UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA

CIVIL MINUTES - GENERAL

Case No.	8:22-CV-01874-JVS (JDEx)	Date	August 2, 2023
Title	RJ Technology, LLC v. Apple, Inc.		

Present: The Honorable	**James V. Selna, U.S. District Court Judge**
Elsa Vargas	Not Present
Deputy Clerk	Court Reporter
Attorneys Present for Plaintiffs:	Attorneys Present for Defendants:
Not Present	Not Present

Proceedings: **[IN CHAMBERS] Order Regarding Claim Construction**

I. INTRODUCTION

Plaintiff RJ Technology LLC ("RJ") filed this patent infringement action against Defendant Apple Inc. ("Apple") alleging infringement of U.S. Patent No. 7,749,641 (the "'641 Patent" or "Asserted Patent"). (Second Amended Complaint ("SAC"), Dkt. No. 51.) The parties now seek construction of five claim terms in the Asserted Patent and have submitted a Joint Claim Construction and Prehearing Statement with their proposed constructions. (Dkt. No. 67.) Both parties submitted opening briefs (Apple Op. Br., Dkt. No. 68; RJ Op. Br., Dkt. No. 70) and responsive briefs (Apple Resp. Br., Dkt. No. 73; RJ Resp. Br., Dkt. No. 74). The Court conducted a claim construction hearing on August 1, 2023.

The Court construes the disputed terms as stated herein.

II. TECHNICAL BACKGROUND

The '641 Patent concerns rechargeable, or secondary, lithium-ion batteries. At a base level, lithium-ion batteries consist of an anode, a cathode, an electrolyte, and a separator:

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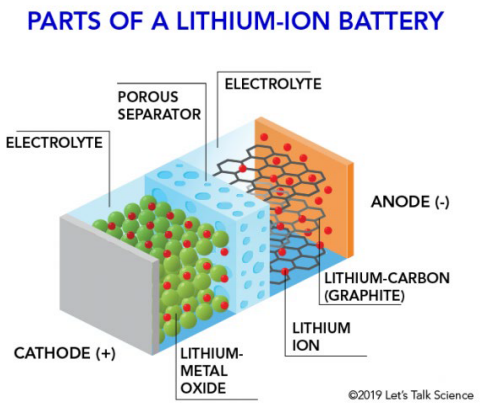

(RJ Op. Br. at 4; Declaration of Dr. Yan Yao ("Yao Decl."), Dkt. No. 70-1 ¶ 11–12; Declaration of Dr. Quinn Horn ("Horn Decl."), Dkt. No. 68-1 ¶ 22.) The anode (negative electrode) and the cathode (positive electrode) are composed of materials referred to as the "active materials." They are so named because the electrochemical reactions occur between these materials and ions in the electrolyte, which give rise to an electrical current (i.e., a flow of electrons). (Horn Decl. ¶ 22.) The anode is commonly composed of graphite, which is made of sheets of carbon. (Yao Decl. ¶ 11.) Cathodes are typically made of a compound of lithium, oxygen, and another element such as cobalt. (Id.) One common compound used for the positive electrode material at the time of the invention was lithium cobalt oxides. ('641 Patent at 1:64–66.)

The electrolyte, an ionically conducting material usually consisting of a salt dissolved in a solvent, permits lithium ions to flow between the anode and cathode. (Horn Decl. ¶ 22.) The separator physically separates the two electrodes within the cell. (Id.; Yao Decl. ¶ 12.) Batteries often contain other components such as current collectors which collect electrical current from the reactions taking place in the electrodes, the exterior case, and a battery management system which regulates charge and discharge of the battery. (Yao Decl. ¶ 12; Horn Decl. ¶ 26; '641 Patent at 1:10–11.)

When a lithium-ion battery is in a discharged state, most lithium ions are stored in the cathode. (Horn Decl. ¶ 25; Yao Decl. ¶ 14.) During charging, electrons flow from the cathode to the anode while lithium ions are simultaneously extracted from the cathode and pulled into the anode by applying a voltage and an electrical current. (Id.) Each

electron that flows from the cathode to the anode corresponds to one lithium ion. (Id.) The electron then combines with a lithium ion in the electrolyte to form a lithium atom. (Id.) When the battery is discharged and is powering a device, the process reverses: electrons travel from the anode through the device, thereby powering it, and then arrive back at the cathode while lithium ions simultaneously leave the anode, travel across the separator, and settle back into the cathode. (Id.; Yao Decl. ¶ 15.)

Lithium-ion batteries are widely-used in modern electronic devices in part because they have a high energy capacity. (See '641 Patent at 1:21–27.) However, the batteries' volume limitations can restrict increased battery capacity, a goal for most manufacturers. (Id. at 1:27–30.) At the time of the Asserted Patent's invention, it was accepted in the battery industry that the charge cut-off voltage of a lithium-ion battery was limited to a maximum of 4.2 V. (Id. at 1:46–48.) Battery manufacturers did not raise the charge cut-off voltage beyond this maximum because doing so would produce deleterious effects, including "structural change" in the positive and negative electrode materials, decomposition of the electrolyte, and adverse effects to the recycle property of the cell. (Id. at 1:58–63.) However, the positive and negative electrode materials used in lithium ion batteries have higher "theoretical capacities," and therefore had the capability to store and release more lithium ions, than what was then used due mainly to the 4.2 V limitation. (Id. at 1:36–44.) Other industry members, largely unsuccessfully, attempted to increase battery capacity focused on changing the electrode materials, electrolyte, or battery shape. (Id. at 1:19–62; 2:63–74.) In contrast, the '641 Patent claims an invention that increases battery capacity by "increasing the charge cut-off voltage" above 4.2 V while "adjusting the ratio of positive electrode material to negative electrode material . . . from 1:1.0 to 1:2.5." (Id. at 3:7–12; 55–56.) In doing so, the Patentees discovered that the batteries could hold a higher charge without experiencing the poor recycle property or degradation of electrode materials that had come to be expected when the charge cut-off voltage was increased.

The '641 Patent has two independent claims sixteen dependent claims. (See id. at 16:53–18:28.) The parties request construction of five disputed terms which appear throughout the '641 Patent.

Independent Claim 5 of the '641 Patent recites:

5. A secondary lithium ion cell or battery, characterized in that the

> secondary lithium ion cell or battery has a charge cut-off voltage of greater than 4.2 V but less than 5.8 V, and a ratio of positive electrode material to negative electrode material of the secondary lithium ion cell or battery is from 1:1.0 to 1:2.5, as calculated by a theoretic capacity with a charge cut-off voltage set at 4.2 V.

(Id. at 17:5–11.)

Dependent Claims 9–15 recite:

> **9.** A secondary lithium ion cell or battery according to claim **5**, characterized in that the secondary lithium ion cell or battery has a first overcharging protection voltage of grater than 4.35 V, and an overcharging protection release voltage of greater than 4.15 V.
>
> **10.** A secondary lithium ion cell or battery according to claim **9**, characterized in that the secondary lithium ion cell or battery has a first overcharging protection voltage of greater than 4.45 V, and an overcharge protection release voltage of greater than 4.25 V.
>
> **11.** A secondary lithium ion cell or battery according to claim **5**, wherein the secondary lithium ion cell or battery maintains at least 7500 of capacity after 400 cycles.
>
> **12.** A secondary lithium ion cell or battery according to claim **5**, wherein the secondary lithium ion cell or battery maintains at least 75.83% of capacity over 400 cycles.
>
> **13.** A secondary lithium ion cell or battery according to claim **5**, wherein the secondary lithium ion cell or battery maintains at least 80% of capacity over 400 cycles.
>
> **14.** A secondary lithium ion cell or battery according to claim **5**, wherein the secondary lithium ion cell or battery maintains at least 80.72% of capacity over 400 cycles.

(Id. at 17:24–18:16.)

III. LEGAL STANDARD

A. Claim Construction

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It is well settled that claim construction is "exclusively within the province of the court." Markman v. Western Instruments, Inc., 517 U.S. 370, 372 (1996). Such construction "must begin and remain centered on" the claim language itself, Interactive Gift Express, Inc. v. Compuserve, Inc., 256 F.3d 1323, 1331 (Fed. Cir. 2001), but extrinsic evidence may also be consulted "if needed to assist in determining the meaning or scope of technical terms in the claims," Pall Corp. v. Micron Separations, Inc., 66 F.3d 1211, 1216 (Fed. Cir. 1995).

In construing the claim language, the Court begins with the principle that "the words of a claim are generally given their ordinary and customary meaning." Phillips v. AWH Corp., 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (internal quotation marks omitted). Further, this ordinary and customary meaning "is the meaning that the [claim] term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." Id. at 1313. "[T]he person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." Id.

"In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words. In such circumstances general purpose dictionaries may be helpful." Id. at 1314 (internal citation omitted). In other cases, "determining the ordinary and customary meaning of the claim requires examination of terms that have a particular meaning in a field of art." Id. In those cases, "the court looks to those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean." Id. (internal quotation marks omitted). These sources include "the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art." Id. (internal quotation marks omitted).

However, it is improper to read limitations from the specification into the claim. Callicrate v. Wadsworth Mfg., Inc., 427 F.3d 1361, 1368 (Fed. Cir. 2005) ("'[I]f we once begin to include elements not mentioned in the claim, in order to limit such claim . . . we should never know where to stop.'" (quoting Phillips, 415 F.3d at 1312)). "We do not import limitations into claims from examples or embodiments appearing only in a

patent's written description, *even when a specification describes very specific embodiments of the invention* or even describes only a single embodiment, unless the specification makes clear that 'the patentee . . . intends for the claims and the embodiments in the specification to be strictly coextensive.'" JVW Enterprises, Inc. v. Interact Accessories, Inc., 424 F.3d 1324, 1335 (Fed. Cir. 2005) (internal citations omitted) (emphasis supplied).

B. Indefiniteness

A patent's specification must conclude "with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention." 35 U.S.C. § 112(b); see also 35 U.S.C. § 112 ¶ 2 (2006). In order to meet this "definiteness" requirement, "a patent's claims, viewed in light of the specification and prosecution history, [must] inform those skilled in the art about the scope of the invention with reasonable certainty." Nautilus, Inc. v. Biosig Instruments, Inc. ("Nautilus I"), 572 U.S. 898, 910 (2014). The Supreme Court in Nautilus I emphasized that patents must be precise enough to afford clear notice of what is claimed, thereby "appris[ing] the public of what is still open to them," while recognizing that absolute precision is unobtainable given "the inherent limitations of language." Id. at 899, 910 (quoting Markman, 517 U.S. at 373).

General claim construction principles apply to indefiniteness challenges, but the burdens are different. See Enzo Biochem, Inc. v. Applera Corp., 599 F.3d 1325, 1332 (Fed. Cir. 2010) ("In the face of an allegation of indefiniteness, general principles of claim construction apply") (internal quotations and citations omitted). Although courts construing claim language sit in relative equipoise, a patent is "presumed valid under 35 U.S.C. § 282." Biosig Instruments, Inc. v. Nautilus, Inc. ("Nautilus II"), 783 F.3d 1374, 1377 (Fed. Cir. 2015). "[C]onsistent with that principle, a fact finder is instructed to evaluate . . . whether an invalidity defense has been proved by clear and convincing evidence." Id. (quoting Microsoft Corp. v. i4i Ltd. P'ship, 564 U.S. 91, 111 (2011)) (emphasis added and brackets removed); Young v. Lumenis, Inc., 492 F.3d 1336, 1345 (Fed. Cir. 2007) ("Because a patent is presumed to be valid, the evidentiary burden . . . is one of clear and convincing evidence.").

IV. DISCUSSION

A. Agreed Upon Claim Terms

The parties agree that the following claim terms should be construed as listed below. The Court adopts the parties' agreed-upon constructions as outlined below:

Claim(s)	Claim Term(s)	Agreed-Upon Construction
Claims 6–7	"within a range from"	The range is inclusive
Claim 11	"7500"	75%

B. Disputed Claim Terms

The parties brief construction of five terms.

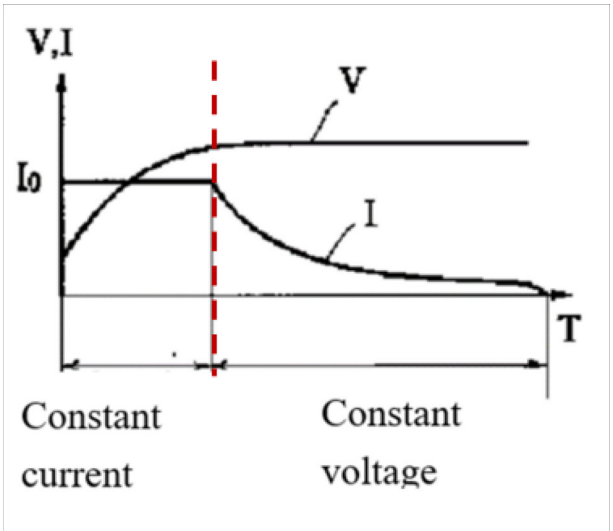
1. Disputed Term 1: "charge cut-off voltage"

Claim(s)	RJ's Proposed Construction	Apple's Proposed Construction
5–7	Plain and ordinary meaning: "the maximum voltage to which the battery is configured to be charged"	"the voltage at which the charging changes from constant current charging to constant voltage charging"

a. The Positions of the Parties

Apple contends its construction aligns with the '641 Patent's language, the prosecution history, and statements RJ made during invalidation proceedings for the '641 Patent's Chinese counterpart patent ("CN Invalidation Proceedings"). (Apple Op. Br. at 5.) Apple points to the '641 Patent's specification which describes the charge cut-off

voltage as "limited to no more than 4.2 V" which "is well accepted as a technical requirement in the industry of manufacture of secondary lithium ion battery." (Id. at 4.) Apple further argues that the '641 Patent's inventors made several statements during the CN Invalidity Proceedings which adopt Apple's construction. (Id. at 5.) For example, the Patentees stated that the charge cut-off voltage is a "[t]echnical term" that "is a standard general term in the field of battery related technology, and its meaning is determined, which refers to the voltage value of the battery when it transitions from charging at a constant current to charging at a constant voltage." (Declaration of Yungmoon Chang ("Chang Decl."), Ex. D at 7.) Similarly, in distinguishing prior art during the CN Invalidity Proceedings, the Patentees referenced the below figure and stated "[t]he limited charging voltage is the voltage value when the battery is charged from the constant current to constant voltage." (Id., Ex. F. at 27.)



Apple further contends that RJ initially adopted Apple's construction in its previous disclosures. (See id., Ex. G at 5–6 (arguing that the plain and ordinary meaning of "charge cut-off voltage" is "the voltage at which the charging changes form constant current charging to constant voltage charging").) Finally, Apple points to several pieces of extrinsic evidence supporting its construction. (See, e.g., id., Ex. F. at 5.3.6.2; Horn Decl. ¶¶ 30–40.)

RJ Technology argues this term should be afforded its plain and ordinary meaning: the maximum voltage to which a battery is configured to be charged. (RJ Op. Br. at 8.)

RJ states there are several charging algorithms available in the context of lithium-ion batteries, including Constant Voltage ("CV"), Constant Current ("CC"), and Constant Current/Constant Voltage ("CC/CV"). (Id. at 6–7.) When a battery is charged using the CV algorithm, the battery is charged at a constant voltage until fully charged. (Id. at 6.) The CC algorithm describes a method in which the battery is charged at constant current until it reaches the charge cut-off voltage. (Id.) The CC/CV algorithm combines the CV and CC algorithms and charges a battery at a constant current, while permitting the voltage to increase, up to the charge cut-off voltage, then charged at constant voltage until the battery is fully charge. (Id.) RJ contends that Apple's construction would improperly narrow the '641 Patent to only allow for the CC/CV charging algorithm when that language is not present in any piece of intrinsic evidence. (Id. at 8.) RJ further contends that the '641 Patent explains that the charge cutoff voltage is a maximum voltage for use in normal operation rather than a description of a specific charging algorithm. (Id. at 9.)

In response, Apple asserts that RJ's intrinsic evidence does not refute Apple's construction, but merely restates the claim language, explaining that the "charge cut-off voltage" is between 4.2 V and 5.8 V, but providing no explanation for what the charge cut-off voltage is. (Apple Resp. Br. at 5.) Apple further notes that RJ's "maximum" cut-off voltage construction "does not mean that during normal use of the battery, the charging voltage can never exceed the charge cut-off voltage" renders RJ's proposed construction "indefinite and confusing." (Id.)

RJ argues in response that the '641 Patent itself consistently refers to the "charge cut-off voltage" as the maximum voltage to which the battery is configured to be charged. (RJ Resp. Br. at 1.) Further, the statements the Patentees made during the CN Invalidation Proceedings upon which Apple relies should not be considered for four reasons. First, "litigation statements are not intrinsic evidence," and these particular comments were made during invalidation proceedings over a decade after the patent was issued. (Id. at 1–2.) Second, post-grant comments on a term's meaning could be considered non-contemporaneous extrinsic evidence, but such evidence does not hold the same weight as intrinsic evidence. (Id. at 3–4.) Third, even when a party takes a different view of claim meanings in parallel U.S. proceedings, such as inter partes review, courts do not consider them binding. (Id. at 4.) Finally, RJ contends that the differences between Chinese and U.S. law decreases the relevance of the Patentees' statements, which RJ also asserts were taken out of context. (Id. at 4–5.)

b. Analysis

Although the parties focus the bulk of their arguments on statements the Patentees made during a separate proceeding, the Court begins its analysis as it does with all issues of claim constructions: the Asserted Patent's language. See Vederi, LLC, 744 F.3d at 1382 (noting that the claim language itself is the best guide to the meaning of a claim term). Nowhere in the Asserted Patent's claims or specification do the inventors define this claim term as within the bounds of a particular charging algorithm. Apple does not contest that there are several different charging algorithms available to lithium ion battery manufacturers, and that the CC/CV algorithm is merely one of several options from which to choose. Indeed, the terms "constant current charging" and "constant voltage charging" do not appear anywhere in the '641 Patent, indicating that the Patentees did not intend to limit the invention to one particular algorithm. See Phillips, 415 F.3d at 1313–14 ("[T]he claims of a patent define the invention," as interpreted "in the context of the written description and the prosecution history."). Absent a compelling reason to do otherwise, the Court will not read in claim limitations that are not present in the claim language. See Renishaw PLC v. Marposs Societa' per Azioni, 158 F.3d 1243, 1248 (Fed. Cir. 1998) (noting that claim construction "begins and ends" with the words of the claim).

Furthermore, the Court concludes this claim term's meaning is readily understandable from the claim language itself, particularly when interpreted in the context of the specification. See Phillips, 415 F.3d at 1314 ("[T]he person of ordinary skill in the art is deemed to read the claim term . . . in the context of the entire patent, including the specification.") While the '641 Patent never expressly defines "charge cut-off voltage," it uses the term consistently as an upper limit on the voltage to which a secondary lithium ion battery is charged. (See, e.g., '641 Patent at 1:46–63; 7:24–36; 8:19–24.) This construction encompasses Apple's proposed construction, which its expert describes as a charging algorithm "commonly required," without excluding other charging algorithms. (Horn Decl. ¶ 39.)

Apple contends that the Patentees disavowed any other construction of this term than Apple's proposed construction because of statements Patentees made during the CN Invalidation Proceedings. The heart of the parties' dispute on this issue is whether the Patentees' statements during the CN Invalidation Proceedings are intrinsic evidence and what weight, if any, they should be afforded. As to the first question, statements made

during invalidation proceedings in a foreign court that occurred over a decade after the Asserted Patent was issued are not intrinsic evidence. Apple cites to several cases in support of its position. (Apple Op. Br. at 4–5.) However, each of these cases concerns statements made during the prosecution of a patent before a foreign patent office, rather than post-grant litigation. See Apple Inc. v. Motorola, Inc., 757 F.3d 1286, 1312–13 (Fed. Cir. 2014) (overruled on other grounds); Microsoft Corp. v. Multi-Tech Sys., Inc., 357 F.3d 1340, 1350 (Fed. Cir. 2004); Gillette Co. v. Energizer Holdings, Inc., 405 F.3d 1367, 1374 (Fed. Cir. 2005).

Apple further argues that RJ should be judicially estopped from advocating for a construction that diverges from the statements the Patentees made during the CN Invalidation Proceedings. (Apple Resp. Br. at 4.) The Federal Circuit has applied judicial estoppel when a party "change[d] its position and advocate[d] for a claim construction that is clearly inconsistent with its position" during inter partes review. See Intel Corp. v. XMTT, Inc., No. 21-2127, 2022 WL 1152312, at *1 (Fed. Cir. Apr. 19, 2022). The Court therefore agrees the Patentees should not be permitted to argue that the definition they advanced in the CN Invalidation Proceedings is not encompassed by the '641 Patent. However, the plain and ordinary meaning of "charge cut-off voltage" is not inconsistent with the position the Patentees took in the CN Invalidation Proceedings. As noted above, Apple's proposed construction describes a particular charging algorithm, whereas RJ's proposed construction would encompass that charging algorithm as well as any other algorithm the manufacturer chose to use. Finally, statements made years after the patents' issuance cannot, by definition, amount to "an unmistakable disavowal of the unambiguous recitation" in the patent's claim terms and specification. See Cadence Pharm. Inc. v. Exela PharmSci Inc., 780 F.3d 1364, 1373 (Fed. Cir. 2015).

For the foregoing reason, the Court construes Disputed Claim Term 1 as follows: "the maximum voltage to which the battery is configured to be charged."

2. Disputed Term 2: "ratio of positive electrode material to negative electrode material as calculated by a theoretic capacity with a charge cut-off voltage set at 4.2 V"

Claim(s)	RJ's Proposed Construction	Apple's Proposed Construction
5	Plain and ordinary meaning: "the ratio calculated as the product of the capacity of the cathode active material per mass unit and the amount of the cathode active material in the same mass unit divided by the product of the capacity of the anode active material per mass unit and the amount of the anode active material in the same mass unit, when the charge cutoff voltage is 4.2 V."	Indefinite or alternatively "the ratio calculated as the product of the theoretic capacity of the cathode active material per mass unit and the amount of the cathode active material in the same mass unit divided by the product of the capacity of the anode active material per mass unit and the amount of the anode active material in the same mass unit, when the cell charge cutoff voltage is set at 4.2 V," wherein "theoretic capacity" means "theoretical, rather than actual, capacity that assumes all of the active substances participate in the reaction of the battery"

a. The Positions of the Parties

Apple proffers two arguments in support of its proposed construction. First, Apple contends that this claim term is indefinite because it "renders meaningless" the elements "theoretic capacity" and "as calculated by a . . . charge cut-off voltage set at 4.2 V." (Apple Op. Br. at 8–9.) Apple points to statements Patentees made during the CN Invalidation Proceedings that "theoretic gram capacity" of a battery "refers to: The amount of electricity (electricity capacity) given by assuming that all active substances

participate in the reaction of the battery." (Id. at 9; Chang Decl., Ex. D at 8 (emphasis supplied).) Conversely, specific, or actual, capacity refers to the amount of active substances actually participating in the reaction at a specific charge cut-off voltage. (Apple Op. Br. at 9; Horn Decl. ¶¶ 23, 43–44.) Thus, RJ's construction, which refers only to "capacity" collapses the terms "theoretic capacity" and "specific capacity." (Id.) Apple argues in the alternative that, if this claim term is not indefinite, "theoretic capacity" should be construed according to the meaning Patentees gave it during the CN Invalidation Proceedings. (Apple Op. Br. at 10–11.) Because the '641 Patent refers to both "theoretic capacity" and "specific capacity" as distinct concepts, they should not be collapsed into one term: "capacity." (Id. at 11.) Apple asserts that this distinction is further supported by the prosecution history. (Id. at 11–12.)

RJ argues this claim term is not indefinite because the term "theoretic capacity" is modified by the clause "with a charge cut-off voltage at 4.2 V," serving as a reference point from which a POSITA would be able to determine the theoretic capacity. (RJ Op. Br. at 14.) According to RJ, this was a common way in which skilled artisans referred to theoretic capacity at the time of the invention because when the charge cut-off voltage is limited, it necessarily follows that not all of the lithium in the battery can participate in the reaction. (Id. at 15.) Thus, because "theoretic capacity" is modified by a charge cut-off voltage, a POSITA would recognize the term referred to the theoretical capacity of a battery with a charge cut-off voltage of 4.2 V, rather than the maximum theoretical capacity. (Id.) RJ asserts this construction is supported by the '641 Patent's specification, which defines "theoretical capacities" as the "capacities of the positive electrode and the negative electrode calculated with a charge cut-off voltage set at 4.2 V." (Id. (quoting '641 Patent at 4:5–9).)

Apple argues in response that RJ's construction conflates two distinct measures of capacity: "specific capacity" and "theoretic capacity." (Apple Resp. Br. at 8.) Apple asserts that the '641 Patent uses these two terms in two different claims, and thus they should be afforded their own distinct meanings. (Id.) Additionally, Apple contends that RJ's attempt to introduce a new term, "theoretical maximum capacity," that is not present in the Asserted Patent merely serves to underscore the latent ambiguity in RJ's construction and supports a finding of indefiniteness. (Id. at 10–13.)

RJ responds again that the term "theoretic capacity" cannot be viewed in isolation, but rather in conjunction with its modifying phrase—the charge cut-off voltage used to

calculate the appropriate ratio of positive to negative electrode material. (RJ Resp. Br. at 6–7.) RJ additionally points to the prosecution history of the Chinese patent, which takes priority to the '641 Patent, in which the Patentees provided the same definitions and explanations for this claim term as they proffer here. (Id. at 8–9.) RJ further notes that Apple's reliance on statements the Patentees made in the CN Invalidation Proceedings suffer from the same evidentiary deficiencies as addressed in Disputed Claim Term 1, and are taken out of context. (Id. at 9–10.) Finally, RJ contends that claim 1's use of "specific capacity" does not invalidate the use of the term "theoretic capacity" in claim 5 because the two claims are independent, claim 1 is no longer asserted in this case, and even if it were, Apple's original proposed constructions for each term read the ratio limitations in the same way. (Id. at 10–12.)

b. Analysis

As the parties establish in their briefings, they do not dispute the way the ratio is calculated; the parties' dispute lies in the term "theoretic capacity." The Court concludes that the term is not indefinite and that plain and ordinary meaning applies.

As an initial matter, the '641 Patent defines "theoretical capacities" of the anode and cathode as "the capacities of the positive electrode and the negative electrode calculated with a[] charge cut-off voltage set at 4.2 V." ('641 Patent at 4:5–9.) "Where, as here, the patentee has clearly defined a claim term, that definition usually is dispositive; it is the single best guide to the meaning of a disputed term." Jack Guttman, Inc. v. Kopykake Enterprises, Inc., 302 F.3d 1352, 1360-61 (Fed. Cir. 2002). This definition is also reflected in the claim term itself. (See id. at 17:10–11.) Disputed Claim Term 2 states that the ratio of positive to negative electrode material is calculated by the "theoretic capacity" at a charge cut-off voltage of 4.2 V, precisely how the specification defines "theoretic capacities." Indeed, within the claim, "theoretic capacity" is not an isolated term. Rather, it is part of the direction for how to calculate the appropriate ratio of positive to electrode material: by applying "a theoretic capacity with a charge cut-off voltage set at 4.2 V." ('641 Patent, 17:10–11.)

Underpinning the Court's construction of this term is the principle that the term must be read as a whole and in the context of the entire patent. See Phillips, 415 F.3d at 1314 ("[T]he person of ordinary skill in the art is deemed to read the claim term . . . in the

context of the entire patent, including the specification."). RJ's proposed construction captures the term's full meaning by putting "theoretic capacity" in context of the claim and the Asserted Patent's specification. By separating the terms "theoretic capacity" and "with a charge cut-off voltage set at 4.2 V" and attempting to construe "theoretic capacity" in isolation, Apple creates an ambiguity where there is none.

Apple points to the CN Invalidation Proceedings in which the Patentees defined "theoretic capacity" as "theoretical, rather than actual, capacity that assumes all of the active substances participate in the reaction of the battery." (Apple Op. Br. at 11–12 (quoting Chang Decl, Ex. D. at 8).) Similarly, Apple notes that during the '641 Patent's prosecution, the Patentees quoted a publication which distinguishes the "maximum attainable practical capacity" at a given voltage from the "theoretic capacity," the latter being much higher than the former due to the former's voltage limitation. (Id. (quoting Chang Decl., Ex. at 1).) However, in both of these quotations, the Patentees were defining "theoretic capacity" in isolation, and in the absence of the charge cut-off voltage reference point as it appears in the claim language. Indeed, the Patentees' statements in both the prosecution history and the CN Invalidation Proceedings are consistent with the term's plain and ordinary meaning. "Theoretic capacity" in the abstract refers to the concept of a battery in which all lithium ions are extracted from the cathode into the anode during the charging process. ('641 Patent at 1:35–47.) However, when modified with a particular charge cut-off voltage, thereby limiting the amount of lithium that is extracted, the term refers to the amount that the theoretic capacity has been limited by setting a particular charge cut-off voltage. (Id.)

The parties spend a great deal of time arguing about the implications of the '641 Patent's use of "specific capacity" in claim 1. Generally, the doctrine of claim differentiation "presume[s] . . . a difference in meaning and scope when different words or phrases are used in separate claims." Tandon Corp. v. United States Int'l Trade Comm'n, 831 F.2d 1017, 1023, (Fed. Cir. 1987). However, "[t]he doctrine of claim differentiation cannot be used to overcome the plain language of the claims themselves." Mycogen Plant Sci. v. Monsanto Co., 243 F.3d 131, 1329 (Fed. Cir. 2001). Claims 1 and 5 are "separate, independent claims." Id. "It is not unusual that separate claims may define the invention using different terminology, especially where (as here) independent claims are involved." Id. (quoting Hormone Research Found., Inc. v. Genetech, Inc., 904 F.2d 1558, 1567 n.15 (Fed. Cir. 1990)) (internal quotation marks omitted). Thus, a

separate independent claim's use of a different term does not change the plain and ordinary meaning of the claim for which the parties seek construction.

Accordingly, the Court construes this term as follows: "the ratio calculated as the product of the capacity of the cathode active material per mass unit and the amount of the cathode active material in the same mass unit divided by the product of the capacity of the anode active material per mass unit and the amount of the anode active material in the same mass unit, when the charge cutoff voltage is 4.2 V." The Court additionally clarifies that the therm "charge cutoff voltage" refers to the full-cell voltage, rather than the half-cell voltage. (See Apple Op. Br. at 12; RJ Resp. Br. at 12.)

3. Disputed Term 3: "A secondary lithium ion cell or battery"

Claim(s)	RJ's Proposed Construction	Apple's Proposed Construction
5	No construction needed	"A lithium ion battery, wherein the battery electrode materials must not be substantially changed from what was available in the art and made without substantially decomposing the electrolyte, which can be recharged to its original capacity, without any decreased capacity or cycle life at a charge cut-off voltage above 4.2 V."

a. The Positions of the Parties

Apple asserts its proposed construction is based on two of Patentees' representations: "(1) that the battery electrode materials not be substantially changed from what was available in the art; and (2) that the battery electrode materials must be made without substantially decomposing the electrolyte, and can be recharged to its original capacity, without any decreased capacity or cycle life at a charge cut-off voltage above 4.2 V." (Apple Op. Br. at 13.) As to the first representation, Apple again directs the Court to the CN Invalidations Proceedings in which the Patentees stated the invention utilized "traditional cathode materials." (Id. at 14.) Additionally, the specification discloses that the invention improved over prior art because it adjusted the cathode and anode ratio and charge cutoff voltage while maintaining electrode materials commonly used in batteries at the time. (Id. at 15.) This explanation was also expressed during prosecution. (Id. at 15–16.) As to Patentees' second representation, Apple contends the '641 Patent specification states that the claimed invention improves over prior art by increasing charge cut-off voltage without effecting the batteries' other properties (Id. at 17.) During prosecution, the Patentees distinguished their invention over prior art by arguing that it could have a charge cut-off voltage higher than 4.2 V without "decreasing cycle properties of the lithium ion cells." (Id.; see also Chang Decl., Ex. B at 1195

(noting that prior art has "found that increasing the charge cut-off voltage above 4.2 V changes the structure of the positive electrode material and decreases the cycle property of the lithium ion cells.").)

RJ asserts that the term "secondary lithium ion cell or battery" is well-understood in the art and requires no construction. (RJ Op. Br. at 18.) RJ contends that the invention claims a battery that has low capacity loss over its life cycle, rather than no capacity loss. (Id. at 19.) RJ argues that Apple's construction introduces a scientific impossibility, as secondary batteries "inevitably lose capacity" across charge and discharge cycles. (Id.) RJ further argues that Apple's construction "improperly renders the independent claims narrower than the dependent claims" because dependent claims 11–14 expressly disclose batteries whose capacity diminishes over 400 cycles. (Id. at 20.) RJ additionally asserts that neither the '641 Patent nor the prosecution history disavowed claim scope, but instead distinguished between secondary batteries, which can be "recharged to capacities relatively close to the original capacity," from primary batteries, which have "very poor cyclability" such that they lose 50% of capacity or more in a single discharge/charge cycle. (Id. at 20–21; Chang Decl., Ex. B at 1135.) Finally, RJ contends that the '641 Patent is not limited to electrode materials that were available in the art at the time of invention, and can encompass newly arising technology in electrode materials. (Id. at 21.)

Apple states in response that RJ's construction ignores the Patentees' statements that the invention did not diminish the life cycle of the battery. (Apple Resp. Br. at 15.) Moreover, Apple contends that a battery can, in fact, be recharged to 100% capacity after the first few cycles, undermining RJ's argument that capacity loss is inevitable. (Id. at 16.) Finally, Apple argues that the '641 Patent is limited to electrode materials that were present at the time of the invention because Patentees distinguished the claimed invention from the prior art by emphasizing that known electrode materials could be used at higher voltages without negatively impacting cycle life. (Id. at 17.) The specification supports this understanding because it discusses how the invention could use conventional materials and methods. (Id.)

In response, RJ asserts that Apple's quotations from the specification are taken out of context and, in any event, not a clear disavowal of claim scope. (RJ Resp. Br. at 12–13.) Rather, the statements on which Apple relies merely explain that the Patentees contemplated that the invention could use conventional materials, but does not exclude

other materials. (Id. at 14.) Finally, RJ again disputes the practicability of Apple's proposed construction which does not allow for any diminished capacity at all. (Id. at 14–15.) RJ points to the prosecution history where the Patentees repeatedly stated the invention would improve battery lifespan, resulting in less capacity loss over time than in other secondary batteries. (Id.)

b. Analysis

The Court finds that no construction is necessary. The claim term commonly used in the industry, is not ambiguous, and does not require any construction for a POSITA to know what it means. See Phillips, 415 F.3d at 1314 ("In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges."). Thus, claim construction for this term "involves little more than the application of the widely accepted meaning of commonly understood words." Id.

Apple's proposed construction, in addition to unnecessarily confusing a relatively straightforward term, imposes requirements and restrictions that are not present in the '641 Patent's claims, specification, or prosecution history. According to Apple, the claimed invention must use only materials that existed at the time of the invention and can never lose capacity over time. The '641 Patent does not so limit itself. Beginning again with the claim language, there is no requirement that the claimed secondary lithium battery never lose any charging capacity. In fact, the opposite is true. Dependent claims 11 through 14 expressly claim batteries that lose some charging capacity after 400 cycles, as is inevitable for secondary lithium ion batteries. (See '641 Patent at 18:4–16.) Construing this claim according to Apple's proposal would improperly "interpret an independent claim in a way that is inconsistent with a claim which depends from it." Wright Medical Tech., Inc. v. Ostenics Corp., 122 F.3d 1440, 1445 (Fed. Cir. 1997); see also Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1583 (Fed. Cir. 1996) ("an interpretation [that excludes a preferred embodiment] is rarely, if ever, correct and would require highly persuasive evidentiary support."). Indeed, the entire invention is premised on a battery that increases the charge cut-off voltage while minimizing capacity loss, not eliminating capacity loss. (See '641 Patent at 4:37–42, 7:1–8, 7:29–33; Chang Decl., Ex. B. at 1195.)

Apple argues that the Patentees disavowed batteries that suffered any loss whatsoever upon recharge during prosecution when the purportedly defined a secondary battery as one "that can be recharged to capacities relatively close to the original capacity." (Chang Decl., Ex. B. at 1135.) However, this assertion does not claim a battery that "can be recharged to its original capacity, without any decreased capacity or cycle life." Instead, it supports RJ's argument that secondary lithium ion batteries are designed to be recharged close to their original capacity, but that will lose their charge capacities over time. The '641 Patent claims an invention that increases voltage while minimizing the inevitable decrease in charge capacity that occurs over time.

Finally, the Court finds no compelling reason to read in a requirement that the invention is limited to electrode materials that existed at the time of the invention and cannot encompass improvements in materials since then. Such language is neither in the claim language nor in the specification. In fact, the specification expressly contemplates further improvements that may be made in electrode materials with which the claimed invention may be built. (See '641 Patent at 7:18–15 ("The inventors believe that the method can still be used to positive and negative electrode materials having higher specific energy developed in the future, and achieves the optimal effect.").) Thus, the Court will not impose a limitation that the invention must use only materials that existed at the time of the invention. See Innogenetics, N.V. v. Abbott Lab'ys, 512 F.3d 1363, 1371–72 (Fed. Cir. 2008) (allowing or "after-arising technology to be captured within the literal scope of valid claims that are drafted broadly enough").

For the foregoing reasons, the Court finds that the term "secondary lithium ion battery or cell" requires no construction.

4. Disputed Term 4: "overcharging protection voltage" / "overcharging protection release voltage" / "overcharge protection release voltage"

Claim(s)	RJ's Proposed Construction	Apple's Proposed Construction
9, 10	Plain and ordinary meaning: "overcharging protection voltage" refers to "the voltage level at which the battery's protection mechanism(s) engage(s) to prevent the battery from being charged to a higher voltage" "overcharge/overcharging protection release voltage" refers to "the voltage level at which a battery's protection mechanism(s) disengage(s) or reset(s)"	"Overcharging protection voltage / release voltage, implemented in the secondary lithium ion cell or battery, and not in a protection circuit"

a. The Positions of the Parties

Apple's proposed construction specifies that the overcharging protection is implemented within the battery itself rather than a separate protection circuit. (Apple Op. Br. at 20.) Apple contends this construction is consistent with the prosecution history in which the Examiner found that the Patentees were attempting to claim four separate inventions that did "not relate to a single general inventive concept." (Id. (quoting Chang Decl., Ex. B. at 1229).) These four groups involved a secondary lithium ion battery (Group I), a protection circuit (Group II), an electronic device (Group III), and a charging device (Group IV). (Id.) In response to the Examiner's direction, the Patentees withdrew Groups II, III, and IV, proceeding only with Group I—claims directed at a secondary lithium ion battery. (Id.; Chang Decl., Ex. B at 1127–29.) When RJ attempted to amend claim 5 to include "a protection circuit," the Examiner declined the amendment because it was not fully responsive to his prior direction. (Apple Op. Br. at 21; Chang Decl., Ex. B

at 1119, 1121, 1127–28.) The Examiner additionally stated that "[o]vercharging protection release voltage is inherent in the battery," an assertion with which the Patentees did not overtly disagree. (Apple Op. Br. at 21; Chang Decl., Ex. B at 1121.)

RJ advocates for the plain and ordinary meaning of the disputed claim term, which would encompass a separate protection mechanism as well as one implemented within the battery itself. (RJ Op. Br. at 21–22.) RJ asserts that overcharge protection, which all modern lithium ion batteries have, can be implemented in many ways, none of which the Patent expressly adopts. (Id. at 22.) RJ states that the '641 patent actually intended to broadly include any type of protection mechanism. (Id. (quoting '641 Patent at 9:24–36).) RJ further argues that the Patentees' compliance with a restriction requirement during prosecution did not limit the claims to a specific protection mechanism. (Id. (citing Dynamic Digital Depth Rsch. PTY LTD v. LG Elecs., Inc., No. 15-5578, 2016 WL 7444569, at *7 n.3 (C.D. Cal. Nov. 7, 2016); Honeywell Int'l, Inc. v. ITT Indus., Inc., 452 F.3d 1312, 1319 (Fed. Cir. 2006)).)

In response, Apple notes that the law is well-settled that "[c]laims to the non-elected invention(s) are withdrawn from consideration and must be canceled before the application is allowed to issue as a patent." (Apple Resp. Br. at 18 (quoting Helifix Ltd. v. Blok-Lok, Ltd., 208 F.3d 1339, 1348 (Fed. Cir. 2000).) Additionally, Apple distinguishes RJ's cases, noting that in Dynamic, the court held that "a restriction requirement election does not necessarily imply a disclaimer of claim scope if the election is unrelated to the claim language." (Apple Resp. Br. at 19.) Apple notes that the Patentees' election "is directly tied to the overcharging protection volt language," so Dynamic does not apply. (Id.) Similarly, Honeywell concerned the weight of a restriction issued in a divisional's patent application, which the Patentees did not file, rendering Honeywell inapposite. (Id.) Finally, Apple asserts that although the specification references protection circuitry, RJ cannot claim it because the Patentees removed it during prosecution. (Id. at 20.)

RJ argues in response that Apple conflates the election of patentable subject matter due to a restriction requirement and disclaimer of claim scope. (RJ Resp. Br. at 15–16 (citing Plantronics, Inc. v. Aliph, Inc., 724 F.3d 1343, 1350 (Fed. Cir. 2013)).) RJ notes that restriction requirements are discretionary tools patent examiners use to ease workload by limiting the number of claims in a patent and have no substantive role in the examination of a patent application. (Id. at 16 (citing Manual of Patent Examining

Procedure § 803).) Thus, the Patentees' election of one set of claims upon which to continue prosecution did not constitute a disclaimer of the claims' scope. (Id.) Similarly, RJ asserts that a tacit agreement with a statement by the Examiner cannot, by definition, be a clear and unmistakable disavowal. (Id. at 17.)

b. Analysis

The Court finds that the plain and ordinary meaning of the disputed claim term applies. The parties' only dispute on this term is whether the protection mechanism must be "implemented in" the secondary lithium ion battery itself, or if it could be a separate protection circuit. The Court concludes that the intrinsic evidence does not support a finding that the Patentees clearly disavowed an implementation of the invention that includes a separate protection circuit.

The asserted claims are drafted broadly, without reference to a particular charge protection mechanism, disclosing instead particular voltage ranges at which the charging protection, in whatever form it takes, engages or disengages. Claim 9 discloses a battery that "has an overcharging protection voltage of greater than 4.35 V" and an "overcharging protection release voltage of greater than 4.15 V." ('641 Patent at 17:24–28.) Claim 10 has substantially the same language. (Id. at 17:29–18:3.) The essence of both claims is disclosing the voltage cutoffs for the overcharging protection voltages and overcharging protection release voltages, rather than a particular mechanism for how that function is accomplished. Indeed, both claims state that the battery "has" these overcharging protection voltages and release voltages, but do not specify where those protections exist—in the battery itself or elsewhere. The specification further reflects the understanding that claims 9 and 10 were not intended to be restricted to a particular protection mechanism. Rather, it states that [t]he type and structure of the protecting circuit for [the battery] shall not be specifically restricted." (Id. at 9:29–31.) Thus, Apple's proposed construction would unduly restrict the claim terms by "exclud[ing] embodiments disclosed in the specification." Oatey Co v. IPS Corp., 514 F.3d 1271, 1276 (Fed. Cir. 2008).

While claim terms are normally interpreted according to their plain and ordinary meaning, if an embodiment was "clearly disclaimed" in the "prosecution history," it may be excluded. Id. at 1277 (citing North Am. Container, Inc. v. Plastipak Packaging, Inc., 415 F.3d 1335, 1345–46 (Fed. Cir. 2005)). Apple argues that claims 9 and 10 must

exclude the embodiment of an external protection circuit as the protection mechanism because RJ did not elect the protection circuit during prosecution and did not apply for a divisional patent based on a protection circuit. Apple relies primarily on two pieces of evidence from the prosecution history file: (1) the Patentees' election to withdraw claim Groups II, III, and IV, and (2) the Patentees' lack of response to the Examiner's statement that "[o]vercharging protection release voltage is inherent in the battery." Neither is persuasive. First, the Patentees' election did not amount to a surrender of claim scope. The Examiner "did not construe the claim term" or "determine its meaning in light of the written description. He merely required that the [Patentees] elect one aspect of [the] invention for prosecution without applying it to the specification." Honeywell Intern., Inc. v. ITT Indus., Inc., 452 F.3d 1312, 1319 (Fed. Cir. 2006). Furthermore, the Examiner noted his reason for this requirement: the inventions lacked "the same or corresponding technical features . . . of the ratio of positive electrode material to negative electrode material." (Chang Decl., Ex. B at 1229.) Thus, failing to pursue a divisional patent for the protection circuit because it did not relate to the distinctive inventive concept that was the core of the Asserted Patent does not amount to a disclaimer of claim scope. See Plantronics, Inc. v. Aliph, Inc., 724 F.3d 1343, 1352 (Fed. Cir. 2013).

Importantly, and related to Apple's second argument, some form of overcharge protection is included in most, if not all, lithium ion batteries to prevent the battery from charging too much and overheating. (See Yao Decl. ¶¶ 66–67.) Although Apple's expert does not explicitly opine on this point, the Examiner's quotation upon which Apple relies underscores that overcharge protection of some sort exists in lithium ion batteries. (See Chang Decl., Ex. B at 1121 ("Overcharging protection release voltage is inherent in the battery").) The manner in which a battery manufacturer implements the overcharge protection varies, and can include an external protection circuit. (See Horn Decl. ¶ 26; Yao Decl. ¶ 67.) The specification also reflects that lithium ion batteries that existed in the art had some sort of overcharge protection mechanism configured to engage and release at certain voltages. (See '641 Patent at 1:51–55 ("the overcharge release voltage of its protection circuit is controlled below 4.15 V during the formation of a single lithium ion cell.").) Therefore, restricting claims 9 and 10 to a certain type of overcharge protection mechanism would improperly limit the claims.

Finally, the Examiner's note that "Overcharging protection release voltage is inherent in the battery" does not amount to a clear and unmistakable disavowal of claim scope. First, while the Examiner's statement may be true, it does not exclude the

possibility of protection implementations that are not "in" the battery, and is thus somewhat beside the point. Second, the Patentees' silence or "tacit" agreement with this statement cannot, by definition, be a "clear and unmistakable" release of claim scope. See 3M Innovative Props. Co. v. Avery Dennison Corp., 350 F.3d 1365, 1373–74 (Fed. Cir. 2003) ("An applicant's silence in response to an examiner's characterization of a claim does not reflect the applicant's clear and unmistakable acquiescence to that characterization if the claim is eventually allowed on grounds unrelated to the examiner's unrebutted characterization.") Third, the Examiner's comment was not in relation to a claim about protection circuits or overcharge protection mechanisms. After the Patentees elected to pursue only Group I of the claims, they submitted an amended application which still purported to disclose a protection circuit in claim 5. (Chang Decl., Ex. B at 1127, claim 5.) Thus, the Examiner stated he would not review claim 5 or any claims in the amended application that depended on claim 5. (Id. at 1119.) The Examiner then looked at claims 1–4, which he rejected "as being unpatentable over" prior art. (Id. at 1121.) In discussing the prior art, the Examiner noted that several aspects of the invention were known by skilled artisans, including that batteries implemented overcharging protection release voltages, that improving capacity involved increasing the charge cut-off voltage, etc. (Id.) Because the Examiner was discussing a different claim, there was no characterization of claims 9 and 10 to rebut. See Wilson Sporting Goods Co. v. Monsta Athletics, LLC, No. 19-738, 2020 WL 5835321, at *8 (C.D. Cal. Sept. 24, 2020). Finally, as noted above, the Examiner's comment adds credence to a construction that broadly encompasses different types of overcharge protection mechanisms, rather than requiring one particular type or excluding that particular type.

For these reasons, the Court does not find a clear disclaimer of an embodiment or claim scope in the prosecution history. Accordingly, the Court construes Disputed Claim 4 as follows:

> "overcharging protection voltage" refers to "the voltage level at which the battery's protection mechanism(s) engage(s) to prevent the battery from being charged to a higher voltage"

"overcharge/overcharging protection release voltage" refers to "the voltage level at which the[1] battery's protection mechanism(s) disengage(s) or reset(s)"

[1] The parties agree that the Court's construction of this term should differ from RJ's proposed construction by replacing the word "a" with "the." (See Dkt. No. 81.)

5. Disputed Term 5: "maintains at least 7500 of capacity after 400 cycles;" "maintain at least 75% of capacity after 400 cycles;" "maintains at least 75.83% of capacity after 400 cycles;" maintains at least 80% of capacity after 500 cycles;" "maintains at least 80.72% of capacity after 400 cycles"

Claim(s)	RJ's Proposed Construction	Apple's Proposed Construction
11–14	Plain and ordinary meaning: "maintains at least [a percentage] of capacity after 400 complete charge and discharge cycles of the battery"	Indefinite

a. The Positions of the Parties

Apple asserts that claims 11–14 are indefinite. First, because claims 11–14 are rely on independent claim 5, which uses an ambiguous term ("theoretic capacity"), these claims are, in turn, ambiguous. (Apple Op. Br. at 22–23.) Second, the '641 Patent does not specify which testing parameters should be used, such as cathode and anode materials, how the battery should be manufactured, or what testing conditions apply, such as cycling conditions, rest time between charge and discharge, and temperature. (Id. at 23.) Furthermore, Apple posits that each test discussed in the specification was only performed once, rendering the results unreliable and the experiments unrepeatable for a POSITA. (Id.) Similarly, Apple notes that the '641 Patent does not disclose at what temperature the inventors performed their tests, despite asserting during prosecution that temperature is an important part of battery viability. (Id. at 23–24.)

RJ contends that the claim terms are unambiguous, merely requiring simple mathematics that is articulated in layman's terms: remaining capacity after 400 charging cycles divided by initial capacity. (RJ Op. Br. at 23.) This understanding is a well-

known concept called "capacity fade," and is reflected in the experiments discussed in the specification. (Id. at 23–24.) Finally, RJ notes that Apple's products disclose this precise concept on its consumer products' advertisements. (Id. at 24.)

In response, Apple argues that the problem with indefiniteness lies not in how to calculate a percentage, but rather what values are used in order to arrive at the claimed percentage. (Apple Resp. Br. at 21.) Additionally, RJ muddies the "capacity" water not only by failing to address the "theoretic capacity" and "specific capacity" dispute but also by introducing new capacity terms: "initial capacity" and "remaining capacity." (Id.) Furthermore, the examples in the specification do not describe testing conditions, such as temperature applied throughout the 400 cycles. (Id. at 22.)

In response, RJ asserts that Apple's attempt to read in "theoretic capacity" from claim 5 is improper and would result in a "nonsensical" construction because, under Apple's understanding of "theoretic capacity," capacity can never be lost. (RJ Resp. Br. at 19.) Next, RJ contends that the '641 Patent either discloses each testing condition necessary to recreate the experiments, or if they are not disclosed, they are unnecessary to determine the scope and meaning of the claim. (Id. at 20.) Furthermore, a POSITA would understand that testing should be conducted under typical operating conditions of the commercial batteries, which is the subject of the '641 Patent. (Id. at 20–21.) Similarly, a POSITA would understand that the tests should be performed at room temperature, the temperature in which commercial batteries normally operate. (Id. at 21–22.)

b. Analysis

As noted above, in order to meet the "definiteness" requirement, "a patent's claims, viewed in light of the specification and prosecution history, [must] inform those skilled in the art about the scope of the invention with reasonable certainty." Nautilus I, 572 U.S.

at 910. The party alleging indefiniteness must prove invalidity by clear and convincing evidence. See Nautilus II, 783 F.3d at 1377. The Court concludes that Apple has not met its burden.

The meanings of claims 11–14 are plain by their terms. The claims are premised on a basic mathematical equation in which a POSITA divides the charging capacity of a particular battery when it is first manufactured by the charging capacity of that same battery after 400 cycles. This is neither unclear nor indefinite. Apple's attempt to import "theoretic capacity" from claim 5 into claims 11–14 is unavailing. As a threshold matter, claims 11–14 do not use the term "theoretic capacity," and the Court will thus not substitute a term into the claims that is not currently present. See Phillips, 415 F.3d at 1314. Furthermore, as the Court discussed with regard to Disputed Term 2, "capacity" as used in claim 5 refers to the theoretic capacity at a particular charge cut-off voltage. ('641 Patent at 1:35–47.) Claims 11–14 use the term "capacity" to describe the measured capacity of a particular battery after 400 charging cycles.

Similarly, that the '641 Patent does not specifically disclose every testing parameter does not render the claims indefinite. See BASF Corp. v. Johnson Matthey Inc., 875 F.3d 1360, 1366 (Fed. Cir. 2017) ("an inventor need not explain every detail because a patent is read by those skilled in the art"). First, Apple's expert states that each experiment discussed in the specification was only performed once, citing to five pages of the '641 Patent which discuss twenty-eight different examples. (Horn Decl. ¶ 19.) However, nowhere in these five pages does the specification state that each experiment was only performed once; rather, each experiment is only listed once. Second, the fact that all test parameters were not expressly outlined does not make the claims fail for indefiniteness. Many parameters were, in fact, stated in the specification, such as types of anode and cathode materials (see '641 Patent at 8:4–9:21) and the process for preparing a lithium ion battery cell (see id. at 9:62–19:24). Moreover, the specification states that "[e]xcept for voltage, all process parameters for charge and discharge are

commonly used in the art," leading a POSITA to understand that normal testing conditions for commercial batteries are to be utilized. (Id. at 9:22–23.) The parties discuss at length whether the '641 Patent's silence regarding the temperature at which the batteries were tested renders the claims indefinite. The Court finds it does not. Because commercial batteries are generally used at room temperature and not in extreme conditions, unless they are specifically designed for those conditions, a POSITA would understand that room temperature is the correct testing condition. Furthermore, the testing metrics are not claimed to be specific to the patent. See Pac. Coast Bldg. Prod., Inc. v. CertainTeed Gypsum, Inc., 816 F. App'x 454, 456 (Fed. Cir. 2020). To the extent there is any lack of clarity regarding how to properly test batteries claimed by the '641 Patent, the Court that determines those questions are fact-specific inquiries and as such are not appropriate to resolve during claim construction. Therefore, the level of specificity used in the '641 Patent is sufficient to put a POSITA on notice as to what is claimed and how to recreate it. See BASF Corp. v. Johnson Matthey Inc., 875 F.3d 1360, 1366 (Fed. Cir. 2017) ("an inventor need not explain every detail because a patent is read by those skilled in the art").

The Court therefore finds that Disputed Term 5 is not indefinite and requires no construction.

UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA

CIVIL MINUTES - GENERAL

Case No. 8:22-CV-01874-JVS (JDEx) Date August 2, 2023

Title RJ Technology, LLC v. Apple, Inc.

IV. CONCLUSION

For the foregoing reasons, the Court construes the disputed claim terms as follows:

No.	Term	Court's Construction
1.	"charge cut-off voltage"	"the maximum voltage to which the battery is configured to be charged."
2.	"ratio of positive electrode material to negative electrode material as calculated by a theoretic capacity with a charge cut-off voltage set at 4.2 V"	"the ratio calculated as the product of the capacity of the cathode active material per mass unit and the amount of the cathode active material in the same mass unit divided by the product of the capacity of the anode active material per mass unit and the amount of the anode active material in the same mass unit, when the charge cutoff voltage is 4.2 V."
3.	"A secondary lithium ion cell or battery"	No construction needed.

UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA

CIVIL MINUTES - GENERAL

Case No. 8:22-CV-01874-JVS (JDEx) Date August 2, 2023

Title RJ Technology, LLC v. Apple, Inc.

4.	"overcharging protection voltage" / overcharging protection release voltage" / "overcharge protection release voltage"	"overcharging protection voltage" refers to "the voltage level at which the battery's protection mechanism(s) engage(s) to prevent the battery from being charged to a higher voltage" "overcharge/overcharging protection release voltage" refers to "the voltage level at which the battery's protection mechanism(s) disengage(s) or reset(s)"
5.	"maintains at least 7500 of capacity after 400 cycles;" "maintain at least 75% of capacity after 400 cycles;" "maintains at least 75.83% of capacity after 400 cycles;" maintains at least 80% of capacity after 500 cycles;" "maintains at least 80.72% of capacity after 400 cycles"	No construction needed.

IT IS SO ORDERED.