UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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APPLE INC.,

Petitioner

v.

TELEFONAKTIEBOLAGET LM ERICSSON,

Patent Owner

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Inter Partes Review Case No. IPR2022-00648

U.S. Patent No. 9,860,044

DECLARATION OF JACOB ROBERT MUNFORD IN SUPPORT OF PETITION FOR INTER PARTES REVIEW OF U.S. PATENT NO. 9,860,044

1. My name is Jacob Robert Munford. I am over the age of 18, have personal knowledge of the facts set forth herein, and am competent to testify to the same.

2. I earned a Master of Library and Information Science (MLIS) from the University of Wisconsin-Milwaukee in 2009. I have over ten years of experience in the library/information science field. Beginning in 2004, I have served in various positions in the public library sector including Assistant Librarian, Youth Services Librarian and Library Director. I have attached my Curriculum Vitae as Appendix A.

3. During my career in the library profession, I have been responsible for materials acquisition for multiple libraries. In that position, I have cataloged, purchased and processed incoming library works. That includes purchasing materials directly from vendors, recording publishing data from the material in question, creating detailed material records for library catalogs and physically preparing that material for circulation. In addition to my experience in acquisitions, I was also responsible for analyzing large collections of library materials, tailoring library records for optimal catalog

search performance and creating lending agreements between libraries during my time as a Library Director.

4. I am fully familiar with the catalog record creation process in the library sector. In preparing a material for public availability, a library catalog record describing that material would be created. These records are typically written in Machine Readable Catalog (herein referred to as "MARC") code and contain information such as a physical description of the material, metadata from the material's publisher, and date of library acquisition. In particular, the 008 field of the MARC record is reserved for denoting the date of creation of the library record itself. As this typically occurs during the process of preparing materials for public access, it is my experience that an item's MARC record indicates the date of an item's public availability.

5. Typically, in creating a MARC record, a librarian would gather various bits of metadata such as book title, publisher and subject headings among others and assign each value to a relevant numerical field. For example, a book's physical description is tracked in field 300 while title/attribution is tracked in field 245. The 008 field of the MARC record is reserved for denoting the creation of the library record itself. As this is the only date reflecting the inclusion of said materials within the library's collection, it is my experience

that an item's 008 field accurately indicates the date of an item's public availability.

6. This declaration is being drafted as of December 2021. Public and university libraries in my area have been operating for months with restricted access policies due to the COVID-19 pandemic. In my experience, library catalog records are accurate descriptions of a library's collection and my lack of physical access to libraries at this time creates no doubt in my determinations of authenticity or availability of the exhibits noted below.

7. I have reviewed Exhibit 1017, *The UMTS Long Term Evolution: From Theory to Practice* by Stefania Sesia, et. al.

8. Attached hereto as Appendix B is a true and correct copy of the MARC record for *The UMTS Long Term Evolution: From Theory to Practice* as held by the Penn State University library. I secured this record myself from the library's public catalog. The MARC record contained within Appendix B accurately describes the title, author, publisher, and ISBN number of *The UMTS Long Term Evolution: From Theory to Practice.* In comparing Exhibit 1017 to Appendix B, it is my determination that Exhibit 1017 is a

true and correct copy of *The UMTS Long Term Evolution: From Theory to Practice* by Stefania Sesia, et. al.

9. The 008 field of each MARC record in Appendix B indicates the date of record creation. The 008 field of Appendix B indicates the Penn State University library first acquired this book as of September 23, 2008. Considering this information, it is my determination that *The UMTS Long Term Evolution: From Theory to Practice* was made available to the public shortly after its initial acquisition in Fall 2008.

10. I have reviewed Exhibit 1015, *LTE for UMTS-OFDMA and SC-FDMA Based Radio Access* by Harri Holma and Antti Toskala.

11. Attached hereto as Appendix C is a true and correct copy of the MARC record for *The UMTS Long Term Evolution: From Theory to Practice* as held by the University of Michigan library. I secured this record myself from the library's public catalog. The MARC record contained within Appendix C accurately describes the title, author, publisher, and ISBN number of *LTE for UMTS-OFDMA and SC-FDMA Based Radio Access.* In comparing Exhibit 1015 to Appendix C, it is my determination that Exhibit 1015 is a

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