

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.
Petitioner

v.

UUSI, LLC d/b/a NARTRON
Patent Owner

Case IPR2016-00908
Patent No. 5,796,183

**DECLARATION OF DR. DARRAN CAIRNS
IN SUPPORT OF PATENT OWNER PRELIMINARY RESPONSE**

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I, Darran Cairns, declare as follows:

I. INTRODUCTION

1. I have been retained by UUSI, LLC d/b/a/ Nartron (“Patent Owner” or “Nartron”) as an independent expert consultant in this proceeding before the Patent Trial and Appeal Board (“PTAB” or “Board”).

2. I am being compensated at a rate of \$490/hour for my work. I have no other interest in this proceeding.

3. My compensation is in no way contingent on the nature of my findings, the presentation of my findings in testimony, or the outcome of this proceeding.

4. I have been asked to consider the allegations made in the Petition for Inter Partes Review of U.S. Patent No. 5,796,183 (“the ’183 Patent”) (the “Petition”), the declaration of Dr. Subramanian in support of that Petition, and the asserted prior art. My opinions are set forth below.

II. BACKGROUND AND QUALIFICATIONS

5. I am the CEO of Tailored Surfaces, a technology development and consulting company focused on functional coatings for the technology industry, and an Adjunct Associate Professor of Mechanical and Aerospace Engineering at West Virginia University, where I have served on the faculty since 2006. I was an Associate Professor with Tenure at West Virginia University until August 2014.

6. My undergraduate degree in Physics (1995) and PhD in Materials Science and Engineering (1999) are from the University of Birmingham in the United Kingdom. From 1998 to 2001 I was a postdoctoral research associate in the Display Laboratory at Brown University. During my time at the University of Birmingham, I performed research related to optical fibers and optical fiber sensors and worked closely with engineers at Pirelli Cables. During my time at Brown University, I performed research on optoelectronic and display devices including flexible electronics, conformable displays, encapsulated liquid crystal devices, and touch sensors.

7. At West Virginia University my research focused on the fabrication of flexible electronic devices. My work was funded by both federal agencies, including the National Science Foundation, NASA, the Air Force Office of Sponsored Research, and the Department of Energy, and private companies, including EuropTec USA, Grote Industries, Kopp Glass, Eastman Chemical and Articulated Technologies. I have worked closely with engineers at each of these companies and assisted them in developing and commercializing electronic devices including electronic lighting for automotive use; and flexible backlights for displays.

8. In my own research program, I am developing patented technologies on functional coatings for electronic and energy applications. I am a named

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