

QUESTION ITU-R 243/7*

Characterization of technical parameters and interference effects and possible interference mitigation techniques for passive sensors operating in the Earth exploration-satellite service (passive)

(2006)

The ITU Radiocommunication Assembly,

considering

- a) that passive sensors are used in the remote sensing of the Earth and its atmosphere by Earth exploration- and meteorological satellites in certain frequency bands allocated to the Earth exploration satellite service (EESS) (passive);
- b) that the products of these passive sensor operations are used extensively in meteorology, climatology, and other disciplines for operational and scientific purposes;
- c) that passive sensors operating in the EESS (passive) are sensitive to any emissions within their allocated band;
- d) that any emissions that raise the noise floor in bands allocated to the EESS (passive) may constitute interference to the passive sensors using those bands;
- e) that passive sensors may not be able to differentiate the wanted signal from the interference and that interference may not be identifiable in the passive sensor products;
- f) that in order to help protect passive sensors from interference it may be necessary for those sensors to employ interference mitigation techniques,

further considering

- a) that Recommendations ITU-R SA.515, ITU-R SA.1028, and ITU-R SA.1029 provide general EESS (passive) operational characteristics, performance and protection,

noting that

- a) Recommendation ITU-R SM.1633 considers interference between EESS (passive) in certain bands in the range 1.4 to 52.8 GHz from certain active services in specific adjacent or nearby bands;
- b) Recommendation ITU-R SM.1542 provides some information regarding techniques that the EESS (passive) sensors may employ to mitigate unwanted emissions,

decides that the following Question should be studied

- 1 What are the range of applications and uses of passive sensors and its products?
- 2 What are the typical technical and operating characteristics of passive sensors that can be used for studies involving sharing and compatibility?

* In the year 2009, Radiocommunication Study Group 7 extended the completion date of studies for this Question.

- 3 How can the degradation to passive sensor operations from all possible interference sources be characterized?
- 4 Can the degradation due to interference be identified in the passive sensor and its products?
- 5 Are there mitigation techniques that can be employed by the passive sensors to protect their operations from degradation?

further decides

- 1 that the results of the above studies should be included in one or more Recommendations and/or Reports;
- 2 that the above studies should be completed by 2010.

Category: S2