



Current status of PLC in Japan

2003.6.10

PLC-J

-High Speed Power Line Communication Promoters' Alliance-

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PLC-J

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1. Activity for deregulation in Japan

[Overview]

- 2001.3** started e-Japan strategy
- 2001.4** started Study Group for PLC in ARIB until 2002.6
- 2002.4** started PLC Study group in Ministry of Public Management, Home Affairs, Posts and Telecommunications (MPHPT) until 2002.7
- 2002.6** started e-Japan Priority Program 2002

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1. Activity for deregulation in Japan

About e-Japan strategy

2001.3 started

goal of e-Japan Project:

Become the world's most advanced IT Nation in 2005

network Arrangement of High Speed IP infrastructure

about PLC:

Investigation of availability to increase the frequency band width for HF PLC within 2 years

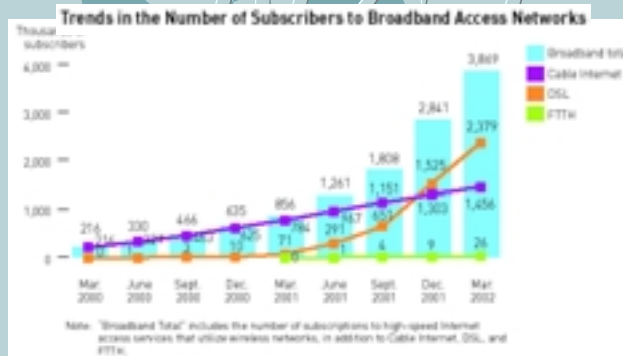
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1.Activity for deregulation in Japan

[result]

The popularization of Internet Users 55,930,00
(as of 2001/3/31)

The number of DSL Users 7,477,945
(as of 2003/4/30)



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1.Activity for deregulation in Japan

About Study Group for PLC in ARIB

2001.4 – 2002.6

Subject: investigation of radiation limit for HF PLC

Action Item:

research of PLC technology/Modems in the world

Experiment of field test of radiation from PLC network

result: proposed three ideas of radiation limit to MPHPT

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1. Activity for deregulation in Japan

About PLC Study Group in MPHPT

2002.4 – 2002.7

Subject: investigation of availability to increase the frequency band for HF PLC

Action Item:

Hearing the variety of opinions about PLC from Amateur Radio Users, Aviation Bureau and Promoters etc.

Experiment of actual field test of radiation from PLC network

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1. Activity for deregulation in Japan

About PLC Study Group in MPHPT

2002.4 – 2002.7

result:

- Not increase the frequency band right now because large radiation was observed from a few modems more than the limit of non-licensed Weak Wireless Level.
- Important to develop PLC technology so the actual field test should be allowed.
- Should contribute the establishment of International Standard for HF PLC

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1. Activity for deregulation in Japan

About the original plan of e-Japan Priority
Policy
Program 2003

2003.5 published

overview about PLC

promote In-house PLC if it does not give
practically the harmful interference to
existing Radio ce.

it may be easier to prove above in using as
in-house use than as access use

(We must show this result earlier as possible in order
to reach deregulation)

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1. Activity for deregulation in Japan

From now

2003.6(?) will start e-Japan Priority
Program 2003

2003.10 (?) will start feasibility test
in the field for HF PLC

2004(?) will be deregulated only for
in-house use

2005(?) will be deregulated for
access use

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1. Activity for deregulation in Japan

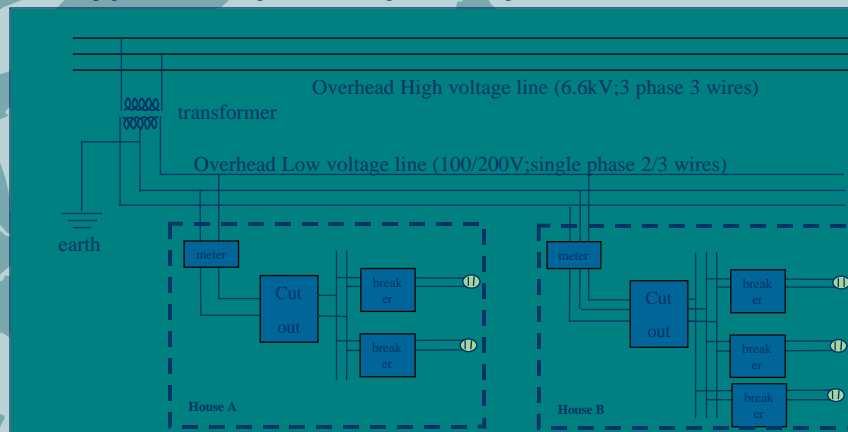
About Japan

population 126,925,843
families 47,062,743
houses 25,269,400
apartment 18,652,700
Amateur Radio Users as follows

	Japan	USA	UK	Spain	Germany	France	Italy
Number of Amateur Stations	1269059	686919	58426	59000	82151	19110	30000
Number of Licensed members	133841	148529	23670	13964	50794	8500	16000
Data year	1999	2000	2000	1999	2000	1997	1993

1. Activity of deregulation in Japan

Typical sample of Japanese power Line network



1. Activity of deregulation in Japan

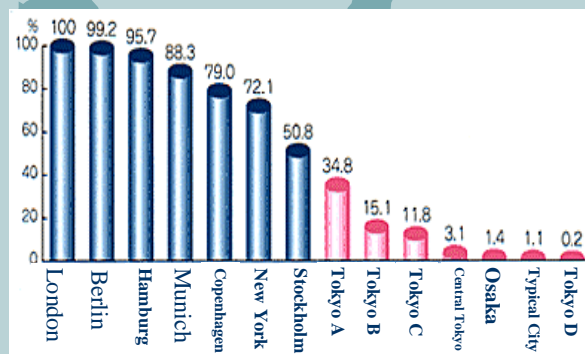
Comparison in-house wiring

	Japan	Europe	USA
Voltage	100/200	120/240	200/400
Phase	single	single	3phase
Line condition	3/2 lines	3 lines	4 lines
Earth line	nothing	Present	Present
Upper network Voltage	6.6kV	22kV	

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1. Activity of deregulation in Japan

Ratio of underground



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1. Activity of deregulation in Japan

- **Current condition for using PLC in Japan**
 - **Radio Law : Clause 100**
 - (Equipment using high frequency)
 - • Permit by Minister required for communication equipment applying frequency above 10kHz to power line
 - **Radio Law Regulation: Clause 44**
 - • No permit but notification required for PLC equipment in 10kHz – 450kHz defined in Clause 46
 - **Regulation for Wireless Equipment: Clause 60**
 - Radiation from a power line should be less than
 - $500\mu\text{V/m}$ ($54\text{dB}\mu\text{V/m}$) at the point of $\lambda/2\pi$ from Power line
- **APLC using HF band can't be used for not only commercial use but also field test at this moment.**

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2. About PLC-J

High Speed Power Line Communication Promoters' Alliance

We established PLC promotion group and promote the deregulation about PLC.

Board members

Chairman: Masao Itoh (Mitsubishi Electric Corporation)
 Vice Chairmen: Yoku Matsumoto (Kansai Electric Power Co., Inc.)
 Mikio Mizutani (Panasonic Communications Company
 (Matsushita Electric Industrial Co., Ltd.))

Another Sponsors

Kinden, Sumitomo Electric, Fujitsu, Hitachi, Preminet, Matsushita Works, Linecom,

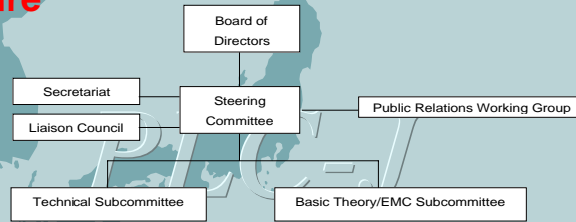
- **Activities**
 - a. Review of technology standards for the use of high speed power line communication (level of radiated emission, etc.) using HF band
 - b. Review of technology (radiated emission suppression technology, etc.) and implementation means to realize high speed power line communication
 - c. Review of methods to achieve coexistence with existing wireless communication systems
 - d. Promotion of and education about PLC
 - e. Other activities necessary for the achievement of the goals of PLC-J

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2.About PLC-J

High Speed Power Line Communication Promoters' Alliance

- Structure**



- Schedule**

Nature of Activities	2003	2004	2005
Review of Technical Standards	Proposal of test conditions	Formulation/proposal of international	Formulation/proposal of domestic Japanese
Review Concerning Implementation	Electromagnetic leakage suppression technology (in home)	Electromagnetic leakage suppression technology (other)	Measures for rapid implementation
Educational Activities		Promotion and Educational activities	

2.About PLC-J

High Speed Power Line Communication Promoters' Alliance

Action Item in this year

- a.promote the field test using PLC modem and open this test data
- b.develop suppression of radiated emission

3Å Contribution of CISPR

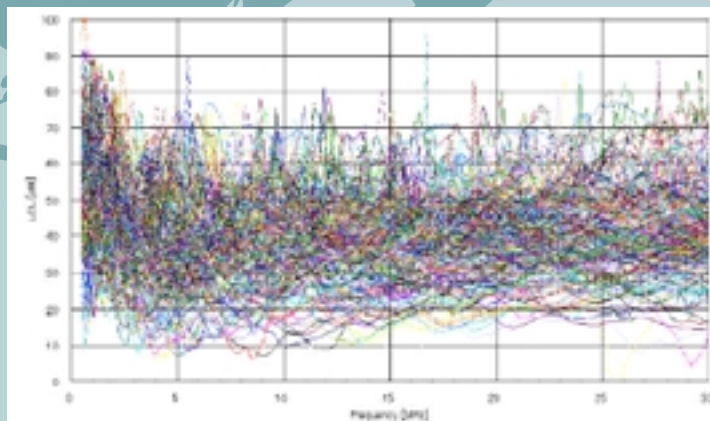
- Gathering the data of the characteristics of distribution line in Japan

LCL : ave 39dB 80 percentile 30dB
 CMZ : ave 37.9É
 (255 samples)

We will submit above data to next Japan CISPR NC meeting.

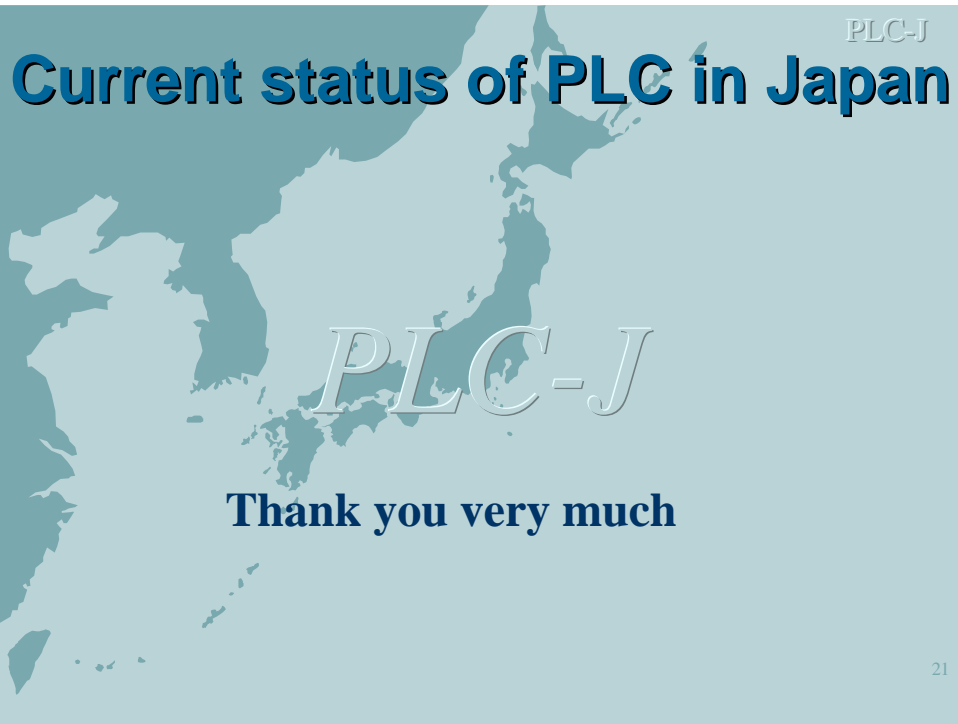
3Å Contribution to CISPR

ex) LCL value



LCL value (255 samples)

*Please get the LCL value in your own country and submit to the CISPR/I/WG3 !!

A light blue background featuring a faint map of Japan. The text 'PLC-J' is written in a large, white, serif font across the center of the map. Above the map, the title 'Current status of PLC in Japan' is written in a bold, dark blue, sans-serif font. In the top right corner, 'PLC-J' is written in a smaller, white, sans-serif font. Below the map, the phrase 'Thank you very much' is written in a bold, dark blue, sans-serif font. The number '21' is located in the bottom right corner of the slide.

PLC-J

Current status of PLC in Japan

PLC-J

Thank you very much

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