UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Intel Corporation
Petitioner

v.

Qualcomm Incorporated
Patent Owner

Case IPR2019-00128
Patent 9,154,356

PATENT OWNER RESPONSE TO PETITION FOR *INTER PARTES* REVIEW PURSUANT TO 37 C.F.R. § 42.220

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Pursuant to the Board's Decision to institute an *inter partes* review, (Paper 9) ("Institution Decision"), Patent Owner Qualcomm, Inc. ("Qualcomm" or "Patent Owner") submits this Response in opposition to the Petition for *Inter Partes* Review of U.S. Patent No. 9,154,356 ("the '356 Patent").

I. INTRODUCTION

Petitioner's grounds for unpatentability are based on an unreasonably broad construction of the term "carrier aggregation." Under a proper construction of the term, the patentability of the challenged claims of the '356 Patent should be confirmed.

During prosecution, the applicant amended each of the independent claims of the '356 patent limiting their scope to an input RF signal "employing carrier aggregation." This narrowing amendment and the accompanying remarks distinguished the claimed invention over U.S. Patent 7,317,894 to Hirose. At the time, a person of ordinary skill would have understood that the term carrier aggregation, as recited in that amendment, meant "*simultaneous operation on multiple carriers that are combined as a single virtual channel to provide higher bandwidth*." This understanding is supported by the specification, the file history, and extrinsic evidence.

Lee, which is petitioner's primary reference for each alleged ground of unpatentability in this proceeding, fails to disclose the "employing carrier

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aggregation" limitation. Lee discloses an input signal comprised of a WiFi signal and a Bluetooth signal, two independent un-aggregated signals. Recognizing this deficiency in Lee's disclosure, Petitioner proposes an unreasonably broad construction—"simultaneous operation on multiple carriers"—in order to argue that the '356 Patent claims read on Lee's input signal. Petitioner's proposed construction is so broad, however, that it violates the doctrine of prosecution disclaimer by attempting to recapture the subject matter that was disclaimed in order to overcome Hirose.

Furthermore, Petitioner's proposed construction reads out the term "aggregation." This failure to construe the term to indicate an "aggregation" of carriers improperly renders the term superfluous in the claims. Petitioner also fails to adequately explain how a person of ordinary skill understood that carriers are "aggregated" under its proposed construction. In fact, Petitioner's own inventors described carrier aggregation as referring to an "aggregation of multiple smaller bandwidths to form a virtual wideband channel." Under a proper construction of the term, Lee fails to disclose "carrier aggregation."

Petitioner also seeks to overcome this deficiency in Lee by combining it with the Feasibility Study. This is not a credible combination. A skilled artisan would not have been motivated to select and combine these distinctly different references. For example, Lee is directed to two "different kinds of radio connections" (WiFi and

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Bluetooth); the Feasibility Study is directed to the same type of radio connections (LTE). As another example, Lee discloses an amplification circuit wherease the Feasibility Study does not disclose any circuits. Moreover, a skilled artisan would have had no reason to turn to Lee, a reference which addressed unrelated wireless communication standards, or the Feasibility Study, a reference that failed to even disclose an amplifier circuit. Absent a credible showing of a motivation to select and combine these two references with a reasonable expectation of success, Petitioner's ground is only impermissible hindsight reasoning.

As explained in further detail below, the patentability of the challenged claims of the '356 Patent should be confirmed.

II. THE ALLEGED GROUNDS OF UNPATENTABILITY

Pursuant to the Board's Institution Decision (Paper 9), the alleged grounds of unpatentability for this trial are:

- Ground 1: Anticipation under 35 U.S.C. §102 of claims 1, 7, 8, 11, 17, and 18 by Lee[1];
- Ground 2: Obviousness under 35 U.S.C. §103 of claims 7 and 8 over Lee; and

[1] U.S. Publ'n No. 2012/0056681 A1 (published Mar. 8, 2012) (Ex. 1335).

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