

VLS Versatile Light System

Automotive KPI testing according to IEEE-P2020

The VLS (Versatile Light System) is a versatile illumination solution suitable for efficiently measuring a variety of image quality KPIs, including contrast transfer accuracy (CTA), modulated light mitigation probability (MMP), contrast signal-to-noise ratio (CSNR), and high dynamic range (HDR). The setup uses multiple Vega light sources and specialized software to create a dynamic test scene.

Main Features

- * IEEE-P2020 KPI testing
- * Flexible setups and movements
- * DC-powered light sources
- * Control software included
- * Evaluation software included



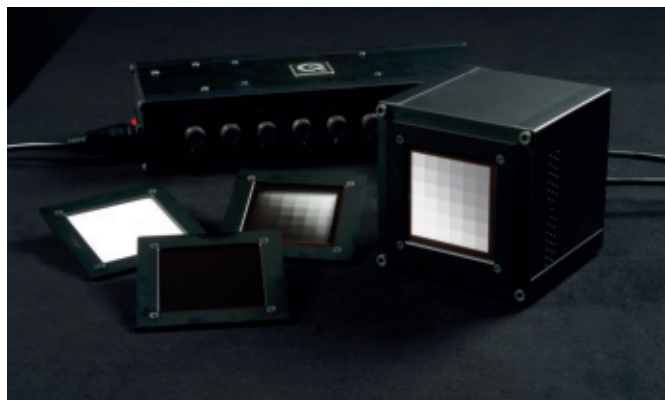
Spatial and temporal recordings

The VLS supports both spatial and temporal recording measurements as outlined in the IEEE-P2020 standard. Spatial and temporal measurements are both beneficial to the overall test results.

Temporal recording measurements avoid issues with flare that often occur during camera alignment to a light source. Spatial recording measurements are faster and benefit systems unsuitable for temporal measurement due to lens influences or dynamic image processing (e.g., auto-exposure).



Full VLS setup with laptop*

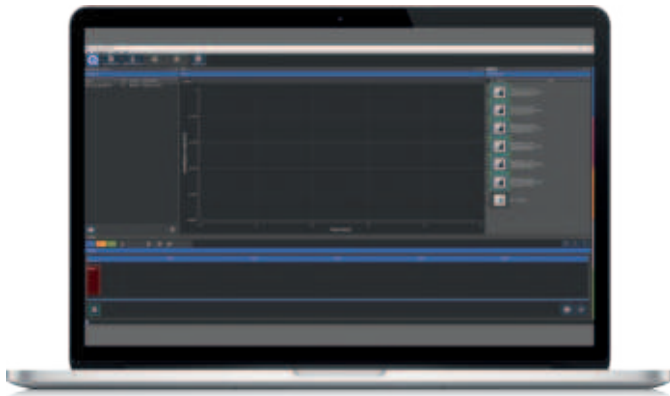


Unique test charts

*The product images are only example images and do not fully reflect the end product.

VLS Software

The VLS Software includes the VLS-Control Software and the VLS-Evaluation Software. The VLS-Control Software generates illumination test sequences for the Vega devices and can control up to six Vega devices at once. The VLS-Evaluation software analyzes the camera's performance using the defined KPIs, including CTA. Results are exported as XML files.



VLS-Control Software



VLS-Evaluation Software

At a Glance	Vega
Principle	Temperature stabilized, DC controlled, dimmable light source
Light sources	36 Temperature controlled LEDs based on iQ-DC technology
Uniformity (active area)	<ul style="list-style-type: none"> > 95% at 100% output intensity > 94% at 10% output intensity > 90% at 1% output intensity > 90% at 0.1% output intensity
Illumination stability	± 0,5%
Correlated Color Temperature (CCT)	4900 K (± 200 K)
Color Rendering Index (CRI)	> 95
Minimum luminance	0.1 – 0.5 cd/m ²
Maximum luminance	55,500 – 61,500 cd/m ²
Dim function	Software based 10 ⁶ - 10 steps
Flicker frequency range	1 – 1000 Hz (Square) 10 – 1000 Hz (Sine) 10 – 1000 Hz (Triangle)
Flicker frequency step width	0.1 Hz (1 – 200 Hz) 0.2 Hz (200 – 500 Hz) 0.5 Hz (500 – 1000 Hz)
Software requirements	PC with Windows 10 operating system (or higher) USB port
Functions	<ul style="list-style-type: none"> <li style="width: 50%;">• Intensity <li style="width: 50%;">• Mode selection <li style="width: 50%;">• Frequency <li style="width: 50%;">• Phase shift <li style="width: 50%;">• Duty cycle
API (C/C++/Python)*	Optional

*API sold separately

VLS-250331