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. IPR2024-01493
Patent No. 10,680,167

NOTICE OF FILING PATENT OWNER'S DEMONSTRATIVE EXHIBITS

LISTING OF EXHIBITS

Exhibit	Description
2001	Kittel, C., *Introduction to Solid State Physics*, 6th Edition, 1986, pgs. 13-15, 18, 23 ("Kittel")
2002	Duke, C.B., *Tunneling in Solids*, Solid State Physics: Advances in Research and Applications, 1969, pgs. 1, 6-7, 34-35, 78-79 ("Duke")
2003	Definition of "ferromagnetism," Oxford English Reference Dictionary, Second Edition, pg. 513 ("Oxford English Reference Dictionary")
2004	"Ferromagnetism," The New Encyclopedia Britannica: Volume 4, 15th Edition, 2003, pgs. 748-749 ("Britannica")
2005	J-G Zhu and C. Park. "Review Feature: Magnetic tunnel junctions," *Materials Today*, vol. 9, no. 11, 2006, pp. 36-45 ("Zhu")
2006	Djayaprawira, D. et al. "230% room-temperature magnetoresistance in CoFeB/MgO/CoFeB magnetic tunnel junctions," *Applied Physics Letters*, vol. 86, no. 9, 2005, pp. 092502-1 to -3
2007	Yuasa, S., et al. "High Tunnel Magnetoresistance at Room Temperature in Fully Epitaxial Fe/MgO/Fe Tunnel Junctions due to Coherent Spin-Polarized Tunneling," *Japanese Journal of Applied Physics*, vol. 43, no. 4B, 2004, p. L588
2008	Yuasa, S., et al. "Giant room-temperature magnetoresistance in single crystal Fe/MgO/Fe magnetic tunnel junctions," *Nature Materials*, vol. 3, no. 12, 2004, pp. 868-871
2009	Callister, W.D., *Fundamentals of Materials Science and Engineering, An Integrated Approach*, Department of Metallurgical Engineering, The University of Utah, Second Edition, 2005, pgs. 36-37, G1 ("Callister")
2010	U.S. Patent No. 6,590,803 to Saito et al. ("the '803 Patent")
2011	U.S. Patent Application Publication No. 2002/0036877 to Sakakima et al. ("Sakakima")

Exhibit	Description
2012	U.S. Patent No. 6,917,492 to Matsukawa et al. (“the ’492 Patent”)
2013	S. Yuasa et al. “Characterization of growth and crystallization processes in CoFeB / MgO / CoFeB magnetic tunnel junction structure by reflective high-energy electron diffraction,” *Applied Physics Letters*, vol. 87, no. 24, p. 242503, 2005.
2014	Definitions of “crystalline” and “crystallize,” Webster’s Encyclopedic Unabridged Dictionary of the English Language (1989)
2015	Definitions of “anneal,” “crystalline” and “crystallized,” Webster’s Ninth New Collegiate Dictionary (1984)
2016	Gleiter, H. “Nanostructured Materials: Basic Concepts and Microstructure,” *Acta Materialia*, vol. 48, no. 1, pp. 1-29 (2000)
2017	Deposition of Jeffrey Bokor, Ph.D. (June 24, 2025)
2018	Deposition of Jeffrey Bokor, Ph.D. (June 25, 2025)
2019	Marrows, C.H. “Spin-polarised currents and magnetic domain walls,” *Advances in Physics*, vol. 52, no. 8, 2005, pp. 585-713
2020	Tsymbal, E., et al., *Handbook of Spin Transport and Magnetism*, 2012
2021	RESERVED
2022	Nakatani, T., et al. “Read sensor technology for ultrahigh density magnetic recording,” *MRS Bulletin, Materials Research Society*, vol. 43, no. 2, 2018, pp. 106-111
2023	Jiang, B., et al. “Tunneling magnetoresistive devices as read heads in hard disk drives,” *Journal of Magnetism and Magnetic Materials*, vol. 571, 2023, p. 170546
2024	The 23rd (FY2022) Japan Society of Applied Physics Achievement Award Recipients (with English translation), The Japan Society of Applied Physics, *available at* https://www.jsap.or.jp/outstanding-achievementaward/recipients/recipients23

Exhibit	Description
2025	RESERVED
2026	2021 New Fellows, IEEE Japan Council, *available at* https://ieeejp.org/en/kaiin/fellow/fellow21.html
2027	JST owned patent wins Future Creative Invention Prize at the National Invention Award 2021, Japan Science and Technology Agency, available at https://www.jst.go.jp/report/2021/210525_e.html
2028	Dr. Shinji Yuasa profile, *available* at https://www.jst.go.jp /impact/sahashi/en/system/index.html
2029	AIST wins three Science and Technology Awards in the 2016 Minister of Education, Culture, Sports, Science and Technology Commendation for Science and Technology, *available at* https://www.aist.go.jp /aist_j/news/prize/pr20160412_3.html
2030	Yuasa, S., "IEEE Magnetics Society Distinguished Lecturers for 2012: Magnetoresistance and Spin-Transfer Torque in Magnetic Tunnel Junctions," *IEEE Transactions on Magnetics*, vol. 48, no. 1, 2012, p.3
2031	Shinji Yuasa – IEEE Magnetics Society, available at https://ieeemagnetics.org/contact/shinji-yuasa#biography
2032	AIST, "Winner of the 20th Tsukuba Award," *available at* https://www.aist.go.jp/aist_j/news/prize/itemid025-000077.html
2033	Announcing the winners for "Tsukuba Prize," "Esaki Leona Prize," and "Tsukuba Encouragement Prize": Ibaraki Prefectural Science and Technology Promotion Foundation (with English translation), *available at* https://www.tsukuba-sci.com/cms/?p=9853
2034	AIST: 34th Inoue Harunari Prize, *available at* https://www.aist.go.jp/aist_j/news/prize/itemid025-000082.html
2035	Technological seeds that overcome the valley of death (Shinji Yuasa/Head of the Spintronics Group, National Institute of Advanced Industrial Science and Technology), *available at* https://scienceportal.jst.go.jp/explore/highlight/20090717_01/

Exhibit	Description
2036-2037	RESERVED
2038	Maat, S., et al. "Physics and Design of Hard Disk Drive Magnetic Recording Read Heads," *Handbook of Spintronics*, 2014
2039	Butler, et al. "Magnetic Memory: A signal boost is in order," *Nature Materials*, vol. 3, no. 12, 2004, pp. 845-847
2040-2047	RESERVED
2048	M. Ohring, *The Materials Science of Thin Films*, Academic Press (1992).
2049-2051	RESERVED
2052	Google Scholar data page for Djayaprawira, D. et al. "230% room-temperature magnetoresistance in CoFeB/MgO/CoFeB magnetic tunnel junctions," *Applied Physics Letters*, vol. 86, no. 9, 2005, pp. 092502-1 to -3
2053	Declaration of Caroline Ross, Ph.D.
2054	CV of Dr. Caroline Ross, Ph.D.
2055	Japanese Patent No. JP 5120680 B2 with certified English translation
2056	File History of U.S. Patent Application No. 10/824835 (EX1092 in *Western Digital v. IP Bridge*, IPR2025-00701)
2057	Google Scholar data page for Yuasa, S., et al. "Giant room-temperature magnetoresistance in single crystal Fe/MgO/Fe magnetic tunnel junctions," *Nature Materials*, vol. 3, no. 12, 2004, pp. 868-871
2058	Saito, Y., et al. "Correlation between Barrier Width, Barrier Height, and DC Bias Voltage Dependences on the Magnetoresistance Ratio in Ir–Mn Exchange Biased Single and Double Tunnel Junctions," *Jpn. J. Appl. Phys*., vol. 39 (2000), pp. L 1035–L 1038.

Exhibit	Description
2059	Powder diffraction file for Au, from Joint Committee of Powder Diffraction Standards (JCPDS), The International Centre for Diffraction Data, icdd.com
2060	I. Petrov et al. "Microstructural evolution during film growth," *Journal of Vacuum Science & Technology A: Vacuum, Surfaces, and Films*, vol. 21, no.5, 2003, pp. S117-S128 ("Petrov")
2061	E. Krikorian and R.J. Sneed. "Nucleation, Growth and Transformation of Amorphous and Crystalline Solids Condensing From the Gas Phase," *Astrophysics and Space Science*, vol. 65, 1979, pp. 129-154 ("Krikorian")
2062	M.O. Aboelfotoh. "Crystal Structure of Evaporated MgO Films on Amorphous and Polycrystalline Substrates," *Journal of Vacuum Science and Technology*, vol. 10, no. 5, 1973, pp. 621-625
2063	Errata to EX2017 - Deposition of Jeffrey Bokor, Ph.D. (June 24, 2025)
2064	Errata to EX2018 - Deposition of Jeffrey Bokor, Ph.D. (June 25, 2025)
2065-2071	RESERVED
2072	EX2024 - The 23rd (FY2022) Japan Society of Applied Physics Achievement Award Recipients (with English translation), The Japan Society of Applied Physics, https://www.jsap.or.jp/outstanding-achievementaward/recipients/recipients23 with Amended Certification of Translation **[SUPPLEMENTAL EVIDENCE - NOT FILED]**
2073	Certified English Translation of EX2029 - AIST wins three Science and Technology Awards in the 2016 Minister of Education, Culture, Sports, Science and Technology Commendation for Science and Technology, *available at* https://www.aist.go.jp /aist_j/news/prize/pr20160412_3.html **[SUPPLEMENTAL EVIDENCE - NOT FILED]**

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2074	Certified English Translation of EX2032 - AIST, "Winner of the 20th Tsukuba Award," *available at* https://www.aist.go.jp/aist_j/news/prize/itemid025-000077.html **[SUPPLEMENTAL EVIDENCE - NOT FILED]**
2075	Certified English Translation of EX2034 - AIST: 34th Inoue Harunari Prize, *available at* https://www.aist.go.jp/aist_j/news/prize/itemid025-000082.html **[SUPPLEMENTAL EVIDENCE - NOT FILED]**
2076	Certified English Translation of EX2035 - Technological seeds that overcome the valley of death (Shinji Yuasa/Head of the Spintronics Group, National Institute of Advanced Industrial Science and Technology), *available at* https://scienceportal.jst.go.jp/explore /highlight/20090717_01/ **[SUPPLEMENTAL EVIDENCE - NOT FILED]**
2077	Declaration of Caroline Ross, Ph.D. **[SUPPLEMENTAL EVIDENCE - NOT FILED]**
2078	Declaration of Dara Del Rosario **[SUPPLEMENTAL EVIDENCE - NOT FILED]**
2079	Transcript of October 29, 2025 Board Conference Call
2080	U.S. Patent Application Ser. No. 10/824,835 [cited as deposition EX2079 in EX2085, Deposition of Jeffrey Bokor, Ph.D. (Oct. 30, 2025)]
2081	U.S. Patent Application Ser. No. 10/646,246
2082-2084	RESERVED
2085	Transcript of Deposition of Jeffrey Bokor, Ph.D. (Oct. 30, 2025)
2086	Transcript of Deposition of Jeffrey Bokor, Ph.D. (Oct. 31, 2025)
2087	RESERVED

Exhibit	Description
2088	Errata to EX2085 - Deposition of Jeffrey Bokor, Ph.D. (Oct. 30, 2025)
2089	Errata to EX2086 - Deposition of Jeffrey Bokor, Ph.D. (Oct. 31, 2025)
2090	Patent Owner's Demonstrative Exhibits

Pursuant to 37 CFR § 42.6(e)(4)(ii), and the Board's Hearing Order, Patent Owner herewith submits the following Exhibit:

Exhibit	Description
2090	Patent Owner's Demonstrative Exhibits

Respectfully submitted,
Godo Kaisha IP Bridge 1

Date: January 21, 2026

/Adam R. Wichman/

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CERTIFICATE OF SERVICE UNDER 37 C.F.R. § 42.6 (e)(4)

I certify that on January 21, 2026, a copy of the foregoing document, including any exhibits filed therewith, is being served via electronic mail, as previously consented to by Petitioner, upon the following:

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Date: January 21, 2026

/Dara Del Rosario/
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