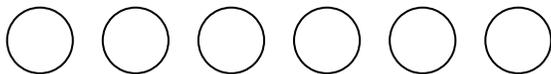


# Siborg Systems Inc Introduces Smart Tweezers and LCR-Reader Verification Tool for Its Distributors

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The new tool allows to quickly verify functionality and accuracy of all models of Smart Tweezers LCR-meter starting from ST-3 and including the latest LCR-Reader. It verifies Smart Tweezers' performance by measuring 16 known components in a semi-automatic setting.



LCR-Reader: Consumer's Choice LCR-meter

LCR-Reader combines the accuracy and ease-of-use of Smart Tweezers and affordability of common multimeters.

**NOVOSIBIRSK, RUSSIA  
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Siborg Systems Inc from Waterloo, Ontario, Canada and Novosibirsk based Institute of Automation and Electrometry of the Russian Academy of Sciences jointly designed verification jig for [Smart Tweezers LCR-meter](#).

[Smart Tweezers LCR-meter](#) and

recent [LCR-Reader](#) are world-renowned LCR-meters that are specifically designed for troubleshooting and testing Surface Mount Devices (SMD). Surface-mount technology (SMT) is a mainstream for electronic manufacturing where the components are soldered to the surface of printed circuit boards (PCBs). Typically, SMT components are very small, and therefore, one can easily lose track of their values. Smart Tweezers LCR-meter and its successor LCR-Reader are nearly pen-size devices that quickly evaluate passive SMT components (Resistors, Capacitances and Inductances) using only one hand. Currently, these devices are recognized professional LCR-meters that automatically determine the component type and a proper range and signal frequency for the maximum accuracy measurement. The results are shown on a small graphics display where the component type, measurement results, and test conditions are presented.

"Although all [Smart Tweezers](#) PCBs are calibrated after the PCB is made, verification jig is still a desirable tool for incoming control and troubleshooting devices returned due to a failure or malfunction," says Michael Obrecht, R&D director at Siborg. "It can also be used for periodical traceable calibration if the jig is calibrated by a certified agency. The best thing about the jig is that it can be used for any model of [Smart Tweezers](#) after ST-3 where for the first time the 4-wire connection was utilized."

The jig comprises a set of 16 known components, 8 resistors, 4 capacitors and 4 inductors of different values in the measurement range covered by Smart Tweezers. Device under test is connected via a 4-wire connection to the jig, and by a press of the button on the jig, it connects to sequentially every one of them. Every measured value is displayed on the Smart Tweezers screen and compared to the known value, giving detailed information about the LCR-meter performance.

The 4-wire connection is essential in order to reduce the noise generated by the connections on the PCB. The connections are controlled by a microprocessor and a set of 32 relays. After a switch, the micro-controller goes

into the sleep mode in order to reduce effect of the digital circuitry on the measurement.

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.

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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 of optics and laser physics, fundamental and applied research and development of laser and optical technologies; system architecture, mathematical models and software for data processing and recognition systems, data analysis and control systems for complex dynamic processes.

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