SERVICE-BASED APPROACH TO CHANNEL SELECTION AND NETWORK CONFIGURATION FOR TELEVISION WHITE SPACE NETWORKS

[0001] ## RELATED APPLICATIONS

[0002] This application claims the benefit of US Provisional applications 61/392,350 filed October 12, 2010; 61/445,285 filed February 22, 2011; and 61/470,914, filed April 1, 2011.

[0003] ## FIELD OF INVENTION

[0004] This application is related to wireless communications.

[0005] ## BACKGROUND

[0006] Coexistence between heterogeneous and independently operated networks in the television (TV) bands use unlicensed operation modes, also known as TV White Space (TVWS) networks. A single service access point (e.g. COEX_COMM_SAP) may support communication between the various system components when these are distinct. In particular, particular interfaces may all be supported by the single service access point (SAP).

[0007] ## SUMMARY

[0008] A method for managing channel selection in a dynamic spectrum management network includes receiving a spectrum allocation request; based on the source of the spectrum allocation request, checking for available channels; based on the source of the spectrum allocation request, collecting sensing and usage data for the available channels; providing the channel usage data to an entity that transmitted the spectrum allocation request.

[0008a] According to a first aspect of the invention, there is provided a method of coexistence management comprising: receiving sensing information from a plurality of wireless networks; and providing a ranked list of available channels to one of the plurality of wireless networks based at least on the sensing information received from the plurality of wireless networks.

[0008b] According to a second aspect of the invention, there is provided a method of spectrum coordination comprising: receiving a request from a requesting wireless network, wherein the requesting wireless network is from among a plurality of wireless networks; obtaining, from a database, information about channels that are available for the requesting wireless network; and providing, to the requesting wireless network, a ranked list of the channels that are available for the requesting wireless network based at least on the obtained information about the channels that are available for the requesting wireless network.

[0008c] According to a third aspect of the invention, there is provided a method of spectrum coordination comprising: receiving spectrum usage data from a plurality of wireless networks; obtaining, from a database, information about available channels; and providing a ranked list of the available channels to one of the plurality of wireless networks based at least on the spectrum usage data received from the plurality of wireless networks and the information about the available channels obtained from the database.

[0009] **BRIEF DESCRIPTION OF THE DRAWINGS**

[0010] A more detailed understanding may be had from the following description, given by way of example in conjunction with the accompanying drawings.