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| **Radiocommunication Study Groups** |  |
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| **1 June 2011** |
| **English only** |
| Working Party 1B | |
| PRELIMINARY draft NEW Resolution itu-r [CRS] | |
| Studies on the implementation and use of cognitive radio systems (CRS) | |

The ITU Radiocommunication Assembly,

considering

[a) that Resolution 956 (WRC-07) invites ITU-R to study whether there is a need for regulatory measures related to the application of cognitive radio system technologies;

AND/OR

a) that the implementation and use of CRS is on the agenda of WRC-12 (Agenda item 1.19);]

b) that the definition of cognitive radio system (CRS) is contained in Report ITU‑R SM.2152;

c) that CRS is expected to provide flexibility and improved efficiency to the overall spectrum use in all radiocommunication services;

d) that ITU-R has already initiated studies on CRS (e.g. [Question ITU-R 241-1/5](http://www.itu.int/pub/R-QUE-SG05.241));

e) that the introduction of CRS technology under a specific radiocommunication service requires studies, in particular on their potential impact on radiocommunication services;

f) that technologies employing some cognitive features, such as RLANs in the 5 GHz spectrum bands utilizing DFS, are already in use (Recommendation ITU-R M.1652);

g) that a range of capabilities of CRS may facilitate the coexistence with existing systems and may allow sharing in bands where it was not previously considered feasible;

h) that CRS capabilities developed for sharing purposes will be specific to the systems of radiocommunication services to be protected and should neither lead to additional constraints on these services nor impede their future development;

j) that special and careful consideration of CRS use in radiocommunication services in bands shared with other radiocommunication services, due to their specific technical or operational characteristics, such as space services (space-to-Earth), passive services (radio astronomy, EESS and SRS) and radiodetermination services, is needed;

k) that the introduction of CRS in a radiocommunication service in a specific band needs to ensure that the coexistence with other radiocommunication services sharing the band and in the adjacent bands is maintained or improved;

l) that for radiocommunication services employing CRS the particular set of capabilities and characteristics and sharing conditions with other radiocommunication services will depend on the frequency band,

recognizing

a) that CRS is a collection of technologies, not a radiocommunication service;

[b) that the possible regulatory measures for CRS and their relevance as requested by Resolution 956 (WRC-07) are outside of the scope of this ITU-R Resolution;

AND/OR

b) that this preliminary draft new Resolution is aimed at responding to one of the options provided in the CPM Report to WRC-12 in order to satisfy WRC-12 Agenda item 1.19;]

c) that the studies performed concluded that CRS can operate within the existing Radio Regulations;

d) that any radio system implementing CRS technology within any radiocommunication service needs to operate in accordance with the applicable provisions of the Radio Regulations;

e) that there are already plans to deploy CRS in some radiocommunication services;

f) that CRS has the capability of dynamically accessing frequency bands, among other capabilities,

noting

a) that considerable research and development is being carried out on CRS;

b) that some international organizations have initiated work on CRS,

resolves to invite ITU‑R

**1** to study the introduction and use of CRS in radiocommunication services;

**2** to study operational and technical characteristics, requirements, performance and possible benefits associated with the introduction of CRS in relevant radiocommunication services;

**3** to study the technical conditions associated with the implementation of CRS technologies in radiocommunication services in order to facilitate, ensure and enhance coexistence and sharing among radiocommunication services in specific frequency bands;

**4** to develop relevant ITU-R Recommendations and/or Reports based on the aforementioned studies as appropriate,

invites the membership

to participate actively in the implementation of this Resolution, among others, by providing contributions to ITU-R and submitting relevant information from outside ITU-R.

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