

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LG ELECTRONICS, INC.
Petitioner

v.

DELAWARE DISPLAY GROUP LLC
Patent Owner

Case: IPR2015-01666

Patent 7,434,973

DECLARATION OF MICHAEL J. ESCUTI, Ph.D.

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I. INTRODUCTION

1. My name is Dr. Michael J. Escuti, and I have been retained by the law firm of Mayer Brown LLP on behalf of LG Electronics, Inc. as an expert in the relevant art.

2. I have been asked to provide my opinions and views on the materials I have reviewed in this case related to Ex. 1001, U.S. Patent No. 7,434,973 (“the ’973 Patent”) (“the patent-at-issue”), and the scientific and technical knowledge regarding the same subject matter before and for a period following the date of the first application for the patent-at-issue was filed.

3. I am compensated at the rate of \$330/hour for my work, plus reimbursement for expenses. My compensation has not influenced any of my opinions in this matter and does not depend on the outcome of this proceeding or any issue in it.

4. My opinion and underlying reasoning for this opinion are set forth below.

A. Background and Qualifications

5. I am currently a tenured Associate Professor at North Carolina State University (“NCSU”), in the Department of Electrical and Computer Engineering. As detailed below, I have over 17 years of experience directly relevant to the ’973 Patent, including in the fields of liquid crystal display (“LCD”) technologies, backlight design, optical physics, and electronic materials.

6. I received my Ph.D. in Electrical Engineering from Brown University in

Providence, RI, in 2002. My dissertation topic focused on novel LCD systems and devices, including both experimental and theoretical study. Upon earning my Ph.D., I apprenticed as a Postdoctoral Scholar in the Department of Chemical Engineering at Eindhoven University of Technology (Netherlands), where my research focused on LCDs, novel backlight approaches, diffractive optical films/sheets, and polymer-based organic electronics. Since 2004, I have been on the faculty of NCSU in Raleigh, NC, currently as a tenured Professor in the Department of Electrical and Computer Engineering. I have supervised the graduation of seven Ph.D. and three M.S. students, and currently advise an additional three Ph.D. students. In addition, I have mentored nineteen undergraduate researchers.

7. In 2005, I co-founded ImagineOptix Corporation, which commercializes components, systems, and optical thin-film technology developed within my academic laboratory. The primary markets are LCDs, projectors, and telecommunications hardware. Since its inception, I have been a part-time advisor to the company with the title of Chief Scientific Officer, and in 2013, I joined the Board of Directors.

8. With my students and collaborators, I have authored over 110 publications, including journal articles, refereed conference proceedings, and book chapters. I am a named inventor on 12 issued and 20 pending United States patents, and

several additional foreign patents. I have offered 30 invited research presentations.

9. I have received numerous awards and distinctions, including the following:
 - a. (2011) Presidential Early Career Award for Scientists and Engineers (“PECASE”), the highest award by the U.S. Government for young researchers;
 - b. (2011) Alcoa Foundation Engineering Research Achievement Award, awarded to one faculty NCSU member annually recognizing outstanding research;
 - c. (2010) Faculty Early Career Development (CAREER) Award, from the National Science Foundation (“NSF”);
 - d. (2004) Glenn H. Brown Prize for Outstanding Ph.D. Dissertation, from the International Liquid Crystal Society (“ILCS”);
 - e. (2002) New Focus Award, Top Winner, from the Optical Society of America (“OSA”); (2001) Graduate Student Silver Award, from the Materials Research Society;
 - f. (2001) Sigma Xi Outstanding Graduate Student Research Award, from Brown University chapter;
 - g. (1999) Best Student Paper Award, Society for Information Display (“SID”);
 - h. Member of the Institute of Electrical and Electronics Engineers (“IEEE”),

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