



**ETSI WG TM6**  
(ACCESS TRANSMISSION SYSTEMS ON METALLIC CABLES)

**Permanent Document**

**TM6(99)08**

**Revision 6**

# **Living List for updating TR 101 830-1 Spectral Management**

This document is the living list of current issues connected with the updating of ETSI's spectral management report TR 101 830-1, which is dedicated to "Part 1" issues. The latest version (v1.2.1) has officially been published on august 28<sup>th</sup> 2001, by ETSI.

This work is extended for including full signal descriptions for VDSL and ADSL-FDD (both "over POTS" and "over ISDN"). The target is to achieve working group approval by the end of the ETSI-TM6 meeting in (may 2002). This means that the second update of the SpM report can be published by ETSI during summer 2002. Issues that are (still) unsolved by that time, may be scheduled for a succeeding update.

The issues labelled as "Part 2" form an informal living list containing items for further study, as a potential new part 2 work item, or more parts if appropriated. This has not been decided yet by ETSI-TM6. The Rapporteur will poll this every ETSI-TM6 meeting, to inquire if such a decision is required/desired.

Work Item Reference	DTS/TM-06020-1
Permanent Document	<b>TM6(99)08</b>
Filename	990p08a6.pdf
Date	nov 2001

Rapporteur/Editor	<b>Rob F.M. van den Brink</b>	tel: +31 70 4462389
	KPN Research	fax: +31 70 4463477
	PO Box 421	email: <a href="mailto:R.F.M.vandenBrink@kpn.com">R.F.M.vandenBrink@kpn.com</a>
	2260 AK Leidschendam	<b>mark the above changes, since feb 2001</b>
	The Netherlands	

**1. STUDY POINTS PART 1**

SP	Title	Owner	Status
1-1	Complete signal description for ADSL FDD over POTS	Peter Reusens	Under Study
1-2	Complete signal description for ADSL FDD over ISDN	Peter Reusens	Under Study
1-3	<del>Complete signal description for ISDN-PRA</del>	Marco Loeffelholz DTAG	Deleted
1-4	<del>Improvement of scope and legal status of report</del>	George Eisler	Deleted
1-5	<del>Review of peak amplitudes of all signals in the library</del>	Bill Pechey - Paradyne	Deleted
1-6	<del>Complete signal description for SDSL</del>	Ragnar Jonsson - Conexant	Agreed
1-7	Review of power feeding issues	Rasmus Trevland - NPTA	Prov Agreed
1-8			
1-9			
1-10			
1-11			
1-12			
1-13			
1-14			
1-15			
1-16			
1-17			
1-18			
1-19			

**2. STUDY POINTS POSSIBLE PART 2 (SCOPE NOT YET DEFINED)**

SP	Title	Owner	Status
2-1	Spectral management rules for non-stationary signals.	Rami Verbin (Tioga)	Prov. Deleted
2-2	Limits for noise that may leak into the local loop wiring	Rob Kirkby (BT)	under study
2-3	Scope, Objective and Table of Contents	Rob Kirkby & Kevin Foster	under study
2-4	Wetting Current requirements	BT	under study
2-5	Interworking issues in case of linesharing	Rob van den Brink (KPN)	under study
2-6	Methods for constructing Spectral Management plans	Thomas Kessler (DTAG)	Under study
2-7			
2-8			
2-9			

The current agreed procedure for changing the status of living list items is in Annex A of TM6 working methods.

**Part 1 study points**

**SP 1-1. Complete signal description for ADSL FDD over POTS**

The ADSL standard is dedicated to echo cancelled systems, using signals with frequency overlap. FDD versions of ADLS, with no frequency overlap, do exist as proprietary systems, but are not (yet) covered by ETSI standards. As a result a signal description for Spectral Management purposes is lacking.

This study point is dedicated to define the description of a signal category for FDD versions of ADSL over POTS, which follows the ETSI standard that is being prepared for FDD versions of ADSL.

*Status: Under study (most of this issue has recently been solved within the ADSL standard)*

**SP 1-2. Complete signal description for ADSL FDD over ISDN**

Similar to study point 1-1, but dedicated to ADSL-FDD over ISDN.

*Status: Under study (most of this issue has recently been solved within the ADSL standard)*

- SP 1-3. → *Obsolete*  
 SP 1-4. → *Obsolete*  
 SP 1-5. → *Obsolete*  
 SP 1-6. → *Obsolete*

#### SP 1-7. **Review of power feeding issues**

This study point is dedicated to improve some inconsistencies and ambiguities on the Power Feeding clauses. The current numbers are system dependent, while the power feeding issue is more related to (system independent) safety requirement.

The update of TR 101 830-1 (v1.2.1) has made this visible, by dedicating class "A" and "B" power feeding to (system independent) safety requirement, and by dedicating class "X" and "Y" to system dependent implementations. When the descriptions of class "A" and "B" have been completed, these classes "X" and "Y" may become obsolete. Contributions are invited.

*Status: Under study*

*Related Contributions:*

- *TD20, Monterey 2000 - Modification of information on Feeding Power - NPTA*
- *TD13, Sophia 2001 - Modification of information on Feeding Power - NPTA*
- *TD16, Stockolm 2001 - Modification of text in clause 7 - NPTA*

### Part 2 study points

#### SP 2-1. **Spectral management rules for non-stationary signals.**

It was observed that the combined impairment from modems that are rapidly switching on and off over a period of time is much more destructive to ADSL then when these modems are continuously transmitting their signals. This is identified as "non stationary noise". The effect of non-stationary transmission in general on ADSL modems has not been fully understood. Is it a performance issue, related to the way a victim xDSL modem is implemented, or is it a spectral management issue that requires a way to bound the amount of non-stationary behaviour of signals that are injected into the Local Loop Wiring.

This study point is dedicated to the analysis of the impact of non-stationary cross talkers on legacy systems, and to find a way to bound the amount of non stationary noise.

*Status: Under study*

*Related Contributions:*

- *TD25, TD26, TD35, TD53, Montreux 2000 - Alcatel*
- *TD24, Helsinki 2000, Impact of non-stationary crosstalk on legacy ADSL modems - Orckit*
- *TD52, Vienna - Alcatel*
- *TD53, Vienna 2000, Stationarity requirements for spectral compatibility - Tioga*

#### SP 2-2. **Limits for noise that may leak into the local loop wiring**

The signal library of the Spectral Management report Part 1 is intended to be referred to when transmitting signals through unbundled access networks. This scope is restricted to transmission through the local loop wiring, and does not cover signals that leak by accident into the local loop wiring from one end side . This may occur for signals that flow through in house networks, such as home PNA systems, that are not isolated in a proper way from the LLW (e.g. by means of low-pass filters). This study point is dedicated to defining proper limits for the amount of signals that may leak into the LLW to prevent impairment of xDSL systems that make use of the LLW. It also addresses how to measure it.

*Status: Under study*

*Related Contributions:*

- *TD40, Helsinki 2000, Consideration if ITU-T G.pnt.f in ETSI Spectral Management Plan*
- *TD16, Sophia 2001, To measure noise leaking into the local loop - BT*

**SP 2-3. Scope, objectives and Table of contents**

There is a common feeling that a "Part 2" document is required in near future. To open a work item on this topic, there shall be a clear view on its scope, its objectives and its TOC. This study point is dedicated to define this. TD17 (Sophia) proposed some initial text

*Status: Under study*

*Related Contributions:*

- *WD04, Monterey 2000 - Text proposal for Scope of SpM part 2 - BT*
- *TD17, Sophia feb 2001 - To measure noise leaking into the local loop – BT*
- *See also study point "SP 2-6"*

**SP 2-4. Wetting current**

Loop unbundling can bring a situation that wires are used by xDSL systems only, without any remote power feeding or ringing current. Some splices can degenerate from this lack of dc-current due to oxidation. If true, a wetting current requirement can prevent this. If only true for a limited number of cables this "requirement" cannot be mandatory. This issue is for further study, since we are dealing with expertise from the past, that is currently not available within ETSI-TM6, and might even have been lost.

*Status: Under study*

*Related Contributions:*

- *TD10, Sophia 2001 - BR requirements for SDSL Wetting Current – BT*
- *TD47, Gent 2001 - Proposed amendment to ETSI SDSL wetting current text - Cisco*

**SP 2-5. Interworking issues in case of line sharing**

While deploying ADSL in combination with ISDN, sometimes malfunctioning ISDN modems have been reported. Replacement of that ISDN modem may solve the problem, but it is currently unclear if this malfunctioning is restricted to "first-generation" ISDN products or improper splitter requirements. This observation may have some impact on how to deal with this practice in case of line sharing.

The purpose of this study point is to collect information from the operational practice of line sharing, in order to learn if splitter requirements have to be refined, of dedicated Spectral management rules are to be developed.

*Status: Under study*

*Related Contributions:*

- *TD45, Gent 2001 - Problems with ISDN after inserting ADSL splitters - KPN*
- *TD31, Gent 2001 - Influence from ADSL into ISDN in several rare states - DTAG*

**SP 2-6. Methods for constructing Spectral Management plans**

It is desired to develop common methods for defining (regional) cable management plans. Such a plan provides restricting "access rules" (mandatory for all operators / cable users) and describes how the cable user gets access to the local copper network. One challenge is to keep the mandatory "access rules" (like spectral masks) strictly separated from the voluntary "deployment rules" or guidelines (like bitrate/margin for a given reach) that are under the responsibility of each individual operator. Another challenge is keep commercial issues (like pricing rules for the amount of pollution and for handling legacy systems) strictly separated from the technical issues, and to leave out all commercial issues.

*Status: Under study*

*Related Contributions:*

- *TD37, Stockholm, 2001 - Methods for constructing a cable management plan - DTAG*
- *TD57, Stockholm, 2001 – the effect of pair position (SDSL → ADSL) - BELGACOM*