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Company Press Release

NOVA ANNOUNCES ACCEPTANCE FOR ADDITIONAL STAND ALONE SYSTEM FROM NEW MEMORY CUSTOMER

Company expects 2009 third quarter revenues to increase by more than 40% sequentially

Rehovot, Israel - September 8, 2009 - Nova Measuring Instruments Ltd. (Nasdaq: NVMI), provider of leading edge stand alone metrology and the market leader of integrated metrology solutions to the semiconductor process control market, today announced that it has received acceptance for its Stand Alone Optical CD system from a new memory customer in the Asia Pacific region.

“We are very pleased to receive this acceptance, which brings our Stand Alone Optical CD presence to more than 10 customers worldwide, including memory, foundry and logic manufacturers”, commented Gabi Seligsohn, President & CEO of Nova. “The leading edge capabilities demonstrated by our platform over the past 2 years are allowing us to benefit from the recent improvement in business fundamentals and show more than 40% sequential increase in revenues in the third quarter, as part of an overall improvement expected in all key financial metrics in the second half of 2009”.

On August 4, 2009, the Company reported revenues of $7 million with breakeven non-GAAP net results and a GAAP net loss of $0.1 million, for the second quarter of 2009.

About Nova
Nova Measuring Instruments Ltd. develops, produces and markets advanced integrated and stand alone metrology solutions for the semiconductor manufacturing industry. Nova is traded on the NASDAQ & TASE under the symbol NVMI. The Company's website is www.nova.co.il.

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risks and uncertainties summarized under the heading "Risk Factors" in Nova's Annual Report on Form 20-F for the year ended December 31, 2008 filed with the Securities and Exchange Commission on March 30, 2009. These factors are updated from time to time through the filing of reports and registration statements with the Securities and Exchange Commission. Nova Measuring Instruments Ltd. does not assume any obligation to update the forward-looking information contained in this press release.