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TITLE **VDSL / ADSL - A compromise design impedance of 135W**

STATUS Proposal.

In Europe, a variety of twisted-pair cables are used. Various characteristic impedance values are reported by operators, ranging from 100Ω to 150Ω, and occasionally 180Ω. In the Netherlands 150Ω cable is commonly used, and to our knowledge in Germany 135Ω, in Finland 125Ω, in Italy 120Ω, in England 100Ω and in France 100Ω & 150Ω. Adopting a value of 100Ω for VDSL and ADSL, for instance because the American ANSI standard for ADSL uses this value, is unacceptable within ETSI. This value is on the bottom end of the European impedance range, and by no compromise value.

We propose the use of a compromise design impedance in VDSL and ADSL. The nominal source and load impedance of VDSL and ADSL modems preferably meets the average value for European cables. Currently, 135 Ω has been adopted by HDSL and ISDN¹ standards, and have proven applicable. Maintaining the same value for VDSL and ADSL is strongly preferred, because it simplifies the development of general purpose test and measurement instruments for high bit-rate transmission.

We propose to adopt 135Ω as a nominal design impedance for VDSL and ADSL.

¹ revised ETR 080 (sept 1995), and the ISDN-2 standard G.961 for 2B1Q linecoding