

**Southern Telecom, Inc.
Power Line Communications/
Broadband Over Powerline
Experimental License WC2XZG
Confirmation No. EL12333
File No. 0126-EX-RR-2004**

**Fifth Six Month Report
February 28, 2005**

Southern Telecom, Inc. ("STI") respectfully submits its fifth six month report pursuant to its Experimental License WC2XZG, File No. 0126-EX-RR-2004, for broadband over powerline ("BPL"), granted on August 29, 2002.

I. Description of Test Installations and Procedures

Equipment selected for testing:

During the last six month period, STI, through an independent contractor, performed limited testing of equipment from Main.Net Communications, Ltd. (Main.net). In the last six months, STI has discontinued the use of and removed the equipment from Amperion, Inc.

The Main.net equipment uses Time Domain Multiplexing (TDM) to allocate upstream and downstream bandwidth. Two Main.net nodes were tested. The first point was the injection point where the BPL network was connected to the backhaul network transformer "A". To generate traffic originating at the injection point node, a laptop was connected to this node and a large file (50 megabytes) with an all 0 format was downloaded from a web server at the head-end located at an affiliate of STI's headquarters, within the vicinity of downtown Birmingham. The second point where testing was performed was at one of the repeaters installed on transformer "B". To generate traffic at the repeater, a laptop was connected to the repeater using the repeater's Ethernet port and file transfer protocol was used to upload the same large file from the laptop to the web server at the head-end.

Status of test installation(s):

STI's testing to date remains somewhat limited. STI and its principal vendor, Main.net, temporarily installed certain BPL equipment in the vicinity of Birmingham, Alabama. Testing is ongoing.

STI is in the early stages of a second trial system located in the vicinity of metro-Atlanta, Georgia (Rome). This system is integrated into STI's current BPL trial network using a combination of a wireless backhaul connection and a T-1 line. Initial testing has been limited to the home of a single employee of an STI affiliate. Currently STI does not plan to expand its activities in Georgia.

As part of the Georgia trials, STI and Main.net installed equipment which employs spread spectrum technology. Main.net has indicated that its spread spectrum technology has completed all required testing and has obtained the necessary approvals/authorizations to be deployed

without an experimental license of its own.

II. Description of Tests

As set forth in the STI application, the purpose of testing is two-fold: (1) testing for customer acceptability and (2) testing for FCC compliance.

Customer Acceptability Testing

The customer acceptability testing will seek to determine: 1) the acceptability of the BPL equipment to STI as a potential customer of Main.net and, 2) the acceptability of the equipment and service to the end users as potential BPL customers of STI.

STI Customer Acceptability Testing

STI is testing the BPL equipment for electrical safety, installation, performance, and cost issues. STI is also testing the reliability and performance of the network, the ease of management of the network, and the amount of technical support required by end users.

At its height, the Birmingham trial had over 100 participants. The participants in the trial were asked to enter into a trial agreement that covers acceptable use, protects the confidentiality of vendor equipment, and makes it clear that this is a trial that may end at any time. While an agreement will be in place between STI and its customers, the latter will not be asked to pay for the service. STI has chosen to discontinue the customer trial in Birmingham. The Main.net equipment at the customer's premises has been removed. One end user, an employee of an STI affiliate, remains connected to the BPL network. STI plans to keep the remaining Main.net equipment in place and operational in order to gather additional performance data and as a test bed to evaluate "next generation" equipment as it becomes available.

FCC Compliance Testing

STI engaged the services of an independent compliance testing firm accepted by the FCC as a facility available to do measurement work for others on a contract basis (Registration # 90902). This firm conducted compliance testing on the Main.net equipment in Birmingham, Alabama.

Interference Complaints

STI did not received any complaints of harmful (or non-harmful) interference from test participants or third parties (licensed or unlicensed) during the tests. Likewise, thus far in the testing, neither STI nor the independent compliance testing firm contracted by it has identified any such harmful interference pursuant to their respective tests.

Vendor FCC Compliance Testing

STI continues to be in contact with its vendor, Main.net, whose equipment is the subject of ongoing FCC compliance testing. This contact includes, among other things,

scheduled status meetings and the submission/review of related reports.

Radiated Emissions Testing

As noted elsewhere in this six month report, STI employed the services of an independent compliance testing firm with regard to its radiated emissions testing. The test results are summarized as follows:

1. Test Site A (Underground Power Line)

Emission Frequency (MHz)	Test Detector	Antenna position or Axis reference to unit	Position of antenna (deg)	Antenna to unit distance (m)	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m) 3 meters	Margin (dB)
8.813	P	X	0	3	38.7	19.7	58.4	69.5	-11.1
8.813	QP	X	0	3	27.1	19.7	46.8	69.5	-22.7
8.813	P	Y	90	3	38.7	19.7	61.3	69.5	-8.2
8.813	QP	Y	90	3	26.7	19.7	54.1	69.5	-23.1
8.813	P	X	180	3	46.3	19.7	66.0	69.5	-3.5
8.813	QP	X	180	3	33.1	19.7	52.8	69.5	-16.7
8.813	P	X	270	3	41.5	19.7	61.2	69.5	-8.3
8.813	QP	X	270	3	27.9	19.7	47.6	69.5	-21.9

Note:

EUT was scanned from 150 kHz to 2000 MHz. All emissions above 30 MHz were found to have amplitudes attenuated by more than 20 dB below the FCC limit.

P=PEAK,
QP=QUASI PEAK

2. Test Site B (Overhead Power Line)

Emission Frequency (MHz)	Test Detector	Antenna position or Axis reference to unit	Position of antenna	Antenna to unit distance (m)	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m) 7.2 meters	Margin (dB)
1-21	P	Y	N/A	7.2	Ambient				
1-21	Qp	Y	N/A	7.2	Ambient				
301-1000	P	Parallel	1**	7.2	49.7	18.3	68.0	55.6	+12.4
1-21	QP	Parallel	1**	7.2	33.0	18.3	52.9	55.6	-2.7

P=PEAK,
QP=QUASI PEAK

Note:

EUT carrier and spurious signals could not be discerned from ambient signals. There was no difference between ambient signals and the EUT turned off.

5. Observations:

The Test Site locations at Waterford Falls complies with FCC Part 15 class B limits for Broadband Power Line modems. At Test Site location Homewood Skyline Estates, the test result were inconclusive, one measurement showing compliance with Part 15 class B limits, the other showing operation outside Part 15 class B limits.

To ensure compliance with the FCC's emission rules, and at the manufacturer's suggestion, the power level of the device was subsequently reduced. Frequencies were, and continue to be modified and monitored.