

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. IPR2020-00897  
U.S. Patent No. 10,324,277

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DECLARATION OF TOM D. MILSTER, 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 system design as they relate to the Petitioner Apple Inc.’s petition for *inter partes* review of U.S. Patent 10,324,277 (“’277 patent”) in Case No. IPR2020-00897 (“’897 IPR”) and the accompanying Declaration of Dr. Jose Sasián. In particular, I have been asked to respond to Dr. Sasián’s opinions set forth in his declaration, Ex. 1003 in this IPR.

2. The statements in this declaration summarize my opinions on these matters based on my forty years of study and research of imaging systems, my education, knowledge, skills, and my review and analysis of the materials referenced herein.

3. My work in this matter is being billed at the rate of \$625 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:

Case Nos. IPR2020-00897  
U.S. Patent No. 10,324,277

- The '277 patent (Ex. 1001)
- Prosecution history of the '277 patent (Ex. 1002)
- The declarations of Dr. Jose Sasián (Ex. 1003)
- The curriculum vitae of Dr. Jose Sasián (Ex. 1004)
- U.S. Patent No. 9,128,267 (“Ogino”) (Ex. 1005)
- Warren J. Smith, *Modern Lens Design* (1992) (“Smith”) (Ex. 1006)
- William S. Beich, et al., “Polymer Optics: A manufacturer’s perspective on the factors that contribute to successful programs,” *SPIE Proceedings Volume 7788, Polymer Optics Design, Fabrication, and Materials* (August 12, 2010), <https://doi.org/10.1117/12.861364> (“Beich”) (Ex. 1007)
- U.S. Patent No. 7,777,972 to Chen (“Chen”) (Ex. 1008)
- Max Born et al., *PRINCIPLES OF OPTICS*, 6<sup>th</sup> Ed. (1980) (“Born”) (Ex. 1010)
- Prosecution history of U.S. Patent No. 9,128,267 to Ogino (Ex. 1011)
- Jane Bateau et al., “The optics of miniature digital camera modules,” *SPIE Proceedings Volume 6342, International Optical Design Conference 2006*; 63421F (2006) <https://doi.org/10.1117/12.692291> (“Bateau”) (Ex. 1012)
- Rudolf Kingslake, *OPTICS IN PHOTOGRAPHY* (1992) (“Kingslake”) (Ex. 1013)
- U.S. Patent No. 7,859,588 to Parulski et al. (“Parulski”) (Ex. 1014)
- Japanese Patent Pub. No. JP2013106289 to Konno et al. and certified English translation (“Konno”) (Ex. 1015)

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