Multimedia filters

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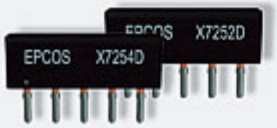
Perfect reception

BENEFITS | FILTERS FOR MULTIMEDIA

- Available for all common frequency bands and intermediate frequencies worldwide
- Integrated baluns for impedance matching to chipsets
- Combined filters for analog and digital set-top boxes cut costs, save space



Multimedia equipment such as TV sets, video recorders and set-top boxes are classical applications of SAW filters. The first designs based on SAW technology were implemented 25 years ago. "Although some of the standards for frequency bands and systems were defined decades ago, new applications are constantly emerging", says Christian Seidl, Executive Vice President and General Manager of the Consumer Electronics Business Unit. High-end TV sets will in future include functions such as FM radio reception. A transversal filter for European FM radio with a center frequency of 37.5 MHz is being developed for this purpose. A filter of this type with a center frequency of 43.652 MHz is also being considered for FM radio reception in the United States. "We can soon start volume production of a filter matching the European variant", confirms Seidl. This new component with the sample designation X900B and center frequency of 37.5 MHz is designed for a 3 dB bandwidth of 900 kHz.

"Our low-cost filter designs improve our customers' competitive stance."

CHRISTIAN SEIDL

Executive Vice President and General Manager, Consumer Electronics Business Unit

A low-loss passband filter of type B1614 with a center frequency of 1220 MHz has been developed for the first IF stage of dual-conversion tuners. Its impedance matching to 100 Ω deserves special mention. Impedance matching often transforms chip impedances approaching 200 Ω into lower impedances in the circuitry. A self-matching 200 Ω filter therefore has too high a rating for this purpose, as is shown by the increased amplitude ripple in the passband. Seidl says, "Our new filter for 100 Ω offers greater matching stability, a flat passband and very low insertion loss in such situations." This component is supplied in the rugged QCC8D package.

Filter types Y7401P and Y7402P have been specially developed for the US market. They are used as IF passband filters for the XM satellite radio system and distinguished by reduced insertion loss. Thanks to the innovative DOC14A plastic package for surface mounting, the space requirement has been reduced even further, as has the price. They can also be used as pin-compatible replacements for previous types Y7103L and Y7104L.

For two years, EPCOS has been offering suitable filter solutions for all set-top box systems. Types that combine filters for analog and digital transmission in a single component offer particular benefits. Christian Seidl illustrates this with an example. "Whereas the tuner used to need two RF paths, the design of combined tuners can now be made much simpler with switchable filters. They reduce component count, increase reliability and cut costs. These benefits ultimately help our customers to offer new end products at attractive prices."