UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.; AND
SAMSUNG ELECTRONICS AMERICA, INC.,
Petitioner

v.
OURARING, INC.,
Patent Owner

Case No. PGR2024-00039
U.S. Patent No. 11,874,702

PETITIONER'S UPDATED LIST OF EXHIBITS

LIST OF EXHIBITS[1]

Ex. No.	Description
Ex-1001	U.S. Patent No. 11,874,702 ("the '702 Patent)
Ex-1002	Declaration of Dr. Brian W. Anthony
Ex-1003	Curriculum Vitae of Dr. Brian W. Anthony
Ex-1004	Prosecution History of U.S. Patent No. 11,874,702
Ex-1005	U.S. Patent Publication No. 20120016245 to Niwa ("Niwa")
Ex-1006	U.S. Patent No. 8,954,135 to Yuen ("Yuen")
Ex-1007	U.S. Patent No. 10,303,867 to Schröder ("Schröder")
Ex-1008	Certified Translation of DE 102013012339.9 to Schröder
Ex-1009	Original DE 102013012339.9 to Schröder
Ex-1010	U.S. Patent Publication No. 20140244009 to Mestas ("Mestas")
Ex-1011	U.S. Provisional Patent Application No. 61/768,279 to Mestas
Ex-1012	U.S. Patent No. 8,700,111 to LeBoeuf ("LeBoeuf")
Ex-1013	U.S. Patent Publication No. 20120218184 to Wissmar ("Wissmar")
Ex-1014	INTENTIONALLY LEFT BLANK
Ex-1015	INTENTIONALLY LEFT BLANK
Ex-1016	INTENTIONALLY LEFT BLANK
Ex-1017	INTENTIONALLY LEFT BLANK
Ex-1018	INTENTIONALLY LEFT BLANK

[1] Four-digit pin citations that begin with 0 are to the page stamps added by Samsung in the bottom right corner of the exhibits. All other pin citations are to original page, column, paragraph, and/or line numbers.

Ex-1019	INTENTIONALLY LEFT BLANK
Ex-1020	Claim Mapping Table
Ex-1021	INTENTIONALLY LEFT BLANK
Ex-1022	Parallel Citations (Schröder ’867 to Certified Translation of DE 102013012339.9)
Ex-1023	Dynamic Drinkware-type analysis for Mestas
Ex-1024	U.S. Patent No. 4,830,014 to Goodman (“Goodman”)
Ex-1025	U.S. Patent No. 6,745,061 to Hicks (“Hicks”)
Ex-1026	U.S. Patent No. 7,190,986 to Hannula (“Hannula”)
Ex-1027	Volker Konig et al., *Reflectance Pulse Oximetry – Principles and Obstetric Application in the Zurich System*, 14 Journal of Clinical Monitoring (Aug. 1998) (“Konig”)
Ex-1028	U.S. Patent No. 6,608,562 to Kimura (“Kimura”)
Ex-1029	Kevin K. Tremper et al., *Pulse Oximetry*, 70 Journal of American Society of Anesthesiologists, Inc. (Jan. 1989) (“Tremper”)
Ex-1030	Y. Mendelson et al., *A Wearable Reflectance Pulse Oximeter for Remote Physiological Monitoring*, Proceedings of 28th IEEE EMBS Annual International Conference (Aug. 30-Sept. 3, 2006) (“Mendelson 2006”)
Ex-1031	Sokwoo Rhee et al., *Artifact-Resistant, Power-Efficient Design of Finger-Ring Plethysmographic Sensors Part I: Design and Analysis*, IEEE (2000) (“Rhee 2000 Part I”)
Ex-1032	Sokwoo Rhee et al., *Artifact-Resistant, Power-Efficient Design of Finger-Ring Plethysmographic Sensors Part II: Prototyping and Benchmarking*, IEEE Proceedings of 22nd Annual EMBS Int’l Conference (July 23-28, 2000) (“Rhee 2000 Part II”)
Ex-1033	Sokwoo Rhee et al., *Artifact-Resistant Power-Efficient Design of Finger-Ring Plethysmographic Sensors*, 48 IEEE Transactions of Biomedical Engineering (July 2001) (“Rhee 2001”)

Ex-1034	U.S. Patent No. 6,699,199 to Asada ("Asada '199")
Ex-1035	Sokwoo Rhee, *Design and Analysis of Artifact-Resistive Finger Photoplethysmographic Sensors for Vital Sign Monitoring*, MIT (June 2000) ("Rhee Thesis 2000")
Ex-1036	C.T. Olofson et al., *Machining of Titanium Alloys* (1965) ("Olofson")
Ex-1037	H. Harry Asada et al., *Mobile Monitoring with Wearable Photoplethysmographic Biosensors*, IEEE Engineering in Medicine & Biology Magazine 28 (May-June 2003) ("Asada 2003")
Ex-1038	Denisse Castaneda et al., *A review on wearable photoplethysmography sensors and their potential future applications in health care*, Int J Biosens Bioelectron (2018)
Ex-1039	U.S. Patent No. 7,468,036 to Rulkov et al. ("Rulkov")
Ex-1040	U.S. Patent Publication No. 2006/0211924 to Dalke et al. ("Dalke")
Ex-1041	*Guidelines To Enhancing The Heart-Rate Monitoring Performance Of Biosensing Wearables* (2014)
Ex-1042	U.S. Patent No. 4,880,304 to Jaeb et al. ("Jaeb")
Ex-1043	Tom Lister et al., *Optical Properties of human skin*, Journal of Biomedical Optics (2012)
Ex-1044	John G. Webster, *Design of Pulse Oximeters*, CRC Press (1997)
Ex-1045	U.S. Patent Publication No. 20130211291 to Tran ("Tran")
Ex-1046	WO 2001/017421A1 to Lindberg ("Lindberg")
Ex-1047	WO 2011/132009 to Nyiradi ("Nyiradi")
Ex-1048	U.S. Patent Application Publication No. 2014/0361945 to Misra et al. ("Misra")
Ex-1049	U.S. Patent Application Publication No. 2014/0361934 to Ely et al. ("Ely")
Ex-1050	European Patent No. 2281205 (Chen)

Ex-1051	Lawrence K. Au et al., *Episodic Sampling: Towards Energy-Efficient Patient Monitoring with Wearable Sensors*, Annual International Conference of the IEEE Engineering in Medicine and Biology Society (2009)
Ex-1052	Anastasios Petropoulos et al., *Flexible PCB-MEMS flow sensor*, Procedia Engineering 47 236-239 (2012) ("Petropoulos")
Ex-1053	Tianjia Sun et al., *Wireless Power Transfer for Medical Microsystems*, Springer (2013) ("Sun")
Ex-1054	U.S. Patent Pub. No. 2014/0187160 to Prencipe ("Prencipe")
Ex-1055	H. Ardebili and Michael G. Pecht, *Encapsulation Technologies for Electronic Applications*, William Andrew (2009) ("Ardebili")
Ex-1056	Ciprian Ciofu et al., *Injection and Micro Injection of Polymeric Plastics Materials: A Review*, Int'l J. Modern Mfg. Techs. 49 (2013)
Ex-1057	Richard J. Ross, *LCP Injection Molded Packages—Keys to JEDEC 1 Performance*, IEEE, 2004 Electronic Components and Technology Conference 1807 (2004)
Ex-1058	Tadamoto Sakai, *Encapsulation Process for Electronic Devices Using Injection Molding Method*, 12 Advances in Polymer Technology 61 (1993)
Ex-1059	N.J. Teh et al., *Embedding of Electronics within Thermoplastic Polymers using Injection Moulding Technique*, IEEE, 2000 Int'l Electronics Manufacturing Technology Symposium 10 (2000)
Ex-1060	U.S. Patent No. 6,201,698 to Hunter ("Hunter")
Ex-1061	U.S. Patent No. 4,012,629 to Simms ("Simms")
Ex-1062	Certified Translation of Japanese Published Application No. JP2008-79676 ("Imai")
Ex-1063	Japanese Published Application No. JP2008-79676
Ex-1064	Alexander Silverman, *Fifty Years of Glass-Making*, 18 Indus. & Eng'g Chem. 896-899 (1926)

Ex-1065	B. A. J. Clark, *Color in Sunglass Lenses*, 46 Optometry & Vision Sci. 825-840 (1969)
Ex-1066	Frank Kaltenbach ed., *Translucent Materials*, Institut für Internationale Architektur-Dokumentation GmbH & Co.KG (2004)
Ex-1067	INTENTIONALLY LEFT BLANK
Ex-1068	INTENTIONALLY LEFT BLANK
Ex-1069	INTENTIONALLY LEFT BLANK
Ex-1070	INTENTIONALLY LEFT BLANK
Ex-1071	INTENTIONALLY LEFT BLANK
Ex-1072	INTENTIONALLY LEFT BLANK
Ex-1073	INTENTIONALLY LEFT BLANK
Ex-1074	INTENTIONALLY LEFT BLANK
Ex-1075	INTENTIONALLY LEFT BLANK
Ex-1076	INTENTIONALLY LEFT BLANK
Ex-1077	INTENTIONALLY LEFT BLANK
Ex-1078	Takashi Uchino et al., *Prediction of optical properties of commercial soda-lime-silicate glasses containing iron*, 261 Journal of Non-Crystalline Solids 72-78, 1-3 (2000)
Ex-1079	Dr. Anthony's Supplemental Declaration
Ex-1080	Mr. Michael Davies Declaration
Ex-1081	Patrick P. Mercier, Ph.D. Deposition Transcript Volume 1, dated June 24, 2025
Ex-1082	Patrick P. Mercier, Ph.D. Deposition Transcript Volume 2, dated June 25, 2025
Ex-1083	Mr. Andrew T. Clarke's Deposition Transcript, dated June 18 2025
Ex-1084	Francine Gemperle et al., *Design for Wearability*, in Digest of Papers

	Second Int'l Symposium on Wearable Computers 116 (1998)
Ex-1085	U.S. Patent No. 9,582,034
Ex-1086	U.S. Patent No. 10,842,429
Ex-1087	U.S. Patent No. 11,599,147
Ex-1088	U.S. Patent Publication No. 20070059595 ("Endo")
Ex-1089	U.S. Patent No. 9,385,396 ("Goh")
Ex-1090	Xie, Wen. "When Commercial Success Can Prove Non-Obviousness." IP WatchDog. February 10, 2022. https://ipwatchdog.com/2022/02/10/commercial-success-can-prove-non-obviousness/id=145576/
Ex-1091	Lee, Jihyoung, Kenta Matsumura, Ken-ichi Yamakoshi, & Peter Rolfe. "Comparison between red, green and blue light reflection photoplethysmography for heart rate monitoring during motion." Conference Proceedings: Annual International Conference of the IEEE Engineering in Medicine and Biology Society 2013. July 1, 2013. https://www.researchgate.net/publication/257601230_Comparison_between_red_green_and_blue_light_reflection_photoplethysmography_for_heart_rate_monitoring_during_motion
Ex-1092	De Ridder, Benjamin, Bart Van Rompaey, Jarl K Kampen, Steven Haine, & Tinne Dilles. "Smartphone Apps Using Photoplethysmography for Heart Rate Monitoring: Meta-Analysis." JMIR Cardio. February 27, 2018. https://pmc.ncbi.nlm.nih.gov/articles/PMC6834218/
Ex-1093	Castaneda, Denisse, Aibhlin Esparza, Mohammad Ghamari, Cinna Soltanpur, & Homer Nazeran. "A review on wearable photoplethysmography sensors and their potential future applications in health care." National Library of Medicine. August 6, 2018. https://pmc.ncbi.nlm.nih.gov/articles/PMC6426305/
Ex-1094	Marston, William. "Photoelectric Plethysmography." ScienceDirect. July 1, 2025. https://www.sciencedirect.com/topics/medicine-and-dentistry/photoelectric-plethysmography

Ex-1095	Kameyama, Koujiro & Kiyoshi Mita. "U.S. Patent Application US 7,728,438 B2, 'Optical semiconductor device and method of manufacturing the same'." United States Patent and Trademark Office. Filed September 29, 2006. https://patentimages.storage.googleapis.com/e6/f7/c7/f31e1b8d0deeb2/US7728438.pdf
Ex-1096	INTENTIONALLY LEFT BLANK
Ex-1097	Takahashi, Dean. "Precise heart-rate monitor wristwatch Mio Alpha debuts today." VentureBeat. December 3, 2012. https://venturebeat.com/business/precise-heart-rate-monitor-wristwatch-mio-alpha-debuts-today/
Ex-1098	Dickinson, Liz. "ALPHA - the Holy Grail of Heart Rate (Look Ma, no hands!)." Kickstarter. June 25, 2012. https://www.kickstarter.com/projects/alphaheartrate/alpha-the-holy-grail-of-heart-rate-look-ma-no-hand/description
Ex-1099	Wearables. "Mio Alpha." Wearables.com. July 1, 2025. https://wearables.com/products/mio-alpha
Ex-1100	Mio. "ALPHA: Complete User Guide." Physical Enterprises Inc. December 3, 2012. https://www.swimmershop.it/upload/MIO_Alpha_UserGuide_Eng.pdf
Ex-1101	D'Orazio, Dante. "Mio Alpha is a less cumbersome heart rate watch for athletes." The Verge. January 10, 2013. https://www.theverge.com/2013/1/10/3863712/mio-alpha-heart-rate-watch-reads-pulse-with-a-green-light
Ex-1102	Bolestsis, Costas, Simon Mccallum, & Brynjar F. Landmark . "The Use of Smartwatches for Health Monitoring in Home-Based Dementia Care." Lecture Notes in Computer Science. July 1, 2015. https://www.researchgate.net/publication/280946621_The_Use_of_Smartwatches_for_Health_Monitoring_in_Home-Based_Dementia_Care
Ex-1103	Biggs, John. "The Basis B1 Fitness Band Is Amazing But Still Needs Polish." TechCrunch. March 18, 2013. https://techcrunch.com/2013/03/18/the-basis-b1-fitness-band-is-

	amazing-but-still-needs-polish/
Ex-1104	Weiss, C. C. "Scosche RHYTHM simplifies fitness monitoring." New Atlas. October 16, 2012. https://newatlas.com/scosche-rhythm-fitness-monitor/24569/
Ex-1105	Scosche. "User Guide." RHYTHM: WIRELESS PULSE MONITOR. October 18, 2012. https://www.scosche.com/media/wysiwyg/PDFs/RTHM_web_ENGLISH.pdf?srsltid=AfmBOop_sHx2c5SzZmoY3fdYhzy8P-kGbrjp6vH0s_VR_l1SbvEMr_Zk
Ex-1106	Modic, Elizabeth Engler. "Truly Wireless: Simulation of the Mechanism of Retinal Detachment Resulting from Blunt Impact Trauma." Today's Medical Developments. June 27, 2013. https://www.todaysmedicaldevelopments.com/article/tmd0713-witricity-medical-advancements/
Ex-1107	Zhang, Fei, Steven A. Hackworth, Xiaoyu Liu, Haiyan Chen, Robert J. Sclabassi, Mingui Sun. "Wireless energy transfer platform for medical sensors and implantable devices." National Library of Medicine. January 1, 2009. https://pubmed.ncbi.nlm.nih.gov/19964948/
Ex-1108	Takahashi, Dean. "PowerbyProxi raises $5M for charging devices wirelessly." VentureBeat. April 15, 2013. https://venturebeat.com/entrepreneur/powerbyproxi-raises-5m-for-charging-devices-wirelessly/
Ex-1109	techfocus media. "Powerbyproxi Announces Advances In Resonant Wireless Charging Including First Multi-Device 7.5 Watts Resonant Charging System for Smartphones." Electronic Engineering Journal. June 9, 2014. https://www.eejournal.com/industry_news/20140609-01/
Ex-1110	Murph, Darren. "PowerbyProxi debuts wireless charging solution, aims to fully integrate it into future smartphones (video)." Engadget. February 24, 2013. https://www.engadget.com/2013-02-24-powerbyproxi-wireless-charging-solution-demo-mwc-2013-video.html

Ex-1111	Chan, Alice & Josh Schimel. "PowerbyProxi Joins Wireless Power Consortium." PowerbyProxi Draft PDF. May 13, 2013. https://www.wirelesspowerconsortium.com/media/vtviox45/20130513-powerbyproxi-joins-wireless-power-consortium.pdf
Ex-1112	Fried, Ina. "Wireless-Charging Firm PowerbyProxi Lands $4 Million Investment From Samsung." AllThings. September 29, 2013. https://allthingsd.com/20130929/wireless-charging-firm-powerbyproxi-lands-4-million-investment-from-samsung/
Ex-1113	Mearian, Lucas. "Apple just bought its own wireless charging company. Here's why." ComputerWorld. October 25, 2017. https://www.computerworld.com/article/1714059/apple-just-bought-its-own-wireless-charging-company-heres-why.html
Ex-1114	Connected Magazine Staff Writer. "Wireless Power Around the Home." connected. October 16, 2012. https://connectedmag.com.au/wireless-power-around-home/
Ex-1115	Fulton Innovation & eCoupled. "eCoupled Explained." Las Vegas Sun Media. November 1, 2009. https://media.lasvegassun.com/media/pdfs/blogs/documents/2009/01/11/eCoupled_Explained.pdf
Ex-1116	Seneviratne, Suranga, Yining Hu, & Aruna Seneviratne. "Figure 3 (Communication modes of wearable devices) - A Survey of Wearable Devices and Challenges." ResearchGate. July 1, 2017. https://www.researchgate.net/figure/Communication-modes-of-wearable-devices_fig1_318717275
Ex-1117	Botha, Roelof. "Jawbone: The Rise and Fall of the First Wearable Technology Company." Crucible Moments. December 2, 2023. https://www.sequoiacap.com/podcast/crucible-moments-jawbone/
Ex-1118	Wired Staff. "Review: Aliph Bluetooth Handsfree Kit." Wired. June 18, 2007. https://www.wired.com/2007/06/jawbone-handsfree-kit/
Ex-1119	Jawbone. "Jawbone: User's Guide." Jawbone. December 6, 2006. https://images.mobilefun.co.uk/graphics/misc/Aliph_User_Manual_Web.pdf
Ex-1120	Jauch. "White Paper: Introduction to Lithium Polymer Battery

	Technology." Jauch. November 1, 2018. https://www.jauch.com/downloadfile/5c5050fa5b6510e9a8ad76299baae4e53/white_paper_introduction_to_lipo_battery_technology_11-2018_en.pdf
Ex-1121	LG Electronics. "Battery Cell of Curved Shape and Battery Pack Employed With The Same." Justia. March 10, 2009. https://patents.justia.com/patent/20110097615
Ex-1122	Cohen, Nancy. "LG Chem turns to stepped, curve and cable batteries." Phys.Org. October 9, 2013. https://phys.org/news/2013-10-lg-chem-cable-batteries.html
Ex-1123	LG Electronics. "Press Release: LG Unveils World's First "Real" Curved Smartphone." LG. October 30, 2013. https://www.lg.com/levant_en/about-lg/press-and-media/lg-unveils-worlds-first-real-curved-smartphone
Ex-1124	Pierce, David. "LG G Flex Review." The Verge via WayBack Machine. December 6, 2013. https://web.archive.org/web/20250114175821/https://www.theverge.com/2013/12/6/5181536/lg-g-flex-review
Ex-1125	Sridhar, Srivatsan. "Samsung SDI introduces curved battery for wearable devices." fonearena. April 15, 2014. https://www.fonearena.com/blog/101236/samsung-sdi-introduces-curved-battery-for-wearable-devices.html
Ex-1126	Sheetal. "Samsung SDI tends to invest more in batteries for wearable devices." SammyFans. April 22, 2022. https://www.sammyfans.com/2022/04/22/samsung-sdi-to-invest-more-in-batteries-for-wearable/
Ex-1127	Samsung. "[Battery101] Innovation Creates Batteries for Wearables." Samsung SDI Newsroom. August 09, 2024. https://news.samsungsdi.com/global/articleView?seq=166
Ex-1128	Kyung-Don, Joo. "Samsung SDI curved battery is tops." Korea JoongAng Daily. April 15, 2014. https://koreajoongangdaily.joins.com/2014/04/15/industry/Samsung-SDI-curved-battery-is-tops/2987967.html

Ex-1129	Samsung. "Samsung Gear Fit Awarded "The Best Mobile Device" at the MWC 2014." Samsung Newsroom. February 28, 2014. https://news.samsung.com/global/samsung-gear-fit-awarded-the-best-mobile-device-at-the-mwc-2014
Ex-1130	Summerson, Cameron. "[MWC 2014] Samsung Announces The Gear Fit, A Fitness Tracker Smartwatch Band Thingy." Android Police. February 24, 2014. https://www.androidpolice.com/2014/02/24/mwn-2014-samsungannounces-the-gear-fit-a-fitness-tracker-smarwatch-band-thingy/
Ex-1131	Harden, Dan. "The Making of the Nike Fuelband." Whipsaw. June 6, 2015. https://www.whipsaw.com/latest/the-making-of-the-nikefuelband
Ex-1132	Nike. "Nike+ Fuelband." FCC ID Database. January 5, 2012. https://fccid.io/QYUM411/User-Manual/user-manual-1630150.pdf
Ex-1133	mikeselectricstuff. "Nike+ Fuelband teardown." YouTube. May 31, 2012. https://www.youtube.com/watch?v=7xdajSS_cOU
Ex-1134	"M411 Nike+ FuelBand Teardown Internal Photos Nike." FCC ID Database. January 24, 2012. https://fccid.io/QYUM411/InternalPhotos/internal-photos-1630135
Ex-1135	アーロン ビー ウィースト, アーロン ビー ウィースト, ジャミアン アール コベット, & ジャミアン アール コベット. "Wearable device assembly with athletic function." Google Patents. November 1, 2011. https://patents.google.com/patent/JP6071890B2/en?q=(curved+PCB)&before=priority:20130101&page=1
Ex-1136	OURA. "Previous Oura Ring Generations." OURA. July 1, 2025. https://support.ouraring.com/hc/en-us/articles/360025570153Previous-Oura-RingGenerations#h_01H55VMQGE9BGRY7K7W22RG5B6
Ex-1137	Swappa. "Sell Oura Ring Gen 2." Swappa. July 1, 2025. https://swappa.com/sell/product/oura-ring-gen-2

Ex-1138	OURA . "Product: Oura Gen 3 Heritage Black." OURA. July 1, 2025. https://ouraring.com/product/rings/oura-gen3/heritage/black
Ex-1139	OURA. "OURA ring. Improve sleep. Perform better." Kickstarter. August 15, 2015. https://www.kickstarter.com/projects/oura/oura-ring-improve-sleep-perform-better
Ex-1140	McLear, John. "NFC Ring - One Smart Ring, Unlimited Possibilities." Kickstarter. July 20, 2013. https://www.kickstarter.com/projects/mclear/nfc-ring
Ex-1141	Museum of Failure. "Logbar Ring." Museum of Failure. March 16, 2024. https://museumoffailure.com/exhibition/logbar-ring
Ex-1142	TheTouch X s.r.o. "HB Ring." TheTouch via Wayback Machine. Accessed on May 6, 2025. https://my.thetouchx.com/
Ex-1143	Urbanowicz Jewelers. "Latest in Wearable Tech: This Ring Lets You See and Feel Your Lover's Heartbeat in Real Time." Urbanowicz Jewelers Blog. September 6, 2016. https://www.pittsburghdiamonds.com/urbanowicz-jewelers-blog/2016/Sep/06/latest-wearable-tech-ring-lets-you-see-and-feel-yo/
Ex-1144	IPS Team. "HB Ring Review – Innovative Wedding Band To Feel Heartbeat Of Your Loved One?." Infinite Power Solutions. October 1, 2020. https://www.infinitepowersolutions.com/hb-ring/
Ex-1145	Beran, Richard. "HB Ring: See and feel The Real-Time Heartbeat Of Loved One." Sourcecoderster.com. August 15, 2016. https://www.sourcecodester.com/blog/10690/hb-ring-see-and-feel-real-time-heartbeat-loved-one.html
Ex-1146	TheTouch. "Since mid 2016...'." TheTouch on Facebook. January 26, 2017. https://www.facebook.com/thetouchx/posts/since-mid-2016-we-were-working-on-upgrading-all-hb-ring-chargers-from-wired-to-w/1622271428081778/
Ex-1147	TheTouch. "Wireless charging makes...'." TheTouch on Facebook. January 26, 2017. https://www.facebook.com/photo/?fbid=1622270794748508&set=pcb.1622271428081778

Ex-1148	Wiggers, Kyle. "The love of your life can hear your heartbeat in real time with smart wedding band." digitaltrends. August 4, 2016. https://www.digitaltrends.com/wearables/hb-ring-touch-wedding-band-smart-heartbeat/
Ex-1149	Huffington, Arianna. "My Q and A With Petteri Lahtela, Whose OURA Ring Will Track Your Sleep." Huffpost. August 19, 2015. https://www.huffpost.com/entry/my-q-and-a-with-petteri-l_b_8010488
Ex-1150	Ben Greenfield. "11 Crucial Health Questions & Mighty Self-Quantification Ring To Rule Them All: The Official Oura Ring Q&A." BenGreenfieldLife. July 18, 2016. https://bengreenfieldlife.com/article/self-quantification-articles/how-does-the-oura-ring-work/
Ex-1151	Ben Greenfield. "The New Oura Ring: Track Naps, Advanced HRV Tracking, Personalized Sleep Typing, Client Dashboard Feature & Much More!." BenGreenfieldLife. November 30, 2017. https://bengreenfieldlife.com/article/self-quantification-articles/the-new-oura-ring/
Ex-1152	OURA. "Why Oura." OURA. July 1, 2025. https://ouraring.com/why-oura
Ex-1153	OURA. "Rings." OURA. July 1, 2025. https://ouraring.com/product/rings
Ex-1154	de Zambotti, Massimiliano, Leonardo Rosas, Ian M. Colrain, & Fiona C. Baker. "The Sleep of the Ring: Comparison of the ŌURA Sleep Tracker Against Polysomnography." National Library of Medicine. March 1, 2019. https://pubmed.ncbi.nlm.nih.gov/28323455/
Ex-1155	Pearson, Anthony. "The Oura Ring For Personal Sleep Analysis: Lots of Hype and Data, Little Science, Utility or Accuracy." The Skeptical Cardiologist. Accessed on July 6, 2025. https://theskepticalcardiologist.com/2019/02/09/the-oura-ring-for-personal-sleep-analysis-lots-of-hype-and-data-little-science-utility-or-accuracy/

Ex-1156	Robbins, Rebecca, Matthew D. Weaver, Jason P. Sullivan, Stuart F. Quan, Katherine Gilmore, Samantha Shaw, Abigail Benz, Salim Qadri, Laure K. Barger, Charles A. Czeisler, & Jeanne F. Duffy. "Accuracy of Three Commercial Wearable Devices for Sleep Tracking in Healthy Adults." Sensors. August 7, 2024. https://www.mdpi.com/1424-8220/24/20/6532
Ex-1157	Ferguson, Abby. "As an athlete, I'm not a fan of smart rings. Here's why." Pocketlint. September 20, 2024. https://www.pocket-lint.com/smart-rings-arent-for-athletes/
Ex-1158	Seitz, Patrick. "Health Tracking Is Moving To Smart Rings From Watches. Oura Leads Market." Investor's Business Daily. January 9, 2025. https://www.investors.com/news/technology/smart-rings-proliferate-at-ces-2025
Ex-1159	Shirer, Michael, Jitesh Ubrani, & Lujyne Amro. "IDC Forecasts Continued Growth for Wearables But Growth Will Be Uneven Across Product Categories." International Data Corporation. September 26, 2024. https://my.idc.com/getdoc.jsp?containerId=prUS52615024
Ex-1160	Nalbach, Tyler. "Apple Watch Sales Over the Years: How Many Have Been Sold Since 2015." Longvadon. March 28, 2025. https://longvadon.com/blogs/blog/apple-watch-sales
Ex-1161	Oura Team. "Meet Oura: Discover the Brand-New Oura Ring 4." The Pulse Blog. October 3, 2024. https://ouraring.com/blog/oura-ring-4/
Ex-1162	Apple. "Why Apple Watch." Apple. July 1, 2025. https://www.apple.com/watch/why-apple-watch/
Ex-1163	Apple. "Compare Apple Watch models." Apple. July 1, 2025. https://www.apple.com/watch/compare/
Ex-1164	Oura Team. "Meet Oura: Technology in Oura Ring Gen3." The Pulse Blog. February 7, 2024. https://ouraring.com/blog/ring-technology/
Ex-1165	Carroll, Rory. "Pebble rocks CES 2013 with launch of its wireless watch." The Guardian. January 9, 2013.

	https://www.theguardian.com/technology/2013/jan/09/ces-2013-pebble-wireless-watch
Ex-1166	Samsung. "[Galaxy History ③] Evolution of the Galaxy Watch Series: Reimagining the Watch." Samsung Newsroom. July 8, 2024. https://news.samsung.com/global/galaxy-history-%E2%91%A2-evolution-of-the-galaxy-watch-series-reimagining-the-watch
Ex-1167	Golder, Peter N. & Gerard J. Tellis. "Pioneer Advantage: Marketing Logic or Marketing Legend?." Journal of Marketing Research. May 1993. https://www.jstor.org/stable/3172825?origin=crossref
Ex-1168	Bennett, Brian. "Jawbone Up24 review: A great fitness tracker with style and comfort." CNet. November 13, 2013. https://www.cnet.com/reviews/jawbone-up24-review/
Ex-1169	Ricker, Thomas. "Jawbone Up fitness band review." The Verge via Wayback Machine. November 6, 2011. https://web.archive.org/web/20250527221407/https://www.theverge.com/2011/11/6/2541783/jawbone-up-review
Ex-1170	Seifert, Dan. "Fitbit Force review." The Verge via Wayback Machine. October 18, 2013. https://web.archive.org/web/20250524010659/https://www.theverge.com/2013/10/18/4848424/fitbit-force-review
Ex-1171	Lawrence, Erin. "Misfit Shine Fitness and Activity Monitor – Review." TechGadgets Canada. May 29, 2019. https://www.techgadgetscanada.com/misfit-shine-fitness-activity-monitor-review/
Ex-1172	"Nike+ FuelBand Manual." Nike via Wayback Machine. January 18, 2013. https://web.archive.org/web/20130118195034/http://support-en-us.nikeplus.com/ci/fattach/get/276180/0/filename/FuelBand_Manual_Online_ENG_edit12b_rev.pdf
Ex-1173	Stein, Scott. "Samsung Gear Fit review: Curved-screen fitness smartwatch one step short." CNet. April 7, 2014. https://www.cnet.com/reviews/samsung-gear-fit-review/

Ex-1174	Maker, Ray. "Mio Alpha Optical Heart Rate Monitor In-Depth Review (Bluetooth Smart/ANT+)." DC Rainmaker. February 12, 2013. https://www.dcrainmaker.com/2013/02/monitor-bluetooth-smartant.html
Ex-1175	Maker, Ray. "Basis B1 Watch In-Depth Review." DC Rainmaker. July 25, 2013. https://www.dcrainmaker.com/2013/07/basis-b1-review.html
Ex-1176	Bonnington, Christina. "Review: Garmin Vivofit." Wired. March 7, 2014. https://www.wired.com/2014/03/garmin-vivofit/
Ex-1177	"Lifeband Touch[1] Activity Tracker - Medium." LG. Accessed on July 11, 2025. https://www.lg.com/us/mobile-accessories/lg-FB84-BM-activity-tracker
Ex-1178	"Polar Loop User Manual: Important Information." Polar. Accessed on July 11, 2025. https://support.polar.com/e_manuals/Loop/Polar_Loop_user_manual_English/ch07.html
Ex-1179	Healey, Nic. "Sony SmartBand SWR10 review: Sony SmartBand tries to be too smart for its own good." CNet. June 13, 2014. https://www.cnet.com/reviews/sony-smartband-swr10-review/
Ex-1180	Porter, Jediah . "Jawbone UP Move Review." GearLab. April 11, 2018. https://www.outdoorgearlab.com/reviews/fitness/pedometer/jawbone-up-move
Ex-1181	Welch, Chris. "Jawbone UP3." The Verge via Wayback Machine. April 23, 2015. https://web.archive.org/web/20241117073856/https://www.theverge.com/2015/4/23/8469123/jawbone-up-3-review-fitness-tracker
Ex-1182	clay. "How Much Did Fitbit Raise? Funding & Key Investors." clay Dossier. March 31, 2025. https://www.clay.com/dossier/fitbit-funding
Ex-1183	Osterloh, Rick. "Google completes Fitbit acquisition." Google Blog. January 14, 2021. https://blog.google/products/platforms-devices/fitbit-acquisition/

Ex-1184	Tracxn Technologies Limited. "Misfit Wearables - Company Profile." Tracxn. June 20, 2025. https://tracxn.com/d/companies/misfit-wearables/__gG8yNvcKEPPBr9mV9PD_Gg3pOm462qPzhY9vWkA7NTU#about-the-company
Ex-1185	Singleton, Micah. "Fossil acquires wearable maker Misfit for $260 million." The Verge. November 15, 2015. https://www.theverge.com/2015/11/12/9725478/fossil-group-acquires-wearable-maker-misfit-260-million
Ex-1186	Dane, Sonali. "Jawbone: The Biggest Unicorn Death of 2017." Wharton PEVC. March 2, 2018. https://www.whartonugpevc.com/articles/2018/3/23/jawbone-the-biggest-unicorn-death-of-2017
Ex-1187	CBInsights. "Jawbone's Valuation History Gave Early Hints As To Its Eventual End." CBInsights: Research. July 7, 2017. https://www.cbinsights.com/research/jawbone-valuation-history/
Ex-1188	Somerville, Heather. "Jawbone's demise a case of 'death by overfunding' in Silicon Valley." Reuters. July 10, 2017. https://www.reuters.com/article/technology/jawbones-demise-a-case-of-death-by-overfunding-in-silicon-valley-idUSKBN19V0BS/
Ex-1189	FinSMEs. "Jawbone Raises $49M from Andreessen Horowitz." FinSMEs. March 17, 2011. https://www.finsmes.com/2011/03/jawbone-raises-49m-from-andreessen-horowitz.html#google_vignette
Ex-1190	Jill Duffy. "Fitbit Force Review." PC Mag. March 24, 2014. https://www.pcmag.com/reviews/fitbit-force
Ex-1191	Curry, David. "Fitbit Revenue and Usage Statistics (2025)." Business of Apps. January 22, 2025. https://www.businessofapps.com/data/fitbit-statistics/
Ex-1192	Dolan, Brian. "Misfit's Shine raised $846K on Indiegogo; new product expected this fall." MobiHealth News via Wayback Machine. January 24, 2013. https://web.archive.org/web/20160219184005/http://mobihealthnews.com/20024/misfits-shine-raised-846k-on-indiegogo-new-product-

	expected-this-fall/
Ex-1193	Duffy, Jill. "Jawbone UP Review." PC Mag. March 20, 2013. https://www.pcmag.com/reviews/jawbone-up
Ex-1194	Apple. "Apple Watch Series 1 - Technical Specifications." Apple: Documentation. July 1, 2025. https://support.apple.com/en-us/111985
Ex-1195	Smith, Chris. "Sony SmartWatch 2 official: specs, features, release date and pricing." Android Authority. June 25, 2013. https://www.androidauthority.com/sony-smartwatch-2-official-specs-features-release-date-pricing-234796
Ex-1196	"Samsung Galaxy Gear." GSM Arena. Accessed on July 10, 2025. https://www.gsmarena.com/samsung_galaxy_gear-7716.php
Ex-1197	"What are the key features of Samsung Galaxy Gear(SM-V700)?." Samsung. October 13, 2020. https://www.samsung.com/in/support/mobile-devices/what-are-the-key-features-of-samsung-galaxy-gear/
Ex-1198	"Sony SmartWatch 2 SW2." GSM Arena. Accessed on July 10, 2025. https://www.gsmarena.com/sony_smartwatch_2_sw2-7719.php
Ex-1199	"Sony SmartWatch 3 SWR50." GSM Arena. Accessed on July 10, 2025. https://www.gsmarena.com/sony_smartwatch_3_swr50-7691.php
Ex-1200	Bhartiya, Swapnil. "Review: LG Watch Urbane Has Great Design, Missing Features." LiNUX.com. May 19, 2015. https://www.linux.com/news/review-lg-watch-urbane-has-great-design-missing-features/
Ex-1201	Maker, Ray. "Fitbit Surge In-Depth Review." DC Rainmaker. January 20, 2015. https://www.dcrainmaker.com/2015/01/fitbit-surge-review.html
Ex-1202	Pebble Technology. "Pebble: E-Paper Watch for iPhone and Android." Kickstarter. April 11, 2012. https://www.kickstarter.com/projects/getpebble/pebble-e-paper-

	watch-for-iphone-and-android
Ex-1203	Heater, Brian. "Smartwatch pioneer and Kickstarter darling Pebble is returning in a new form." TechCrunch. January 27, 2025. https://techcrunch.com/2025/01/27/smartwatch-pioneer-and-kickstarter-darling-pebble-is-returning-in-a-new-form/
Ex-1204	Arthur, Charles. "Review: Pebble's smart watch doesn't try too hard - but does what you need." The Guardian. May 21, 2013. https://www.theguardian.com/technology/blog/2013/may/21/pebble-smart-watch-kickstarter
Ex-1205	Ulanoff, Lance. "Pebble was one of the best smartwatches ever and now it's a miracle if you can get one to work." techradar. July 1, 2024. https://www.techradar.com/health-fitness/smartwatches/pebble-was-one-of-the-best-smartwatches-ever-and-now-its-a-miracle-if-you-can-get-one-to-work
Ex-1206	Mlot, Stephanie. "CES 2013: Pebble Smartwatch to Ship Jan. 23." PC Mag. January 9, 2013. https://www.pcmag.com/news/ces-2013-pebble-smartwatch-to-ship-jan-23
Ex-1207	Patel, Nilay. "Pebble smartwatch review." The Verge. January 28, 2013. https://www.theverge.com/2013/1/28/3924904/pebble-smartwatch-review
Ex-1208	France-Presse, Agence. "Time is ripe for smart watches, say analysts." Gadgets360. April 1, 2013. https://www.gadgets360.com/others/news/time-is-ripe-for-smart-watches-say-analysts-348697
Ex-1209	Buckley, Sean. "Samsung's Galaxy Gear ads play on your nostalgia, invoke Dick Tracy." Engadget. October 6, 2013. https://www.engadget.com/2013-10-06-samsungs-galaxy-gear-ads-play-on-your-nostalgia.html
Ex-1210	Zeis, Adam. "The best smartwatches from CES 2014." smartwatchfans via Wayback Machine. January 13, 2014. https://web.archive.org/web/20140330184434/http://www.smartwatchfans.com/best-smartwatches-ces-2014
Ex-1211	Arthur, Charles & Samuel Gibbs. "Apple makes move into

	wearables with smartwatch and new iPhones." The Guardian. September 9, 2014. https://www.theguardian.com/technology/2014/sep/09/apple-watch-cupertino-investors
Ex-1212	Musil, Steven. "Apple still dominates growing global smartwatch sector." CNET. May 6, 2020. https://www.cnet.com/tech/mobile/apple-still-dominates-growing-global-smartwatch-sector/
Ex-1213	McLear Limited. "New wearable device makes payments simple." McLEAR. December 4, 2018. https://mclear.co/news/new-wearable-device-makes-payments-simple/
Ex-1214	Hakikat, Atal. "The World's First Smart Ring You'll Actually Wear." The Zine. November 26, 2016. https://www.thezine.com.au/the-worlds-first-smart-ring-youll-actually-wear/
Ex-1215	Ringly. "2018 Update: A New Chapter." The Buzz: By Ringly. January 22, 2018. https://ringly.com/blogs/news/why-is-everything-sold-out-on-ringly-com
Ex-1216	Ayres, Carly. "In the Details: Making a Smart Ring That Women Would Actually Want to Wear." Core77. July 3, 2014. https://www.core77.com/posts/27250/in-the-details-making-a-smart-ring-that-women-would-actually-want-to-wear-27250
Ex-1217	Mamiit, Aaron. "CES 2015: The 'Ring' to Control Them All? How Logbar Gesture Control Ring Works." TechTimes. January 7, 2015. https://www.techtimes.com/articles/25084/20150107/ces-2015-the-ring-to-control-them-all-how-logbar-gesture-control-ring-works.htm
Ex-1218	Venho, Niina. "Moodmetric Ring: Smart Jewelry To Manage Stress." Indiegogo. September 2015. https://www.indiegogo.com/projects/moodmetric-ring-smart-jewelry-to-manage-stress#/
Ex-1219	Mufson, Beckett. "Finally, a Mood Ring for the 21st Century." VICE. November 24, 2016. https://www.vice.com/en/article/finally-a-wearable-tech-mood-ring-for-the-21st-century/

Ex-1220	Gorton, Thomas. "The humble mood ring gets a wearable tech update." DAZED. November 26, 2014. https://www.dazeddigital.com/artsandculture/article/22694/1/the-humble-mood-ring-gets-a-wearable-tech-update
Ex-1221	Nuanic. "What We Do." Nuanic. December 7, 2024. https://nuanic.com/about-us
Ex-1222	Nuanic. "Product: The 2nd Generation Ring is Here." Nuanic. July 1, 2025. https://nuanic.com/product
Ex-1223	K Wearables. "K Home." K Ring. July 1, 2025. https://mykring.com/
Ex-1224	Johns, Steven. "The gesture Ring by Logbar has been reviewed as "the worst product ever made"." Neowin. November 20, 2014. https://www.neowin.net/news/the-gesture-ring-by-logbar-has-been-reviewed-as-the-worst-product-ever-made/
Ex-1225	Logbar Inc. "Ring by logbar - Shortcut Everything." Kickstarter. February 27, 2014. https://www.kickstarter.com/projects/1761670738/ring-shortcut-everything
Ex-1226	Perez, Sarah. "Ringly Raises $5.1 Million Led By Andreessen Horowitz To Expand Its Smart Jewelry Collection Beyond Rings." TechCrunch. January 21, 2015. https://techcrunch.com/2015/01/21/ringly-raises-5-1-million-from-andreessen-horowitz-to-expand-its-smart-jewelry-collection-beyond-rings/
Ex-1227	McLear, John. "One Smart Ring. Unlimited Possibilities." Kickstarter. October 1, 2015. https://www.kickstarter.com/projects/mclear/nfc-ring-2016-range-one-smart-ring-unlimited-possi
Ex-1228	Campbell, Philip. "Kerv Wearables launches contactless payment ring at Wearable Technology Show 2017." The Payments Association. March 8, 2017. https://thepaymentsassociation.org/article/kerv-wearables-launches-contactless-payment-ring-at-wearable-technology-show-2017/
Ex-1229	Chang, Lulu. "Armed with NFC, the Kerv smart ring works like a

	contactless credit card." digitaltrends. March 8, 2017. https://www.digitaltrends.com/mobile/kerv-smart-ring-works-like-contactless-credit-card-2/
Ex-1230	Fintech News Hong Kong. "ORII – The World's First Voice-Powered Smart Ring Launched." Fintech News. August 23, 2017. https://fintechnews.hk/1862/iot/orii-the-worlds-first-voice-powered-smart-ring-launched-2/
Ex-1231	Stein, Scott. "Token Ring aims to wrap security around your finger." CNET. June 27, 2017. https://www.cnet.com/reviews/token-ring-preview/
Ex-1232	Draper, Sam. "GO2SLEEP Wearable Smart Ring Detects Sleep Apnea and More." Wearable Technologies. August 22, 2018. https://wt-obk.wearable-technologies.com/2018/08/go2sleep-wearable-smart-ring-sleep-detects-sleep-apnea-and-more/
Ex-1233	Wolfe, Daniel. "7 setbacks for wearable payments." American Banker. March 16, 2018. https://www.americanbanker.com/payments/slideshow/7-setbacks-for-wearable-payments
Ex-1234	Origami Labs. "ORII Kickstarter | The Voice Powered Ring." Kickstarter. July 18, 2017. https://www.kickstarter.com/projects/187732114/orii-your-voice-powered-smart-ring/
Ex-1235	Colt, Anna. "ORII - Fastest Way to Send Texts Without a Screen." Indiegogo. September 13, 2017. https://www.indiegogo.com/projects/orii-fastest-way-to-send-texts-without-a-screen/#/
Ex-1236	Jennings, Ralph. "This Hong Kong 'Smart Ring' Startup Raised $2.5M To Crack The Wearables Market." Forbes. June 7, 2018. https://www.forbes.com/sites/ralphjennings/2018/06/07/why-10000-people-are-buying-finger-rings-to-answer-their-smartphones/
Ex-1237	Token. "Token Begins Production of its Next-Generation Multifactor Authentication Smart Ring." BusinessWire. August 3, 2023. https://www.businesswire.com/news/home/20230803058819/en/Token-Begins-Production-of-its-Next-Generation-Multifactor-

	Authentication-Smart-Ring
Ex-1238	Exchange Rates. "British Pound (GBP) To US Dollar (USD) Exchange Rate History for September 11, 2016." Exchange Rates. July 6, 2025. https://www.exchange-rates.org/exchange-rate-history/gbp-usd-2016-09-11
Ex-1239	sleepon INC. "GO2SLEEP: AI-powered device for restful sleep." Indiegogo. November 22, 2017. https://www.indiegogo.com/projects/go2sleep-ai-powered-device-for-restful-sleep#/
Ex-1240	Cassidy, Anne. "The wedding tech now at the heart of couples' nuptials." BBC. April 23, 2023. https://www.bbc.com/news/business-65322101
Ex-1241	SLEEPON. "SLEEPON Go2sleep Review." SLEEPON Blog. April 12, 2024. https://www.sleepon.us/sleepon-go2sleep-review/
Ex-1242	Hughes, Locke. "Meet Oura: The Origins and Evolution of Oura Ring." The Pulse Blog. February 10, 2025. https://ouraring.com/blog/history-of-oura/
Ex-1243	OURA. "Product: Oura Gen 3 Heritage Stealth." OURA. July 1, 2025. https://ouraring.com/product/rings/oura-gen3/heritage/stealth
Ex-1244	iFixIt. "Oura Ring 2 Teardown." iFixIt. July 9, 2020. https://www.ifixit.com/Teardown/Oura+Ring+2+Teardown/135207
Ex-1245	OURA. "Product: Oura Gen3 Horizon." OURA. July 1, 2025. https://ouraring.com/product/rings/oura-gen3/horizon
Ex-1246	OURA. "Product: Oura Ring 4." OURA. July 1, 2025. https://ouraring.com/product/rings/oura-ring-4/silver
Ex-1247	OURA. "Product: Oura Gen 3 Heritage Silver." OURA. July 1, 2025. https://ouraring.com/product/rings/oura-gen3/heritage/silver
Ex-1248	Gebhart, Andrew. "Echo Loop puts Amazon's Alexa on your finger." CNET. September 25, 2019. https://www.cnet.com/home/smart-home/echo-loop-puts-amazons-alexa-on-your-finger/
Ex-1249	Smith, Dale. "Amazon Echo Loop -- everything we know about

	Amazon's wacky new smart ring." CNET. October 8, 2019. https://www.cnet.com/tech/mobile/amazon-echo-loop-everything-we-know-about-amazons-wacky-new-smart-ring/
Ex-1250	Koetsier, John. "Amazon's Echo Loop Smart Ring Gives A Whole New Meaning To 'Talk To The Hand'." Forbes. September 26, 2019. https://www.forbes.com/sites/johnkoetsier/2019/09/26/amazons-echo-loop-gives-whole-new-meaning-to-talk-to-the-hand/
Ex-1251	Newbega RFID Technology. "The Best Smart NFC Ring: Oura Ring 3, McLear Ringpay, and More Compared." Newbega. April 24, 2024. https://www.newbega.com/news/nfc-ring.html
Ex-1252	Team XYZ. "Health-tracking smart ring from Circular.xyz aims to improve your sleep, energy, and activity." XYZ Blog. August 10, 2022. https://gen.xyz/blog/circularxyz
Ex-1253	Fedow, Lenore. "Ultrahuman Unveils Luxury Smart Ring." Technology. January 13, 2025. https://nationaljeweler.com/articles/13558-ultrahuman-unveils-luxury-smart-ring
Ex-1254	Hill, Simon. "Review: Ultrahuman Ring Air." Wired. October 22, 2023. https://www.wired.com/review/ultrahuman-ring-air/
Ex-1255	Luna. "Unlocking Human Potential." Luna Zone. July 1, 2025. https://www.lunazone.com/
Ex-1256	Noise. "Global Smart Wearable Leader, Noise, Launches Its First Smart Ring, Luna Ring; Consolidates Its Leadership With a New Form Factor." Business Wire. July 25, 2023. https://www.businesswire.com/news/home/20230725952026/en/Global-Smart-Wearable-Leader-Noise-Launches-Its-First-Smart-Ring-Luna-Ring-Consolidates-Its-Leadership-With-a-New-Form-Factor
Ex-1257	Movano. "Movano Health to Launch the Evie Ring on November 20." Movano Health. October 30, 2023. https://ir.movano.com/news-detail/movano-health-to-launch-the-evie-ring-on-november-20/61b61e38-ed7b-4abe-833d-40a2f43ab99b
Ex-1258	Leabman, Michael. "Enhanced Heart Rate in Motion Accuracy with

	the Evie Ring Using Advanced Deep Learning Algorithms." Evie Blog. June 1, 2024. https://eviering.com/blogs/news/enhanced-heart-rate-in-motion-accuracy-with-the-evie-ring-using-advanced-deep-learning-algorithms
Ex-1259	Lida. "CES 2024: The Evie Ring is The First Wearable Smart Ring Designed for Women." The Sypnotix. January 8, 2024. https://www.sypnotix.com/reviews/ces-2024-evie-ring
Ex-1260	Savvides, Lexy. "Samsung Galaxy Ring Review: My Favorite Smart Ring, Hands Down." CNET. July 17, 2024. https://www.cnet.com/tech/mobile/samsung-galaxy-ring-review-my-favorite-smart-ring-hands-down/
Ex-1261	Cimino, Kaitlyn. "Samsung Galaxy Ring is here: Price, size, release date, and everything else!." Android Authority. July 10, 2024. https://www.androidauthority.com/samsung-galaxy-ring-3340682/
Ex-1262	RingConn. "RingConn Gen 1." RingConn. July 1, 2025. https://ringconn.com/products/ringconn-gen-1?srsltid=AfmBOorH6utnNebg1JBj_xU2IqZRu2nK2l8P4AuRGO5-BQQvzwUcSd9t&variant=47273813672244
Ex-1263	RingConn. "About Us: Why RingConn?." RingConn. July 1, 2025. https://ringconn.com/pages/about-us
Ex-1264	Tang, Angela. "Zepp Health Announces US Launch Date for Amazfit Helio Ring." Zepp. April 30, 2024. https://www.zepp.com/press-release/zepp-health-announces-us-launch-date-for-amazfit-helio-ring
Ex-1265	Leclair, Dave. "The Amazfit Helio Ring launches May 15 for only $299 to take on Samsung Galaxy Ring." Tom's Guide. May 1, 2024. https://www.tomsguide.com/phones/the-amazfit-helio-ring-launches-may-15-for-only-dollar299-to-take-on-samsung-galaxy-ring
Ex-1266	amazfit. "Amazfit Helio Ring." amazfit. July 1, 2025. https://www.amazfit.com/products/amazfit-helio-ring
Ex-1267	Chu, Marian (YoonJee). "Sky Labs seeks global expansion of world's first BP monitor ring." BioWorld. April 22, 2025. https://www.bioworld.com/articles/719393-sky-labs-seeks-global-

	expansion-of-worlds-first-bp-monitor-ring?v=preview
Ex-1268	Barton, Katerina. "This South Korean startup developed a wearable ring to treat hypertension." Fast Company. March 3, 2024. https://www.fastcompany.com/91033750/sky-labs-most-innovative-companies-2024
Ex-1269	CircularRing. "Circular Ring 2: World's Most Advanced Health Tracking Ring." Kickstarter. March 5, 2025. https://www.kickstarter.com/projects/circular-ring/circular-ring-2-worlds-most-advanced-health-tracking-ring
Ex-1270	Circular. "Shop." Circular. July 1, 2025. https://www.circular.xyz/shop
Ex-1271	Torres, JC. "World's First ECG Smart Ring Raises Nearly $2.5 Million in Funding Just Within A Month." Yanko Design. April 12, 2025. https://www.yankodesign.com/2025/04/12/worlds-first-ecg-smart-ring-raises-nearly-2-5-million-in-funding-just-within-a-month/
Ex-1272	RingConn. "RingConn Gen 2." RingConn. July 1, 2025. https://ringconn.com/products/ringconn-gen-2?variant=48162846769460
Ex-1273	Gebhart, Andrew. "RingConn Gen 2 Air Review." PC Mag. April 4, 2025. https://www.pcmag.com/reviews/ringconn-gen-2-air
Ex-1274	Allison, Conor. "CES 2025: Wareable's Best in Show awards revealed." Wareable. January 13, 2025. https://www.wareable.com/ces/the-best-wearables-at-ces-2025
Ex-1275	Sean. "Noise Luna Ring Gen 2.0 & ColorFit Pro 6 Debuted at CES 2025." GIZMOCHINA. January 9, 2025. https://www.gizmochina.com/2025/01/09/noise-luna-ring-2-colorfit-pro-6-debut-ces-2025/
Ex-1276	Ultrahuman. "World's First Luxury Smart Ring." Ultrahuman. July 1, 2025. https://www.ultrahuman.com/rare/
Ex-1277	Song, Victoria. "Ultrahuman thinks its 18-karat gold smart ring is worth $1,900." The Verge. January 7, 2025. https://www.theverge.com/2025/1/7/24337049/ultrahuman-rare-ces-

	2025-smart-ring-wearables
Ex-1278	Kollat, Matt. "Circular's next-gen smart ring lands with wireless charging and digital sizing – pre-orders now open." yahoo!tech. March 5, 2025. https://tech.yahoo.com/wearables/articles/circular-next-gen-smart-ring-080000928.html?guccounter
Ex-1279	Samsung. "How to charge the Galaxy Ring." Samsung. July 1, 2025. https://www.samsung.com/us/support/answer/ANS10003281/
Ex-1280	amazfit. "Helio Ring." amazfit US. July 1, 2025. https://us.amazfit.com/products/amazfit-helio-ring
Ex-1281	CircularRing. "Circular Smart Ring: Sleep, Energy, Performance." Indiegogo. August 1, 2025. https://www.indiegogo.com/projects/circular-smart-ring-sleep-energy-performance#/
Ex-1282	Ultrahuman. "Ultrahuman Ring - Decode Your Metabolism." Indiegogo. July 1, 2022. https://www.indiegogo.com/projects/ultrahuman-ring-decode-your-metabolism--3#/
Ex-1283	Ultrahuman. "Ultrahuman Ring AIR." Kickstarter. May 15, 2024. https://www.kickstarter.com/projects/ultrahuman/ultrahuman-ring-air
Ex-1284	Exchange Rates UK. "British Pound to US Dollar History: 2023." Exchange Rates. July 1, 2025. https://www.exchangerates.org.uk/GBP-USD-spot-exchange-rates-history-2023.html
Ex-1285	Movano. "Movano Health Reports 2023 Financial Results and Provides Business Update." Movano Health. April 4, 2024. https://ir.movano.com/news-detail/movano-health-reports-2023-financial-results-and-provides-business-update/f99b07bf-7165-4ec3-8042-2b4cd67de674
Ex-1286	RingConn. "RingConn Smart Ring: Smartest Wearable for You." Indiegogo. November 1, 2025. https://www.indiegogo.com/projects/ringconn-smart-ring-smartest-wearable-for-you--2#/

Ex-1287	RingConn. "RingConn Gen 2: Ultimate Lightness, 12 Days Battery." Kickstarter. December 23, 2024. https://www.kickstarter.com/projects/2059923007/ringconn-gen-2-ultimate-lightness-12-days-battery
Ex-1288	Noise. "LUNA Ring: 70 health metrics. 1 Smart Ring." Indiegogo. March 1, 2024. https://www.indiegogo.com/projects/luna-ring-70-health-metrics-1-smart-ring#/
Ex-1289	CircularRing. "Shop: Circular Ring Slim." Circular. July 1, 2025. https://shop.circular.xyz/pages/circular-ring-slim
Ex-1290	Chesnokova, Sofia. "Meet Circular Ring 2: French wearable taking on Oura with cutting-edge features." TFN. January 7, 2025. https://techfundingnews.com/meet-circular-ring-2-french-wearable-taking-on-oura-with-cutting-edge-features/
Ex-1291	Ultrahuman. "Shop: Ring AIR." Ultrahuman. July 1, 2025. https://www.ultrahuman.com/ring/buy/us/
Ex-1292	Lomas, Natasha. "Ultrahuman stakes a claim to luxury smart rings with trio of 18K gold and pt950 platinum bands." Tech Crunch. January 7, 2025. https://techcrunch.com/2025/01/07/ultrahuman-stakes-a-claim-to-luxury-smart-rings-with-trio-of-18k-gold-and-pt950-platinum-bands/
Ex-1293	RingConn. "RingConn Gen 1: Midnight Black." RingConn. July 1, 2025. https://ringconn.com/products/ringconn-gen-1
Ex-1294	RingConn. "RingConn Gen 2 Air Review." RingConn. July 1, 2025. https://ringconn.com/products/ringconn-gen-2-air
Ex-1295	RingConn. "RingConn Gen 2: The World's First Ultra-Thin Smart Ring With Sleep Apnea Monitoring." RingConn. July 1, 2025. https://ringconn.com/pages/ringconn-gen-2?gad_source
Ex-1296	Samsung. "Galaxy Ring." Samsung. July 1, 2025. https://www.samsung.com/us/rings/galaxy-ring/buy/galaxy-ring-size-6-titanium-silver-sm-q506nzsaxar/
Ex-1297	ID Tech Editorial Team. "Pentagon Cancels $96M Biometric Ring Contract Amid Privacy Concerns." IDTechWire. March 7, 2025. https://idtechwire.com/pentagon-cancels-96m-biometric-ring-

	contract-amid-privacy-concerns/
Ex-1298	Welch, Carley. “Pentagon’s $96M wearable contract sparks protest, accusations of vendor preference.” Breaking Defense. February 19, 2025. https://breakingdefense.com/2025/02/pentagons-96m-wearable-contract-sparks-protest-accusations-of-vendor-preference/
Ex-1299	Latto, Joel. “Oura Ring Gen3 Upgrade Offer FAQ (and Launch PR Fail).” Joel Latto. October 27, 2021. https://joellatto.com/2021/10/27/oura-gen3-ring-upgrade-offer-faq-and-launch-pr-fail/
Ex-1300	Gelbart, Bryn. “The Oura Ring Is Even More on Sale Now.” Esquire. December 2, 2024. https://www.esquire.com/lifestyle/tech/a63033170/black-friday-oura-ring-deals-2024/
Ex-1301	buyFSA Experts. “Is an Oura Ring FSA/HSA Eligible?.” buyFSA. December 5, 2024. https://buyfsa.com/blogs/fsa-hsa-eligibility-list/is-an-oura-ring-fsa-hsa-eligible
Ex-1302	Welch, Carley. “‘This acquisition is no longer required:’ Defense Health Agency cancels $96M wearable solicitation.” Breaking Defense. March 5, 2025. https://breakingdefense.com/2025/03/this-acquisition-is-no-longer-required-defense-health-agency-cancels-96m-wearable-solicitation/
Ex-1303	Allison, Conor. “Oura Ring 4 vs. Ring 3: What we recommend after six months.” Wareable. April 13, 2025. https://www.wareable.com/wearable-tech/oura-ring-4-vs-ring-3-key-differences-compared
Ex-1304	Lee, Derrek. “Oura Ring 4 vs. Oura Ring Gen 3: Should you upgrade?.” AndroidCentral. February 18, 2025. https://www.androidcentral.com/wearables/oura-ring-4-vs-oura-ring-gen-3
Ex-1305	Pangarkar, Tajammul. “Fitness Tracker Statistics 2025 By Health, Activities.” Market.Us News. January 13, 2025. https://www.news.market.us/fitness-tracker-statistics/
Ex-1306	Google Scholar. “Search: "diffusion of innovations".” Google

	Scholar. July 7, 2025. https://scholar.google.com.au/scholar?rlz=1C1GGLS_enAU291AU303&q=diffusion%20of%20innovations&um=1&ie=UTF-8&hl=en&sa=N&tab=ps
Ex-1307	Matthews, Tim. "Chap 1 Fig 2 Everett Rogers Diffusion Innovation Model." Matthews on Marketing. November 15, 2012. https://matthewsonmarketing.com/chap-1-fig-2-everett-rogers-diffusion-innovation-model-2/
Ex-1308	Halton, Clay. "Diffusion of Innovations Theory: Definition and Examples." Investopedia. May 23, 2025. https://www.investopedia.com/terms/d/diffusion-of-innovations-theory.asp
Ex-1309	Hale, Tom. "The Value of Oura Membership." The Pulse Blog. May 20, 2022. https://ouraring.com/blog/the-value-of-oura-membership/
Ex-1310	OURA. "Oura Membership." OURA. July 1, 2025. https://support.ouraring.com/hc/en-us/articles/4409086524819-Oura-Membership
Ex-1311	Neely, Amber. "Oura Ring review: love the feature changes, hate the new subscription." Apple Insider. March 19, 2023. https://appleinsider.com/articles/23/03/19/oura-ring-review-love-the-features-changes-hate-the-new-subscription
Ex-1312	Oh, Hannah. "I Tested the Oura Ring Gen3 for 10 Months—Here's My Honest, Unfiltered Review." Cosmopolitan. July 17, 2024. https://www.cosmopolitan.com/health-fitness/a45931388/oura-ring-3-review/
Ex-1313	Shares, Shervin. "6 Months with the Oura Ring 4. The Truth No One Tells You." YouTube. March 15, 2025. https://www.youtube.com/watch?v=v6YkMjIltuo
Ex-1314	PYMNTS Team. "Samsung Enters Smart Ring Market, Expanding Wearable Tech Portfolio." PYMNTS. July 10, 2024. https://www.pymnts.com/news/wearables/2024/samsung-enters-smart-ring-market-expanding-wearable-tech-portfolio/
Ex-1315	Comstock, Jonah. "Ouraring gets $5.3M for sleep-tracking ring."

	MobiHealth News via Wayback Machine. November 30, 2016. https://web.archive.org/web/20241226062503/http://www.mobihealthnews.com/content/ouraring-gets-53m-sleep-tracking-ring
Ex-1316	Rabinowitz, Harry. "I tested the latest Oura Ring 4 for months — is it worth the upgrade?." NBC News. April 2, 2025. https://www.nbcnews.com/select/shopping/oura-ring-4-review-rcna196889
Ex-1317	Oura Team. "Meet Oura: Your Oura Readiness Score." The Pulse Blog. February 7, 2024. https://ouraring.com/blog/readiness-score/
Ex-1318	OURA. "Oura Ring 4." OURA. July 1, 2025. https://support.ouraring.com/hc/en-us/articles/33045011508115-Oura-Ring-4
Ex-1319	OURA. "Oura Advisor." OURA. July 1, 2025. https://support.ouraring.com/hc/en-us/articles/39512345699219-Oura-Advisor
Ex-1320	"Oura Ring 4, powered by smart sensing, is here." Yole Group. October 3, 2024. https://www.yolegroup.com/industry-news/oura-ring-4-powered-by-smart-sensing-is-here/
Ex-1321	Kharpal, Arjun. "Smart ring leader Oura plans international push as CEO touts new features and thinking on hardware." CNBC. November 14, 2024. https://www.cnbc.com/2024/11/14/oura-plans-international-expansion-tests-nutrition-and-ai-features.html
Ex-1322	McLEAR. "About Us." McLEAR. July 1, 2025. https://mclear.co/about/
Ex-1323	NFC RING. "Gallery." NFC RING. July 1, 2025. https://nfcring.com/gallery/
Ex-1324	INTENTIONALLY LEFT BLANK
Ex-1325	INTENTIONALLY LEFT BLANK
Ex-1326	Bhavsar, Sagar Naresh. "Samsung's next wave of wearables could include smart earrings and AI necklaces." Neowin. July 11, 2025. https://www.neowin.net/news/samsungs-next-wave-of-wearables-

	could-include-smart-earrings-and-ai-necklaces/
Ex-1327	INTENTIONALLY LEFT BLANK
Ex-1328	U.S. Patent No. 11,868,178
Ex-1329	David C. Bock et al., Batteries Used to Power Implantable Biomedical Devices, 84 Electrochimica Acta 155 (2012)
Ex-1330	B. Scrosati, Lithium Batteries: From Early Stages to the Future, in Lithium Batteries 13 (B. Scrosati, K.M. Abraham, W. Van Schalkwijk & J. Hassoun eds., 2013)
Ex-1331	U.S. Patent No. 7,968,226
Ex-1332	U.S. Patent No. 6,881,516
Ex-1333	Screenshot from the Internet Archive of Ouraring.com, "The Smart Ring That Helps You Get More Restorative Sleep," available at https://web.archive.org/web/20171205082910/https:/ouraring.com/
Ex-1334	Screenshot from the Internet Archive of Ouraring.com, "What has Changed? The New Oura Ring," available at, available at https://web.archive.org/web/20191206191935/https:/ouraring.com/difference-between-first-and-new-oura-ring/
Ex-1335	iFixit, Oura Ring 2 Teardown, iFixit (July 9, 2020), https://www.ifixit.com/Teardown/Oura+Ring+2+Teardown/135207
Ex-1336	Screenshots of "What's inside the Oura Ring? (Gen 3 and 2)," available at https://www.youtube.com/watch?v=z7zuWbFNTL8&t=529s
Ex-1337	Declaration of Khanh Leon in Support of Petitioner's Motion for Pro Hac Vice Admission Pursuant to 37 C.F.R. §42.10(c)
Ex-1338	Declaration of Argirenia Zervos in Support of Petitioner's Motion for Pro Hac Vice Admission Pursuant to 37 C.F.R. §42.10(c)
Ex-1339	Petitioner's Demonstratives

Respectfully Submitted,

/s/ *William M. Fink*
William M. Fink (Reg. No. 72,332)

CERTIFICATE OF SERVICE

I hereby certify that on September 9, 2025, I caused a true and correct copy of the foregoing PETITIONER'S UPDATED LIST OF EXHIBITS to be served electronically on counsel for Patent Owner at the following addresses:

Jasjit S. Vidwan
JVidwan@mayerbrown.com
Angeline Premraj
APremraj@mayerbrown.com
MAYER BROWN LLP
1999 K Street, N.W.
Washington, D.C. 20006-1101
Telephone: (202) 263-3065

Robert G. Pluta
RPluta@mayerbrown.com
Nicholas H. Ciulla
NCiulla@mayerbrown.com
Daniel Kim
DKim@mayerbrown.com
MAYER BROWN LLP
71 S. Wacker Drive
Chicago, IL 60606
Telephone: (312) 782-0600

Dated: September 9, 2025

Respectfully submitted,

/s/ William M. Fink

William M. Fink (Reg. No. 72,332)
O'Melveny & Myers LLP
1625 Eye Street, NW
Washington, DC 20006
Telephone: (202) 383-5300
Fax: (202) 383-5414
E-Mail: tfink@omm.com
Attorney for Petitioner