UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

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

Case IPR2013-00112 Patent 5,779,334

SECOND DECLARATION OF ROBERT SMITH-GILLESPIE



I. INTRODUCTION

- I have been retained as an expert in video projection systems by Foley
 & Lardner LLP, on behalf of Intellectual Ventures I LLC 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. 5,779,334 to Kikinis), Ex. 1002 (U.S. Patent No. 5,264,951 to Takanashi), Ex. 1003 (U.S. Patent No. 5,287,131 to Lee), Ex. 1010 (U.S. Patent No. 5,136,397 to Miyashita), Ex. 1011 (Declaration of Dr. Buckman in Support of the Opposition), the Patent Owner Motion to Amend (Paper 27), and Petitioner's Opposition to the Motion to Amend (Paper 31).
- 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

My curriculum vitae is Ex. 2006. My experience in the display field 5. 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 from Arizona State University. 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. 5,779,334 ("the '334 patent"), and on the claims proposed to be added to the '334 patent.
- 9. I have been asked to consider whether Proposed Claims 15 and 16 of the '334 patent are patentable over the prior art.
 - 10. This declaration sets forth my opinion on this topic.



IV. LEGAL PRINCIPLES USED IN ANALYSIS

- 11. I have been advised that, in construing a claim term, one looks primarily to the "intrinsic" patent evidence, which includes the words of the claims themselves, the remainder of the patent specification, and the prosecution history. I have been advised by patent owner's counsel that "extrinsic" evidence, which is evidence external to the patent and the prosecution history, may also be useful in interpreting patent claims. Extrinsic evidence can include dictionaries, treatises, textbooks, and the like.
- 12. In rendering the opinions set forth in this declaration, I was asked to consider the patent claims through the eyes of "one of ordinary skill in the art." I was told by patent owner's counsel to consider factors such as the educational level and years of experience of those working in the pertinent art; the types of problems encountered in the art; the teachings of the prior art; patents and publications of other persons or companies; and the sophistication of the technology. I understand that the person of ordinary skill in the art is not a specific real individual, but rather a hypothetical individual having the qualities reflected by the factors discussed above.
- 13. In my opinion, based on my experience in research and product development of video projection systems, and my evaluation of the skills and background that graduates of engineering programs should possess, a person of



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