CTA Standard

Test Procedure for Powerline Carrier Technology

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(Formulated under the cognizance of the CTA **R7 Home Networks Committee**.)

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1 Objectives and Test Procedure Overview

The objective of this Test Procedure is to establish a set of tests and analysis that will validate key aspects of Powerline Carrier Technology (PLT) for use in Home Networking products.

Specifically, tests and analysis will be conducted to evaluate the following:

a) outlet coverage - using a minimum of 30 outlet pairs per test site, one pair at a time.
b) application performance - using a minimum of 3 typical scenarios
c) network coexistence performance - with networks operating simultaneously in neighboring residences
d) performance over a range of network sizes - using node populations of 3, 5, 10, 14 in the field
e) performance across a range of dwelling types and geographic areas - using a minimum of 30 homes, from a variety of geographic locations, building types, construction, and wiring methods.

There are three components to the tests:

a) First, the initial pre-field lab verification tests of §8.1 to ensure that the technology can successfully complete the suite of field tests described below
b) Second, the actual home testing (field tests) of §7
c) Third, the post-field lab tests of §8.2 - §8.8 for those aspects of the technology that can be more easily exercised in a lab

Field testing in the actual homes also consists of initial preparatory activities in each home:

a) home inventory (sketch home layout, select and number outlets, note special home characteristics, etc.)
b) equipment set up and check out

Home profiling measurements (powerline characterization) may be taken either before or after the testing is complete in a given home, but home profiling is separate from these Test Procedures.

The Powerline Carrier Network (PLN) set will be pre-configured for 14 nodes using 14 dedicated personal computers (PC's). Once configured, the PC/PLN set will move from home to home.