

PLENARY MEETING

Document CPM11-2/13-E
5 January 2011
Original: English

North American Broadcasters Association

PROPOSALS FOR THE CPM REPORT

The North American Broadcasters Association (NABA, www.nabanet.com) is an association of broadcasters in Canada, Mexico, and the United States, and the NABA Technical Committee is its standing technical body. NABA is thus in a position to present the technical viewpoints of the most authoritative association of professional North American Broadcasters in television and sound programme production, post-production, and distribution for terrestrial, satellite, and cable broadcasting.

NABA is a Sector Member of ITU-R and a long-time participant in ITU-R Study Groups, Working Parties, Task Groups, Rapporteur groups, etc. NABA numbers among its members Chairmen, Vice-Chairmen and members of the above groups. NABA also participates widely in the ITU work on radio, television and multimedia services and has a strong interest in spectrum management studies including spectrum engineering techniques, spectrum management fundamentals, spectrum monitoring, and inter-service sharing, interference and compatibility.

This NABA contribution outlines our views on the CPM Draft Report dealing with WRC-12 Agenda items and makes several proposals for modifications to the CPM text as follows:

1 Agenda item 1.4

1.4 to consider, based on the results of ITU-R studies, any further regulatory measures to facilitate introduction of new aeronautical mobile (R) service (AM(R)S) systems in the bands 112-117.975 MHz, 960-1 164 MHz and 5 000-5 030 MHz in accordance with Resolutions 413 (Rev.WRC-07), 417 (WRC-07) and 420 (WRC-07);

At WRC-07 the allocation to the AM(R)S in the band 108-112 MHz was further limited only to ground based systems that transmit navigational information in support of air navigation functions, while the band 112-117.975 MHz was opened to all AM(R)S systems subject to Resolution 413 (Rev.WRC-07). Studies have been completed on the investigation of any compatibility issues between the analogue broadcasting and AM(R) services that may arise from the introduction of AM(R)S systems in the band 112-117.975 MHz. These studies indicate that no harmful interference will arise from the introduction of AM(R)S systems in the band 112-117.975 MHz into analogue FM broadcasting receivers below 108 MHz and that the both services can operate on a compatible basis. Hence no specific ITU material needs to be developed for the protection of analogue FM broadcasting receivers below 108 MHz from AM(R)S emissions in the band 112-117.975 MHz.

Regarding the compatibility with digital broadcasting service below 108 MHz, the matter will be pursued under traditional ITU-R activities and outside the WRC process. The method to satisfy this

part of the Agenda item proposes modification to Resolution **413 (Rev.WRC-07)** in such a way that “*invites ITU-R 1*” is suppressed.

NABA in general supports the conclusions of the CPM Report. However in order to ensure the long term integrity of digital radio broadcasting in the 108-112 MHz band NABA proposes the addition of a new *resolves* to the example revisions to Resolution **413 (Rev.WRC-07)** as outlined in the Annex.

2 Agenda item 1.22

1.22 to examine the effect of emissions from short-range devices on radiocommunication services, in accordance with Resolution 953 (WRC-07);

Resolution **953 (WRC-07)** and WRC-12 Agenda item 1.22 invite the ITU-R to study emissions from short-range devices (SRDs), in particular radio frequency identification devices (RFIDs), operating inside and outside the frequency bands designated for ISM applications (RR No. **5.138** and No. **5.150**) to ensure adequate protection of radiocommunication services. This Resolution considers the deployment of SRDs, which can typically cross borders, such as RFIDs and ultra-wideband (UWB) devices, across various frequency bands and recognizes the work already carried out on UWB by ITU-R.

Four methods have been identified to satisfy this Agenda item:

- Method A proposes to keep the current practice with solutions from national or regional regulations and from relevant ITU-R Recommendations and Reports, as appropriate;
- Method B proposes to develop a general WRC Resolution inviting the ITU-R to study the regional and global harmonization of SRDs;
- Method C proposes to recognize a limited number of harmonized frequency bands, emission levels and other relevant technical characteristics for SRD applications, either by a WRC Resolution or regulatory changes in RR Article 5 for SRDs, similar to those in specific bands for ISM applications, including limits on the aggregated use of SRDs or total radiation of SRDs;
- Method D proposes to add RR provisions to define SRD applications and their conditions of operation.

In order to satisfy this Agenda item NABA supports methods that are limited to studies by the ITU-R without requiring regulatory action by WRC-12, or any future conference (Method A or B).

In other to highlight the fact that SRDs operate without status in the International Radio Regulations, and to ensure allocated services are adequately protected from ubiquitously deployed SRDs, NABA is proposing a number of changes to the CPM text as outlined in the Annex.

Annex: 1

ANNEX
AGENDA ITEM 1.4

MOD

RESOLUTION 413 (REV.WRC-12)

Use of the band 108-117.975 MHz by the aeronautical mobile (R) service

The World Radiocommunication Conference (Geneva, 2012),

considering

...

h) that the WRC-07 has modified the allocation of the band 112-117.975 MHz to the aeronautical mobile (R) services (AM(R)S) in order to make available this frequency band for new AM(R)S systems, and in doing so enabled further technical developments, investments and deployment;

...

recognizing

...

b) that, in accordance with Annex 10 to the Convention on International Civil Aviation, all aeronautical systems must meet standards and recommended practices (SARPs) requirements;

...

resolves

...

2 that any AM(R)S systems planned to operate in the frequency band 108-117.975 MHz shall, as a minimum, meet the FM broadcasting immunity requirements contained in Annex 10 to the Convention on International Civil Aviation for existing aeronautical radionavigation systems operating in this frequency band;

3 that any AM(R)S systems operating or planned to operate in the frequency band 108-117.975 MHz shall place no additional constraints on digital broadcasting systems operating in the broadcasting service in the 87-108 MHz band;

...

5 that any AM(R)S operating in the frequency band 108-117.975 MHz shall meet SARPs requirements published in Annex 10 to the Convention on International Civil Aviation;

...

...

invites ITU-R

to study any compatibility issues between the broadcasting and AM(R) services in the band 108-117.975 MHz that may arise from the introduction of appropriate digital sound broadcasting systems, described in Recommendation ITU-R BS.1114, and to develop new or revised ITU-R Recommendations as appropriate,

AGENDA ITEM 1.22

(WP 1A / SG 3, WP 4A, WP 4B, WP 4C, WP 5A, WP 6A, WP 7D, (WP 1C), (WP 5B),
(WP 5C), (WP 5D), (WP 7B), (WP 7C))

1.22 to examine the effect of emissions from short-range devices on radiocommunication services, in accordance with Resolution 953 (WRC-07);

Resolution 953 (WRC-07): *Protection of radiocommunication services from emissions by short-range radio devices*

3/1.22/2 Background

Resolution 953 (WRC-07):

- a) resolves that to ensure that radiocommunication services are adequately protected, further studies are required on emissions from SRDs, inside and outside the frequency bands designated in the Radio Regulations (RR) for industrial, scientific and medical (ISM) applications;
- b) describes short-range devices as radio transmitters or receivers or both that generate and use radio frequencies locally. Short-range devices operate in various frequency bands, including the ISM bands, under various national rules. While SRDs can operate in ISM bands, they are not considered ISM applications. RR No. **1.15** defines ISM applications (of radio frequency energy) as: operation of equipment or appliances designed to generate and use locally radio frequency energy for industrial, scientific, medical, domestic or similar purposes, excluding applications in the field of telecommunications²³;
- c) describes SRDs and recognizes that they hold promise for an array of new applications that may provide benefits for users. Certain types of SRDs, such as medical SRDs, have allowed for huge improvements in the health and quality of life of citizens, while RFIDs have created significant benefits in numerous sectors of the economy. SRDs have fostered economic productivity, which in turn generates cost-savings in commerce, health care, education, and government. Such productivity gains have greatly benefitted

²³ NOTE – There is a view, however, that many applications using ISM bands are no more covered by this definition and that the term ‘household’ is more appropriate than ‘domestic’.

consumers. SRDs such as radio local area networks (RLANs) have also enabled tremendous growth in the delivery of broadband wireless access.

SRD applications have been introduced in various ways in order to meet national requirements. For example, some SRD systems may operate on a non-interference and non-protected basis²⁴ in ISM bands and non ISM bands, whereas, other SRDs may operate under a particular service.

In some countries, a flexible national regulatory regime in which devices are exempt from licensing has been implemented in the ISM bands. The essence of such a regime is twofold: i) access to non-exclusive spectrum for certified devices is provided, and ii) basic technical requirements for devices are minimal. Such a regime facilitates spectrum sharing among devices while minimizing constraints on product designs. Moreover, barriers to entry are low in such regimes, thereby facilitating the development of a large eco-system of license-exempt devices, including short-range devices such as cordless telephones, wireless access systems, RFID, push-to-talk walkie-talkie like products, alarm systems and baby monitors.

A number of SRDs have also been introduced on a licence-exempt basis in non-ISM bands and operate on a non-interference, non-protected basis with licensed services. Such operation is premised on the fact that these SRDs have been certified based upon emissions of very low signal levels. Radiation limits and other technical/operating rules are usually established as a result of compatibility studies. For example, operating parameters can include the specification of indoor-use only, the requirement for an enabling signal prior to transmission, and a prohibition against configuring external antennas for permanent outdoor use. Technical parameters can include the specification of radiated power levels, duty-cycles, and threshold power detection capability; and the inclusion of listen-before-talk techniques.

UWB devices were studied extensively in the ITU-R; the relevant Recommendations and Reports can be found in Section 3/1.22/3.

When deploying SRDs, Administrations should take into consideration the protection criteria and service quality objectives provided in the Recommendations listed in Section 3/1.22/3.

3/1.22/6 Regulatory and procedural considerations

3/1.22/6.1 Method A

NOC to the Radio Regulations.

3/1.22/6.2 Method B

An example of a draft general WRC Resolution [A122-SRD-METHOD-B] (WRC-12) on the use of the radio-frequency spectrum by short-range radio devices is provided below.

²⁴ Non-interference and non-protected basis means that that no harmful interference shall be caused to any radiocommunication service (including the radio astronomy service, see RR No. 4.6), and that no claim shall be made for protection of these devices against harmful interference originating from radiocommunication services. Harmful interference for the purposes of the CPM Report on Agenda item 1.22 is defined as any interference level which degrades the performance of a radiocommunication service beyond the recommended protection levels in the relevant ITU-R Recommendations.

ADD

EXAMPLE DRAFT RESOLUTION [A122-SRD-METHOD-B] (WRC-12)

Use of the radio-frequency spectrum by short-range radio devices (SRDs)

The World Radiocommunication Conference (Geneva, 2012),

considering

- a) that some administrations and regional administrations have introduced SRD applications in the bands used for industrial, scientific and medical (ISM) applications, as well as in various other bands, on a national and regional level;
- b) that SRD applications are not considered ISM applications;
- c) that SRD applications are not defined as radiocommunication services in the Radio Regulations;
- d) that these administrations and regional administrations have developed national rules and approaches for managing the regulation and certification of SRD applications;
- dbis*) that there are a number of ITU-R Recommendations defining the protection of radiocommunication services from devices and applications without a corresponding allocation in the RRs;
- e) that, taking into account *considering dbis*, SRDs use the radio spectrum on a non-interference non-protected basis, i.e. they shall not cause interference to, and shall not claim protection from interference caused by, radiocommunication services;
- f) that appropriate techniques and spectrum access methods will have to be developed so that SRDs do not cause interference to radiocommunication services;
- g) that there is a huge growth forecast for wireless devices, including SRDs, for both the end-user and the industrial markets; therefore access to spectrum is critical for meeting the connectivity requirements of SRDs;
- h) that SRDs will continue to use frequency bands already allocated to radiocommunication services;
- i) that appropriate spectrum, harmonized for regional or global use, would need to be identified for the use of SRDs;
- j) that many SRDs can be carried by travellers across national boundaries, increasing the density of devices, and thereby creating the potential for interference from SRDs to radiocommunication services,

recognizing

- a) the benefits of harmonization for end users, manufacturers, and regulators such as:
 - greater end-user confidence in the reliable functioning of devices when travelling abroad;
 - a broader manufacturing base and increased volume of devices (globalization of markets) resulting in economies of scale and expanded equipment availability;
 - improved spectrum management;

- b) that encouraging SRD operation in harmonized frequency bands would reduce the potential for interference from SRDs to radiocommunication services;
- c) that globally harmonized bands could reduce the influx of non-conforming SRDs into the marketplace of countries;
- d) that ITU-R provides administrations, standards bodies and manufacturers an opportunity to share technical information on SRD deployments,

noting

- a) that frequency bands commonly used for the deployment of SRDs are listed in Table 1 of Report ITU-R SM.2153, Technical and operating parameters and spectrum use for short-range radiocommunication devices;
- b) that not all of these bands are harmonized for SRD use either regionally or globally;
- c) Recommendation ITU-R SM.[SRD] on frequency bands regionally or globally identified for short-range devices (SRDs);
- d) that the ISM bands are becoming congested due to the use of these bands by SRDs,

resolves

that SRDs shall not cause interference to, and shall not claim protection from harmful interference caused by, radiocommunication services,

invites ITU-R

1 to study, in collaboration with other relevant organizations, in particular ISO/IEC (see Resolution ITU-R 9-3), the regional and global harmonization of technical and operating parameters for SRD applications, such as those that are portable across borders and also those that have the potential to cause interference to radiocommunication services;

2 to consider further technical studies to:

- a) determine the impact of SRD applications under *resolves* 1 above on radiocommunication services;
- b) in accordance with Resolution ITU-R 54, enable implementation of advanced technologies for SRDs,

invites

administrations and interested parties to participate actively in these studies by submitting contributions to ITU-R,

instructs the Director of the Radiocommunication Bureau

to bring this Resolution to the attention of ITU-T, ISO/IEC and other relevant organizations in accordance with Resolution ITU-R 9-3.