TEST SYSTEMS

System Modules, Test Packages and Timing Chart

OVERVIEW

Kasalis designs a range of world-class systems for the testing of optics for both compact camera modules and projection systems.

Standard tests can be deployed on the PIXID 300, 500 or 700 platforms following AA developed methods. We can also design, develop, manufacture and deploy special-to-type test systems tailored to customer specific requirements, either on existing platforms or as stand-alone systems.

These systems have the capability to be designed as manual, semi-auto or fully automated solutions, giving the possibility of integration into fully automated production cells where required.

Our dedicated SW team can integrate Kasalis standard testing algorithms or customer developed testing algorithms. We can also create either custom testing algorithms based on customer defined specifications leveraging our team's extensive optical testing knowledge or as part of a collaborative joint development venture.

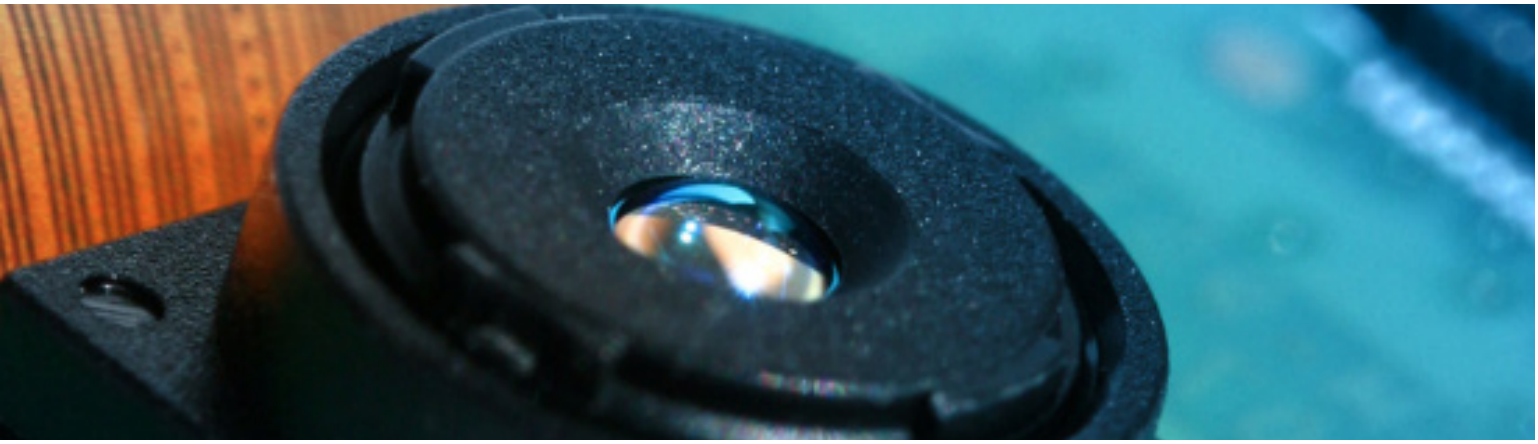

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IMAGE PROJECTOR

Category	Test	Projection	Eyepiece	EOL
Contrast	Sequential Contrast	X		X
Contrast	ANSI Positive	X	X	X
Contrast	ANSI Negative	X	X	X
Contrast	Contrast Uniformity	X	X	X
Optical Power	Efficiency	X	X	X
Optical Power	Optical Power	X	X	X
Sharpness	MTF	X	X	X
Sharpness	Acutance	X	X	X
Blemish	Light Image	X	X	X
Blemish	Dark Image	X	X	X
Uniformity	Luminous	X	X	X
Uniformity	RMS Color Error		X	X
Boresight	Pitch	X		X
Boresight	Yaw	X		X
Dark State	Red			X
Dark State	Blue			X
Dark State	Green			X
Miscellaneous	Ghosting	X		X
Miscellaneous	Refresh Rate	X		X

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CAMERA MODULE

Category	Test
Sharpness	MTF/SFR
Sensor	Hot/Dead Pixel
Sensor	Dark Signal Non-Uniformity (DSNU)
Sensor	Temporal Noise
Sensor	Signal to Noise Ratio (SNR)
Sensor	Sensitivity
Sensor	Fixed Pattern Noise (FPN)
Sensor	Dark Current Against Temperature
Sensor	Spatial Black Level
Sensor	Photo Response Non-Uniformity (PRNU)
Sensor	Defective Line
Sensor	Read Noise
Lens	Astigmatism
Lens	Field of View (FoV)
Lens	Depth of Field (DoF)
Lens	Lens Shading
Lens	Chromatic Aberration
Camera	Focus Symmetry
Camera	Image Contrast
Camera	Centration

Category	Test
Camera	Color Reproduction
Camera	Dynamic Range
Camera	Optical Centre
Camera	Color Shading
Camera	Pointing Tip Tilt
Camera	Rotation
Camera	Through Focus
Camera	White Balance Ratio
Detection	Particle Detection
Detection	Blemish Detection
Calibration	Intrinsic Calibration
Calibration	Extrinsic Calibration
Calibration	Color Calibration
3D	3D Module Calibration
3D	3D Module Test
EE	Electrical Validation
Uniformity	Relative Uniformity (RU)
Uniformity	Color Uniformity
Miscellaneous	Flare
Miscellaneous	Light leakage

About Kasalis

Kasalis is a proven market leader in active alignment and designs industry leading optical alignment manufacturing systems. Kasalis systems precisely align and assemble opt-electronic devices for a variety of products and industries that include AR and VR headsets, LiDAR systems, laptops, cell phones, cameras and automotive displays. With its seasoned management team, Kasalis has emerged as a premier active alignment technology company driving the enhanced development of current and next-generation capabilities of electronic devices.

Kasalis is a technology division of Jabil, a $26 billion global company with over 50 years of experience delivering technology, manufacturing and supply chain solutions to the world's leading brands.