UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SEOUL SEMICONDUCTOR CO., LTD., and
SEOUL SEMICONDUCTOR, INC.
Petitioners

v.

DOCUMENT SECURITY SYSTEMS, INC.
Patent Owner

Case No. IPR2018-00333
U.S. Patent No. 7,256,486

DECLARATION OF MICHAEL PECHT PH.D IN SUPPORT OF U. S. PATENT NO. 7,256,486 UNDER 35 U.S.C. §§ 311-319 AND 37 C.F.R. § 42.100 *ET SEQ.*

TABLE OF CONTENTS

Page

I. INTRODUCTION

1. I, Michael Pecht, of 7027 Hunter Lane, Hyattsville, Maryland, USA, have been retained by Holland & Knight on behalf of Seoul Semiconductor Co., Ltd. and Seoul Semiconductor, Inc. to provide an analysis of the scope and content of U.S. Patent No. 7,256,486 ("the '486 patent") relative to the state of the art at the time of the earliest application underlying the '486 Patent. In particular, my analysis relates only to claims 1-3. I have also been retained to provide analysis regarding what a person of ordinary skill in the art related to packaging for semiconductor-based light emitting devices would have understood at the time of the earliest application underlying the '486 Patent.

2. This report summarizes the opinions I have formed to date. I reserve the right to modify my opinions, if necessary, based on further review and analysis of information that I receive subsequent to the filing of this report, including in response to positions taken by Document Security Systems, Inc. or its experts that I have not yet seen.

II. MY EXPERIENCE AND QUALIFICATIONS

3. I am a licensed Professional Engineer in the State of Maryland.

4. I have a BS in Physics, an MS in Electrical Engineering, and an MS and PhD in Engineering Mechanics from the University of Wisconsin at Madison.

5. I worked as a civil servant electrical technician for 4 years to pay my way through college. After graduation, I spent one year working as a NASA contractor on the Astro-1 space telescope.

6. Since my Ph.D., I have had over thirty years of additional experience in the area of electronics, generally including the area of electronic materials, packaging, design, and testing. I have extensive, hands-on experience with electronic components, including LED packages. I have served as a professor in Electrical Engineering, as a Chair Professor in Mechanical Engineering and a Professor of Applied Mathematics, Statistics, and Scientific Computation, and I have taught numerous undergraduate and graduate classes on electronic packaging, including the packaging of LED components. In addition, I have taught formal courses on electronics components including LED packages for numerous companies and professional organizations, such as the IEEE, SMTA, and the U.S. military.

7. I am a Fellow of three of the largest professional engineering societies: the Institute of Electrical and Electronics Engineers, Inc. ("IEEE"), the International Microelectronics Packaging Society ("IMAPS"), the American Society of Mechanical Engineers ("ASME"), and the Fellow of the Society of Automotive Engineering ("SAE"). These professional societies address electronic components including LED components.

8. I am the founder and Director of CALCE Electronic Products and Systems Center at the University of Maryland, which is funded by over 150 of the world's leading electronics companies. The focus of the center is on electronic components and products. My center has over 120 professionals and one of the largest electronics testing and analysis laboratories in the world, including state of the art equipment and methods to analyze and test LEDs.

9. I have consulted with over eighty major international electronics companies, including with companies on the subject of electronics components and in particular LEDs. Examples of companies I have consulted with include: Osram, Philips, Dell, Huawei, Nortel, Nokia, Ericson, and Emerson.

10. I have also served on various National Academy of Science/Engineering (NAE / NAS) Committees (invited to participate), including the committee for reliability growth (how to improve US military weapon systems), the committee to investigate electronics printed circuit board manufacturing in the U.S., and the committee to examine US research needs in materials engineering.

11. I also served as an expert for congressional investigations, including the Committee on Energy & Commerce to investigate automotive reliability and safety issues: Toyota sudden acceleration (2009 - 2010) and GM ignition – air bag recalls and NHTSA responses (2014).

DOCKET ALARM

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts

Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research

With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips

Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS
Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS
Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS
Sync your system to PACER to automate legal marketing.