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June 12, 2007

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VIA FIRST CLASS MAIL AND E-MAIL

Neal McNeil, Esq.
Spectrum Enforcement Division
Enforcement Bureau
Federal Communications Commission
Room 3-A461
445 Twelfth Street, SW
Washington, DC 20554

RE: Ambient Corporation
Experimental License WD2XEQ
File No. EB-06-SE-083

Dear Mr. McNeil:

This office is in receipt of the May 21, 2007 letter (the "May 21 Letter") from Kathryn S. Berthot, Chief of the Enforcement Bureau's Spectrum Enforcement Division, to Dr. Yehuda Cern of Ambient Corporation ("Ambient" or the "Company"), in connection with Ambient's Experimental License WD2XEQ (the "Experimental License") to conduct experiments related to broadband service over power lines ("BPL"). The May 21 Letter requests that Ambient provide information demonstrating compliance with Condition 5 of the Experimental License. Holland & Knight is counsel of record to Ambient in this proceeding and hereby responds to the May 21 Letter on behalf of Ambient.

## I. Overview of Ambient's Experimental Program for the Development of Advanced BPL Systems.

As indicated in Ambient's progress reports, the Ccompany has operated its principal test bed for the development of new and enhanced BPL systems in Briarcliff Manor, New York since 2002 under the terms of a succession of Part 5 Experimental authorizations.

The Company's extensive experimental testing program has made possible rapid development of a new generation of the industry's first high-speed BPL access products and has demonstrated the Company's technical leadership in the industry. In September of 2006, Ambient received a grant of BPL Equipment Authorization, FCC IDENTIFIER: SPKBHPLCAA, Equipment Class: Access Broadband Over Powerline System, X2 PLC NODE.

See also test report data submitted with the Company's application for certification for additional background.

The Company also continues to make advances in its software and hardware to develop new generations of products which fully address all applicable regulatory requirements.

The test bed in Briarcliff Manor is based on first generation technology that has helped Ambient to develop a second generation that is technically superior equipment. The Company believes that the second generation equipment is more likely to be adopted by utilities for providing internal services, such as distribution system monitoring and automation, and external services targeted at the consumer. From a spectrum perspective, the second generation technology provides better (deeper) notching capabilities to mitigate any legitimate harmful interference issues. The second generation equipment also contains software designed to limit emissions in a manner consistent with FCC technical rules.

In addition, Ambient recently completed a one-year test program under contract for New York State Energy Research and Development Authority ("NYSERDA") which is being operated over the Company's legacy BPL system. Specifically, Ambient and Consolidated Edison were awarded a research and development grant by NYSERDA in March of 2006. The scope of the project was to determine if the BPL network could help improve service to customers by continuously monitoring the electrical distribution system, as well as portions of customers' electrical equipment, and identify/predict power quality problems throughout the system. These improvements will serve the public interest by reducing electricity waste and improving customer service.

Ambient continues to enhance its BPL system with additional applications such as current and voltage sensing, which will enable utilities to better monitor their distribution systems. This is accomplished without any additional equipment beyond the BPL equipment. This capability is important to utilities because it minimizes the amount of equipment that must be added to already congested utility poles.

## II. Measurement Data in Response to May 21 Letter Request.

The May 21 Letter (page 2) directs Ambient "to submit the results of any measurements made to demonstrate compliance with Section 15.109 that were conducted prior to the filing of its most recent progress report. Any measurements made in the areas addressed in the ARRL complaint should be highlighted. If any area included in the ARRL complaint was not previously subject to measurements, measurements must now be taken in that area to test for compliance with Section 15.109."

The May 21 Letter (page 1) refers to the ARRL Complaint. The locations in Briarcliff Manor where ARRL made measurements relating to compliance with Section 15.109 were Dalmeny Road and Woodside Avenue. In addition, ARRL in a letter dated May 31, 2007 (after the May 21 Letter was issued) included measurements taken at Schrade Road.

In view of the time that has passed since the submission of these ARRL letters, and in the interest of being fully responsive, Ambient's engineers conducted new measurements on June 7, 2007 at each of the sites referenced above.

Attachment A hereto is a summary of the recent test measurements conducted by the Ambient engineers. Ambient's measurements conclude that its equipment operating below 30 MHz at the Dalmeny Road and Schrade Road locations is compliant with Section 15.209.[1] The unit at the Woodside Avenue location was found to be exceeding the Section 15.109 limits for Class A equipment. Ambient determined the unit at Woodside Avenue, a legacy first generation unit operating above 30 MHz and installed in September of 2002, to be malfunctioning and immediately took it out of service on June 7, 2007.

## III. Steps To Be Taken to Upgrade System Components.

The Company had already planned, upon completion of the NYSERDA project, to reconfigure its test network in Briarcliff Manor with second generation equipment. This means that the upgraded network will have added interference avoidance features such as deeper and cleaner notches more than 35 dB below the Part 15 limits. This deeper notching capability provides nearly twice the depth of FCC required depth of 20 dB notches. In addition, the upgraded network in Briarcliff Manor will provide Ambient with experimental data from diverse geographical and distribution system topologies.

Steps are being taken to replace Ambient's legacy equipment in Briarcliff Manor, with the expectation that this will be completed within 90 days or less. Ambient will file with the Commission a follow-up report confirming compliance once it has completed the reconfiguration of its test network.

## IV. Timely Response to Commission Inquiries.

In response to the statement in the May 21 Letter from the Enforcement Bureau to Ambient referring to a March 16, 2007 letter (the "March 16 Letter"), we confirm that Ambient takes seriously its responsibilities to furnish timely responses to all FCC inquiries. It appears in this case that the March 16 Letter was misplaced and was not found at the Company's offices until after counsel for Ambient obtained a facsimile of that letter from the Enforcement Bureau staff on May 24.

We also confirm that counsel for Ambient was not initially served with a copy of either the March 16 Letter or the May 21 Letter, in apparent deviation from Section 1.12 of the Commission's rules. Counsel for Ambient first learned on May 24, 2007 that a letter might have been sent and

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[1] Although technically the May 21 letter and the Experimental License refer only to Section 15.109 of the rules, Ambient believes it is appropriate to include measurements made in compliance with Section 15.209 also, because the equipment at Dalmeny Road and Schrade Road operate below 30 MHz and thus are governed by Section 15.209.

promptly contacted Enforcement Bureau staff to confirm the existence of such a letter and to request a copy. Later that day, a copy of the May 21 Letter was furnished to counsel which letter referenced the March 16 Letter. Counsel submitted a follow up request to obtain a copy of that letter from the Enforcement Bureau as well.

Also, the May 21 Letter requested that Ambient respond "within thirty (20) days." Ambient has been verbally informed by Enforcement Bureau staff that the Ambient response is due twenty (20) days after the date of service on counsel, *i.e.*, June 13, 2007. Thus, this response is being timely submitted to the Commission.

## V. Conclusion.

Ambient agrees with the Commission's conclusion in the *Report and Order* in ET Docket No. 04-37, Para. 23, that "the interference concerns of licensed radio users can be adequately addressed and that Access BPL systems will be able to operate successfully on an unlicensed, non-harmful interference basis under the Part 15 model." In this case, Ambient properly discontinued operation of a malfunctioning piece of equipment with the intention of upgrading to second generation equipment in Briarcliff Manor. It is anticipated that this upgrade, which has been contemplated for some time and is the logical next step in the experimental process, will be completed within the next 90 days. This second generation equipment has interference protection features that the Commission approved in the equipment certifications referenced in Part I above. Thus, it has all the features required for the Commission's interference protection requirements. As noted above, confirmation of compliance with Section 15.109 will be submitted after reconfiguration has been completed.

A copy of this letter and enclosure is being filed as an amendment to Ambient's February 5, 2007 progress report.

Respectfully submitted,

HOLLAND & KNIGHT LLP

George Y. Wheeler/lyf

George Y. Wheeler
Counsel for Ambient Corporation

Enclosure

cc (via 1st class mail, w/encl.): Christopher D. Imlay, Esq.
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## Attachment A

## Worst Case Radiated Emission Data at Experimental BPL Installation in Briarcliff Manor, NY

| NODE location | Frequency MHz | Location of the antenna from coupling point (distance/ wavelength ratio) | Read max (QP) dBuV/m | Slant distance from the power line / distance from the pole m | Distance factor dB | Antenna factor dB | Cable insertion loss dB | Net (QP) dBuV/m | FCC Limit dBuV/m | Margin dB |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |
| Pole located on the corner of Woodside @Park (MV line) | 36.7 | 0 | 33.3 | 16.9/10 | 4.2 | 11.9 | 0.3 | 49.7 | 39.1@10m | +10.6 |
| | | | | | | | | | | |
| Pole located nearby 121 Schrade Road (MV line) | 16.7 | 1/2 | 32.5 | 11.9/10 | -16.1 | 9.9 | 0.2 | 26.5 | 29.5@30m | -3.0 |
| | | | | | | | | | | |
| Pole located nearby 234 Dalmeny Road -east end ( LV line) | 9.7 | 1/4 | 32.1 | 11.5/10 | -16.6 | 10.1 | 0.2 | 25.8 | 29.5@30m | -3.7 |

Note 1: Measurement locations chosen based on May 21, 2007 letter from FCC Enforcement Bureau
Note 2: Tests conducted on June 7, 2007 and in compliance with Section 15.613 and Appendix C of FCC 04-245