UNITED STATES PATENT AND TRADEMARK OFFICE

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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Intel Corporation
Petitioner

v.

Qualcomm Incorporated
Patent Owner of U.S. Patent No. 8,838,949

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Trial No. IPR2018-01334[1]

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**REPLY DECLARATION OF BILL LIN, PH.D. ON REMAND
ON BEHALF OF PETITIONER**

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[1] IPR2018-01335 and IPR2018-01336 have been consolidated with the instant

proceeding.

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1. I, Bill Lin, Ph.D. declare as follows:

## I. INTRODUCTION

2. I have been retained by Intel Corporation ("Intel" or "Petitioner") as an independent expert consultant in this proceeding before the United States Patent and Trademark Office. I previously prepared and submitted my Opening Declarations in support of the Petitions in IPR2018-01334[2], IPR2018-01335, and IPR2018-01336, dated July 2, 2018 and July 3, 2018 (Exs. 1002, 1020, and 1021). I also submitted my Reply Declaration (Ex. 1023) on September 27, 2019 and my Opening Remand Declaration (Ex. 1026) on April 6, 2022. I submit this Declaration in support of Petitioner's Reply Brief on Remand.

3. Since preparing my Opening, Reply, and Opening Remand Declarations, I have also reviewed the following materials:

- Patent Owner's Response Brief on Remand (Paper 37);

- Exhibits 2011–2014 to Response Brief on Remand;

- Dr. Rinard's Response Declaration on Remand (Exhibit 2015);

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[2] Because IPR2018-01335 and IPR2018-01336 have been consolidated with IPR2018-01334, I have cited to exhibits from IPR2018-01334 throughout, unless noted otherwise.

- Any other document cited in this Declaration.

4.      I am being compensated for my work on this matter, but my opinions are based on my own views of the patent and the prior art.  My compensation in no way depends on the outcome of this proceeding or the content of my testimony.

## II.      QUALIFICATIONS

5.      I described my qualifications in my Opening Declarations.  Ex. 1002 (Lin Op. Decl.) at ¶¶ 1-12; Ex. 1020 (Lin Op. Decl. in IPR2018-01335) at ¶¶ 1-11.

## III.      RELEVANT LAW

6.      In my first Declarations, I set forth the applicable principles of patent law that were provided to me by counsel.  Ex. 1002 (Lin Op. Decl.) at ¶¶ 16-27; Ex. 1020 (Lin Op. Decl. in IPR2018-01335) at ¶¶ 15-26.  As appropriate, I have continued to apply those principles in providing my opinions in this Declaration.

## IV.      PATENT OWNER'S "HARDWARE BUFFER" CONSTRUCTION IS WRONG.

### A.      Patent Owner's Construction Is Not Supported by the Patent Specification.

7.      Patent Owner's construction of "hardware buffer"—"a permanent, dedicated buffer that is distinct from system memory"—should be rejected for several reasons.   Notably, Patent Owner advocates for a construction that amounts to defining a "hardware buffer" as "not a temporary" buffer, a construction that was specifically rejected as "inadequate" by the Federal Circuit.  *Intel v.*

*Qualcomm*, 21 F.4th 801, 811 (Fed. Cir. 2021). Moreover, this construction should be rejected at least because the '949 patent specification does not provide support for (1) excluding all temporary buffers from being a "hardware buffer" or (2) preventing the "hardware buffer" from being located on a system memory separate from the claimed "system memory."

8. First, to support the exclusion of all temporary buffers from the construction of "hardware buffer," Patent Owner cites to various statements in the '949 specification. *See* PO Resp. Br. (Paper 37) at 5 (citing Ex. 1001, 2:17-55, 4:43-47, 5:31-35, 7:16-30, 9:42-50, 11:17-24); *see also* Ex. 2015 (Rinard Remand Decl.) at ¶¶ 23-26. As already discussed in my Opening Remand Declaration, these statements do not evince an intent to exclude temporary buffers. Ex. 1026 (Lin Decl.) at ¶¶ 21-29. Rather, they distinguish only specific uses of a temporary buffer, such as when a temporary stores the entire executable software image. For example, the statement "the direct scatter load technique avoids use of a temporary buffer" is cited by Patent Owner (PO Resp. Br. (Paper 37) at 12 (citing Ex. 1001, 4:46-47); *see also* Ex. 2015 (Rinard Remand Decl.) at ¶ 53) to supposedly demonstrate that the use of a temporary buffer in system memory is distinguished "without qualification." However, as I explained previously, this statement, when read in the context of the surrounding sentences, teaches against the use of a

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