# **Poster Session**



Burn-in & Test Strategies Workshop

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### Case Study Evaluating the Performance of Carbon Nanotube Based Thermal Interface Materials in a Burn in and Test Application

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An investigation into the performance of carbon nanotube (CNT) based thermal interface materials (TIM) in chip test applications is described. The CNT based TIM consists of vertically aligned nanonstructures grown on both sides of an aluminum foil substrate. During TIM evaluation, consideration is given not only to thermal performance, but also to the TIM mechanics, durability, and the potential for the test to negatively impact the die through scratching, chipping or staining. The CNT based TIM is compared to several commercial alternatives according to the previously identified benchmarks.

### **Technology Overview**

#### What are Carbon Nanotubes?

Carbon nanotubes (CNTs) are cylindrical carbon molecules with interesting properties. They exhibit extraordinary strength, unique electrical properties, and are >8x better heat conductors than state-of-the-art materials. CNTs are potentially useful in many applications in electronics, energy, optics and other fields of materials science.



A peel and stick CNT based TIM simplifies installation and maximizes repeatability between installs

Life Cycle of Carbice infinity<sup>TM</sup> TIM vs. Commercial Products optics and other fields of materials science. Life Cycle of Carbice infinity<sup>TM</sup> TIM vs. Commercial Products representation of the state of the state

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