



Our products are all equipped with easy-to-use software tools for test configuration, results analysis and reporting.



OptoFidelity™ HMD IQ

Complete station to test image quality of head-mounted displays (HMD)

OptoFidelity™ HMD IQ is a complete station to test and measure near eye displays (NED) with an image source (display) and projection optics (lens). HMD IQ is designed to provide repeatable results of the assembled near eye display at production or RnD. System can be configured to support early development version of near eye displays with possible adapter board as well as fully integrated head-mounted displays. OptoFidelity™ HMD IQ enables high UPH production testing and is designed to enable measurements listed below.

HMD IQ TEST FEATURES

- Eyebox
- Field of view (FOV)
- Uniformity
- Checkerboard contrast
- Michelson contrast
- Modulation transfer function (MTF)
- Color uniformity
- Interpupillary distance
- Geometric distortion
- Relative luminance
- Chromatic aberration
- Color

CONTENT OF DELIVERY

- Robot and motion control
- Calibrated HMD Eye (camera and lens combination)
- Sensor and camera assisted DUT positioning
- Cabinet
- Software for system control and HMD IQ test configuration

OptoFidelity™ HMD IQ is a complete station to test and measure near eye displays (NED).

OptoFidelity™ HMD Eye

Calibrated lens and camera system for image quality testing of head mounted AR/VR displays

OptoFidelity™ HMD Eye is a combined motorized lens and camera system for mimicking the performance of the human eye, with the purpose of characterizing head-mounted augmented and virtual reality displays in both R&D and production environments.

Contrary to standard lenses, OptoFidelity™ HMD Eye features an external entrance pupil with the same size as the human eye and controllable focus. External pupil allows to position the lens in the eye relief location, where it can capture with a single shot the full field of view of the tested device, exactly as the user would perceive it. Controllable focus mimics human eye focusing to objects in different distances.

The instrument is delivered fully characterized and comes with a camera that is optimized for the application and test requirements. As part of a complete OptoFidelity robotics and software platform for precision DUT alignment and image analysis, it becomes an unbeatable solution for automated near-eye display testing.

Example image of Geometric Distortion Analysis

