

RESOLUTION ITU-R 54-4

Studies to achieve harmonization for short-range devices

(2007-2012-2015-2019-2023)

The ITU Radiocommunication Assembly,

considering

- a)* that there is increasing demand for, and use of, short-range devices (SRDs) for a wide variety of applications throughout the world;
- b)* that such devices generally operate with low power;
- c)* that, according to operational requirements, the radio parameters for such devices vary;
- d)* that technical requirements for certain frequency bands need to be adopted so as to achieve a higher level of harmonization either regionally or globally;
- e)* that the implementation of regulations for SRDs is a matter for national administrations;
- f)* that national regimes for implementation are in general as simple as possible, in order to minimize the burden on administrations and users of SRDs;
- g)* that such devices shall neither cause harmful interference to, nor claim protection from, any radiocommunication service operating in accordance with the Table of Frequency Allocations;
- h)* that appropriate spectrum access techniques can allow the use of the frequency spectrum by SRDs to ensure protection of radiocommunication services operating in accordance with the Radio Regulations;
- i)* that some SRDs, such as radio-frequency identification devices (RFIDs) and certain types of medical devices, etc., have great growth potential and may benefit from a higher level of harmonization, e.g. tuning ranges;
- j)* that, by their nature, SRDs are being used on a worldwide basis, either as an independent device or as an integral part of other systems, and are often carried and used across national borders;
- k)* that some administrations have common regulations concerning certification, access to market and rights to use, whilst other administrations have country-specific rules;
- l)* that SRDs, their applications, their underlying technologies and their frequencies of operation are continuously evolving;
- m)* that administrations have introduced SRDs in various frequency bands, including bands designated for the deployment of industrial, scientific and medical (ISM) applications;

- n)* that administrations have developed regional and national rules and approaches for managing the regulation and certification of SRDs;
- o)* that there are a number of ITU-R Recommendations defining the protection of radiocommunication services from devices and applications without a corresponding service allocation in the Radio Regulations, and that compatibility studies are usually band- and service-specific;
- p)* that SRDs will continue to use frequency bands already allocated to radiocommunication services;
- q)* that many SRDs may create the potential for harmful interference to radiocommunication services, and they can be carried by travellers across national boundaries;
- r)* that some SRDs increasingly are playing a role in the mobile Internet economy, mobile broadband applications and Internet of Things,

recognizing

- a)* that the benefits of harmonization for administrations, manufacturers and end users that could be realized include:
 - increased potential for interoperability;
 - a broader manufacturing base and increased volume of devices (globalization of markets), resulting in economies of scale and expanded equipment availability;
 - improved spectrum management; and
 - enhanced circulation of equipment, while reducing the influx of non-conforming SRDs into the marketplace of countries;
- b)* that the trend is to increase the use of advanced spectrum access and interference mitigation technologies;
- c)* that encouraging SRD operation in suitable harmonized frequency bands could reduce the potential for harmful interference from SRDs to radiocommunication services;
- d)* that ITU-R provides administrations, standardization organizations and scientific and industrial organizations with an opportunity to share technical information on current SRD deployments and future spectrum requirements of SRDs;
- e)* that Recommendation ITU-R SM.1896 provides several frequency ranges for global or regional harmonization of SRDs;
- f)* that the widespread application of SRDs may increase the risk of harmful interference to stations such as radio astronomy and aeronautical radionavigation stations, which may have greater susceptibility to interference,

noting

- a)* that the decision on frequency bands for use by SRDs is a national matter, while recognizing significant advantages of harmonization of regional and international band usage;
- b)* that the work required to advance harmonization can be done through ITU-R Recommendations and/or Reports, revised on a regular basis;

- c) that frequency bands to be used as recommended ranges for SRD applications requiring operation on a global or regional harmonized basis are contained in Recommendation ITU-R SM.1896;
- d) that Recommendation ITU-R SM.2103 provides a list of SRD categories;
- e) that Report ITU-R SM.2153 provides technical and operating parameters and spectrum use for SRDs;
- f) that ITU-R deliverables may be developed to provide administrations, as appropriate, with specific guidance for the protection of radiocommunication services from interference from SRDs,

resolves

- 1 to continue studies, in collaboration with standardization organizations and scientific and industrial organizations, on the regional and/or global harmonization of technical and operating parameters, including frequency ranges and interference mitigation techniques for SRDs;
- 2 to continue to study technical methods to evaluate the potential interference from SRDs and develop the necessary monitoring and measurement procedures in order to enable administrations to verify technical and operating parameters of SRDs and to examine the effect of emissions from SRDs on radiocommunication services;
- 3 to promote and maintain an ongoing exchange of information on SRDs between ITU-R members and other organizations, as per Resolution ITU-R 9;
- 4 to study spectrum utilization and technical requirements of SRDs to promote the efficient use of spectrum;
- 5 to conduct technical studies to evaluate the feasibility of deploying SRDs in specific frequency bands that could be harmonized globally or regionally;
- 6 to continue studies to enable implementation of advanced technologies for SRDs, thereby in particular focusing on a strategy for the future;
- 7 that in particular the following studies should be conducted:
 - a) to collect information on SRDs which use advanced spectrum access and frequency tuning range techniques in order to understand their capabilities, taking into account *recognizing f*);
 - b) to advise on a mechanism, based on 7 a) above, that may ease the use of relevant frequency bands and/or frequency tuning ranges, preferably on a global or regional basis, suitable for SRDs, meanwhile ensuring protection to radiocommunication services;
 - c) to update information on frequency bands commonly used by SRDs;
- 8 to document these studies in ITU-R Recommendations and Reports, revised on a regular basis,

invites

1 the membership and other standardization, scientific and industrial organizations to participate actively in these studies;

2 administrations to consider the results of the studies with a view to taking necessary action in relation with their national regulations for SRD, as appropriate.