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Technical Specification

Transmission and Multiplexing (TM); Access transmission systems on metallic access cables; Very high speed Digital Subscriber Line (VDSL); Part 1: Functional requirements



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ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Transmission and Multiplexing (TM).

The present document is part 1 of a multi-part deliverable covering the Transmission and Multiplexing (TM); Access transmission systems on metallic access cables; Very high speed Digital Subscriber Line (VDSL), as identified below:

Part 1: "Functional requirements";

Part 2: "Transceiver specification".

The present document includes clarification of the noise models, power spectral density masks and evaluation data rates.

1 Scope

The present document specifies requirements for transceivers providing very high bit-rate digital transmission on metallic, unshielded, access network wire pairs. The technology is referred to as Very high speed Digital Subscriber Line (VDSL).

The present document is part 1 of the specification for VDSL and is applicable to metallic access transmission systems designed to provide multi-megabit/s digital access over part of the existing, unshielded, metallic access network. It is concerned with the key functional and electrical requirements for VDSL. It is linecode independent and is intended to set the boundary requirements that all compliant VDSL transceivers shall meet. TS 101 270-2 [18] is concerned with requirements of the linecode method that enable the requirements of the present document to be met.

The definition of physical interfaces is outside the scope of the present document. If an appropriate interface for a specific application exists it may be included to describe how these requirements map to it. The VDSL transmission system, in its most basic form, consists of an application independent core and an application specific block.

The core is purely an application independent bit-pump which transports information from one end of the metallic access link to the other. The digital data is mapped into a core frame that is defined logically and not physically. The core frame is therefore considered to be the interface between the application specific and the application independent part of the VDSL system. The application specific part may be subdivided into (at least) two smaller parts: mapping and interface.

The scope of the present document is shown graphically in figure 1 and figure 2, where the Network Termination (NT) and Line Termination (LT) are considered separately.

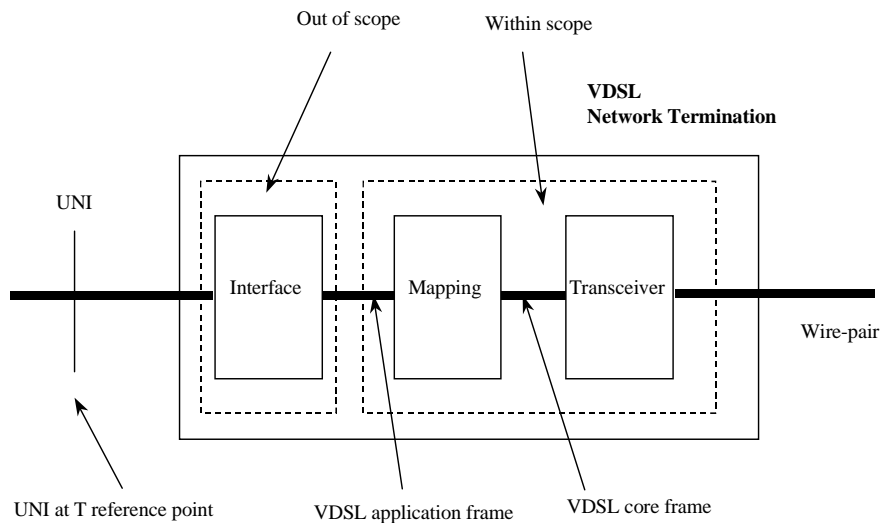


Figure 1: NT reference model scope