

## RECOMMENDATION ITU-R SM.1723

**Automated mobile spectrum monitoring unit**

(2005)

**Scope**

Following the approval of ITU-R's Spectrum Monitoring Handbook, (Edition 2002), it became apparent that ITU-R Study Group 1 should issue a Recommendation on the characteristics and functions of mobile spectrum monitoring covering the relevant information contained in the Spectrum Monitoring Handbook (Edition 2002), and ITU-R Recommendations. This Recommendation will greatly facilitate the way in which administrations, in particular those of developing countries, set up radio mobile monitoring systems on their national territories.

The ITU Radiocommunication Assembly,

*considering*

- a) that automated mobile spectrum monitoring systems are available to support the administrative, frequency assignment and monitoring activities of spectrum administrators;
- b) that the incorporation of automated mobile units into the monitoring and management system enables such a system to conduct measuring operations that cannot be effectively performed from fixed monitoring stations;
- c) that automated mobile units have a vital role to play where low transmitter power levels, high antenna directivity and specific propagation characteristics preclude measurement by fixed monitoring stations;
- d) that many administrations already have computerized systems from which information can be supplied to spectrum management and monitoring systems,

*noting*

- a) Recommendation ITU-R SM.1537 – Automation and integration of spectrum monitoring systems with automated spectrum management”;
- b) the ITU-R Spectrum Monitoring Handbook, which provides guidelines on all aspects of radio emission monitoring;
- c) that the measurement and direction-finding data collected by automated mobile units enable spectrum managers to perform their tasks throughout the country;
- d) that the analysis of data from a mobile unit that has an automatic measurement and direction-finding system is vital to the proper operation of a national spectrum management system,

*recommends*

**1** that administrations, intending to procure new spectrum monitoring systems, may consider procuring integrated and automated mobile units. A mobile unit consists of a vehicle that has been fitted out with a measurement and direction-finding system that can be used, in manual or automatic mode, to perform the following spectrum monitoring functions:

- 1.1** measurement of the technical parameters of the signal;
- 1.2** occupancy measurements coupled with direction-finding measurements;

- 1.3 signal analysis;
- 1.4 detection and location of transmitters including unidentified stations and transmitters producing interference;
- 1.5 scheduling of measurement and direction-finding operations in real and deferred time;
- 1.6 remote transmission of the data collected by the mobile unit to the spectrum monitoring centre(s);
- 1.7 exchange technical information between the fixed and mobile spectrum monitoring units of the national spectrum monitoring system.

These main functions are described in detail in Spectrum Monitoring Handbook (Edition 2002), mainly in following sections:

- 2.4.2.2: Vehicle ;
  - 3.2.4 and 3.2.6: Antennas ;
  - 3.3: Receivers ;
  - 3.6 : Automation;
  - 3.6.4: Reporting ;
  - 5.5.4: SHF;
  - 6.1: Global positioning.
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