

Protection Ratios of Broadcast Services in the Presence of Cognitive Transmissions

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Abstract:

A study of the performance of an 802.22 WRAN system operating into the same coverage range of a DTT receiver is presented in this paper. We performed extended measurements for evaluating the protection of the existing broadcasting services. In order to evaluate the performance of DTT systems interfered by 802.22 transmission in their adjacent channels, the Picture Failure levels have been monitored for different operation modes of the 802.22 standard. The goal of the present study is to find the maximum transmission power level and bandwidth configuration of an 802.22 signal in an adjacent channel of an active DTT system whereas protecting the primary broadcast system. The results from the measurements performed in the various scenarios have been analysed and conclusions have been drawn.