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For: LIGHT EMITTING DEVICE, RESIN PACKAGE, RESIN-MOLDED BODY, AND METHODS FOR MANUFACTURING LIGHT EMITTING DEVICE, RESIN PACKAGE AND RESIN-MOLDED BODY

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**DECLARATION OF DR. STANLEY R. SHANFIELD
IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW OF
UNITED STATES PATENT NO. 9,537,071**

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	BACKGROUND AND QUALIFICATIONS	1
III.	PRIORITY DATE AND ONE OF ORDINARY SKILL	6
IV.	MATERIALS RELIED UPON	8
V.	BACKGROUND ON THE STATE OF THE ART	8
VI.	ANALYSIS OF THE '071 PATENT	18
	A. Overview of the '071 Patent.....	18
	B. Overview of the '071 Patent Prosecution History	28
	C. Claim Construction of the '071 Patent Claims	31
VII.	THE CHALLENGED CLAIMS ARE INVALID.....	32
	A. Legal Standards	32
	B. Claims 1, 2, 4-9, 11-12, 15-19, 21-23, and 25 Are Unpatentable Under §§ 102 and/or 103 Over Loh, Mori, Wang and/or Oshio.....	37
	1. Overview of U.S. Patent Publication No. 2008/0012036 (“Loh”)	37
	2. Overview of U.S. Patent Publication No. 2005/0211991 (“Mori”)	43
	3. Overview of U.S. Patent Publication No. 2008/0073662 (“Wang”).....	45
	4. Overview of U.S. Patent Publication No. 2005-0280017 (“Oshio”)	48
	5. Invalidity of Claim 1 Over Grounds 1 and 2 (Loh).....	50
	6. Invalidity of Claim 4 Over Grounds 1 and 2 (Loh).....	67
	7. Invalidity of Claim 8 Over Grounds 1 and 2 (Loh).....	68
	8. Invalidity of Claim 9 Over Grounds 1 and 2 (Loh).....	69
	9. Invalidity of Claim 11 Over Grounds 1 and 2 (Loh).....	69
	10. Invalidity of Claim 12 Over Grounds 1 and 2 (Loh).....	70
	11. Invalidity of Claim 15 Over Grounds 1 and 2 (Loh).....	71
	12. Invalidity of Claim 16 Over Grounds 1 and 2 (Loh).....	73
	13. Invalidity of Claim 17 Over Grounds 1 and 2 (Loh).....	77
	14. Invalidity of Claim 18 Over Grounds 1 and 2 (Loh).....	77
	15. Invalidity of Claim 25 Over Grounds 1 and 2 (Loh).....	77
	16. Invalidity of Claim 2 Over Ground 3 (Loh and Mori).....	78
	17. Invalidity of Claim 19 Over Ground 3 (Loh and Mori).....	83
	18. Invalidity of Claim 5 Over Ground 4 (Loh and Wang) and, alternatively, Ground 5 (Loh, Wang, and Oshio)	83
	19. Invalidity of Claim 6 Over Ground 4 (Loh and Wang) and,	

	alternatively, Ground 5 (Loh, Wang, and Oshio)	91
20.	Invalidity of Claim 7 Over Ground 4 (Loh and Wang) and, alternatively, Ground 5 (Loh, Wang, and Oshio)	100
21.	Invalidity of Claim 21 Over Ground 4 (Loh and Wang) and, alternatively, Ground 5 (Loh, Wang, and Oshio)	107
22.	Invalidity of Claim 22 Over Ground 4 (Loh and Wang) and, alternatively, Ground 5 (Loh, Wang, and Oshio)	108
23.	Invalidity of Claim 23 Over Ground 4 (Loh and Wang) and, alternatively, Ground 5 (Loh, Wang, and Oshio)	108
VIII.	SECONDARY CONSIDERATIONS	108
IX.	CONCLUSION.....	109

APPENDIX A (Curriculum Vitae)

APPENDIX B (List of Materials Considered)

I, Dr. Stanley Shanfield, hereby declare under penalty of perjury under the laws of the United States of America:

I. INTRODUCTION

1. I have been retained to provide assistance regarding U.S. Patent No. 9,537,071 (“the ’071 patent”). Specifically, I have been asked to consider the validity of claims 1, 2, 4-9, 11-12, 15-19, 21-23, and 25 of the ’071 patent (the “Challenged Claims”). I have personal knowledge of the facts and opinions set forth in this declaration, and believe them to be true. If called upon to do so, I would testify competently thereto. I have been warned that willful false statements and the like are punishable by fine or imprisonment, or both.

2. I am being compensated for my time at my standard consulting rate of \$385 per hour. I am also being reimbursed for expenses that I incur during the course of this work. My compensation is not contingent upon the results of my study, the substance of my opinions, or the outcome of any proceeding involving the challenged claims. I have no financial interest in the outcome of this matter or on the pending litigation between Petitioner and Patent Owner.

3. A table of contents and a list of exhibits referenced herein are included above.

II. BACKGROUND AND QUALIFICATIONS

4. I offer statements and opinions on behalf of Petitioner VIZIO, Inc.

("VIZIO" or "Petitioner"), generally regarding the validity, novelty, prior art, anticipation and obviousness considerations, and understanding of a person of ordinary skill in the art ("POSITA") as it relates to U.S. Patent No. 9,537,071 ("the '071 patent"). Attached hereto as Appendix A, is a true and correct copy of my Curriculum Vitae describing my background and experience.

5. As set forth in my curriculum vitae, I received a B.S. degree in Physics from the University of California, Irvine in 1977, and was a member of the Phi Beta Kappa Society. In 1975, I received the University of California Regents Award for Outstanding Research on experimental and theoretical work on rotating relativistic electron beams. Under full Energy Research and Development Administration scholarship, I received a Ph.D. in Physics from the Massachusetts Institute of Technology in 1981.

6. Starting in 1985 at Raytheon Research Division, most of my work focused on the development, packaging, and testing of semiconductor devices, including devices made using GaAs, AlGaAs, InGaAs, GaN, and SiC. During the late 1980s and most of the 1990s, I was directly involved in the epitaxial growth and packaging of electronic devices and integrated circuits, specialized light emitting diode (LED) devices and optical detectors. Along with other activities, I produced, packaged and tested LEDs for government and commercial applications e.g. display illumination devices, fiber optic modules, and detection instruments.

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