

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ABILITY OPTO-ELECTRONICS TECHNOLOGY CO., LTD,

Petitioner,

v.

LARGAN PRECISION CO., LTD.,

Patent Owner.

U.S. Patent No. 9,146,378

Filing Date: December 2, 2013

Issue Date: September 29, 2015

**Title: Image Capturing Lens Assembly, Image Capturing Device and Mobile
Terminal**

PETITION FOR *INTER PARTES* REVIEW

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I. Introduction

Ability Opto-Electronics Technology Co., Ltd. requests review of claims 1–6, 8, 11, 13, and 15 of U.S. Patent No. 9,146,378. The '378 patent discloses a lens system for image capture, e.g., on a smartphone, comprising three lens elements. It discloses well-known properties for the individual lens elements and provides lens data in table format for eight embodiments. Nothing about the design of the individual lens elements was new at the time. The three-lens lens assembly was also not new. All of the features of independent claims 1 and 8, as well as dependent claims 2, 3, 4, and 11, are disclosed by Matsuo, which was filed almost a decade before the '378 patent. And the remainder of the challenged claims would have been obvious to a POSITA through routine and obvious design modifications to Matsuo and Kawasaki that are common when adjusting prior lens designs to meet the design requirements of a new design project.

Although the Examiner considered the published Matsuo application during prosecution of the '378 patent, the Examiner overlooked or misapprehended Matsuo's example 14 and did not have the benefit of lens design software that allows a person of ordinary skill to model the lens designs disclosed in the prior art. As shown below, Matsuo's example 14 explicitly discloses the conditional expressions that the Examiner thought were missing, and lens design software allows different embodiments disclosed in the prior art to be simulated and verified.

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