Abstracts

A low-IF polyphase receiver for GSM using log-domain signal processing

The design of a polyphase receiver for GSM is presented. Compared with a superhet solution, it offers similar performance but is very much easier to integrate on silicon without the need for off-chip channel filters. Compared with a zero-IF solution, a substantial improvement in performance is achieved by virtue of eliminating the problems with DC offsets and IP/sub 2/ generation. The use of log-domain signal processing leads to simplifications in the digital baseband and eliminates the need for AGC.

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