

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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APPLE INC.,  
Petitioner,

v.

COREPHOTONICS, LTD.,  
Patent Owner.

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Case No. IPR2020-00905, IPR2020-00906  
U.S. Patent No. 10,225,479

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DECLARATION OF DUNCAN MOORE, Ph.D.  
PURSUANT TO 37 C.F.R. § 1.68

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## **I. BACKGROUND**

1. I have been retained as a technical expert by Patent Owner Corephotonics Ltd. (“Patent Owner” or “Corephotonics”) in this proceeding. Corephotonics has asked me to provide my expert opinions concerning certain technical aspects of imaging lenses and imaging lens design as they relate to the Petitioner Apple Inc.’s petition for inter partes review of U.S. Patent 10,225,479 (“479 patent”) in Case No. IPR2020-00906 (“-00906 IPR”) and the accompanying Declaration of José Sasián. In particular, I have been asked to respond to Dr. Sasián’s opinions set forth in his declaration, Ex. 1021, that it would have been obvious to scale the Kawamura and Ogata prior art lens designs to a much smaller size for use with a 1/2.5” image sensor.

2. The statements in this declaration summarize my opinions on these matters based on my over 40 years of experience in the design and development of imaging lenses for optical systems, my education, knowledge, skills, and my review and analysis of the materials referenced herein.

3. I am being compensated for my work in this matter at the rate of \$425 per hour. I am also being reimbursed for reasonable and customary expenses

associated with my work and testimony in this investigation. My compensation is not contingent on the outcome of this matter or the substance of my testimony

## II. SUMMARY OF OPINIONS

4. In the preparation of this declaration, I have reviewed:

- The '479 patent (Ex. 1001)
- Prosecution history of the '479 patent (Ex. 1002)
- The declaration of Dr. Fredo Durand (Ex. 1003)
- The curriculum vitae of Dr. Fredo Durand (Ex. 1004)
- U.S. Patent No. 7,859,588 (“Parulski”) (Ex. 1005)
- Japanese Patent Application Publication No. S58-62609 (“Kawamura”) (Ex. 1012)
- Warren J. Smith, Modern Lens Design (1992) (Ex. 1020)
- The declaration of Dr. José Sasián (Ex. 1021)
- ZEMAX Optical Design Program User’s Manual (Ex. 1022)
- U.S. Patent No. 5,546,236 (“Ogata”) (Ex. 1026)
- Specification sheet for Sony ICX629 image sensor (“ICX629”) (Ex. 1029)
- Specification sheet for Sony ICX624 image sensor (“ICX624”) (Ex. 1030)

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