

## **JUSTIFICATION FOR COMMON REGULATORY OBJECTIVES**

### **FOR PSTN EQUIPMENT**

This document provides the justification for a Common Regulatory Objective related to Public Switched Telephone Network (PSTN) Terminal equipment. It identifies the requirements that are relevant to the CRO. The output from this document will be used for the PSTN Terminal CRO.

#### **1. PSTN TERMINAL EQUIPMENT**

##### **1.1 GLOBAL USE**

The continuous use of terminals with analogue connection to the PSTN, such as modems or telephones, in networks is a measure of the need for such equipment. This type of equipment is undergoing constant and rapid development, and it is therefore imperative that the delay in, and cost of, market introduction is the minimum possible. Otherwise, new innovative products may be delayed. Also, countries where the market is comparatively small may never benefit from these products, if the cost of market introduction is too high.

The analogue presentations of PSTNs show many similarities in their basic performance. Portable PCs contain a modem port for dial-up connection to the local PSTN. Experience has shown that these modems can successfully inter-work in different networks globally, thus generating revenues for the operators while performing their intended tasks for the benefit of the user. The recent convergence of the voice transmission plans and the intensified use of digital transmission networks allow to extend from modems to every type of PSTN Terminal the connection conditions to be valid worldwide.

##### **1.2 APPLICATIONS COVERED**

The range of applications covered by this equipment is extremely wide. This is surely the lower cost and most popular Telecom technology. Also new telecom access technologies offer interfaces to this type of equipment to ensure backwards compatibility required by the user earlier telephone installations. Some of these applications are:

- Voice communication, allowing people to communicate when a fix infrastructure (home or office) is available;
- When connected to data devices, e.g. a PC, a modem can also be used to support the link between the data originating terminal and the centre connected to the Telecom network, i.e. the modem can be used as an access device to Internet;

Security, safety, health, research, education, social support, small business and many other areas can therefore easily beneficiate from this technology.

## **2. IDENTIFICATION OF STANDARDS /RECOMMENDATIONS TO SATISFY REGULATORY OBJECTIVES**

Standards are continually revised. It is necessary to allow for a transition period between versions. This means that, in general, more than one version of a standard is acceptable as a basis for the CRO. Rather than list all acceptable versions, the “oldest acceptable” version at the time of publication of the CRO is listed. Subsequent versions of the listed standards are to be accepted unless otherwise stated by Countries having agreed on the CRO.

The standards relevant for this CRO are listed in the Annex. A rationale for the choice of these standards is given.

## **3. REVIEW**

This document should be reviewed periodically to ensure that the requirements are still valid and suitable for the CRO in question. The review should aim to reduce the requirements in the CRO to a minimum allowing for new innovative products and/or solutions to be placed on the market.

Where necessary, an update of the CRO should be initiated.

## ANNEX

### **A. Safety**

IEC 60950 (1999)	Safety of information technology equipment
CB Bulletin (parts covering the intended markets)	IECEE (The IEC System for Conformity Testing and Certification of Electrical Equipment).

#### **Rationale:**

The international standard for equipment in this sector is IEC 60950. Due to special national conditions in some countries, national deviations or amendments exist. The best collection of such deviations and amendments is given in the CB Bulletin, used for the The “IEC System for Conformity Testing and Certification of Electrical Equipment” (IECEE, see <http://www.iecee.org/>).

### **B. Electromagnetic Compatibility**

CISPR 22:1997 + Am1:2000 Class B	“Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement”
FCC Part 15.109 Class B	<b>Additional for emissions above 1 GHz:</b> “Radio Frequency Devices; Unintentional Radiators; Radiated emission limits”
IEC 61000-3-2:1995 + Amendments	<b>For equipment with AC mains power:</b> “Electromagnetic compatibility (EMC) – Part 3-2: Limits – Limits for harmonic current emissions (equipment input current $\leq 16$ A per phase)”
IEC 61000-3-3:1995	<b>For equipment with AC mains power:</b> “Electromagnetic compatibility (EMC) – Part 3-3: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current $\leq 16$ A per phase and not subject to conditional connection”
CENELEC EN 55024:1998	“Information technology equipment – Immunity characteristics – Limits and methods of measurement”

#### **Rationale:**

**CISPR 22:** CISPR 22 is a widely recognised international standard for emission protection of radio spectrum from disturbances caused by “non-intentional transmitters”. It is published as

national standards in many countries. According to the classification given in CISPR 22, terminals intended for domestic use should meet Class B.

**FCC Part 15:** The FCC Rules allow the use of CISPR 22 as a replacement for FCC Part 15 for “digital devices” (Part 15.109(g)). However since CISPR 22 currently does not contain limits above 1 GHz, it is required to comply with FCC part 15.109 for emissions above 1 GHz. According to the classification given in FCC Part 15, terminals intended for domestic use should meet Class B.

**IEC 61000-3-2, -3:** In EU, protection of electricity distribution networks is part of the emission aspects of EMC regulation. Therefore requirements for harmonics and flicker are part of the standards used for regulatory purposes. The European standards EN 61000-3-2, -3 are identical to the IEC standards.

**CENELEC EN 55024:** Immunity aspects are included in EU’s EMC regulation. EN 55024 differs from the international standard CISPR 24 regarding the surge test and its compliance criterion for ports intended for connection of telecom lines (PSTN) to outdoor facilities.

Note: The following international standards (in the form of European standards) are called up by EN 55024: IEC 61000-4-2, -3, -4, -5, -6, -8, -11

### **C. Avoidance of harm to the PSTN**

ETSI TBR 21\* (January 1998) 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

\*Clauses 1, 2, 3, 4.1, 4.4.3, 4.7.3, 4.7.4, and corresponding parts of Annex A.

(To be replaced by ES 203 021-1 and ES 203 021-2 at a later stage)

TIA/EIA/IS-968 (July 2001) Telecommunications - Telephone Terminal Equipment - Technical Requirements for Connection of Terminal Equipment to the Telephone Network

### **Rationale:**

**TBR 21:** There are no regulatory requirements for avoidance of harm to the PSTN in EU any more, however the ETSI standard TBR 21 is being used internationally for such purpose by a number of other countries. ETSI is currently preparing a draft standard prES 203 021. This standard will be a replacement of TBR 21 to take account of developments in PSTNs in recent years, and also to incorporate information from other countries as far as possible. The applicable parts of ES 203 021 will be:

- Part 1 (common elements)
- Part 2 (avoidance of harm to the PSTN)

**TIA/EIA/IS-968:** This standard contains technical requirements for avoidance of harm to the telephone network in order to comply with the FCC Code of Federal Regulations Title 47, Part 68.

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