

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CommScope, Inc.
Petitioner,

v.

TQ Delta, LLC,
Patent Owner.

Case No. IPR2023-00064
Patent 8,276,048

DECLARATION OF SYLVIA D. HALL-ELLIS, PH.D.

I, Sylvia D. Hall-Ellis, declare as follows:

I. INTRODUCTION

1. My name is Sylvia D. Hall-Ellis. I have been retained as an expert by CommScope, Inc., the Petitioner.

2. I have written this declaration at the request of the Petitioner to provide my expert opinion regarding the authenticity and public availability of a document. My declaration sets forth my opinions in detail and provides the basis for my opinions regarding the authenticity and public availability of this publication. If called to testify in the above-captioned proceeding, I will testify with regard to the opinions and bases set forth below.

3. I reserve the right to supplement or amend my opinions, and bases for them, in response to any additional evidence, testimony, discovery, argument, and/or other additional information that may be provided to me after the date of this declaration.

4. As of the preparation and signing of this declaration, many libraries across the nation are partially closed or permit only limited access due to the COVID-19 virus. However, were the libraries open, I would expect to be able to obtain paper copies of at least some of the documents in this Declaration. Additionally, it is my typical practice to obtain a paper copy of each publication to

further confirm my opinions. I reserve the right to supplement my declaration when the libraries reopen to provide such information.

5. I am being compensated for my time spent working on this matter at my normal consulting rate of \$325 per hour, plus reimbursement for any additional reasonable expenses. My compensation is not in any way tied to the content of this declaration, the substance of my opinions, or the outcome of this proceeding. I have no other interests in this proceeding or with any of the parties.

6. All of the materials that I considered and relied upon are discussed explicitly in this declaration.

II. QUALIFICATIONS

7. I am currently an Adjunct Professor in the School of Information at San José State University in San José, California. I obtained a Master of Library Science from the University of North Texas in 1972 and a Ph.D. in Library and Information Science from the University of Pittsburgh in 1985. Over the last forty-five years, I have held various positions in the field of library and information resources. I was first employed as a librarian in 1966 and have been involved in the field of library sciences since, holding numerous positions.

8. I am a member of the American Library Association (ALA) and its Association for Library Collections & Technical Services (ALCTS) Division, and I served on the Committee on Cataloging: Resource and Description (which wrote

the new cataloging rules) and as the chair of the Committee for Education and Training of Catalogers and the Competencies and Education for a Career in Cataloging Interest Group. I also served as the founding Chair of the ALCTS Division's Task Force on Competencies and Education for a Career in Cataloging. Additionally, I have served as the Chair for the ALA Office of Diversity's Committee on Diversity, as a member of the REFORMA National Board of Directors, and as a member of the Editorial Board for the ALCTS premier cataloging journal, *Library Resources and Technical Services*. Currently I serve as a Co-Chair for the Library Research Round Table of the American Library Association.

9. I have also given over one hundred presentations in the field, including several on library cataloging systems and Machine-Readable Cataloging ("MARC") standards. My current research interests include library cataloging systems, metadata, and organization of electronic resources.

10. I have been deposed twenty-three times: (1) *Symantec Corp. vs. Finjan, Inc.*, Petition for *Inter Partes Review* of U.S. Patent No. 7,613,926, May 26, 2016, on behalf of Symantec Corp.; (2) *Symantec Corp. vs. Finjan, Inc.*, 14-cv-299-HSG (N.D. Cal.), on behalf of Symantec Corp., September 14, 2017; (3) one deposition for ten matters: *Intellectual Ventures I LLC vs. AT&T Mobility LLC*; *AT&T Mobility II LLC*, New Cingular Wireless

Services, Inc., SBC Internet Services, Inc., Wayport, Inc., and Cricket Wireless LLC, C.A. No. 12-193 (LPS); *Intellectual Ventures II LLC vs. AT&T Mobility LLC*; AT&T Mobility II LLC, New Cingular Wireless Services, Inc., SBC Internet Services, Inc., Wayport, Inc., and Cricket Wireless LLC, C.A. No. 13-1631 (LPS); *Intellectual Ventures I LLC vs. T-Mobile USA, Inc. and T-Mobile US, Inc.*, C.A. No. 13-1632 (LPS); *Intellectual Ventures II LLC vs. T-Mobile USA, Inc. and T-Mobile US, Inc.*, C.A. No. 13-1633 (LPS); *Intellectual Ventures I LLC, vs. Nextel Operations, Inc., Sprint Spectrum L.P., Boost Mobile, LLC and Virgin Mobile USA, L.P.*, C.A. No. 13-1634 (LPS); *Intellectual Ventures II LLC vs. Nextel Operations, Inc., Sprint Spectrum L.P., Boost Mobile, LLC and Virgin Mobile USA, L.P.*, C.A. No. 13-1635 (LPS); *Intellectual Ventures I LLC, vs. United States Cellular Corporation*, C.A. No. 13-1636 (LPS); *Intellectual Ventures I LLC vs. United States Cellular Corporation*, C.A. No. 13-1637 (LPS); *Intellectual Ventures II LLC vs. AT&T Mobility LLC, AT&T Mobility II LLC, New Cingular Wireless Services, Inc.*, C.A. No. 15-799 (LPS); *Intellectual Ventures I LLC vs. T-Mobile USA, Inc. and T-Mobile US, Inc.*, C.A. No. 15-800 (LPS), on behalf of AT&T Mobility LLC; AT&T Mobility II LLC, Boost Mobile, LLC Cricket Wireless LLC, Nextel Operations, Inc., New Cingular Wireless Services, Inc., SBC Internet Services, Inc., Sprint Spectrum L.P., T-Mobile USA, Inc., T-Mobile US, Inc., United States Cellular Corporation Virgin Mobile USA, L.P., and Wayport, Inc.,

November 15, 2016; (4) *Hitachi Maxell, LTD., v. Top Victory Electronics (Taiwan) Co. Ltd., et al.*, 2:14-cv-1121 JRG-RSP (E.D. Texas), on behalf of Top Victory Electronics (Taiwan) Co. LTD, *et. al.*, January 20, 2016; (5) *Sprint Spectrum, L.P. vs. General Access Solutions, Ltd.*, Petition for *Inter Partes Review* of U.S. Patent No. 7,173,916, on behalf of Sprint Spectrum L.P., July 13, 2018; (6) *Nichia Corporation vs. Vizio, Inc.*, 8:16-cv-00545; on behalf of Vizio, Inc., October 12, 2018; (7) *Intellectual Ventures I LLC, vs. T-Mobile USA, Inc., T-Mobile US, Inc., Ericsson Inc., and Telefonaktiebolaget LM Ericsson*, 2:17-cv-00557 (JRG), on behalf of T-Mobile USA, Inc., T-Mobile US, Inc., Ericsson Inc., and Telefonaktiebolaget LM Ericsson, October 19, 2018; (8) *Pfizer, Inc. vs. Biogen, Inc.*, Petition for *Inter Partes Review* of U.S. Patent No. 8,821,873, on behalf of Pfizer, November 3, 2018; (9) *Finjan, Inc. vs. ESET, LLC and ESET SPOL. S.R.O.*, 3:17-cv-00183-CAB-BGS, on behalf of ESET, January 15, 2019; (10) *Finjan, Inc. vs. Cisco Systems, Inc.*, 5:17-cv-00072-BLF-SVK, on behalf of Cisco Systems, Inc., September 6, 2019; (11) *Facebook, Inc., Instagram, LLC and Whatsapp Inc. vs. Blackberry Limited*, Petition for *Inter Partes Review* of U.S. Patent No. 9,349,120 B2, on behalf of Facebook, Inc., Instagram, LLC and Whatsapp Inc. December 20, 2019; (12) *3Shape A/S and 3Shape Inc. v. Align Technology, Inc.*, Petition for *Inter Partes Review* of U.S. Patent No. 7,156,661, IPR 2020-00222 and IPR 2020-00223, August 10, 2020, on behalf of 3Shape A/S

and 3Shape Inc.; (13) *Finjan Inc. v. Rapid7, Inc. and Rapid7 LLC*, Northern District of Delaware; 1:18-cv-01519-MN, September 15, 2020; (14) *VLSI Technology LLC v. Intel Corporation*, Western District of Texas, 6:19-cv-00254, 6:19-cv-00255, 6:19-cv-00256, on behalf of Intel Corporation, September 23, 2020; (15) *Finjan Inc. v. Sonicwall, Inc.*, Northern District of California, 5:17-cv-04467-BLF-HRL, on behalf of Sonicwall, Inc., October 27, 2020; (16) *VLSI Technology, LLC v. Intel Corporation*, District of Delaware, 1:18-cv-00966-CFC-CJB, February 5, 2021, on behalf of the Intel Corporation; (17) *Unified Patents, LLC v. Good Kaisha IP Bridge 1*, Petition for *Inter Partes Review* of U. S. Patent 7,817,868, February 11, 2021, on behalf of Unified Patents; (18) *Finjan, Inc. v. Qualsys, Inc.*, Northern District of California, 4:18-cv-07229-YGR, March 1, 2021, on behalf of Qualsys, Inc.; (19) *Qualcomm, Inc. v. Monterey Research LLC*, Petition for *Inter Partes Review* of U. S. Patent 6,534,805, May 6, 2021, on behalf of Qualcomm, Inc.; (20) *Hulu, LLC v. Sound View Innovations, LLC*, Petition for *Inter Partes Review* of U. S. Patent 5,806,062, May 14, 2021, on behalf of Hulu, LLC; (21) *VLSI Technology LLC v. Intel Corporation*, Western District of Texas, 6:19-cv-00254, 6:19-cv-00255 and 6:19-cv-00256, August 3, 2021, on behalf of Intel Corporation; (22) *Liquidia Technologies, Inc. v. United Therapeutics Corporation*, Petition for *Inter Partes Review* of U. S. Patent 10,716,793 B2, October 20, 2021, on behalf of Liquidia Technologies, Inc.; and, (23) *EcoFactor*,

Inc. v. Google, Inc., Western District of Texas, 6:20-cv-00075 (ADA), 6:20-0078-ADA, and 6:20-cv-00080 ADA, October 27, 2021, on behalf of Google, Inc.

11. My full curriculum vitae is attached hereto as Attachment 1.

III. PRELIMINARIES

A. Scope of Declaration and Legal Standards

12. I am not an attorney and will not offer opinions on the law. I am, however, rendering my expert opinion on the authenticity of the documents referenced herein and on when and how each of these documents was disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising ordinary diligence, could have located the documents before October 12, 2003.

13. I am informed by counsel that a printed publication qualifies as publicly accessible as of the date it was disseminated or otherwise made available such that a person interested in and ordinarily skilled in the relevant subject matter could locate it through the exercise of ordinary diligence.

14. While I understand that the determination of public accessibility under the foregoing standard rests on a case-by-case analysis of the facts particular to an individual publication, I also understand that a printed publication is rendered “publicly accessible” if it is cataloged and indexed by a library such that a person

interested in the relevant subject matter could locate it (*i.e.*, I understand that cataloging and indexing by a library is sufficient, though there are other ways that a printed publication may qualify as publicly accessible). One manner of sufficient indexing is indexing according to subject matter category. I understand that the cataloging and indexing by a single library of a single instance of a particular printed publication is sufficient, even if the single library is in a foreign country. I understand that, even if access to a library is restricted, a printed publication that has been cataloged and indexed therein is publicly accessible so long as a presumption is raised that the portion of the public concerned with the relevant subject matter would know of the printed publication. I also understand that the cataloging and indexing of information that would guide a person interested in the relevant subject matter to the printed publication, such as the cataloging and indexing of an abstract for the printed publication, is sufficient to render the printed publication publicly accessible.

15. I understand that routine business practices, such as general library cataloging and indexing practices, can be used to establish an approximate date on which a printed publication became publicly accessible.

B. Persons of ordinary skill in the art.

16. I am told by counsel that the subject matter of this proceeding relates to resource allocation in a DSL environment.

17. I have been informed by counsel that a “person of ordinary skill in the art at the time of the invention” (“POSITA”) is a hypothetical person who is presumed to be familiar with the relevant field and its literature at the time of the inventions. This hypothetical person is also a person of ordinary creativity, capable of understanding the scientific principles applicable to the pertinent field.

18. I am told by counsel that persons of ordinary skill in this subject matter or art would have had a Bachelor’s degree in electrical engineering, or a related field, and at least 6-7 years of experience in telecommunications or related field; a master’s degree in electrical or computer engineering, or the equivalent, and at least 3-4 years of experience in telecommunications or related field; or a Ph.D. in electrical or computer engineering, or the equivalent, with at least 1-2 years of experience in telecommunications or related field. I understand that additional education could compensate for less practical experience and vice versa. I have been further informed by counsel that a person of ordinary skill in the art would have been familiar with and able to understand the information known in the art relating to these fields, including the publication discussed in this declaration.

19. It is my opinion that such a person would have been engaged in research, learning, study, and practice in the field, and possibly formal instruction so that bibliographic resources relevant to his or her research would be familiar. Before October 12, 2003, such a person would have had access to a vast array of

long-established print resources in DSL development as well as to a rich set of online resources providing indexing information, abstracts, and full text services.

IV. LIBRARY PROFESSIONAL PRACTICES

20. In preparing this declaration, I used authoritative databases, such as the OCLC bibliographic database, the Library of Congress Online Catalog, and the Library of Congress Subject Authorities, to confirm citation details of the various publications discussed. Unless I note otherwise below in reference to a specific serial publication, it is my expert opinion that this standard protocol was followed for the serial publication discussed below.

21. *Indexing.* A researcher may discover material relevant to his or her topic in a variety of ways. One common means of discovery is to search for relevant information in an index of periodicals and other publications. Having found relevant material, the researcher will then normally obtain it online, look for it in libraries, or purchase it from the publisher, a bookstore, a document delivery service, or other provider. Sometimes, the date of a document's public accessibility will involve both indexing and library date information. However, date information for indexing entries is often unavailable. This is especially true for online indices.

22. Indexing services use a wide variety of controlled vocabularies to provide subject access and other means of discovering the content of documents. The Library of Congress Subject Authorities includes standard forms of terms and

cross references that are included in bibliographic records. Subject headings are terms that an individual seeking a document regardless of format can enter in the search bar of the online catalog. Subjects also connect an authenticated term (one included in the Library of Congress subject headings list) with related, broader, and narrower terms. The formats in which these access terms are presented vary from service to service.

23. Online indexing services commonly provide bibliographic information, abstracts, and full-text copies of the indexed publications, along with a list of the documents cited in the indexed publication. These services also often provide lists of publications that cite a given document. A citation of a document is evidence that the document was publicly available and in use by researchers no later than the publication date of the citing document. Prominent indexing services include *Scopus*, the *IEEE Xplore* database, the *ACM Digital Library*, *Google Scholar*, and the *Internet Archive*.

V. PUBLICATION 1: EXHIBIT 1007 (“ETSI STANDARD”)

24. The exhibit filed in this proceeding as Exhibit 1007 is a true and accurate copy of the document *Transmission and Multiplexing (TM); Access Transmission Systems on Metallic Access Cables; Very High Speed Digital Subscriber Line (VDSL); Part 2: Transceiver Specification* (ETSI TS 101 270-2,

Version 1.2.1, July 2003)¹ (hereafter called the “ETSI document”) as captured by me from the Internet by inserting the website address in Microsoft Internet Explorer and downloading the pdf. Exhibit 1007 accurately reflects the contents of the above website link on the date of capture and has not been changed or altered in any way—the text of the ETSI document in Exhibit 1007 is complete; no pages are missing; and, further, there are no visible alterations to the document. It is my opinion that the appearance, contents, substance, and distinctive characteristics of Exhibit 1007 creates no suspicion about its authenticity. As such, it is my opinion that Exhibit 1007 is authentic.

25. I understand that prior to October 12, 2003, ETSI would have been known to persons at least of ordinary skill in the art as a European standards organization that produced technical standards related to telecommunications, including SMS. Furthermore, I understand that persons of ordinary skill in the art would have reasonably considered this organization and its website – <http://www.etsi.org> – as reliable and useful sources of information for research, study, development, or design of systems using SMS and two-way messaging technologies. I understand that the ETSI document is a reliable authority for

¹

https://portal.etsi.org/webapp/workprogram/Report_WorkItem.asp?WKI_ID=1182

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research, study, development, or design of systems using SMS and two-way messaging technologies.

26. Specifically, the text of the ETSI TS 101 270-2, Version 1.2.1, July 2003, is complete; no pages are missing, and the text on each page appears to flow seamlessly from one page to the next; further, there are no visible alterations to the document. Exhibit 1007 was found within the custody of the issuing organization – a place where, if authentic, a copy of this standard would likely be. Exhibit 1007 is a true and correct copy in a condition that creates no suspicion about authenticity.

27. The European Telecommunications Standards Institute (ETSI) published the ETSI document on its July 24, 2003 (see Attachment 1a). A history of the development of ETSI TS 101 270-2, Version 1.2.1 indicates that the document was approved for publication on June 19, 2003 (see Attachment 1b). Given that the ETSI website was accessible to the public prior to or on July 24, 2003, I understand that persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence could have located the ETSI document on the ETSI website using the common search terms discussed above and/or reasonable diligence.

28. Indeed, an interested researcher could have accessed the ETSI website and selected the “Standards” tab. This search engine on the ETSI website is a

promotional tool that allows information seekers to download individual copies of ETSI Publications free of charge and access the complete range of ETSI Publications, including European Standards in the telecommunications series (EN, ETS, I-ETS, EG, ES, ETR, GTS, TBR, TR, TS).

29. This search engine permitted individuals to search for documents based on various criteria including title, scope, technical body name, standard type, and subject. Archived webpages to this search engine were present in at least the three captures indicated above. The ETSI document indicates that it could be searched using a variety of information including the standard type (“TS”) and the keywords “Digital cellular telecommunications system” and “Global System for Mobile communications (GSM).” These are reliable indicators that copies of the ETSI document were available on the ETSI.org website on at least the dates indicated above to persons interested in searching for this information.

30. Furthermore, the ETSI document is dated July 2003, has a header “ETSI TS 101 270-2 V1.2.1 (2003-07),” and includes a copyright date on the second page indicating “© European Telecommunications Standards Institute 2003.” I understand that persons of at least ordinary skill in the art researching documents would rely on these dates as indications of when this document was published.

31. For the foregoing reasons, it is my opinion that Exhibit 1007 was publicly accessible to persons interested in and ordinarily skilled in the art exercising reasonable diligence no later than July 24, 2003 (if not sooner).

VI. SUMMARY OF OPINIONS

32. In view of the foregoing, it is my opinion that the publication described above were publicly available no later than the corresponding date listed in the table below:

| Exhibit | Publication | Publicly Available No Later Than |
|-------------|---|-------------------------------------|
| 1007 | European Telecommunications Standards Institute. Technical Specification. <i>Transmission and Multiplexing (TM); Access Transmission Systems on Metallic Access Cables; Very High Speed Digital Subscriber Line (VDSL); Part 2: Transceiver Specification</i> . ETSI TS 101 270-2, v1.2.1, July 2003. Sophia Antipolis Cedex, France: ETSI, 2003. | July 24, 2003 |

33. In signing this declaration, I recognize that the declaration will be filed as evidence in a contested case before the Patent Trial and Appeal Board of the United States Patent and Trademark Office. I also recognize that I may be subject to cross-examination in the case and that cross-examination will take place within the United States. If cross-examination is required of me, I will appear for cross-examination within the United States during the time allotted for cross examination.

34. I declare that all statements made herein of my knowledge are true,

and that all statements made on information and belief are believed to be true, and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Executed this 4th day of March 2022.



Sylvia D. Hall-Ellis, Ph.D.