

Smart Tweezers LCR-meter Gets a Push From the Russian Academy of Sciences

Canadian Siborg Systems Inc and Novosibirsk based Institute of Automation and Electrometry of the Russian Academy of Sciences joined their efforts to develop a new version of Smart Tweezers LCR-meter.

Novosibirsk, Russia ([PRWEB](#)) September 30, 2012 -- [Siborg Systems Inc](#) from Waterloo, Ontario, Canada and Novosibirsk based Institute of Automation and Electrometry of the Russian Academy of Sciences joined their efforts to develop a new version of Smart Tweezers LCR-meter.

[Smart Tweezers](#) from Siborg Systems Inc is a world renowned LCR-meter that gives an exciting answer to the old problem of testing and trouble-shooting Surface Mount Devices.

Surface-mount technology (SMT) is a common method for electronic manufacturing in which the components are mounted directly onto the surface of printed circuit boards (PCBs). Such components are referred to as Surface Mount Devices (SMD).

Typically SMT components are small and have either small leads or no leads at all and they are usually too small to be labeled. Thus, you can easily lose track of parts and their values.

This is where Smart Tweezers come-in handy. With the use of only one hand, this compact device quickly evaluates all passive types of SMT components, such as Resistors, Capacitances and Inductances.

[Smart Tweezers](#) is a widely recognized professional quality LCR-meter that automatically determines the type of component, resistor, capacitor, or inductor, and selects the proper range and signal frequency for the highest accuracy measurement. Using a small graphics display, the Smart Tweezers LCR-meter clearly displays the component type, measurement results, and test conditions used to determine the results.

"The main advantage of Smart Tweezers is a quick and highly accurate evaluation of SMT components as small as 0.3 mm," says Michael Obrecht, R&D director at Siborg. "This accuracy level of about 0.2% is only available from expensive bench-type LCR-meters that require significant efforts in setting-up the measurements."

"From the very beginning Smart Tweezers use sinusoidal test signal to evaluate impedance of the measured component. This involves a test signal generation that employs a Pulse Modulated Width (PMW) and high order filters that ensure a proper accuracy of the generated test signal entailing significant cost of the required components and PCB complexity leading to a relatively high manufacturing cost of the device."

"During one of many exhibits that we attend every year I met Valentin Litvintsev, an expert in analog circuit design who suggested a new way of creating a test signal for LCR-meter that would require significantly fewer number of components thus reducing the manufacturing cost."

"I liked the device ([Smart Tweezers](#)) from the very first glance. It is a very good product that is useful in many electronic applications. The only disadvantage it has is a relatively high price. I think we can manufacture a similar type of device with a bit lower accuracy but more affordable." says Valentin Litvintsev, Team Lead at



the Institute of Automation and Electrometry of the Russian Academy of Sciences, Novosibirsk.

About [Siborg Systems Inc](#):

Established in 1994, Siborg Systems Inc. is a source of engineering software and hardware tools for semiconductor and electronics industry. Located in the city of Waterloo, Ontario, Canada, it enjoys being part of the local world-renowned high-tech community.

About [Institute of Automation and Electrometry](#):

The Institute was founded in 1957 among the first institutions of the Siberian Branch of the Russian Academy of Sciences.

Research directions of the Institute comprise optics and laser physics, including physical processes in gaseous and condensed media induced by a radiation, nonlinear phenomena at the interaction of the radiation with structured materials; fundamental as well as applied research and development in the field of laser and optical technologies; architecture, system solutions, mathematical models and software for data processing and computing systems of recognition, analysis and representation of information and control systems for complex dynamic processes.

The Institute is the publisher of "Avtometriya", which is published in English in the U.S.A. under the name of "Optoelectronics, Instrumentation and Data Processing".

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