

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD., SAMSUNG ELECTRONICS
AMERICA, INC., SAMSUNG SEMICONDUCTOR, INC., and SAMSUNG
AUSTIN SEMICONDUCTOR LLC,

Petitioners,

v.

W&WSENS DEVICES INC.,

Patent Owner.

Case IPR2025-00994
Patent No. 11,621,360

PETITIONERS' UPDATED EXHIBIT LIST

Pursuant to 37 C.F.R. § 42.63(e), Petitioners Samsung Electronics Co., Ltd.; Samsung Electronics America, Inc.; Samsung Semiconductor, Inc.; and Samsung Austin Semiconductor LLC hereby submit a current listing of Petitioners' exhibits. Exhibits 1077-1089 are being filed today.

Exhibit	Description
1001	U.S. Patent No. 11,621,360 B2 to Wang et al. (“’360 Patent”)
1002	Declaration of Dr. Michael Leppy, Ph.D. (“Leppy”)
1003	Prosecution History of the ’360 Patent (downloaded from Patent Center)
1004	U.S. Patent Application Publication No. 2012/0049044 A1 to Kuboi (“ <i>Kuboi</i> ”)
1005	U.S. Patent Application Publication No. 2012/0033119 to Shinohara (“ <i>Shinohara</i> ”)
1006	European Patent Application EP 2172974 A1 to NXP B.V. (“ <i>NXP</i> ”)
1007	U.S. Patent Application Publication No. 2008/0259981 A1 to Wang et al. (“ <i>Wang</i> ”)
1008-1009	Reserved
1010	Zhihong Huang et al., <i>Microstructured silicon photodetector</i> , Applied Physics Letter, Vol. 89 (2006), pp. 033506-1 to -3.
1011	Richard A. Myers et al., <i>Enhancing near-infrared avalanche photodiode performance by femtosecond laser microstructuring</i> , Applied Optics, Vol. 45, No. 35 (Dec. 2006), pp. 8825-31.
1012	Abbas El Gamal et al., <i>CMOS Image Sensors</i> , IEEE Circuits & Devices Magazine (2005), pp. 6-20.

Exhibit	Description
1013	Eric R. Fossum, <i>CMOS Image Sensors: Electronic Camera-On-A-Chip</i> , IEEE Transactions on Electron Devices, Vol. 44, No. 10 (Oct. 1997), pp. 1689-98.
1014	Sunetra Mendis et al., <i>CMOS Active Pixel Image Sensor</i> , IEEE Transactions on Electron Devices, Vol. 41, No. 3 (Mar. 1994), pp. 452-53.
1015	Renato Turchetta et al., <i>Introduction to CMOS Image Sensors</i> , Molecular Expressions™ Optical Microscopy Primer: Digital Imaging in Optical Microscopy - Introduction to CMOS Image Sensors (July 16, 2004), pp. 1-9, available at https://web.archive.org/web/20120508153832/https://micro.magnet.fsu.edu/primer/digitalimaging/cmosimagesensors.html
1016-1019	Reserved
1020	John P. Uyemura, <i>CMOS Logic Circuit Design</i> (Kluwer Academic Publishers 2002), pp. 64, 74-102, 315-17, 458-60.
1021	Khalil Jumah Tawfiq Haram, <i>Organic Solar Cells Based on High Dielectric Constant Materials: An Approach to Increase Efficiency</i> (June 2013) (Ph.D. dissertation, Western Michigan University), pp. 1-122.
1022	P. Kalugasalam et al., <i>Dielectric and AC Conduction Studies of Lead Phthalocyanine Thin Film</i> , Chalcogenide Letters, Vol. 6, No. 9 (Sept. 2009), pp. 469-76.
1023-1027	Reserved
1028	Leonard Rubin et al., <i>Ion Implantation in Silicon Technology</i> , Industrial Physicist, 9(3), (Jun/July 2003), pp. 12-15.
1029	Jurgen Michel et al., <i>Advances in fully CMOS integrated photonic devices</i> , Proceedings of SPIE, Vol. 6477 (2007), pp. 64770P-1 to -11 (“Michel”).

Exhibit	Description
1030	Mark Beals et al., <i>Process Flow Innovations for Photonic Device Integration in CMOS</i> , Proceedings of SPIE, Vol. 6898 (2008), pp. 689804-1 to -14 (“Beals”).
1031-1033	Reserved
1034	Matthew Saucedo, <i>Porphyrin Thin Film Dielectrics</i> , SUNFEST Technical Report TR-CST01NOV04, Center for Sensor Technologies, Univ. of Pennsylvania, Philadelphia, PA (2004), pp. 181-98.
1035	N. Venkatramaiah et al., <i>Spectroscopic and dielectric studies of meso-tetrakis(p-sulfonatophenyl) porphyrin doped hybrid borate glasses</i> , Journal of Alloys and Compounds, Vol. 509 (2011), pp. 2797-803.
1036	Tom J. Savenije, <i>Photogeneration and transport of charge carriers in a porphyrin p/n heterojunction</i> , Physical Review B, Vol. 55, No. 15 (Apr. 1997), pp. 9685-92.
1037	Ümit Salan et al., <i>Synthesis, characterization, electrical and dielectric permittivity measurements of 2,9,16,23-tetra(4-ferrocenylimino-3-nitrophenoxy)phthalocyanines</i> , Journal of Porphyrins and Phthalocyanines, Vol. 10 (2006), pp. 1263-70.
1038	Teresa M. Figueira-Duarte et al., <i>Pyrene-Based Materials for Organic Electronics</i> , Chemical Reviews, Vol. 111 (2011), pp. 7260-314.
1039-1049	Reserved
1050	U.S. Patent Application Publication No. 2012/0153124 A1 to Yu et al. (“Yu”)
1051	International Patent Publication No. WO 2011/085297 A1 to Han et al. (“Han”)
1052	Japanese Patent Publication No. JP 2007-129024A

Exhibit	Description
1053	Certified English Language Translation of Japanese Patent Publication No. JP 2007-129024A to Hasegawa (“ <i>Hasegawa</i> ”)
1054	Reserved
1055	U.S. Patent No. 7,646,943 B1 to Wober (“943 Patent”)
1056	U. S. Patent No. 8,274,122 B2 to Shimotsusa
1057	U. S. Patent No. 8,378,339 B2 to Nomura et al.
1058	Richard Rhoad et al., <i>Geometry for Enjoyment and Challenge</i> (Houghton Mifflin 1997), pp. 236.
1059	U.S. Patent Application Publication No. 2008/0157141 A1 to Han
1060	U.S. Patent No. 8,390,036 B2 to Goto
1061	H. H. Li, <i>Refractive Index of Silicon and Germanium and Its Wavelength and Temperature Derivatives</i> , J. Phys. Chem. Ref. Data, Vol. 9, No. 3 (1980), pp. 561-658.
1062	Rei Kitamura et al., <i>Optical constants of silica glass from extreme ultraviolet to far infrared at near room temperature</i> , Applied Optics, Vol. 46, No. 33 (November 20, 2007), pp. 8118-33.
1063	S.M. Sze et al., <i>Semiconductor Devices Physics and Technology</i> (John Wiley & Sons, Inc. 3d ed. 2012), pp. 6-9, 205-10, 325-30, 392-406, 416-17, 466-67.
1064-1066	Reserved
1067	<i>Electrical Engineering Dictionary - CRCnetBase</i> (Phillip A. Laplante editor-in-chief, CRCPress LLC 2000), pp. 1-10.
1068	P.A. Lane et al., <i>Electroabsorption studies of phthalocynine/perylene solar cells</i> , Solar Energy Materials & Solar Cells, Vol. 63, (2000), pp. 3-13.

Exhibit	Description
1069	Martin A. Green, <i>Self-consistent optical parameters of intrinsic silicon at 300K including temperature coefficients</i> , Solar Energy Materials & Solar Cells, Vol. 92, (2008), pp. 1305-10.
1070	Horst Zimmerman, <i>Integrated Silicon Optoelectronics</i> (Springer. 2d ed. 2010), pp. 1-7.
1071	M.M. El-Nahas et al., <i>Structural and optical properties of Ni (II) tetraphenyl porphyrin thin films</i> , Eur. Phys. J. Appl. Phys. (2012), Vol. 57, pp. 30201-p1 to 30201-p13.
1072	M.M. El-Nahas et al., <i>Structural and optical properties of thermally evaporated zinc phthalocyanine thin films</i> , Proc. 2 nd Saudi Sc. Conf. (March 2004), pp. 277-293.
1073	M.E. Azim-Araghi et al., <i>Electrical and optical properties of an organic semiconductor metal-free phthalocyanine (C₃₂H₁₈N₈)</i> , Eur. Phys. J. Appl. Phys. (2012), Vol. 58, pp. 30201-p1 to 30201-p6.
1074	<i>W&Wsens Devices Inc. v. Samsung Electronics Co. Ltd. et al.</i> , Case No. 2:24-cv-00854, Excerpts from Plaintiff's Infringement Contentions (Jan. 7, 2025)
1075-1076	Reserved
1077	Federal Case Management Statistics – United States District Courts (June 2025), https://www.uscourts.gov/sites/default/files/document/fcms_na_distprofile0630.2025.pdf
1078	Table Showing Trial Delays for Cases Presided by Judge Rodney Gilstrap (E.D. Tex.)
1079	U.S. District Court, Eastern District of TEXAS [LIVE], Calendar Events Set For 8/1/2026-9/1/2026, Judge Rodney Gilstrap, Presiding, https://ecf.txed.uscourts.gov/cgi-bin/CalEvents.pl?128079061733303-L_1_0-1
1080	Table Showing Post-trial Briefing and Decision Timeline, Judge Rodney Gilstrap (E.D. Tex.) (2023 - Present)

Exhibit	Description
1081	Patent Proceedings for U.S. Patent Nos. 12,243,948; 12,087,871; 11,621,360; 10,468,543; 10,446,700; and 9,525,084; Docket Navigator, Cases Search, Case Filters, Patents (search in the search bar for “12243948, 9525084, 12087871, 11621360, 10468543, 10446700”); https://search.docketnavigator.com/patent/binder/0/0
1082	Geoge Quinlin, <i>PTAB Average Time-To-Decision in IPRs May Surprise You</i> , JD Supra (July 28, 2015), https://www.jdsupra.com/legalnews/ptab-average-time-to-decision-in-iprs-71645/
1083	<i>W&WSens Devices Inc. v. Samsung Elecs. Co.</i> , No. 2:24-cv-00854-JRG, Second Amended Docket Control Order, Dkt. 56 (E.D. Tex. Apr. 24, 2025)
1084	Table Listing Public Availability Dates for Sensors
1085	M. Alarcon et al., Samsung Galaxy S5 Teardown, TechInsights Inc. (Apr. 11, 2014), https://www.techinsights.com/blog/samsung-galaxy-s5-teardown
1086	Dick James and Daniel Yang, Samsung Galaxy S6 Teardown, TechInsights Inc. (Apr. 2, 2015), https://www.techinsights.com/blog/samsung-galaxy-s6-teardown
1087	<i>W&Wsens Devices, Inc. v. Samsung Elecs. Co.</i> , Case No. 24-cv-00854-JRG, Complaint for Patent Infringement, Dkt. 1 (E.D. Tex. Oct. 21, 2024)
1088	<i>W&Wsens Devices, Inc. v. Samsung Elecs. Co.</i> , Case No. 24-cv-00854-JRG, Joint Motion for Entry of an Order of Partial Dismissal Without Prejudice, Dkt. 82 (E.D. Tex. Oct. 7, 2025)
1089	<i>W&Wsens Devices, Inc. v. Samsung Elecs. Co.</i> , Case No. 24-cv-00854-JRG, Order Granting Joint Motion for Entry of an Order of Partial Dismissal Without Prejudice, Dkt. 82-1 (E.D. Tex. Oct. 7, 2025)

Respectfully submitted,

Dated: October 8, 2025

By: / Joshua L. Goldberg /
Joshua L. Goldberg, Lead Counsel
Reg. No. 59,369

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing **Petitioners' Updated Exhibit List and Exhibits 1077-1089** were served on October 8, 2025, via e-mail directed to counsel of record for the Patent Owner at the following:

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Patent Owner has consented to electronic service by email.

Dated: October 8, 2025

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