

ATAAB ADVISORY NOTE

TRAC Analogue Type Approval Advisory Board

ATAAB Advisory Note Number: AN 10

Subject: Requirement regarding TBR15-levels in sending level requirements to protect the Public Switched Telephone Network in Germany from harm

APPLICABILITY

This note is applicable for Terminal Equipment intended for connection to the German Public Switched Telephone Networks, in addition to:



" CTR 21" (When published)

NOTE: Until CTR 21 is available, reference should be made to ETSI document prTBR 21 (Sept 1997) or, when it is available, to TBR 21.

Appendix to this Advisory Note:

A: Additional requirements and tests for attachment to the German PSTN

In consideration of the following:

- The requirements of TBR 15 fulfill the CCITT/ITU-T Recommendation V.2. This is the specification for the German PSTN and the international PSTN-gateways.
- The contracts between Deutsche Telekom and their international interconnection partners are based on V.2
- There is basically no gain-control in the German network
- There is no gain-control in the German network, which could adapt the frequency shape of TBR 21 approved terminals to the V.2 frequency shape at the interconnection points.
- Higher levels than allowed in TBR 15, especially at the high- and low-frequency ends of the voice-band, will affect pilot-tones of FDM-systems and the coding level of low bit rate coding TDM-systems.
- In accordance to the comment DE23 of the Public Enquiry this modification is proposed because otherwise sending levels higher than in TBR 15 will harm the PSTN of Deutsche Telekom AG and the international network.
- TBR15 was approved unanimously by ETSI, TRAC and ACTE. This gives a legal and fundamental basis for adopting the sending level values of TBR15 to TBR21. Therefore we should take the advantage of applying this harmonized requirements.

ATAAB advises the following:

The sending level limitations in the paragraphs 4.7.3.3 of TBR 21 must be identical with the sending level limitations in the paragraphs 4.2.2.2.3 of TBR 15:

To protect the international Public Switched Telephone Network and also Public Switched Telephone Network in Germany from harm, the TE shall comply with the improved sending level requirements as harmonized in TBR15.

It is the responsibility of the supplier to provide information for users as to whether the Terminal Equipment complies with the additional requirements for the German Public Switched Telephone Network specified in this Advisory Note.

Appendix A also specifies the tests according to that in detail.

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Appendix A

to

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Subject: Requirement regarding TBR15-levels in sending level requirements to protect the Public Switched Telephone Network in Germany from harm

A.1 INTRODUCTION

Terminal equipment approved to CTR 21 may harm the German Public Switched Telephone Network.

This Appendix specifies requirements to which a TE shall comply, in addition to the requirements of CTR 21 to protect the German Public Switched Telephone Network from harm. It also specifies the method to assess compliance with these additional requirements, including reference to additional tests to be performed to dynamically assess compliance with the additional requirements.

A.2 NORMATIVE REFERENCES

- [1] CTR 21; Terminal Equipment (TE). Attachment requirements for pan-European approval for connection to the analogue Public Switched Telephone Networks (PSTNs) of TE (excluding TE supporting the voice Telephony Service) in which network addressing, if provided, is by means of Dual Tone Multi-Frequency (DTMF) signalling.

NOTE: This document makes reference to CTR 21. Until CTR 21 is available, reference should be made to the base ETSI documents prTBR 21 (Sept 1997) or, when it is available, to TBR 21.

- [2] CTR 15;.

A.3 REQUIREMENTS and ASSOCIATED TESTS

A.3.1 Voltage level in a 10 Hz bandwidth in loop state

NOTE: The following requirement is a change in a the requirement of CTR 21 Clause 4.7.3.3. The changes introduced by this Advisory Note replace Table 6 of TBR 21 by Table 3 of TBR 15. Accordingly to this changes the corresponding Figure is adapted.

Justification: 91/263/EEC, Article 4(d); Protection of the PSTN from harm is assured by limiting signal sent into the PSTN by the TE so that the interfering effects of the signal are limited to prevent harm to the national and international network.

Requirement: The voltage within a 10 Hz bandwidth centered at any point in the frequency band 30 Hz to 4 300 Hz, and wholly contained within that frequency band, shall not exceed the limits given in table 6 and figure 6 when the TE interface is terminated with the reference impedance Z_R . This requirement also applies to DTMF signals sent after dialing.

Table 6: Voltage in a 10 Hz bandwidth

Points	Frequency kHz	Sending level dBV
A	0,03	- 33,7
B	0,1	- 16,7
C	0,3	- 6,7
D	3,4	- 6,7
E	3,8	- 15,7
F	4,3	- 44,7

NOTE: Limits for intermediate frequencies can be found by drawing a straight line between the break points on a logarithmic (Hz) - linear (dB) scale.

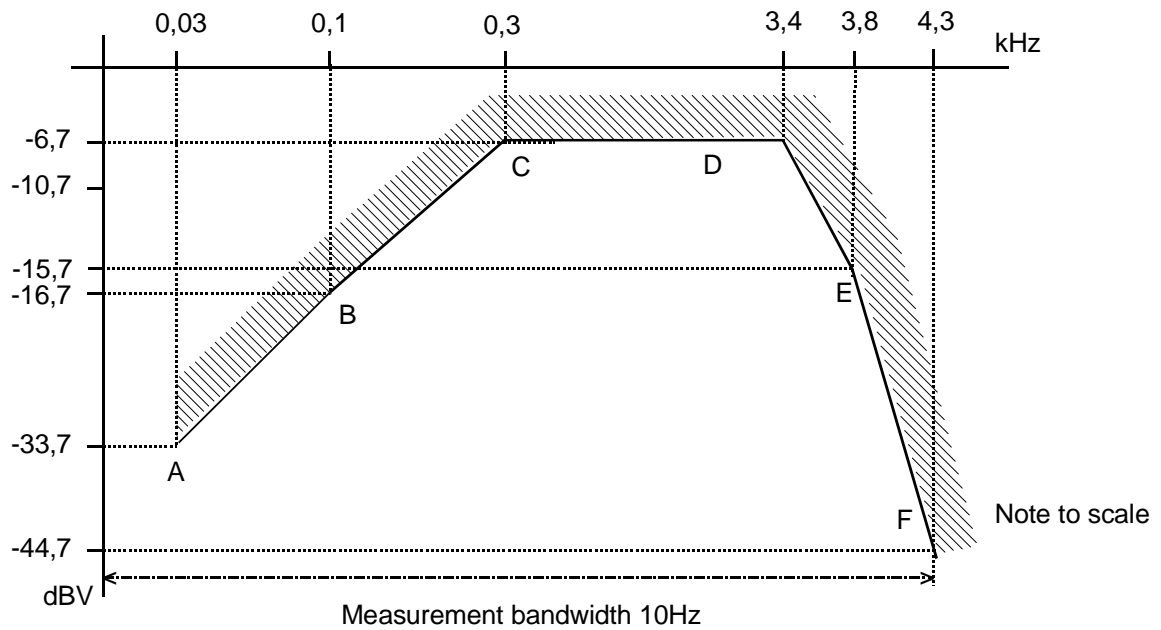


Figure 6: Voltage level in a 10 Hz bandwidth

Test: The test shall be conducted according to Annex A, subclause A.4.7.3.3.

A.3.2 Voltage level in a 10 Hz bandwidth in loop state

Requirement: Subclause A.4.7.3.3.

Purpose: To check that the TE complies with subclause A.4.7.3.3.

Measurement principle:

Preamble: Set the TE in loop state.

Test state: The TE shall be in loop state, and sending representative signals continuously.

Test configuration:

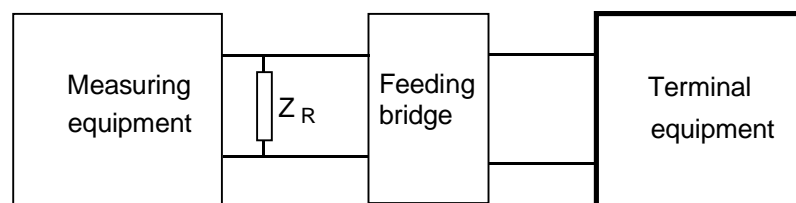


Figure A.15

DC feeding arrangement:

Feed voltage: 50 V. Feed resistance: each of the following: 230 Ω , and 3 200 Ω .
Polarity shall be switched between each feed resistance.

AC termination of TE: Z_R

Measurement execution:

The TE shall be set in loop state, transmitting representative signals continuously. The voltage level transmitted across the TCP shall be measured. It shall be determined whether the level within every 10 Hz bandwidth wholly contained in the frequency range 30 Hz to 4 300 Hz is less than or equal to the limits given in table 6 and figure 6. In the case of data equipment (e.g. modems) the level shall only be measured during the data transfer phase.

Formal processing: None.

Verdict: If the levels are according to table 6 and figure 6 then Pass; else Fail.

Guidance: TE with adjustable output level is set up in accordance with the supplier's instructions to send at its maximum intended level.

A.3.3 Requirements Table (CTR-RT)

The requirements table of CTR 21, Annex B is still applicable.

ATAAB ADVISORY NOTE

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ATAAB Advisory Note Number: AN 11

Subject: Requirement regarding establishment of loop for automatic answer

APPLICABILITY

This note is applicable for Terminal Equipment intended for connection to the Portuguese Public Switched Telephone Networks, in addition to:

" CTR 21" (When published)

NOTE: Until CTR 21 is available, reference should be made to ETSI document prTBR 21 (Sept 1997) or, when it is available, to TBR 21.

Appendix to this Advisory Note:

A: Additional requirements and tests for attachment to the Portuguese PSTN.