

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

WESTERN DIGITAL TECHNOLOGIES, INC.,
Petitioner,

v.

GODO KAISHA IP BRIDGE 1,
Patent Owner.

Case No. IPR2025-00701
U.S. Patent No. 10,367,138

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

I. INTRODUCTION

1. My name is Sylvia D. Hall-Ellis. I have been retained as an expert by Counsel for Western Digital Technologies, Inc. (referred to herein as “Western Digital”).

2. I have written this declaration at the request of Western Digital to provide my expert opinion regarding the authenticity and public availability of a publication. My declaration sets forth my opinions in detail and provides the bases for my opinions regarding the public availability of this publication.

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

4. I am being compensated for my time spent working on this matter at my normal consulting rate 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.

5. All of the materials that I considered are discussed explicitly in this declaration.

II. QUALIFICATIONS

6. I am currently an Adjunct Professor in the School of Information at San José State University. I obtained a Master of Library Science from the University of North Texas in 1972 and a Ph.D. in Library Science from the University of Pittsburgh in 1985. Over the last fifty 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.

7. 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 Chair of the ALCTS Division’s Task Force on Competencies and Education for a Career in Cataloging. Additionally, I 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*, as a Co-Chair of the Membership Committee for the Library Research Round Table (LRRT) of the American Library

Association, and as a member of the LRRT Nominating Committee. Currently I serve as a member of the CORE Margaret Mann Citation Committee.

8. 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.

9. I have been deposed thirty-eight 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.*, Northern District of California, 14-cv-299-HSG, 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

Western Digital v. Godo Kaisha IP Bridge 1

U.S. Patent No. 10,367,138

(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.*, Eastern District of Texas, 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.*, Central District of California, 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*,

Western Digital v. Godo Kaisha IP Bridge 1
U.S. Patent No. 10,367,138
Middle District of Florida, 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., Southern District of California, 3:17-cv-
00183-CAB-BGS, on behalf of ESET, January 15, 2019; (10) *Finjan, Inc. vs.*
Cisco Systems, Inc., Northern District of California, 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 Shape Inc. v. Align*
Technology, Inc., Petition for *Inter Partes Review* of U.S. Patent No. 7,156,661,
IPR2020-00222 and IPR2020-00223, August 10, 2020, on behalf of 3Shape A/S
and 3Shape Inc.; (13) *Finjan Inc. v. Rapid7, Inc. and Rapid7 LLC*, 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

Western Digital v. Godo Kaisha IP Bridge 1

U.S. Patent No. 10,367,138

behalf of the Intel Corporation; (17) *Unified Patents, LLC v. Godo 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.; (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.; (24) *Liquidia Technologies, Inc. v. United Therapeutics Corporation*, Petition for *Inter Partes* Review of U. S. Patent 10,716,793 B2, March 11, 2022, on behalf of Liquidia Technologies, Inc.; (25) *Juniper Networks, Inc. v. Swarm Technology LLC*, Petition for *Inter Partes* Review of U. S. Patent 9,852,004, May 5, 2022, on behalf of Juniper Networks, Inc.; (26) *ParkerVision, Inc. v. Intel Corporation*, Western District of Texas, 6:20-cv-108

Western Digital v. Godo Kaisha IP Bridge 1

U.S. Patent No. 10,367,138

(ADA), October 26, 2022, on behalf of the Intel Corporation; (27) *CommScope v. TQ Delta*, Petition for *Inter Partes Review* of U. S. Patents 9,094,348 and 10,833,809, February 16, 2023, on behalf of CommScope; (28) *WSOU Investments d/b/a Brazos v. Salesforce.com, Inc.* for Western District of Texas, 6:20-cv-01164-ADA and 6:20-cv-01170-ADA, April 18, 2023, on behalf of Salesforce; (29) *Regents of the University of Minnesota v. AT&T Mobility LLC*, District of Minnesota, 14:cv-4999-JRT-TNL & 14-cv-4669-JRT-TNL, May 18, 2023, on behalf of AT & T Mobility LLC; (30) *VLSI Technology LLC v. Intel Corporation*, Northern District of California, 5:17-cv-0571-BLF-NC, July 11, 2023, on behalf of Intel Corporation; (31) *Trustees of Purdue University v. ST Microelectronics*, Western District of Texas, 6:21-cv-00727-ADA, July 27, 2023, on behalf of ST Microelectronics; (32) *Advanced Micro Devices, Inc. v. Realtek Semiconductor Corp.*, Petition for *Inter Partes Review* of U. S. Patents 7,936,245 & 9,590,582, August 10, 2023, on behalf of Advanced Micro Devices, Inc.; (33) *Motif Foodworks, Inc. v. Impossible Foods, Inc.*, Petition for *Inter Partes Review* of U. S. Patent 9,943,096, August 24, 2023, on behalf of Motif Foodworks, Inc.; (34) *Network System Technologies, LLC v. Texas Instruments, Inc.*, Eastern District of Texas, 2:22-cv-00482-RWS, March 20, 2024, on behalf of Texas Instruments, Inc.; (35) *Pardalis Technology Licensing, LLC v. International Business Machines Corporation*, Eastern District of Texas, 2:22-cv-00452, May 23, 2024, on behalf of

Western Digital v. Godo Kaisha IP Bridge 1

U.S. Patent No. 10,367,138

International Business Machines, Corporation; (36) *Pardalis Technology Licensing, LLC v. International Business Machines, Corporation*, Eastern District of Texas, 2:22-cv-00452, May 23, 2024, on behalf of International Business Machines Corporation; (37) *Meta Platforms, InstaGram, Inc., Whatsapp LLC, Facebook Technologies LLC, and Giphy, Inc. v. VL Collective IP LLC*, Petition for *Inter Partes Review* of U. S. Patent 7,436,980, July 18, 2024, on behalf of Meta Platforms, InstaGram, Inc., Whatsapp LLC, Facebook Technologies LLC, and Giphy, Inc.; and, (38) *LCY Biotechnology Holding, Inc. v. RadiciChimica S.p.A*, Petition for *Inter Partes Review* of U. S. Patent 11,781,148, August 6, 2024, on behalf of LCY Biotechnology Holding, Inc. I have testified at trial three times: (1) *Advanced Micro Devices, Inc. v. Realtek Semiconductor Corp.*, U. S. Patents 7,936,245 & 9,590,582, October 20, 2023, International Trade Commission, Washington, DC, on behalf of Advanced Micro Devices, Inc.; (2) *Trustees of Purdue University v. ST Microelectronics*, Western District of Texas, 6:21-cv-00727-ADA, November 29, 2023, on behalf of ST Microelectronics; and, (3) *Certain Power Converter Modules and Computing Systems Containing the Same*, Investigation ITC-337-TA-1370, International Trade Commission, May 1, 2024, on behalf of Delta Electronics, Inc.

10. My full *curriculum vitae* is submitted herewith as Exhibit 1094.

III. PRELIMINARIES

11. *Scope of this declaration.* 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 document referenced herein and on when and how this document was disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, could have located the document.

12. I am informed by counsel that an item is considered authentic if there is sufficient evidence to support a finding that the item is what it is claimed to be. I am also informed that authenticity can be established based on the contents of the documents themselves, such as the appearance, contents, substance, internal patterns, or other distinctive characteristics of the item, taken together with all of the circumstances. I am further informed that an item is considered authentic if it is at least 20 years old, in a condition that creates no suspicion of its authenticity, and in a place where, if authentic, it would likely be. Lastly, I have been informed that a document's authenticity can be established by comparison with an authentic specimen.

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.

A. LEVEL OF ORDINARY SKILL IN THE ART

16. I have been informed by counsel that “one of ordinary skill in the art” at the time of the invention 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.

17. I am told by counsel that one of ordinary skill in the art as of 2004 would have had

- a Ph.D. in electrical engineering, physics, materials science, or a related field, and at least one year of experience in the research, design, and/or development of magnetic/spintronic devices, or the equivalent, or
- a Master’s degree in electrical engineering, physics, materials science, or a related field, and four years of experience in the research, design, and/or development of magnetic/spintronic devices, or the equivalent.

Less work experience may be compensated by a higher level of relevant education, and vice versa. This level of ordinary skill would be the same if the relevant time period were around March 12, 2004, or October 28, 2004, or March 10, 2005.

18. It is my opinion that such a person would have been engaged in research, learning, study, and practice in the field, and formal instruction so that bibliographic resources relevant to his or her research would be familiar. Before October 28, 2004, such a person would have had access to a vast array of print resources in the field as well as to a rich set of online resources providing indexing information, abstracts, and full text services.

IV. LIBRARY PROFESSIONAL PRACTICES

19. *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 periodical 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.

20. Indexing services use a wide variety of controlled vocabularies to provide subject access and other means of discovering the content of documents. The formats in which these access terms are presented vary from service to service.

21. Before the widespread development of online databases to index articles in journals, magazines, conference papers, and technical reports, libraries purchased printed volumes of indices. Graduate library school education mandated that students learn about the bibliographic control of disciplines, the prominent indexing volumes, and searching strategies required to use them effectively and efficiently. Half of the courses that I studied in library school were focused on the bibliography and resources in academic disciplines.

22. Librarians consulted with information seekers to verify citations, check availability in union catalogs, printed books catalogs, and the OCLC database, and make formal requests for materials, *e.g.*, books, conference proceedings, journal articles. Requests were transmitted using Telex machines, rudimentary email systems, and the United States Postal Service. During my career, I have performed and supervised staff who handled these resource sharing tasks.

23. A major firm known for the breadth of subjects and comprehensive treatment in the preparation of index volumes, the H. W. Wilson Company offered these reference resources since the firm was founded in 1898. The *Reader's Guide to Periodical Literature* is one of the best-known titles available from H. W. Wilson. Each volume includes a comprehensive index for 300 of the most popular and important periodicals published in the United States and Canada. Information

seekers have subject access expressed in plain language terminology, author access, and cross references to find the desired results from their searches. The family of index titles included *Science & Technology Index*, *Business Periodicals*, *Applied Science & Technology Index*, *Humanities Index*, *Biological & Agricultural Index*, and *Industrial Arts Index*. These printed indices have been superseded by digital database offerings available to information seekers through Ebsco.

24. 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 no later than the publication date of the citing document.

25. *ResearchGate*.¹ A social networking site designed for scientists and researchers to share papers, ask and answer questions, and find collaborators, *ResearchGate* is the largest academic social network in terms of active users. As of September 2023, ResearchGate had more than 25 million users, with its largest user-bases coming from Europe and North America.²

¹ www.researchgate.net

² <https://en.wikipedia.org/wiki/ResearchGate>

26. Features available to *ResearchGate* members include following a research interest and the work of other individual participants, a blogging feature for users to write short reviews on peer-reviewed articles, private chat rooms for sharing data, editing documents, or discussing confidential topics, and a research-focused job board. *ResearchGate* indexes self-published information on user profiles and suggests members connect with others who have similar interests. Member questions are fielded to others who have identified relevant expertise on their profiles.

27. *ResearchGate* restricts its user accounts to people at recognized institutions and published researchers. Most of *ResearchGate's* users are involved in medicine, biology, engineering, computer science, agricultural sciences, and psychology. *ResearchGate* publishes a citation impact measurement in the form of an “RG Score,” which is reported to be correlated with existing citation impact measures. *ResearchGate* does not charge fees for putting content on the site and does not require peer review.

28. *Semantic Scholar*.³ A project developed at the Allen Institute for Artificial Intelligence and publicly released in November 2015, *Semantic Scholar* is designed to be an AI-backed search engine for scientific journal articles which uses a combination of machine learning, natural language processing, and machine

³ <https://www.semanticscholar.org>

vision to add a layer of semantic analysis to the traditional methods of citation analysis, and to extract relevant figures, entities, and venues from papers. *Semantic Scholar* is designed to highlight important, influential papers, and to identify the connections between them.

29. As of January 2018, following a 2017 project that added biomedical papers and topic summaries, the *Semantic Scholar* corpus included more than 40 million papers from computer science and biomedicine. In March 2018, Doug Raymond, who developed machine learning initiatives for the Amazon Alexa platform, was hired to lead the *Semantic Scholar* project. As of August 2019, the number of included papers had grown to more than 173 million after the addition of the Microsoft Academic Graph records, already used by Lens.org.

30. *Google Scholar*.⁴ Released in beta in November 2004, Google Scholar includes a significant number of peer-reviewed online academic journals, books, conference papers, selected theses and dissertations, preprints, abstracts, technical reports, and other scholarly literature. Google Scholar is a freely accessible web search engine that indexes the full text or metadata of scholarly literature across an array of publishing formats and disciplines. While Google does not publish the size of Google Scholar's database, scientometric researchers estimated it to contain

⁴ <https://scholar.google.com>

roughly 389 million documents including articles, citations and patents making it the world's largest academic search engine in January 2018.

31. Because many of *Google Scholar*'s search results link to commercial journal articles, searchers will be able to access only an abstract and the citation details of an article and may have to pay a fee to access the entire article. The most relevant results for the searched keywords will be listed first, in order of the author's ranking, the number of references that are linked to it and their relevance to other scholarly literature, and the ranking of the publication that the journal appears in. Through its "cited by" feature, *Google Scholar* provides access to abstracts of articles that have cited the article being viewed. Through its "Related articles" feature, *Google Scholar* presents a list of closely related articles, ranked primarily by how similar these articles are to the original result, but also taking into account the relevance of each paper.

32. *Scopus*.⁵ Researchers trust the information and data they discover with *Scopus* because the content comes from over 5,000 publishers that must be reviewed and selected by an independent Content Selection and Advisory Board (CSAB) to be, and continue to be, indexed on *Scopus*.

33. *Scopus* is the largest abstract and citation database of peer-reviewed literature: scientific journals, books, and conference proceedings. Delivering a

⁵ <https://www.elsevier.com/solutions/scopus>

comprehensive overview of the world's research output (more than 69 million items) in the fields of science, technology, medicine, social sciences, and arts and humanities, *Scopus* features smart tools to track, analyze and visualize research.

34. *Scopus* offers free features to non-subscribed users and is available through Scopus Preview. Researchers may use *Scopus* to assist with their research, such as searching authors, and learning more about content coverage and source metrics.

35. *The Institute of Electrical and Electronics Engineers (IEEE)*. IEEE and its members inspire a global community to innovate for a better tomorrow through highly cited publications, conferences, technology standards, and professional and educational activities. IEEE is the trusted “voice” for engineering, computing, and technology information around the globe.⁶

36. The American Institute of Electrical Engineers (AIEE) traces its history to 1884. Its rival, the Institute of Radio Engineers (IRE) was founded in 1912. In 1963 the two professional organizations merged to form the Institute of Electrical and Electronics Engineers⁷ As of 2023, IEEE has over 460,000 members in 190 countries, of whom more than two-thirds live outside of the United States.⁸

⁶ <https://www.ieee.org/>

⁷ https://ethw.org/Formation_of_IEEE_by_the_Merger_of_AIEE_and_IRE

⁸ https://en.wikipedia.org/wiki/Institute_of_Electrical_and_Electronics_Engineers

37. IEEE claims to produce over 30% of the world's literature in the electrical, electronics, and [computer engineering](#) fields, publishing approximately 200 [peer-reviewed journals](#) and magazines in addition to more than 1,700 conference proceedings every year.⁹ Published content in the journals, magazines, and IEEE sponsored conference proceedings are available in the IEEE Electronic Library (IEL)¹⁰ are available through [IEEE Xplore](#) by subscription-based access and individual publication purchases.

38. *IEEE Xplore*. Librarians in academic, special, and large public libraries are familiar with the *IEEE Xplore* database. In working with undergraduate and graduate students, researchers, scientists, and the public, librarians are intimately familiar with the *IEEE Xplore* database and rely on its content for access to reliable, accurate publications. Established to serve as a database for the IEEE's ebooks, standards, conference papers, technical reports, and journal articles, and related documents dating from 1988 to the present and selectively from 1913 to 1987, *IEEE Xplore* is a scholarly research [database](#) that includes over 6 million documents which is known for its reputable curation and maintenance of documents and publication information. The *IEEE Xplore* database accurately reports dates of publications and events and accurately reports locations

⁹ <https://www.ieee.org/about/at-a-glance.html>

¹⁰ <https://innovate.ieee.org/ieee-electronic-library-iel/>

of events in accordance with standard practices for major industry journals.

Approximately 25,000 new documents are added to *IEEE Xplore* each month.

Abstracts are free to access, but access to full text requires a subscription or institutional login.

39. The *IEEE Xplore* requires peer review before publishing content. I have used IEEE publications in print and online for nearly 50 years. Currently I have access to IEEE documents as part of the resources for faculty through the King Library at San José State University.

V. LIBRARY CATALOGING PRACTICES

A. MARC RECORDS AND THE ONLINE LIBRARY CATALOG

40. I am fully familiar with the library cataloging standard known as the MARC standard, which is an industry-wide standard method of storing and organizing library catalog information.¹¹ MARC was first developed in the 1960s by the Library of Congress. A MARC-compatible library is one that has a catalog consisting of individual MARC records for each of its items. Today, MARC is the primary communications protocol for the transfer and storage of bibliographic

¹¹ The full text of the standard is available from the Library of Congress at <http://www.loc.gov/marc/bibliographic/>.

41. MARC is a framework into which descriptive bibliographic data are transcribed to interact with the software in online library catalogs to provide access to books, journals, and other resources in the collection. The bibliographic data provide points of access and can be searched by a person of ordinary skill in the art (“POSITA”) to identify and obtain resources in the library collection. An information seeker (or POSITA) can search a local online library catalog or the holdings of a group of libraries in a state or region or in the global catalog WorldCat.

42. MARC records are not designed for public viewing. Although a significant number of libraries provide access to the MARC version of a bibliographic record, the public display is designed to show information in a succinct manner that is quickly understood and useful to the information seeker.

¹² Almost every major library in the world is MARC-compatible. See, e.g., *MARC Frequently Asked Questions (FAQ)*, Library of Congress, <https://www.loc.gov/marc/faq.html> (last visited February 17, 2025) (“MARC is the acronym for MACHine-Readable Cataloging. It defines a data format that emerged from a Library of Congress-led initiative that began nearly forty years ago. It provides the mechanism by which computers exchange, use, and interpret bibliographic information, and its data elements make up the foundation of most library catalogs used today.”). MARC is the ANSI/NISO Z39.2-1994 (reaffirmed 2016) standard for Information Interchange Format.

Libraries determine the default search for the online catalog to make the entry of search terms efficient and result in a successful search. Information seekers can enter a keyword, title, author, or standard number for the item. Libraries may also provide a search capability called “Summon” that allows the information seeker to enter known information about the item to conduct a search.

43. Since at least the early 1970s and continuing to the present day, MARC has been the primary communications protocol for the transfer and storage of bibliographic metadata in libraries.¹³ As explained by the Library of Congress:

You could devise your own method of organizing the bibliographic information, but you would be isolating your library, limiting its options, and creating much more work for yourself. Using the MARC standard prevents duplication of work and allows libraries to better share bibliographic resources. Choosing to use MARC enables libraries to acquire cataloging data that is predictable and reliable. If a library were to develop a “home-grown” system that did not use MARC records, it would not be taking advantage of an industry-wide standard whose primary purpose is to foster communication of information.

¹³ A complete history of the development of MARC can be found in *MARC: Its History and Implications* by Henrietta D. Avram (Washington, DC: Library of Congress, 1975) and available online from the Hathi Trust (<https://babel.hathitrust.org/cgi/pt?id=mdp.39015034388556;view=1up;seq=1>; last visited February 17, 2025).

Using the MARC standard also enables libraries to make use of commercially available library automation systems to manage library operations. Many systems are available for libraries of all sizes and are designed to work with the MARC format. Systems are maintained and improved by the vendor so that libraries can benefit from the latest advances in computer technology. The MARC standard also allows libraries to replace one system with another with the assurance that their data will still be compatible.

Why Is a MARC Record Necessary? LIBRARY OF CONGRESS,
<http://www.loc.gov/marc/umb/um01to06.html#part2> (last visited February 17, 2025).

44. Examining the MARC records for a specific item reveals the comprehensive data transcribed about a particular item at the time that cataloging and classification occurred. In addition to the creator, title, subjects, and standard numbers, additional information may provide additional and relevant data depending on the type of resource. Understanding the full extent of bibliographic data for an item and the points of access associated with it provides essential information that can be used to determine the indexing and public availability for documents described in this Declaration.

B. MARC RECORDS

45. A MARC record comprises several fields, each of which contains specific data about the work. Each field is identified by a standardized, unique,

three-digit code corresponding to the type of data that follow. For example, a work's title is recorded in field 245, the primary author or creator of the work is recorded in field 100, an item's International Standard Book Number ("ISBN") is recorded in field 020, an item's International Standard Serial Number ("ISSN") is recorded in field 022, an item's Library of Congress call number is recorded in field 050, and the publication date is recorded in field 260 under the subfield "c." *Id.*¹⁴ If a work is a periodical, then its publication frequency is recorded in field 310, alternate publication frequency is recorded in field 321, and the publication dates (*e.g.*, the first and last publication) are recorded in field 362, which is also referred to as the enumeration/chronology field. See <http://www.loc.gov/marc/bibliographic/bd3xx.html> (last visited February 17, 2025).

46. The library that created the record is recorded in Field 040 in subfield "a" with a unique library code. When viewing the MARC record online via Online Computer Library Center's ("OCLC") bibliographic database, hovering over this

¹⁴ In some MARC records, field 264 is used rather than field 260 to record publication information. See <http://www.loc.gov/marc/bibliographic/bd264.html> (last visited February 17, 2025) ("Information in field 264 is similar to information in field 260 (Publication, Distribution, etc. (Imprint)). Field 264 is useful for cases where the content standard or institutional policies make a distinction between functions").

code with the mouse reveals the full name of the library. I used this method of “mousing over” the library codes in the OCLC database to identify the originating library for the MARC records discussed in this Declaration. Where this “mouse over” option was not available, I consulted the Directory of OCLC Libraries to identify the institution that created the MARC record.¹⁵

47. MARC records also include several fields that include subject matter classification information. An overview of MARC record fields is available through the Library of Congress at <http://www.loc.gov/marc/bibliographic/>. For example, 6XX fields are termed “Subject Access Fields.” See <http://www.loc.gov/marc/bibliographic/bd6xx.html>. Among these, for example, is the 650 field; this is the “Subject Added Entry – Topical Term” field. See <http://www.loc.gov/marc/bibliographic/bd650.html>. The 650 field is a “[s]ubject added entry in which the entry element is a topical term.” *Id.* These authenticated subject entries “are assigned to a bibliographic record to provide access according to generally accepted thesaurus-building rules (*e.g.*, *Library of Congress Subject Headings* (LCSH), *Medical Subject Headings* (MeSH)).” *Id.*

48. Further, MARC records include call numbers, which themselves indicate a subject and physical location within the library collections. For example, the 050 field is the “Library of Congress Call Number.” See

¹⁵ <https://www.oclc.org/en/contacts/libraries.html>

<http://www.loc.gov/marc/bibliographic/bd050.html> (last visited April 20, 2024). A

defined portion of the Library of Congress Call Number is the classification number, and “source of the classification number is *Library of Congress Classification* and the *LC Classification-Additions and Changes*.” *Id.* Thus, included in the 050 field is a subject matter classification. Each item in a library has a single classification number. A library selects a classification scheme (*e.g.*, the Library of Congress Classification scheme just described or a similar scheme such as the Dewey Decimal Classification scheme or the National Library of Medicine Classification scheme) and uses it consistently. When the Library of Congress assigns the classification number, it appears as part of the 050 field. If a local library assigns the classification number, it appears in a 090 field. In either scenario, the MARC record includes a classification number that represents a subject matter classification.

49. Each item in a library has a single classification number. A library selects a classification scheme (*e.g.*, the Library of Congress Classification scheme just described or a similar scheme such as the Dewey Decimal Classification scheme) and uses it consistently. When the Library of Congress assigns the classification number, it appears as part of the 050 field, as discussed above. For MARC records created by libraries other than the Library of Congress (*e.g.*, a university library or a local public library), the classification number may appear in

a 09X (*e.g.*, 090) field. See <http://www.loc.gov/marc/bibliographic/bd09x.html>

(last visited February 17, 2025).

C. OCLC

50. The OCLC was created “to establish, maintain and operate a computerized library network and to promote the evolution of library use, of libraries themselves, and of librarianship, and to provide processes and products for the benefit of library users and libraries, including such objectives as increasing availability of library resources to individual library patrons and reducing the rate of rise of library per-unit costs, all for the fundamental public purpose of furthering ease of access to and use of the ever-expanding body of worldwide scientific, literary and educational knowledge and information.”¹⁶ Among other services, OCLC and its members are responsible for maintaining the WorldCat database (<http://www.worldcat.org/>), used by independent and institutional libraries throughout the world.

51. OCLC also provides its members online access to MARC records through its OCLC bibliographic database. When an OCLC member institution acquires a work, it creates a MARC record for this work in its computer catalog

¹⁶ Third Article, Amended Articles of Incorporation of OCLC Online Computer Library Center, Incorporated (available at <https://www.oclc.org/content/dam/oclc/membership/articles-of-incorporation.pdf>).

system in the ordinary course of its business. MARC records created at the Library of Congress were initially tape-loaded into the OCLC database through a subscription to MARC Distribution Services daily or weekly. Once the MARC record is created by a cataloger at an OCLC member institution or is tape-loaded from the Library of Congress, the MARC record is then made available to any other OCLC members online, and therefore made available to the public. Accordingly, once the MARC record is created by a cataloger at an OCLC member institution or is tape-loaded from the Library of Congress or another library anywhere in the world, any publication corresponding to the MARC record has been cataloged and indexed according to its subject matter such that a person interested in that subject matter could, with reasonable diligence, locate and access the publication through any library with access to the OCLC bibliographic database or through the Library of Congress.

52. When an OCLC member institution creates a new MARC record, OCLC automatically supplies the date of creation for that record. The date of creation for the MARC record appears in the fixed field (008), characters 00 through 05. The MARC record creation date reflects the date on which, the item was first acquired or cataloged. Initially, field 005 of the MARC record is automatically populated with the date the MARC record was created in year, month, day format (YYYYMMDD) (some of the newer library catalog systems

also include hour, minute, second (HHMMSS)). Thereafter, the library's computer system may automatically update the date in field 005 every time the library updates the MARC record (*e.g.*, to reflect that an item has been moved to a different shelving location within the library). Field 005 is visible when viewing a MARC record via an appropriate computerized interface. The initial field 005 date (*i.e.*, the date the MARC record was created) does appear. The date upon which the most recent update to field 005 occurred also appears in field 005. Thus, when an item's MARC record has been printed to hardcopy—as is the case with the exhibits to this report—the date reflected next to field 008 is necessarily on or after the date the library first cataloged and indexed the underlying item.

53. Once one library has cataloged and indexed a publication by creating a MARC record for that publication, other libraries that receive the publication do not create additional MARC records—the other libraries instead rely on the original MARC record. They may update or revise the MARC record to ensure accuracy, but they do not replace or duplicate it. This practice does more than save libraries from duplicating labor, it also enhances the accuracy of MARC records. It also allows librarians around the world to know that a particular MARC record is authoritative. In contrast, a hypothetical system wherein duplicative records were created would result in confusion as to which record is authoritative.

54. The date of creation of the MARC record by a cataloger at an OCLC

member institution reflects when the underlying item is accessible to the public.

Upwards of two-thirds to three-quarters of book sales to libraries come from a jobber or wholesaler for online and print resources. These resellers make it their business to provide books to their customers as fast as possible, often providing turnaround times of only a single day after publication. Libraries purchase a significant portion of the balance of their books directly from publishers themselves, which provide delivery on a similarly expedited schedule. In general, libraries make these purchases throughout the year as the books are published and shelve the books as soon thereafter as possible in order to make the books available to their patrons. Thus, books are generally available at libraries across the country within just a few days of publication.

D. JOURNALS

55. Catalogers can create MARC records for all types of print, online, and digital resources. For example, MARC records cover serial publications, including both serially-published monographs and journals. OCLC hosts MARC records for more than 320 million serial publications. Serial publications are those publications that have the same collective title but are intended to be continued indefinitely with enumeration such as a volume or issue number (*e.g.*, magazines, journals, etc.). In the OCLC bibliographic database, the first issue of the serial publication is typically cataloged (*i.e.*, a corresponding MARC record is created),

but the date is left open-ended with the use of a punctuation mark such as a dash.

OCLC serial publication MARC records represent the entire run of the serial title.

With knowledge of the first issue published, future issues can be predicted based on the information provided in the MARC record, for example in field 362. In my extensive professional experience, is it highly unusual for a library to stop collecting and shelving a serial publication prior to the end of its publication run. If a subscription to a serial publication ends its run or is cancelled before the end of its run, the library will denote that it has stopped receiving new volumes by filling in the end date in the MARC record.

56. The handling of printed journal subscriptions is shown on the cover or the first few pages of individual issues. As was the best practice among libraries, issues arrived at a central facility and were immediately received, verified as part of a subscription, checked in, and stamped or labeled with the institution's name and date. Determining that the issue was part of the library subscription ensured that the entire set of publications for the year had been received so that they could be professionally bound and retained. This process also verified that all of the published issues arrived so that the library staff did not have to request or claim an issue that did not arrive as expected. In large public libraries with branches and multi-campus libraries within academic institutions, the journals were sorted and delivered to the subscribing unit. The new issue was placed in the public area; the

older issue was stored so that it remained available.

57. The foregoing process has been standard library practice longer than I have been working in the profession. I first learned the steps in the process in the late 1970s and later supervised it. Although the checking in process has become automated and now links electronically to holdings records for the MARC record for each serial title, the manual placement of a stamp or label and placing the issue in a public area has not changed for 50 years. Unless I note otherwise below in reference to a specific serial publication, it is my expert opinion that this standard protocol was followed for all of the serial publications discussed below.

VI. PUBLICATION

A. “70% TMR at Room Temperature for SDT Sandwich Junctions with CoFeB as Free and Reference Layers” by Dexin Wang, Cathy Nordman, James M. Daughton, Zhenghong Qian, and Jonathon Fink [Exhibit 1095]

58. Attached hereto as Exhibit 1095 is a copy of the journal article titled “70% TMR at Room Temperature for SDT Sandwich Junctions with CoFeB as Free and Reference Layers” by Dexin Wang, Cathy Nordman, James M. Daughton, Zhenghong Qian, and Jonathon Fink (hereafter “Wang”). The Wang article was published in Volume 40, Number 4 of the journal *IEEE Transactions on Magnetism* and was found in the Linda Hall Library of Science, Engineering & Technology (Kansas City, Missouri). The Wang article appears beginning on page 2269 of this issue dated July 2004. Exhibit 1095 is a true and correct copy of the Wang article

(pages 2269-2271) that I understand is being submitted as an exhibit in this proceeding. Specifically, the text of the article 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. The Wang article is also available in the *IEEE Xplore* database¹⁷ and the digital repository *ResearchGate*.¹⁸ The *IEEE Xplore* database indicates that the Wang article was added on July 31, 2004. Exhibit 1095 was found within the custody of a library – a place where an authentic copy of this journal would likely be. Exhibit 1095 is a true and correct copy in a condition that creates no suspicion about its authenticity.

59. Attached hereto as Attachment 1A is a true and correct copy of the MARC record for the journal *IEEE Transactions on Magnetics* at the Linda Hall Library of Science, Engineering & Technology. The library ownership is indicated by the presence of the library's code ("LHL") in field 049. The library continues to update and enhance this MARC record to meet current cataloging rules. The most recent enhancement to Attachment 1A occurred on September 6, 2023, as shown in field 005 ("20230906"). I personally identified and retrieved the MARC record

¹⁷ <https://ieeexplore.ieee.org/document/1325474>

¹⁸

https://www.researchgate.net/publication/3110891_70_TMR_at_Room_Temperature_for_SDT_Sandwich_Junctions_with_CoFeB_as_Free_and_Reference_Layers

60. Based on finding a print copy of Exhibit 1095 in the Linda Hall Library of Science, Engineering & Technology and MARC record in its online library catalog attached as Attachment 1A, it is my opinion that the Wang article published in the journal *IEEE Transactions on Magnetism* was publicly available on or shortly after August 25, 2004, as shown by the library's stamp on the cover and page 3. In common practice these stamps are applied at or around the time the volume is entered into the library's collection and the volume is made available to library patrons within a short time thereafter. Attachment 1A also shows that Exhibit 1095 was catalogued with two descriptor terms reading "Magnetic devices \$v Periodicals" (see Attachment 1B, Library of Congress subject heading sh85079698 and Attachment 1C, Library of Congress subject heading sh85099890) and "Magnetism \$v Periodicals" (see Attachment 1D, Library of Congress subject heading sh85079758 and Attachment 1C, Library of Congress subject heading sh85099890) in the 650 fields.

61. As noted in the holdings information (362 field), the Linda Hall Library of Science, Engineering & Technology has received the journal *IEEE Transactions on Magnetism* since March 1965 and continues to receive the publication. In view of the MARC record for Exhibit 1095, the Wang article was publicly on or shortly after August 25, 2004, because the serial title had been

received, cataloged, and indexed at the Linda Hall Library of Science, Engineering & Technology and made part of its online catalog database.

62. Attached hereto as Attachment 1E is a true and correct copy of the MARC record for the journal *IEEE Transactions on Magnetism* obtained from the OCLC bibliographic database. As previously noted, the library that created the record is recorded in field 040 with a unique library code. For Attachment 1E, that library code is “DLC,” which means that the MARC record for this serial was cataloged at the Library of Congress. As can be seen in field 008 (“Date entered on file”) in the MARC record for this exhibit, a cataloger at the Library of Congress created OCLC record number 3938336 on May 30, 1978 (“780530”). The library continues to update and enhance this MARC record to meet current cataloging rules. The most recent enhancement to Attachment 1E occurred on February 25, 2025, as shown in field 005 (“20250225”). I personally identified and retrieved the MARC record that is Attachment 1E. The “BLvl” entry in Attachment 1E is “s,” which indicates that the journal *IEEE Transactions on Magnetism* is a serial publication. Field 310 of Attachment 1E reads “Monthly, \$b 2005-.” Accordingly, the MARC record for Exhibit 1095 corresponds to the journal *IEEE Transactions on Magnetism* from the time the serial title began and includes the date of the Wang article.

63. Attachment 1E includes an entry in field 050 (“TK454.4.M3 \$b

I48”)—as described above, a subject matter classification number consistent with the Library of Congress classification system (analogous to the Dewey Decimal classification system) and an entry in field 082 (“621.34/05”), a subject matter consistent with the Dewey Decimal classification system. Attachment 1E further includes two descriptor terms reading “Magnetic devices \$v Periodicals” (see Attachment 1B, Library of Congress subject heading sh85079698 and Attachment 1C, Library of Congress subject heading sh85099890) and “Magnetics \$v Periodicals” (see Attachment 1D, Library of Congress subject heading sh85079758 and Attachment 1C, Library of Congress subject heading sh85099890) in the 650 fields. Thus, as of its cataloging, the publication corresponding to the MARC record attached hereto as Attachment 1E was indexed according to its subject matter by virtue of at least three independently sufficient classifications: the field 050 entry, the field 082 entry, and the field 650 entries. As of May 30, 1978, the MARC record attached hereto as Attachment 1E was accessible through any library with access to the OCLC bibliographic database or the online catalog at a library that subscribed to the serial, which means that the corresponding publication was publicly available on or before that same date through any library with access to the OCLC bibliographic database or through an individual library.

64. WorldCat indicates that the journal *IEEE Transactions on Magnetics*

as cataloged at the Library of Congress is currently available from 772 libraries.¹⁹

In view of the above, this issue of the journal *IEEE Transactions on Magnetism* was publicly available on or shortly after August 26, 2004, because by that date it had been cataloged and indexed at the Library of Congress, made part of the OCLC bibliographic database, and received at the Linda Hall Library of Science, Engineering & Technology. For these reasons, it is my opinion that Exhibit 1095 was published and accessible to the public on or shortly after August 25, 2004.

VII. SUMMARY OF OPINIONS

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

Exhibit	Publication	Publicly Available On or After
1095	Wang, Dexin, Cathy Nordman, James M. Daughton, Zhenghong Qian, and Jonathon Fink. “70% TMR at Room Temperature for SDT Sandwich Junctions with CoFeB as Free and Reference Layers.” <i>IEEE Transactions on Magnetism</i> , vol. 40, no. 4 (July 2004): 2269-2271.	August 25, 2004

¹⁹ <https://search.worldcat.org/title/3938336>

66. In signing this Declaration, I recognize that the Declaration will be filed as evidence in a 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.

67. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further 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.

Date: March 4, 2025

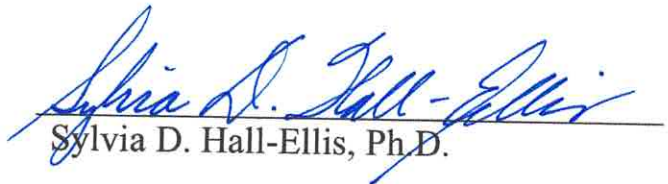

Sylvia D. Hall-Ellis, Ph.D.

EXHIBIT 1A

leader 03132cas a2200697 a 4500
 001 992202673405961
 005 20230906181159.0
 008 780530c19659999nyubr1p 0 a0eng
 010 ##\$a 74004562 //r862 \$zsc 79003495 \$z80643483
 012 ##\$a3 \$b3 \$i8501 \$j0 \$l1
 019 ##\$a1752554 \$a7883757
 022 0#\$a0018-9464
 030 ##\$aIEMGAQ
 035 ##\$a(OCOLC)3938336
 035 ##\$bMULS
 035 ##\$a(Horizon)301815
 035 ##\$a(MoKL)220267-lhalldb
 035 ##\$a(lhalldb)220267-lhalldb
 035 ##\$z(OCOLC)1752554 \$z(OCOLC)7883757
 040 ##\$aDLC \$cDLC \$dNSD \$dSER \$dNSD \$dAIP \$dDLC \$dAIP \$dOCL \$dNSD \$dNST \$dHUL
 \$dNST \$dMYG \$beng
 042 ##\$alc \$ansdp
 049 ##\$aLHLA
 050 00\$aTK454.4.M3 \$bI48
 210 0#\$aIEEE trans. magn.
 222 #0\$aIEEE transactions on magnetics
 245 00\$aIEEE transactions on magnetics.
 246 23\$aInstitute of Electrical and Electronics Engineers transactions on magnetics
 260 ##\$aNew York, N.Y. : \$bPublished by the Institute of Electrical and Electronics Engineers for
 the Magnetism Group, \$cc1965-
 310 ##\$aBimonthly, \$b1975-
 321 ##\$aQuarterly, \$b1965-1974
 362 0#\$aVol. MAG-1, no. 1 (Mar. 1965)-
 510 1#\$aComputer & control abstracts, \$x0036-8113 \$b1968-
 510 1#\$aElectrical & electronics abstracts, \$x0036-8105 \$b1968-
 510 1#\$aIndex to IEEE publications, \$x0099-1368
 510 1#\$aPhysics abstracts. Science abstracts. Series A, \$x0036-8091 \$b1968-
 510 2#\$aChemical abstracts, \$x0009-2258
 510 2#\$aCoal abstracts, \$x0309-4979
 510 2#\$aEnergy research abstracts, \$x0160-3604
 510 2#\$aEngineering index annual (1968), \$x0360-8557
 510 2#\$aEngineering index bioengineering abstracts, \$x0736-6213
 510 2#\$aEngineering index energy abstracts, \$x0093-8408
 510 2#\$aEngineering index monthly (1984), \$x0742-1974
 510 2#\$aInternational aerospace abstracts, \$x0020-5842
 510 0#\$aNuclear science abstracts, \$x0029-5612
 550 ##\$alssued by: IEEE Magnetism Group, 1965-1971; IEEE Magnetism Society, 1972-<Sept.
 1990>.
 555 ##\$aCumulative index: 1-10(1965-74); 11-20(1975-84); 21-36(1985-2000) (publ. as v.37,
 no.6 pt. II)
 562 ##\$aTitle received on deposit; do not claim as of 9.10.2010.

580 ##\$aSept. issues, 1966-<1990> (the Nov. issue, 1988), and Dec. issues, 1968-1971, include
papers from the annual Intermag Conference, formerly issued separately.

650 #0\$aMagnetic devices \$vPeriodicals.

650 #0\$aMagnetics \$vPeriodicals.

710 2#\$aInstitute of Electrical and Electronics Engineers. \$bMagnetics Group

710 2#\$aIEEE Magnetics Society

711 2#\$aIntermag Conference

780 15\$aIntermag Conference. \$tProceedings of the Intermag Conference \$w(OCOLC)3763003
\$w(DLC)sn 92032095

850 ##\$aCU-S \$aCaOTDT \$aCtY-KS \$aDLC \$aFU \$aICU \$alnLP \$aMCM \$aMH-GM \$aMnU \$aNN
\$aNNC \$aNcD \$aPU \$aTU \$aTxArU \$aTxDaM

890 ##\$aIEEE transactions on magnetics.

901 ##\$cSer

936 ##\$aVol. 26, no. 5 (Sept. 1990) LIC

945 ##\$aIEEE transactions on magnetics. \$bIEEE transactions on magnetics.

948 ##\$aLTI 09/01/2008

948 ##\$aLTI 10/19/2010

EXHIBIT 1B

[The Library of Congress](#)>> [Go to Library of Congress Online Catalog](#)

LIBRARY OF CONGRESS AUTHORITIES

[Help](#)[New Search](#)[Search History](#)[Headings List](#)[Start Over](#)< [Previous](#)[Next](#) >[MARC Display](#)[Labelled Display](#)

LC control no.: sh 85079698

LCCN Permalink: <https://lcn.loc.gov/sh85079698>

HEADING: Magnetic devices

000 00493cz a2200193n 450

001 4730297

005 20120326102453.0

008 860211i| anannbabn |a ana

010 __ |a sh 85079698

035 __ |a (DLC)sh 85079698

035 __ |a (DLC)7773421

035 __ |a (DLC)sp 85079698

035 __ |a (DLC)414885

040 __ |a DLC |c DLC |d DLC

053 _0 |a TK7872.M25

150 __ |a Magnetic devices

550 __ |w g |a Electrical engineering |x Equipment and supplies

906 __ |t 0908 |u tc09 |v 0

953 __ |a xx00 |b td13

< [Previous](#) [Next](#) >**Save, Print or Email Records (View [Help](#))**Select Download Format: [Text \(Labelled Display\)](#)

Email Text (Labelled Display) to:

[Help](#) - [Search](#) - [Search History](#) - [Headings List](#) - [Start Over](#)**Library of Congress**URL: <https://www.loc.gov/>

Mailing Address:

101 Independence Ave,
S.E.**Library of Congress Authorities**URL: <http://authorities.loc.gov/>**Library of Congress Online Catalog**URL: <https://catalog.loc.gov/>Questions, comments, error reports: [Contact Us](#)

WD EX1093

Western Digital v IP Bridge

Page 43

2/26/2025, 3:13 PM

Washington, DC 20540

EXHIBIT 1C

[The Library of Congress](#)>> [Go to Library of Congress Online Catalog](#)

LIBRARY OF CONGRESS AUTHORITIES

[Help](#)[New Search](#)[Search History](#)[Headings List](#)[Start Over](#)[Previous](#)[Next](#)[MARC Display](#)[Labelled Display](#)**LC control no.:** sh 85099890**LCCN Permalink:** <https://lcn.loc.gov/sh85099890>**HEADING:** Periodicals

000 01324cz a2200337n 450

001 4749694

005 20120717060125.0

008 860211 | anannbabn |b ana

010 __ |a sh 85099890

035 __ |a (DLC)sh 85099890

035 __ |a (DLC)6226910

035 __ |a (DLC)sp 85099890

035 __ |a (DLC)314952

040 __ |a DLC |c DLC |d DLC

053 _0 |a AP |c General periodicals

053 _0 |a PN4700 |b PN5650 |c History

150 __ |a Periodicals

360 __ |i subdivision |a Periodicals |i under specific subjects, e.g. |a Engineering--Periodicals; United States--History--Periodicals

450 __ |a Journals (Periodicals)

450 __ |a Magazines

550 __ |w g |a Library materials

550 __ |w g |a Mass media

550 __ |w g |a Serial publications

550 __ |a Newspapers

550 __ |a Press

670 __ |a UMI business vocab. |b (Journals)

680 __ |i Here are entered works on the periodicals of the world and, with appropriate subdivisions, works on special aspects or sections of periodicals. Works on periodicals in a specific language, or in a specific country or larger area, are entered under the adjectival form of the language or area, e.g. |a Arabic periodicals; Canadian periodicals.

906 __ |t 0420 |u te03 |v 0

910 __ |a Proposal saved by tc03 on 05/14/2012 at 17:15:30

953 __ |a xx00 |b td14

906 __ |t 1206 |v 0

WD EX1093

Western Digital v IP Bridge

Page 46

2/26/2025, 3:14 PM

◀ Previous Next ▶

Save, Print or Email Records (View Help)	
Select Download Format:	Text (Labelled Display) Press to SAVE or PRINT
Email Text (Labelled Display) to:	Press to SEND EMAIL

[Help](#) - [Search](#) - [Search History](#) - [Headings List](#) - [Start Over](#)

**Library of Congress**URL: <https://www.loc.gov/>*Mailing Address:*101 Independence Ave,
S.E.
Washington, DC 20540**Library of Congress Authorities**URL: <http://authorities.loc.gov/>**Library of Congress Online Catalog**URL: <https://catalog.loc.gov/>**Questions, comments, error reports:** [Contact Us](#)

EXHIBIT 1D

[The Library of Congress](#)>> [Go to Library of Congress Online Catalog](#)

LIBRARY OF CONGRESS AUTHORITIES

[Help](#)[New Search](#)[Search History](#)[Headings List](#)[Start Over](#)< [Previous](#)[Next](#) >[MARC Display](#)[Labelled Display](#)

LC control no.: sh 85079758

LCCN Permalink: <https://lcn.loc.gov/sh85079758>

HEADING: Magnetics

000 00461cz a2200193n 450

001 4730357

005 20120326102458.0

008 860211|| anannbabn |b ana

010 __ |a sh 85079758

035 __ |a (DLC)sh 85079758

035 __ |a (DLC)7773426

035 __ |a (DLC)sp 85079758

035 __ |a (DLC)414886

040 __ |a DLC |c DLC |d DLC

150 __ |a Magnetics

550 __ |w g |a Electrical engineering

550 __ |a Magnetism

906 __ |t 0908 |u tc09 |v 0

953 __ |a xx00 |b td13

< [Previous](#) [Next](#) >**Save, Print or Email Records (View [Help](#))**Select Download Format: [Text \(Labelled Display\)](#)

Email Text (Labelled Display) to:

[Help](#) - [Search](#) - [Search History](#) - [Headings List](#) - [Start Over](#)**Library of Congress**URL: <https://www.loc.gov/>

Mailing Address:

101 Independence Ave,
S.E.**Library of Congress Authorities**URL: <http://authorities.loc.gov/>**Library of Congress Online Catalog**URL: <https://catalog.loc.gov/>Questions, comments, error reports: [Contact Us](#)

WD EX1093

Western Digital v IP Bridge

Page 49

2/26/2025, 3:15 PM

Washington, DC 20540

EXHIBIT 1E

Bibliographic Record - OCLC Number: 3938336

LDR	Record Status	'c' - Corrected or revised
	Type of Record	'a' - Language material
	Bibliographic Level	's' - Serial
	Type of Control	' ' - No specified type of control
	Encoding Level	' ' - Full level
	Descriptive Cataloging Form 'a' - AACR2	
001	3938336	
005	20250225093005.8	
008	Date Entered on File	'780530'
	Type of Date/Publication Status	'c' - Continuing resource currently published
	Date1/Beginning Date of Publication	'1965'
	Date2/Ending Date of Publication	'9999'
	Place of Publication, Production, or Execution Code	'nyu' - New York
	Frequency	'm' - Monthly
	Regularity	'r' - Regular
	Type of Continuing Resource	'p' - Periodical
	Form of Original Item	' ' - None of the following
	Form of Item	' ' - None of the following
	Nature of Entire Work	' ' - No specified nature of entire work
	Nature of Contents	' '
	Government Publication	' ' - Not a government publication
	Conference Publication	'0' - Not a conference publication
	Original Alphabet or Script of Title	'a' - Basic Roman
	Entry Convention	'0' - Successive entry
	Language Code	'eng' - English
	Modified Record	' ' - Record is not modified
	Cataloging Source Code	' ' - National bibliographic agency
010	74004562 \$z sc 79003495 \$z 80643483	
040	DLC \$b eng \$c DLC \$d NSD \$d SER \$d NSD \$d AIP \$d DLC \$d AIP \$d OCL \$d NSD \$d N ST \$d HUL \$d NST \$d MYG \$d DLC \$d MYG \$d CUS \$d OCL \$d MYG \$d HNK \$d IEEEX \$d OCLCQ \$d LYU \$d OCLCQ \$d DLC \$d LVB \$d ZYU \$d NSD \$d BOS \$d OCLCQ \$d O CLCF \$d IUL \$d UMC \$d GILDS \$d UKMGB	
012	3 \$b 3 \$i 8501 \$j 0 \$l 1	
016	7	009845015 \$2 Uk
019	1752554 \$a 7883757 \$a 185059536 \$a 223775860 \$a 255607947 \$a 963693404 \$a 977971391 \$a 1049348135 \$a 1064842865 \$a 1066866479 \$a 1242833512 \$a 1246489776	
022	0	0018-9464 \$l 0018-9464 \$2 1
030	IEMGAQ	
042	pcc \$a nsdp	
050	0 0	TK454.4.M3 \$b I48
050	1 4	QC761 \$b .F65
082	0 4	621.34/05
210	0	IEEE trans. magn.

222 0 IEEE transactions on magnetics
 245 0 0 IEEE transactions on magnetics.
 246 3 Institute of Electrical and Electronics Engineers transactions on magnetics
 260 New York, N.Y. : **\$b** Published by the Institute of Electrical and Electronics Engineers for the Magnet
 ics Group, **\$c** ©1965-
 300 volumes : **\$b** illustrations, portraits ; **\$c** 28-29 cm
 310 Monthly, **\$b** 2005-
 321 Quarterly, **\$b** 1965-1974
 321 Bimonthly, **\$b** 1975-2004
 336 text **\$b** txt **\$2** rdacontent
 337 unmediated **\$b** n **\$2** rdamedia
 338 volume **\$b** nc **\$2** rdacarrier
 362 0 Vol. MAG-1, no. 1 (Mar. 1965)-
 500 Title from cover.
 510 2 Chemical abstracts **\$x** 0009-2258
 515 Issues for <Sept. 2003-> issued in 2 pts.
 530 Cumulative index for 1985-2000 also issued on CD-ROM.
 550 Issued by: IEEE Magnetism Group, 1965-1971; IEEE Magnetism Society, 1972-<2007>.
 555 Cumulative index: Vols. MAG-1 (1965)-MAG-10 (1974). 1 v.; v. MAG-11 (1975)-MAG-20 (1984). 1
 v.; 1985-2000. 1 v.
 580 Sept. issues, 1966- (the Nov. issue, 1988), and Dec. issues, 1968-1971, include papers from the annual
 Intermag Conference, formerly issued separately.
 588 Latest issue consulted: Vol. 43, no. 5 (May 2007).
 588 Latest issue consulted: Vol. 52, no. 12 (Dec. 2016) (surrogate).
 650 0 Magnetic devices **\$v** Periodicals.
 650 0 Magnetism **\$v** Periodicals.
 650 6 Dispositifs magnétiques **\$v** Périodiques.
 650 6 Substances magnétiques **\$v** Périodiques.
 650 7 Magnetic devices. **\$2** fast **\$0** (OCoLC)fst01005678
 650 7 Magnetism. **\$2** fast **\$0** (OCoLC)fst01005823
 655 7 Periodicals. **\$2** fast **\$0** (OCoLC)fst01411641
 655 7 Periodicals. **\$2** lcgft
 710 2 Institute of Electrical and Electronics Engineers. **\$b** Magnetism Group.
 710 2 IEEE Magnetism Society.
 711 2 Intermag Conference.
 776 0 8 **\$i** Online version: **\$t** IEEE transactions on magnetism (Online) **\$x** 1941-0069 **\$w** (DLC) 200821290
 7 **\$w** (OCoLC)44580412
 780 0 5 Intermag Conference. **\$t** Proceedings of the Intermag Conference **\$w** (DLC) 72018579 **\$w** (OCoLC)
 3763003
 850 CU-S **\$a** CaOTDT **\$a** CtY-KS **\$a** DLC **\$a** FU **\$a** ICU **\$a** InLP **\$a** MCM **\$a** MH-GM **\$a** MnU
\$a NN **\$a** NNC **\$a** NcD **\$a** PU **\$a** TU **\$a** TxArU **\$a** TxDaM
 856 4 1 **\$u** <http://ieeexplore.ieee.org/servlet/opac?punumber=20>
 891 2 0 **\$9** 853 **\$8** 1 **\$a** v. **\$b** no. **\$u** 6 **\$v** r **\$i** (year) **\$j** (month) **\$w** b **\$x** 01
 891 4 1 **\$9** 863 **\$8** 1.1 **\$a** <37> **\$b** <1> **\$i** <2001> **\$j** <01>
 029 1 NZ1 **\$b** 3010978

029 1 AU@ \$b 000000905856
029 1 AU@ \$b 000023971019
029 1 AU@ \$b 000050757233
029 1 ZWZ \$b 038720787
029 1 UKMGB \$b 009845015
029 1 AU@ \$b 000023971887
029 1 AU@ \$b 000077735669
029 1 AU@ \$b 000078987569