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Framework for TV White Space Spectrum Access in Southern African Development Community (SADC)

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Abstract

The global migration of television (TV) from analogue to digital broadcast will see a large amount of TV spectrum available (called TV white space - TVWS) for other services such as mobile and broadband wireless access (BWA). Leading spectrum regulation authorities, such as the Federal Communications Authority (FCC) and the Office of Communication (Ofcom) are already defined rules and policies for licence-exempt access of the TVWS for BWA, especially for rural areas. Key to these rules and policies are the transmission and operating parameters to ensure protection of TV incumbents from harmful interference that might be caused by the white space devices (WSD). In this paper we propose a framework for TVWS access and key transmission parameters for licence-exempt operation of WSD for providing rural BWA within the Southern African Development Community (SADC). These parameters are determined based on extensive studies and consultations completed by the FCC and Ofcom, but are optimized for the SADC rural environment. We believe that this paper will serve as an important guideline document for the SADC regulators to decide suitable technology and policies when opening TVWS for BWA, especially for the rural communities.