Paper 10 Date: November 12, 2020

# UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE PATENT TRIAL AND APPEAL BOARD APPLE, INC., Petitioner, v. COREPHOTONICS LTD., Patent Owner. IPR2020-00905 Patent 10,255,479 B2

Before BRYAN F. MOORE, JOHN F. HORVATH, and MONICA S. ULLAGADDI, *Administrative Patent Judges*.

HORVATH, Administrative Patent Judge.

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



### I. INTRODUCTION

# A. Background and Summary

Apple, Inc. ("Petitioner") filed a Petition requesting *inter partes* review of claims 1–16, 18, 23–38, and 40 ("the challenged claims") of U.S. Patent No. 10,255,479 B2 (Ex. 1001, "the '479 patent"). Paper 3 ("Pet."), 9. Corephotonics Ltd. ("Patent Owner") filed a Preliminary Response. Paper 8 ("Prelim. Resp."). We have authority and jurisdiction under 35 U.S.C. §§ 6, 314 and 37 C.F.R. § 42.4.

Upon consideration of the Petition and Preliminary Response, we are persuaded that Petitioner has demonstrated a reasonable likelihood that it would prevail in showing the unpatentability of at least one challenged claim of the '479 patent. Accordingly, we institute *inter partes* review of all challenged claims on all grounds raised.

## B. Real Parties-in-Interest

Petitioner and Patent Owner identifies themselves, respectively, as the real parties-in-interest. Pet. 1; Paper 5, 1.

# C. Related Matters

Petitioner and Patent Owner identify *Corephotonics Ltd. v. Apple Inc.*, 5:19-cv-04809 (N.D. Cal.), as a district court proceeding that can affect or be affected by this proceeding, and Petitioner also identifies IPR2020-00906 as in *inter partes review* that affect or be affected by this proceeding. Pet. 1; Paper 5, 1.

Our rules require both Petitioner and Patent Owner to identify "any other judicial or administrative matter that would affect, or be affected by, a decision in the proceeding." 37 C.F.R. §§ 42.8(a), 42.8(b)(2). The '479 patent is part of a family of patents and patent applications that include at least U.S. Patent Nos. 10,326,942 ("the '942 patent"), 10,015,408 ("the '408



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patent"), 9,661,233 ("the '233 patent"), and 9,185, 291 ("the '291 patent"). Ex. 1001, code (63). Many of these patents either were or currently are involved in *inter partes* review proceedings between Petitioner and Patent Owner and, therefore, could affect or be affected by a decision in this proceeding. For example, claims of the '291 patent were challenged in IPR2018-01348; claims of the '233 patent were challenged in IPR2020-00487; and claims of the '408 patent were challenged in IPR2020-00488 and are currently challenged in IPR2020-00489.

As noted above, our rules require both Petitioner and Patent Owner to identify these, and any other related proceedings, that could affect or be affected by a decision in this matter. *See* 37 C.F.R. §§ 42.8(a), 42.8(b)(2). The parties are reminded of this duty. Failure to comply with our rules may result in sanctions. *Id.* § 42.12 (a)(1).

# D. The '479 Patent

The '479 patent is directed to "a thin (e.g., fitting in a cell-phone) dual-aperture zoom digital camera with fixed focal length lenses" that is configured to use "partial or full fusion to provide a fused image in still mode." Ex. 1001, 3:18–23. Figure 1A, reproduced below, illustrates a dual-aperture zoom digital camera 100.



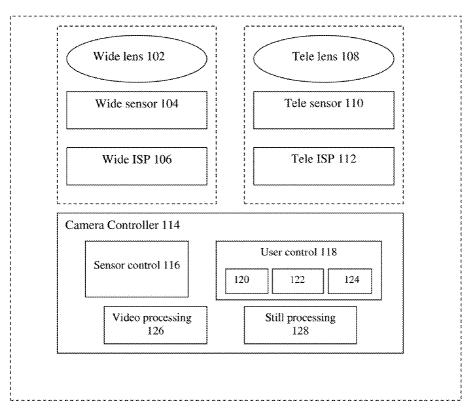


FIG. 1A

Figure 1A is a "block diagram illustrating a dual-aperture zoom" digital camera 100. *Id.* at 5:64–65. Camera 100 includes a wide imaging subsystem consisting of wide lens 102, wide sensor 104, and wide image signal processor ("ISP") 106, and a tele imaging subsystem consisting of tele lens 108, tele sensor 110, and tele ISP 112. *Id.* at 6:24–29.

Camera 100 also includes controller 114, which includes sensor control 116, user control 118, video processing module 126 and still processing module 128. *Id.* at 6:33–37. User control 118 controls various camera functions, including, operational mode 120, region of interest ("ROI") 122, and zoom factor ("ZF") 124. *Id.* at 6:38–40. Zoom factor 124 allows a user "to choose a zoom factor." *Id.* at 6:50–51. Sensor control 116 chooses "which of the sensors is operational" based on the selected zoom



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factor. *Id.* at 6:41–45. ROI function 122 allows a user to "choose a region of interest," i.e., a sub-region "on which both sub-cameras are focused." *Id.* at 6:46–50.

The dual lenses allow camera 100 to take an image having a shallow depth-of-field ("DOF") "by taking advantage of the longer focal length of the Tele lens." *Id.* at 4:23–27. The image taken with the Tele lens can be enhanced "by fusing data from an image captured simultaneously with the Wide lens." *Id.* at 4:27–30. For example, the Tele lens can focus "on a subject of the photo" and the Wide lens can focus on "a closer distance than the subject so that objects behind the subject appear very blurry." *Id.* at 4:30–34. Then, a shallow depth-of-field image can be formed when "information from the out-of-focus blurred background in the Wide image is fused with the original Tele image background information, providing a blurrier background and even shallower DOF." *Id.* at 4:34–38.

The process for fusing images taken with the Wide and Tele lenses is shown in Figure 5 of the '479 patent, which is reproduced below.



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