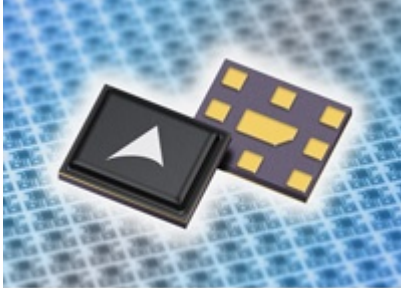


Products & Technologies



SAW components

July 2009

Most compact UMTS duplexers in case size 2016

EPCOS is pushing the miniaturization of UMTS duplexers ever further: the new filter components for W-CDMA bands I and V in case size 2016 have a footprint of only 2.0 x 1.6 mm² and an extremely low insertion height of 0.45 mm. EPCOS is currently also developing duplexers of this case size for other frequently used W-CDMA bands.

Duplexers are key components for UMTS mobile phones and data cards. They combine transmit and receive filters for simultaneous transmission and reception within a specific frequency band, which is indispensable for W-CDMA systems. But duplexers also form the basis for co-banding in mobile phone applications, i.e. shared utilization of a frequency band in two different radio standards. This is a decisive advantage for mobile phones that have to support GSM in addition to W-CDMA. The new miniaturized duplexers also allow the integration of ever more bands in mobile phones of unchanged compact size. In addition, co-banding is required for mobile phones and data cards operating in the networks of all UMTS providers worldwide. Manufacturers are already developing mobile phones that operate in up to five different W-CDMA bands.

As transmit and receive frequencies lie very close to each other within a band, the duplexer filters must have very good electrical parameters, such as high edge steepness. The first duplexers of case size 2016 were implemented completely on a SAW basis. In future, the proven SAW filters will be complemented by BAW filters, which have superior performance at certain frequencies. EPCOS is the only manufacturer already to offer duplexers for almost all W-CDMA bands in compact SAW or BAW technology. Volume production of the new 2016 duplexers will start at the beginning of 2010. Samples are already available.