

Current Technologies, LLC
Experimental License Progress Report #16

Under its experimental license, Current Technologies, LLC ("Current") has been operating its proprietary broadband over powerline ("BPL") communications equipment installed on both low voltage and medium voltage electric power distribution lines. This BPL equipment forms a communications path that safely bypasses the step-down transformer segregating the low and medium voltage power lines. These experimental operations continue to validate the capabilities of BPL technology. Current's proprietary BPL equipment continuously delivers always-on, symmetrical broadband speeds to virtually all of the existing electrical outlets in the customer premises, enabling both Smart Grid and Internet access services.

Current's experimental BPL operations to date have enabled Current to develop and verify or certify its BPL equipment under applicable FCC Part 15 emissions requirements and to commence the manufacture and distribution of commercial equipment. Current has received no interference complaints, nor has any interference been detected, during any of its experimental operations.

Most of the activity during this reporting period has focused on detailed engineering, development, testing, verification, and certification of BPL-enabled equipment that deliver improved "Smart Grid" functionality that increases the reliability, security and efficiency of electric distribution networks. These experimental operations have validated significant cost reductions and functionality improvements in Current's BPL systems and helped facilitate Current's development of BPL-enabled equipment for export to and use in markets outside the U.S.

Current has continued to test equipment operating on frequencies both above and below 30 MHz. The results continue to confirm that peak emission levels emanate from the precise point on which Current's BPL equipment is coupled to the electric distribution line and that such emissions dissipate in a monotonically decreasing fashion as the measurement point moves further from the equipment coupling point. Specifically, RF signal strength from Current's low and medium voltage BPL equipment falls off with the inverse square of distance, so that the devices act quantitatively like point source emitters.

Testing continues to confirm that maximum radiated emissions for equipment operating both above and below 30 MHz comply with applicable Part 15 emissions limits and are similar at all tested installation sites with no statistically significant variations. All measurements are taken in accordance with the procedures prescribed in 47 CFR § 15.31 and the Commission's October 28, 2004 *Report and Order* in Docket No. 04-37.