Abstract

In today's wireless communication environment, the Radio Frequency spectrum is occupied for different purposes like cellular, Television, military, emergency or satellite communication. The frequency spectrum used for cellular communication is getting over crowded with increasing number of subscribers and demand for high data rate text or video transmission, but the frequency spectrum in other wireless broadcast and communication is not utilized efficiently, example in Television broadcast band, some of frequency spectrum is vacant at some instant or for particular time. The vacant spectrum could be used in cellular communication, means the spectrum is borrowed from Television Broadcast band to be used for cellular communication. A borrow/use of spectrum from other licensed frequency bands will improve the efficiency of spectrum use. In this paper, aspects of Cognitive Radio and comparison of different sensing techniques and methods are discussed. Secondly, the layer architecture of Cognitive Radio is presented. Thirdly, hardware and software platforms are discussed for Cognitive Radio testing.
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Index Terms

Computer Science

Wireless
Keywords
Cognitive Radio  Software Defined Radio  Spectrum Sensing  Primary User  Secondary User
Transmit Power Control and Dynamic Spectrum Management