

Update on draft PLT standard prEN50561-1 Issue 2

In 2011 a PLT EMC standard known as prEN 50561-1 was proposed by CENELEC and submitted to the vote of National Standards Committees. Ten out of the 31 National Standards Committees voted in favour of the draft. This caused the vote to fail under CENELEC's weighted voting arrangements.

Many NCs made comments to help improve the draft and some comments questioned the very high radio pollution levels that would be permitted from PLT devices. Other comments would have helped to improve the test methodology. Usually in these situations the CENELEC committee preparing the proposed standard would take note and make changes that reflect the comments with the aim of achieving full consensus of all stakeholders.

A revised version of the PLT standard is about to be circulated, to be voted on by the NCs. Despite a considerable number of comments received following the first vote, the new version of the draft standard contains few material changes. The CENELEC Working Group 11 (WG11) that wrote the proposed standard includes a large number of people who have a direct relationship with PLT interests. It is likely that PLT manufacturers have been lobbying to gain support for the standard, as it would provide a legal basis for high PLT emission levels.

The EU Commission's EMC advisor, who is responsible for ensuring that all EU EMC standards comply with the EMC Directive, has stated that the proposed PLT standard does not meet the Essential Requirements of the EMC Directive and has notified CENELEC. However, CENELEC has decided to ignore the advice of the EU EMC advisor and continue with putting the proposed PLT standard out for voting by the NCs.

Should prEN 50561-1 be supported by the National Committees, it risks manufacturers of virtually any new device or product wanting to use the very high radio pollution levels allowed by prEN 50561-1, claiming it as a precedent. An example case would be the invertors used to connect solar cells to the grid where a proposed standard could allow emission levels similar to PLT but at all frequencies with no amateur band notches (a "notch" is a range of frequencies where the transmit power of the PLT device is reduced). Other products that could take advantage of this precedent include LED lighting.

In effect, the proposed PLT standard appears in direct contravention of the EMC Directive. It's not just HF but higher radio frequencies that are at risk from what will be legally sanctioned pollution. Wireline services could also become victims, with new high speed DSL technologies such as G.fast facing issues due to PLT emissions being coupled from power cables to phone cables.

There is only a very short time window to take action to prevent what will be an EMC disaster. It is absolutely critical that anyone who values unpolluted radio spectrum urgently takes the following actions:

- Contact your national amateur radio society and ask what it is doing.
- Find out who is on your NC, contact them and explain the situation, it is important that they understand that the proposed PLT standard sets a precedent and its approval could lead to widespread spectrum pollution. A list of NCs can be found at www.cenelec.eu/dyn/www/f?p=104:5:43324536040578
- Get the word out, forward this statement to your local message boards and radio clubs.
- When you have a QSO ask other European amateurs if they have heard about this issue.

There is a great deal of “disinformation” being spread by PLT lobbyists. Some of the statements that have been made are clarified below:

PLT claim: Notching will protect the Amateur Bands

Reality: The depth of the notch will depend on how linear the power network is. Resonances in cabling resulting in high voltage levels of PLT signals combined with non-linear components in devices such as switched mode power supplies, can lead to the notches “filling in” with “hash” noise which is difficult to identify as PLT.

PLT claim: Ratification of EN50561-1 will protect the Amateur Bands

Reality: In the same way that PLT manufacturers now flout EN55022 they will be able to flout EN50561-1. It is just that the motivation will be less -at least until the next scheme for increasing data rate comes along. The only aspects of the new Standard that can be verified in the field by National Enforcement Agencies (such as OFCOM in the UK) are the maximum transmit level and the positions of the Notching Band edges. Within the new Standard the maximum transmit level is set at a higher level than today's typical PLT transmit power levels, and the notched frequencies follow today's practice as set by long-standing commercial considerations.

PLT claim: EN 50561-1 will control PLT emissions, as there is currently no PLT standard.

Reality: PLT devices are already covered by EN 55022 which is the EMC standard for IT equipment – this has been confirmed by the EU Commission.
<http://www.europarl.europa.eu/sides/getAllAnswers.do?reference=E-2009-2260&language=en>

PLT claim: PLT cannot work at EN 55022 levels.

Reality: PLT devices can work at EN 55022 levels in most situations. Running at high power ensures PLT works in the remaining 1% of “difficult” situations. Mesh networking can address almost all of these difficult situations. High levels of pollution could result in “spectrum cleansing” where other spectrum users abandon spectrum to PLT due to PLT pollution.

<http://www.compliance-club.com/PLT/PLT%20book.pdf> Page 23

PLT claim: Dynamic notching will protect the broadcast bands.

Reality: PLT manufacturers committed to PA Consultants to introduce dynamic notching in Quarter 3 of 2010. PA Consulting was researching PLT on behalf of the Ofcom (UK regulator). This failure to demonstrate dynamic notching in production units could mean that it doesn't actually work in the real world. This may be confirmed by the fact that there is no requirement in EN50561-1 that dynamic notching work in the presence of any interference (PLT for example).

<http://stakeholders.ofcom.org.uk/binaries/research/technology-research/pltreport.pdf>
Pages 22 and 23

PLT claim: Power control will reduce PLT pollution levels.

Reality: PLT manufacturers committed to PA Consulting to introduce power control in Quarter 2 of 2010. PA Consulting was researching PLT on behalf of the Ofcom (UK regulator). This function has yet to be seen generally in production devices. PA consulting based its conclusions and recommendations on this commitment and the failure to deliver on this commitment makes a significant difference in the report's conclusions.

<http://stakeholders.ofcom.org.uk/binaries/research/technology-research/pltreport.pdf>
Page 57 The power control requirement in EN50561-1 is specified using an unrealistic test situation.

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For more information contact the EMCC via the EMC pages of the RSGB website
<http://www.rsgb.org/emc/>