Before the
Federal Communications Commission
Washington DC 20554

In the Matter of	)	
	)	
Inquiry Regarding Carrier Current Systems, Including Broadband over Power Line Systems	)	ET Docket No. 03-104

Reply Comments of Phonex Broadband Corporation

Phonex Broadband Corporation submits these reply comments in response to the comments filed on the Commission's Notice of Inquiry (NOI) regarding Carrier Current Systems, including Broadband over Power Line systems.

Introduction

In their NOI, the Commission sought comments on both Access and In-house BPL technology. Phonex, as a developer and manufacturer of In-house carrier current and In-house BPL products made their original comments in connection with In-house BPL. Although there are associated issues connected to both In-house and Access BPL, FCC policy regarding each must be kept separate due to their differences.

Phonex believes that the current FCC Part 15 rules and test methods have proven effective for the development of In-house BPL, while providing protection to radio users. The remainder of these reply comments will support this assertion as Phonex responds to the original comments sent to the FCC from various parties.

Notched and Allocated Frequencies

The FCC should not allocate frequencies as suggested by the North American Shortwave Society or have notched frequencies as proposed by several respondents including the ARRL and IEE Power Systems Committee, who requested notched frequencies in the ham radio bands. This would set a precedent for every other group that uses the spectrum to request notches. FCC Rules Part 15 section 15.5 already requires that equipment cannot cause harmful interference to any user of a licensed frequency.

The ARRL mentioned a case study involving Phonex and one of their earlier carrier current devices. This case study illustrates that the FCC Rules already work without the need to notch frequencies or change limits. In the case study mentioned, Phonex worked with the ARRL to eliminate the reported cases of interference and even made engineering changes to the next generation of products. Not only was Phonex complying with the FCC Rules by eliminating the interference, it was also to Phonex's interest not to cause interference because of customer concerns.

Developers of In-house BPL want to develop products that are best accepted by the consumer who would require that they receive normal broadcast services. These developers must however be able to choose frequencies that work best for product applications as well as those that don't cause interference. The FCC should not prohibit scientific innovations in this field at this time by allocating frequencies.

Radiated Limits

The current FCC limits have allowed In-house BPL to develop. Any changes in the limits could drastically curtail the development of In-house BPL technology and products.

It is clear that the radio community wants to make BPL illegal. For example, the NASB stated in their comments that they were requiring BPL signals being no more than 0 dBuV/m at one meter (which is 40 dB less than those required by computing devices). This illustrates how radically opposed radio groups are against BPL. This approach does not promote the accommodation of developing consumer based technology while reasonably protecting radio users. Phonex encourages the FCC to avoid this all-or-nothing mentality concerning BPL deployment. As already stated, the current Rules already have safe guards in cases of reported harmful interference.

Cases of Interference

None of the respondents that opposed In-house BPL technology gave an actual occurrence of harmful interference from an In-house BPL device. The ARRL suggested that they had results where some noise could be heard in the ham radio band due to a HomePlug device. The actual noise was not defined as harmful nor was the testing done due to an actual case of interference but was part of an investigation procedure. Developers of BPL technology have worked with groups to avoid the occurrence of harmful interference.

The National Association of Broadcasters stated that "A lack of consumer complaints is woefully inadequate evidence upon which to base any conclusions that BPL does not cause interference" and suggested that people rarely know how to complain. While this may be true for rare cases of interference, it is not true for common cases of interference as illustrated in the case involving Phonex.

It should be noted that the ARRL, under their right, used their network of communication mediums to encourage their members to make comment to the FCC's NOI. Many ARRL members did so. However, the FCC should note that each time a person bought an In-house BPL device; he or she was casting their vote for wanting In-house BPL. Millions of people will benefit from In-house BPL without causing harmful interference to ham radio users. This must be weighed against a small group of vocal ham radio operators who are filing comments at the urging of the ARRL.

Test Methods

Several respondents mentioned the need to change the current FCC test method so that repeatable results can be made on BPL devices. Some suggested that a specific conductance level and specified mask be used. While Phonex acknowledges that such a procedure would simplify the verification process, several things must be considered. First, Phonex believes from analyzing their own test data, cases of interference are caused by radiated emissions, and not by conducted emissions. Second, each frequency has different radiated tendencies from each other. Third, there has not been any evidence to show conducted levels translate into a specific radiated level; and fourth, conducted

measurements would not take into account BPL installations that may have the cabling underground or inside conduit (In these cases, radiated levels could be very low even though the conducted measurements could be over a specified conducted limit).

As opposed to a conducted test, Phonex supports the current procedures, or as an alternative, those similar to the test procedures proposed by Adaptive Networks wherein a radiated test is still used but is done on a turn table in a controlled lab environment using a specified cabling setup and testing the equipment with different cable loop lengths. Testing done by Phonex shows that this test method produces results equivalent to testing in a house. Again, a lab test should be used as an alternative rather than a replacement method.

In-house BPL already successfully being used.

Some respondents (AMRAD, Aura Communications are two examples) remarked that more study must be done to decide on test procedures, limits and prohibited transmit bands. This however will take several months and even years to complete. Whereas Access BPL is still in the field trial phase, In-house BPL is already widely sold extensively throughout the US. Millions of investment and research and development dollars are being done using the existing FCC Part 15 Rules. Major installers of In-house BPL devices are currently making business plans for new products that are planned to be in the market soon. The FCC should not create a situation of uncertainty in the marketplace.

Public Health and Safety Concerns

Some have suggested (Colorado Council of Amateur Radio Clubs) that BPL will compromise public safety responses during such cases as blackouts. In-house BPL however can not operate when there are blackouts therefore making any BBL transmission impossible, thus eliminating any chance of interference in a blackout situation.

Arguments against BPL based on public health concerns, such as the Amhust Alliance gave, fall under all RF devices. BPL uses much lower signal strengths than those generated by licensed transmit devices and should not be singled out in such a manner.

Conclusion

The current FCC Rules and test methods have been shown to protect radio users from harmful interference while at the same time allowing for the development of In-house BPL. There is therefore no reason for the Commission to make major modifications to its rules. In-house BPL products are already being produced and used throughout the country with customer satisfaction. The FCC must allow this technology to grow and let market and consumer forces guide In-house BPL developers.

While there are similarities between In-house and Access BPL, the FCC must keep these two technologies separate as they make policy regarding BPL.

Respectfully Submitted,

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