



Recommendation ITU-R SM.2039
(08/2013)

Spectrum monitoring evolution

SM Series
Spectrum management



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Foreword

The role of the Radiocommunication Sector is to ensure the rational, equitable, efficient and economical use of the radio-frequency spectrum by all radiocommunication services, including satellite services, and carry out studies without limit of frequency range on the basis of which Recommendations are adopted.

The regulatory and policy functions of the Radiocommunication Sector are performed by World and Regional Radiocommunication Conferences and Radiocommunication Assemblies supported by Study Groups.

Policy on Intellectual Property Right (IPR)

ITU-R policy on IPR is described in the Common Patent Policy for ITU-T/ITU-R/ISO/IEC referenced in Annex 1 of Resolution ITU-R 1. Forms to be used for the submission of patent statements and licensing declarations by patent holders are available from <http://www.itu.int/ITU-R/go/patents/en> where the Guidelines for Implementation of the Common Patent Policy for ITU-T/ITU-R/ISO/IEC and the ITU-R patent information database can also be found.

Series of ITU-R Recommendations

(Also available online at <http://www.itu.int/publ/R-REC/en>)

Series	Title
BO	Satellite delivery
BR	Recording for production, archival and play-out; film for television
BS	Broadcasting service (sound)
BT	Broadcasting service (television)
F	Fixed service
M	Mobile, radiodetermination, amateur and related satellite services
P	Radiowave propagation
RA	Radio astronomy
RS	Remote sensing systems
S	Fixed-satellite service
SA	Space applications and meteorology
SF	Frequency sharing and coordination between fixed-satellite and fixed service systems
SM	Spectrum management
SNG	Satellite news gathering
TF	Time signals and frequency standards emissions
V	Vocabulary and related subjects

Note: This ITU-R Recommendation was approved in English under the procedure detailed in Resolution ITU-R 1.

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(Question ITU-R 235/1)

(2013)

Scope

This Recommendation gives a brief introduction on the evolution of spectrum monitoring and recommends requirements and technologies to be considered to support the evolution of spectrum monitoring.

The ITU Radiocommunication Assembly,

considering

- a) that spectrum monitoring is a key element of spectrum management;
- b) that radiocommunication technologies and systems are in constant and rapid evolution;
- c) that, among other technologies, the impact of software-defined radio and cognitive radio systems on spectrum monitoring needs to be studied;
- d) that spectrum use in higher frequency bands continues to increase;
- e) that the ITU-R Recommendations and Reports in the SM-series, as well as the ITU Handbook on spectrum monitoring (Edition 2011) provide extensive information on spectrum monitoring of existing radio communication technologies and systems;
- f) that the existing spectrum monitoring systems and/or methods (including fixed, mobile and transportable stations) may need to be assessed with respect to their capability for monitoring new radiocommunication technologies and systems;
- g) that the improvement in spectrum monitoring equipment enhances the efficiency and effectiveness of the spectrum management process;
- h) that the increasing amount of collected spectrum measurement results may require adaptation of the organization and handling of the data and of the spectrum monitoring techniques used,

recognizing

- a) that the use of co-frequency multiplexing, advanced spectrum sharing techniques and other methods could improve frequency occupancy and spectrum efficiency;
- b) that wideband radio systems could enable faster communications, and the technology is developing very fast especially in future data networks;
- c) that some spectrum monitoring systems have difficulty detecting and locating low power radio devices which use modern modulation techniques,

recommends

- 1** that the evolution of spectrum monitoring makes use of systems that can extend the monitoring coverage, perform various functions and include user-friendly operation which are described in Annex 1;