

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)
)
Amendment of Part 15 regarding new)
requirements and measurement guidelines for) ET Docket No. 04-37
Access Broadband over Power Line Systems)

Comments of HomePlug Powerline Alliance

The HomePlug® Powerline Alliance ("HomePlug") is pleased to submit these comments in response to the Notice of Proposed Rulemaking ("NPRM") in the above-captioned proceeding.¹

Introduction

The experience of HomePlug members is that the Commission's current rules have been effective in protecting licensed radio services from interference caused by unlicensed devices. There are about 1 million HomePlug devices in service with no verifiable interference complaints. It therefore is appropriate and sound to apply existing Part 15 policies and rules to BPL devices generally. BPL devices have very low power levels in comparison to those of licensed radio operations and are unlikely to cause harmful interference.

HomePlug also supports continuation of the current rules for in-situ testing and verification for equipment authorization. But we disagree with the Commission's proposal to require testing along the outside service lines at specified distances because in

¹ *Notice of Proposed Rulemaking*, 19 FCC Rcd 3335 (2004) ("NPRM").

many instances it will be impractical to find test sites suitable for the proposed measurements and there is no information suggesting that such measurements are necessary to protect against interference.

Resolving the issues raised in this proceeding will increase regulatory certainty for the entire broadband over power line (“BPL”) industry, including the In-House segment represented by HomePlug. Therefore we welcome the Commission’s addressing these issues in this proceeding and their resolution.

Description of HomePlug’s Interest

HomePlug is dedicated to providing easy-to-use high speed networking products that utilize a home’s electric wiring. Its interest in this proceeding is as the leading standard for In-House BPL equipment with about 1 million units in service world-wide. In addition, HomePlug continues to advance the state of power line networking with upcoming advances in the standard to address multimedia content delivery (HomePlug AV) and access BPL technology.

HomePlug devices communicate through a home’s electric power wires, transforming each home power outlet into a network connection as well as an electrical connection. The HomePlug Powerline Alliance promotes cost effective and interoperable standards for this purpose. HomePlug is the leading group for In-House BPL products and technology, both domestically and internationally. Leading companies from the semiconductor, electronics manufacturing, retail distribution and service provision industries are committed to create and promote networks based on existing In-House power line infrastructure.

The HomePlug 1.0 specification, introduced in 2000, is used in products to connect computers to printers and other peripheral devices. A network using today's products can transmit data at up to 14 Mbps between outlets with no effect on the electric service in the home. All of the devices individually interoperate and provide networking benefits to users in the United States and other countries.

In January, 2004, HomePlug announced its selection of technology for the HomePlug AV specification. This new specification is designed to distribute multi-stream entertainment and data throughout the home, including audio and high definition video.² Products are expected to enter the market during 2005.

HomePlug Welcomes NPRM

HomePlug welcomes the Commission's addressing broadband over power line issues in this proceeding. Resolving the issues raised in the NPRM will increase regulatory certainty for the entire BPL industry, including the HomePlug segment. Clear regulation establishes certainty in the minds of investors, businesses and users alike and allows innovative applications to flourish. An example is the explosion of unlicensed devices that occurred after the Commission amended Part 15 of its rules to allocate bands for unlicensed devices at 900 MHz, 2.4 GHz, and 5 GHz. This Proceeding can lead to a similar result, setting the stage for a host of new products and services coming to market that will benefit all consumers.

² See press release, *HomePlug Powerline Alliance Demonstrates HomePlug AV technology at Consumer Electronics Show* (Jan. 7, 2004), available at: http://www.homeplug.org/news/CES_2004_Release_010704.pdf (visited Apr. 29, 2004).

HomePlug Agrees with Narrowing of Focus on Access BPL

HomePlug notes that the Commission's focus in the NPRM is Access BPL, a narrowing of the broad BPL focus in the Notice of Inquiry ("NOI"). We note with satisfaction that comments and information submitted to the Commission in response to the NOI provided no substantiated concerns of interference from the In-House BPL products that carry the HomePlug label.

The current rules governing HomePlug devices have been demonstrated to be effective in preventing interference to licensed radio services. There are about 1 million HomePlug devices in service and no verifiable interference complaints have resulted. This illustrates the strength and wisdom of the current provisions governing these unlicensed devices in Part 15 of the Commission's rules. HomePlug took seriously the potential for interference, and in the design stage worked to mitigate potential harmful interference to sensitive users such as amateur radio operators. The deployed base of HomePlug devices without interference complaints demonstrates the validity of this approach. HomePlug believes that responsible manufacturers of Access BPL equipment who follow the same course will achieve similar results

Part 15 Requirements Should Remain Unchanged

In the NPRM, the Commission proposes to apply existing Part 15 policies and technical rules to Access BPL.

We believe that Access BPL systems can operate successfully under the non-interference requirements of the Part 15 rules. Under these rules, operators of Access BPL systems will be responsible for eliminating any harmful interference that may occur. Furthermore, we believe that the current Part 15 emission limits for carrier current systems in conjunction with certain additional requirements specific to Access BPL operations

will be adequate to ensure that existing radio operations are protected against harmful interference from such operations.⁴

HomePlug supports the Commission's approach. Devices that comply with the requirements of Part 15 have very low power levels in comparison to licensed radio operations.⁵ As noted above, these same rules have successfully limited the interference from HomePlug devices in widespread deployment. We also agree that the current Part 15 levels will limit the harmful interference potential of Access BPL devices to relatively short distances around these devices. Emissions from Access BPL systems are most likely to occur where the RF energy is coupled into the power lines.⁶ Access BPL devices therefore functionally are no different in character than the hundreds of other kinds of unlicensed devices that successfully operate under the current Part 15 limits without causing harmful interference to licensed operations.

HomePlug also agrees with the Commission's conclusion that Access BPL devices will not cause interference to licensed services such as public safety and maritime.⁷ In the experience of HomePlug members, radio receivers in these services usually do not detect the wideband emissions from sources such as Access BPL systems.

HomePlug Supports Verification for Equipment Authorizations

HomePlug supports the Commission's proposal to apply the verification procedure as the equipment authorization requirement for In-Home and Access BPL devices.⁸ This approach has been successful in assuring that a wide variety of user-

⁴ NPRM at para. 31.

⁵ *Id.* at para. 34.

⁶ *Id.* at para. 36.

⁷ *Id.* at para. 37.

⁸ *Id.* at para. 44.

deployed Part 15 devices comply with the rules. Access BPL is different from most Part 15 uses in the sense that its installation will be carefully controlled by professionally-trained electric utility employees and contractors, which provides further assurance that the equipment will be knowledgeably installed. The verification equipment authorization process ensures compliance with the Commission's rules with minimal burdens.

HomePlug Supports In-Situ Testing

HomePlug supports the Commission's proposal for in-situ testing of Access and In-Home BPL device emissions.⁹ We agree that Access BPL services principally will employ medium voltage power lines and that it is unsafe and impractical to make conducted level measurements on these lines. Additionally, the primary potential interference path to a receiver is radiated, not conducted. In-situ radiated measurements therefore are the best to measure compliance.

We disagree with the Commission's proposal in Appendix C, Section 3.b.1, to require testing of In-House BPL devices along the outside service lines at distances of 0, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, and 1 wavelength and at additional points down the line from the service entrance to a building. There is no information that suggests such measurements are necessary. For example, there is no evidence that In-House BPL systems create standing waves with emissions at downline points that exceed the emissions at the injection points.¹⁰ Moreover, in many instances it may be impractical to find test sites where such a large ensemble of measurements can be made. In the case of HomePlug, the detailed guidelines would require test sites that have low voltage service wires greater than 110

⁹ *Id.* at para 38.

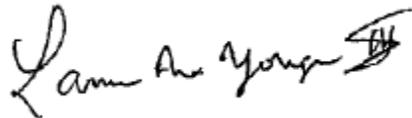
¹⁰ The recently released NTIA report claims to have found standing waves on Access BPL systems but not on In-House BPL systems.

feet in length with 33 feet of clear space along both sides of the wire (66 feet total) for its entire length. Finding such test sites would pose quite a challenge in the US electricity distribution system, and would limit choices to sites not necessarily representative of typical installations as correctly required by Section 15.31 of the Commission's Rules. The proposal therefore is overly burdensome and serves no useful purpose.

Conclusion

HomePlug welcomes resolution of the issues raised in this proceeding, as discussed above, to add certainty in the marketplace. From our members' experiences, we believe that the current rules provide effective protection to licensed radio services and therefore see no reason for adopting additional rules requiring tests along outside service lines for HomePlug In-House devices. We do support continued in-situ testing and the verification method for equipment authorization.

Respectfully Submitted,

A handwritten signature in black ink that reads "Lawrence W. Yonge III". The signature is written in a cursive style with a stylized "L" and "Y".

Lawrence W. Yonge III
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May 3, 2004