

ABSTRACT OF THE DISCLOSURE

Some embodiments include methods for correcting optical alignment of components in a camera module for a multifunction device. In some embodiments, components of a camera module for use in a multifunction device are assembled on a test station. Some embodiments include a method that includes capturing a single test image, calculating from the spatial frequency response data an optical tilt between the optical axis of a lens and an optical axis of the image sensor of the camera module, and mechanically adjusting an alignment of the lens and the optical axis of the image sensor of the camera module to reduce the optical tilt. In some embodiments, the capturing is performed using the components of the camera module, and the single test image contains visually encoded spatial frequency response data for characterizing the components of the camera module.

[Figure 3]