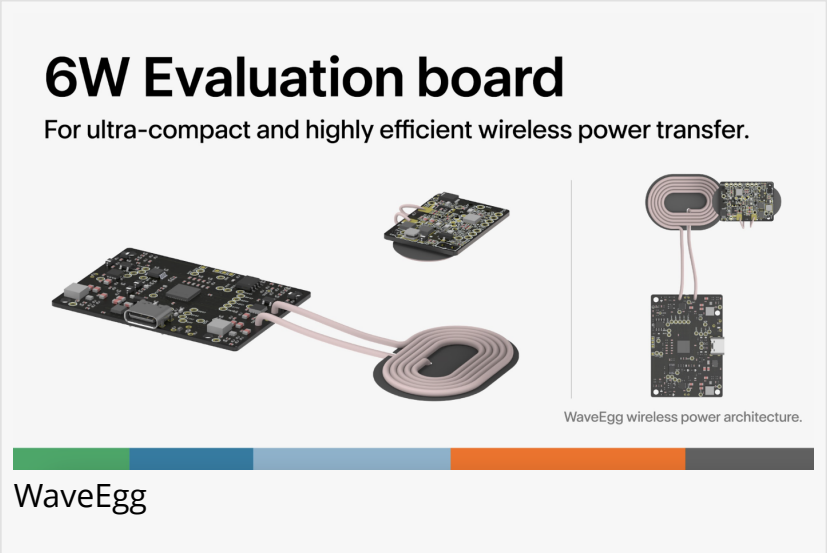
Eggtronic Launches Evaluation Board for High-Efficiency, High-Frequency Wireless Power Transfer

WaveEgg LP EVB simplifies design and reduces component for small form factor, cable-free charging of low-power devices up to 6 W



MODENA, ITALY, October 1, 2024 /EINPresswire.com/ -- Eggtronic has unveiled a new evaluation board that allows engineers to quickly develop and prototype ultra-efficient, low-component count wireless power transfer designs for low-power applications.

The WaveEgg Low-Power (LP) EVB is built on Eggtronic's proprietary, high-frequency WaveEgg architecture, which optimises performance and efficiency and reduces component count and form factor in high-performance power converter and wireless power transmission systems. Ideally suited to wirelessly charging and powering small, smart devices and IoT products, WaveEgg delivers powers between 0.5 W and 30W and can work at extremely high frequencies (from some MHz to tens of MHz, including ISM 6.78 - 13.56 - 27.12 MHz).

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>
> *Igor Spinella, CEO and Founder*

WaveEgg offers end-to-end efficiency that is significantly higher than traditional systems, while allowing overall bill of materials (BoM) to be reduced. Using the WaveEgg LP EVB, engineers will be able to create systems with high low-load to full-load efficiency using fewer components than standard class D, class-E, class F, class Phi, and other resonant wireless power transfer solutions - including Qi, - and Airfuel-based technologies.

"Wireless power transfer technology based on conventional designs has limitations in relation to

size, bill of materials and efficiency at reduced loads that limits its use for IoT and small smart devices," says Igor Spinella, Eggtronic's founder and CEO. "WaveEgg addresses the historical challenges of efficiency and component count for powers up to 30 W and the WaveEgg 6W LP evaluation board provides a platform for engineers to quickly and easily realise practical and commercially viable low-power wireless designs."

WaveEgg is based on Eggtronic's EPIC (Eggtronic Power Integrated Controller) ICs. These ICs integrate a 32-bit RISC-V core and high-performance digital and analog peripherals and feature a flexible internal structure that supports control of both standard and proprietary power conversion architectures. High efficiency over the whole load range is achieved through a proprietary design that achieves zero-voltage-switching (ZVS) and quasi-zero-current-switching (quasi-ZCS) on the transmission side and ZVS+ZCS on the receiving side.

At an output of 6W and a switching frequency of 2 MHz, WaveEgg achieves an efficiency of 85%. The requirement for fewer components than conventional designs further contributes to efficiency by reducing losses from non-ideal component behaviour. Additional component count reduction is possible for battery charging applications as the receiver is also capable of charging a battery through a step-down converter implementing a CC/CV mode algorithm, eliminating the need for a battery charger controller.

To find out more about visit:

Technology Page:
https://www.eggtronic.com/wireless-power/waveegg/

IC Pages:
https://www.eggtronic.com/products-services/integrated-circuits/EPIC1AQW01/
https://www.eggtronic.com/products-services/integrated-circuits/EPIC1AQW02/

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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