

Regulatory Developments on Power Line in North America

A presentation to the PLC World Summit

UPLC

June 10, 2003

Outline

- ✦ Current Status/Framework
 - FCC Part 15 Rules
- ✦ General Environment
 - Broadband policy
- ✦ Main initiatives
 - FCC Notice of Inquiry on Broadband over Power Line

Current Status/Framework

- ✦ PLC treated as carrier current systems (CCS)
 - A system, or part of a system, that transmits radio frequency energy by conduction over the electric power lines. A carrier current system can be designed such that the signals are received by conduction directly from connection to the power lines (unintentional radiator) or the signals are received over the air due to radiation of the radio frequency signals from the electric power lines (intentional radiator).



Current Status/Framework

- ✦ Radiated Emission Limits for Carrier Current Systems

<i>Regulation</i>	<i>Distance</i>	<i>$\mu V/m$</i>	<i>$dB\mu V/m$</i>
Carrier Current Systems 1-30 MHz	3	3000	69.5
	10	270	48.5
	30	30	29.5
FCC Class A Digital Devices 30-88 MHz	3	300	49.5
	10	90	39
	30	30	29.5
FCC Class B Digital Devices 30-88 MHz	3	100	40
	10	30	29.5
	30	10	20



Current Status/Framework

- ✦ PLC must also comply with *conducted* emission limits that apply to carrier current systems (§15.107):
 - CCS fundamental emissions between 535-1705 kHz: no emission limits
 - All others: 1000 uV between 535-1705 kHz
- ✦ FCC Report & Order defers changing limits until future proceeding (5/02).
 - Influenced by IEC CISPR I standards in development, and UTC and PLCA comments opposing proposal.



General Environment

✦ FCC

- Triennial Review
- Wireline Broadband
- Cable Modem
- ILEC Broadband

✦ Congress

- ✦ Broadband deregulation
- ✦ Broadband tax credits
- ✦ Rural broadband loans
- ✦ Spectrum for broadband

Policies intended to promote broadband deployment through government funding/deregulation of services.



Main Initiatives

- ✦ UPLC and PLCA file Joint Report w/OET on state of the industry / need for speed (3/03)
 - PLC promotes broadband policy goals
 - Trials: Encouraging performance/customer satisfaction
 - Classification: unintentional radiator
 - Data: limits and measurement procedures
 - Speed: quick resolution of proceeding



Main Initiatives

- ✦ FCC Notice of Inquiry on Broadband over Power Line (BPL) (ET Docket No. 03-104)
 - 1. Assess impact of BPL on incumbent licensed operations.
 - 2. Performance of BPL against competing technologies
 - 3. Coexistence with in-home devices
 - 4. Coexistence with CATV / DSL equipment
 - 5. Measurement standards for compliance w/FCC Part 15
 - 6. Equipment authorization: verification or certification





Main Initiatives

- ✦ State Approval for PLC Commercialization
 - PPL approved to provide commercial service to customers in the state of Pennsylvania.
 - Other utilities approaching state regulators
- ✦ State barriers to entry
 - Some states prohibit municipal providers from offering telecom/other services
 - Supreme Court likely to review issue



Conclusions

- ✦ Outlook positive for deployment
 - Policymakers encouraging broadband deployment
 - FCC NOI seeks to promote PLC while protecting incumbents from interference
 - Utilities may deploy PLC under existing Part 15 rules, and are beginning to approach state regulators for approval.

