

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

XILINX, INC.
Petitioner
v.
INTELLECTUAL VENTURES I LLC
Patent Owner

Case IPR2013-00029
Patent 5,632,545

DECLARATION OF ROBERT SMITH-GILLESPIE

IVI LLC EXHIBIT 2005 XILINX V. IVI LLC IPR Case 2013-00029
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I. INTRODUCTION

1. I have been retained as an expert in video projection systems by Foley & Lardner LLP, which represents Intellectual Ventures Management (of which Intellectual Ventures I LLC is an affiliate) in this matter.

2. The documents that I have considered in developing my opinions set forth in this declaration include: Ex. 1001 (U.S. Patent No. 5,632,545 to Kikinis), Ex. 1002 (U.S. Patent No. 5,108,172 to Flasck), Ex. 1003 (U.S. Patent No. 5,264,951 to Takanashi), Ex. 1004 (U.S. Patent No. 5,287,131 to Lee), Ex. 1005 (U.S. Patent No. 5,784,038 to Irwin), Ex. 1006 (Declaration of Dr. Buckman), Ex. 1007 (the curriculum vitae of Dr. Buckman), Ex. 1008 (the file history of U.S. Patent No. 5,632,545), Ex. 2001 (definitions from the American Heritage College Dictionary, 3d edition, 1997), Ex. 2002 (U.S. Patent No. 6,002,207 to Beeteson), Ex. 2003 (U.S. Patent No. 6,184,943 to Sellers), Ex. 3001 (definitions from Merriam-Webster's Collegiate Dictionary), Ex. 3002 (definition from the Newnes Dictionary of Electronics, 4th Edition), the Xilinx petition (Paper No. 1), the Patent Owner Preliminary Response (Paper No. 8), the Board decision instituting *inter partes* review (Paper No. 11), Ex. 2004 (the transcript from the deposition of Dr. Buckman), U.S. Patent No. 5,777,796 to Burstyn (Ex. 1004 from IPR2013-00112), Ex. 2008 (Optics and Nonlinear Optics of Liquid Crystals, chapter 2, Khoo et al., 2003), Ex. 2010 (U.S. Patent No. 8,054,535 to Sikharulidze), Ex. 2013 (U.S. Patent

No. 6,985,253 to Figueroa), U.S. Patent No. 5,024,524 to Flasck (which is incorporated by reference into U.S. Patent No. 5,108,172 to Flasck), U.S. Patent No. 6,266,037 to Flasck (a parent of which is incorporated by reference into U.S. Patent No. 5,108,172 to Flasck), U.S. Patent No. 4,435,047 to Ferguson (which is incorporated by reference into U.S. Patent No. 5,108,172 to Flasck), U.S. Patent No. 4,688,900 to Doane (which is incorporated by reference into U.S. Patent No. 5,108,172 to Flasck), U.S. Patent No. 4,368,963 to Stolov (which appears on the face of U.S. Patent No. 5,632,545 to Kikinis), U.S. Patent No. 5,359,345 to Hunter (which appears on the face of U.S. Patent No. 5,632,545 to Kikinis), U.S. Patent No. 5,398,086 to Nakano (which appears on the face of U.S. Patent No. 5,632,545 to Kikinis), U.S. Patent No. 5,481,320 to Konoma (which appears on the face of U.S. Patent No. 5,632,545 to Kikinis), and U.S. Patent No. 5,555,035 to Mead (which appears on the face of U.S. Patent No. 5,632,545 to Kikinis).

3. I am being compensated on a per hour basis for my time spent working on issues in this case. My compensation does not depend upon the outcome of this matter or the opinions I express.

4. Additional information may become available which would further support or modify the conclusions that I have reached to date. Accordingly, I reserve the right to modify and/or enlarge this opinion or the bases thereof upon consideration of any further discovery, testimony, or other evidence, including any

issues raised by any expert or witness of petitioner Xilinx, or based upon interpretations of any claim term by the Patent Office different than those proposed in this declaration.

II. QUALIFICATIONS

5. My curriculum vitae is Ex. 2006. My experience in the display field dates back to the late 1980's when I worked as the lighting specialist in the Flight Deck Packaging group at Honeywell's Commercial Air Transport Division. Initially my work focused on development of early technology liquid crystal display (LCD) components for flight control panels on commercial aircraft. I later participated in the technology development and productization of the active matrix LCD panels for the Boeing 777 program. In the early phases of this program we performed trade studies aimed at assessing the appropriate technology for replacing cathode ray tube (CRT) instruments on the flight deck. Technologies that I evaluated include rear projection micro-display LCD panels and thin-film transistor (TFT) LCDs. Following my work at Honeywell, I moved to Three-Five Systems where I worked again as a technical specialist for displays and lighting. While there, I interfaced with the liquid crystal on silicon (LCOS) projection team (later to become Brillian Corp.) on light engine design (light sources, thermal control) and reflective LCOS optical evaluation (radiometric characterization). While at Rosen Products I again worked as a senior technical specialist in displays

where I was primarily focused on video system integration for automotive and aviation LCD display platforms. My work there included specifying and evaluating video controllers, source equipment, and displays for automotive rear seat entertainment and aircraft cabin entertainment systems.

6. I am a named inventor on U.S. Patent No. 7,660,040 and European Patent No. 1724621A1, which are directed to a reflective material for LCD display backlighting. I also have a pending patent application (U.S. 13/564,045) for a “Dual Mode LCD Backlight” which employs a novel dichroic filtering design to create a single rail, night vision compatible backlight.

7. I have a bachelor’s degree in Physics from the State University of New York at Plattsburgh and a bachelor of science degree in mechanical engineering. I have additionally studied optics at the graduate level at the University of Oregon and have studied liquid crystal display technology at Kent State University (professional short courses).

III. SCOPE OF ASSIGNMENT

8. I have been retained to opine on the patentability of the claims in U.S. Patent No. 5,632,545 (“the ‘545 patent”), and on the claims proposed to be added to the ‘545 patent.

9. I have been asked to consider whether the inventions recited in those claims of the ‘545 patent are patentable over the prior art.

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