

The White Space Opportunity in Southern Africa: Measurements with Meraka Cognitive Radio Platform

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ABSTRACT

The global migration of television (TV) from analogue to digital broadcasting will result in more spectrum bands (known as TV white space), previously used in analogue broadcasting, becoming available and unoccupied. A question is on how much white space is available and how can it be used opportunistically and dynamically without causing harmful interference to licensed users? In this paper, we present work that is currently ongoing in our research lab with regard to the use of cognitive radio for accessing TV white spaces. We discuss the Meraka Cognitive Radio Platform (MCRP) developed using the second version of the Universal Software Radio Peripheral hardware and the GNU Radio software. We also present early results of the measurements conducted using the MCRP in rural and urban Southern Africa areas. The measurement results indicate that there are substantial white spaces available in both rural and urban areas for digital dividend.