

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 IPR2019-00030  
Patent No. 9,857,568

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**DECLARATION OF JOSÉ SASIÁN, PH.D.,  
UNDER 37 C.F.R. § 1.68  
IN SUPPORT OF PETITIONER REPLY**

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I, José Sasián, Ph.D., declare as follows:

**I. Introduction**

1. I am the José Sasián who has previously submitted a declaration as Ex. 1003 in this proceeding. The terms of my engagement, my background, qualifications and prior testimony, and the legal standards and claim constructions I am applying are set forth in my previous CV and declaration. *See* Ex. 1003; Ex. 1004. I offer this declaration in reply to Dr. Moore’s declaration filed in this proceeding as Exhibit 2013. In forming my opinion, I have considered the materials noted in my previous declaration, as well as the following additional materials:

- Ex. 1025 – Deposition transcript of Duncan Moore, Ph.D.;
- Ex. 2003 – Excerpts from “Optical System Design”;
- Ex. 2005 – Declaration of Duncan Moore, Ph.D.; and
- Ex. 2024 – Kingslake & Johnson, LENS DESIGN FUNDAMENTALS, 2d ed., Ch. 4, (2010)

**II. The ’568 patent does not distinguish between an “ideal image plane” and an “actual image plane.”**

2. Dr. Moore, in his declaration, states that the term “image plane” “can be used to refer to different concepts, and the differences between those concepts would vary the meaning of the claim language.” Ex. 2005 ¶ 66. Dr. Moore offers the following text from Kingslake (Ex. 2024) in support:

*y*-axis in the image plane, that is,  $h' = mH$  where  $m$  is the magnification. The actual image plane may be displaced a distance  $\xi$  from the ideal image plane. The ideal image plane is also called the Gaussian or paraxial image plane. The term image plane, as used in this book, means the planar surface where the image is formed which may be displaced from the ideal image plane by the defocus distance  $\xi$ .

Dr. Moore then states that: “Kingslake provides that ‘image plane’ may mean at least two different concepts: the ‘ideal image plane,’ also known as the Gaussian image or paraxial image plane; and the actual ‘image plane’ comprising the surface at which an image may be formed (i.e., captured).” Ex. 2005 ¶ 66. Dr. Moore cites several other references explaining similar concepts. *See id.* ¶¶ 67-74.

3. Based on this, Dr. Moore believes that the term “image plane” would have been ambiguous to a person of ordinary skill in the art (“POSITA”) reading the ’568 patent. *See id.* ¶ 74. I disagree for the following reasons. First, Dr. Moore acknowledges in his declaration (by citing to my book) that the ideal image plane and the actual image plane may be in the same location in a lens system. Ex. 2005 ¶¶ 70 (“the calculation by design arrives at a theoretical ‘ideal’ plane representing where the physical image plane **could potentially** be located.”), 72 (“In an actual lens system, the image **may be ‘observed’** somewhere other than the ideal image plane.”). This alone contradicts Dr. Moore’s conclusion that the “ideal image plane” and the “actual” or “physical image plane” are mutually exclusive concepts. *See* Ex. 2005 ¶ 74.

4. Second, the '568 patent provides lens prescription tables that specify the structure of lens assemblies. See e.g., Ex. 1001, 4:33-49. Lens prescription tables are a well-established and a standard way in lens design to specify the structure of lenses and their imaging, and not the structure of sensors (noting that no sensor structure or location data is shown in the lens prescription table). *Id.* A POSITA would have understood that the prescription tables of the '568 patent specify the location of the image plane through the last thickness/distance in the prescription table. For example, as shown in Table 1 of the '568 patent below, the first embodiment specifies the image plane at a distance of 0.200 mm from the last lens element and spaced from the object side surface of the first lens element by a distance of 5.904 mm (*see* Ex. 1001, 4:33-48, Fig. 1 (by correlating the Distances shown with Fig. 1 of the '568 patent, a POSITA would have understood this spacing to apply to the image plane 114 and in view of the TTL)).

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