

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,

Petitioner,

v.

RJ TECHNOLOGY LLC,

Patent Owner

Case IPR2023-01350

U.S. Patent 7,749,641

**PETITIONER'S REPLY TO PATENT OWNER'S
PRELIMINARY RESPONSE**

In accordance with the Board email dated January 8, 2024, Petitioner submits this five-page reply to Patent Owner's Preliminary Response ("POPR") to the Petition for *inter partes* review of U.S. Patent No. 7,749,641 ("641 Patent").

The first prong of the *Advanced Bionics* framework concerns whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office. *Advanced Bionics LLC v. MED-EL Elektromedizinische Gerate GmbH*, IPR2019-01469 Paper 6, 8-10 (PTAB Feb. 13, 2020). There is no dispute that the references relied upon in the Petition are different from the art presented to the Office during prosecution.

The invalidity grounds presented in the Petition are also substantively distinct from those considered by the Examiner during prosecution, and these distinctions were addressed in detail in the Petition. *See* Petition, 70-72. Despite that detailed discussion, Patent Owner nevertheless characterizes these grounds as being "premised on substantially the same argument" as "the Office's rejection." POPR, 40. Patent Owner's position grossly oversimplifies and conveniently ignores the details of both the Examiner's rejection of the claims and the grounds advanced in the Petition. The challenges raised in the Petition meaningfully differ and are not in any way cumulative to those considered by the Examiner. And

because these challenges call into question the validity of the Challenged Claims, as set forth in the detail in the Petition, institution of the Petition is merited.

During prosecution, the claims of the '641 Patent were rejected as obvious over the combination of Idota and either Tanaka or Kobayashi. APPLE-1002, 69-71. The Examiner cited to Idota as teaching a battery having a “ratio of the equivalent amount of the anode (negative electrode) active material to that of the cathode (positive electrode) active material [of] larger than 1,” and further turned to (i) Tanaka for disclosure of a battery with “a charging cut-off voltage of 3.5 to 5 V” or to (ii) Kobayashi for a battery with a 4.5 V charge cut-off voltage. *Id.*, 70-71. The grounds presented in the Petition each also relies on one reference for the teaching of a battery having a particular ratio of positive to negative electrode material and another reference for disclosure of a battery with a particular charge cut-off voltage, but the similarity between the Petition and the prosecution history ends there.

In more detail, the specific issue considered by the Examiner during prosecution was whether it would have been obvious to modify Idota’s battery, which has a particular ratio of positive and negative electrode materials, to operate with an increased charge cut-off voltage. *See* APPLE-1002, 70 (“[I]t would have been obvious ... to utilize cut-off voltages as taught by Tanaka” (e.g., cut-off voltages from 3.5 to 5 V) “in the battery of Idota in order to have a safer and

thereby an efficient battery”). The Applicant prevailed in its assertion that this would not have been obvious, arguing that modifying Idota’s battery “to include a charge cut-off voltage above 4.2 V would result in a battery with decreased capacity and/or cycle life” and “that could handle only transient or temporary conditions caused by abrupt temperature rises.” *Id.*, 50-51 (emphasis added). The Applicant also cited numerous references purportedly demonstrating poor performance of batteries having charge cut-off voltages above 4.2 V. *Id.*, 47-50.

Neither ground advanced in the Petition contemplates modifying a battery having a particular ratio of positive and negative electrode materials to operate with an increased charge cut-off voltage, as was the case in the combinations debated during prosecution. The Yamaki-Sakamoto and Yasunami-Koyama combinations advanced in the Petition now raise a new and substantively distinct issue: whether it would have been obvious to modify a battery having a charge cut-off voltage that is *already above 4.2 V* to incorporate positive and negative electrode materials within the claimed range of ratios. *See* Petition, §§IV.B, IV.D. And importantly, this new issue raised by grounds advanced in the Petition is not resolved by conclusions reached by the examiner when addressing the wholly different technical question at issue during prosecution.

Specifically, Yamaki and Yasunami both describe batteries that operate with sufficient capacity and cycle life, despite having a charge cut-off voltage above 4.2

V, and this obviates the need to debate much less regard Applicant's prosecution history argument that batteries having cut-off voltages in this range were known to have poor performance. *See* APPLE-1002, 47-50; APPLE-1004, Abstract; APPLE-1006, [0006]. And because the charge cut-off voltages of Yamaki's and Yasunami's batteries are ***already*** above 4.2 V, the implementation of a certain ratio of positive and negative materials in such batteries does not give rise to concerns regarding capacity, cycle life, and stability problems that may arise by ***increasing*** the charge cut-off of a battery to reach above 4.2 V, as was the case with the Idota modifications proposed during prosecution.

This is not just a semantic distinction that “takes issue with which prior art represents the primary reference and which prior art represents the secondary reference,” as Patent Owner contends. POPR, 41. The identification of a reference as the primary reference in a combination is a relevant designation. *See Schwendimann v. Neenah, Inc.*, 82 F.4th 1371, 1384 (Fed. Cir. 2023) (“In the context of an obviousness challenge with two or more references, describing one of the references as ‘primary’ means that it is the reference to be modified by the ‘secondary’ or other references.”). More, Yamaki and Yasunami—both describing batteries having charge cut-off voltages above 4.2 V—are the primary references, and thus, a proper analysis begins with their disclosures in consideration of whether proposed changes to the same would have been obvious. And despite

Patent Owner's assertions otherwise, the Federal Circuit has recognized that the designation of a reference as the primary reference can, in fact, have substantive implications. *See In re Mouttet*, 686 F.3d 1322, 1333 (Fed. Cir. 2012) (Court recognizing that "there may be some cases in which relevant factual determinations inhere in such characterization of prior art references...."). This is certainly one of those cases. Specifically, the primary references advanced in the Petition are modified not to increase their charge cut-off voltages, but instead to merely incorporate certain ratios of electrode materials. And thus, the putative performance issues associated with increasing the charge cut-off voltage of a battery, which were critically relevant to the Idota-based combinations considered during prosecution, are not in any way pertinent to the combinations presented in the Petition. Instead, the combinations advanced in the Petition demand different factual determinations that were neither asked nor answered during prosecution.

Because neither condition of the first prong of the *Advanced Bionics* framework is met, there is no need to reach the second prong to resolve against discretionary denial under §325(d). *See, e.g., Oticon Medical AB et. al. v. Cochlear Ltd.*, IPR2019-00975 Pap. 15, 20 (PTAB Oct. 16, 2019)(precedential). Petitioner thus respectfully requests that the Board consider institution of the Petition on the merits.

Respectfully submitted,

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e)(4), the undersigned certifies that on January 12, 2024, a complete and entire copy of this Petitioner's Reply were provided via email to the Patent Owner by serving the email correspondence addresses of record as follows:

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