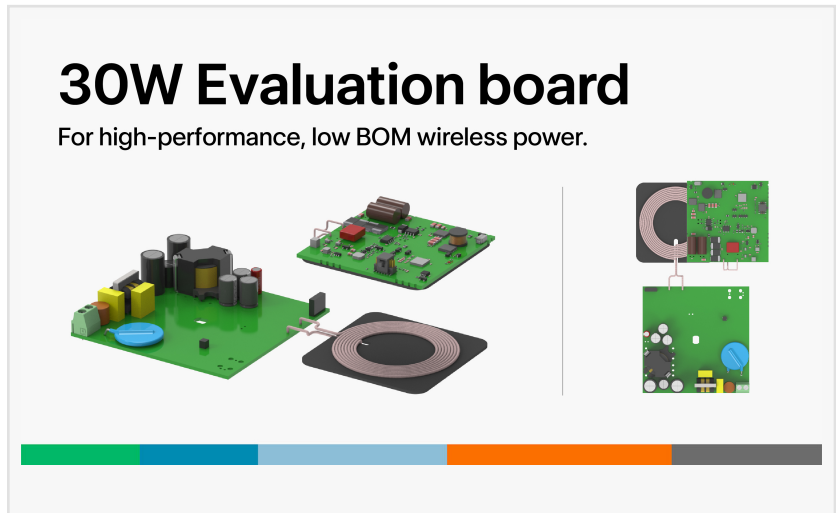


Eggtronic Unveils Evaluation Board for High-Performance, Low-BOM Wireless Power

Reference simplifies development of ultra-high-efficiency 30W power transfer and charging applications

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/EINPresswire.com/ -- [Eggtronic](#) has launched a high-performance 30W wireless charger evaluation board that will speed the prototyping and development of ultra-high-efficiency, low-component-count wireless power transfer applications ranging from electric bikes and scooters through home appliances and industrial tools to drones and domestic robots.



Based on a reference design that combines Eggtronic’s EPIC (Eggtronic Power Integrated Controller) IC with a proprietary conversion architecture, the new evaluation board allows engineers to create applications that provide efficiency levels comparable to conventional wired AC/DC power supplies. Advanced safety features include FOD (Foreign Object Detection) and safeguards against OPP (Over Power Protection), OVP (Over Voltage Protection), OCP (Overcurrent Protection), OTP (Over Temperature Protection), SCP (Short Circuit Protection), and BOP (Brown Out Protection) ensure reliable and safe operation in a diverse range of environments.



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Igor Spinella, Founder and CEO

The high-performance wireless charger board features a continuous 30W output power with direct AC input, eliminating the need for external adapters. It supports

CC/CV battery charging and achieves overall efficiency exceeding 82% (from the AC input on the transmitter side to the DC output on the receiver side) and above 91% DC-to-DC / coil-to-coil efficiency at 30W. This performance surpasses existing wireless power solutions and is in line with that of traditional corded AC/DC adapters yet the Bill of Materials is significantly lower,

ensuring optimum cost efficiency. Performance can be further improved - exceeding not only other wireless power solutions but even the majority of existing corded AC/DC adapters - by choosing Eggtronic's options for maximum performance, such as GaN FETs and semi-active input bridge rectifier architectures.

"As manufacturers seek sustainable and efficient power solutions, Eggtronic's high-performance wireless charger architectures offer a cost-effective transformative alternative to conventional wired adapters," says Eggtronic founder and CEO Igor Spinella. "The new evaluation board based on our innovative reference design showcases our commitment to pushing the boundaries of wireless power technology, setting new standards for efficiency and performance at the same time as reducing component count and cost."

At the heart of the new board is Eggtronic's EPIC IC technology. Incorporated into both the transmitter and receiver sides of the design, the mixed-signal, low-power controller with a 32-bit RISC-V core and a rich set of analog and digital peripherals enables multi-mode operation and facilitates the integration of multiple functions. This integration significantly reduces the Bill of Materials (BOM) by minimising the number of ICs needed, thereby enhancing cost-effectiveness and simplifying product development.

Unique to Eggtronic's approach is the EPIC IC's ability, within a single device, to manage AC/DC conversion on the transmitter side and oversee receiver-side functions such as battery charging. This streamlined architecture not only enhances efficiency but also improves reliability by minimising energy losses through ZVS-ZCS (zero voltage switching, zero current switching) under various load conditions thanks to proprietary firmware control algorithms.

The new board is based on a series-resonance wireless power transfer, which can be compatible with the Qi standard. When Qi compatibility is not required and higher power transfer is required, designers can choose to deploy Eggtronic's E2WATT proprietary architecture, which integrates AC/DC and DC/AC stages into a single, highly efficient solution. Operating with up to 92% efficiency and delivering up to 300W, E2WATT delivers all the benefits of wireless power transmission with performance comparable to top-tier wired AC adapters, while reducing both active and passive component counts by 50%.

About Eggtronic:

Eggtronic has been revolutionising the world of power converters and wireless power since 2012. Based in San Francisco, California, Modena, Italy, Taipei and Guangzhou, Eggtronic develops cutting-edge, environmentally friendly and energy-efficient technologies, with more than 350 international patents granted worldwide. 2020 saw the launch of the new ICs division that has been producing its first microchips since 2021. Whether through B2B partnerships in the consumer, automotive, or industrial fields, or for everyday consumers, Eggtronic invents revolutionary power technologies to make modern life easier, more efficient and more connected.

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