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STMicroelectronics reveals 100-Watt wireless power receiver for fastest Qi-compliant charging

Unique high-power capability boosts mobile user experience, brings new opportunities for medical devices and smart industrial technology

Geneva, November 29, 2022 – STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications, has revealed a wireless power receiver with the industry's highest available power rating of 100 Watts. Ensuring the fastest wireless charging times in the market today, ST's new STWLC99 device can recharge high-end smartphones with the largest battery capacity in less than 30 minutes.

"*Today's phones are essential for digital living, as well as being a critical business tool for many. Significantly faster charging with our STWLC99 increases their availability and brings extra value to users' lives*," said Francesco Italia, General Manager, Analog Custom Products Division, STMicroelectronics. "*Its unprecedented power also changes the outlook for equipment such as battery-powered industrial tools, medical monitors, medicine pumps, mobile robots, and drones, enabling long runtimes with faster turnaround*."

In addition to enhancing user convenience, high-power wireless charging lets designers create industrial products that are free of power sockets and cords, which can deliver various advantages. Eliminating the charging socket can save space and allow sealing against water or dust ingress in challenging environments. Complications due to twisting or tangling of the cord can be avoided. Independently mobile devices such as robots and drones can recharge easily without a mechanism or human intervention to connect the cable.

Housed in a 4.859m x 4.859mm wafer-level chip-scale package (WLCSP), the STWLC99 is in production now and available from $2.50.

Further technical information:

With an energy-efficient architecture comprising a synchronous rectifier with MOSFETs of low RDS(on) and a low-dropout regulator, the STWLC99 directs the received energy to the charging battery with minimal loss and low thermal dissipation.

Compliant with Qi 1.2.4 and 1.3, it supports the Qi Extended Power Profile (EPP) and leverages ST's specially optimized STSuperCharge (STSC) protocol for fast charging. The battery charging power reaches up to 100W when combined with ST's STWBC2-HP transmitter solution.

The STWLC99 contains non-volatile memory for storing configuration parameters and provides an I2C interface for exchanging configuration data and charging control. A comprehensive set of safety features is built in, including foreign object detection with accurate current sensing, Q-factor detection in transmit mode, and overcurrent, overvoltage, and thermal protection.

STWLC99 is also capable of operating as a power transmitter up to 25W for charging other devices.

About STMicroelectronics
At ST, we are 48,000 creators and makers of semiconductor technologies mastering the semiconductor supply chain with state-of-the-art manufacturing facilities. An integrated device manufacturer, we work with more than 200,000 customers and thousands of partners to design and build products, solutions, and ecosystems that address their challenges and opportunities, and the need to support a more sustainable world. Our technologies enable smarter mobility, more efficient power and energy management, and the wide-scale deployment of the Internet of Things and connectivity. ST is committed to becoming carbon neutral by 2027. Further information can be found at www.st.com.

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