

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ZYXEL COMMUNICATIONS CORPORATION,
Petitioner,

v.

UNM RAINFOREST INNOVATIONS,
Patent Owner.

IPR2021-00734
Patent 8,265,096 B2

Before KRISTEN L. DROESCH, BARBARA A. PARVIS, and
CHARLES J. BOUDREAU, *Administrative Patent Judges*.

DROESCH, *Administrative Patent Judge*.

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

Granting Motion for Joinder
35 U.S.C. § 315(c); 37 C.F.R. § 42.122(b)

I. INTRODUCTION

A. Background

ZyXEL Communications Corporation (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting *inter partes* review of claims 1–4 and 6–8 (“challenged claims”) of U.S. Patent No. 8,265,096 B2 (Ex. 1001, “’096 Patent”). Pet. 1. Concurrently, Petitioner filed a Motion for Joinder (Paper 3, “Mot.”) seeking to be joined as a party to *Qualcomm, Inc. v. UNM Rainforest Innovations*, IPR2021-00375 (“Qualcomm IPR”). Petitioner timely filed its Motion for Joinder within one month after institution of trial in the Qualcomm IPR, as required by 37 C.F.R. § 42.122(b). UNM Rainforest Innovations (“Patent Owner”) filed a Preliminary Response (Paper 12, “Prelim. Resp.”) to the Petition and an Opposition (Paper 7, “Opp.”) to the Motion for Joinder, to which Petitioner filed a Reply (Paper 8, “Reply to Opp.”). Pursuant to our authorization, Petitioner filed a Reply to the Preliminary Response (Paper 15, “Reply to Prelim. Resp.”) to which Patent Owner filed a Sur-reply (Paper 16, “Sur-reply”). We have authority and jurisdiction under 35 U.S.C. §§ 6, 314 and 37 C.F.R. § 42.4.

For the reasons discussed below, we determine institution of *inter partes* review is warranted on the same grounds instituted in the Qualcomm IPR, and grant Petitioner’s Motion for Joinder.

B. Real Parties in-Interest

Petitioner states that ZyXEL Communications Corporation is the real party in-interest and further identifies its subsidiary ZyXEL Communications Inc., as a possible real party in-interest. *See* Pet. 2–3.

Patent Owner states that the University of New Mexico Board of Regents is an additional real party in-interest. *See* Paper 5, 2.

C. Related Matters

The parties indicate there is an ongoing dispute between Patent Owner and Industrial Technology Research Institute (“ITRI”) in New Mexico state court, concerning ownership of the ’096 Patent. *UNM Rainforest Innovations v. Industrial Technology Research Institute*, No. D-202-CV-2021-02803 (N.M. 2d. Judicial District Court May 4, 2021) (“New Mexico state court proceeding”). Paper 9, 1. Petitioner also informs us that ITRI filed a civil complaint on January 25, 2021, against UNM and Sino Matrix Technology in the Taiwan Hsinchu District Court seeking a declaratory judgment that ITRI is the owner of all rights in the ’096 Patent, among other patents. *See* Pet. 4.

The parties also identify the following matters that they allege may affect or be affected by a decision in this proceeding: *UNM Rainforest Innovations v. ASUSTek Computer, Inc.*, No. 6:20-cv-00142-ADA (W.D. Tex.); *UNM Rainforest Innovations v. Dell Technologies, Inc.*, No. 6:20-cv-00468-ADA (W.D. Tex.); *UNM Rainforest Innovations v. D-Link Corp.*, No. 6:20-cv-00143-ADA (W.D. Tex.); *UNM Rainforest Innovations v. TP-Link Technologies Co.*, No. 6:19-cv-00428-ADA (W.D. Tex.); *UNM Rainforest Innovations v. ZyXEL Communications Corp.*, No. 6:20-cv-00522-ADA (W.D. Tex.). *See* Pet. 3–4; Mot. 3–4; Paper 5, 2; Paper 13, 1. The ’096 Patent also was asserted in *UNM Rainforest Innovations v. Apple Inc.*, No. 1:20-cv-00351 (W.D. Tex.), which has been dismissed. *See* Pet. 3 n.2.

Claims 1–4 and 6–8 of the ’096 Patent were the subject of a petition filed in the Qualcomm IPR, on which *inter partes* review was instituted. *See*

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Pet. 4; Mot. 4; Qualcomm IPR Paper 14 (“Decision on Institution,” “Qualcomm IPR Dec.”). Claims 1–4 and 6–8 of the ’096 Patent also were the subject of a petition filed in *Intel Corp. v. UNM Rainforest Innovations*, IPR2020-01576, which was terminated upon granting a joint motion to terminate. *See* Pet. 3 n.3.

D. The ’096 Patent (Ex. 1001)

The ’096 Patent relates to methods for constructing frame structures for orthogonal frequency-division multiple access (OFDMA) systems. *See* Ex. 1001, 1:16–19.

Figure 6A of the '096 Patent is reproduced below:

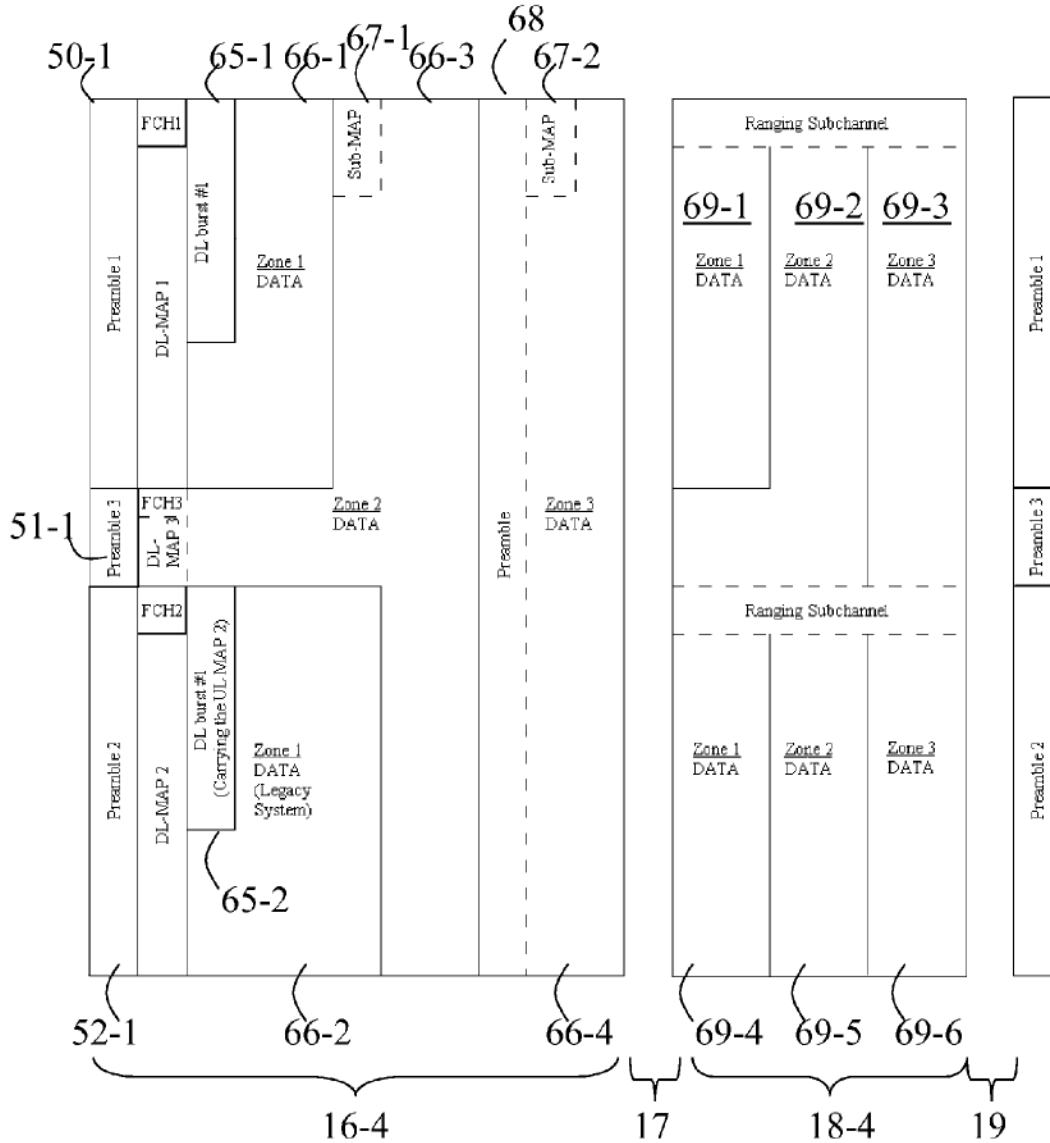


Figure 6A illustrates an OFDMA frame structure supporting high mobility and having a scalable bandwidth. *See* Ex. 1001, 4:1–3, 6:66–7:2. The frame structure includes downlink (DL) sub-frame 16-4 and uplink (UL) sub-frame 18-4. *See id.* at 7:5–7. The frame structure includes added regions related to zones 3 for high-mobility environments. *See id.* at 7:2–5. In DL sub-frame 16-4, a first added region includes preamble 68, a sub-MAP 67-2 and DATA 66-4. *See id.* at 7:5–7. In UL sub-frame 18-4, a

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