



TELENOR

SPECIFICATION

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Access to the SDH leased circuits. Specification of the network side of the user-network interfaces.

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1 Scope

This specification gives the technical requirements for the network interface presentations of the SDH leased lines. This specification is limited to an STM-1 electrical or optical interface carrying a VC-4 container.

2 References

2.1 Normative references

- [1] EN 301 165: "Transmission and Multiplexing (TM); Synchronous Digital Hierarchy (SDH); SDH leased lines - network and terminal interface presentation".
Edition V1.1.1 (1999-05)
- [2] EN 300 386-2: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Telecommunication network equipment; ElectroMagnetic Compatibility (EMC) requirements; Part 2: Product family standard". V1.1.3 (1997-12)
- [3] I-ETS 300 671: "Transmission and Multiplexing (TM); Passive optical components; Fibre optical connectors for singlemode optical fibre communication systems; Common requirements and conformance testing." (1996-11)
- [4] EN60950: "Safety of information technology equipment including electrical business equipment" (1992)
- [5] EN 41003: "Particular safety requirements for equipment to be connected to telecommunication networks" (1991-05)
- [6] ITU-T K31: "Bonding configurations and earthing of telecommunication installations inside a subscriber's building" (1993-03)
- [7] ITU-T K20: "Resistibility of telecommunication switching equipment to overvoltages and overcurrents" (1996-10)
- [8] ITU-T K15: "Protection of remote-feeding systems and line repeaters against lightning and interference from neighbouring electricity lines" (1988-11)
- [9] ITU-T K21: "Resistibility of subscribers' terminal to overvoltages and overcurrents" (1996-10)

2.2 Informative references

- [10] EG 201 147: "Equipment Engineering (EE); Interworking between Direct Current/Isolated (DC/I) and Direct Current/Common (DC/C) electrical power systems" V1.1.2 (1998-02)

3 Definitions and abbreviations

See [1] EN 301 165, Subclause 3.

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4 Network and terminal interface for Virtual Container (VC) leased line connection

Otherwise clearly stated, the interface specifications shall conform to the requirements given in [1] EN 301 165.

Apart from subclauses 4.7, 4.8 and 4.9, which are added to include requirements for EMC, ground connections and overvoltage protection, the following subclauses are numbered in line with the corresponding subclauses in [1] ETS 300 686.

4.1 Section layer functions for Network Termination (NT) and Terminal Equipment (TE)

All requirements are in accordance with [1] EN 301 165, Subclause 4.1.1.

4.2 Path layer functions for NT

All requirements are in accordance with [1] EN 301 165, Subclause 4.2.1.

4.3 Path layers functions for TE

All requirements are in accordance with [1] EN 301 165, Subclause 4.3.1.

4.4 Mechanical Characteristics for NT and TE interfaces

4.4.1 Connectors for the electrical STM-1 interface

The network interface will be provided on a digital distribution block (“DX-blokk”) by means of two coaxial 75Ω sockets complying with IEC 169-13 (1.6/5.6, female), one each for transmit and receive. The outer conductor of the coaxial cable is not connected to earth at the distribution block, but will be grounded at the network side equipment ports.

4.4.2 Connectors for optical STM-1 interfaces

The network interface will be provided on an optical distribution block by means of two optical sockets, one each for transmit and receive. Normally FC/PC connectors complying with [3] I-ETS 300 167 will be used.

4.5 Safety

Equipment connected to the interface shall be in accordance with [4] EN60950, and [5] EN 41003.

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4.6 AU/TU numbering scheme

All requirements are in accordance with [1] EN 301 165, Subclause 4.6.

4.7 Electromagnetic Compatibility (EMC)

The EMC requirement for the equipment ports is given in [2] EN 300 386-2, subclause 5.2.3: "Other than telecommunication centres, ports for indoor signal lines". This requirement shall be interpreted as valid for the interface ports formed by the coaxial sockets at the distribution blocks ("DX-blokk").

4.8 Bonding configuration and earthing of equipment using the specified interface

Bonding configurations and earthing of telecommunication equipment connected to the interface shall be in accordance with [6] ITU-T K31.

Note:

As the outer coaxial conductor normally will be grounded in each end at the equipment ports, a connection between different ground levels and/or different current systems may be established. This may cause transmission noise and have a safety aspect in case of short-circuiting in one of the power feeding systems.

Guidelines to overcome those problems are given in [10] EG 201 147.

4.9 Resistibility and overvoltage protection

Equipment connected to the interface shall be in accordance with [7] ITU-T K20 and [8] ITU-T K15.

If the cables between the network termination point and the terminal equipment leave the building, protection of the terminal equipment may be required in accordance with [9] ITU-T K21.

5 Application of ETS 300 417-2-1

Applications according to [1] EN 301 165, Subclause 5. However applications for STM-4 are not relevant.

6 Application of ETS 300 417-3-1

Applications according to [1] EN 301 165, Subclause 6. However applications for STM-4 are not relevant.

7 Application of ETS 300 417-4-1

Applications according to [1] EN 301 165, Subclause 7. However applications for STM-4 are not relevant.

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8 Application of ETS 300 417-6-1

Applications according to [1] EN 301 165, Subclause 8. However applications for STM-4 are not relevant.



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