Abstract

Spectrum sharing is an efficient solution for spectrum shortage. This paper presents mathematical analysis of a typical coexistence scenario between LTE and radar systems in 2.7-2.9 GHz bands. We present the interference analysis of multiple base stations (BSs) and mobile stations (MSs) on the primary radar. The joint distribution of power-controlled and non powercontrolled interference is also presented in this study. Our simulation and analytical results closely approximate each other and the LTE downlink data rate for the shared spectrum is quite comparable to an LTE system operating in a dedicated spectrum band. Thus, the feasibility of spectral coexistence is shown.

References


Index Terms

Computer Science  Signal Processing

Keywords

Spectrum sharing, power control, Poisson, Log-normal distribution.