

Current Technologies, LLC
Experimental License Progress Report #6

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. These experimental operations continue to validate the capabilities of BPL technology. Current's proprietary BPL equipment continuously delivers always-on, symmetrical broadband speeds (as high as 4+ Mbps) to virtually all of the existing electrical outlets in the customer premise over the electric utility's low and medium voltage 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. Installation of Current's BPL equipment causes no disruption or degradation of electric distribution service during installation or operation.

Current's experimental BPL equipment is not currently being used to serve end users. All equipment serving end users has been replaced with commercial equipment. Nonetheless, Current's experimental BPL operations enabled Current to develop and verify 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 its experimental operations.

Most of the activity during this reporting period has focused on detailed engineering, testing, and verification of Current's next generation BPL equipment. Current has completed successful verification testing for its primary overhead BPL RF devices including both conducted and radiated emissions measurements in both laboratory and field conditions. Current is now conducting experimental operations of its next-generation BPL equipment, including underground residential distribution equipment.

Current has conducted testing of 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 during this period again confirm that maximum radiated emissions for equipment operating both above and below 30 MHz comply with applicable Part 15 emissions limits and were similar at each of the tested installation sites with no statistically significant variations. All measurements were taken in accordance with the procedures prescribed in 47 CFR § 15.31.