antecedent basis for claim 15's "anode." Moveover, the range claimed for "D2" in claim 13 is 3.5 g/cm^3 – 4.3 g/cm^3, whereas the range claimed for "D2" in claim 15 is 1.2 g/cm^3 – 1.8 g/cm^3. Claim 15's claimed range falls wholly outside of claim 13's claimed range. Embodiments purportedly falling within the scope of claim 15 are therefore mutually exclusive with embodiments falling within claim 13, and claim 15 therefore fails to further limit claim 13.

3. The '148 Patent

The following claim terms fail the requirements of 35 U.S.C. § 112 and therefore render the Asserted Claims invalid. For example:

"wherein the porous film comprises pores formed by the binder, the pores at least comprises a part of the inorganic particles" Claim 1; Claim 10	This claim is indefinite for failure to satisfy the definiteness requirement of 35 U.S.C. § 112(b). When read in light of the other claim language, specification, and the prosecution history, this claim language fails to inform a POSA with a reasonable certainty of what would constitute "the pores at least comprises a part of the inorganic particles."
"wherein the inorganic particles have particle sizes that Dv10 is in a range of 0.015 μm to 3 μm, Dv50 is in a range of 0.2 μm to 5 μm, and Dv90 is in a range of 1 μm to 10 μm"	This claim is indefinite for failure to satisfy the definiteness requirement of 35 U.S.C. § 112(b). When read in light of the other claim language, specification, and the prosecution history, this claim language fails to inform a POSA with a reasonable certainty of what would constitute "the inorganic particles have particle sizes that Dv10 is in a range of 0.015 μm to 3 μm, Dv50 is in a range of 0.2 μm to 5 μm, and Dv90 is in a range of 1 μm to 10 μm." A

Claim 1; Claim 10	POSA would not be informed how or by which method to calculate Dv10, Dv50, and Dv90.

4. The '498 Patent

The following claim terms fail the requirements of 35 U.S.C. § 112 and therefore render the Asserted Claims invalid. For example:

"wherein two insulating layers are disposed on two opposite surfaces of the positive plate, and a winding end of the negative plate is located between the two insulating layers; and the two insulating layers extend over the winding end of the negative plate along the winding direction." Claim 1; Claim 9; Claim 17; Claims 20-22	This claim is indefinite for its failure to satisfy the definiteness requirement of 35 U.S.C. § 112(a). When read in light of the other claim language, specification, and the prosecution history, this claim language fails to inform a POSA with a reasonable certainty of what would constitute "winding end of the negative plate" or "winding end of the positive plate." The term "winding end" is never used it the specification nor in the corresponding independent claims of dependent claims 20, 21, 22 (claims 1, 9, 17, respectively). This claim is indefinite for its failure to satisfy the definiteness requirement of 35 U.S.C. § 112(a). When read in light of the other claim language, specification, and the prosecution history, this claim language fails to inform a POSA with a reasonable certainty of what would constitute "the winding end of the negative plate" or "the winding end of the positive plate." The term "the winding end" lacks antecedent basis in the Asserted Claims.
"wherein, a top surface of the positive lead is provided with a first insulating glue layer, a surface of the positive electrode active material layer opposite to the second recess across the separator in a thickness direction of the positive plate and the negative plate is pasted with a second insulating glue layer, the second insulating glue layer has a width larger than a width of the second recess, and the second insulating glue layer has a length larger than a	This claim is indefinite for failure to satisfy the definiteness requirement of 35 U.S.C. § 112(b). When read in light of the other claim language, specification, and the prosecution history, this claim language fails to inform a POSA with a reasonable certainty of what would constitute "the positive plate and the negative plate." The terms "positive plate" and "negative plate" lack antecedent basis in the Asserted Claims. The use of the term "positive plate" and "negative plate" in Claims 20-22 lack antecedent basis as they depend on Claims 1, 9, and 17, where those terms lack antecedent basis.

length of the second recess." Claim 1; Claim 9; Claim 17; Claims 20-22	
"wherein, a top surface of the positive lead is provided with a first insulating glue layer, a surface of the positive electrode active material layer opposite to the second recess across the separator in a thickness direction of the positive plate and the negative plate is pasted with a second insulating glue layer, the second insulating glue layer has a width larger than a width of the second recess, and the second insulating glue layer has a length larger than a length of the second recess." Claim 1; Claim 9; Claim 17	This claim is indefinite for failure to satisfy the definiteness requirement of 35 U.S.C. § 112(b). When read in light of the other claim language, specification, and the prosecution history, this claim language fails to inform a POSA with a reasonable certainty of what would constitute "across the separator in a thickness direction of the positive plate and the negative plate." In addition to the fact that the terms "positive plate" and "negative plate" lack antecedent basis in the Asserted Claims, a POSA would not be able to determine what constitutes "across the separator in a thickness direction."
"wherein, a first location of a top surface of the positive lead is provided with a first insulating glue layer; a second location of a surface of the positive electrode active material layer opposite to the second recess across the separator in a thickness direction of the positive plate and the negative plate is pasted with a second insulating glue layer; a third location of	This claim is indefinite for failure to satisfy the definiteness requirement of 35 U.S.C. § 112(b). When read in light of the other claim language, specification, and the prosecution history, this claim language fails to inform a POSA with a reasonable certainty of what would constitute "a third location of a surface of the positive current collector opposite to the surface of the positive current collector where the positive lead is covered with another first insulating glue layer." A POSA would not be able to discern with reasonable certainty what "a surface of the positive current collector opposite to the surface of the positive current collector" is, given the way this limitation is written.

a surface of the positive current collector opposite to the surface of the positive current collector where the positive lead is covered with another first insulating glue layer; the second insulating glue layer has a width larger than a width of the second recess, and the second insulating glue layer has a length larger than a length of the second recess." Claim 9	
"wherein, a first location of a top surface of the positive lead is provided with a first insulating glue layer; a second location of a surface of the positive electrode active material layer opposite to the second recess across the separator in a thickness direction of the positive plate and the negative plate is pasted with a second insulating glue layer; a third location of a surface of the positive current collector opposite to the surface of the positive current collector where the positive lead is covered with another first insulating glue layer; the second insulating glue layer has a width larger than a width of the second recess, and the	This claim is indefinite for failure to satisfy the definiteness requirement of 35 U.S.C. § 112(b). When read in light of the other claim language, specification, and the prosecution history, this claim language fails to inform a POSA with a reasonable certainty of what would constitute "a third location of a surface of the positive current collector opposite to the surface of the positive current collector where the positive lead is covered with another first insulating glue layer." A POSA would not be able to discern with reasonable certainty how, if at all, "another first insulating glue layer" relates to the previously-recited "first insulating glue layer."

second insulating glue layer has a length larger than a length of the second recess." Claim 9	

5. The '118 Patent

The following claim terms fail the requirements of 35 U.S.C. § 112 and therefore render the Asserted Claims invalid. For example:

"a total compaction density of the first layer and the second layer is greater than 3.2 g/cc." Claim 1; Claim 10; Claim 19	This claim is indefinite for failure to satisfy the definiteness requirement of 35 U.S.C. § 112(b). When read in light of the other claim language, specification, and the prosecution history, this claim language fails to inform a POSA with a reasonable certainty of what would constitute "a total compaction density of the first layer and the second layer is greater than 3.2 g/cc." A POSA would not be informed how or by which method to calculate "total compaction density."
"lithium-rich manganese-based materials" Claim 7; Claim 8; Claim 16; Claim 17.	This claim is indefinite for failure to satisfy the definiteness requirement of 35 U.S.C. § 112(b). When read in light of the other claim language, specification, and the prosecution history, this claim language fails to inform a POSA with a reasonable certainty of what would constitute "lithium-rich manganese-based materials." A POSA would not be informed of what "lithium-rich manganese-based materials" are, either in the abstract or in the context of the '118 patent.

6. The '927 Patent

The following claim terms fail the requirements of 35 U.S.C. § 112 and therefore render the Asserted Claims invalid. For example:

"wherein the porous layer is disposed on a surface of the porous substrate and comprises inorganic particles and a binder" Claim 1	This claim is indefinite for failure to satisfy the definiteness requirement of 35 U.S.C. § 112(b). When read in light of the other claim language, specification, and the prosecution history, this claim language fails to inform a POSA with a reasonable certainty of what would constitute "disposed on a surface of the porous substrate."

E. Additional Ground for Invalidity

CosMX is presently unaware of grounds for contending that one or more of the Asserted Claims of the Asserted Patents are invalid under 35 U.S.C. § 101. CosMX reserves the right to amend or modify these contentions to the extent ATL amends or modifies its Infringement Contentions.

III. P.R. 3-4 DISCLOSURES AND CONTENTIONS

A. P.R. 3-4(a) Disclosures

Pursuant to P.R. 3-4(a), based on its investigation to date, CosMX has already produced and/or is producing documentation within its possession, custody, or control "sufficient to show the operation of any aspects or elements" of the Accused Instrumentalities identified by ATL in its Infringement Contentions to the extent any such documentation is in the possession, custody, or control of CosMX. *See generally* CosMX production VOL 001–002.

CosMX reserves the right to supplement these disclosures with additional documentation.

B. P.R. 3-4(b) Disclosures

In accordance with P.R. 3-4(b), CosMX is producing a set of all prior art references identified in these Invalidity Contentions. *See* production Volumes 003–005. CosMX is also producing prior art references concerning each item of prior art systems and methods. Any prior art references relied upon by CosMX and otherwise not in English are produced with an English translation of at least the portion(s) relied upon. These prior art references are cited herein and support the contentions presented. In addition, physical exhibits of prior art systems and methods will be made available for inspection at a mutually-agreeable time and location.

CosMX's search for prior art references, additional documentation, and/or corroborating evidence concerning prior art apparatuses and methods is ongoing. Accordingly, CosMX reserves the right to supplement its production, as provided by the local rules, as additional prior art

references, additional documentation, and/or corroborating evidence concerning prior art documents/apparatuses, and methods are obtained during the course of discovery.

Respectfully Submitted,

Dated: March 12, 2025

By: /s/ *Michael C. Hendershot*

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CERTIFICATE OF SERVICE

I hereby certify that on March 12, 2025, the foregoing document was served via e-mail upon all counsel of record in this case.

/s/ *Michael C. Hendershot*
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