

Exhibit 3

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Paper 8
Entered: May 4, 2023

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VOLKSWAGEN GROUP OF AMERICA, INC.,
Petitioner,

v.

NEO WIRELESS LLC,
Patent Owner.

IPR2022-01567
Patent 10,447,450 B2

Before HYUN J. JUNG, CHARLES J. BOUDREAU, and
MATTHEW S. MEYERS, *Administrative Patent Judges*.

BOUDREAU, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

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I. INTRODUCTION

Volkswagen Group of America, Inc. (“Petitioner”) filed a Petition requesting *inter partes* review of claims 1–18 of U.S. Patent No. 10,447,450 (Ex. 1001, “the ’450 patent”). Paper 2 (“Pet.”). Neo Wireless LLC (“Patent Owner”) filed a Preliminary Response. Paper 7 (“Prelim. Resp.”).

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314(b) (2018); 37 C.F.R. § 42.4(a) (2020). We may not institute an *inter partes* review “unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a).

Upon consideration of the arguments and evidence presented, we determine that Petitioner has demonstrated a reasonable likelihood of prevailing with respect to at least one of the challenged claims. Accordingly, we institute *inter partes* review of claims 1–18 of the ’450 patent on all asserted grounds. *See* 37 C.F.R. § 42.108(a) (“When instituting . . . review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim.”).

II. BACKGROUND

A. *Real Parties in Interest*

Petitioner and Patent Owner identify themselves as the real parties in interest, and Petitioner identifies itself as a subsidiary of Volkswagen AG. Pet. 3; Paper 5, 1 (Patent Owner’s Mandatory Notices).

B. *Related Matters*

The parties advise us that the ’450 patent is or has been involved in at least 23 ongoing or terminated district court proceedings, including, among others, *Neo Wireless LLC v. Volkswagen Group of America, Inc.*, No. 1:22-

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cv-00076 (E.D. Tenn.), filed March 29, 2022, and terminated June 14, 2022; *In re Neo Wireless, LLC Patent Litigation*, 2:22-md-03034 (E.D. Mich.), filed June 23, 2022; and *Neo Wireless LLC v. Volkswagen Group of America, Inc.*, No. 2:22-cv-11404 (E.D. Mich.), filed June 28, 2022.

Pet. 3–4; Paper 5, 1–3. The ’450 patent also was the subject of a petition for *inter partes* review in *Dell Inc. v. Neo Wireless, LLC*, IPR2021-01486 (petition filed September 16, 2021, Paper 3; institution denied April 14, 2022, Paper 12). We additionally note that Ford Motor Company and American Honda Motor Co., Inc. (“Honda”) also have filed petitions for review of the ’450 patent. IPR2023-00763, Paper 1; IPR2023-00793, Paper 3. Honda’s petition is substantially identical to the instant Petition and was accompanied by a motion for joinder as a petitioner in this proceeding. IPR2023-00793, Paper 2.

C. The ’450 Patent

The ’450 patent, titled “Method and System for Multi-carrier Packet Communication with Reduced Overhead,” issued October 15, 2019, from an application filed August 14, 2017, and claims priority through a series of continuation applications from a provisional application filed September 28, 2005. Ex. 1001, codes (22), (45), (54), (60), (63).

According to the ’450 patent, bandwidth efficiency is one of the most important system performance factors for wireless communication systems. Ex. 1001, 1:33–34. In order to support the high degree of flexibility needed to accommodate different applications having different sized application payloads and different quality of service (“QoS”) requirements in packet-based data communication, however, wireless communication systems generally must provide a high degree of flexibility. *Id.* at 1:34–40. In wireless systems based on the IEEE 802.16 standard, for example, multiple

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packet streams are established for each mobile station to support different applications, and each packet stream is mapped into a wireless connection.

Id. at 1:42–47. Special scheduling messages, DL-MAP and UL-MAP, are utilized to broadcast scheduling decisions to the mobile stations. *Id.*

at 1:47–50. According to the '450 patent, the MAP scheduling method defined by the IEEE 802.16 standard involves significant control overhead, amounting altogether to 52 bits, representing as much as 32.5% of overall data communication for application such as voice-over-IP (“VoIP”) and resulting in a relatively low spectral efficiency. *Id.* at 1:51–2:13.

With the goal of improving spectral efficiency, the '450 patent describes a system and method for minimizing the control overhead in a multi-carrier wireless communication network by using a “time-frequency resource.” Ex. 1001, 2:13–16, 2:45–47. One or more zones in the time-frequency resource may be dedicated for particular applications, such as VoIP applications. *Id.* at code (57), 2:47–50. By grouping applications of a similar type together within a zone, a reduction can be achieved in the number of bits necessary for mapping a packet stream to a portion of the time-frequency resource. *Id.* at 2:50–54.

Figure 3 of the '450 patent is reproduced below.

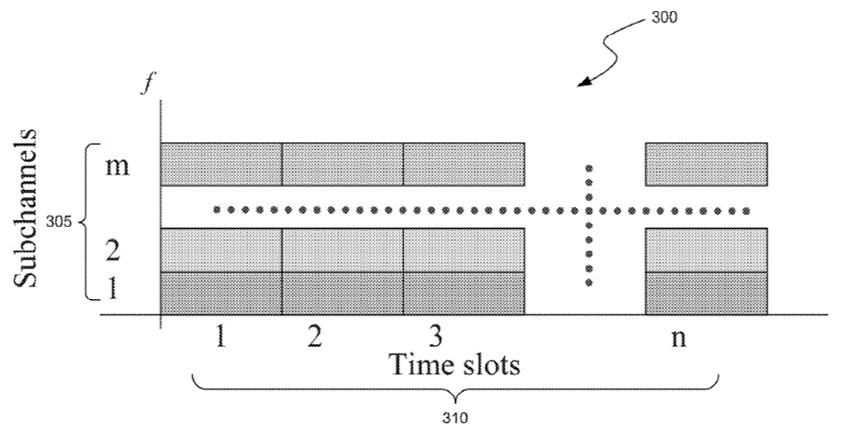


FIG. 3

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