EBU – Recommendation R119

EBU views regarding PLT standards development by CENELEC

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EBU views regarding PLT standards development by CENELEC

This document provides the EBU views with regard to the issues discussed in CENELEC WG11 towards the developments of PLT standards[1].

The overriding requirement for the PLT standard under preparation in CENELEC is that it shall ensure adequate protection of broadcast reception.

Note: The limits for the different broadcast frequency bands mentioned in the following are given in the Annex.

The following features are considered essential in the future standard:

1. PLT should be excluded[2] from using the LF and MF broadcast bands in order to ensure adequate protection of the reception of AM radio broadcasting;
2. HF broadcast bands shall be protected by dynamic notching according to ETSI TS 102 578, or failing that permanently notched in their entirety;
3. The levels at the bottom of these dynamic notches shall not exceed the levels of EN55022, despite the operation of power control (see below);
4. VHF broadcast Band I shall be protected by suitable dynamic notching, working on similar principles to ETSI TS 102 578, or failing that, permanently notched in its entirety;
5. PLT should be excluded[3] from using VHF broadcast Bands II and III in order to ensure adequate protection of the reception of FM, DAB and digital TV;
6. PLT shall provide adequate protection of digital TV reception and PMSE use in Bands IV and V. PLT shall be excluded[4] from using these bands.

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[1] Development made under instruction of the European Commission. According to this instruction, for in-home devices, the target date for issuing the draft is December 2010, with a target date for vote set to July 2011. For access devices, the target date for draft is July 2011, with a target date for vote set to December 2011.

[2] i.e. PLT should not attempt to make any communication using this part of the spectrum, and the PLT standard should require that any emissions in this range should be reduced to the lowest level possible, and in any case below the levels of EN55022.

[3] i.e. VHF broadcasting Bands II and III should be added in their entirety to the table of 'permanently-notched bands' in the standard, requiring the level of emissions at the bottom of the notches to be always low enough to protect reception, and in any case not exceeding the levels of EN55022.

[4] i.e. UHF broadcasting Bands IV and V should be added in their entirety to the table of 'permanently-notched bands' in the standard, requiring the level of emissions at the bottom of the notches to be always low enough to protect reception, and in any case not exceeding the levels of EN55022.

Rationale:

The HF broadcasting bands are all needed somewhere at some time, but because of the unique character of HF propagation, at any one place and time, only some frequencies will be in use. For this reason, dynamic notching is mutually beneficial to broadcasters and PLT manufacturers.

Conversely, VHF Bands II and III are intensively used everywhere, so their use by PLT should be excluded.

Use of VHF Band I for broadcasting differs from country to country; in some locations it will not be used at all. It would therefore appear that the development of a form of dynamic notching for this band would be appropriate, if feasible. Note that it would need to cater adequately for both analogue TV (until switch-over is completed) and other broadcast uses including the possible introduction of DRM+.

The following additional feature could be helpful:

Implementation of power control resulting in an increase in the emission level at the notch floor (in broadcasting bands) should be opposed. If it offers a reduction of the emission level at the notch floor in some circumstances, then it is advantageous to broadcasting. Power control which does not raise the broadcast notch floor and which offers some advantages to other radio users could be supported.

Annex

Broadcast Frequency Bands limits

Broadcast Band	Band limits (for Europe)
LF	148.5 – 283.5 kHz
MF	526.5 – 1606.5 kHz
HF	Several bands between 3000 kHz and 30 MHz as considered by ETSI and CENELEC
VHF Band I	47 - 68 MHz
VHF Band II	87.5 - 108 MHz
VHF Band III	174 - 240 MHz
UHF Band IV	470 - 582 MHz
UHF Band V	582 - 790 MHz