

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Intel Corporation
Petitioner

v.

Qualcomm Incorporated
Patent Owner

Case IPR2019-00129
Patent 9,154,356

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

TABLE OF CONTENTS

	Page
I. INTRODUCTION	1
II. THE ALLEGED GROUNDS OF UNPATENTABILITY	3
III. THE '356 PATENT AND ITS PROSECUTION HISTORY	4
A. Overview of the '356 Patent.....	4
B. Prosecution History of the '356 Patent	7
IV. CLAIM CONSTRUCTION	10
A. “carrier aggregation”	10
V. OVERVIEW OF THE CITED REFERENCES.....	30
A. U.S. Patent Pub. No. 2012/0056681 (“Lee”)	30
B. 3GPP TR 36.912 V9.1.0 (2009-12) (“the Feasibility Study”).....	31
C. Digitally-Controlled RF Passive Attenuator in 65 nm CMOS for Mobile TV Tuner ICs (“Youssef”).....	31
VI. GROUND 1: LEE DOES NOT ANTICIPATE CLAIMS 2, 3, 4, 5, OR 6.....	34
A. Claim 1	34
B. Claims 2 through 6	37
VII. GROUND 2: LEE AND YOUSSEF DO NOT RENDER OBVIOUS CLAIM 10	42
VIII. GROUND 3: LEE AND THE FEASIBILITY STUDY DO NOT RENDER OBVIOUS CLAIMS 2, 3, 4, 5, OR 6.....	44
A. Petitioner Fails To Establish That The Feasibility Study Is Analogous Art	45
B. Petitioner Fails To Sufficiently Articulate A Motivation To Combine	45
C. A Person Of Ordinary Skill Would Not Have Been Motivated To Select And Combine Lee And The Feasibility Study.....	48
IX. GROUND 4: LEE, THE FEASIBILITY STUDY, AND YOUSSEF DO NOT RENDER OBVIOUS CLAIM 10	51
X. CONCLUSION.....	52

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

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

Bluetooth); the Feasibility Study is directed to the same type of radio connections (LTE). As another example, Lee discloses an amplification circuit whereas 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 2, 3, 4, 5, and 6 by Lee¹;
- Ground 2: Obviousness under 35 U.S.C. §103 of claim 10 over Lee and Youssef²;

¹ U.S. Publ'n No. 2012/0056681 A1 (published Mar. 8, 2012) (Ex. 1435).

² Ahmed Youssef et al., Digitally-Controlled RF Passive Attenuator in 65 nm CMOS for Mobile TV Tuner ICs, IEEE (2010) (Ex. 1409).

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.