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Subject: Questions ITU-R 105/6 and ITU-R 4-2/6

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English only

North American Broadcasters Association (NABA)

DRAFT NEW RECOMMENDATION ITU-R BT.[WS]

Protection requirements for broadcast systems against interference from radio devices utilizing the TV bands

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.

In this context, NABA has noted Annex 3 to Working Party 6A Chairman's Report (Document 6A/120), entitled "Preliminary Draft New Recommendation ITU-R BT.[WS] Protection requirements for broadcast systems against interference from radio devices utilizing the TV bands," provides an important development towards the efficient use of the RF spectrum while maintaining adequate protection to the Broadcasting Service operating within the spectrum allocated in the ITU Radio Regulations. Although NABA recognizes the need to share the valuable resources of the RF spectrum, it should be done such that the interference levels permit a quality of service no lower than the one currently afforded by the Radio Regulations. The PDNR in Annex 3 of Document 6A/120 accomplishes this objective. NABA strongly supports the PDNR and provides further edits to improve the text as shown in the Annex. NABA proposes that the protection requirement be expressed in terms of field strength density (dB μ V/m/MHz) at the victim receiver instead of EIRP from the interfering device (dBm/Hz) so that antenna characteristics need not be specified. The attached Annex includes this conversion.

Annex

DRAFT NEW RECOMMENDATION ITU-R BT.[WS]

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Protection requirements for broadcast systems against interference from radio devices utilizing the TV bands

(Questions ITU-R 105/6 and ITU-R 4-2/6)

Summary

This Recommendation provides the protection requirements to permit the sharing and utilization of the TV bands by non-broadcast radiocommunication devices in applications that do not have a corresponding frequency allocation in the Radio Regulations. The recommendation provides a means to mitigate interference through the appropriation of frequency channels to these devices such that interference is avoided.

Scope

This Recommendation provides the protection requirements necessary to prevent interference from radio devices, such as wireless networks, that are designed to utilize and share the TV bands allocated to the broadcasting service.

The ITU Radiocommunication Assembly,

considering

- a) that the terrestrial broadcasting is operated in the bands assigned by Article 5 of the RR as a primary service;
- b) that the terrestrial broadcasting service is often planned on a noise-limited basis;
- c) that broadcasting is the most economical and widespread telecommunication service accessible by the majority of the World's population;
- d) that the broadcasting service is considered by ITU as one of the preferred media to ensure communications in cases of disaster prevention, mitigation and relief as provided in Resolutions 644 (WRC-07), 646 (WRC-03), 647 (WRC-07), 53 (RA-07) and 55 (RA-07), and it is thus particularly important that it should be suitably protected;
- e) that well-established criteria exist in the Radio Regulations (RR) with regard to the amount of interference allowed between the broadcasting service and other services with a frequency allocation in the RR;
- f) that non-broadcasting radiocommunication devices may exist with emissions from applications (e.g. wireless networks, etc.) not having a corresponding frequency allocation in the RR and that may occur in the frequency bands allocated to the broadcasting services;
- h) that there is an established protection criterion in Recommendation ITU-R BT.1786 for non-broadcasting radiocommunication devices not having a corresponding frequency allocation in the RR;

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j) that limits must be established for emissions of devices so that the established interference protection criteria for terrestrial broadcasting services will not be violated,

recommends

1 that the total emissions from all non-broadcasting radiocommunication devices should at no time exceed the following maximum field strength at the victim TV receiver:

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<u>TV application</u>	<u>Frequency band (MHz)</u>	<u>Maximum Field-Strength (dBμV/m)</u>
ATSC	<u>54-88</u>	<u>-26.7</u>
	<u>174-216</u>	<u>-17.7</u>
	<u>470-806</u>	<u>-10.7</u>
DVB-T	<u>170-230</u>	<u>1.3</u>
	<u>470-862</u>	<u>6.3</u>
ISDB-T	<u>170-222</u>	<u>-19.4</u>
	<u>470-770</u>	<u>-10.8</u>
Analogue	<u>54-88</u>	<u>-19.7</u>
	<u>174-216</u>	<u>-10.7</u>
	<u>470-806</u>	<u>-2.7</u>

2 that non-broadcasting radiocommunication devices should utilize neither the co-channel nor the first adjacent channels;

3 that non-broadcasting radiocommunication devices should not utilize channels which when combined with signals on other channels may cause interference into the victim TV receiver;

4 that auto-location techniques, such as GPS or equivalent, should be used combined with regular verified connectivity to a reliable and up-to-date database that contains the details of the protected primary service operation and is responsible for returning to the non-broadcasting radiocommunication device a list of available frequencies based upon the location of the device;

5 that the VHF bands (47 to 72 MHz and 174 to 234 MHz) allocated to the broadcasting service should not be utilized by non-broadcasting radiocommunication devices without a corresponding frequency allocation in the RR.

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TV .
application ... [1]

TV application	Frequency band (MHz)	E.I.R.P. (dBm/MHz)
ATSC	54-88	-122
	174-216	-113
	470-806	-106
DVB-T	170-230	-94
	470-862	-89
ISDB-T	170-222	-114.7
	470-770	-106.1
Analogue	54-88	-115
	174-216	-106
	470-806	-98