

## PRESS RELEASE



### FOR IMMEDIATE RELEASE

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## **TDK Develops World's Smallest Thin-Film Band-Pass Filter for Mobile Devices and Modules**

*– New 1005-size filter for Bluetooth and wireless LAN applications is just 0.3mm thick –*

TDK Corporation announced today that it has developed the TFSB1, a 1005-size thin-film band-pass filter that is just 0.3mm thick, making it the world's smallest filter of its kind. TDK applied the thin-film technologies it developed through the manufacture of HDD magnetic heads, which are among TDK's leading products, to create a filter that is substantially lower-profile and smaller than earlier 2012-sized products.

In the past several years, mobile phones and other mobile communications devices have become increasingly advanced as they add to their core functions, including transmission of relatively large volumes of data such as graphics and mobile internet capabilities. Also, attractive hardware designs have become as important as function; and as demand for compact, lightweight, and easy to use devices rises, so does the need for compact, low-profile electronic components. There is also a need for further miniaturisation of the electronic components used in the numerous modules that make up electronic devices.

As mobile communications devices become increasingly advanced and perform multiple functions, it is important that the signals required for communications functions be transmitted with low loss to achieve low power consumption and long component life and that unneeded signals are substantially attenuated.

To respond to these market needs, TDK applied the cutting-edge thin-film technologies that it developed through HDD magnetic head manufacturing and formed thin films of copper wiring, insulation material, and dielectric material on a ceramic substrate to create the world's smallest band-pass filter — a 1005-size (1.0mm long by 0.5mm wide) component that is just 0.3mm thick. The new filter will be used primarily for ensuring signal quality in mobile phones, wireless LAN and Bluetooth modules, Bluetooth headsets, and other devices.

Thin-film technologies, one of TDK's areas of expertise, are also used in the manufacture of thin-film common-mode filters, which are used as noise countermeasure components for ensuring signal quality in high-speed data transmissions.

Production of the TFSB1 is due to start in early 2009. RoHS compliant, the device is lead-free, and suitable for mounting with lead-free solder.

## **About TDK Electronics Europe GmbH**

TDK is a recognised world leader in the design and manufacture of electronic components. This position has been achieved through dedication to the development of new materials, new products, advanced manufacturing processes, improvements in product quality and exceptional customer service. Founded in Japan in 1935, TDK was created with the aim of becoming the world's first manufacturer of the magnetic material ferrite. TDK's European operations, head quartered in Duesseldorf, Germany, includes 7 regional sales offices, 2 R&D laboratories and 2 manufacturing centres. From these bases and with the support of a wide distribution network, TDK provides more than just access to components and technology.

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