

RESOLUTION 956 (WRC-07)

Regulatory measures and their relevance to enable the introduction of software-defined radio and cognitive radio systems

The World Radiocommunication Conference (Geneva, 2007),

considering

- a) that cognitive radio and self-configuring networks are expected to provide additional flexibility and improved efficiency to the overall spectrum use;
- b) that ITU-R is already studying such advanced radio technologies, their functionalities, the key technical characteristics, requirements, performance and benefits (Question ITU-R 241/8);
- c) that studies have shown that software defined radio using cognitive control mechanisms is an approach for achieving better spectrum utilization, dynamic spectrum management, and flexible spectrum use (Report ITU-R M.2064)*;
- d) that considerable research and development is being carried out on cognitive radio systems and related network configurations such as self-configuring networks;
- e) that cognitive radio systems may cover a number of radio access techniques (RATs);
- f) that cognitive radio systems include self-configuring networks of different network topologies that will be able to set their spectrum usage based on the locally available spectrum;
- g) that without any information about the location and characteristics of other RATs within the covered frequency range reachable from the mobile terminal, it will be necessary to scan the whole tuning range in order to discover the local spectrum usage, which will result in a huge power and time consumption;
- h) that without additional means, it may not be possible to discover receive-only usage;
- i) that some studies indicate usefulness to have means to assist in the determination of the local spectrum usage, such as wireless or wired access to a database or to other networks;
- j) that some studies indicate a possible need for a worldwide harmonized cognitive supporting pilot channel with a bandwidth less than 50 kHz, whilst other studies indicate that the availability of a database could support access and connectivity, and therefore support the use of these systems,

* *Note by the Secretariat:* This Report was suppressed in June 2007. The subject matter is now covered by Report ITU-R M.2117.

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resolves to invite ITU-R

1 to study whether there is a need for regulatory measures related to the application of cognitive radio system technologies;

2 to study whether there is a need for regulatory measures related to the application of software-defined radio,

resolves further

that WRC-11 consider the results of these studies and take the appropriate actions.