Abstract

The wireless communication has undergone a revolution due to advancements in technology. For each new user or application to be a part of communication network the preliminary requirement is the allocation of frequency spectrum band. This frequency band is a limited resource and it is impossible to expand its boundaries. So the need is to employ intelligent, adaptive and reconfigurable communication systems which can investigate the requirements of the end user and assign the requisite resources in contrast to the traditional communication systems which allocate a fixed amount of resource to the user under adaptive, autonomic and opportunistic cognitive radio environment. Cognitive Radio(CR) Technology has emerged from software defined radios wherein the key parameters of interest are frequency, power and modulation technique adopted. The role of Cognitive Radio is to alter these parameters under ubiquitous situations. The Spectrum Sensing is an important task to determine the availability of the vacant channels to be utilised by the secondary users without posing any harmful interference to the primary users. In Multicarrier Communication using Digital Signal Processing Techniques, Filter Bank Multi Carrier has an edge over other technologies in terms of Bandwidth and Spectral Efficiency. The present paper deals with the Multi Rate FIR Decimation and Interpolation Filter approach for physical layer of Cognitive Radio under Binary Symmetric fading channel environment.
References


Index Terms

Computer Science
Signal Processing

Keywords