

Cognitive radio systems in the mobile service¹

(2007-2007)

The ITU Radiocommunication Assembly,

considering

- a) that the use of mobile radio systems is growing at a rapid rate globally;
- b) that more efficient use of spectrum is essential to the continued growth of such systems;
- c) that cognitive radio systems may facilitate the more efficient use of spectrum in mobile radio systems;
- d) that cognitive radio systems may offer functional and operational versatility and flexibility in mobile radio systems;
- e) that considerable research and development is being carried out on cognitive radio systems and related radio technologies;
- f) that the implementation of cognitive radio systems may include technical and regulatory issues, and it is beneficial to identify the technical and operational characteristics;
- g) that Reports and/or Recommendations on cognitive radio systems would be complementary to other ITU-R Recommendations on mobile radio systems,

noting

that there are network aspects related to the control of cognitive radio systems,

decides that the following Questions should be studied

- 1 What is the ITU definition of cognitive radio systems?
- 2 What are the closely related radio technologies (e.g. smart radio, reconfigurable radio, policy-defined adaptive radio and their associated control mechanisms) and their functionalities that may be a part of cognitive radio systems?
- 3 What key technical characteristics, requirements, performance and benefits are associated with the implementation of cognitive radio systems?
- 4 What are the potential applications of cognitive radio systems and their impact on spectrum management?
- 5 What are the operational implications (including privacy and authentication) of cognitive radio systems?
- 6 What are the cognitive capabilities that could facilitate coexistence with existing systems in the mobile service and in other radiocommunication services, such as broadcast, mobile satellite or fixed?

* Former Question ITU-R 241-1/8.

¹ This Question should be brought to the attention of Study Groups 1, 4, 6 and 9.

7 What spectrum-sharing techniques can be used to implement cognitive radio systems to ensure coexistence with other users?

8 How can cognitive radio systems promote the efficient use of radio resources?

further decides

1 that the results of the above studies should be included in one or more Recommendations, Reports or Handbooks;

2 that the above studies should be completed by the year 2010.

Category: S2