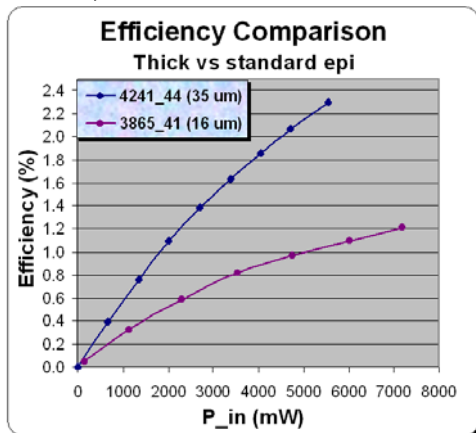


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Comparison of conversion efficiency of a standard module to an experimental module

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North Carolina's Green Business Fund impacts clean energy technology that is changing the economic future of alternative energy sources...

NEXTREME DOUBLES THE EFFICIENCY AND POWER OUTPUT OF ITS THIN-FILM THERMOELECTRIC POWER GENERATORS

DURHAM, N.C. (March 19, 2009) — Nextreme Thermal Solutions, the leader in microscale thermal and power management products for the electronics industry, has doubled the efficiency and power output of its thin-film thermoelectric power generator. Recently Nextreme undertook a development program, made possible by a grant from the North Carolina Green Business Fund, to enhance the efficiency of its devices used to convert waste heat into electricity. By modifying the thermoelectric epitaxial materials, Nextreme was able to increase the power conversion efficiency and power output by a factor of two compared with standard thin-film thermoelectric generators operating under the same heat input conditions. This achievement represents a substantial milestone in epitaxial film growth and is a technology first for the thermoelectric industry.

Nextreme's thin-film embedded thermoelectric generator (eTEG™) produces electricity via the Seebeck effect, where electricity is produced from a temperature differential applied across the device. Nextreme synthesized bismuth telluride epitaxial films that demonstrated a thermal-to-electrical power conversion efficiency increase of more than two-times when compared with baseline thin-film thermoelectric devices. At 9W of heat input power, the devices produced in this program generated 247mW of output power, equivalent to 2.6% power conversion efficiency.

The performance improvements demonstrated in this program will have a significant, positive impact on Nextreme's ability to target micro-power applications with its products.

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Nextreme Improves Efficiency of Clean Power Generators, Page 2

The North Carolina Green Business Fund, directed by the North Carolina Board of Science and Technology (NCBST), awards grants to North Carolina organizations in support of competitively assessed projects focused on attracting and leveraging private sector investments, and entrepreneurial growth in environmentally conscious clean technology, renewable energy products and businesses.

"The NC Green Fund Program provided the impetus and focus for Nextreme in demonstrating the feasibility of improving our material's power conversion efficiency," said Dr. Jesko von Windheim, CEO of Nextreme. "The grant provided a much needed first step in proving the commercial viability of this technology."

The concept of generating clean power from waste heat is alluring and gaining significant attention worldwide. However there is a direct link between thermoelectric module performance, in terms of efficiency, and the applicability of thermoelectrics in key power generation markets. The applications that stand out, both in terms of feasibility and market size, are micro power (e.g., powering remote sensors or other portable applications) and automobile waste heat energy conversion. While significant technical improvements in thermoelectric devices and systems are required before insertion in the automobile is feasible, remote power is immediately feasible with current technology. Furthermore the market for remote power is undeniably large. Sensors alone represent a TAM (total available market) of 8 billion units by 2012; while only a portion of this market will benefit from remote power, a reasonable estimate puts the ultimate potential at over 100M units per year for this application.

Nextreme plans to introduce new products based on the improved material performance in the future.

"Companies like Nextreme are the future of North Carolina's green economy," said Dr. John Hardin, acting executive director for the North Carolina Board of Science and Technology. "Their ability to develop innovative clean energy technology fuels North Carolina's capacity for economic growth and strength."

"We would like to thank Governor Beverly Perdue, Dr. Hardin, and the taxpayers of the state of North Carolina for their support of this program," said von Windheim. "The Green Business Fund program is very worthwhile and should be supported to encourage additional innovation in North Carolina."

Dr. von Windheim will be speaking about starting and growing businesses based on innovations in nanotechnology at NCBST's [Nanotechnology Commercialization Conference](#) on March 26.

More information on converting waste heat into usable energy can be found at www.nextreme.com/power. Contact Nextreme at 3908 Patriot Dr., Suite 140, Durham, NC 27703-8031; call (919)-597-7300; e-mail info@nextreme.com; or go to www.nextreme.com.

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About Nextreme Thermal Solutions™, Inc.

Nextreme Thermal Solutions designs and manufactures microscale thermal and power management products for the electronics, telecommunications, semiconductor, consumer, and defense/aerospace industries. The company uses breakthrough thin-film thermoelectric material to embed cooling, temperature control and power generation capabilities into the widely accepted copper pillar bumping process used in high-volume electronic packaging. Nextreme's headquarters and manufacturing facility are based near Research Triangle Park, North Carolina.

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For additional information or to request the electronic image, please email beth.gaddy@btbmarketing.com or call 919-872-8172.