

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD, and
SAMSUNG ELECTRONICS AMERICA, INC.,

Petitioner,

v.

CELLECT, LLC,

Patent Owner.

Case IPR2020-00512

U.S. Patent No. 9,186,052

PATENT OWNER'S UPDATED EXHIBIT LIST

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EXHIBIT NO.	DESCRIPTION
Exhibit-2001	Complaint for Patent Infringement in <i>Collect, LLC v. Samsung Electronics Co., LTD and Samsung Electronics America, Inc</i> , 1:19-cv-00438, dated February 14, 2019.
Exhibit-2002	Proof of Service for Summons and Complaint, dated February 19, 2019.
Exhibit-2003	Scheduling Order in a Patent Case in <i>Collect, LLC v. Samsung Electronics Co., LTD and Samsung Electronics America, Inc</i> , 1:19-cv-00438, dated June 10, 2019.
Exhibit-2004	E. Fossum, <i>Active-pixel sensors challenge CCD</i> , Laser Focus World, pp. 83-87, June 1993 (“Fossum”).
Exhibit-2005	Parties’ Joint Claim Construction Chart in <i>Collect, LLC v. Samsung Electronics Co., LTD and Samsung Electronics America, Inc</i> , 1:19-cv-00438, dated May 8, 2020.
Exhibit-2006	U.S. Patent No. 5,754,313 (“Pelchy”).
Exhibit-2007	Zarnowski and Pace, <i>Imaging options expand with CMOS technology</i> , Laser Focus World, June 1997 (“Zarnowski”)
Exhibit-2008	U.S. Patent No. 4,491,865 (“Danna”).
Exhibit-2009	U.S. Patent No. 5,453,785 (“Lenhardt”).
Exhibit-2010	Hearing Transcript before Judge Hegarty, dated July 10, 2019.
Exhibit-2011	<i>Collect, LLC v. Samsung Electronics Co., LTD and Samsung Electronics America, Inc</i> , 1:19-cv-00438 Docket Sheet.
Exhibit-2012	Declaration of Jonathan S. Caplan, dated March 17, 2020.
Exhibit-2013	Relationship of Challenged Patents and Related References.
Exhibit-2014	Patent Family Listing

EXHIBIT NO.	DESCRIPTION
Exhibit-2017	U.S. Patent No. 6,009,336 (“Harris”).
Exhibit-2018	U.S. Patent No. 6,417,882 (“Mahant-Shetti”).
Exhibit-2019	U.S. Patent No. 6,243,131 (“Martin”).
Exhibit-2020	U.S. Patent No. 5,162,913 (“Chatenever”).
Exhibit-2021	File History of U.S. Patent No. 6,310,642
Exhibit-2022	File History of U.S. Patent No. 5,986,693
Exhibit-2023	File History of U.S. Patent No. 5,929,901
Exhibit-2024	Ruyten, <i>Smear correction for frame transfer charge-coupled-device cameras</i> , Optics Letters, Vol. 24(13), pp. 878-880 (July 1, 1999)
Exhibit-2025	U.S. Patent No. 6,310,642 (“Adair ‘642”).
Exhibit-2026	U.S. Patent No. 6,073,034 (“Jacobson”).
Exhibit-2027	U.S. Patent No. 6,141,037 (“Upton”).
Exhibit-2028	U.S. Patent No. 6,147,366 (“Drottar”).
Exhibit-2029	U.S. Patent No. 5,929,901 (“Adair”).
Exhibit-2030	PCT WO 90/10361 (“Ullman”).
Exhibit-2031	PCT WO 95/15044
Exhibit-2032	U.S. Patent No. 5,896,375 (“Dent”).
Exhibit-2033	U.S. Patent No. 6,590,928 (“Haartsen”).
Exhibit-2034	U.S. Patent No. 5,471,515 (“Fossum ‘515”).
Exhibit-2035	U.S. Patent No. 5,986,693 (“Adair ‘693”).

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Exhibit-2036	Image Sensors, OIDA's Global Optoelectronics Industry Market Report and Forecast, October 2007.
Exhibit-2037	Samsung's Invalidity Contentions, dated January 21, 2020.
Exhibit-2039	Armstrong, <i>NASA's Tiny Camera has a wide-angle future</i> , BusinessWeek, pp. 54-55, March 6, 1995. ("Armstrong").
Exhibit-2040	U.S. Patent No. 5,879,289 ("Yarush").
Exhibit-2041	U.S. Patent No. 7,369,176 ("Sonnenschein").
Exhibit-2042	File History of U.S. Patent No. 6,752,255
Exhibit-2043	U.S. Patent No. 5,986,693 ("Adair '693").
Exhibit-2050	Brian Ackland & Alex Dickinson, <i>Camera on a Chip</i> , 1996 IEEE INT'L SOLID-STATE CIRCUITS PROC. 22, 22-25, & 412 (1996).
Exhibit-2051	U.S. Patent No. 5,596,228 A, to Richard L. Anderton <i>et al.</i> ("Anderton").
Exhibit-2052	<i>1997 Product Timeline</i> , DIGIT. PHOTOGRAPHY REV., https://www.dpreview.com/products/timeline?year=1997&brand=&category (last visited Oct. 20, 2020).
Exhibit-2053	Eric R. Fossum, <i>Active Pixel Sensors: Are CCD's Dinosaurs?</i> , 1900 SPIE: CHARGE-COUPLED DEVICES & SOLID-STATE OPTICAL SENSORS III 1, 1-13 (1993).
Exhibit-2054	Eric R. Fossum, <i>CMOS Image Sensors: Electronic Camera On A Chip</i> , 1995 IEEE INT'L ELECTRON DEVICES PROC. 17, 17-25 (1995).
Exhibit-2055	Eric R. Fossum <i>et al.</i> , <i>CMOS Active-Pixel Image Sensor Containing Pinned Photodiodes</i> , NASA TECH BRIEFS 40-42 (Oct. 1996).
Exhibit-2056	U.S. Patent No. RE42,974E, to Eric R. Fossum <i>et al.</i> ("Fossum Reissue"), a reissue of U.S. Patent No. 6,570,617, to same.

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Exhibit-2057	KIRK J. HAVENS ET AL., <i>Thermal Imagers and System Considerations</i> , in THERMAL IMAGING TECHNIQUES TO SURVEY AND MONITOR ANIMALS IN THE WILD 101, 101-19 (2016) (“Havens”).
Exhibit-2058	GERALD C. HOLST, CCD ARRAYS, CAMERAS, & DISPLAYS (2nd ed. 1998) (“Holst”).
Exhibit-2059	JAMES R. JANESICK, <i>History, Operation, Performance, Design, Fabrication and Theory</i> , in SCIENTIFIC CHARGE-COUPLED DEVICES 3, 22-37 (2001) (“Janesick”).
Exhibit-2060	Laura Johannes, <i>Advances in CMOS Chips Help Sales of Digital Cameras</i> , WALL ST. J., Aug. 21, 1998, https://www.wsj.com/articles/SB903661392760427500 .
Exhibit-2061	U.S. Patent No. 6,721,008 B2, to Paul P. Lee <i>et al.</i> (“Lee”).
Exhibit-2062	Dawn Levy, <i>News Release: Speedy Camera-On-A-Chip Unites Image Capture and Processing</i> , STANFORD NEWS SERV., Apr. 2001, https://news.stanford.edu/pr/01/digicam3425.html .
Exhibit-2063	Elizabeth M. Lockyer, <i>Applications Hold the Key to Imager Choice</i> , PHOTONICS SPECTRA 80-90 (Mar. 1997).
Exhibit-2064	Sunetra Mendis <i>et al.</i> , <i>CMOS Active Pixel Image Sensor</i> , 41 IEEE TRANSACTIONS ON ELECTRON DEVICES 452, 452-53 (1994).
Exhibit-2065	Jun-ichi Nakamura <i>et al.</i> , <i>CMOS Active Pixel Image Sensor with Simple Floating Gate Pixels</i> , 42 IEEE TRANSACTIONS ON ELECTRON DEVICES 1693, 1693-94 (1995).
Exhibit-2066	Robert H. Nixon <i>et al.</i> , <i>256 x 256 CMOS Active Pixel Sensor Camera-On-A-Chip</i> , 1996 IEEE INT’L SOLID-STATE CIRCUITS PROC. 178, 178-79, 440 (1996).
Exhibit-2067	Robert Nixon <i>et al.</i> , <i>Active-Pixel Image Sensor Integrated with Readout Circuits</i> , NASA TECH BRIEFS 38-40 (Oct. 1996).

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Exhibit-2068	Peter J.W. Noble, <i>Self-Scanned Silicon Image Detector</i> , ED-15 IEEE TRANSACTIONS ON ELECTRON DEVICES 202, 202-09 (1968).
Exhibit-2069	JUN OHTA, SMART CMOS IMAGE SENSORS & APPLICATIONS (CRC Press, Taylor & Francis Group 2008).
Exhibit-2070	U.S. Patent No. 8,279,313 B2, to Howard E. Rhodes (“Rhodes”).
Exhibit-2071	Santa Barbara Instrument Group, <i>Operating Manual for the Model ST-5C Advanced CCD Camera</i> (5th ed., May 1998), https://diffractionlimited.com/downloads/legacy/st5cman.pdf (“SBIG”).
Exhibit-2072	George E. Smith, <i>The Invention of the CCD</i> , 471 NUCLEAR INSTRUMENTS & METHODS PHYSICS RSCH. A 1, 1-5 (2001).
Exhibit-2073	U.S. Patent No. 5,262,871 A, to Joseph Wilder <i>et al.</i> (“Wilder”).
Exhibit-2074	<i>Licensing Our Technology to Medical Device Manufacturers</i> , Micro Imaging Solutions LLC, https://micro-imaging.us/licensing (last visited Oct. 20, 2020).
Exhibit-2075	Deposition Transcript of Dean Neikirk, Ph.D. (Oct. 8, 2020).
Exhibit-2076	Deposition Transcript of Dean Neikirk, Ph.D. (Sept. 30, 2020).
Exhibit-2077	Deposition Transcript of Dean Neikirk, Ph.D. (Oct. 1, 2020).
Exhibit-2078	<i>Charged-Coupled Device</i> , WIKIPEDIA, Aug. 15, 2020, https://en.wikipedia.org/w/index.php?title=Charge-coupled_device&oldid=973099011 .
Exhibit-2079	ITRS, INTERNATIONAL TECHNOLOGY ROADMAP FOR SEMICONDUCTORS: EXECUTIVE SUMMARY (Wolfgang Arden <i>et al.</i> eds., 2d ed., 2001).
Exhibit-2080	<i>International Technology Roadmap for Semiconductors</i> , WIKIPEDIA, Jul. 11, 2020, https://en.wikipedia.org/w/index.php?title=International_Technology_roadmap_for_Semiconductors&oldid=967213969 .

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Exhibit-2083	Secretary's Office, <i>News Release: Hitachi Releases New MPEG Camera with Enhanced Presentations Features</i> , Hitachi, Ltd., Nov. 19, 1997, www.hitachi.com/New/cnews/E/1997/971119B.html (last visited Oct. 20, 2020).
Exhibit-2084	Southwest Museum of Engineering, Communications & Computation, <i>Hitachi</i> , SMECC (2007), https://www.smecc.org/hitachi.htm (last visited Oct. 20, 2020).
Exhibit-2085	Albert Theuwissen, <i>CMOS Image Sensors: State-Of-The-Art and Future Perspectives</i> , 2007 EUR. SOLID-STATE CIRCUITS PROC. 21, 21-27 (2007).
Exhibit-2086	Dan Lockney, NASA, <i>Image Sensors Enhance Camera Technologies</i> , NASA Spinoff, (2010) https://spinoff.nasa.gov/Spinoff2010/cg_3.html (last visited Sept. 3, 2020).
Exhibit-2087	Brian Dunbar, NASA, <i>NASA Technology is All Around You</i> , NASA, Dec. 12, 2016 (last updated Aug. 6, 2017), https://www.nasa.gov/specials/apollo50th/index.html .
Exhibit-2088	Declaration of Michael Lebby, Ph.D.
Exhibit-2089	Marc J. Philippon, <i>A New Technology Platform for Arthroscopy</i> , U.S. ORTHOPAEDIC PROD. NEWS: FUTURETECH, Jul.-Aug. 2007, at 1-3.
Exhibit-2090	Robin Young, <i>The Eleven Best Sports Medicine Technologies for 2016</i> , Orthopedics This Week, Jul. 14, 2016,

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	https://ryortho.com/2016/07/the-eleven-best-sports-medicine-technologies-for-2016/ , (last visited Oct. 18, 2020).
Exhibit-2091	DENNIS LONGLEY & MICHAEL SHAIN, VAN NOSTRAND REINHOLD DICTIONARY OF INFORMATION TECHNOLOGY 471 (3d ed. 1989).
Exhibit-2092	L. Kozlowski <i>et al.</i> , <i>Development Status of CMOS 1920 x 1080 Imaging System-on-Chip for 60p and 72p HDTV</i> , 113 SMPTE MOTION IMAGING J. 359, 359–68 (Oct.–Nov. 2004).
Exhibit-2093	G. Albert Lemke, <i>Consumer Product Through Mid-Range Computer Packaging</i> , in MICROELECTRONICS PACKAGING HANDBOOK 1021, 1021–1045 (Rao R. Tummala <i>et al.</i> eds., 1989).
Exhibit-2094	SHICHUN QU & YONG LIU, WAFER-LEVEL CHIP-SCALE PACKAGING: ANALOG AND POWER SEMICONDUCTOR APPLICATIONS (2015).
Exhibit-2095	Deposition Transcript of Dean Neikirk, Ph.D. (Oct. 9, 2020).
Exhibit-2096	Authenticated version of Exhibit 2052, <i>1997 Product Timeline</i> , DIGIT. PHOTOGRAPHY REV., https://www.dpreview.com/products/timeline?year=1997&brand=&category (last visited Oct. 20, 2020), (“Authenticated Ex. 2052”).
Exhibit-2097	Authenticated version of Exhibit 2062, Dawn Levy, <i>News Release: Speedy Camera-On-A-Chip Unites Image Capture and Processing</i> , STANFORD NEWS SERV., Apr. 2001, https://news.stanford.edu/pr/01/digicam3425.html , (“Authenticated Ex. 2062”).
Exhibit-2098	Authenticated version of Exhibit 2083, Secretary’s Office, <i>News Release: Hitachi Releases New MPEG Camera with Enhanced Presentations Features</i> , Hitachi, Ltd., Nov. 19, 1997, www.hitachi.com/New/cnews/E/1997/971119B.html (last visited Oct. 20, 2020), (“Authenticated Ex. 2083”).
Exhibit-2099	Authenticated version of Exhibit 2084, Southwest Museum of Engineering, Communications & Computation, <i>Hitachi</i> , SMECC

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Exhibit-2100	Authenticated version of Exhibit 2086, Dan Lockney, NASA, <i>Image Sensors Enhance Camera Technologies</i> , NASA Spinoff, (2010) https://spinoff.nasa.gov/Spinoff2010/cg_3.html (last visited Sept. 3, 2020), (“Authenticated Ex. 2086”).
Exhibit-2101	Authenticated version of Exhibit 2087, Brian Dunbar, NASA, <i>NASA Technology is All Around You</i> , NASA, Dec. 12, 2016 (last updated Aug. 6, 2017), https://www.nasa.gov/specials/apollo50th/index.html , (“Authenticated Ex. 2087”).
Exhibit-2102	Authenticated version of Exhibit 2090, Robin Young, <i>The Eleven Best Sports Medicine Technologies for 2016</i> , Orthopedics This Week, Jul. 14, 2016, https://ryortho.com/2016/07/the-eleven-best-sports-medicine-technologies-for-2016/ , (last visited Oct. 18, 2020), (“Authenticated Ex. 2090”).
Exhibit-2103	Deposition Transcript of Dean Neikirk, Ph.D. (Mar. 2, 2021).
Exhibit-2104	Deposition Transcript of Dean Neikirk, Ph.D. (Mar. 5, 2021).

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e), the undersigned certifies that a true and correct copy of the foregoing Patent Owner's Updated Exhibit List was served on March 15, 2021, by filing this document through the PTAB E2E System as well as delivering via electronic mail upon the following counsel of record for Petitioner:

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