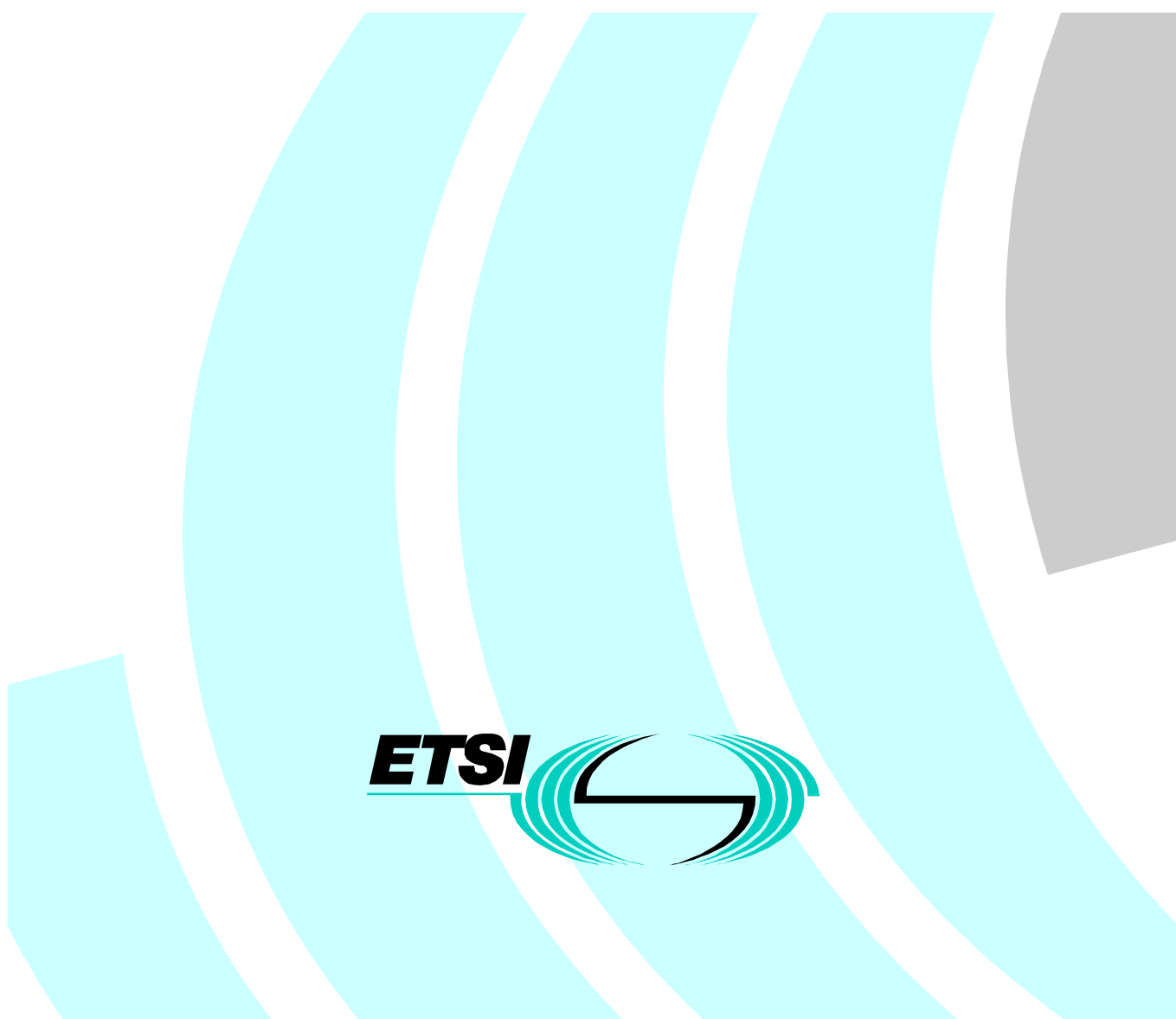


## **Report on the implications of the R&TTE Directive; Part 1: Existing TBRs**

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**Reference**

DSR/OCG-00002-1

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**Keywords**

radio, regulation, terminal

**ETSI**

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## Foreword

This Special Report (SR) has been produced by the Advisory Committee Operational Co-ordination Group (OCG).

---

# 1 Introduction

## 1.1 Scope

The present document gives guidance on the implications of the R&TTE Directive [1] for the existing Technical Bases for Regulations (TBRs) produced by ETSI under mandates from the European Commission. TBRs were harmonized as tools to support type approval regimes which Regulators needed to set up under the provisions of the TTE Directive [2], the Satellite Earth Station Directive [3] and the Codified Directive [4] prior to the introduction of the R&TTE Directive [1]. Under the new R&TTE Directive [1] there is no requirement for type approval regimes. However standards harmonized under the R&TTE Directive [1] will be available for use by equipment suppliers as a reference for presumption of conformity with its essential requirements.

A proforma for the production of harmonized standards within ETSI has been produced and is available as SR 001 470 [5].

For each TBR the report considers whether or not an equivalent harmonized standard might be required.

An exhaustive list of current technical phenomena under Article 3.2 of the R&TTE Directive [1] which may be included in such a harmonized standard is taken from the ETSI Guide [6] and is given in table 1.

However for any particular candidate harmonized standard technical phenomena should only be considered as essential if there is a possibility of harmful interference that is unlikely to be controlled by other means.

For each candidate harmonized standard a list of technical phenomena derived from the exhaustive list given in Annex B is proposed for evaluation by the responsible technical body.

**NOTE:** For some TBRs, ETSI has produced, or is producing, corresponding ENs not intended for harmonization. Those ENs should not to be confused with standards produced by ETSI which are intended to be harmonized under the R&TTE Directive [1], which will also be numbered in the EN series.

## 1.2 Modular structure

Harmonized standards under the new R&TTE Directive [1] will be produced by ETSI to fit into a modular structure covering all radio and telecommunications terminal equipment. Each standard is a module in the structure which is shown in figure 1.

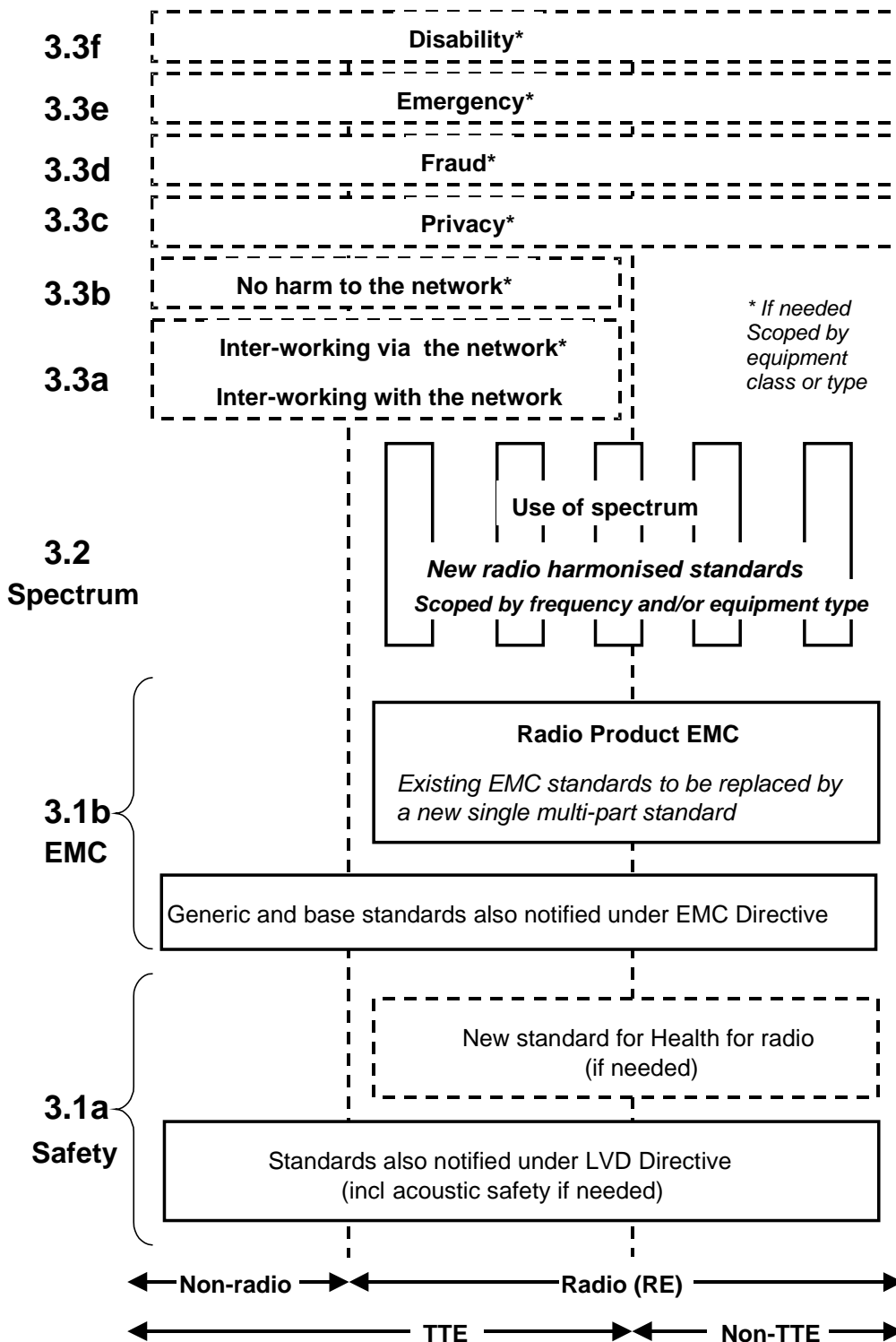


Figure 1: Modular structure for the various standards used under the R&TTE Directive

The left hand edge of the figure shows the different subclauses of Article 3 of the Directive.



For article 3.3 various horizontal boxes are shown. Their dotted lines indicate that no essential requirements in these areas have yet been adopted by the Commission. If such essential requirements are adopted, they will be elaborated in individual standards whose scope is likely to be specified by function or interface type.

The vertical boxes show the standards under article 3.2 for the use of the radio spectrum. The scopes of these standards are specified either by frequency (normally in the case where frequency bands are harmonized) or by radio equipment type.

For article 3.1b, the diagram shows the new single multi-part product EMC standard for radio, and the existing collection of generic and base standards currently used under the EMC Directive [7]. The parts of this new standard will become available in the second half of 2000, and the existing separate EMC standards will be used until it is available.

For article 3.1a the diagram shows the existing safety standards currently used under the LVD Directive [8] and the possibility of a new standard on health relating to radio emissions.

The bottom of the figure shows the relationship of the standards to radio equipment and telecommunications terminal equipment. A particular equipment may be radio equipment, telecommunications terminal equipment or both.

The modular approach has been taken because:

- it minimizes the number of standards needed. Because equipment may have multiple interfaces and functions it is not practicable to produce a single standard for each possible combination of functions that may occur in an equipment.
- it provides scope for standards to be added
  - under article 3.2 when new frequency bands are agreed; or
  - under article 3.3 should the Commission take the necessary decisions, without requiring alteration of standards that are already published.

---

## 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

- [1] Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio and telecommunications terminal equipment and the mutual recognition of their conformity (R&TTE Directive).
- [2] Council Directive of 29 April 1991 on the approximation of the laws of the Member States concerning telecommunications terminal equipment, including the mutual recognition of their conformity (91/263/EEC) (TTE Directive).
- [3] Council Directive 93/97/EC of 29 October 1993 supplementing Directive 91/263/EEC in respect of satellite earth station equipment (Satellite Directive).
- [4] Directive 98/13/EC of the European Parliament and of the Council of 12 February 1998 relating to telecommunications terminal equipment and satellite earth station equipment, including the mutual recognition of their conformity (Codified Directive).

- [5] SR 001 470: "Guidance to the production of candidate Harmonized Standards for application under the R&TTE Directive (1999/5/EC); Pro-forma candidate Harmonized Standard".
- [6] EG 201 399: "A Guide to the production of Harmonized Standards for application under the R&TTE Directive".
- [7] Council Directive of 3 May 1989 on the approximation of the laws of the Member States relating to electromagnetic immunity (89/336/EEC) (EMC Directive).
- [8] Council Directive of 19 February 1973 on the harmonization of the laws of Member States relating to electrical equipment designed for use within certain voltage limits (73/23/EEC) (LVD Directive).
- [9] International Telecommunications Union Radio Regulations, Edition of 1998.

## 3 Definitions and abbreviations

### 3.1 Definitions

For the purposes of the present document, the following terms and definitions apply.

**interference:** as defined in S1.166 of the International Telecommunications Union Radio Regulations, Edition of 1998 [9] "the effect of unwanted energy due to one or a combination of emissions, radiations or inductions upon reception in a radio-communications system, manifested by any performance degradation, misinterpretation or loss of information which could be extracted in the absence of such unwanted energy"

**radio equipment:** as defined in R&TTE Directive [1] Article 2(c), subject to general exclusions in the scope and aim of the Directive [1], Article 1

**telecommunications terminal equipment:** as defined in R&TTE Directive [1] Article 2(b), subject to general exclusions in the scope and aim of the Directive [1], Article 1

Other applicable definitions as defined in R&TTE Directive [1] are included in subclause 4.7.

### 3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

ATA	Analogue Terminals and Access
CENELEC	Comité Européen de Normalisation Electrotechnique
CHS	Candidate Harmonized Standard
CTR	Common Technical Regulation
DECT	Digit Enhanced Cordless Telecommunications
DTA	Digital Terminals and Access
EC	European Commission
EEC	European Economic Community
EMC	ElectroMagnetic Compatibility
EN	European Standard
EP	ETSI Project
ERM	Electromagnetic compatibility and Radio spectrum Matters
ETS	European Telecommunication Standard
GSM	Global System Mobile
LVD	Low Voltage Directive
R&TTE	Radio and Telecommunications Terminal Equipment
RE	Radio Equipment
SES	Satellite Earth stations and Systems
SMG	Special Mobile Group
TBR	Technical Basis for Regulation
TC	Technical Committee

TCAM	Telecommunication Conformity Assessment and Market surveillance committee
TETRA	Terrestrial Trunked Radio; also Trans European Trunked Radio
TTE	Telecommunications Terminal Equipment

## 4 Statements in the R&TTE Directive relevant to TBRs

### 4.1 Whereas (13)

"Whereas the essential requirements relevant to a class of radio equipment and telecommunications terminal equipment should depend on the nature and the needs of that class of equipment; whereas these requirements must be applied with discernment in order not to inhibit technological innovation or the meeting of the needs of a free-market economy;"

### 4.2 Whereas (21)

"Whereas unacceptable degradation of service to persons other than the user of radio equipment and telecommunications terminal equipment should be prevented; whereas manufacturers of terminals should construct equipment in a way which prevents networks from suffering harm which results in such degradation when used under normal operating conditions; whereas network operators should construct their networks in a way that does not oblige manufacturers of terminal equipment to take disproportionate measures to prevent networks from being harmed; whereas the European Telecommunications Standards Institute (ETSI) should take due account of this objective when developing standards concerning access to public networks;"

### 4.3 Whereas (22)

"Whereas effective use of the radio spectrum should be ensured so as to avoid harmful interference; whereas the most efficient possible use, according to the state of the art, of limited resources such as the radio frequency spectrum should be encouraged;"

### 4.4 Whereas (27)

"Whereas it is in the public interest to have harmonized standards at European level in connection with the design and manufacture of radio equipment and telecommunications terminal equipment; whereas compliance with such harmonized standards gives rise to a presumption of conformity to the essential requirements; whereas other means of demonstrating conformity to the essential requirements are permitted;"

### 4.5 Whereas (45)

"Whereas it is necessary to ensure that with the introduction of changes to the regulatory regime there is a smooth transition from the previous regime in order to avoid disruption to the market and legal uncertainty;"

### 4.6 Whereas (46)

"Whereas this Directive replaces Directive 98/13/EC, which should accordingly be repealed; whereas Directives 73/23/EEC and 89/336/EEC will no longer apply to apparatus within the scope of this Directive, with the exception of protection and safety requirements and certain conformity assessment procedures,"

### 4.7 Article 2 (extracts)

- (a) "apparatus" means any equipment that is either radio equipment or telecommunications terminal equipment or both;
- (b) "telecommunications terminal equipment" means a product enabling communication or a relevant component thereof which is intended to be connected directly or indirectly by any means whatsoever to interfaces of public

telecommunications networks (that is to say, telecommunications networks used wholly or partly for the provision of publicly available telecommunications services);

- (c) "radio equipment" means a product, or relevant component thereof, capable of communication by means of the emission and/or reception of radio waves utilizing the spectrum allocated to terrestrial/ space radiocommunication;
- (d) "radio waves" means electromagnetic waves of frequencies from 9 kHz to 3 000 GHz, propagated in space without artificial guide;
- (h) "harmonized standard" means a technical specification adopted by a recognized standards body under a mandate from the Commission in conformity with the procedures laid down in Directive 98/34/EC for the purpose of establishing a European requirement, compliance with which is not compulsory.
- (i) "harmful interference" means interference which endangers the functioning of a radionavigation service or of other safety services or which otherwise seriously degrades, obstructs or repeatedly interrupts a radiocommunications service operating in accordance with the applicable Community or national regulations".

## 4.8 Article 3.2

"In addition, (to other essential requirements) radio equipment shall be so constructed that it effectively uses the spectrum allocated to terrestrial/space radio communication and orbital resources so as to avoid harmful interference."

## 4.9 Article 3.3

"In accordance with the procedure laid down in Article 15, the Commission may decide that apparatus within certain equipment classes or apparatus of particular types shall be so constructed that:

- (a) it inter-works via networks with other apparatus and that it can be connected to interfaces of the appropriate type throughout the Community; and/or that
- (b) it does not harm the network or its functioning nor misuse network resources, thereby causing an unacceptable degradation of service; and/or that
- (c) it incorporates safeguards to ensure that the personal data and privacy of the user and of the subscriber are protected; and/or that
- (d) it supports certain features ensuring avoidance of fraud; and/or that
- (e) it supports certain features ensuring access to emergency services; and/or that
- (f) it supports certain features in order to facilitate its use by users with a disability."

## 4.10 Article 6.2

"In taking a decision regarding the application of essential requirements under Article 3(3) the Commission shall determine the date of application of the requirements. If it is determined that an equipment class needs to comply with particular essential requirements under Article 3(3), any apparatus of the equipment class in question which is first placed on the market before the date of application of the Commission's determination can continue to be placed on the market for a reasonable period. Both the date of application and the period shall be determined by the Commission in accordance with the procedure laid down in Article 14."

## 4.11 Article 10.1

"The conformity assessment procedures identified in this Article shall be used to demonstrate the compliance of the apparatus with all the relevant essential requirements identified in Article 3."

## 4.12 Article 18.1

"Standards under Directive 73/23/EEC or 89/336/EEC whose references have been published in the Official Journal of the European Communities may be used as the basis for a presumption of conformity with the essential requirements referred to in Article 3(1)(a) and Article 3(1)(b). Common technical regulations under Directive 98/13/EC whose references have been published in the Official Journal of the European Communities may be used as the basis for a presumption of conformity with the other relevant essential requirements referred to in Article 3. The Commission shall publish a list of references to those standards in the Official Journal of the European Communities immediately after this Directive enters into force.

## 4.13 Article 18.2

Member States shall not impede the placing on the market and putting into service of apparatus which is in accordance with the provisions in Directive 98/13/EC or rules in force in their territory and was placed on the market for the first time before this Directive entered into force or at the latest two years after this Directive entered into force."

## 4.14 Article 20.1

"Directive 98/13/EC is hereby repealed as from 8 April 2000."

## 4.15 Annex III (extract)

"For each type of apparatus, all essential radio test suites must be carried out by the manufacturer or on his behalf. The identification of the test suite that are considered to be essential is the responsibility of a notified body chosen by the manufacturer except where the test suites are defined in the harmonized standards."

---

# 5 Preliminary assessment of TBRs

## 5.1 Technical phenomena for Article 3.2 essential requirements

ETSI Guide EG 201 399 [6] gives an exhaustive list of the current technical phenomena to be used as technical requirements in harmonized standards for RE to satisfy the essential requirements of the R&TTE Directive [1] Article 3.2. This list is repeated below in table 1, and has been used in the assessment of the TBRs to determine the classification of the equipment within their scope as either RE (which may also be TTE) to which Article 3.2 of the R&TTE Directive [1] applies or non-radio TTE to which Article 3.2 of the R&TTE Directive [1] does not apply.

Table 1: Technical Phenomena for RE under Article 3.2

Function	Technical Phenomena	Yes/No Maybe	Justification/Comments
Transmitting	Frequency error		
	Frequency stability		
	Designation of channels		
	Transmitter power		
	Adjacent channel power		
	Spurious emissions		
	Inter-modulation attenuation		
	Release time		
	Transient behavior of the transmitter		
	Modulation Accuracy		
Duty cycle			
Directional	Off-axis EIRP density		
	Antenna gain		
	Antenna X-polar discrimination		
	Antenna pointing accuracy/control		
Receiving	(Maximum usable) sensitivity (inc. duplex)		
	Co-channel rejection		
	Adjacent channel selectivity		
	Spurious response rejection (inc. duplex)		
	Inter-modulation response rejection		
	Blocking or desensitization (inc. duplex)		
	Spurious emissions		
Multi-path sensitivity			
Control and Monitoring	Enabling Signaling		
	Sharing Protocols		
	Network interface bit errors		
	Error control by coding and decoding of logical channels		
	Logical channel arrangement		
	Control of communication in logical channels		
	Correct interpretation of Network control information		
	Network interface addressing		
	Control of basic link communication		
	Control of random access		
	Control of radio resource allocation		
	Monitoring functions for cell selection		
	Control functions for usage of cells		
	Control of group attach/detach		
	TX enable/disable control		
	TX Call set up control		
	Control of call maintenance		
	Control of call disconnect		
	Authentication control		
	Encryption control procedures		

## 5.2 TBR classifications under Directives

Table 2 shows the stated classification of the technical requirements in the TBRs under the TTE Directive [2], the Satellite Directive [3], the Codified Directive [4] and the possible classification under the R&TTE Directive [1].

The use of the word "Harmonized" in the Document column indicates that the TBR has been harmonized by the publication of a CTR announcement in the *Official Journal of the European Union* which remains valid.

For illustrative purposes only, a possible classification of the TBR contents under the R&TTE Directive [1] is also given. This possible classification is based only on the wording of the articles in the R&TTE Directive [1], compared with the wording of articles in the previous directives. It is not a specific assessment of the relevance of the technical requirements in a TBR under the R&TTE Directive [1].

NOTE: Classifications under Article 3.3 of the R&TTE Directive [1], would only be valid following a Commission decision relevant to the equipment; at the time of writing this report, the Commission have not published any decisions to apply any of the requirements under Article 3.3.

Table 2: TBR Classifications

TBR Number	TC/EP	Short title	TTE Directive [2]	Satellite Directive [3]	Codified Directive [4]	Possible R&TTE Directive [1]	Comments	
1	DTA	Attachment requirements for terminal equipment to be connected to circuit switched data networks and leased circuits using a CCITT Recommendation X.21 interface, or at an interface physically, functionally and electrically compatible with CCITT Recommendation X.21 but operating at any data signaling rate up to, and including, 1 984 kbit/s	4(d)		5(d)	3.3(b)	Technical requirements being combined with those of TBR 2 in EN 301 401	
2	DTA	Attachment requirements for Data Terminal Equipment (DTE) to connect to Packet Switched Public Data Networks (PSPDNs) for CCITT Recommendation X.25 interfaces at data signaling rates up to 1 920 kbit/s utilizing interfaces derived from CCITT Recommendations X.21 and X.21 bis	4(d) 4(f)		5(d) 5(f)	3.3(b) 3.3(a)	Technical requirements being combined with those of TBR 1 in EN 301 401	
3	DTA	Attachment requirements for terminal equipment to connect to an ISDN using ISDN basic access	4(d) 4(f)		5(d) 5(f)	3.3(b) 3.3(a)		
4	DTA	Attachment requirements for terminal equipment to connect to an ISDN using ISDN primary rate access	4(d) 4(f)		5(d) 5(f)	3.3(b) 3.3(a)		
5	GSM	Attachment requirements for Global System for Mobile communications (GSM) mobile stations access	4(d) 4(e) 4(f)		5(d) 5(e) 5(f)	3.3(b) 3.2 3.3(a)		
6	DECT	Digital European Cordless Telecommunications (DECT) General terminal attachment requirements	4(e)		5(e)	3.2		
7	ERM RP04	Enhanced Radio Message System (ERMES); Receiver requirements	4(d) 4(e) 4(f) 4(g)		5(d) 5(e) 5(f) 5(g)	3.3(b) 3.2 3.3(a) 3.3(a)		
8	DTA	Telephony 3,1 kHz teleservice; Attachment requirements for handset terminals	4(g)		5(g)	3.3(a)		
9	GSM	Attachment requirements for Global System for Mobile communications (GSM) mobile stations; Telephony	4(g)		5(g)	3.3(a)		
10	DECT	General terminal attachment requirements (DECT); Telephony applications	4(g)		5(g)	3.3(a)		
11	DECT	Attachment requirements for terminal equipment for Digital European Cordless Telecommunications (DECT) Public Access Profile (PAP) applications	4(d) 4(e) 4(f) 4(g)		5(d) 5(e) 5(f) 5(g)	3.3(b) 3.2 3.3(a) 3.3(a)		
12	DTA	Open Network Provision (ONP) technical requirements; 2 048 kbit/s digital unstructured leased line (D2048U) Attachment requirements for terminal equipment	4(d) 4(f)		5(d) 5(f)	3.3(b) 3.3(a)		
13	DTA	2 048 kbit/s digital structured leased lines (D2048S); Attachment requirements for terminal equipment interface	4(d) 4(f)		5(d) 5(f)	3.3(b) 3.3(a)		
14	DTA	64 kbit/s digital unrestricted leased line with octet integrity (D64U); Attachment requirements for terminal equipment interface	4(d) 4(f)		5(d) 5(f)	3.3(b) 3.3(a)		
15	ATA	Ordinary and Special quality voice bandwidth 2-wire analogue leased lines (A2O and A2S); Attachment requirements for terminal equipment interface	4(d) 4(f)		5(d) 5(f)	3.3(b) 3.3(a)		
16			Not issued					
17	ATA	Ordinary and Special quality voice	4(d)		5(d)	3.3(b)		



TBR Number	TC/EP	Short title	TTE Directive [2]	Satellite Directive [3]	Codified Directive [4]	Possible R&TTE Directive [1]	Comments	
		bandwidth 4-wire analogue leased lines (A4O and A4S); Attachment requirements for terminal equipment interface	4(f)		5(f)	3.3(a)		
18			Not issued					
19	GSM	Attachment requirements for Global System for Mobile communications (GSM) mobile stations; Access	4(d) 4(e) 4(f)		5(d) 5(e) 5(f)	3.3(b) 3.2 3.3(a) 3.3(c) 3.3(e)	Technical requirements being combined with those of TBR 31 in EN 301 419-1	
20	GSM	Attachment requirements for Global System for Mobile communications (GSM) mobile stations; Telephony	4(g)		5(g)	3.3(a)		
21	ATA	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) signaling	4(d) 4(f)		5(d) 5(f)	3.3(b) 3.3(a)		
22	DECT	Attachment requirements for terminal equipment for Digital Enhanced Cordless Telecommunications (DECT) Generic Access Profile (GAP) applications	4(d), 4(e), 4(f), 4(g)		5(d), 5(e), 5(f), 5(g)	3.3(b) 3.2, 3.3(a) 3.3(a)		
23	ERM-RP05	Terrestrial Flight Telecommunications System (TFTS); Technical requirements for TFTS	4(d) 4(e)		5(d) 5(e)	3.3(b) 3.2		
24	DTA	34 Mbit/s digital unstructured and structured leased lines (D34U and D34S); Attachment requirements for terminal equipment interface	4(d) 4(f)		5(d) 5(f)	3.3(b) 3.3(a)		
25	DTA	140 Mbit/s digital unstructured and structured leased lines (D140U and D140S); Attachment requirements for terminal equipment interface	4(d) 4(f)		5(d) 5(f)	3.3(b) 3.3(a)		
26	SES	Low data rate LMES operating in the 1,5/1,6 GHz frequency bands	4(e)	4.3	5(e) 17.3	3.2		
27	SES	Low data rate LMES operating in the 11/12/14 GHz frequency bands	4(e)	4.3	5(e) 17.3	3.2		
28	SES	VSAT Transmit-only, transmit/receive or receive-only satellite earth stations operating in the 11/12/14 GHz frequency bands	4(e)	4.3	5(e) 17.3	3.2		
29	SES	TVRO satellite earth station equipment	Not issued (Note 1)					
30	SES	SNG TES operating in the 11-12/13-14 GHz frequency bands	4(e)	4.3	5(e) 17.3	3.2		
31	GSM	Attachment requirements for mobile stations in the DCS 1 800 band and additional GSM 900 band; Access	4(d) 4(e) 4(f)		5(d) 5(e) 5(f)	3.3(b) 3.2 3.3(a) 3.3(c) 3.3(e)	Technical requirements being combined with those of TBR 19 in EN 301 419	
32	GSM	Attachment requirements for mobile stations in the DCS 1 800 band and additional GSM 900 band; Telephony	4(g)		5(g)	3.3(a)		
33	SPAN	Attachment requirements for packet mode terminal equipment to connect to an ISDN using ISDN basic access	4(d) 4(f)		5(d) 5(f)	3.3(b) 3.3(a)		

TBR Number	TC/EP	Short title	TTE Directive [2]	Satellite Directive [3]	Codified Directive [4]	Possible R&TTE Directive [1]	Comments
34	SPAN	Attachment requirements for packet mode terminal equipment to connect to an ISDN using ISDN primary rate access	4(d) 4(f)		5(d) 5(f)	3.3(b) 3.3(a)	
35	TETRA	TETRA Emergency Services	4(e)		5(e)	3.2 3.3(e)	Being replaced by EN 301 435-1/2
36	DECT	DECT access to GSM Public Land Mobile Network (PLMN) for 3,1 kHz speech applications	4(d), 4(e), 4(f), 4(g)		5(d), 5(e), 5(f), 5(g)	3.3(b) 3.2, 3.3(a) 3.3(a)	
37	ATA	Attachment requirements for pan-European approval for connection to the analogue Public Switched Telephone Networks (PSTNs) of TE supporting the voice telephony service in which network addressing, if provided, is by means of Dual Tone Multi Frequency (DTMF) signaling	4(d) 4(f)		5(d) 5(f)	3.3(a) 3.3(b)	Replaced by EN 301 437 (notreferenced in OJ) ("I-CTR37" refers to TBR 21)
38	ATA	Attachment requirements for a terminal equipment incorporating an analogue handset function capable of supporting the justified case service when connected to the analogue interface of the PSTN in Europe	4(g)		5(g)	3.3(a)	
39	DECT	Attachment requirements for DECT/GSM dual-mode terminal equipment			5(d) 5(e) 5(f) 5(g)	3.3(b) 3.2 3.3(a) 3.3(a)	Replaced by EN 301 439 (harmonized) See note 2.
40	DECT	Attachment requirements for terminal equipment for DECT/ISDN inter-working profile applications			5(e) 5(f) 5(g)	3.2 3.3(a) 3.3(a)	Replaced by EN 301 440 (harmonized) See note 2.
41	SES	MES including handheld earth stations, for S-PCN in the 1,6/2,4 GHz bands under the MSS; Terminal essential requirements	4(e)	4.3	5(e) 17.3	3.2	
42	SES	MES including handheld earth stations, for S-PCN in the 2,0 GHz bands under the MSS; Terminal essential requirements	4(e)	4.3	5(e) 17.3	3.2	
43	SES	VSAT transmit-only, transmit-and-receive, receive-only satellite earth stations operating in the 4 GHz and 6 GHz frequency bands	4(e)	4.3	5(e) 17.3	3.2	
44	SES	LMES operating in the 1,5 GHz and 1,6 GHz bands providing voice and/or data communications	4(e)	4.3	5(e) 17.3	3.2	

NOTE 1: TVRO equipment is to be covered by an EN produced by CENELEC under the EMC Directive [7].

NOTE 2: These ENs refer to Article 4 of the Codified Directive [4] whereas it should be Article 5 as stated in this table.

## 6 Detailed Analysis of TBRs

### 6.1 Introduction

This analysis looks at each TBR and classifies it as applying to either RE (which may also be TTE) or to non-radio TTE. They are then classified by the responsible Technical Committee/ETSI Project.

Each radio equipment TBR is scanned according to the contents of table 1.

NOTE 1: This is not an assessment of whether or not the technical phenomena in the TBR are essential, or sufficient, under the R&TTE Directive [1] as this together with the definition of which test suites for these technical phenomena are essential under Annex III of the R&TTE Directive [1] is the responsibility of the appropriate Technical Body.

Non-radio TTE TBRs are not scanned according to the contents of table 1 due to the fact that they cannot have Article 3.2 requirements under the R&TTE Directive [1].

NOTE 2: At this point in time for non-radio TTE as there are no essential requirements under Article 3.3, only the essential requirements of Articles 3.1(a) and 3.1(b) are applicable.

## 6.2 Radio Equipment TBRs

### 6.2.1 TBRs under the responsibility of EP DECT

#### 6.2.1.1 TBR 6

Digital European Cordless Telecommunications (DECT) General terminal attachment requirements
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The result of the scan of TBR 6 with the technical phenomena of table 1 is given in table 3.

According to the ETSI Project/ Technical Committee Chairman assessment, this TBR is still relevant under the R&TTE Directive [1] and has very high urgency.

This table proposes the technical phenomena that could be applicable under the R&TTE Directive [1] and constitutes a proposed technical list of content for a Candidate Harmonized Standard.

NOTE: There may be other technical phenomena in ETS 300 175-2 which are currently applied to DECT equipment.

Table 3: TBR 6 Assessment of technical phenomena under Article 3.2

Function	Technical Phenomena	Yes/No Maybe	Justification/Comments
Transmitting	Frequency error	Yes	
	Frequency stability	Yes	
	Designation of channels	No	
	Transmitter power	Yes	PP and RFP with integral antenna; PP and RFP with an external antenna connector
	Adjacent channel power	Yes	Efficient use of radio spectrum
	Spurious emissions	Yes	when allocated a transmit channel
	Inter-modulation attenuation	Yes	emissions due to inter modulation
	Release time	Yes	transmission burst
	Transient behavior of the transmitter	Yes	Reference timing accuracy; measurement of packet timing accuracy; timing jitter; transmission burst
	Modulation Accuracy	Yes	emissions due to transmitter transients; emission due to modulation
Duty cycle	No		
Directional	Off-axis EIRP density	No	
	Antenna gain	Yes	(Annex H)
	Antenna X-polar discrimination	No	
	Antenna pointing accuracy/control	No	
Receiving	(Maximum usable) sensitivity (inc. duplex)	Yes	radio receiver sensitivity but not radio receiver bit error ratio
	Co-channel rejection	Yes	Radio receiver interference performance
	Adjacent channel selectivity	Yes	Radio receiver interference performance
	Spurious response rejection (inc. duplex)	Yes	(Included in Blocking Tests)
	Inter-modulation response rejection	Yes	receiver inter-modulation performance
	Blocking or desensitization (inc. duplex)	Yes	Radio receiver blocking cases 1 and 2.
	Spurious emissions	Yes	when the radio end point has no allocated transmit channel
	Multi-path sensitivity	No	
Control and Monitoring	Enabling Signaling	Yes	Synchronization
	Sharing Protocols	No	
	Network interface bit errors	No	
	Error control by coding and decoding of logical channels	Yes	(Annex D)
	Logical channel arrangement	Yes	(Annex D)
	Control of communication in logical channels	Yes	(Annex D)
	Correct interpretation of Network control information	No	
	Network interface addressing	No	
	Control of basic link communication	Yes	(Annex D)
	Control of random access	Yes	(Annex D)
	Control of radio resource allocation	Yes	(Annex D)
	Monitoring functions for cell selection	No	
	Control functions for usage of cells	No	
	Control of group attach/detach	No	
	TX enable/disable control	Yes	(Annex D)
	TX Call set up control	Yes	(Annex D)
	Control of call maintenance	No	
	Control of call disconnect	No	
	Authentication control	Yes	
	Encryption control procedures	No	

## 6.2.1.2 TBR 10

General terminal attachment requirements (DECT); Telephony applications
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This TBR deals only with speech transmission quality and as such does not contain technical phenomena under Article 3.2.

According to the ETSI Project/ Technical Committee Chairman assessment, this TBR is still relevant under the R&TTE Directive [1] and has very high urgency.

According to the Commission Services, this TBR is not considered to be relevant under the R&TTE Directive [1] and will not be cited in the OJEC under the R&TTE Directive [1].

NOTE: The extract dealing with acoustic shock may need to be revisited if ETSI decide to produce an acoustic shock EN.

### 6.2.1.3 TBR 11

Attachment requirements for terminal equipment for Digital European Cordless Telecommunications (DECT) Public Access Profile (PAP) applications

According to the ETSI Project/ Technical Committee Chairman assessment, this TBR is not relevant under the R&TTE Directive [1].

According to the Commission Services, this TBR is not considered to be relevant under the R&TTE Directive [1] and will not be cited in the OJEC under the R&TTE Directive [1].

### 6.2.1.4 TBR 22

Attachment requirements for terminal equipment for Digital Enhanced Cordless Telecommunications (DECT) Generic Access Profile (GAP) applications

The result of the scan of TBR 22 with the technical phenomena of table 1 is given in table 4.

According to the ETSI Project/ Technical Committee Chairman assessment, this TBR is still relevant under the R&TTE Directive [1] and has very high urgency.

According to the Commission Services, this TBR is not considered to be relevant under the R&TTE Directive [1] and will not be cited in the OJEC under the R&TTE Directive [1].

NOTE: TBR 22 is only to be used together with TBR 6 (table 3 and table 4 together).

**Table 4: TBR 22 Assessment of technical phenomena under Article 3.2**

Function	Technical Phenomena	Yes/No Maybe	Justification/Comments
Transmitting	Frequency error	No	
	Frequency stability	No	
	Designation of channels	No	
	Transmitter power	Yes	
	Adjacent channel power	No	
	Spurious emissions	No	
	Inter-modulation attenuation	No	
	Release time	No	
	Transient behavior of the transmitter	No	
	Modulation Accuracy	No	
	Duty cycle	No	
Directional	Off-axis EIRP density	No	
	Antenna gain	No	
	Antenna X-polar discrimination	No	
	Antenna pointing accuracy/control	No	
Receiving	(Maximum usable) sensitivity (inc. duplex)	Yes	
	Co-channel rejection	No	
	Adjacent channel selectivity	No	
	Spurious response rejection (inc. duplex)	No	
	Inter-modulation response rejection	No	
	Blocking or desensitization (inc. duplex)	No	
	Spurious emissions	No	
Control and Monitoring	Multi-path sensitivity	No	
	Enabling Signaling	Yes	
	Sharing Protocols	No	
	Network interface bit errors	No	
	Error control by coding and decoding of logical channels	No	
	Logical channel arrangement	Yes	
	Control of communication in logical channels	Yes	
	Correct interpretation of Network control information	Yes	
	Network interface addressing	Yes	
	Control of basic link communication	Yes	
	Control of random access	Maybe	
	Control of radio resource allocation	Yes	
	Monitoring functions for cell selection	Yes	
	Control functions for usage of cells	Yes	
	Control of group attach/detach	No	
	TX enable/disable control	Yes	
	TX Call set up control	Yes	
	Control of call maintenance	Yes	
	Control of call disconnect	Yes	
	Authentication control	Yes	
	Encryption control procedures	Yes	

### 6.2.1.5 TBR 36

DECT access to GSM Public Land Mobile Network (PLMN) for 3,1 kHz speech applications

There does not seem to be additional technical phenomena under TBR 36 not already covered by TBR 22 and TBR 6. It appears that TBR 36 and TBR 22 could be merged in a single candidate harmonized standard.

According to the ETSI Project/ Technical Committee Chairman assessment, this TBR is still relevant under the R&TTE Directive [1] but has low urgency.

According to the Commission Services, this TBR is not considered to be relevant under the R&TTE Directive [1] and will not be cited in the OJEC under the R&TTE Directive [1].

NOTE: The extract dealing with acoustic shock may need to be revisited if ETSI decide to produce an acoustic shock EN.

#### 6.2.1.6 TBR 39 (EN 301 439)

Attachment requirements for DECT/GSM dual-mode terminal equipment
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This TBR covers requirements for DECT/GSM dual mode terminals which are beyond the basic requirements for DECT and GSM. (because of different requirements on in-band emissions levels from DECT-to-GSM and vice versa).

The result of the scan of TBR 39 with the technical phenomena of table 1 is given in table 5.

This table proposes the technical phenomena that could be applicable under the R&TTE Directive [1] and constitutes a proposed technical list of content for a Candidate Harmonized Standard.

Table 5: TBR 39 Assessment of technical phenomena under Article 3.2

Function	Technical Phenomena	Yes/No Maybe	Justification/Comments
Transmitting	Frequency error		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Frequency stability		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Designation of channels		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Transmitter power		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Adjacent channel power		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Spurious emissions		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Inter-modulation attenuation		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Release time		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Transient behavior of the transmitter		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Modulation Accuracy		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Duty cycle		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
Directional	Off-axis EIRP density	No	
	Antenna gain		Same as in TBR 06 in DECT mode
	Antenna X-polar discrimination	No	
	Antenna pointing accuracy/control	No	
Receiving	(Maximum usable) sensitivity (inc. duplex)		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode; parallel operation (both DECT and GSM) in idle mode only; parallel operation reception of GSM while in DECT transmit mode; parallel operation reception of DECT while in GSM transmit mode.
	Co-channel rejection		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Adjacent channel selectivity		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Spurious response rejection (inc. duplex)		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Inter-modulation response rejection		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Blocking or desensitization (inc. duplex)		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode; selection of DECT mode when no GSM SIM card inserted; Dual Mode Terminal performs background scanning for GSM when registered and idle in DECT mode; Dual Mode Terminal performs background scanning for DECT when registered and idle in GSM mode; Dual Mode Terminal performs background scanning for DECT when in active GSM communication mode; Dual Mode Terminal performs background scanning for GSM when in active DECT communication mode
	Spurious emissions		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Multi-path sensitivity		DMT behaves as out of coverage in one mode while in active communication in the other



Function	Technical Phenomena	Yes/No Maybe	Justification/Comments
Control and Monitoring	Enabling Signaling		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode; mode switch involves switch off/switch on procedures; modes re-selection supported; mode can be changed at any time when not in active communication while using Manually Switched Operation
	Sharing Protocols		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Network interface bit errors		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Error control by coding and decoding of logical channels		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Logical channel arrangement		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Control of communication in logical channels		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Correct interpretation of Network control information		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Network interface addressing		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Control of basic link communication		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Control of random access		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Control of radio resource allocation		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Monitoring functions for cell selection		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Control functions for usage of cells		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Control of group attach/detach		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	TX enable/disable control		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	TX Call set up control		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Control of call maintenance		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Control of call disconnect		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Authentication control		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode
	Encryption control procedures		Same as TBRs 19 and 31 in GSM mode and TBR 06 in DECT mode

NOTE: Not all mandatory requirements of TBR 39 are not considered essential under the R&TTE Directive; for example the display of in which mode the Dual Mode terminal DMT is in is not an essential technical requirement.

### 6.2.1.7 TBR 40

Attachment requirements for terminal equipment for DECT/ISDN inter-working profile applications

This TBR does not introduce additional technical phenomena besides those covered by the DECT TBRs and the ISDN (basic rate or primary rate access) TBRs; this TBR is a good candidate for a voluntary EN that suppliers should follow to insure inter-working of their portable part (PP) with any fixed part (FP).

According to the ETSI Project/Technical Committee Chairman assessment, this TBR is still relevant under the R&TTE Directive [1] but has low urgency.

According to the Commission Services, this TBR is not considered to be relevant under the R&TTE Directive [1] and will not be cited in the OJEC under the R&TTE Directive [1].

## 6.2.2 TBRs under the responsibility of TC/ERM

### 6.2.2.1 TBR 7

Enhanced Radio Message System (ERMES);  
Receiver requirements

According to the Commission Services, this TBR is not considered to be relevant under the R&TTE Directive [1], will not be cited in the OJEC under the R&TTE Directive [1] and is considered to be obsolete.

According to the ETSI Project/ Technical Committee Chairman assessment, this TBR is not relevant under the R&TTE Directive [1].

### 6.2.2.2 TBR 23

Terrestrial Flight Telecommunications System  
(TFTS); Technical requirements for TFTS

The result of the scan of TBR 23 with the technical phenomena of table 1 is given in table 6.

This table proposes the technical phenomena that could be applicable under the R&TTE Directive [1] and constitutes a proposed technical list of content for a Candidate Harmonized Standard.

NOTE: There may be other technical phenomena in ETS 300 326-2 which are currently applied to TFTS equipment.

**Table 6: TBR 23 Assessment of technical phenomena under Article 3.2**

Function	Technical Phenomena	Yes/No Maybe	Justification/Comments
Transmitting	Frequency error	Yes	
	Frequency stability	Yes	
	Designation of channels	No	
	Transmitter power	Yes	
	Adjacent channel power	Yes	
	Spurious emissions	Yes	
	Inter-modulation attenuation	No	
	Release time	Yes	
	Transient behavior of the transmitter	Yes	
	Modulation Accuracy	No	
Directional	Duty cycle	No	
	Off-axis EIRP density	No	
	Antenna gain	No	
	Antenna X-polar discrimination	No	
Receiving	Antenna pointing accuracy/control	No	
	(Maximum usable) sensitivity (inc. duplex)	No	
	Co-channel rejection	No	
	Adjacent channel selectivity	No	
	Spurious response rejection (inc. duplex)	No	
	Inter-modulation response rejection	No	
	Blocking or desensitization (inc. duplex)	No	
	Spurious emissions	No	
Control and Monitoring	Multi-path sensitivity	No	
	Enabling Signaling	Yes	
	Sharing Protocols	No	
	Network interface bit errors	No	
	Error control by coding and decoding of logical channels	Yes	
	Logical channel arrangement	No	
	Control of communication in logical channels	No	
	Correct interpretation of Network control information	Yes	
	Network interface addressing	No	
	Control of basic link communication	No	
	Control of random access	No	
	Control of radio resource allocation	No	
	Monitoring functions for cell selection	No	
	Control functions for usage of cells	No	
	Control of group attach/detach	No	
	TX enable/disable control	No	
	TX Call set up control	No	
	Control of call maintenance	No	
	Control of call disconnect	Yes	
	Authentication control	No	
Encryption control procedures	No		

## 6.2.3 TBRs under the responsibility of EP GSM

### 6.2.3.1 TBR 5

Attachment requirements for Global System for Mobile communications (GSM) mobile stations access

The CTR associated with this TBR expired on 24/10/1998.

### 6.2.3.2 TBR 9

Attachment requirements for Global System for Mobile communications (GSM) mobile stations; Telephony

This GSM TBR deals with justified case of telephony under Article 4(g) of the TTE Directive [2] which is not considered essential requirements under article 3.2 of the R&TTE Directive [1].

According to the ETSI Project/ Technical Committee Chairman assessment, this TBR is not relevant under the R&TTE Directive [1].

According to the Commission Services, this TBR is not considered to be relevant under the R&TTE Directive [1] and will not be cited in the OJEC under the R&TTE Directive [1].

NOTE: The extract dealing with acoustic shock may need to be revisited if ETSI decide to produce an acoustic shock EN.

### 6.2.3.3 TBR 19

Attachment requirements for Global System for Mobile communications (GSM); Part 1: Mobile stations in the GSM 900 and DCS 1 800 bands; Access (GSM 13.01 version 4.0.0)

TBR19 is being amalgamated with TBR 31 under EN 301 419-1 and has just been TC approved for OAP. These documents refer out to technical requirements in other specifications. At the time of producing this report TS 101 419 V4.0.0 (1998-10) (GSM 13.01-1 version 4.0.0) is the current specification for GSM Phase 2. The following table 7 is the result of scanning TS 101 419 V4.0.0 (1998-10) with the content of table 1.

This table proposes the technical phenomena that could be applicable under the R&TTE Directive [1] and constitutes a proposed technical list of content for a Candidate Harmonized Standard.

NOTE: There may be other technical phenomena in ETS 300 607-1, ETS 300 577, ETS 300 910, I-ETS 300 020-3, TS 100 607-1, TS 101 431, GSM 05.05 and GSM 11.10 which are currently applied to GSM equipment.

Table 7: TBR 19 Assessment of technical phenomena under Article 3.2

Function	Technical Phenomena	Yes/No Maybe	Justification/Comments
Transmitting	Frequency error	Yes	Also phase error. Note 1
	Frequency stability	Yes	Including in multi path and interference environment. Note 2
	Designation of channels	No	
	Transmitter power	Yes	with integral antenna or with permanent antenna connector. Note 3
	Adjacent channel power	Yes	Output RF spectrum. Note 4
	Spurious emissions	Yes	Conducted/Radiated- MS allocated a channel; MS in idle mode. Note 5
	Inter-modulation attenuation	Yes	
	Release time	No	
	Transient behavior of the transmitter	Yes	Burst timing; transmit power control timing and confirmation in single slot configuration; timing advance and absolute delay. Note 6
	Modulation Accuracy	No	
Duty cycle	No		
Directional	Off-axis EIRP density	No	
	Antenna gain	No	
	Antenna X-polar discrimination	No	
	Antenna pointing accuracy/control	No	
Receiving	(Maximum usable) sensitivity (inc. duplex)	Yes	Reference sensitivity; received signal measurements, signal strength; signal strength selectivity; signal quality under static conditions-TCH/FS; TCH/HS; under T50 propagation conditions. Note 7
	Co-channel rejection	Yes	speech channel; data channel; control channels. Note 8
	Adjacent channel selectivity	Yes	Adjacent channel rejection; speech channel rejection; control channel rejection. Note 9.
	Spurious response rejection (inc. duplex)	No	
	Inter-modulation response rejection	No	Note 10
	Blocking or desensitization (inc. duplex)	Yes	Temporary reception gaps. Note 11.
	Spurious emissions	Yes	Note 12
Control and Monitoring	Multi-path sensitivity		
	Enabling Signaling	Yes	Reception time tracking speed; access time during handover intra cell channel change; inter-cell handover. Note 13.
	Sharing Protocols	No	
	Network interface bit errors	Yes	Test of link failure; normal information transfer; tests of frame transmission errors.
	Error control by coding and decoding of logical channels	No	Layer 2 initialization when contention resolution required, normal initialization; initialization failure, loss of UA/UA with different information field; initialization denial; total initialization failure; normal layer 2 disconnection.
	Logical channel arrangement	Yes	Note 14
	Control of communication in logical channels	Yes	Channel release SDDH after unrecoverable errors. Note 15
	Correct interpretation of Network control information	No	
	Network interface addressing	No	
	Control of basic link communication	No	
	Control of random access	No	
	Control of radio resource allocation	Maybe	Updating of 6 strongest neighbour carriers and decoding BCCH info of a new carrier on the list. Note 16

Function	Technical Phenomena	Yes/No Maybe	Justification/Comments
Control and Monitoring (continued)	Monitoring functions for cell selection	Maybe	Cell selection; cell selection with varying signal strength values; basic cell reselection; cell reselection timings; cell reselection using parameters; Running average of surrounding cell BCCH carrier signal levels; Decoding the BCCH information of the neighbour carriers on the list of six strongest neighbour carriers; Decoding the BSIC of the neighbour carriers on the list of six strongest neighbour carriers. Note 17
	Control functions for usage of cells	Maybe	Priority of cells; cell reselection when C1<0 for 5 secs; cell reselection due to MS rejection; roaming not allowed in this LA. Note 17.
	Control of group attach/detach	No	
	TX enable/disable control	No	
	TX Call set up control	Yes	Initial layer 3 tests;
	Control of call maintenance	Yes	Down-link signaling failure. Note 18
	Control of call disconnect	Maybe	Note 19.
	Authentication control	No	General identification
	Encryption control procedures	No	Change of mode, algorithm and key
<p>NOTE 1: Reference 13.1 of 13.01 specification.  NOTE 2: Reference 13.2 of 13.01 specification.  NOTE 3: Reference 13.3 of 13.01 specification.  NOTE 4: Reference 13.4 of 13.01 specification.  NOTE 5: Reference 12.1.1/12.1.2/12.2.1/12.2.2 of 13.01 specification.  NOTE 6: Reference 15/22.1 of 13.01 specification.  NOTE 7: Reference 14.2.1/14.2.2/14.2.3/14.3/21.1/21.2/21.3.1/21.3.2/21.4 of 13.01 specification.  NOTE 8: Reference 14.4.1/14.4.2/14.4.4/14.4.5 of 13.01 specification.  NOTE 9: Reference 14.5.1/14.5.2 of 13.01 specification.  NOTE 10: Reference 14.6.1/14.6.2 of 13.01 specification.  NOTE 11: Reference 14.7.1/18.1 of 13.01 specification.  NOTE 12: Reference 14.7.1 of 13.01 specification.  NOTE 13: Reference 16/17.1/2 of 13.01 specification.  NOTE 14: Reference 26.6.6.1/26.10.2.5 of 13.01 specification.  NOTE 15: Reference 19.1/2/3 of 13.01 specification.  NOTE 16: Reference 20.11 of 13.01 specification.  NOTE 17: Reference 20. of 13.01 specification.  NOTE 18: Reference 20.16 of 13.01 specification.  NOTE 19: Reference 26.6.12.1/26.6.12.2 of 13.01 specification.</p>			

NOTE 1: TBR 19 also contains technical requirements for handover signalling, SMS and SIM card testing which are not considered essential requirements under article 3.2 of the R&TTE Directive [1].

NOTE 2: Handover signalling and SMS technical phenomena could be candidate to requirements under Article 3.3 of the R&TTE Directive [1].

#### 6.2.3.4 TBR 20

Attachment requirements for Global System for Mobile communications (GSM) mobile stations; Telephony

This TBR deals with justified case of telephony under Article 4(g) of the TTE Directive [2] which is not considered essential requirements under article 3.2 of the R&TTE Directive [1].

According to the Commission Services, this TBR is not considered to be relevant under the R&TTE Directive [1] and will not be cited in the OJEC under the R&TTE Directive [1].

NOTE: The extract dealing with acoustic shock may need to be revisited if ETSI decide to produce an acoustic shock EN.

### 6.2.3.5 TBR 31

Attachment requirements for mobile stations in the DCS 1 800 band and additional GSM 900 band; Access
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This TBR refers to TBR 19 for GSM 900 band and presents the same list of technical phenomena as TBR 19 for another frequency band (1 800 MHz). It is suggested that the two TBRS could be merged into one CHS. Table 8 is the result of the scan of TBR 31/TS 101 431 with the content of table 1.

Table 8: TBR 31 Assessment of technical phenomena under Article 3.2

Function	Technical Phenomena	Yes/No Maybe	Justification/Comments
Transmitting	Frequency error	Yes	Also phase error. Note 1
	Frequency stability	Yes	Including in multi path and interference environment. Note 2
	Designation of channels	No	
	Transmitter power	Yes	with integral antenna or with permanent antenna connector. Note 3
	Adjacent channel power	Yes	Output RF spectrum. Note 4
	Spurious emissions	Yes	Conducted/Radiated- MS allocated a channel; MS in idle mode. Note 5
	Inter-modulation attenuation	Yes	
	Release time	No	
	Transient behavior of the transmitter	Yes	Burst timing; transmit power control timing and confirmation in single slot configuration. Note 6
	Modulation Accuracy	No	
	Duty cycle	No	
Directional	Off-axis EIRP density	No	
	Antenna gain	No	
	Antenna X-polar discrimination	No	
	Antenna pointing accuracy/control	No	
Receiving	(Maximum usable) sensitivity (inc. duplex)	Yes	Usable receiver input level range Reference sensitivity - TCH/FS, FACCH/F; usable receiver input level range; received signal measurements: signal strength/DCS procedure/multiband procedure; signal strength selectivity; signal quality under static conditions; TCH/FS - TCH/HS; under T50 signal propagation. Note 7
	Co-channel rejection	Yes	TCH/FS; FACCH/Fnote 8
	Adjacent channel selectivity	Yes	Adjacent speech channel; data channel; control channels. Note 9
	Spurious response rejection (inc. duplex)	No	
	Inter-modulation response rejection	No	speech channels; control channels. Note 10
	Blocking or desensitization (inc. duplex)	Yes	Timing advance and absolute delay; temporary reception gaps. Note 11
	Spurious emissions	Yes	Note 12
	Multi-path sensitivity	No	
Control and Monitoring	Enabling Signaling	Yes	Reception time tracking speed; access time during handover intra cell channel change; inter-cell handover. Note 13
	Sharing Protocols	Yes	
	Network interface bit errors	Yes	Test of link failure; normal information transfer; tests of frame transmission errors
	Error control by coding and decoding of logical channels	Yes	Layer 2 initialization when contention resolution required/not required; normal initialization; initialization failure, loss of UA/UA with different information field; initialization denial; total initialization failure; normal layer 2 disconnection
	Logical channel arrangement	Yes	Note 14
	Control of communication in logical channels	Yes	Note 15
	Correct interpretation of Network control information	No	
	Network interface addressing	No	
	Control of basic link communication	No	
	Control of random access	No	
	Control of radio resource allocation	Maybe	Updating of 6 strongest neighbor carriers and decoding BCCH info of a new carrier on the list. Note 16



Function	Technical Phenomena	Yes/No Maybe	Justification/Comments
	Monitoring functions for cell selection	Maybe	Cell selection; cell selection with varying signal strength values; basic cell reselection; cell reselection timings; running average of surrounding cell BCCH carrier signal levels; of serving cell BCCH carrier signal level; updating list of 6 strongest neighbour carriers. Note 17
	Control functions for usage of cells	Maybe	Priority of cells; cell selection when C1 < 0 for 5 sec; cell reselection due to MS rejection; roaming not allowed in this LA. Note 17
	Control of group attach/detach	No	
	TX enable/disable control	Yes	
	TX Call set up control	Yes	Initial layer 3 tests;
	Control of call maintenance	Yes	Down-link signaling failure. Note 18
	Control of call disconnect	Maybe	Note 19
	Authentication control	No	General identification
	Encryption control procedures	No	Change of mode, algorithm and key
<p>NOTE 1: Reference 13.1 of 13.01 specification.  NOTE 2: Reference 13.2 of 13.01 specification.  NOTE 3: Reference 13.3 of 13.01 specification.  NOTE 4: Reference 13.4 of 13.01 specification.  NOTE 5: Reference 12.1.1/12.1.2/12.2.1/12.2.2 of 13.01 specification.  NOTE 6: Reference 15/22.1 of 13.01 specification.  NOTE 7: Reference 14.2.1/14.2.2/14.2.3/14.3/21.1/21.2/21.3.1/21.3.2/21.4 of 13.01 specification.  NOTE 8: Reference 14.4.1/14.4.2/14.4.4/14.4.5 of 13.01 specification.  NOTE 9: Reference 14.5.1/14.5.2 of 13.01 specification.  NOTE 10: Reference 14.6.1/14.6.2 of 13.01 specification.  NOTE 11: Reference 14.7.1/18.1 of 13.01 specification.  NOTE 12: Reference 14.7.1 of 13.01 specification.  NOTE 13: Reference 16/17.1/2 of 13.01 specification.  NOTE 14: Reference 26.6.6.1/26.10.2.5 of 13.01 specification.  NOTE 15: Reference 19.1/2/3 of 13.01 specification.  NOTE 16: Reference 20.11 of 13.01 specification.  NOTE 17: Reference 20. of 13.01 specification.  NOTE 18: Reference 20.16 of 13.01 specification.  NOTE 19: Reference 26.6.12.1/26.6.12.2 of 13.01 specification.</p>			

### 6.2.3.6 TBR 32

Attachment requirements for mobile stations in the DCS 1 800 band and additional GSM 900 band; Telephony

This TBR deals with justified case of telephony under Article 4(g) of the TTE Directive [2] which is not considered essential requirements under article 3.2 of the R&TTE Directive [1].

According to the Commission Services, this TBR is not considered to be relevant under the R&TTE Directive [1] and will not be cited in the OJEC under the R&TTE Directive [1].

NOTE: The extract dealing with acoustic shock may need to be revisited if ETSI decide to produce an acoustic shock EN.

### 6.2.4 TBRs under the responsibility of TC/SES

#### 6.2.4.1 TBR 26

Low data rate LMES operating in the 1,5/1,6 GHz frequency bands

NOTE: This TBR contains in the foreword important dates concerning the limit dates of application of requirements to limit interference with GNSS; some parameter values are valid until 01/2 002 while others are applicable after 01/2 002 (which is past the date of enforcement of the R&TTE Directive [1]). Some dates go as far as 2 005.

The result of the scan of TBR 26 with the technical phenomena of table 1 is given in table 9.

This table proposes the technical phenomena to be kept under the R&TTE Directive [1] and constitutes a proposed technical list of content for a Candidate Harmonized Standard.

**Table 9: TBR 26 Assessment of technical phenomena under Article 3.2**

Function	Technical Phenomena	Yes/No/ Maybe	Justification/Comments
Transmitting	Frequency error	No	
	Frequency stability	No	
	Designation of channels	No	
	Transmitter power	No	Possibly outside TBR requirements of users (Inmarsat)
	Adjacent channel power	No	
	Spurious emissions	Yes	
	Inter-modulation attenuation	No	
	Release time	No	
	Transient behavior of the transmitter	Yes	Initial transmission burst
	Modulation Accuracy	No	
	Duty cycle	No	
Directional	Off-axis EIRP density	No	
	Antenna gain	No	
	Antenna X-polar discrimination	No	
	Antenna pointing accuracy/control	No	
Receiving	(Maximum usable) sensitivity (inc. duplex)	No	
	Co-channel rejection	No	
	Adjacent channel selectivity	No	
	Spurious response rejection (inc. duplex)	No	
	Inter-modulation response rejection	No	
	Blocking or desensitization (inc. duplex)	No	
	Spurious emissions	Yes	
	Multi-path sensitivity	No	
Control and Monitoring	Enabling Signaling	Maybe	
	Sharing Protocols	No	
	Network interface bit errors	No	
	Error control by coding and decoding of logical channels	No	
	Logical channel arrangement	No	
	Control of communication in logical channels	No	
	Correct interpretation of Network control information	Yes	Control channel reception; network control commands
	Network interface addressing	No	
	Control of basic link communication	Yes	
	Control of random access	No	
	Control of radio resource allocation	Yes	
	Monitoring functions for cell selection	No	
	Control functions for usage of cells	No	
	Control of group attach/detach	No	
	TX enable/disable control	Yes	Processor monitoring; transmit subsystem monitoring; power-on/Reset.
	TX Call set up control	No	
	Control of call maintenance	No	
	Control of call disconnect	No	
Authentication control	No		
Encryption control procedures	No		

## 6.2.4.2 TBR 27

Low data rate LMES operating in the 11/12/14 GHz frequency bands

The result of the scan of TBR 27 with the technical phenomena of table 1 is given in table 10.

This table proposes the technical phenomena that could be applicable under the R&TTE Directive [1] and constitutes a proposed technical list of content for a Candidate Harmonized Standard.

**Table 10: TBR 27 Assessment of technical phenomena under Article 3.2**

Function	Technical Phenomena	Yes/No/Maybe	Justification/Comments
Transmitting	Frequency error	No	
	Frequency stability	No	
	Designation of channels	No	
	Transmitter power	No	Possibly outside TBR requirements of users (Inmarsat)
	Adjacent channel power	No	
	Spurious emissions	Yes	Both within the useful band and outside the useful band.
	Inter-modulation attenuation	No	
	Release time	No	
	Transient behavior of the transmitter	Yes	Initial transmission burst
	Modulation Accuracy	No	
Directional	Duty cycle	No	
	Off-axis EIRP density	Yes	
	Antenna gain	No	
	Antenna X-polar discrimination	No	
Receiving	Antenna pointing accuracy/control	No	
	(Maximum usable) sensitivity (inc. duplex)	No	
	Co-channel rejection	No	
	Adjacent channel selectivity	No	
	Spurious response rejection (inc. duplex)	No	
	Inter-modulation response rejection	No	
	Blocking or desensitization (inc. duplex)	No	
Control and Monitoring	Spurious emissions	Yes	
	Multi-path sensitivity	No	
	Enabling Signaling	Maybe	
	Sharing Protocols	No	
	Network interface bit errors	No	
	Error control by coding and decoding of logical channels	No	
	Logical channel arrangement	No	
	Control of communication in logical channels	No	
	Correct interpretation of Network control information	Yes	Control channel reception; network control commands
	Network interface addressing	No	
	Control of basic link communication	Yes	
	Control of random access	No	
	Control of radio resource allocation	Yes	
	Monitoring functions for cell selection	No	
	Control functions for usage of cells	No	
	Control of group attach/detach	No	
	TX enable/disable control	Yes	Processor monitoring; transmit subsystem monitoring; power-on/Reset.
TX Call set up control	No		
Control of call maintenance	No		
Control of call disconnect	No		
Authentication control	No		
Encryption control procedures	No		

### 6.2.4.3 TBR 28

VSAT Transmit-only, transmit/receive or receive-only satellite earth stations operating in the 11/12/14 GHz frequency bands
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The result of the scan of TBR 28 with the technical phenomena of table 1 is given in table 11.

This table proposes the technical phenomena that could be applicable under the R&TTE Directive [1] and constitutes a proposed technical list of content for a Candidate Harmonized Standard.

**Table 11: TBR 28 Assessment of technical phenomena under Article 3.2**

Function	Technical Phenomena	Yes/No/ Maybe	Justification/Comments
Transmitting	Frequency error	No	
	Frequency stability	No	
	Designation of channels	No	
	Transmitter power	No	
	Adjacent channel power	No	
	Spurious emissions	Yes	Off axis spurious emissions; on axis spurious emissions;
	Inter-modulation attenuation	No	
	Release time	No	
	Transient behavior of the transmitter	No	
	Modulation Accuracy	No	
Directional	Duty cycle	No	
	Off-axis EIRP density	Yes	Off-axis EIRP emission density (co-polar and cross-polar) within the 14,0 GHz to 14,5 GHz band
	Antenna gain	No	
	Antenna X-polar discrimination	Yes	Transmit polarization discrimination
	Antenna pointing accuracy/control	Yes	Mechanical (antenna pointing)
	(Maximum usable) sensitivity (inc. duplex)	No	
Receiving	Co-channel rejection	No	
	Adjacent channel selectivity	No	
	Spurious response rejection (inc. duplex)	No	
	Inter-modulation response rejection	No	
	Blocking or desensitization (inc. duplex)	Yes	Carrier suppression
	Spurious emissions	No	
	Multi-path sensitivity	No	
Control and Monitoring	Enabling Signaling	No	
	Sharing Protocols	No	
	Network interface bit errors	No	
	Error control by coding and decoding of logical channels	No	
	Logical channel arrangement	No	
	Control of communication in logical channels	No	
	Correct interpretation of Network control information	Yes	Control channels
	Network interface addressing	No	
	Control of basic link communication	No	
	Control of random access	No	
	Control of radio resource allocation	No	
	Monitoring functions for cell selection	No	
	Control functions for usage of cells	No	
	Control of group attach/detach	No	
	TX enable/disable control	Yes	Processor monitoring; transmit subsystem monitoring; power-on/Reset; reception of commands.
	TX Call set up control	No	
	Control of call maintenance	No	
	Control of call disconnect	No	
	Authentication control	Yes	VSAT transmission validation
	Encryption control procedures	No	

#### 6.2.4.4 TBR 30

SNG TES operating in the 11-12/13-14 GHz frequency bands

The result of the scan of TBR 30 with the technical phenomena of table 1 is given in table 12.

This table proposes the technical phenomena that could be applicable under the R&TTE Directive [1] and constitutes a proposed technical list of content for a Candidate Harmonized Standard.

**Table 12: TBR 30 Assessment of technical phenomena under Article 3.2**

Function	Technical Phenomena	Yes/No/ Maybe	Justification/Comments
Transmitting	Frequency error	No	
	Frequency stability	No	
	Designation of channels	No	
	Transmitter power	No	
	Adjacent channel power	No	
	Spurious emissions	Yes	Off axis spurious radiated emission; on axis spurious radiated emission
	Inter-modulation attenuation	No	
	Release time	No	
	Transient behavior of the transmitter	No	
	Modulation Accuracy	No	
	Duty cycle	No	
Directional	Off-axis EIRP density	Yes	Off-axis EIRP density
	Antenna gain	No	
	Antenna X-polar discrimination	Yes	Transmit antenna polarization discrimination
	Antenna pointing accuracy/control	Yes	Pointing accuracy and stability
Receiving	(Maximum usable) sensitivity (inc. duplex)	No	
	Co-channel rejection	No	
	Adjacent channel selectivity	No	
	Spurious response rejection (inc. duplex)	No	
	Inter-modulation response rejection	No	
	Blocking or desensitization (inc. duplex)	No	
	Spurious emissions	No	
	Multi-path sensitivity	No	
Control and Monitoring	Enabling Signaling	No	
	Sharing Protocols	No	
	Network interface bit errors	No	
	Error control by coding and decoding of logical channels	No	
	Logical channel arrangement	No	
	Control of communication in logical channels	No	
	Correct interpretation of Network control information	No	
	Network interface addressing	No	
	Control of basic link communication	No	
	Control of random access	No	
	Control of radio resource allocation	No	
	Monitoring functions for cell selection	No	
	Control functions for usage of cells	No	
	Control of group attach/detach	No	
	TX enable/disable control	No	
	TX Call set up control	No	
	Control of call maintenance	No	
	Control of call disconnect	No	
	Authentication control	No	
Encryption control procedures	No		

#### 6.2.4.5 TBR 41

MES including handheld earth stations, for S-PCN in the 1,6/2,4 GHz bands under the MSS; Terminal essential requirements
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The result of the scan of TBR 41 with the technical phenomena of table 1 is given in table 13.

This table proposes the technical phenomena that could be applicable under the R&TTE Directive [1] and constitutes a proposed technical list of content for a Candidate Harmonized Standard.

Table 13: TBR 41 Assessment of technical phenomena under Article 3.2

Function	Technical Phenomena	Yes/No/ Maybe	Justification/Comments
Transmitting	Frequency error	Yes	Transmit frequency generation subsystem monitoring Transmit frequency control
	Frequency stability	No	
	Designation of channels	No	
	Transmitter power	Yes	EIRP density within the operational band
	Adjacent channel power	Yes	Protection of the radio astronomy service operation in the band 1 610,6 to 1 613,8 MHz
	Spurious emissions	Yes	Unwanted emissions outside the band 1 610 to 1 626,5 MHz and the band 1 626,5 to 1 628,5 MHz (carrier-on) Unwanted emissions within the band 1 610 to 1 626,5 MHz and the band 1 626,5 to 1 628,5 MHz (carrier-on) Unwanted emissions in carrier-off state
	Inter-modulation attenuation	No	
	Release time	No	
	Transient behavior of the transmitter	No	
	Modulation Accuracy	No	
Directional	Duty cycle	No	
	Off-axis EIRP density	No	
	Antenna gain	No	
	Antenna X-polar discrimination	No	
Receiving	Antenna pointing accuracy/control	No	
	(Maximum usable) sensitivity (inc. duplex)	No	
	Co-channel rejection	No	
	Adjacent channel selectivity	No	
	Spurious response rejection (inc. duplex)	No	
	Inter-modulation response rejection	No	
	Blocking or desensitization (inc. duplex)	No	
	Spurious emissions	No	
Multi-path sensitivity	No		
Control and Monitoring	Enabling Signaling	Yes	Network control authorization
	Sharing Protocols	No	
	Network interface bit errors	No	
	Error control by coding and decoding of logical channels	No	
	Logical channel arrangement	No	
	Control of communication in logical channels	No	
	Correct interpretation of Network control information	Yes	Transmit frequency generation subsystem monitoring
	Network interface addressing	No	
	Control of basic link communication	Yes	Transmit frequency control
	Control of random access	No	
	Control of radio resource allocation	Yes	Processor monitoring
	Monitoring functions for cell selection	No	
	Control functions for usage of cells	No	
	Control of group attach/detach	No	
	TX enable/disable control	Yes	Transmission disable/ enable
	TX Call set up control	No	
	Control of call maintenance	No	
	Control of call disconnect	No	
	Authentication control	Yes	Equipment identity
	Encryption control procedures	No	



#### 6.2.4.6 TBR 42

MES including handheld earth stations, for S-PCN in the 2,0 GHz bands under the MSS; Terminal essential requirements
---

The result of the scan of TBR 42 with the technical phenomena of table 1 is given in table 14.

This table proposes the technical phenomena that could be applicable under the R&TTE Directive [1] and constitutes a proposed technical list of content for a Candidate Harmonized Standard.

Table 14: TBR 42 Assessment of technical phenomena under Article 3.2

Function	Technical Phenomena	Yes/No/ Maybe	Justification/Comments	
Transmitting	Frequency error	Yes	Transmit frequency generation subsystem monitoring Transmit frequency control	
	Frequency stability	No		
	Designation of channels	No		
	Transmitter power	No		
	Adjacent channel power	No		
	Spurious emissions	Yes	Unwanted emissions outside the band 1 980,1 to 2 009,9 MHz Unwanted emissions within the bands 1 980,1 to 2 009,9 MHz, 1 978,1 to 1 980,1 MHz and 2 009,9 to 2 011,9 MHz Unwanted emissions in carrier-off state	
	Inter-modulation attenuation	No		
	Release time	No		
	Transient behavior of the transmitter	No		
	Modulation Accuracy	No		
	Duty cycle	No		
	Directional	Off-axis EIRP density	No	
		Antenna gain	No	
		Antenna X-polar discrimination	No	
Antenna pointing accuracy/control		No		
Receiving	(Maximum usable) sensitivity (inc. duplex)	No		
	Co-channel rejection	No		
	Adjacent channel selectivity	No		
	Spurious response rejection (inc. duplex)	No		
	Inter-modulation response rejection	No		
	Blocking or desensitization (inc. duplex)	No		
	Spurious emissions	No		
	Multi-path sensitivity	No		
Control and Monitoring	Enabling Signaling	No		
	Sharing Protocols	No		
	Network interface bit errors	No		
	Error control by coding and decoding of logical channels	No		
	Logical channel arrangement	No		
	Control of communication in logical channels	No		
	Correct interpretation of Network control information	Yes	Processor monitoring	
	Network interface addressing	Yes	Network control authorization	
	Control of basic link communication	No		
	Control of random access	No		
	Control of radio resource allocation	No		
	Monitoring functions for cell selection	No		
	Control functions for usage of cells	No		
	Control of group attach/detach	No		
	TX enable/disable control	No		
	TX Call set up control	No		
	Control of call maintenance	No		
	Control of call disconnect	No		
	Authentication control	Yes	Equipment identity	
	Encryption control procedures	No		

## 6.2.4.7 TBR 43

VSAT transmit-only, transmit-and-receive, receive-only satellite earth stations operating in the 4 GHz and 6 GHz frequency bands
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The result of the scan of TBR 43 with the technical phenomena of table 1 is given in table 15.

This table proposes the technical phenomena that could be applicable under the R&TTE Directive [1] and constitutes a proposed technical list of content for a Candidate Harmonized Standard.

**Table 15: TBR 43 Assessment of technical phenomena under Article 3.2**

Function	Technical Phenomena	Yes/No/ Maybe	Justification/Comments
Transmitting	Frequency error	No	
	Frequency stability	No	
	Designation of channels	No	
	Transmitter power	No	
	Adjacent channel power	No	
	Spurious emissions	Yes	Off-axis spurious radiation On-axis spurious radiation
	Inter-modulation attenuation	No	
	Release time	No	
	Transient behavior of the transmitter	Yes	Carrier suppression
	Modulation Accuracy	No	
	Duty cycle	No	
Directional	Off-axis EIRP density	Yes	Off-axis EIRP emission density (co-polar and cross-polar) within the band 5,850 to 6,650 GHz
Receiving	Antenna gain	No	
	Antenna X-polar discrimination	Yes	Transmit polarization discrimination or axial ratio
	Antenna pointing accuracy/control	Yes	Mechanical (antenna pointing)
	(Maximum usable) sensitivity (inc. duplex)	No	
	Co-channel rejection	No	
	Adjacent channel selectivity	No	
	Spurious response rejection (inc. duplex)	No	
	Inter-modulation response rejection	No	
	Blocking or desensitization (inc. duplex)	No	
	Spurious emissions	Yes	Off-axis spurious emissions
	Multi-path sensitivity	No	
Control and Monitoring	Enabling Signaling	Yes	Reception of command
	Sharing Protocols	No	
	Network interface bit errors	No	
	Error control by coding and decoding of logical channels	No	
	Logical channel arrangement	No	
	Control of communication in logical channels	Yes	Control channels
	Correct interpretation of Network control information	Yes	Transmit subsystem monitoring
	Network interface addressing	No	
	Control of basic link communication	Yes	Processor monitoring
	Control of random access	No	
	Control of radio resource allocation	No	
	Monitoring functions for cell selection	No	
	Control functions for usage of cells	No	
	Control of group attach/detach	No	
	TX enable/disable control	No	
	TX Call set up control	No	
	Control of call maintenance	Yes	Power on/reset
	Control of call disconnect	No	
	Authentication control	Yes	VSAT transmission validation
Encryption control procedures	No		

#### 6.2.4.8 TBR 44

LMES operating in the 1,5 GHz and 1,6 GHz bands providing voice and/or data communications
--

NOTE: This TBR contains in the foreword important dates concerning the limit dates of application of requirements to limit interference with GNSS; some parameter values are valid until 01/2 002 while others are applicable after 01/2 002 (which is past the date of enforcement of the R&TTE Directive [1]). Some dates go as far as 2 005.

The result of the scan of TBR 44 with the technical phenomena of table 1 is given in table 16.

This table proposes the technical phenomena that could be applicable under the R&TTE Directive [1] and constitutes a proposed technical list of content for a Candidate Harmonized Standard.

Table 16: TBR 44 Assessment of technical phenomena under Article 3.2

Function	Technical Phenomena	Yes/No/ Maybe	Justification/Comments
Transmitting	Frequency error	No	
	Frequency stability	No	
	Designation of channels	No	
	Transmitter power	No	
	Adjacent channel power	No	
	Spurious emissions	Yes	Unwanted emissions outside the band 1 625,8 MHz to 1 661,2 MHz Maximum unwanted emission within the band 1 625,8 MHz to 1 661,2 MHz
Transmitting (Continued)	Inter-modulation attenuation	No	
	Release time	No	
	Transient behavior of the transmitter	Yes	Initial burst transmission
	Modulation Accuracy	No	
	Duty cycle	No	
Directional	Off-axis EIRP density	No	
	Antenna gain	No	
	Antenna X-polar discrimination	No	
	Antenna pointing accuracy/control	No	
Receiving	(Maximum usable) sensitivity (inc. duplex)	No	
	Co-channel rejection	No	
	Adjacent channel selectivity	No	
	Spurious response rejection (inc. duplex)	No	
	Inter-modulation response rejection	No	
	Blocking or desensitization (inc. duplex)	No	
	Spurious emissions	No	
	Multi-path sensitivity	No	
Control and Monitoring	Enabling Signaling	Yes	
	Sharing Protocols	No	
	Network interface bit errors	No	
	Error control by coding and decoding of logical channels	No	
	Logical channel arrangement	No	
	Control of communication in logical channels	No	
	Correct interpretation of Network control information	Yes	Processor monitoring Power-on/Reset
	Network interface addressing	Yes	Network control commands
	Control of basic link communication	Yes	Control Channel reception
	Control of random access	No	
	Control of radio resource allocation	No	
	Monitoring functions for cell selection	No	
	Control functions for usage of cells	No	
	Control of group attach/detach	No	
	TX enable/disable control	Yes	Transmit subsystem monitoring
	TX Call set up control	No	
	Control of call maintenance	No	
Control of call disconnect	No		
Authentication control	No		
Encryption control procedures	No		

## 6.2.5 TBRs under the responsibility of EP TETRA

### 6.2.5.1 TBR 35

TETRA; emergency access

The result of the scan of TBR 35 with the technical phenomena of table 1 is given in table 17.

This table proposes the technical phenomena that could be applicable under the R&TTE Directive [1] and constitutes a proposed technical list of content for a Candidate Harmonized Standard.

NOTE 1: There may be other technical phenomena in EN 301 435-1 editions 1 and 2 and EN 301 435-2 which are currently applied to TETRA equipment to be merged into the CHS\_35.

NOTE 2: EP/TETRA consider that the technical phenomena (under Article 5(e) of the Codified Directive [4]) and tests in the following standards should also be considered for inclusion in this single harmonized standard: ETS 300 392-2, ETS 300 392-7, ETS 300 394-1, the subparts of ETS 300 394-2, ETS 300 394-4, ETS 300 394-5, ETS 300 395-4, ETS 300 396-2, ETS 300 396-3, ETS 300 396-4, ETS 300 396-5, ETS 300 396-6, ETS 300 396-7 and ETS 300 396-10.

**Table 17: TBR 35 Assessment of technical phenomena under Article 3.2**

Function	Technical Phenomena	Yes/No/ Maybe	Justification/Comments
Transmitting	Frequency error	Yes	
	Frequency stability	Yes	
	Designation of channels	Yes	
	Transmitter power	Yes	MS power control level BS/MS Output power in non-active transmit state RF power control
	Adjacent channel power	Yes	
	Spurious emissions	Yes	Unwanted radiated emissions
	Inter-modulation attenuation	Yes	Both BS and MS Intra-BS inter-modulation attenuation
	Release time	Yes	MS/BS Output power time mask
	Transient behavior of the transmitter	Yes	Timing of transmitted signal BS/MS requirement for synchronization
	Modulation Accuracy	Yes	Modulation accuracy
	Duty cycle	No	
Directional	Off-axis EIRP density	No	
	Antenna gain	No	
	Antenna X-polar discrimination	No	
	Antenna pointing accuracy/control	No	
Receiving	(Maximum usable) sensitivity (inc. duplex)	Yes	BS/MS Dynamic reference sensitivity performance
	Co-channel rejection	No	
	Adjacent channel selectivity	No	
	Spurious response rejection (inc. duplex)	Yes	
	Inter-modulation response rejection	Yes	
	Blocking or desensitization (inc. duplex)	Yes	Blocking characteristics
	Spurious emissions	Yes	Unwanted radiation emission
Multi-path sensitivity	No		
Control and Monitoring	Enabling Signaling	Yes	
	Sharing Protocols	Yes	Mapping of BCCH and CLCH, TCH and STCH, SCH and AACH
	Network interface bit errors	Yes	
	Error control by coding and decoding of logical channels	Yes	AACH; BSCH; etc.
	Logical channel arrangement	Yes	Logical Link Control
	Control of communication in logical channels		

Function	Technical Phenomena	Yes/No/ Maybe	Justification/Comments
Control and Monitoring (Continued)	Correct interpretation of Network control information	Yes	PDU transfer for signaling messages procedures
	Network interface addressing	Yes	Call Control PDUs
	Control of basic link communication	Yes	Call restoration
	Control of random access	Yes	
	Control of radio resource allocation	Yes	RF Power Control
	Monitoring functions for cell selection	Yes	Mobility Management
	Control functions for usage of cells	Yes	Mobility Management
	Control of group attach/detach	Yes	Group call
	TX enable/disable control	Yes	Request to transmit; xmission granted; xmission not granted; etc
	TX Call set up control	Yes	Individual call; group call; incoming call; outgoing call; colliding call;
	Control of call maintenance	Yes	PDU transfer for traffic procedures
	Control of call disconnect	Yes	User initiated disconnection; reception of disconnection requests; (for IC and GC)
	Authentication control	Yes	
Encryption control procedures	Yes		

NOTE: This TBR includes an extreme temperature requirement.

## 6.3 Non-radio TTE TBRs

### 6.3.1 TBRs under the responsibility of EP/ATA

#### 6.3.1.1 TBR 15

Ordinary and Special quality voice bandwidth  
2-wire analogue leased lines (A2O and A2S);  
Attachment requirements for terminal  
equipment interface

This TBR was justified under Articles 4(d) and 4(f) of the TTE Directive [2] (Articles 5(d) and 5(f) of the Codified Directive [4]) and may be useful as a base for the production of harmonized standards in the areas of Article 3.3(a) and/or 3.3(b) of the R&TTE Directive [1] should the EC so decide.

According to the ETSI Project/ Technical Committee Chairman assessment, this TBR is not relevant under the R&TTE Directive [1] without an EC decision to make relevant requirements essential under Article 3.3 of the R&TTE Directive [1].

#### 6.3.1.2 TBR 17

Ordinary and Special quality voice bandwidth  
4-wire analogue leased lines (A4O and A4S);  
Attachment requirements for terminal  
equipment interface

This TBR was justified under Articles 4(d) and 4(f) of the TTE Directive [2] (Articles 5(d) and 5(f) of the Codified Directive [4]) and may be useful as a base for the production of harmonized standards in the areas of Article 3.3(a) and/or 3.3(b) of the R&TTE Directive [1] should the EC so decide.

According to the ETSI Project/ Technical Committee Chairman assessment, this TBR is not relevant under the R&TTE Directive [1] without an EC decision to make relevant requirements essential under Article 3.3 of the R&TTE Directive [1].

### 6.3.1.3 TBR 21

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) signaling

This TBR was justified under Articles 4(d) and 4(f) of the TTE Directive [2] (Articles 5(d) and 5(f) of the Codified Directive [4]) and may be useful as a base for the production of harmonized standards in the areas of Article 3.3(a) and/or 3.3(b) of the R&TTE Directive [1] should the EC so decide.

This TBR was referenced in the *Official Journal of the European Communities* under both CTR21 and I-CTR37.

According to the ETSI Project/ Technical Committee Chairman assessment, this TBR is not relevant under the R&TTE Directive [1] without an EC decision to make relevant requirements essential under Article 3.3 of the R&TTE Directive [1].

### 6.3.1.4 TBR 37 (EN 301 437)

Attachment requirements for pan-European approval for connection to the analogue Public Switched Telephone Networks (PSTNs) of TE supporting the voice telephony service in which network addressing, if provided, is by means of Dual Tone Multi Frequency (DTMF) signaling

This TBR was justified under Articles 4(d) and 4(f) of the TTE Directive [2] (Articles 5(d) and 5(f) of the Codified Directive [4]) and may be useful as a base for the production of harmonized standards in the areas of Article 3.3(a) and/or 3.3(b) of the R&TTE Directive [1] should the EC so decide.

According to the ETSI Project/ Technical Committee Chairman assessment, this TBR is not relevant under the R&TTE Directive [1] without an EC decision to make relevant requirements essential under Article 3.3 of the R&TTE Directive [1].

NOTE: This TBR was not cited in the OJ as a CTR.

### 6.3.1.5 TBR 38

Attachment requirements for a terminal equipment incorporating an analogue handset function capable of supporting the justified case service when connected to the analogue interface of the PSTN in Europe

This TBR was justified under Article 4(g) of the TTE Directive [2] (Article 5(g) of the Codified Directive [4]) and may be useful as a base for the production of harmonized standards in the areas of Article 3.3(a) of the R&TTE Directive [1] should the EC so decide.

According to the ETSI Project/ Technical Committee Chairman assessment, this TBR is not relevant under the R&TTE Directive [1] without an EC decision to make relevant requirements essential under Article 3.3 of the R&TTE Directive [1].

NOTE: This TBR has no part dealing with acoustic shock. Corresponding information can be found in the annexes of ES 200 677 and I-ETS 300 480.

According to the Commission Services, this TBR is not considered to be relevant under the R&TTE Directive [1] and will not be cited in the OJEC under the R&TTE Directive [1].



## 6.3.2 TBRs under the responsibility of EP/DTA

### 6.3.2.1 TBR 1

Attachment requirements for terminal equipment to be connected to circuit switched data networks and leased circuits using a CCITT Recommendation X.21 interface, or at an interface physically, functionally and electrically compatible with CCITT Recommendation X.21 but operating at any data signaling rate up to, and including, 1 984 kbit/s

This TBR was justified under Article 4(d) of the TTE Directive [2] (Article 5(d) of the Codified Directive [4]) and may be useful as a base for the production of harmonized standards in the areas of Article 3.3(b) of the R&TTE Directive [1] should the EC so decide.

According to the ETSI Project/ Technical Committee Chairman assessment, this TBR is not relevant under the R&TTE Directive [1] without an EC decision to make relevant requirements essential under Article 3.3 of the R&TTE Directive [1].

NOTE: The content of this TBR and TBR2 are contained in EN 301 401 which is in the resolution phase at the time of writing this report.

### 6.3.2.2 TBR 2

Attachment requirements for Data Terminal Equipment (DTE) to connect to Packet Switched Public Data Networks (PSPDNs) for CCITT Recommendation X.25 interfaces at data signaling rates up to 1 920 kbit/s utilizing interfaces derived from CCITT Recommendations X.21 and X.21 bis

This TBR was justified under Articles 4(d) and 4(f) of the TTE Directive [2] (Articles 5(d) and 5(f) of the Codified Directive [4]) and may be useful as a base for the production of harmonized standards in the areas of Articles 3.3(b) and 3.3(a) of the R&TTE Directive [1] should the EC so decide.

According to the ETSI Project/ Technical Committee Chairman assessment, this TBR is not relevant under the R&TTE Directive [1] without an EC decision to make relevant requirements essential under Article 3.3 of the R&TTE Directive [1].

NOTE: The content of this TBR and TBR1 are contained in EN 301 401 which is in the resolution phase at the time of writing this report.

### 6.3.2.3 TBR 3

Attachment requirements for terminal equipment to connect to an ISDN using ISDN basic access

This TBR was justified under Article 4(d) and 4(f) of the TTE Directive [2] (Articles 5(d) and 5(f) of the Codified Directive [4]) and may be useful as a base for the production of harmonized standards in the areas of Articles 3.3(b) and 3.3(a) of the R&TTE Directive [1] should the EC so decide.

According to the ETSI Project/ Technical Committee Chairman assessment, this TBR is not relevant under the R&TTE Directive [1] without an EC decision to make relevant requirements essential under Article 3.3 of the R&TTE Directive [1].

#### 6.3.2.4 TBR 4

Attachment requirements for terminal equipment to connect to an ISDN using ISDN primary rate access

This TBR was justified under Article 4(d) and 4(f) of the TTE Directive [2] (Articles 5(d) and 5(f) of the Codified Directive [4]) and may be useful as a base for the production of harmonized standards in the areas of Articles 3.3(b) and 3.3(a) of the R&TTE Directive [1] should the EC so decide.

According to the ETSI Project/ Technical Committee Chairman assessment, this TBR is not relevant under the R&TTE Directive [1] without an EC decision to make relevant requirements essential under Article 3.3 of the R&TTE Directive [1].

#### 6.3.2.5 TBR 8

Telephony 3,1 kHz teleservice; Attachment requirements for handset terminals

This TBR was justified under Article 4(g) of the TTE Directive [2] (Articles 5(g) of the Codified Directive [4]) and may be useful as a base for the production of harmonized standards in the areas of Article 3.3(b) of the R&TTE Directive [1] should the EC so decide.

According to the Commission Services, this TBR is not considered to be relevant under the R&TTE Directive [1] and will not be cited in the OJEC under the R&TTE Directive [1].

According to the ETSI Project/ Technical Committee Chairman assessment, this TBR is not relevant under the R&TTE Directive [1] without an EC decision to make relevant requirements essential under Article 3.3 of the R&TTE Directive [1].

NOTE: The extract dealing with acoustic shock may need to be revisited if ETSI decide to produce an acoustic shock EN.

#### 6.3.2.6 TBR 12

Open Network Provision (ONP) technical requirements; 2 048 kbit/s digital unstructured leased line (D2048U) Attachment requirements for terminal equipment

This TBR was justified under Articles 4(d) and 4(f) of the TTE Directive [2] (Articles 5(d) and 5(f) of the Codified Directive [4]) and may be useful as a base for the production of harmonized standards in the areas of Article 3.3(b) and 3.3(a) of the R&TTE Directive [1] should the EC so decide.

According to the ETSI Project/ Technical Committee Chairman assessment, this TBR is not relevant under the R&TTE Directive [1] without an EC decision to make relevant requirements essential under Article 3.3 of the R&TTE Directive [1].

#### 6.3.2.7 TBR 13

2 048 kbit/s digital structured leased lines (D2048S); Attachment requirements for terminal equipment interface

This TBR was justified under Articles 4(d) and 4(f) of the TTE Directive [2] (Articles 5(d) and 5(f) of the Codified Directive [4]) and may be useful as a base for the production of harmonized standards in the areas of Article 3.3(b) and 3.3(a) of the R&TTE Directive [1] should the EC so decide.

According to the ETSI Project/Technical Committee Chairman assessment, this TBR is not relevant under the R&TTE Directive [1] without an EC decision to make relevant requirements essential under Article 3.3 of the R&TTE Directive [1].

#### 6.3.2.8 TBR 14

64 kbit/s digital unrestricted leased line with octet integrity (D64U); Attachment requirements for terminal equipment interface

This TBR was justified under Articles 4(d) and 4(f) of the TTE Directive [2] (Articles 5(d) and 5(f) of the Codified Directive [4]) and may be useful as a base for the production of harmonized standards in the areas of Articles 3.3(b) and 3.3(a) of the R&TTE Directive [1] should the EC so decide.

According to the ETSI Project/ Technical Committee Chairman assessment, this TBR is not relevant under the R&TTE Directive [1] without an EC decision to make relevant requirements essential under Article 3.3 of the R&TTE Directive [1].

#### 6.3.2.9 TBR 24

34 Mbit/s digital unstructured and structured leased lines (D34U and D34S); Attachment requirements for terminal equipment interface

This TBR was justified under Articles 4(d) and 4(f) of the TTE Directive [2] (Articles 5(d) and 5(f) of the Codified Directive [4]) and may be useful as a base for the production of harmonized standards in the areas of Article 3.3(b) and 3.3(a) of the R&TTE Directive [1] should the EC so decide.

According to the ETSI Project/ Technical Committee Chairman assessment, this TBR is not relevant under the R&TTE Directive [1] without an EC decision to make relevant requirements essential under Article 3.3 of the R&TTE Directive [1].

#### 6.3.2.10 TBR 25

140 Mbit/s digital unstructured and structured leased lines (D140U and D140S); Attachment requirements for terminal equipment interface

This TBR was justified under Articles 4(d) and 4(f) of the TTE Directive [2] (Articles 5(d) and 5(f) of the Codified Directive [4]) and may be useful as a base for the production of harmonized standards in the areas of Article 3.3(b) and 3.3(a) of the R&TTE Directive [1] should the EC so decide.

According to the ETSI Project/ Technical Committee Chairman assessment, this TBR is not relevant under the R&TTE Directive [1] without an EC decision to make relevant requirements essential under Article 3.3 of the R&TTE Directive [1].

#### 6.3.2.11 TBR 33

Attachment requirements for packet mode terminal equipment to connect to an ISDN using ISDN basic access

This TBR was justified under Articles 4(d) and 4(f) of the TTE Directive [2] (Articles 5(d) and 5(f) of the Codified Directive [4]) and may be useful as a base for the production of harmonized standards in the areas of Article 3.3(b) and 3.3(a) of the R&TTE Directive [1] should the EC so decide.

NOTE: The technical requirements of this TBR could be merged with those of TBR 3.

According to the ETSI Project/ Technical Committee Chairman assessment, this TBR is not relevant under the R&TTE Directive [1] without an EC decision to make relevant requirements essential under Article 3.3 of the R&TTE Directive [1].

According to the Commission Services, this TBR may not be considered to be relevant under the R&TTE Directive [1] and may not be cited in the OJEC under the R&TTE Directive [1].

### 6.3.2.12 TBR 34

Attachment requirements for packet mode terminal equipment to connect to an ISDN using ISDN primary rate access

This TBR was justified under Articles 4(d) and 4(f) of the TTE Directive [2] (Articles 5(d) and 5(f) of the Codified Directive [4]) and may be useful as a base for the production of harmonized standards in the areas of Article 3.3(b) and 3.3(a) of the R&TTE Directive [1] should the EC so decide.

NOTE: The technical requirements of this TBR could be merged with those of TBR 4.

According to the ETSI Project/ Technical Committee Chairman assessment, this TBR is not relevant under the R&TTE Directive [1] without an EC decision to make relevant requirements essential under Article 3.3 of the R&TTE Directive [1].

According to the Commission Services, this TBR may not be considered to be relevant under the R&TTE Directive [1] and may not be cited in the OJEC under the R&TTE Directive [1].

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## 7 Proposed CHSs

### 7.1 Reduced list of CHSs

As a result of this study, a reduced set of candidate harmonized standards can be established; some of those candidate harmonized standards are already in process. For the purposes of this report, and for this report only, we have used a numbering scheme where CHS\_nn represents a proposed Candidate Harmonized Standard corresponding to TBR\_nn.

NOTE: The numbering scheme used for standards for harmonization under the R&TTE Directive [1] will be in the EN series; however further details have not yet been announced.

A proforma for the production of harmonized standards within ETSI has been produced and is available as SR 001 470 [5]. An exhaustive list of current technical phenomena under Article 3.2 of the R&TTE Directive [1] which may be included in such a harmonized standard is given in Annex B.

For non-radio TTE in the absence of any requirements being applied under Article 3.3 of the R&TTE Directive [1] compliance with existing EMC and safety standards would be all that is required for presumption of conformity with the provisions of Article 3.1 of the R&TTE Directive [1]. Consequently no CHSs are proposed for non-radio TTE.

A reduced list of CHSs required is given in table 18.

Table 18: Reduced list of candidate harmonized standards under R&amp;TTE Directive [1]

Candidate Harmonized Standards	Equipment type	Replaces	Comment
CHS_06	DECT	TBR 6	Note 1
CHS_19	GSM	TBRs 19 and 31	Note 2
CHS_23	TFTS	TBR 23	Note 3
CHS_26	LMES	TBR 26	
CHS_27	LMES	TBR 27	
CHS_28	VSAT	TBR 28	
CHS_30	SNG TES	TBR 30	
CHS_35	Emergency/Civil TETRA	TBR 35	Note 4
CHS_39	DECT/GSM Dual Mode	TBR 39	Note 5
CHS_41	MES	TBR 41	
CHS_42	MES	TBR 42	
CHS_43	VSAT	TBR 43	
CHS_44	LMES	TBR 44	

NOTE 1: Other technical phenomena from ETS 300 175-2 and ETS 300 176-1 could be consolidated into this proposed CHS.

NOTE 2: Other technical phenomena from ETS 300 607-1, ETS 300 577, ETS 300 910, I-ETS 300 020-3, TS 100 607-1, TS 101 431, GSM 05.05 and GSM 11.10 could be consolidated into this proposed CHS.

NOTE 3: Other technical phenomena from ETS 300 326-2 could be consolidated into this proposed CHS.

NOTE 4: Other technical phenomena from EN 301 435-1 and EN 301 435-2 could be consolidated into this proposed CHS. However, EP/TETRA consider that the technical phenomena (under Article 5(e) of the Codified Directive [4]) and tests in the following standards should also be considered for inclusion in this single harmonized standard: ETS 300 392-2, ETS 300 392-7, ETS 300 394-1, the subparts of ETS 300 394-2, ETS 300 394-4, ETS 300 394-5, ETS 300 395-4, ETS 300 396-2, ETS 300 396-3, ETS 300 396-4, ETS 300 396-5, ETS 300 396-6, ETS 300 396-7 and ETS 300 396-10.

NOTE 5: Refers to a DECT/GSM dual mode handset. Take relevant parts from TBR39 regarding different requirements on in-band emissions levels from DECT-to-GSM and vice versa.

## 7.2 Proposed scopes for CHSs

### 7.2.1 CHS\_06

#### 1 Scope

The present document applies to Digital Enhanced Cordless Telecommunications radio equipment.

This radio equipment is capable of operating in all or any part of the frequency band 1 880 MHz to 1 900 MHz.

The present document is intended to cover the provisions of Directive 1999/5/EC (R&TTE Directive) [1] Article 3.2 which states that "...radio equipment shall be so constructed that it effectively uses the spectrum allocated to terrestrial/space radio communications and orbital resources so as to avoid harmful interference".

In addition to the present document, other ENs that specify technical requirements in respect of essential requirements under other parts of Article 3 of the R&TTE Directive [1] may apply to equipment within the scope of the present document.

Technical requirements from TBR 6 that could be included in such a Harmonized Standard are shown in subclause 6.2.1.1.

### 7.2.2 CHS\_19

#### 1 Scope

The present document applies to GSM mobile radio equipment.

This radio equipment is capable of operating in all or any part of the frequency bands as shown in table 1.

**Table 1: Frequency bands for GSM900 and DCS1800 mobile Systems**

Type	TX:	RX:
<b>P-GSM900</b>	890-915 MHz	935-960 MHz
<b>DCS1800</b>	1710-1785 MHz	1805-1880 MHz
<b>E-GSM900</b>	880-915 MHz	925-960 MHz
<b>R-GSM900</b>	876-915 MHz	921-960 MHz

The present document is intended to cover the provisions of Directive 1999/5/EC (R&TTE Directive) [1] Article 3.2 which states that "...radio equipment shall be so constructed that it effectively uses the spectrum allocated to terrestrial/space radio communications and orbital resources so as to avoid harmful interference".

In addition to the present document, other ENs that specify technical requirements in respect of essential requirements under other parts of Article 3 of the R&TTE Directive [1] may apply to equipment within the scope of the present document.

Technical requirements from TBR 19 and TBR 31/TS 101 431 that could be included in such a Harmonized Standard are shown in subclauses 6.2.3.3 and 6.2.3.5 respectively.

### 7.2.3 CHS\_23

#### 1 Scope

The present document applies to Terrestrial Flight Transmission radio equipment.

This radio equipment is capable of operating in all or any part of the frequency bands given in table 1.

**Table 1: Terrestrial Flight transmission service frequency bands**

Direction of transmission	TFTS frequency bands
Transmit ground-to-air	1670 to 1675 MHz
Transmit air-to-ground	1800 to 1805 MHz

The present document is intended to cover the provisions of Directive 1999/5/EC (R&TTE Directive) [1] Article 3.2 which states that "...radio equipment shall be so constructed that it effectively uses the spectrum allocated to terrestrial/space radio communications and orbital resources so as to avoid harmful interference".

In addition to the present document, other ENs that specify technical requirements in respect of essential requirements under other parts of Article 3 of the R&TTE Directive [1] may apply to equipment within the scope of the present document.

Technical requirements from TBR 23 that could be included in such a Harmonized Standard are shown in subclause 6.2.2.2.

NOTE: The equipment covered by this CHS has a special application and therefore special testing conditions may apply.

## 7.2.4 CHS\_26

### 1 Scope

The present document applies to Land Mobile Earth Stations (LMESs) radio equipment.

These LMESs could be either vehicle mounted or portable equipment;

These LMESs could consist of a number of modules including a keyboard interface to the user;

These LMESs are operating as part of a satellite network used for the distribution and/or exchange of information between users;

This radio equipment is capable of operating in all or any part of the frequency bands given in table 1.

**Table 1: Land Mobile Satellite Service frequency bands**

Direction of transmission	LMSS frequency bands
Transmit 1 (earth to space)	1 626,5 MHz to 1 645,5 MHz
Transmit 2 (earth to space)	1 656,5 MHz to 1 660,5 MHz
Receive 1 (space to earth)	1 525,0 MHz to 1 544,0 MHz
Receive 2 (space to earth)	1 555,0 MHz to 1 559,0 MHz

The present document is intended to cover the provisions of Directive 1999/5/EC (R&TTE Directive) [1] Article 3.2 which states that "...radio equipment shall be so constructed that it effectively uses the spectrum allocated to terrestrial/space radio communications and orbital resources so as to avoid harmful interference".

In addition to the present document, other ENs that specify technical requirements in respect of essential requirements under other parts of Article 3 of the R&TTE Directive [1] may apply to equipment within the scope of the present document.

NOTE 1: These LMESs are controlled and monitored by a Network Control Facility (NCF). The NCF is outside the scope of the present document.

NOTE 2: Licensing requirements are outside the scope of the present document.

Technical requirements from TBR 26 that could be included in such a Harmonized Standard are shown in subclause 6.2.4.1.

## 7.2.5 CHS\_27

### 1 Scope

The present document applies to Land Mobile Earth Stations (LMESs) radio equipment.

The LMES operate through a geo stationary satellite at least 3° away from any other geostationary satellite operating in the same frequency band and covering the same area.

The antenna of the LMES may be omni directional or directional with a means of tracking the satellite.

This radio equipment is capable of operating in all or any part of the frequency bands given in table 1.

**Table 1: Fixed Satellite Service frequency bands**

Direction of transmission	FSS frequency bands
Transmit 1 (earth to space)	14,00 GHz to 14,25 GHz
Receive 1 (space to earth)	10,70 GHz to 11,70 GHz
Receive 2 (space to earth)	12,50 GHz to 12,75 GHz

(Continued)

(Continued)

The present document is intended to cover the provisions of Directive 1999/5/EC (R&TTE Directive) [1] Article 3.2 which states that "...radio equipment shall be so constructed that it effectively uses the spectrum allocated to terrestrial/space radio communications and orbital resources so as to avoid harmful interference".

In addition to the present document, other ENs that specify technical requirements in respect of essential requirements under other parts of Article 3 of the R&TTE Directive [1] may apply to equipment within the scope of the present document.

NOTE: Licensing requirements are outside the scope of the present document.

Technical requirements from TBR 27 that could be included in such a Harmonized Standard are shown in subclause 6.2.4.2.

## 7.2.6 CHS\_28

### 1 Scope

The present document applies to Very Small Aperture Terminal radio equipment.

These VSAT use linear polarization.

The VSAT operate through a geostationary satellite at least 3° away from any other geostationary satellite operating in the same frequency band and covering the same area.

The VSAT antenna diameter does not exceed 3,8 m, or equivalent corresponding aperture.

These VSAT are designed usually for unattended operation.

These VSAT are operating as part of a satellite network (e.g. star, mesh or point-to-point) used for the distribution and/or exchange of information between users.

This radio equipment is capable of operating in all or any part of the frequency bands given in table 1. Some of the frequency bands are shared with the Fixed Service (FS) as indicated.

**Table 1: Fixed satellite service (FSS) frequency bands**

Direction of transmission	Fixed satellite service (FSS) frequency bands
Transmit 1 (earth-to-space) (FSS)	14,00 GHz to 14,25 GHz
Transmit 2 (earth-to-space) (FSS/FS)	14,25 GHz to 14,50 GHz
Receive 1 (space-to-earth) (FSS)	12,50 GHz to 12,75 GHz
Receive 2 (space-to-earth) (FSS/FS)	10,70 GHz to 11,70 GHz

These VSAT are either:

transmit only VSAT: designed for transmission only of radio-communications signals in any of the frequency bands (earth-space) specified above; or

transmit and receive VSAT: designed for transmission and reception of radio-communications signals in any of the frequency bands specified above; or

receive only VSAT: designed for reception only of radio-communications signals in any of the frequency bands (space-earth) specified above.

The present document is intended to cover the provisions of Directive 1999/5/EC (R&TTE Directive) [1] Article 3.2 which states that "...radio equipment shall be so constructed that it effectively uses the spectrum allocated to terrestrial/space radio communications and orbital resources so as to avoid harmful interference".

(Continued)



(Continued)

In addition to the present document, other ENs that specify technical requirements in respect of essential requirements under other parts of Article 3 of the R&TTE Directive [1] may apply to equipment within the scope of the present document.

NOTE 1: The VSAT are controlled and monitored by a Centralized Control and Monitoring Function (CCMF). The CCMF is outside the scope of the present document.

NOTE 2: Licensing requirements are outside the scope of the present document.

Technical requirements from TBR 28 that could be included in such a Harmonized Standard are shown in subclause 6.2.4.3.

## 7.2.7 CHS\_30

### 1 Scope

The present document applies to Satellite News Gathering (SNG) Transportable Earth Stations (TESs) radio equipment.

The SNG TESs use linear polarization.

The SNG TESs operate through a geostationary satellite at least 3° away from any other geostationary satellite operating in the same frequency band and covering the same area.

The SNG TES antenna diameter does not exceed 5 m, or equivalent corresponding aperture.

The SNG TESs are designed for attended operation.

This radio equipment is capable of operating in all or any part of the frequency bands given in table 1. Some of the frequency bands are shared with the Fixed Service (FS) as indicated.

**Table 1: Fixed satellite service (FSS) frequency bands**

Direction of transmission	Fixed satellite service (FSS) frequency bands
Transmit 1 (earth-to-space) (FSS)	12,75 GHz to 13,25 GHz
Transmit 2 (earth-to-space) (FSS)	13,75 GHz to 14,25 GHz
Transmit 3 (earth-to-space) (FSS/FS)	14,25 GHz to 14,50 GHz
Receive 1 (space-to-earth) (FSS/FS)	10,70 GHz to 11,70 GHz
Receive 2 (space-to-earth) (FSS)	12,50 GHz to 12,75 GHz

NOTE 1: At present the ITU Radio Regulations restrict the use of the 13,75 GHz to 14,00 GHz band to earth stations having an antenna diameter of 4,5 m or greater and having a transmitting EIRP between 68 dBW and 85 dBW.

The present document is intended to cover the provisions of Directive 1999/5/EC (R&TTE Directive) [1] Article 3.2 which states that "...radio equipment shall be so constructed that it effectively uses the spectrum allocated to terrestrial/space radio communications and orbital resources so as to avoid harmful interference".

In addition to the present document, other ENs that specify technical requirements in respect of essential requirements under other parts of Article 3 of the R&TTE Directive [1] may apply to equipment within the scope of the present document.

NOTE 2: Licensing requirements are outside the scope of the present document.

Technical requirements from TBR 30 that could be included in such a Harmonized Standard are shown in subclause 6.2.4.4.

*Guidance note: The details of the frequency bands need to be inserted by the relevant Technical Body.*

## 7.2.8 CHS\_35

### 1 Scope

The present document applies to the following radio equipment:

- 1) Base station equipment;
- 2) Mobile station equipment.

These radio equipment types are for operation in the Terrestrial Trunked Radio system (TETRA).

The equipment can utilize either dedicated TETRA frequency bands or in those bands used for analogue Private Mobile Radio (PMR).

*Guidance note: The details of the frequency bands need to be inserted by the relevant Technical Body.*

The present document is intended to cover the provisions of Directive 1999/5/EC (R&TTE Directive) [1] Article 3.2 which states that "...radio equipment shall be so constructed that it effectively uses the spectrum allocated to terrestrial/space radio communications and orbital resources so as to avoid harmful interference".

In addition to the present document, other ENs that specify technical requirements in respect of essential requirements under other parts of Article 3 of the R&TTE Directive [1] may apply to equipment within the scope of the present document.

Technical requirements from TBR 35 that could be included in such a Harmonized Standard are shown in subclause 6.2.5.1.

## 7.2.9 CHS\_39

### 1 Scope

The present document applies to the following radio equipment:

1. Mobile station equipment.

This radio equipment type is for operation in:

1. DECT radio access to a public telecommunications network;
2. GSM radio access to GSM Public Land Mobile Network.

This equipment can use either dedicated DECT radio frequencies or dedicated GSM radio frequencies and not both simultaneously.

*Guidance note: The details of the frequency bands need to be inserted by the relevant Technical Body.*

The present document is intended to cover the provisions of Directive 1999/5/EC (R&TTE Directive) [1] Article 3.2 which states that "...radio equipment shall be so constructed that it effectively uses the spectrum allocated to terrestrial/space radio communications and orbital resources so as to avoid harmful interference".

The essential requirements for DECT apply; they are those contained in CHS\_06.

The essential requirements for GSM apply; they are those contained in CHS\_19.

The present candidate harmonized standard includes all necessary essential requirement additions to the Harmonized Standards CHS\_06 and CHS\_19 rendered essential for the DECT/GSM dual-mode handsets.

In addition to the present document, other ENs that specify technical requirements in respect of essential requirements under other parts of Article 3 of the R&TTE Directive [1] may apply to equipment within the scope of the present document.

Technical requirements from TBR 39 that could be included in such a Harmonized Standard are shown in subclause 6.2.1.6.

NOTE: A DECT-terminal equipment comprises two elements, referred to as a Fixed Part (FP) and a Portable Part (PP), whereas a GSM terminal equipment is comprised of a mobile station (GSM MS). The objective of the present document is to ensure dual-mode operation of handsets comprised of a DECT PP and a GSM MS (Phase 2). These parts may, or may not, be separable.

## 7.2.10 CHS\_41

### 1 Scope

The present document applies to Mobile Earth Station (MES) radio equipment.

These MES have both transmit and receive capabilities and operate in a Satellite-Personal Communications Network (S-PCN). An S-PCN MES may be a handheld, portable, vehicle-mounted, host connected, semi-fixed or fixed equipment, or may be an element in a multi-mode terminal. It may consist of a number of modules with associated connections and user interface, or may be a self contained single unit.

If the MES is an element in a multi-mode terminal, unless otherwise stated in the present document, its requirements apply only to the S-PCN MES element of the terminal.

These MES are capable in operating in all or part of the frequency bands shown in table 1:

**Table 1: Mobile Satellite Service frequency bands**

Direction of transmission	MSS frequency bands
Transmit 1 (earth to space)	1 610 - 1 626,5 MHz
Receive 1 (space to earth)	1 613,8 - 1 626,5 MHz
Receive 2 (space to earth)	2 483,5 - 2 500,0 MHz

The present document is intended to cover the provisions of Directive 1999/5/EC (R&TTE Directive) [1] Article 3.2 which states that "...radio equipment shall be so constructed that it effectively uses the spectrum allocated to terrestrial/space radio communications and orbital resources so as to avoid harmful interference".

In addition to the present document, other ENs that specify technical requirements in respect of essential requirements under other parts of Article 3 of the R&TTE Directive [1] may apply to equipment within the scope of the present document. (Continued)

(Continued)

NOTE: These LMESs are controlled and monitored by a Network Control Facility (NCF). The NCF is outside the scope of the present document.

Technical requirements from TBR 41 that could be included in such a Harmonized Standard are shown in subclause 6.2.4.5.

## 7.2.11 CHS\_42

### 1 Scope

The present document applies to Mobile Earth Station (MES) radio equipment.

These MES have both transmit and receive capabilities and operate in a Satellite-Personal Communications Network (S-PCN). An S-PCN MES may be handheld, portable, vehicle-mounted, host connected, semi-fixed or fixed equipment, or may be an element in a multi-mode terminal. It may consist of a number of modules with associated connections and user interface, or may be a self contained single unit.

If the MES is an element in a multi-mode terminal, unless otherwise stated in the present document, its requirements apply only to the S-PCN MES element of the terminal.

These MES are capable in operating in all or part of the frequency bands shown in table 1:

**Table 1: Mobile Satellite Service (MSS) frequency bands**

Direction of transmission	MSS frequency bands
Transmit (earth to space)	1 980 to 2 010 MHz
Receive (space to earth)	2 170 to 2 200 MHz

The present document is intended to cover the provisions of Directive 1999/5/EC (R&TTE Directive) [1] Article 3.2 which states that "...radio equipment shall be so constructed that it effectively uses the spectrum allocated to terrestrial/space radio communications and orbital resources so as to avoid harmful interference".

In addition to the present document, other ENs that specify technical requirements in respect of essential requirements under other parts of Article 3 of the R&TTE Directive [1] may apply to equipment within the scope of the present document.

Technical requirements from TBR 42 that could be included in such a Harmonized Standard are shown in subclause 6.2.4.6.

## 7.2.12 CHS\_43

### 1 Scope

The present document applies to Very Small Aperture Terminal radio equipment.

These VSAT use linear or circular polarization.

The VSAT operate through a geostationary satellite at least 3° away from any other geostationary satellite operating in the same frequency band and covering the same area.

The VSAT antenna diameter does not exceed 7,3 m, or equivalent effective area;

These VSAT are designed usually for unattended operation.

These VSAT are operating as part of a satellite network (e.g. star, mesh or point-to-point) used for the distribution and/or exchange of information between users. (Continued)

(Continued)

This radio equipment is capable of operating in all or any part of the frequency bands given in table 1. These of the frequency bands are shared with the Fixed Service (FS) and the Mobile Service (MS).

**Table 1: Fixed satellite service (FSS) frequency bands**

Direction of transmission	Fixed satellite service (FSS) frequency bands
Transmit 1 (earth-to-space)	5,85 GHz to 6,65 GHz
Receive 1 (space-to-earth)	3,40 GHz to 4,20 GHz

The VSAT is either:

transmit-only VSAT: designed for transmission-only of radio-communications signals in the frequency band specified above; or

transmit-and-receive VSAT: designed for transmission-and-reception of radio-communications signals in the frequency band specified above; or

receive-only VSAT: designed for reception-only of radio-communications signals in the frequency band specified above;

The present document is intended to cover the provisions of Directive 1999/5/EC (R&TTE Directive) [1] Article 3.2 which states that "...radio equipment shall be so constructed that it effectively uses the spectrum allocated to terrestrial/space radio communications and orbital resources so as to avoid harmful interference".

In addition to the present document, other ENs that specify technical requirements in respect of essential requirements under other parts of Article 3 of the R&TTE Directive [1] may apply to equipment within the scope of the present document.

NOTE 1: The VSAT are controlled and monitored by a Centralized Control and Monitoring Function (CCMF). The CCMF is outside the scope of the present document.

NOTE 2: Licensing requirements are outside the scope of the present document.

Technical requirements from TBR 43 that could be included in such a Harmonized Standard are shown in subclause 6.2.4.7.

## 7.2.13 CHS\_44

### 1 Scope

The present document applies to Land Mobile Earth Stations (LMESs) radio equipment.

The LMES could be either vehicle mounted or portable equipment;

The LMES operate through geostationary satellites as part of a network providing voice and/or data communications;

The LMES is capable of operating in all or any part of the frequency ranges given in table 1:

**Table 1: Land Mobile Satellite Service frequency bands**

Direction of transmission	LMSS frequency bands
Transmit 1 (earth to space)	1 631,5 MHz to 1 634,5 MHz
Transmit 2 (earth to space)	1 656,5 MHz to 1 660,5 MHz
Receive 1 (space to earth)	1 525,0 MHz to 1 544,0 MHz
Receive 2 (space to earth)	1 555,0 MHz to 1 559,0 MHz

(Continued)

(Continued)

The present document is intended to cover the provisions of Directive 1999/5/EC (R&TTE Directive) [1] Article 3.2 which states that "...radio equipment shall be so constructed that it effectively uses the spectrum allocated to terrestrial/space radio communications and orbital resources so as to avoid harmful interference".

In addition to the present document, other ENs that specify technical requirements in respect of essential requirements under other parts of Article 3 of the R&TTE Directive [1] may apply to equipment within the scope of the present document.

NOTE 1: These LMESs are controlled and monitored by a Network Control Facility (NCF). The NCF is outside the scope of the present document.

NOTE 2: Licensing requirements are outside the scope of the present document.

Technical requirements from TBR 44 that could be included in such a Harmonized Standard are shown in subclause 6.2.4.8.

## 7.3 Contents of harmonized standards

Authors of standards intended to be harmonized under the R&TTE Directive [1] should follow the guidance given in EG 201 399 [6]. In particular:

Technical Bodies should consider the maximum list of technical phenomena for the attributes applicable to their equipment and for each technical phenomenon whether or not it is actually essential (see 6.4.2 in the guide [6]).

NOTE 1: It should be noted that for RE the essential requirements applied at the antenna port (radiation and immunity) and at the "enclosure" (or cabinet radiation) need to be considered in the radio harmonized standard as they are specifically excluded from classical EMC standards.

Parameters shall only be considered as essential if there is a possibility of harmful interference that is unlikely to be controlled by other means (see 6.4.2 in the guide [6]).

Every technical requirement shall be expressed so as to be capable of objective verification (see 5.1.2 in the guide [6]).

The candidate Harmonized Standard shall include all technical specifications necessary for demonstrating presumption of conformity of the products and phenomena within its scope (see Annex B.1.e in the guide [6]).

Where methods of measurement need to be specified this should preferably be by normative reference to other relevant standards; however tests and test methods shall not be identified in themselves as technical requirements (see 5.1.2 and Annex B.1.f in the guide [6]).

NOTE 2: If the radio test suites for an RE are contained in a standard harmonized under the R&TTE Directive [1], then those test suites become the essential radio test suites for conformity assessment under Annex III procedures of the R&TTE Directive [1]. It is therefore very important that the radio test suites in a harmonized standard do not leave out anything essential to the avoidance of harmful interference.

Whilst technical requirements for the receiving parts of radio equipment may be regarded as essential by a Technical Body there are no essential test suites for receiving parts as the requirements of Annex III do not apply to receiving parts of radio equipment (see R&TTED [1], Article 10.4 and 5.1.2 in the guide [6]).

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## 8 Conclusions

- 1) Without an EC decision to make relevant requirements essential under article 3.3 of the R&TTE Directive [1] there are no technical phenomena in TBRs for non-radio TTE which are required to be included in standards intended for harmonization under the R&TTE Directive [1].
- 2) The relevant technical phenomena in TBRs specific to RE can be considered for inclusion in standards intended for harmonization under Article 3.2 of the R&TTE Directive [1]. A suggested list of applicable technical phenomena for each of these TBRs is given in subclause 6.2.
- 3) Without an EC decision to make relevant requirements essential under Article 3.3 of the R&TTE Directive [1] technical phenomena in TBRs for RE which could only be justified under Article 3.3 are not suitable for inclusion in standards intended for harmonization under the R&TTE Directive [1].
- 4) The 12 candidate harmonized standards listed in table 18 could cover all the essential technical phenomena under Article 3.2 of the R&TTE Directive [1] from the TBRs for RE.
- 5) It should be noted that for RE the essential requirements applied at the antenna port (radiation and immunity) and at the "enclosure" (or cabinet radiation) need to be considered in the radio harmonized standard as they are specifically excluded from classical EMC standards.
- 6) For any particular candidate harmonized standard under Article 3.2 of the R&TTE Directive [1], technical phenomena should only be considered as essential if there is a possibility of harmful interference that is unlikely to be avoided by other means.
- 7) Technical Bodies responsible for each TBR considered in table 18 need to assess precisely which technical phenomena are essential to ensure conformance of their equipment types with the essential requirements of Article 3.2 of the R&TTE Directive [1].
- 8) These Technical Bodies also need to assess precisely which radio test suites are essential to satisfy the requirements of Annex III of the R&TTE Directive [1].

## Annex A (informative): Replies from TBR TB Chairmen

### A.1 Non-radio TTE

#### A.1.1 ATA

STF 149 has identified the following TBRs assigned to your ETSI Technical Committee/ETSI Project ATA, given in Table below, and would like to ask you the following questions summarized in the same Table:

- \* Are the TBRs, (or parts of them) listed in the Table still relevant under R&TTE Directive;
- \* Has your TC/EP started work to convert existing TBRs into candidate harmonized standards;
- \* Have you allocated priorities to that work and which priorities are assigned to each TBR;

My answer:

I believe that it is clear for all of us (R&TTE-SC) that all the Essential Requirements (ER) in the area of ATA and DTA (excluding safety & EMC issues being treated separately) are applicable only in case of CEC positive decision after formal proposal of TCAM (R&TTE-D, art. 3.3 & 15)

- if there will be no ER in this area by the 2000.04.08, there will be no presumption of conformity request and the regulatory value of all ATA&DTA TBRs will be null!

TCAM2 did not discuss art3.3 and with the progress I am observing in TCAM and the countries positions observed up to now, I wonder if, even if art.3.3 will be discussed in TCAM, there will be a CEC decision in the area before 2000.04.08.

I am afraid that this is far from being understood by all ATA & DTA members at the present and any solution has to be studied in detail before starting implementation. The concern I have is that it might be too early because it is just before TCAM3 and there might be members still waiting for a TCAM decision on regulation under art.3.3. I believe nevertheless that we should at least try (with good reasons) and measure the reactions.

What I believe the solution could be is to:  
organize a series of ESs (or non-mandated deliverables, i.e./e.g. "non-HS ENs")  
recovering the existing technical contents of the TBRs and  
adapting to fit the modularity structure we are adopting to R&TTE HSs.

Like this,

if a mandate from CEC would come, ETSI would be prepared to compare the existing "ESs" with the mandate, submit to the contents to the "decision tree" and proceed to National Vote in a relative short delay.

If no mandate will come, the work produced can always be used as an important piece for the standardization in the World-wide globalization process.

Please note that above ideas are personal and need an open debate before decisions.

Best regards

Nuno Encarnação

#### A.1.2 DTA

1) In response to an e-mail sent by Mr. Jacques Besseyre of STF 149. EP DTA wishes to report the following:

Until such time as TCAM deliberates on the application or otherwise of article 3.3, EP DTA believes there is little value in conducting any investigative work on the DTA TBRs.



The reasoning behind this decision is that the contents of these TBRs are based upon articles 5(d) and 5(f) of directive 98/13. Therefore, should such requirements be determined as relevant under the R&TTE Directive, they would be written in accordance with articles 3.3 (a) and 3.3 (b), and the relevant TCAM/Commission services instruction.

At present, this leaves terminals and interfaces addressed by the DTA TBRs only requiring assessment against articles 3.1(a) and 3.1(b). These aspects would be covered in full by the proposed general standard.

The related issue of the possible conversion of the DTA TBRs to ESs so that the information contained within is retained for use elsewhere, is outside the scope of this STF. EP DTA believes that this is a matter for the industry as a whole and can be managed by DTA at a suitable later date should such a request be made. It should be noted that the digital world is highly standardized and all the information contained within DTA's TBRs is already contained within "base standards" and would thus not be lost on their withdrawal.

2) Dear Jacques,

Thank you for your e-mail of 12 July concerning EP DTA work on converting TBRs into Harmonized Standards for the RTTED; the situation in EP DTA is as follows.

We are currently producing a general Harmonized Standard for application to all terminals under Articles 3.1 (a) and 3.1 (b). We cannot give a final answer to your questions until the CEC/TCAM have determined whether or not any essential requirements under Article 3.3 will be applied. If they decide that some will apply EP DTA will examine the existing TBRs to see if they are still relevant in whole or part. If they decide that no requirements under Article 3.3 apply the general Harmonized Standard referred to above

will suffice for all of DTA's (and others) wire line services.

I understand that this Harmonized Standard has been discussed at the RTTED Steering Committee.

I hope that this answers your questions. Please do not hesitate to contact me if you require any further information. Kind Regards, Dave

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## A.2 RE

### A.2.1 DECT

Stoyans answer:

Hi Rolf,

Here a response from me on the subject.

Currently DECT-T is responsible for TBR22, TBR36 and TBR40; TBR11 is obsolete.

NOTE: DECT-T means DECT-Testing; DECT CI means DECT-Common Interface.

TBR06 and TBR10 were under the responsibilities of DECT-R;

TBR39 under DECT-GSM.

You may recall that on the last EP DECT meeting I suggested that if the DECT-CI and DECT-DATA are to be merged it will be a good idea to move all TBRs back to DECT-T (which was the case few years ago anyway).

Independently of what will be the decision in regard to responsibilities we have planned some activities if we get budget from ETSI on the conversion of the TBRs in CHS.

I am attaching updated the file you sent, check it out - the table with the status is changed only.

Stoyan

Table: List of TBRs assigned to EP DECT

TBR(s) assigned to TC/EP DECT	Still relevant Yes/No	Priority a, b, c (a= very urgent, b= urgent, c= not urgent)	Planned completion conversion to CHS	Comments
6	YES	a	2000	If budget from ETSI allocated
10	YES	a	2000	If budget from ETSI allocated
11	NO	N/A		
22	YES	a	2000	If budget from ETSI allocated
36	YES	c	not yet	
39	YES	b	not yet	
40	YES	c	not yet	

## A.2.2 ERM

### Title: TBR's WITH TC-ERM AND THE R&TTE DIRECTIVE

#### 1 TC-ERM is responsible for just 2 TBRs

#### 2 TBR 007 - ex ERM-RP04 - ERMES

The TBR relates to the characteristics of the ERMES paging receiver. Under the R&TTE Directive there are no specific requirements for receivers and there has been no requirement identified under Art 3.3.

Market access for ERMES, indeed all, paging receivers will thus be via the 'General Standard'.

TC-ERM has yet to decide if it wishes to re-publish the TBR as a voluntary ETSI Standard, ES, or merely declare the TBR obsolescent.

#### 3 TBR 023 - ex ERMES-RP05 (aeronautical) - TFTS

The TBR relates to TFTS (terrestrial flight telephone system). This is a low volume market, the TBR will need to be retained and converted into an harmonized standard under the R&TTE Directive.

It is recommended that this task be undertaken by STF 149 Phase 2, subject to resources being available.

OLLY WHEATON

## A.2.3 GSM

Dear Lidia.

I will probably organize a full working session at next SMG7 meeting on this matter of the HS for GSM mobiles (possibly half a day or more if sufficient time).

My opinion is that it is no more worth working under TTE directive.

See also the attached document that I have sent to Mr. Hillebrand , Bergmann and Cox.

Could you warn me as soon as you have updated the draft HS under RTTED, following the remarks at last SMG7?

It will be worth making it available sufficiently in advance of the meeting , to facilitate contributions.

Jean-Marc .

\_\_\_\_\_ Séparateur Réponse \_\_\_\_\_

Objet : HS for CTS (FP + PP) and GPRS

Auteur : id=Lidia.Salmeron@etsi.fr à unix

Date : 20/07/99 15:29

Importance: High

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Dear Jean-Marc,

Some of the SMG7 Work Items are the elaboration of Harmonized Standards for CTS (FP and MS) and GPRS. These were schedule to be presented for Public Inquiry by July 99, however, due to delays in the core specifications this wasn't possible. The new schedule given to the CE is: they will be presented for information at SMG#30 (October 99) and approved at SMG#31 (February 00).

The question now is: which directive will these ENs be written against?

99/05/EC comes into full force from 08/04/2000 and the ENs will not be able to be published before this. The new directive does indicate that people can still use published harmonized standards before that date but it would appear that these ENs are going to miss the boat and should be written to the new directive.

For the moment is not very clear what article 3.3 requirements are to be considered. If TCAM decides that no one of them are applicable to GSM terminals, only article 3.2 requirement has to be checked. Since the radio test for CTS and GPRS may not be too different from the ones for basic GSM, it may be possible to have one single HS for GSM, CTS, GPRS, HSCS, etc. under the R&TTE.

Other possibility is to produce the missing HSs under the TTE (even if it is too late) and use them as voluntary standards.

I would like to know you opinion on this and see if we can define the way forward (although maybe things are not too clear at this moment).

Best regards,

Lidia Salmeron

IntRef : TBRRTTE2.doc

Please consider my personal opinion on the TBRs conversions:

TBR5 , TBR9 are no more relevant , because CTR5 and CTR9 can no more be used.

TBR20 and TBR32 have just been merged in 13.02. This 13.02 is concerning Speech/telephony and might fall under 3.3(a) or 3.3(e) but until a decision from the commissions on these articles for GSM mobiles or some type of GSM mobile, I don't see a need to begin converting this document under RTTED.

TBR19 and TBR31 have just been merged in 13.01 . Parts of 13.01 are still relevant under RTTED, but might not be sufficient for all new types of GSM mobiles.

SMG7 has started working on the candidate HS for GSM mobiles.

Time schedule have not been reviewed yet.

A pure reduction of 13.01 will only allow presumption of conformity to Phase2 Release95 GSM mobiles.

After minimal update (reference to the correct major versions and limited updates ) and after analysis ,this candidate HS may allow presumption of conformity to mobiles implementing only certain services or features of Phase2 Release96, 97, and 98.

For some other features (or parts) more consequent updates will probably be necessary , namely additions of essential conformance requirements and test methods (E.g. GPRS) . Priorities might be given inside the features.

Some others features will only need reduction of an existing EN and inclusion in the new HS (e.g. R-GSM).

Time to perform these updates will not be the same in all the cases.

Moreover, at least Release 99 has not been completed so there will be new features with possible impact on the HS.

All this means that, even if not taking into account corrections, it might be necessary to issue and publish several updates of this HS for GSM mobiles.

Jean-Marc Recouvreux

SMG7 Chairman.

## A.2.4 SES

**European Telecommunications  
Standards Institute**

**Sophia Antipolis**

**Source: TC SES WG Harmonization**

**Date: August 1999**

**To: Olly Wheaton wheatono@ra.gtnet.gov.uk (Chairman of Steering Committee)**

**Mike Sharpe mike.sharpe@etsi.fr (Secretary of Steering Committee)**

**Mike Creedy michael.creedy@etsi.fr (STF Leader)**

**Subject: Conversion of TC SES TBRs under the Codified Directive into Candidate Harmonized Standards under the R&TTE Directive.**

This is the response of TC SES to STF 149 which has identified the following TBRs assigned to our ETSI Technical Committee SES, and to the following questions:

- Are the TBRs, (or parts of them) listed in the Table still relevant under R&TTE Directive;

**TC SES Response: They are all relevant.**

- Has your TC/EP started work to convert existing TBRs into candidate harmonized standards;

**TC SES Response: A Working Group on Harmonization was set up during TC SES#39, see our contribution to the Steering Committee#2.**

- Have you allocated priorities to that work and which priorities are assigned to each TBR;

TC SES Response: The activity of the Working Group was adopted during TC SES#40: two Working Group meetings and one TC SES Plenary # 42 dedicated to the approval of all Candidate Harmonized Standards ( CHSs) for OAP, from 30 November to 03 December 1999, in TBD.

The WG Harmonization Meetings are:

WG Harm# 1 from 20 to 24 September 1999, in TBD.

WG Harm# 2 from 19 to 22 October 1999, in Sophia Antipolis

The activity in relation with STF 149 will be:

- 1) STF 149 expert in charge of TC SES should participate in the WG meetings
- 2) Two batches of CHSs will be available to STF 149 one week after the WG Harm meeting, only Editorial and Cosmetics Comments are accepted.
- 3) For approval for OAP at TC SES #42, the CHSs should be put on the ETSI Server before the 15 November.

**Table: List of TBRs assigned to TC SES**

<b>TBR(s) assigned to TC/EP SES</b>	<b>Still relevant Yes/No</b>	<b>Priority a, b, c (a= very urgent, b= urgent, c= not urgent)</b>	<b>Planned completion conversion to CHS</b>	<b>Comments</b>
26	yes	b	see text above	
27	yes	b	"	
28	yes	b	"	
30	yes	b	"	
41	yes	b	"	
42	yes	b	"	
43	yes	b	"	
44	yes	b	"	

TC SES is waiting the output: draft proforma for generating candidate harmonized standards.

Yours faithfully, Alain Richard Chairman TC SES Chairman TC SES WG on Harmonization

Vice-Chairman, STF149 Steering Committee

## A.2.5 TETRA

### European Telecommunications Standards Institute

#### ETSI PROJECT TETRA

#### AHG for development of harmonized standards under the R&TTE Directive

**Source:** Gunvor Tind, Chairman of EP TETRA Ad hoc Group on Development of Harmonized Standards for application under R&TTE

**Date:** 15 August 1999

**To:** Olly Wheaton, Chairman of STF149 Steering Committee

**Subject:** Conversion of TETRA TBRs and ENs under the Codified Directive into Candidate Harmonized Standards under the R&TTE Directive.

Brian Oliver, Chairman of EP TETRA, has received a document from you, asking for nomination of a coordinator to represent EP TETRA in the Steering Committee for STF 149. The document also contains some specific question in relation to conversion of TBRs developed for TETRA under the current Codified Directive into Candidate Harmonized Standards under the R&TTE Directive.

EP TETRA has already established an Ad hoc Group to take care of the development of Harmonized Standards for application under R&TTE. EP TETRA has decided that the Ad hoc Group can liaise directly with the STF 149. As chairman of the Ad hc Group, I have been asked to be coordinator for EP TETRA in the STF 149 Steering Committee, and to answer the questions raised in your document.

#### **TBRs etc. for TETRA developed for application under the Codified Directive**

EP TETRA has currently only one published TBR, TBR 35, which is only applicable for Emergency Access to TETRA, and which does not cover any of the DMO functionality defined for TETRA.

This TBR is currently being updated to extend the coverage to also include DMO and the applicability to also include Civil Access. As part of the updating TBR 35 is converted to EN 301 435. The following parts and editions are developed:

- EN 301 435-1 edition 1: Civil Access, not including any DMO functionality. Has just been approved by EP TETRA to go for PE.
- EN 301 435-2 edition 1: Emergency Access, including also DMO MS-MS functionality. Scheduled EP TETRA approval: 1 October 1999.
- EN 301 435-2 edition 2: Emergency Access, including also DMO Repeater and Gateway functionality. Scheduled EP TETRA approval: 1 December 1999.
- EN 301 435-1 edition 2: Civil Access, including also Managed DMO functionality. Scheduled EP TETRA approval: 15 January 2000.

#### **Relevance in respect of the essential requirements under the R&TTE Directive**

The working assumption for TBR 35, and its subsequent EN 301 435 parts, has been that all requirements shall be based on the 98/13/EC Article 5(e) requirement on Effective use of the radio frequency spectrum.

Although the R&TTED Article 3.2 has slightly different wording from Article 5(e) of Directive 98/13/EC, the technical requirements for "effective use of the spectrum so as to avoid harmful interference" will be essentially the same as those under Article 5(e) of Directive 98/13/EC.

The above mentioned TBR and ENs therefore contain requirements to be referenced in respect of essential requirements, according to Article 3.2 of the R&TTE Directive.

It is not expected that the Candidate Harmonized Standards will contain requirements in addition to those, which will be included in EN 301 435, i.e. the requirements will be complete in respect of the R&TTE Directive.

#### **Approach for conversion of TBR 35/EN 301 435 into Candidate Harmonized Standards under the R&TTE Directive**

An important document for definition of the technical phenomena associated with specific essential requirements corresponding to Article 3.2, as defined in Annex A of EG 201 399 [6], is document 05/02 from the ERM/TG6 Guideline group.

This document was derived from a working draft of TBR 35 edition 2, and was used for justification of the phenomena to be associated with the essential requirements for equipment attributes A and B (which cover TETRA MS and BS respectively).

The relevance of requirements for that part of TETRA V+D, which is covered by TBR 35, has therefore already been evaluated according to Article 3.2 of the R&TTE Directive.

Relevance of requirements for V+D security and for DMO are still to be evaluated, but an important base line will be EN 301 435.

The division of EN 301 435 in a part 1 for Civil Access, and part 2 for Emergency Access is seen as an artificial market split under the Codified Directive, caused by the concerns of some Administrations in relation to use of DMO by other than emergency personnel.

This split is without background in the TETRA standards, and should be avoided to obtain a minimalist approach in the definition of the Candidate Harmonized Standard(s) to be used under the R&TTE.

From a technical point of view, there are however significant differences between the requirements for V+D and for DMO in relation to the compliance requirements needed by the manufacturers as basis for presumption of conformity with the essential requirements according to the R&TTE. It is therefore anticipated that there will be at least two Candidate Harmonized Standards for TETRA, one covering V+D, the second covering DMO.

#### **Schedule and priority for conversion of TBR 35/EN 301 435 into Candidate Harmonized Standards under the R&TTE Directive**

Based on ERM/TG6 05/02, and all its revisions, the Ad Hoc Group has started work to identify which of the requirements contained in TBR 35 and the first drafts of EN 301 435 do apply under R&TTE, and therefore shall be included in the Candidate Harmonized Standard(s).

TBR 35 and draft prEN 301 435-1 edition 1 cover the TETRA V+D functionality, while the requirements applicable under the Codified Directive for the DMO functionality is currently being specified by STF 85V, and will be included progressively in the remaining parts and editions of EN 301 435.

Since CTR 35, which is just about to be notified, only cover Emergency Access and no DMO functionality, application of the transitional arrangements in the R&TTE Directive may have the problem that EN 301 435 does not become published in the O.J. with reference to the Codified Directive before the implementation of the R&TTE directive.

The development of the Candidate Harmonized Standard(s) for TETRA is therefore considered extremely urgent. But taking into account that the drafting of requirements for DMO under the Codified Directive is scheduled to be completed by the end of the year, it cannot be considered practicable that the drafting of the Candidate Harmonized Standard(s), including both V+D and DMO functionality, can be completed before April 2000.

Although TBR 35 and draft prEN 301 435-1 edition 1 include all requirements for V+D to be evaluated for applicability under the R&TTE, it would in any case not even be possible to have a Candidate Harmonized Standard for V+D prior to the implementation of the new directive due to the time constraints imposed by the ETSI approval procedure.

Below you will find the table with list of TBRs/ENs assigned to EP TETRA, filled in as requested in your document.

**Table: List of TBRs/ENs assigned to EP TETRA**

<b>TBR(s)/EN(s) assigned to EP TETRA</b>	<b>Still relevant Yes/No</b>	<b>Priority a, b, c (a= very urgent, b= urgent, c= not urgent</b>	<b>Planned completion conversion to CHS</b>	<b>Comments</b>
TBR 35	See comment	N/A	N/A	Under conversion to EN 301 435 part 2
EN 301 435 part 1	Yes	a	Draft: April 2000	Split in Civil and Emergency Access shall be removed
EN 301 435 part 2				

Yours faithfully,

Gunvor Tind

Chairman of EP TETRA Ad hoc Group on Development of Harmonized Standards for application under R&TTE

---

## Annex B (informative): Proforma list of technical requirements

Annex B comprises an exhaustive list those current technical phenomena that could be considered as being essential requirements to show compliance with article 3.2 of the R&TTE Directive [1]. Technical Bodies may wish to consider each phenomena in accordance with EG 201 399 [6].

The list has been formulated in accordance with EG 201 399 [6] and numbered according to the Candidate Harmonized Standard proforma but without the style headings being applied.

### 4.2 Conformance requirements

<

#### 4.2.1 <Transmitter>

Guidance note: Remove this clause if equipment is not able to transmit.

##### 4.2.1.1 <Frequency error>

Guidance note: Remove this subclause and each of the subclauses below when Not Applicable.

##### 4.2.1.2 <Frequency stability>

##### 4.2.1.3 <Designation of channels>

##### 4.2.1.4 <Transmitter power>

##### 4.2.1.5 <Adjacent channel power>

##### 4.2.1.6 <Spurious emissions>

##### 4.2.1.7 <Inter-modulation attenuation>

##### 4.2.1.8 <Release time>

##### 4.2.1.9 <Transient behavior of the transmitter>

##### 4.2.1.9 <Modulation Accuracy>

##### 4.2.1.10 <Duty cycle>

>

<

#### 4.2.2 <Directional>

Guidance note: Remove this whole clause if equipment has no directional capability.

##### 4.2.2.1 <Off-axis EIRP density>

Guidance note: Remove this subclause and each of the subclauses below when Not Applicable.

##### 4.2.2.2 <Antenna gain>

##### 4.2.2.3 <Antenna X-polar discrimination>

##### 4.2.2.4 <Antenna pointing accuracy/control>

>



&lt;

### 4.2.3 <<Receiver>

Guidance note: Remove this whole clause when equipment is not able to receive.

#### 4.2.3.1 <(Maximum usable) sensitivity (inc. duplex)>

Guidance note: Remove this subclause and each of the subclauses below when Not Applicable.

#### 4.2.3.2 <Co-channel rejection>

#### 4.2.3.3 <Adjacent channel selectivity>

#### 4.2.3.4 <Spurious response rejection (inc. duplex)>

#### 4.2.3.5 <Inter-modulation response rejection>

#### 4.2.3.6 <Blocking or desensitization (inc. duplex)>

#### 4.2.3.7 <Spurious emissions>

#### 4.2.3.8 <Multi-path sensitivity>

&gt;

&lt;

### 4.2.4 <Control and Monitoring>

Guidance note: Remove this whole clause when equipment does not use control and monitoring.

#### 4.2.4.1 <Enabling Signaling>

Guidance note: Remove this subclause and each of the subclauses below when Not Applicable.

#### 4.2.4.2 <Sharing Protocols>

#### 4.2.4.3 <Network interface bit errors>

#### 4.2.4.4 <Error control by coding and decoding of logical channels>

#### 4.2.4.5 <Logical channel arrangement>

#### 4.2.4.6 <Control of communication in logical channels>

#### 4.2.4.7 <Correct interpretation of Network control information>

#### 4.2.4.8 <Network interface addressing>

#### 4.2.4.9 <Control of basic link communication>

#### 4.2.4.10 <Control of random access>

#### 4.2.4.11 <Control of radio resource allocation>

#### 4.2.4.12 <Monitoring functions for cell selection>

#### 4.2.4.13 <Control functions for usage of cells>

#### 4.2.4.14 <Control of group attach/detach>

#### 4.2.4.15 <TX enable/disable control>

- 4.2.4.16 <TX Call set up control>
- 4.2.4.17 <Control of call maintenance>
- 4.2.4.18 <Control of call disconnect>
- 4.2.4.19 <Authentication control>
- 4.2.4.20 <Encryption control procedures>
- >

---

## Annex C (informative): Candidate Harmonized Standard CHS\_23

The example draft of CHS\_23 is appended as document Annex\_C. This is for illustration only but is derived:

- 1) from the TBR 23 contained requirements;
- 2) the resulting technical phenomena as scanned by table of Annex A of EG 201 399 [6];
- 3) the latest proforma for candidate harmonized standards [5].

**Harmonized EN for Radio Equipment type  
covering essential requirements under Article 3.2  
of the R&TTE directive Electromagnetic compatibility  
and Radio spectrum Matters (ERM);  
Terrestrial Flight Telecommunication Systems;  
Radio Equipment used in Terrestrial Flight  
Telecommunications System (TFTS)**

---



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**Reference**

DEN/ERM-xxxxx (xxxxxxxx.PDF)

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**Keywords**

R&TTED, CHS, RE, TFTS

**ETSI**

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Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

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## Foreword

The present document has been produced by ETSI in response to a mandate from the European Commission issued under Council Directive 98/34/EC laying down a procedure for the provision of information in the field of technical standards and regulations.

The present document is intended to become a Harmonized Standard, the reference of which will be published in the Official Journal of the European Communities referencing the Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity ("the R&TTE Directive") [1].

<b>Proposed national transposition dates</b>	
Date of latest announcement of this EN (doa):	3 months after ETSI publication
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	6 months after doa
Date of withdrawal of any conflicting National Standard (dow):	6 months after doa



# Introduction

The present document is part of a set of standards designed to fit in a modular structure to cover all radio and telecommunications terminal equipment under the R&TTE Directive [1]. Each standard is a module in the structure. The modular structure is shown in figure 1.

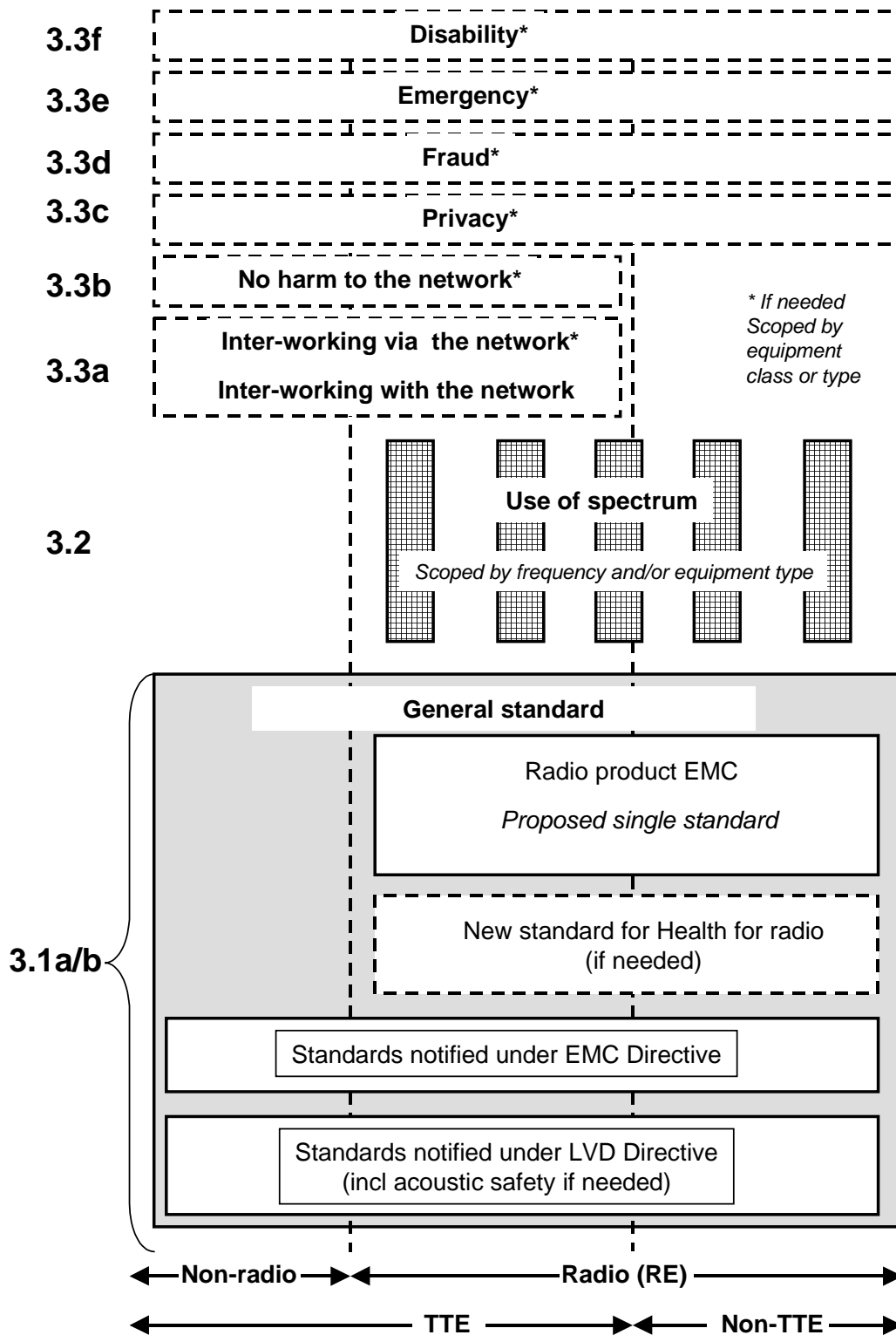


Figure 1: Modular structure for the various standards used under the R&TTE Directive

The left hand edge of the figure shows the different subclauses of Article 3 of the Directive. The essential requirements under Article 3.1a (safety etc.) and 3.1b (EMC) are addressed by a single General Standard that applies to all equipment (EN 301 450). The General Standard makes general cross references to those standards already notified under the LVD and EMC Directives that are appropriate for radio equipment and telecommunications terminal equipment and so provides a link to the arrangements under those directives thus avoiding duplication of notifications with potential problems of notifications not being synchronized.

The vertical boxes show the standards under Article 3.2 for the use of the radio spectrum. The scopes of these standards are specified either by frequency (normally in the case where frequency bands are harmonized) or by radio equipment type.

For Article 3.3 various horizontal boxes are shown. Their dotted lines indicate that essential requirements in these areas have to be adopted by the Commission. If such essential requirements are adopted, and as far and as long as they are applicable, they will justify individual standards whose scope is likely to be specified by function or interface type.

The bottom of the figure shows the relationship of the standards to radio equipment and telecommunications terminal equipment. A particular equipment may be radio equipment, telecommunications terminal equipment or both. The General Standard will always apply to it, and a radio spectrum standard will apply if it is radio equipment. An Article 3.3 standard will apply as well only if the relevant essential requirement is adopted by the Commission and if the equipment in question lies within the scope of the corresponding standard. Thus, depending on the nature of the equipment, the essential requirements under the Directive may be covered in just the General Standard or in a set of standards that includes the General Standard.

The modularity principle has been taken because:

- it minimizes the number of standards needed. Because equipment may, in fact, have multiple interfaces and functions it is not practicable to produce a single standard for each possible combination of functions that may occur in an equipment;
- it provides scope for standards under Articles 3.2 and 3.3 to be added when new frequency bands are agreed or when the Commission takes decisions under Article 3 without requiring alteration of standards that are already published;
- it clarifies, simplifies and promotes the usage of Harmonized Standards as the relevant means of conformity assessment.

*This CHS addresses the requirements under the Article 3.2 of the R&TTE Directive.*

---

# 1 Scope

The present document applies to Terrestrial Flight Transmission radio equipment.

This radio equipment is capable of operating in all or any part of the frequency bands given in table 1.

**Table 1: Terrestrial Flight transmission service frequency bands**

Direction of transmission	TFTS frequency bands
Transmit ground-to-air	1670 to 1675 MHz
Transmit air-to-ground	1800 to 1805 MHz

The present document is intended to cover the provisions of Directive 1999/5/EC (R&TTE Directive) [1] Article 3.2 which states that "...radio equipment shall be so constructed that it effectively uses the spectrum allocated to terrestrial/space radio communications and orbital resources so as to avoid harmful interference".

In addition to the present document, other ENs that specify technical requirements in respect of essential requirements under other parts of Article 3 of the R&TTE Directive [1] may apply to equipment within the scope of the present document.

NOTE: A list of such ENs is included on the ETSI web site at XXX.

---

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

- [1] Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity (R&TTE Directive).
- [2] TBR 23: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Terrestrial Flight Telecommunications System (TFTS); Technical requirements for TFTS".
- [3] ETS 300 326-2 (1996): "Radio Equipment and Systems (RES); Terrestrial Flight Telephone System (TFTS); Part 2: Speech services, radio interface".
- [4] ETR 028: "Radio Equipment and Systems (RES); Uncertainties in the measurement of mobile radio equipment characteristics".
- [5] ARINC Characteristic 752 (January 1993): "Terrestrial Flight Telephone System (TFTS) Airborne Radio Subsystem".
- [6] EUROCAE ED-14C: "Environmental Conditions and Test Procedures for Airborne Equipment".

## 3 Definitions and abbreviations

### 3.1 Definitions

For the purposes of the present document, the terms and definitions in the R&TTE Directive [1], and the following apply:

**burst mode:** transmission with one or more of the traffic channels unused

**continuous modulation mode:** see subclause 6.6.3

**environmental profile:** the range of environmental conditions under which equipment within the scope of the present document is required to comply with the provisions of the present document

**necessary bandwidth:** for a given class of emission, the width of the frequency band which is just sufficient to ensure the transmission of information at the rate and with the quality required under specified conditions

**occupied bandwidth:** the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage  $P/2$  of the total mean power of a given emission

**out-of-band emission:** emission on a frequency or frequencies immediately outside the necessary bandwidth which results from the modulation process, but excluding spurious emissions

**radio equipment:** as defined in R&TTE Directive [1] Article 2(c), subject to general exclusions referred to in the scope and aim of the Directive - Article 1

**supplier:** the manufacturer or his authorized representative established within the Community or the person responsible for placing the apparatus on the market

**spurious emission:** emission on a frequency or frequencies which are outside the necessary bandwidth and the level of which may be reduced without affecting the corresponding transmission of information. Spurious emissions include harmonic emissions, parasitic emissions, intermodulation products and frequency conversion products, but exclude out-of-band emissions

**suppressed modulation mode:** see subclause 6.6.4

**unwanted emissions:** consist of spurious emissions and out-of-band emissions

**95 % confidence level:** 1,96 times the total standard deviation, based on the Student t factor

### 3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

AT	Avionics Termination
BCCH	Broadcast Control CHannel
CHS	Candidate Harmonized Standard
EMC	Equipment Manufacture Code
EN-R	EN Requirement
EN-RT	EN Requirements Table
GS	Ground Station (of the TFTS system)
LVD	Low Voltage Directive
PRBS	Pseudo Random Bit Sequence
R&TTE	Radio and Telecommunications Terminal Equipment
RE	Radio Equipment
RF	Radio Frequency
RT	Requirement Table
TFTS	Terrestrial Flight Telecommunications System
WOW	Weight On Wheels

## 4 Technical requirements specifications

### 4.1 Environmental profile

The technical requirements of the present document apply under the environmental profile for operation of the equipment, which shall be determined by the environmental class of the equipment. The equipment shall comply with all the technical requirements of the present document at all times when operating within the boundary limits of the required operational environmental profile.

NOTE: Aeronautical Environment specifications are defined outside the present document.

### 4.2 Conformance requirements

#### 4.2.1 Limits for Frequency error

The fractional error between the actual transmitted frequency or the center frequency of the receiver and the nominal frequency shall be less than  $2 \times 10^{-7}$ .

#### 4.2.2 Limits for Transmitter power

The nominal mean transmit power shall be +40 dBm (+2, -1 dB) at the antenna port. The lowest value of the mean transmit power shall be  $75 \pm 2$  dB below nominal. The automatic power control shall adjust the output power relative to the nominal mean level in the range +0 to -75 dB in equal steps of 5 dB. The tolerance of each step shall be  $\pm 2$  dB.

When Weight On Wheels (WOW) is TRUE, the mean power level shall be reduced to +25 (+4, -3 dB) dBm, also measured at the antenna port.

#### 4.2.3 Limits for RF spectrum mask

The spectrum mask shall be less than the limits specified in table 2 as the maximum power level at several frequencies above and below the nominal transmit frequency. The frequency offsets shall be measured from the nominal center frequency, not from the actual value, and power levels are given relative to the transmit power at the nominal frequency.

**Table 2: Transmitter mask**

Frequency offset (kHz)	dB relative to power at center frequency	Measurement bandwidth (Hz)
$\pm 11,3$	+1	300
$\pm 14,5$	-20	300
$\pm 15,6$	-35	300
$\pm 30$	-37	300
$\pm 60$	-49	300
$\pm 120$	-65	300
$\pm 2\ 500$	-70	1 000
$\pm 5\ 000$	-75	1 000

#### 4.2.4 Limits for out of band emissions

Out of band emissions from the AT shall be better than -69 dBW/30 kHz at the antenna port, at all frequencies outside the range 1 797,5 MHz to 1 807,5 MHz.

#### 4.2.5 Limits for spurious emissions

Spurious emissions shall be measured at the antenna port with the transmitter set to full power in suppressed modulation mode and then with the transmitter in standby mode.

The spurious emissions at frequencies between 9 kHz and 1 GHz from the TFTS equipment shall not exceed -58 dBm at the antenna port. The spurious emissions at frequencies between 1 GHz and 12,75 GHz shall not exceed -48 dBm at the antenna port.

This shall be verified by conducted measurements in the band 9 kHz to 12,75 GHz, excluding the AT transmit band from 1 800 MHz to 1 805 MHz, in the suppressed modulation mode.

#### 4.2.6 Decoding of BCCH channel

The AT shall be capable of decoding the BCCH channel of the transmission from a Ground Station (GS) and shall respect the range limit of that GS.

#### 4.2.7 Response to shutdown command from GS

If an AT is instructed to shut down by the ground station then it shall do so in the manner specified in ETS 300 326-2 [3] subclause 10.11.5.2.4.

#### 4.2.8 Response to timing and power adjustments commands

The AT shall respond as specified to commands from a GS relating to adjustment of the AT transmit power or AT timing.

---

## 5 Testing for compliance with technical requirements

### 5.1 Environmental conditions for testing

The demonstration tests defined in the present document shall be performed under environmental conditions regarded as normal for the equipment:

- temperature: 15°C to 35°C;
- relative humidity: 20 % to 75 %;
- pressure: 990 mBar to 1 014 mBar.

Testing under other environmental conditions will have been undertaken by manufacturers according to ARINC characteristic 752 [5] and EUROCAE ED-14C [6] and shall not be repeated for the present document.

NOTE: Performing demonstration tests under environmental conditions regarded as extreme, i.e. close to the boundary limits of the declared operational environmental profile, is not a requirement of the present document.

### 5.2 Essential radio test suites

For TFTS Radio Equipment, the following test suite is considered essential to assessment of conformity in accordance with annex III of the R&TTE Directive [1]:

Transmitter power output
Transmitter frequency accuracy
RF spectrum mask
Out of band emissions
Spurious emissions
Decoding of BCCH channel
Response to shutdown command from GS
Response to timing and power adjustment commands

## 5.2.1 Transmitter power output

### 5.2.1.1 Test method

- a) the AT shall be set in continuous modulation mode;
- b) the transmitter shall be set to channel 82 (1 802,484 848 MHz);
- c) the AT mean output power shall be set to give +40 dBm at the antenna port;
- d) a power meter shall be connected to the antenna port via suitable external power attenuators;
- e) the mean output power shall be calculated as follows:
  - meter reading + power attenuation - any calibration required for the meter and power sensor; and
  - shall be checked versus the range specified in subclause 4.3.2;
- f) the automatic power control shall be set to reduce the output power by 75 dB;
- g) the external power attenuation shall be reduced to give a measurable mean power level at the power meter;
- h) the lowest mean output power shall be calculated as in step e) above and shall be within the range specified in subclause 4.3.2;
- j) the automatic power control shall be set to increase the power in 5 dB steps. The measured output power at each step shall be calculated as in paragraph e) above and its value at each step shall be compared to  $(-35 + 5n) \pm 2$  dBm, where n is the step number and steps 0 and 15 correspond to the lowest and highest output powers respectively.

NOTE: It may be necessary to adjust the external power attenuation to take account of the dynamic range of the power meter when increasing the output power in step j).

### 5.2.1.2 Test bank characteristics

The test equipment shall consist of a RF power meter (measuring mean power), any associated power sensor, cabling and power attenuators.

The TFTS transmitter shall be connected to the diplexer by the manufacturer-supplied cable and the diplexer receiver port shall be terminated in a 50  $\Omega$  load (see figure 1).

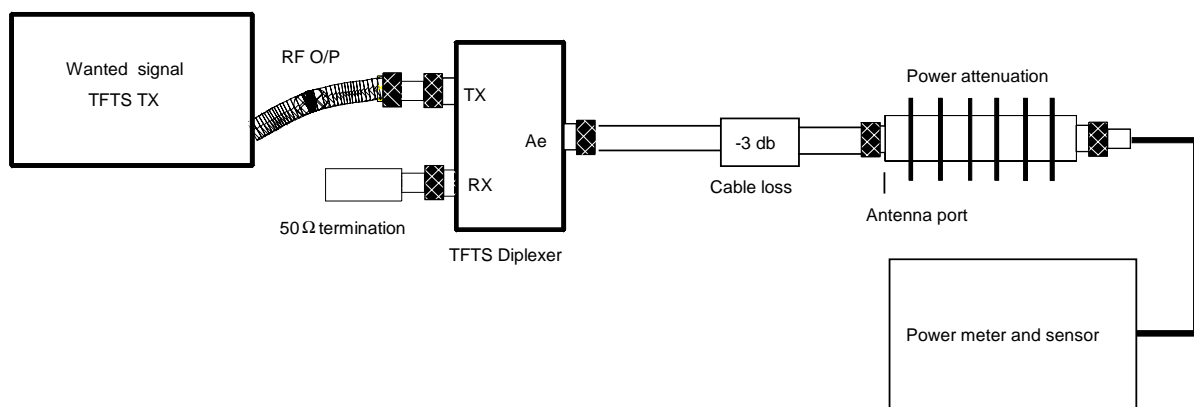


Figure 1: Transmitter power measurement test equipment

### 5.2.1.3 Measurement uncertainty

The maximum uncertainty for the measurement shall be  $\pm 1$  dB according to ETR 028 [4].

## 5.2.2 Transmitter frequency accuracy

### 5.2.2.1 Test method

This test method is to measure the short term frequency accuracy of the transmitter. Verification of long term frequency accuracy of an AT shall be by manufacturer's declaration.

- a) the AT shall be set to suppressed modulation mode;
- b) the AT mean output power shall be set to give +40 dBm at the antenna port;
- c) the transmitter shall be set to channel 1 (1 800,030 303 MHz);
- d) the transmitted frequency at the antenna port shall be recorded;
- e) the fractional error shall then be calculated as follows:

$$\text{fractional error} = \frac{|(\text{measured frequency} - \text{nominal channel frequency})|}{\text{nominal channel frequency}}$$

- f) steps c) to e) shall be repeated with the AT transmitter set to channel 82 (1 802,484 848 MHz);
- g) steps c) to e) shall be repeated with the AT transmitter set to channel 164 (1 804,969 696 MHz);
- h) the fractional error in the transmit frequency measured for each channel in steps a) to g) above shall be compared to the maximum admissible value of  $2 \times 10^{-7}$ . For guidance, this corresponds to the measured frequency being contained in the interval  $(f_{\text{nom}} - 360)$  Hz to  $(f_{\text{nom}} + 360)$  Hz, where  $f_{\text{nom}}$  is the nominal frequency in hertz of the channel to which the transmitter is set.

### 5.2.2.2 Test bank characteristics

The test equipment shall consist of a frequency meter and appropriate RF attenuation to reduce the transmit power to a level suitable for the meter.

The TFTS transmitter shall be connected to the diplexer by the cable supplied by the manufacturer and the diplexer receiver port shall be terminated in a 50  $\Omega$  load.

### 5.2.2.3 Measurement uncertainty

The measurement uncertainty depends on the frequency reference used by the frequency counter shall be better than 0,02 ppm.

## 5.2.3 RF spectrum mask

### 5.2.3.1 Test method

- a) the AT shall be set in continuous modulation mode;
- b) the AT mean output power shall be set to give +40 dBm at the antenna port;
- c) the radio shall be set to transmit on channel 1 (1 800,030 303 MHz);
- d) the signal at the antenna port shall be averaged over at least 20 sweeps on a spectrum analyzer with the measurement bandwidth shown in table 2. The mean of the transmit spectrum shall be compared with the values of the transmit mask;
- e) steps c) to d) shall be repeated with the AT set to channel 82 (1 802,484 848 MHz);
- f) steps c) to d) shall be repeated with the AT set to channel 164 (1 804,969 697 MHz).



### 5.2.3.2 Test bank characteristics

The test equipment shall consist of a spectrum analyzer, a Pseudo Random Bit Sequence (PRBS) generator and RF attenuators to reduce the output power to a suitable level for the analyzer. The analyzer should be programmed to display the wanted RF mask.

### 5.2.3.3 Measurement uncertainty

The uncertainty in the measurement will depend on the relative accuracy of the analyzer used. At relative powers of 0 to -50 dB the maximum uncertainty for the measurement shall be  $\pm 2$  dB according to ETR 028 [4]. At signal levels below -50 dB the noise floor of the analyzer increases the uncertainty which then also depends on the averaging factor used to display the RF mask.

## 5.2.4 Out of band and spurious emissions

### 5.2.4.1 Test method

#### 5.2.4.1.1 Out of band emissions

- a) the AT shall be set in continuous modulation mode;
- b) the transmitter shall be set to channel 1 (1 800,030 303 MHz);
- c) the mean output power of the transmitter shall be set to give +40 dBm at the antenna port;
- d) the spectrum analyzer shall be swept from 1 697,5 MHz to 1 797,5 MHz;
- e) the level of emissions shall be measured and compared to the maximum admissible value of -69 dBW in 30 kHz. This measurement shall be made in the near vicinity of the transmitted signal and for frequencies where emissions having a level approaching the requirement have been detected;
- f) the main radio shall be set to channel 164 (1 804,969 696 MHz);
- g) the spectrum analyzer shall be swept from 1 807,5 MHz to 1907,5 MHz;
- h) the level of emissions shall be measured and compared to the maximum admissible value of - 69 dBW in 30 kHz. This measurement shall be made in the near vicinity of the transmitted signal and for frequencies where emissions having a level approaching the requirement have been detected.

#### 5.2.4.1.2 Spurious emissions

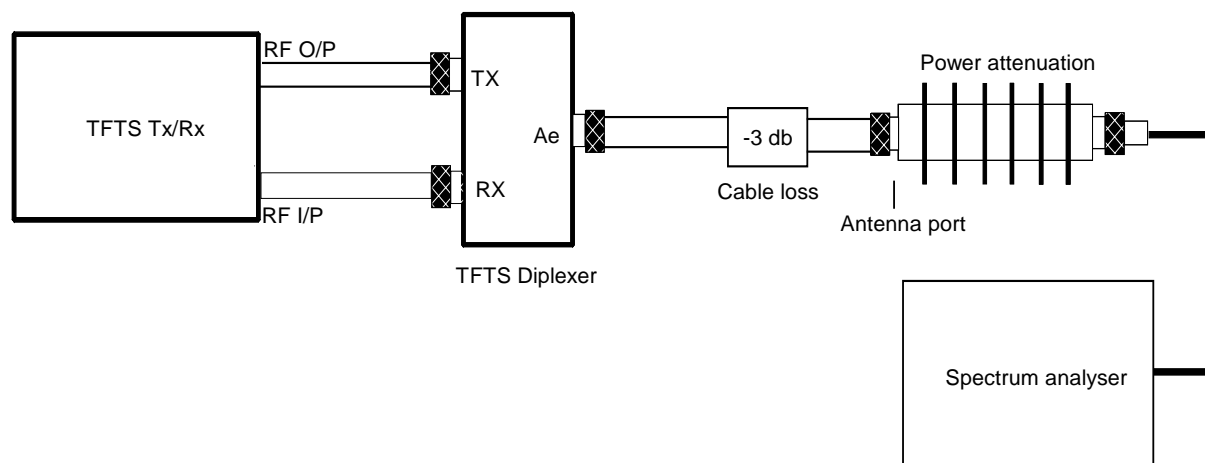
- a) the transmitter shall be set to channel 1 (1 800,030 303 MHz);
- b) the mean output power of the transmitter shall be set to give +40 dBm at the antenna port;
- c) the transmitter shall be set to suppressed modulation mode;
- d) the spectrum analyzer shall be swept between 9 kHz and 1 GHz with a measurement bandwidth of 30 kHz;
- e) for each spurious detected, the peak power level shall be measured and compared to the maximum admissible value of -58 dBm;
- f) the spectrum analyzer swept from 1 000 MHz to 1 800 MHz and 1 805 MHz to 12,75 GHz with a measurement bandwidth of 30 kHz;
- g) for each spurious detected, the peak power level shall be measured and compared to the maximum admissible value of -48 dBm;
- h) steps d) to g) shall be repeated with the transmitter set to channel 82 (1 802,484 848 MHz);
- j) steps d) to g) shall be repeated with the transmitter set to channel 164 (1 804,969 696 MHz);
- k) the AT shall be set to standby mode;

l) steps c) to g) shall be repeated, including measurement in the band 1 800 MHz to 1 805 MHz.

#### 5.2.4.2 Test bank characteristics

A spectrum analyzer shall be connected to the antenna terminal of the diplexer via a 50  $\Omega$  power attenuator.

The receiver output of diplexer shall be connected to the receiver input of the AT.



**Figure 2: Unwanted emissions measurement equipment**

#### 5.2.4.3 Measurement uncertainty

The typical measurement uncertainty has been calculated as  $\pm 4$  dB according to ETR 028 [4].

### 5.2.5 Correct decoding of BCCH channel

#### 5.2.5.1 Test method

The test GS BCCH 5 (D) shall be configured to set the cell radius to a convenient value (for example 100 km).

The transmit timing shall be adjusted so that the timing at the AT gives the appearance of a range to the GSS equal to the cell radius minus 5 km.

The AT shall be configured to establish a connection.

The transmit timing shall be adjusted so that the AT timing gives appearance of a range equal to the cell radius plus 5 km. Some equipment may reject a jump in range in order to protect against false correlation in the presence of noise. This is acceptable and if applicable, the test equipment shall move the range slowly and continuously from one value to the other. The AT shall cease transmitting within 25 s of reaching cell radius plus 5 km.

#### 5.2.5.2 Test bank characteristics

The AT under test shall be connected to a test GS through a feeder cable. If necessary, an attenuator may be installed between the units. If this is the case, then the attenuator shall be adjusted to establish a signal level into the AT under test that is nominally 6 dB above sensitivity.

#### 5.2.5.3 Measurement uncertainty

As the parameter being tested is digital in nature, measurement uncertainty is not applicable. There is an uncertainty in the accuracy of the range measurement, but this is not significant to this test.

## 5.2.6 Correct response to shutdown command

### 5.2.6.1 Test method

The test GS shall be configured to transmit the shutdown command including the address of the AT under test.

The AT shall cease transmitting upon receipt of the shutdown command.

### 5.2.6.2 Measurement uncertainty

The AT under test shall be connected to a test GS through a feeder cable. If necessary, an attenuator may be installed between the units. If this is the case, then the attenuator shall be adjusted to establish a signal level into the AT under test that is nominally 6 dB above sensitivity.

The test GS shall be capable of specific control of the elements of the BCCH (D) in respect of the shutdown parameter.

### 5.2.6.3 Measurement uncertainty

As the parameter being tested is digital in nature, measurement uncertainty is not applicable.

## 5.2.7 AT response to timing and power adjustment commands

### 5.2.7.1 Test method

#### 5.2.7.1.1 Timing

The attenuator shall be adjusted to establish a signal level into the AT under test that is nominally 6 dB above sensitivity. The AT shall be configured to establish a connection.

The time of arrival of the AT transmitted signal shall be verified at the GS. This shall be achieved by inspection that the GS assesses the timing to be acceptable.

#### 5.2.7.1.2 Power

The AT shall be configured to establish connection. The attenuator shall be set to establish a power into the AT of the order of -85 dBm.

Either by automatic (by variation of the attenuator setting) or manual means, it shall be verified that the AT responds to power adjustment commands received from the GS on the BCCH.

### 5.2.7.2 Test bank characteristics

The AT under test shall be connected to a test GS antenna connector through a feeder cable. A variable attenuator capable of withstanding the power output from the GS and AT shall be installed between the units.

## Annex A (informative): The EN Requirements Table (EN-RT)

Notwithstanding the provisions of the copyright clause related to the text of the present document, ETSI grants that users of the present document may freely reproduce the EN-RT proforma in this annex so that it can be used for its intended purposes and may further publish the completed EN-RT.

The EN Requirements Table (EN-RT) serves a number of purposes, as follows:

- it provides a tabular summary of all the requirements;
- it shows the status of each EN-R, whether it is essential to implement in all circumstances (Mandatory), or whether the requirement is dependent on the supplier having chosen to support a particular optional service or functionality (Optional). In particular it enables the EN-Rs associated with a particular optional service or functionality to be grouped and identified;
- when completed in respect of a particular equipment it provides a means to undertake the static assessment of conformity with the EN.

The EN-RT is placed in an annex of the EN in order that it may be photocopied and used as a proforma.

**Table A.1: EN Requirements Table (EN-RT)**

EN Reference		CHS_23				Comment
No.	Reference	EN-R (note)	Status			
1	4.2.1	Transmit frequency accuracy	m			
2	4.2.2	Transmit power output	m			
3	4.2.3	RF spectrum mask	m			
4	4.2.4	Out-of-band emissions	m			
5	4.2.5	Spurious emissions	m			
6	4.2.6	Decoding of BCCH Channel	m			
7	4.2.7	Response to shutdown command from GS	m			
8	4.2.8	Response to timing and power adjustment commands	m			

NOTE: These EN-Rs are justified under Article 3.2 of the R&TTE Directive.

### Key to columns:

**No** Table entry number;

**Reference** Subclause reference number of conformance requirement within the present document;

**EN-R** Title of conformance requirement within the present document;

**Status** Status of the entry as follows:

M Mandatory, shall be implemented under all circumstances;

O Optional, may be provided, but if provided shall be implemented in accordance with the requirements;

O.n This status is used for mutually exclusive or selectable options among a set. The integer "n" shall refer to a unique group of options within the EN-RT. A footnote to the EN-RT shall explicitly state what the requirement is for each numbered group. For example, "It is mandatory to support at least one of these options", or, "It is mandatory to support exactly one of these options".

**Comments** To be completed as required.

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## History

<b>Document history</b>		
	December 1999	The present document is for illustration purpose of the TBR report to be prepared by STF 149; it is not intended as such to be published by ETSI.

## Annex D (informative): Identification of Article 3.3 requirements contained in corresponding TBRs

### D.1 TTE

#### D.1.1 DTA

##### TBR 3/TBR4/TBR12/TBR13/TBR14/TBR24/TBR25/TBR 33/TBR 34

For TTEs that attach directly to a digital network (either ISDN or Digital leased lines) and covered by TBRs presently under the responsibility of DTA, the following Table D.2 of technical phenomena under Articles 3.3(a) and 3.3(b) is proposed for discussion.

**Table D.1: Technical Phenomena for TTEs directly attached to a digital network**

Function	Technical Phenomena	Yes/No Maybe	Justification/Comments
Transmitting	Frequency error		
	Frequency stability		
	Designation of channels		
	Maximum Transmitter power		
	Adjacent channel power		
	Power Spectral Density		
	Spurious emissions (Out of band)		
	Pulse shaping		
	Duty cycle		
	Output jitter		
	Impedance (return loss)		
	Balance to earth		
	Resistance to earth		
	Signal coding		
Receiving	Impedance (return loss)		
	Balance to earth		
	Resistance to earth		
	Inter-modulation response rejection		
Control and Monitoring	Spurious emissions		
	Enabling Signaling		
	Sharing Protocols		
	Network interface bit errors		
	Error control by coding and decoding of logical channels		
	Logical channel arrangement (framing)		
	Control of communication in logical channels		
	Correct interpretation of Network control information		
	Network interface addressing		
	Control of basic link communication		
	TX enable/disable control		
	TX Call set up control		
	Control of call maintenance		
	Control of call disconnect		
Authentication control			
Encryption control procedures			

NOTE: The case of TTEs attach to ISDN may either be considered as TTE attached to an NTE (NT) or directly attached to the digital network.

## Annex E (informative): CTR/TBR Status

Table E.1: Adopted CTRs and bridging measures (status on 8<sup>th</sup> October 1999)

CTR No.	Subject	TC approval	Start of Public Enquiry	End of Public Enquiry	Start of Vote	End of Vote	Vote result	TRAC approval	ACTE approval	Publication by ETSI	CTR announcement in O.J.
1	X.21	04/02/94	23/05/94	16/09/94	08/05/95	30/06/95	05/07/95 Adopted	18/09/95 TRAC 20	29/09/95 ACTE 30	October 1995	10/07/97 L223/18 97/544/EC
2	X.25	04/02/94	23/05/94	16/09/94	05/08/96	11/10/96	18/10/96 Adopted	22/11/96 TRAC 26	23/01/97 ACTE 36	January 1997	10/07/97 L223/21 97/545/EC
2	X.25 Bridging Measure								16/02/95 ACTE 27	N/A	18/01/96 L13/23 96/71/EC
3	ISDN Basic Access (BA)	18/03/94	09/05/94	02/09/94	26/06/95	01/09/95	08/09/95 Adopted	18/09/95 TRAC 20	implicit approval 29/09/95 ACTE 30	November 1995	06/06/97 L148/19 97/346/EC (expired 20/05/98)
3/A1	ISDN Basic Access (BA)				17/06/97	29/08/97	08/09/97 Adopted	25/09/97 TRAC 29	18/12/97 ACTE 40	December 1997	19/08/98 L232/7 98/515/EC
3	ISDN – BA Bridging Measure									N/A	20/12/94 L329/14 94/797/EC (expired 20/05/98)
4	ISDN Primary Rate Access (PRA)	18/03/94	09/05/94	02/09/94	26/06/95	01/09/95	08/09/95 Adopted	18/09/95 TRAC 20	implicit approval 29/09/95 ACTE 30	November 1995	06/06/97 L148/25 97/347/EC (expired 20/05/98)
4/A1	ISDN Primary Rate Access (PRA)				17/06/97	29/08/97	08/09/97 Adopted	25/09/97 TRAC 29	18/12/97 ACTE 40	December 1997	19/08/98 L232/19 98/520/EC
4	ISDN – PRA Bridging Measure									N/A	20/12/94 L329/1 94/796/EC (expired 20/5/98)



CTR No.	Subject	TC approval	Start of Public Enquiry	End of Public Enquiry	Start of Vote	End of Vote	Vote result	TRAC approval	ACTE approval	Publication by ETSI	CTR announcement in O.J.
5	GSM Access	30/10/92	28/12/92	23/04/93	05/07/93	27/08/93	01/09/93 Adopted	22/09/93 TRAC 11	28/09/93 ACTE 17	November 1993	12/01/94 L8/20 94/11/EC (expired 10/07/98)
5 Ed.2	GSM Access	07/10/94	21/11/94	17/03/95	24/04/95	16/06/95	26/06/95 Adopted	18/09/95 TRAC 20	29/09/95 ACTE 30	October 1995	09/07/97 L215/57 97/526/EC (expired 24/10/98)
6	DECT Access	26/06/92	20/07/92	11/12/93	12/04/93 19/07/93	10/06/93 10/09/93	16/09/93 Adopted	10/12/93 TRAC 12	14/12/93 ACTE 19	December 1993	29/07/94 L194/89 94/471/EC (expired 10/01/98)
6 Ed.2	DECT Access	09/02/95	04/09/95	29/12/95	12/08/96	18/10/96	25/10/96 Adopted	22/11/96 TRAC 26	23/01/97 ACTE 36	January 1997	09/07/97 L215/48 97/523/EC
7	ERMES	16/03/93	24/05/93	15/10/93	07/02/94	01/04/94	07/04/94 Adopted	02/06/94 TRAC 15	07/11/94 ACTE 25	November 1994	02/08/95 L182/21 95/290/EC
7 Ed.2	ERMES	01/12/95	08/04/96	30/08/96	14/01/97	14/03/97	21/03/97 Adopted	15/05/97 TRAC 28	18/12/97 ACTE 40	December 1997	19/08/98 L232/25 98/522/EC
8	ISDN Telephony	04/12/92	15/03/93	06/08/93	07/02/94	01/04/94	07/04/94 Adopted	02/06/94 TRAC 15	22/09/94 ACTE 24 and again on 29/09/95 ACTE 30	September 1994	13/12/95 L300/38 95/526/EC
8 Ed.2	ISDN Telephony	18/09/97	17/10/97	13/02/97	29/06/98	11/09/98	11/09/98 Adopted	11/09/98 TRAC 33	16/10/98 ACTE 43	October 1998	12/04/99 1999/304/EC
9	GSM Telephony	30/10/92	28/12/92	23/04/93	05/07/93	27/08/93	01/09/93 Adopted	22/09/93 TRAC 11	28/09/93 ACTE 17	November 1993	12/01/94 L8/23 94/12/EC (expired 10/07/98)
9 Ed.2	GSM Telephony	07/10/94	21/11/94	17/03/95	24/04/95	16/06/95	26/06/95 Adopted	18/09/95 TRAC 20	29/09/95 ACTE 30	October 1995	09/07/97 L215/57 97/527/EC (expired 24/10/98)
10	DECT Telephony	26/06/92	20/07/92	11/12/93	12/04/93 19/07/93	10/06/93 10/09/93	16/09/93 Adopted	10/12/93 TRAC 12	14/12/93 ACTE 19	December 1993	29/07/94 L194/91 94/472/EC (expired 10/01/98)

CTR No.	Subject	TC approval	Start of Public Enquiry	End of Public Enquiry	Start of Vote	End of Vote	Vote result	TRAC approval	ACTE approval	Publication by ETSI	CTR announcement in O.J.
10 Ed.2	DECT Telephony	09/02/95	04/09/95	29/12/95	12/08/96	18/10/96	25/10/96 Adopted	22/11/96 TRAC 26	23/01/97 ACTE 36	January 1997	09/07/97 L215/50 97/524/EC
11	DECT – PAP	15/01/93	01/03/93	06/08/93	20/12/93	11/02/94	21/02/94 Adopted	02/06/94 TRAC 15	22/09/94 ACTE 24 and again on 29/09/95 ACTE 30	September 1994	13/12/95 L300/35 95/525/EC (expired 10/01/98)
11/A1	DECT – PAP	07/07/94	19/09/94	N/A	N/A	13/01/95	19/01/95 Adopted	02/02/95 TRAC 17	16/02/95 ACTE 27	February 1995	13/12/95 L300/35 95/525/EC
12	Leased lines D2048U	30/06/92	31/08/92	25/12/92	19/07/93	10/09/93	16/09/93 Adopted	10/12/93 TRAC 12	14/12/93 ACTE 19	December 1993	29/07/94 L194/87 94/470/EC (expired 10/07/97)
12/A1	Leased lines D2048U	29/08/94 23/02/95	10/10/94 05/06/95	N/A	N/A	29/09/95	16/10/95 Adopted	20/11/95 TRAC 21	12/12/95 ACTE 31	January 1996	09/07/97 L215/41 97/520/EC
13	Leased lines D2048S	06/04/94	06/06/94	30/09/94	11/09/95	03/11/95	21/11/95 Adopted	20/11/95 TRAC 21	12/12/95 ACTE 31	January 1996	09/07/97 L215/44 97/521/97
14	Leased lines D64U	11/11/92	21/12/92	16/04/93	22/11/93	14/01/94	20/01/94 Adopted	31/03/94 TRAC 14	12/04/94 ACTE 21	April 1994	29/12/94 L339/81 94/821/EC (expired 10/07/98)
14/A1	Leased lines D64U	29/08/94 23/02/95	10/10/94 05/06/95	N/A	N/A	29/09/95	16/10/95 Adopted	20/11/95 TRAC 21	12/12/95 ACTE 31	January 1996	09/07/97 L215/46 97/522/EC
15	Leased lines A2O/A2S	29/06/94	05/09/94	30/12/94	27/11/95	19/01/96	26/01/96 Adopted	02/02/96 TRAC 22	23/01/97 ACTE 36	January 1997	09/07/97 L208/44 97/486/EC
17	ONP A4O/A4S	29/06/94	05/09/94	30/12/94	27/11/95	19/01/96	26/01/96 Adopted	02/02/96 TRAC 22	23/01/97 ACTE 36	January 1997	09/07/97 L208/47 97/487/EC
19	GSM (Ph. 2) Access	07/04/95	22/05/95	15/09/95	27/11/95	19/01/96	26/01/96 Adopted	01/02/96 TRAC 22	13/02/96 ACTE 32	February 1996	N/A
19 Ed.2	GSM (Ph. 2) Access	02/02/96	25/03/96	N/A	N/A	16/08/96	30/08/96 Adopted	N/A	N/A	September 1996	N/A

CTR No.	Subject	TC approval	Start of Public Enquiry	End of Public Enquiry	Start of Vote	End of Vote	Vote result	TRAC approval	ACTE approval	Publication by ETSI	CTR announcement in O.J.
19 Ed.3	GSM (Ph. 2) Access	12/04/96	20/05/96	N/A	N/A	11/10/96	25/10/96 Adopted	N/A	18/09/96 ACTE 34bis	October 1996	01/11/96 L282/79 96/630/EC (expired 04/12/98)
19 Ed.4	GSM (Ph. 2) Access	15/06/97	05/08/97	N/A	N/A	12/12/97	15/12/97 Adopted	N/A	20/04/98 ACTE 41	March 1998	15/10/98 L278/30 98/574/EC
20	GSM (Ph. 2) Telephony	07/04/95	22/05/95	15/09/95	27/11/95	19/01/96	26/01/96 Adopted	01/02/96 TRAC 22	13/02/96 ACTE 32	February 1996	N/A
20 Ed. 1	GSM (Ph. 2) Telephony	12/04/96	20/05/96	N/A	N/A	11/10/96	25/10/96 Adopted	N/A	18/09/96 ACTE 34bis	October 1996	01/11/96 L282/75 96/629/EC (expired 04/12/98)
20 Ed. 2	GSM (Ph. 2) Telephony	14/02/97	04/04/97	N/A	N/A	01/08/97	15/08/97 Adopted	25/09/97 TRAC 29	24/06/98 ACTE 42	February 1998	16/09/98 L254/28 98/542/EC
21	PSTN non-voice	24/09/97	N/A	N/A	14/10/97	12/12/97	15/12/97 Adopted	N/A	N/A	December 1997	20/07/98 L216/8 98/482/EC
22	DECT - GAP	09/02/95	05/06/95	29/09/95	06/05/96	09/08/96	16/08/96 Adopted	24/09/96 TRAC 25	23/01/97 ACTE 36	January 1997	09/07/97 L215/52 97/525/EC
23	TFTS	28/06/96	21/10/96	14/02/97	16/12/97	13/02/98	20/02/98 Adopted	25/02/98 TRAC 31	20/04/98 ACTE 41	March 1998	11/09/98 L251/36 98/535/EC
24	Leased lines D34U/D34S	05/05/95	07/08/95	01/12/95	07/10/96	29/11/96	06/12/96 Adopted	14/02/97 TRAC 27	23/07/97 ACTE 38	July 1997	19/09/97 L271/16 97/639/EC
25	Leased lines D140U/S	05/05/95	07/08/95	01/12/95	07/10/96	29/11/96	06/12/96 Adopted	14/02/97 TRAC 27	23/07/97 ACTE 38	July 1997	31/10/97 L305/66 97/751/EC
26	L-band low data rate mobile earth stations	27/06/96	05/08/96	29/11/96	24/02/98	24/04/98	30/04/98 Adopted	27/05/98 TRAC32	24/06/98 ACTE 42	May 1998	15/10/98 L278/43 98/577/EC
27	Ku-band low data rate mobile earth stations	27/06/96	05/08/96	29/11/96	19/08/97	17/10/97	31/10/97 Adopted	14/11/97 TRAC 30	18/12/97 ACTE 40	December 1997	19/08/98 L232/10 98/516/EC
28	Ku-band VSATs	27/06/96	05/08/96	29/11/96	19/08/97	17/10/97	31/10/97 Adopted	14/11/97 TRAC 30	18/12/97 ACTE 40	December 1997	19/08/98 L232/17 98/519/EC

CTR No.	Subject	TC approval	Start of Public Enquiry	End of Public Enquiry	Start of Vote	End of Vote	Vote result	TRAC approval	ACTE approval	Publication by ETSI	CTR announcement in O.J.
30	Ku-band SNG transportable	27/06/96	05/08/96	29/11/96	19/08/97	17/10/97	31/10/97 Adopted	14/11/97 TRAC 30	18/12/97 ACTE 40	December 1997	19/08/98 L232/12 98/517/EC
31	DCS 1800 Access	30/01/96	19/02/96	14/06/96	05/08/96	11/10/96	18/10/96 Adopted	22/11/96 TRAC 26	31/01/97 ACTE 36	January 1997	09/07/97 L215/60 97/528/EC (expired 17/12/98)
31 Ed.2	DCS 1800 Access	23/06/97	05/08/97	N/A	N/A	12/12/97	15/12/97 Adopted	25/02/98 TRAC 31	20/04/98 ACTE 41	March 1998	15/10/98 L278/35 98/575/EC
32	DCS 1800 Telephony	30/01/96	19/02/96	14/06/96	05/08/96	11/10/96	18/10/96 Adopted	22/11/96 TRAC 26	31/01/97 ACTE 36	January 1997	09/07/97 L215/65 97/529/EC (expired 04/12/98)
32 Ed.2	DCS 1800 Telephony	14/02/97	04/04/97	N/A	N/A	01/08/97	15/08/97 Adopted	25/09/97 TRAC 29	24/06/98 ACTE 42	March 1998	16/09/98 L254/32 98/543/EC
33	ISDN X.31 BA	29/11/96	30/12/96	24/04/97	15/07/97	12/09/97	17/09/97 Adopted	25/09/97 TRAC 29	18/12/97 ACTE 40	December 1997	19/08/98 L232/22 98/521/EC
34	ISDN X.31 PRA	29/11/96	30/12/96	24/04/97	15/07/97	12/09/97	17/09/97 Adopted	25/09/97 TRAC 29	18/12/98 ACTE 40	December 1997	19/08/98 L232/14 98/518/EC
35	TETRA Emergency Access	28/07/97	19/09/97	16/01/98	01/06/98	14/08/98	21/08/98 Adopted	11/09/98 TRAC 33	19/04/99 ACTE 45	September 1998	30/09/98 L255/40 1999/645/EC
37 I-CTR	PSTN Voice telephony (J.C) using DTMF										06/05/99 L118/55 1999/303/EC
38	Analogue handset telephony (J.C)	09/05/97	20/06/97	14/11/97	24/02/98	24/04/98	30/04/98 Adopted	27/05/98 TRAC 32	24/06/98 ACTE 42	May 1998	15/10/98 L278/40 98/576/EC
39	DECT/GSM Dual mode portables	12/03/98	3/4/98	31/07/98	22/12/98	19/02/99	05/03/99 Adopted	24/02/99 TRAC 35	19/04/99 ACTE 45	March 1999	24/07/99 L192/58 1999/497/EC
40 Ed.1	DECT/ISDN Dual mode portables	04/06/97	19/09/97	16/01/98	14/04/98	12/06/98	18/06/98 Adopted	11/09/98 TRAC 33	16/10/98 ACTE 43	June 1998	07/05/99 L119/57 1999/310/EC

CTR No.	Subject	TC approval	Start of Public Enquiry	End of Public Enquiry	Start of Vote	End of Vote	Vote result	TRAC approval	ACTE approval	Publication by ETSI	CTR announcement in O.J.
40 Ed. 2	DECT/ISDN Dual mode portables	18/02/98	17/04/98	14/08/98	06/10/98	04/12/98	08/12/98 Adopted	24/02/99 TRAC 35	19/04/99 ACTE 45	January 1999	24/07/99 L192/60 1999/498/EC
41	S-PCN 1,6/2,4 GHz	15/01/97	14/02/97	18/07/97	28/10/97	26/12/97	07/01/98 Adopted	25/02/98 TRAC 31	20/04/98 ACTE 41	March 1998	05/09/98 L247/11 98/533/EC
42	S-PCN 1,9/2,1 GHz	15/01/97	14/02/97	18/07/97	28/10/97	26/12/97	07/01/98 Adopted	25/02/98 TRAC 31	20/04/98 ACTE 31	March 1998	05/09/98 L247/13 98/534/EC
43	6/4 GHz Band VSAT	20/03/97	20/06/97	14/11/97	24/02/98	24/04/98	30/04/98 Adopted	27/05/98 TRAC 32	24/06/98 ACTE 42	May 1998	15/10/98 L278/43 98/577/EC
44	1,5/1,6 GHz LMES	20/03/97	20/06/97	14/11/97	24/02/98	24/04/98	30/04/98 Adopted	27/05/98 TRAC 32	24/06/98 ACTE 42	May 1998	29/12/98 L351/37 98/734/EC

Table E.2: Finalized TBRs/EN (Harmonized standards) - status on 8<sup>th</sup> October 1999

TBR/EN No.	Subject	TC approval	Start of Public Enquiry	End of Public Enquiry	Start of Vote	End of Vote	Vote result	TRAC approval	ACTE approval	Publication by ETSI	CTR announcement/ EN reference in O.J.
6 Ed.3	DECT Access	06/11/97	13/03/98 PE 9824	12/06/98	30/03/99 V 9922	28/05/98	28/05/98 Adopted		See Notes	June 1999	
10 Ed.3	DECT Telephony	06/11/97	13/03/98 PE 9824	12/06/98	20/04/99 V 9925	18/06/99	02/07/99 Adopted		(13/10/99 ACTE 46)	July 1999	
22/A1	DECT GAP	25/11/96	14/02/97 PE 9724	20/06/97	18/11/97 V 9803	16/01/98	23/01/98 Adopted	25/02/98 TRAC 31	16/10/98 ACTE 43	February 1998	
36	DECT/GSM Radio	08/11/96	14/02/97 PE 9724	13/06/97	24/02/98 V 9817	24/04/98	30/04/98 Adopted	27/05/98 TRAC 32	16/06/98 ACTE 43	May 1998	
300 721	MES providing LBRDC using LEO satellites below 1GHz	09/10/98	30/10/98 PE 9909	26/02/99	03/05/99 V 9929	16/07/99	16/07/99 Adopted		(13/10/99 ACTE 46)	July 1999	
301 419 Part 2	GSM (Ph 2+) HSCSD Access	26/06/98	07/08/98 PE 9849	04/12/98	12/01/99 V 9911	12/03/99	12/03/99	24/02/99 TRAC 35	19/04/99 ACTE 45	March 1999	
301 437	PSTN Voice Access	28/08/98	22/09/98 PE 9903	15/01/99	23/03/99 V 9921	21/05/99	21/05/99 Adopted		See Notes	June 1999	

**Recent changes:**

TBR 6 & 10, Eds.3 adopted at Vote and published. Sent to ACTE Secretariat for further action in relation to CTR status for ACTE 46 in 10/99. TRAC endorsed at TRAC 36 on 07/10/99 but ACTE 46 has been cancelled and the EC plan to send out draft measures for approval by correspondence.

TBR 22/A1 published by ETSI and TRAC endorsed. ACTE 43 informed that this is not to become a CTR.

TBR 36: will not become a CTR but to be published as a Harmonized Standard. Await reference in the OJEC.

EN 300 721 adopted at Vote and published in July 1999. Sent to ACTE Secretariat for further action in relation to CTR status for ACTE 46 in 10/99. TRAC 36 endorse this EN for CTR status. ACTE 46 cancelled. To be dealt with by correspondence.

EN 301 419-2: EN adopted at vote and published. TRAC 35 recommend for consideration as CTR. ACTE 45 approved draft Commission Decision on 19/04/99.

EN 301 437 (ex-TBR 37) adopted at vote and published in early June 1999. To ACTE Secretariat for decision on if there is to be a CTR. TRAC 36 did not agree to give their endorsement to the present document to replace the existing I-CTR 37 due to a lack of consensus.

**Table E.3: TBRs/ENs (Harmonized Standards) under ETSI approval procedures (status on 8<sup>th</sup> October 1999)**  
(target dates in brackets, latest status shaded)

TBR/EN No.	Subject	TC approval	Start of Public Enquiry	End of Public Enquiry	Start of Vote	End of Vote	Vote result	TRAC approval	ACTE approval	Publication by ETSI	CTR announcement/ EN reference in O.J.
301 401 TBRs 1 & 2 merged	X.21 & X.25	09/01/99	12/02/99 PE 9924	19/06/99	(20/08/99)	(19/10/99)	(02/11/99)			(November 1999)	
301 419 Part 1	GSM Phase 2+ Access	16/07/99	28/07/99 OP 9952	N/A	N/A	(26/11/99)	03/12/99)			(December 1999)	
301 419 Part 3	GSM (2+) ASCI Access	16/10/98	06/11/98 PE 9910	05/03/99	07/09/99 V 9947	(05/11/99)	(12/11/99)			(November 1999)	
301 419 Part 7	GSM (2+) R-GSM MS Access	16/10/98	06/11/98 PE 9910	05/03/99	07/09/99 V 9947	(05/11/99)	(12/11/99)			(November 1999)	
301 420	GSM Phase 2+ Telephony	15/06/99	28/07/99 OP 9952	N/A	N/A	(26/11/99)	(03/12/99)			(December 1999)	
301 435 Part 1	TETRA Civil Access	25/08/99	08/09/99 PE 9958	(07/01/00)	(17/03/00)	(16/05/00)	(23/05/00)			(June 2000)	

**Recent changes:**

EN 301 401 is the merger of TBRs 1 and 2. Now on Vote until 15/10/99.

EN 301 419 is the proposed merger of TBRs 19 and 31 as requested by ACTE at the end of 1998. Needs to be reviewed against 99/5/EC.

EN 301 419-3 produced in response to TRAC and ACTE agreed scope statement. On V 9947 but will need review under R&TTED (99/5/EC)..

EN 301 419-7 produced in response to new R-GSM mandate and under TRAC and ACTE agreed scope statement. In PE resolution phase within TC SMG.

EN 301 420 is the proposed merger of TBRs 20 and 32 as requested by ACTE at the end of 1998.

EN 301 435-1 (TETRA; Civil Access) TB approved and commences PE on 08/09/99.

**Table E.4: ENs (Harmonized Standards) under development by ETSI (status on 8<sup>th</sup> October 1999)**  
(target dates in brackets, latest status shaded)

TBR No.	Subject	TC approval	Start of Public Enquiry	End of Public Enquiry	Start of Vote	End of Vote	Vote result	TRAC approval	ACTE approval	Publication by ETSI	CTR announcement in O.J.
301 419 Part 4	GSM Phase 2+ GPRS Access	(16/04/00)	(08/05/00)	(05/10/00)	(04/01/01)	(05/03/01)	(12/03/01)			(March 2001)	
301 419 Part 5	GSM Phase 2+ CTS MS Access	(16/04/00)	(08/05/00)	(05/10/00)	(04/01/01)	(05/03/01)	(12/03/01)			(March 2001)	
301 419 Part 6	GSM Phase 2+ CTS FP Access	(16/04/00)	(08/05/00)	(05/10/00)	(04/01/01)	(05/03/01)	(12/03/01)			(March 2001)	
301 426 see Notes	LMES in the 1,5/1,6 GHz frequency bands	(15/04/99)	(13/05/99 OAP)	N/A	N/A	(10/10/99)	(24/10/99)			(November 1999)	
301 435 Part 2	TETRA Civil access	(01/10/99)	(29/11/99)	(26/02/00)	(06/05/00)	(20/07/00)	(27/07/00)			(August 2000)	

**Recent changes:**

EN 301 419-4 is being drafted in accordance with the agreed TRAC and ACTE scope statement. However, TC SMG are aware of the timing of the new Directive and are considering this as part of the work.

ENs 301 419-5 and -6 being produced under the new mandate to ETSI and following the TRAC and ACTE agreed scope statements. However, TC SMG are aware of the timing of the new Directive and are considering this as part of the work.

EN 301 426: work has been frozen due to lack of input from INMARSAT (who provided the rapporteur for the work). However, this was a revision of TBR 026 and TC SES is currently carrying out conversion activity on this TBR under the R&TTE Directive and new EC mandate. If requirements are forthcoming then they may be included if they are provided before the next TC SES meeting 10/99.

EN 301 435-2 (ex-TBR 35, Edition 2): TB approval and PE now scheduled for last quarter 1999. The Harmonized Standard for Civil TETRA is Part 1 to the present document (on PE 9958).



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## History

<b>Document history</b>		
V1.1.1	December 1999	Publication