



**FOR IMMEDIATE RELEASE**

## **AKUSTICA ANNOUNCES WORLD'S SMALLEST MICROPHONES**

**Pittsburgh, PA**—June 4, 2007—Akustica, Inc., maker of the award-winning family of Complementary Metal Oxide Semiconductor (CMOS) microelectromechanical systems (MEMS) microphones, today announced that it has developed the world's smallest microphone. At 1mm x 1mm, Akustica's microphone die, which integrates both the transducer and accompanying electronics into a single silicon die, is more than 70% smaller in silicon area than multi-die solutions developed by competing MEMS microphone manufacturers.

Akustica's revolutionary CMOS MEMS technology, in which both the transducer and the electronics are fabricated using standard, baseline CMOS, has enabled this remarkable miniaturization. Because the transducer and the electronics are made in the same fabrication process and are tightly integrated in a CMOS MEMS die, many performance advantages are realized, including reduced parasitic capacitance effects. The resulting improvement in capacitive signal detection enables the Akustica CMOS MEMS microphones to have smaller mechanical components than alternative multi-die solutions.

Competitive MEMS microphone products use two separate die—a sensor interface die that contains the circuitry and a MEMS microphone die that contains the mechanical microphone structure. In contrast, Akustica's CMOS MEMS microphone includes both the circuitry and the MEMS microphone mechanical structure in a single piece of silicon that is only 1 mm<sup>2</sup>—less than half of the area of the mechanical microphone die alone in the multi-die approach.

### **Benefits of CMOS MEMS Microphones**

The small size of the Akustica microphone die enables new and innovative packaging techniques that can lead to smaller microphone products. Consumer electronics manufacturers continue to pack more functionality into shrinking footprints. Having only one die without inter-die wirebonds greatly simplifies the packaging process and allows for smaller, more reliable products. Manufacturers will no longer need to sacrifice performance for size: When packaged, the Akustica microphone chip meets or exceeds the performance specifications of competitive microphone solutions. While the microphone performance will vary depending on the surrounding package that is used, typically the 1 mm<sup>2</sup> Akustica microphone die will have a Signal-to-Noise Ratio (SNR) of 58dB, a Power Supply Rejection Ratio (PSRR) of 40dB, and will consume less than 200µA of current.

Akustica's CMOS MEMS microphones also offer manufacturing advantages to consumer electronics and PC manufacturers. They are fabricated using cost-effective, standard baseline CMOS processes coupled with only dry etching processes, rather than the custom, deposition and wet etching processes used in traditional MEMS devices. This simplifies the overall manufacturing process, speeds production and allows Akustica to leverage the economies of scale of the global semiconductor industry.

“Until now, the prevailing industry wisdom was that a single-die silicon microphone needed to be under 2 mm<sup>2</sup> to be the most cost-effective solution. At 1 mm<sup>2</sup>, Akustica has already made available a microphone with a smaller total silicon area than many people could have dreamed possible just a few years ago,” said Dr. Ken Gabriel, Akustica’s chief technology officer and co-founder. “In fact, there are no other MEMS fabrication technologies that can scale the way we can in terms of manufacturing capacity and decreasing die size.”

### **About Akustica**

Akustica is the leading supplier of digital-output microphone products that are improving voice input quality in a host of voice-enabled applications, from Internet telephony on notebooks to PC camera modules and mobile phones, for companies such as Fujitsu Computer Systems and Gateway Computers. Since Akustica microphones were introduced last year, the semiconductor industry has recognized Akustica’s CMOS MEMS technology with accolades and honors, including an EDN Innovation award, an Electronics Products Magazine “Product of the Year” award, and most significant Leapfrog technology of the year from Electronic Design readers. For more information about Akustica, visit our website at [www.akustica.com](http://www.akustica.com) or call (412) 390-1730.

-End-

Akustica and the Akustica logo are registered trademarks of Akustica, Inc. All other product and company names are trademarks or registered trademarks of their respective holders.

### **PRESS CONTACTS (For Editors Only):**

AKUSTICA, INC.

Marcie Weinstein

Phone: 412-325-6939

Email: [mweinstein@akustica.com](mailto:mweinstein@akustica.com)

VETRANO COMMUNICATIONS

Maria Vetrano

Phone: 617/876-2770

Email: [m.vetrano@vetrano.com](mailto:m.vetrano@vetrano.com)