



news release

LED Lamp Project Lights the Way to Flicker-Free Replacement

Jade Sky Technologies and UC Davis's California Lighting Technology Center demonstrate the lighting market's readiness to meet tough new quality standards

Milpitas, CA – May 15, 2014 – [Jade Sky Technologies](#) ("JST"), a clean-tech start-up manufacturer of LED driver ICs with best-in-class dimming at the best value, announces the recently completed demonstration of the technical and economic feasibility of meeting the flicker and dimming requirements set by the Voluntary California Quality LED Lamp Specification.

JST collaborated with **UC Davis's California Lighting Technology Center (CLTC)** on a project designed to further the development of replacement lamps that meet or exceed the California Quality specification. The project, supported by **Pacific Gas and Electric Company (PG&E)**, tested the compatibility of "**best-in-class**" lamps with dimmers found in most homes.

JST incorporated its innovative driver architecture into commercially available lamps then submitted the lamps to CLTC for evaluation. Lab testing and characterization at CLTC confirmed that the samples met or exceeded the California Quality specification, using cost-effective and easily accessible components.

Released in December 2012 by the **California Energy Commission**, the **California Quality Specification** establishes performance criteria for incentivized LED replacement lamps. These criteria go beyond energy efficiency, with benchmarks for correlated color temperature and CRI (90 or higher, R9 over 50), as well as **dimming performance** and **power factor**. When ample products are available, the specification will be used to accelerate the adoption of LED replacement lamps through incentives provided by California's investor-owned utilities.

In addition to validating efficacy and CRI targets, test data shows the lamps submitted by JST were able to maintain a photometric flicker well below that required by **California's Appliance Efficiency Regulations (Title 20)**, over a dimming range of 0 to 100 percent light output. The lamps also measured above the minimum standard power factor over the entire dimming range used for testing. Perhaps most noteworthy of all for lamp and luminaire manufacturers, both the omni-directional and directional lamps tested for the project exhibited **smooth dimming** on all seven dimmers used for testing, with **no flashing, flickering, pop on, cycling or other undesirable behaviors**.

JST's integrated driver solution enables **smooth dimming from 100 to 0 percent** when paired with a sample set of commercially available dimmers and occupancy sensors. Leveraging the benefits of standard complementary metal-oxide semiconductor (CMOS) technology, JST's driver ICs enable simple, cost-effective solutions that maintain the highest levels of efficiency and power factor.

"The transition to LED lamps needs to be a satisfying experience for consumers," says CLTC Director, Michael Siminovitch, who is also the Rosenfeld Chair in Energy Efficiency at UC Davis. "Lamps need to work with the dimmers people already have in their homes, and they need to deliver the kind of light people will be happy to live with for years to come. The California Quality specification is a strategic approach to supporting this transition to more efficient lighting."

“We are delighted that our technology has been validated as one cornerstone enabling best-in-class LED lighting, not just in a laboratory but also with the potential to spread across the globe. Our goal is to partner with lighting manufacturers to incorporate the driver solution to drive mass adoption,” says Jade Sky Technologies CEO David Chen. “Only by focusing on what end consumers want in their lighting and offering them high-value products, will lighting manufacturers be able to put forth a means to achieve global energy savings. Working with CLTC and PG&E, we passionately believe that energy-efficient lighting can be made simple and economical for the user, so that meaningful energy savings will be achieved worldwide, benefitting us all.”

About Jade Sky Technologies, Inc.

Jade Sky Technologies (<http://www.jadeskytech.com>) was founded in 2010 in Silicon Valley by a group of highly experienced power-IC and power-system designers. The founding mission was to bring simplicity back to lighting for the end consumer by making a true retrofit LED bulb possible. Holding many patents, JST manufactures LED driver chips with unsurpassed dimming performance at unsurpassed value. By focusing on a superior end-user experience, JST helps to enable the mass adoption of LED lighting.

About CLTC

The California Lighting Technology Center, UC Davis (CLTC) is a not-for-profit RD&D facility dedicated to advancing energy-efficient lighting and daylighting technologies. Part of the Department of Design at the University of California, Davis, CLTC includes full-scale laboratories for research and development, prototype fabrication, and testing of products and prototypes. CLTC faculty and staff provide instruction to undergraduate and graduate students of lighting design, as well as professional development courses and educational resources for those in the lighting and building industries. cltc.ucdavis.edu

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