

PRODUCT NEWS

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Ampleon 1 kW 2.4 GHz compact RF energy reference system targets industrial heating market and drives magnetron replacement

Nijmegen, The Netherlands – October 4, 2016 – Ampleon today announced the modular M2 RF Energy reference system. In the industrial heating market, companies are looking for innovations from solid state RF power suppliers to replace magnetron components in their products. This technology replacement is driven by the need for a longer service lifetime of the RF generators, to reduce operating costs and minimize the downtime of heating systems. Solid state RF power provides better control of the radiated energy produced, the quality is more consistent and yield is higher, Also the scalable form factor gives equipment designers a lot more design freedom to meet their end customer's size requirements.



Ampleon creates RF power transistors and pallets for the industrial heating market, as well as a series of development tools.

The M2 RF Energy reference system is aimed at a broad range of industrial heating applications. It incorporates Ampleon LDMOS RF power transistors and a microwave signal source IC in a compact water-cooled 1U half-rack format measuring 22.0 x 25.0 x 4.4 cm. Internally the M2 employs four 250 Watt pallets that can be pulsed or emit CW, each having an isolator to provide protection against reflected power. The pallets and an output combiner sit directly on the copper cooling plate comprising the water cooling tubing. Designed as a development platform to create a replacement for magnetron-based products, this building block approach speeds time to market, particularly for those design houses and OEMs that have not previously employed a solid state RF energy method in their developments. An embedded microcontroller provides an easy method of controlling and monitoring the amplifier in addition to aiding integration to the host application through an USB interface. Key operating parameters such as forward/reflected power, temperature and current are displayed via a front panel LCD display.

The M2 makes it easy for design engineers to trial and understand the advantages that a solid state approach brings to industrial heating applications, the new functionality this method yields together with the ability to come up with many new use cases previously impossible with a

magnetron. Multiple M2 units can be configured in parallel in order to achieve high output powers up to 4 kW.

The water-cooled approach improves thermal management in the end-application. Compared to using a magnetron as an RF energy source, solid state sources are more reliable, much safer, require less maintenance and have a much lower lifetime cost. Also, the control of output power and pulse modulation is far more precise. The M2 is powered via a 32 VDC, 65 A supply.

The M2 reference system is the latest addition to Ampleon's full range of RF energy tools, development boards and reference designs. It will be available in Q1, 2017.

Typical applications include heating and drying, microwave chemistry, study of biological phenomena and materials processing.

More information is available here: <http://www.ampleon.com/applications/rf-energy.html>

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About Ampleon:

Created in 2015, Ampleon is shaped by 50 years of RF power leadership. Recently being spun-off from NXP Semiconductors, the company is set to exploit the full potential of data and energy transfer in RF. Ampleon has more than 1,250 employees worldwide, dedicated to creating optimal value for customers. Its innovative, yet consistent portfolio offers products and solutions for a wide range of applications, such as cellular base stations, radio/TV/broadcasting, radar, air traffic control, cooking, lighting, industrial lasers and medical. For details on the leading global partner in RF Power, visit www.ampleon.com