

LED and HID Development for Vehicles

Funding source: Innovation and Technology Fund

Funding amount: \$8.8 Million

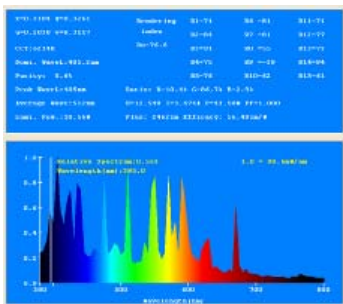
Period: July 2005- June 2007

Project Abstract:

The project is to develop the power electronic solution for LED and High intensity discharge lamp (HID) for vehicles. The R&D includes the development of the HID for multiple hot re-strike using high voltage power electronics techniques. The LED is designed for rear and front vehicle lighting with special care in thermal management, current mode control and RGB colour management. Precision freeforming design is needed for the secondary lens.

Technologies and Features of the Product Development:

- Switched mode control of ballast
- High power
- Good thermal control
- High voltage warm-excitation to HID lamps
- Applicable to commercial vehicle
- LED designed for front, rear & signal lights



Spectrum analysis



Rear lighting for vehicles



HID electronic ballast



Super bright LED design



Front LED design



Front and rear RGB LED