Technical Specification Group Services and System Aspects ***TSGS#17(02)0435***
Meeting #17, Biarritz, France, 9-12 September 2002

Source: **TSG-SA WG4**

Title: CRs to TS 26.131 and TS 26.132 - Corrections (R99, Release 4 and Release 5)

Document for: **Approval**

Agenda Item: **7.4.3**

The following CRs, agreed at the TSG-SA WG4 meeting #22, are presented to TSG SA #17 for approval.

Spec	CR	Rev	Phase	Subject	Cat	Vers	WG	Meeting	S4 doc
26.131	010	1	R99	Removal of wideband telephony from terminal acoustic requirements	F	3.3.0	S4	TSG-SA WG4#22	S4-020472
26.131	011	1	Rel-4	Removal of wideband telephony from terminal acoustic requirements	A	4.1.0	S4	TSG-SA WG4#22	S4-020473
26.131	012		R99	Correction on the ANR requirement for hands-free Ues	F	3.3.0	S4	TSG-SA WG4#22	S4-020386
26.131	013	1	Rel-4	Correction on the ANR requirement for hands-free Ues	A	4.1.0	S4	TSG-SA WG4#22	S4-020425
26.131	014		Rel-5	Correction on the ANR requirement for hands-free Ues	A	5.1.0	S4	TSG-SA WG4#22	S4-020426
26.132	012	1	R99	Removal of wideband telephony from terminal acoustic tests	F	3.4.0	S4	TSG-SA WG4#22	S4-020474
26.132	013	1	Rel-4	Removal of wideband telephony from terminal acoustic tests	A	4.2.0	S4	TSG-SA WG4#22	S4-020475
26.132	014		R99	Correction on ANR test for hands-free Ues	F	3.4.0	S4	TSG-SA WG4#22	S4-020388
26.132	015	1	Rel-4	Correction on ANR test for hands-free Ues	A	4.2.0	S4	TSG-SA WG4#22	S4-020427
26.132	016		Rel-5	Correction on ANR test for hands-free Ues	A	5.2.0	S4	TSG-SA WG4#22	S4-020428

3GPP TSG-SA WG4 Meeting #22
Tampere, Finland, 22nd – 26th July 2002

Tdoc ⌘S4-020472

CR-Form-v7

CHANGE REQUEST

⌘ **TS 26.131** **CR** **10** ⌘ **rev** **1** ⌘ Current version: **3.3.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Removal of wideband telephony from terminal acoustic characteristics R99
Source:	⌘	TSG SA WG4
Work item code:	⌘	Correct
Date:	⌘	10/Sept/2002
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	SA Plenary tasked SA4, since March 2001 (Palm Springs), to clean-up ALL specs about "AMR Wideband ". This task has not yet been completed, as far as regards TS 26.131 and TS 26.132 (R99).
Summary of change:	⌘	All references to Wideband AMR are removed from the specification.
Consequences if not approved:	⌘	3 consequences: - SA task of "AMR wideband" clean up is incomplete. - Inconsistent set of R99 specifications. - Terminals are impacted by useless requirements.

Clauses affected:	⌘	Introduction; 1; 3.1; 5.3.1			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘ TS 26.132
		X		Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm.
Below is a brief summary:

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downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

Introduction

The present document specifies minimum performance requirements for the acoustic characteristics of 3G terminals when used to provide narrow-band ~~or wideband~~ telephony.

The objective for narrow-band services is to reach a quality as close as possible to ITU-T standards for PSTN circuits. However, due to technical and economic factors, there cannot be full compliance with the general characteristics of international telephone connections and circuits recommended by the ITU-T.

The performance requirements are specified the main body of the text; the test methods and considerations are described in TS 26.132.

1 Scope

The present document is applicable to any terminal capable of supporting narrow-band ~~or wideband~~ telephony, either as a stand-alone service or as the telephony component of a multimedia service. The present document specifies minimum performance requirements for the acoustic characteristics of 3G terminals when used to provide narrow-band ~~or wideband~~ telephony.

---------- Next modified section ----------

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document the term *narrow-band* shall refer to signals sampled at 8kHz.~~; *wideband* shall refer to signals sampled at 16kHz.~~

For the purposes of the present document, the following terms: dB, dBr, dBm0, dBm0p and dBA, shall be interpreted as defined in ITU-T Recommendation B.12; the term dBPa shall be interpreted as the sound pressure level relative to 1 Pascal expressed in dB (0dBPa is equivalent to 94dB SPL).

---------- Next modified section ----------

5.3.1 Sending

The maximum noise level produced by the apparatus at the output of the SS under silent conditions in the sending direction shall not exceed -64 dBm0p.

NOTE 1: This level includes the eventual noise contribution of an acoustic echo canceller under the condition that no signal is received.

NOTE 2: ~~This figure applies to the wideband noise signal.~~ It is recommended that the level of single frequency disturbances should be 10 dB lower (ITU-T Recommendation P.11).

Compliance shall be checked by the relevant test described in TS 26.132.

3GPP TSG-SA WG4 Meeting #22
Tampere, Finland, 22nd – 26th July 2002

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CHANGE REQUEST

⌘ **TS 26.131** **CR** **11** ⌘ **rev** **1** ⌘ Current version: **4.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Removal of wideband telephony from terminal acoustic characteristics (Rel-4)
Source:	⌘	TSG SA WG4
Work item code:	⌘	Correct
Date:	⌘	12/Sept/2002
Category:	⌘	**A**
Release:	⌘	Rel-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
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R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	SA Plenary tasked SA4, since March 2001 (Palm Springs), to clean-up ALL specs about "AMR Wideband ". This task has not yet been completed, as far as regards TS 26.131 and TS 26.132 (Rel-4).
Summary of change:	⌘	All references to Wideband AMR are removed from the specification.
Consequences if not approved:	⌘	3 consequences: - SA task of "AMR wideband" clean up is incomplete. - Inconsistent set of Rel-4 specifications. - Terminals are impacted by useless requirements.

Clauses affected:	⌘	Introduction; 1; 3.1; 5.3.1			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘ TS 26.132
		X		Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

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---------- Next modified section ----------

5.3 Idle channel noise (handset and headset UE)

5.3.1 Sending

The maximum noise level produced by the apparatus at the output of the SS under silent conditions in the sending direction shall not exceed -64 dBm0p.

NOTE 1: This level includes the eventual noise contribution of an acoustic echo canceller under the condition that no signal is received.

NOTE 2: ~~This figure applies to the wideband noise signal.~~ It is recommended that the level of single frequency disturbances should be 10 dB lower (ITU-T Recommendation P.11).

Compliance shall be checked by the relevant test described in TS 26.132.

3GPP TSG-SA WG4 Meeting #22
Tampere, Finland, 22nd – 26th July 2002

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CHANGE REQUEST

⌘ **26.131** **CR** **12** ⌘ **rev** **-** ⌘ Current version: **3.3.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ [ ] ME [X] Radio Access Network [ ] Core Network [ ]

Title:	⌘	Correction on the ANR requirement for hands-free UEs (R99)
Source:	⌘	TSG SA WG4
Work item code:	⌘	TEI
Date:	⌘	12/Sept/2002
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
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Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Since there aren't any output of study on ANR requirement for hands-free UE, the correction is to specify no requirement for ANR in hands-free operations.
Summary of change:	⌘	Replace "For Further Study" by "No requirement in hands-free operations".
Consequences if not approved:	⌘	The standards remains as if a requirement will be defined in subsequent versions of R99. Design of terminal acoustic requires stability of requirements for R99.

Clauses affected:	⌘	5.9			
Other specs affected:	⌘	**Y** / **N**	Other core specifications	⌘	26.132
			Test specifications		
			O&M Specifications		
Other comments:	⌘				

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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

5.9 Ambient Noise Rejection

Handset and Headset UE:

The nature of mobile telephony is such that the UE will typically be operated in high ambient acoustic noise. Due to the adverse interaction of noise signals with speech codecs operating at lower rates, for example 8kbit/s or less, a minimum noise rejection specification is required.

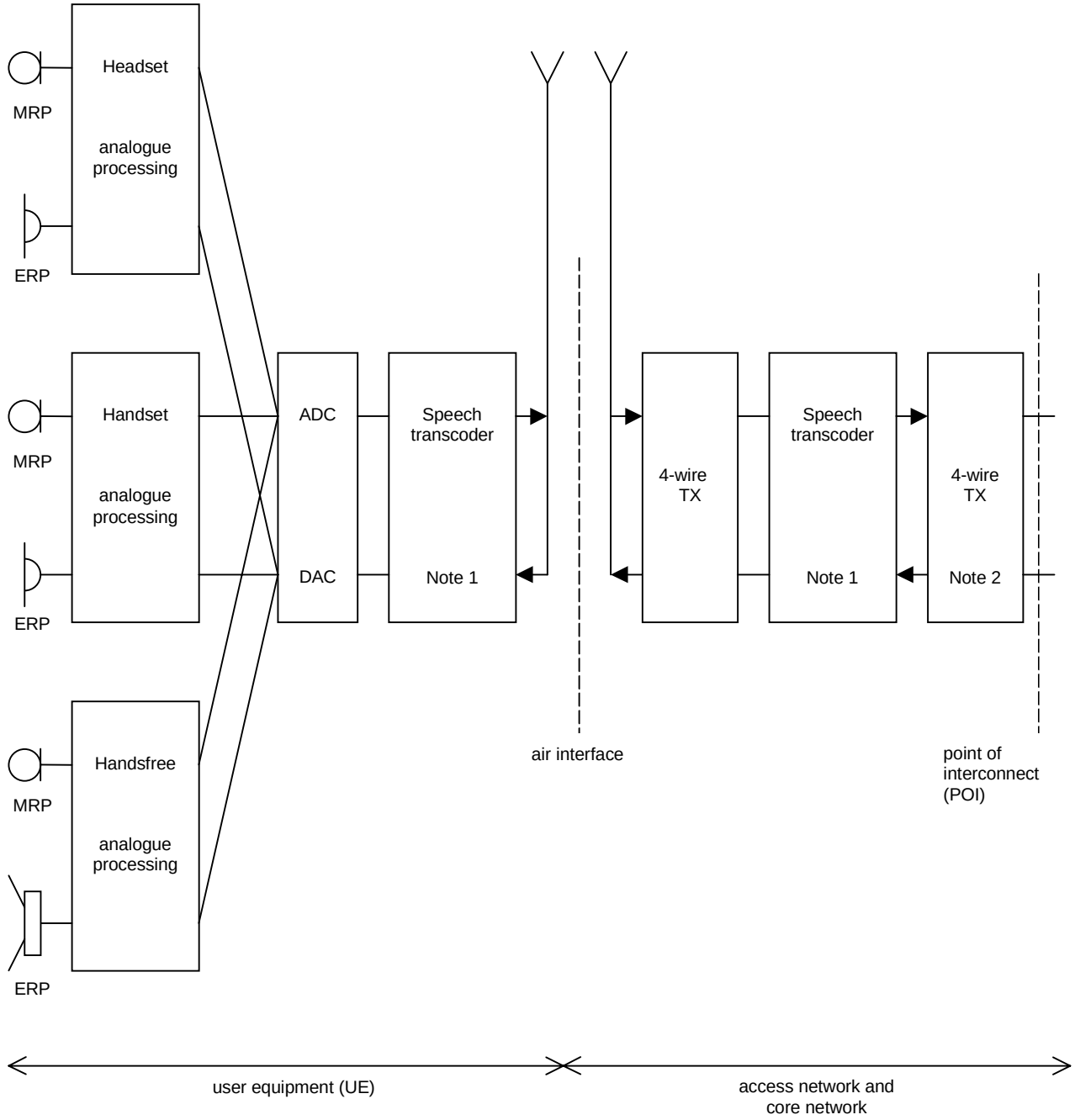
The UE ambient noise rejection ANR, calculated as a Single Figure DELSM (SFDELSM) shall be greater than or equal to the nominal value of 0dB. Due to the uncertainty inherent in the measurement method for ANR, a 3dB tolerance is allowed on the nominal value.

For good performance, it is recommended that a figure of +3 dB should be achieved.

Compliance shall be checked by the relevant test described in 3GPP TS 26.132.

Hands-free UE (all categories):

~~For further study.~~No requirement in hands-free operations.



NOTE 1: Includes DTX functionality.
NOTE 2: Connection to PSTN should include electrical echo control (EEC).

Figure 1: 3G Interfaces for specification and testing of terminal narrow-band acoustic characteristics

3GPP TSG-SA WG4 Meeting #22
Tampere, Finland, 22nd – 26th July 2002

Tdoc ⌘ S4-020425

CR-Form-v7

CHANGE REQUEST

⌘ **26.131** **CR** **13** ⌘ **rev** **1** ⌘ Current version: **4.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ [ ] ME [X] Radio Access Network [ ] Core Network [ ]

Title:	⌘	Correction on the ANR requirement for hands-free UEs (Rel-4)
Source:	⌘	TSG SA WG4
Work item code:	⌘	TEI
Date:	⌘	12/Sept/2002
Category:	⌘	**A**
Release:	⌘	Rel-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Since there aren't any output of study on ANR requirement for hands-free UE, the correction is to specify no requirement for ANR in hands-free operations.
Summary of change:	⌘	Replace "For Further Study" by "No requirement in hands-free operations".
Consequences if not approved:	⌘	The standards remains as if a requirement will be defined in subsequent versions of Rel-4. Design of terminal acoustic requires stability of requirements for Rel-4.

Clauses affected:	⌘	5.9			
Other specs affected:	⌘	**Y** / **N**	Other core specifications	⌘	26.132
		[ ] / [X]	Test specifications		
		[X] / [ ]	O&M Specifications		
Other comments:	⌘				

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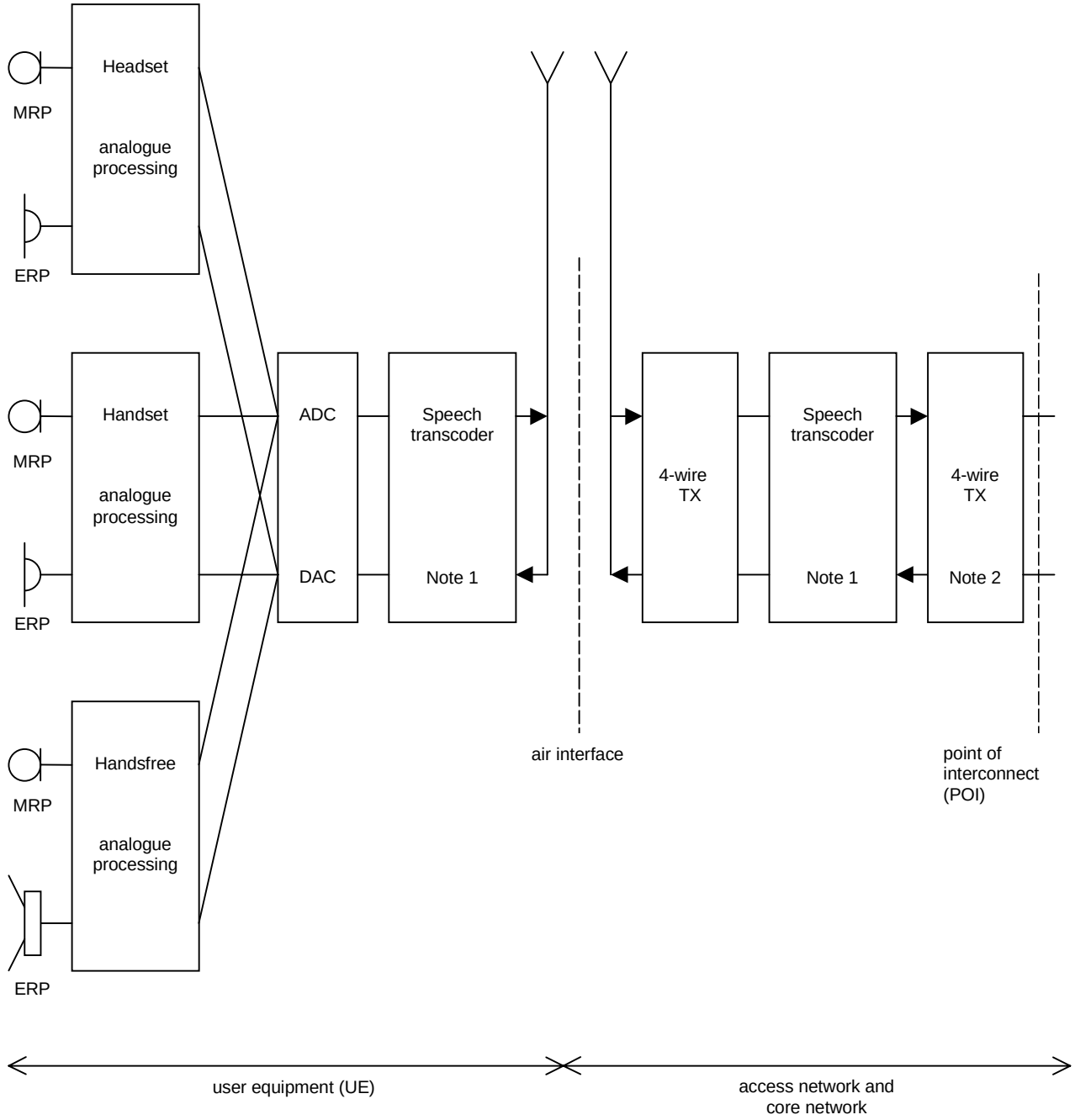
For good performance, it is recommended that a figure of +3 dB should be achieved.

Compliance shall be checked by the relevant test described in 3GPP TS 26.132.

Hands-free UE (all categories):

No requirement in hands-free operations.~~For further study.~~



NOTE 1: Includes DTX functionality.
NOTE 2: Connection to PSTN should include electrical echo control (EEC).

Figure 1: 3G Interfaces for specification and testing of terminal narrow-band acoustic characteristics

3GPP TSG-SA WG4 Meeting #22
Tampere, Finland, 22nd – 26th July 2002

Tdoc ⌘ S4-020426

CR-Form-v7

CHANGE REQUEST

⌘ **26.131** **CR** **14** ⌘ **rev** **-** ⌘ Current version: **5.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ [ ] ME [X] Radio Access Network [ ] Core Network [ ]

Title:	⌘	Correction on the ANR requirement for hands-free UEs (Rel-5)
Source:	⌘	TSG-SA WG4
Work item code:	⌘	TEI
Date:	⌘	12/Sept/2002
Category:	⌘	**A**
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
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C *(functional modification of feature)*
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Reason for change:	⌘	Since there aren't any output of study on ANR requirement for hands-free UE, the correction is to specify no requirement for ANR in hands-free operations.
Summary of change:	⌘	Replace "For Further Study" by "No requirement in hands-free operations".
Consequences if not approved:	⌘	The standards remains as if a requirement will be defined in subsequent versions of Rel-5. Design of terminal acoustic requires stability of requirements for Rel-5.

Clauses affected:	⌘	5.9			
Other specs affected:	⌘	**Y** / **N**	Other core specifications	⌘	26.132
			Test specifications		
			O&M Specifications		
Other comments:	⌘				

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For good performance, it is recommended that a figure of +3 dB should be achieved.

Compliance shall be checked by the relevant test described in 3GPP TS 26.132.

Hands-free UE (all categories):

No requirement in hands-free operations.~~For further study.~~

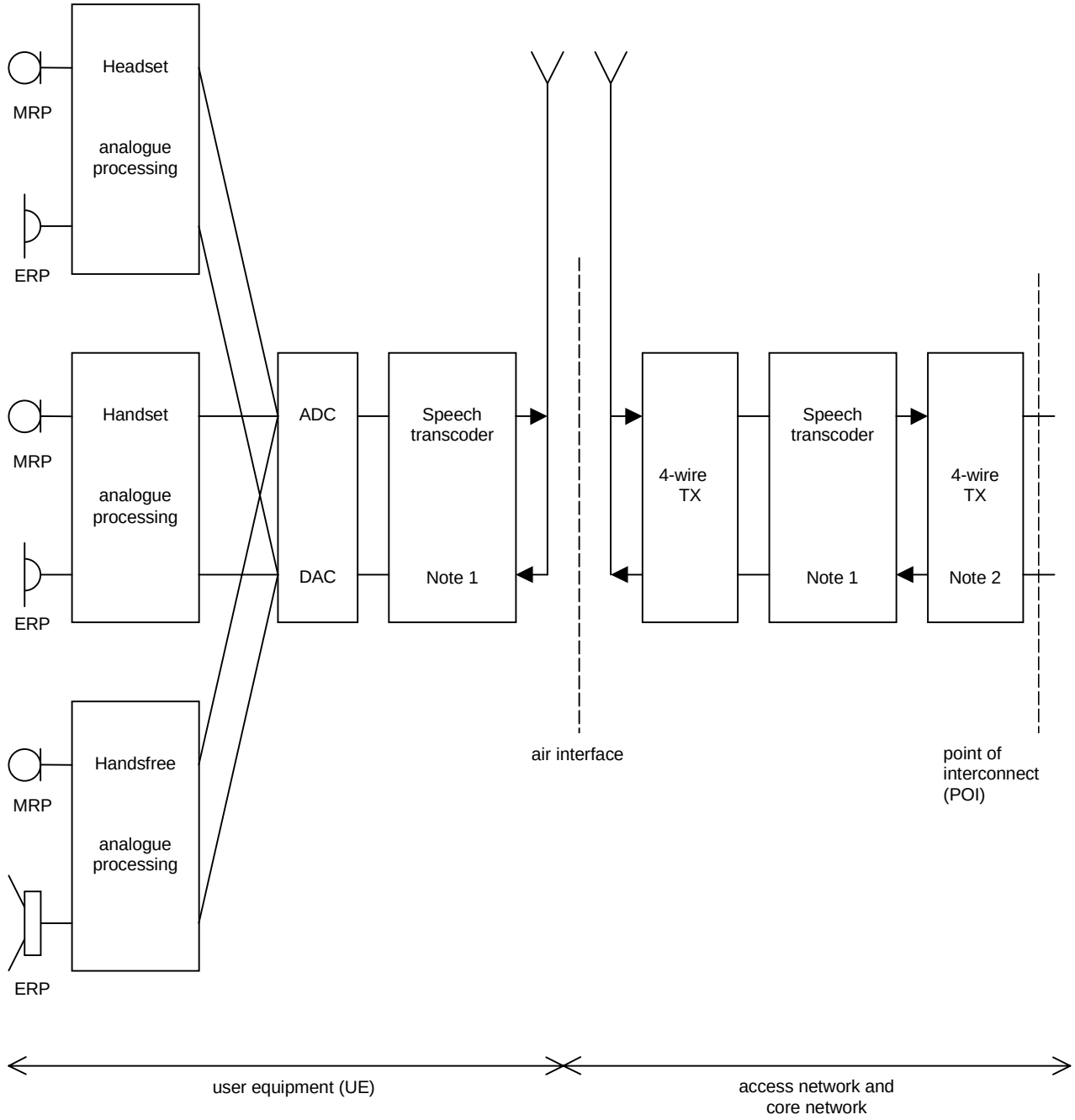

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Figure 1: 3G Interfaces for specification and testing of terminal narrow-band acoustic characteristics

3GPP TSG-SA WG4 Meeting #22
Tampere, Finland, 22nd – 26th July 2002

Tdoc ⌘S4-020474

CR-Form-v7

CHANGE REQUEST

⌘ **TS 26.132** **CR** **12** ⌘ **rev** **1** ⌘ Current version: **3.4.0** ⌘

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Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Removal of wideband telephony from terminal acoustic tests (R99)
Source:	⌘	TSG-SA WG4
Work item code:	⌘	Correct
Date:	⌘	12/Sept/2002
Category:	⌘	**F**
Release:	⌘	R99

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Clauses affected:	⌘	Introduction; 1; 3.1 ; 4.2 ; 8

	Y	N			
Other specs affected: ⌘	X		Other core specifications	⌘	TS 26.131
		X	Test specifications		
		X	O&M Specifications		

Other comments: ⌘

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Introduction

The present document specifies test methods to allow the minimum performance requirements for the acoustic characteristics of 3G terminals when used to provide narrow-band ~~or wideband~~ telephony to be assessed.

The objective for narrow-band services is to reach a quality as close as possible to ITU-T standards for PSTN circuits. However, due to technical and economic factors, there cannot be full compliance with the general characteristics of international telephone connections and circuits recommended by the ITU-T.

The performance requirements are specified in TS26.131; the test methods and considerations are specified in the main body of the text.

1 Scope

The present document is applicable to any terminal capable of supporting narrow-band ~~or wideband~~ telephony, either as a stand-alone service or as the telephony component of a multimedia service. The present document specifies test methods to allow the minimum performance requirements for the acoustic characteristics of 3G terminals when used to provide narrow-band ~~or wideband~~ telephony to be assessed.

---------- Next modified section ----------

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document the term *narrow-band* refers to signals sampled at 8 kHz~~.; *wideband* refers to signals sampled at 16 kHz.~~

For the purposes of the present document, the following terms: dB, dBr, dBm0, dBm0p and dBA, shall be interpreted as defined in ITU-T Recommendation B.12; the term dBPa shall be interpreted as the sound pressure level relative to 1 pascal expressed in dB (0 dBPa is equivalent to 94 dB SPL).

---------- Next modified section ----------

4.2 Void~~Wideband telephony~~

~~The interfaces used to define terminal acoustic characteristics for wideband telephony are for further study. The test methods needed to assess the minimum performance requirements for wideband telephony are for further study.~~

---------- Next modified section ----------

~~8 Wideband telephony transmission performance~~

~~8.1 Applicability~~

~~The performance requirements in this sub-clause shall apply when UE is used to provide wideband telephony, either as a stand-alone service, or as part of a multimedia service.~~

~~Performance requirements for the acoustic characteristics of 3G terminals supporting wideband telephony are for further study.~~

3GPP TSG-SA WG4 Meeting #22
Tampere, Finland, 22nd – 26th July 2002

Tdoc ⌘S4-020475

CR-Form-v7

CHANGE REQUEST

⌘ **TS 26.132** **CR** **13** ⌘ **rev** **1** ⌘ Current version: **4.2.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Removal of wideband telephony from terminal acoustic tests (Rel-4)
Source:	⌘	TSG-SA WG4
Work item code:	⌘	Correct
Date:	⌘	12/Sept/2002
Category:	⌘	**A**
Release:	⌘	Rel-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	SA Plenary tasked SA4, since March 2001 (Palm Springs), to clean-up ALL specs about "AMR Wideband ". This task has not yet been completed, as far as regards TS 26.131 and TS 26.132 (Rel-4).
Summary of change:	⌘	All references to wideband AMR are removed
Consequences if not approved:	⌘	3 consequences: - SA task of "AMR wideband" clean up is incomplete. - Inconsistent set of Rel-4 specifications. - Terminals are impacted by useless tests.
Clauses affected:	⌘	Introduction; 1; 3.1; 4.2; 8

	Y	N			
Other specs affected: ⌘	X		Other core specifications	⌘	TS 26.131
		X	Test specifications		
		X	O&M Specifications		

Other comments: ⌘

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be

downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

Introduction

The present document specifies test methods to allow the minimum performance requirements for the acoustic characteristics of 3G terminals when used to provide narrow-band ~~or wideband~~ telephony to be assessed.

The objective for narrow-band services is to reach a quality as close as possible to ITU-T standards for PSTN circuits. However, due to technical and economic factors, there cannot be full compliance with the general characteristics of international telephone connections and circuits recommended by the ITU-T.

The performance requirements are specified in TS26.131; the test methods and considerations are specified in the main body of the text.

1 Scope

The present document is applicable to any terminal capable of supporting narrow-band ~~or wideband~~ telephony, either as a stand-alone service or as the telephony component of a multimedia service. The present document specifies test methods to allow the minimum performance requirements for the acoustic characteristics of 3G terminals when used to provide narrow-band ~~or wideband~~ telephony to be assessed.

---------- Next modified section ----------

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document the term *narrow-band* refers to signals sampled at 8 kHz~~; *wideband* refers to signals sampled at 16 kHz.~~

For the purposes of the present document, the following terms: dB, dBr, dBm0, dBm0p and dBA, shall be interpreted as defined in ITU-T Recommendation B.12; the term dBPa shall be interpreted as the sound pressure level relative to 1 pascal expressed in dB (0 dBPa is equivalent to 94 dB SPL).

---------- Next modified section ----------

4.2 Void~~Wideband telephony~~

~~The interfaces used to define terminal acoustic characteristics for wideband telephony are for further study. The test methods needed to assess the minimum performance requirements for wideband telephony are for further study.~~

---------- Next modified section ----------

~~8 Wideband telephony transmission performance~~

~~8.1 Applicability~~

~~The performance requirements in this sub-clause shall apply when UE is used to provide wideband telephony, either as a stand-alone service, or as part of a multimedia service.~~

~~Performance requirements for the acoustic characteristics of 3G terminals supporting wideband telephony are for further study.~~

3GPP TSG-SA WG4 Meeting #22
Tampere, Finland, 22nd – 26th July 2002

Tdoc ⌘ S4-020388

CR-Form-v7

CHANGE REQUEST

⌘ **26.132** **CR** **14** ⌘ **rev** **-** ⌘ Current version: **3.4.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ [ ] ME [X] Radio Access Network [ ] Core Network [ ]

Title:	⌘	Correction on ANR test for hands-free UEs (R99)
Source:	⌘	TSG-SA WG4
Work item code:	⌘	TEI
Date:	⌘	12/Sept/2002
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Since there aren't any requirement for ANR in hands-free operations, the test method must not be specified.
Summary of change:	⌘	Replace "For Further Study" by "No test method for hands-free operations".
Consequences if not approved:	⌘	The standards remains as if a requirement and test method will be defined in subsequent versions of R99. Design of terminal acoustic requires stability of requirements for R99.

Clauses affected:	⌘	7.9

		Y	N			
Other specs affected:	⌘		X	Other core specifications	⌘	
				Test specifications		26.131
			X	O&M Specifications		

Other comments:	⌘	

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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

7.9 Ambient Noise Rejection

Handset and Headset UE:

Note: This section applies to terminals providing narrow- and wide-band telephony. However, the procedure for measuring ambient noise rejection is defined only over narrow-band frequency range. Thus the test method for ambient noise rejection is the same for either narrow- or wide-band telephony.

a) A 1/2 inch pressure microphone is calibrated using a known sound source and mounted at the MRP, without the LRGP or HATS present. A frequency analyser is calibrated to enable the sound pressure levels at the microphone to be determined in 1/3rd Octave bands.

b) Flood the room in which the measurement is to be made with a band limited (100 Hz to 8 kHz) pink noise to within ±3 dB. The level at MRP shall be adjusted to 70 dB(A) (-24 dBPa(A)). The tolerance on this level is +/-1 dB. The resulting sound spectrum is P_{rn} dBPa, measured in 1/3rd Octave bands.

   To ensure that the sound field is diffuse enough, the following apply:

   The diffuse sound field is calibrated in the absence of any local obstacles. The averaged field shall be uniform to within +/- 3 dB within a radius of 0,15 m of the MRP, when measured in one-third octave bands from 100 Hz to 3,15 kHz.

NOTE 1: The pressure intensity index, as defined in ISO 9614, may prove to be a suitable method for assessing the diffuse field.

NOTE 2: Where more than one loudspeaker is used to produce the desired sound field, the loudspeakers must be fed with non-coherent electrical signals to eliminate standing waves and other interference effects.

c) Position the HATS or LRGP test head in the correct relative position to the MRP and mount the MS under test, according to clause 5.1.1. Recalibrate the 1/3rd Octave frequency analyser using a known voltage source to facilitate the analysis of the voltage V_{rn}, where V_{rn} is the voltage at the audio output of the SS due to the noise spectrum input.

d) Set up a speech path between the MS and the System Simulator (SS).

e) Determine, as a function of frequency, using the frequency analyser, in 1/3rd Octave bands (index j), the electrical output V_{jrn}, (expressed as dB rel . 1V) at the audio output of the SS for the applied acoustic pressure P_{jrn} (expressed as dB rel 1Pa) at the MRP. Since, the MS sending sensitivity is not defined above 3,4 kHz the measurement shall be cut off at 3,4 kHz. For the bands below 315 Hz, the noise level shall be referenced to the speech level at 315 Hz to yield the DELSM.

   The room noise sensitivity is expressed as:- $Sm_{jrn} = V_{jrn}$ (dBV) - P_{jrn} (dBPa).

   The MS ambient noise send sensitivity has now been determined.

f) The MS speech send sensitivity is now required. The required sensitivity is defined as the electrical output from the MS, measured at the audio output of the SS, as a function of the free field sound pressure at the MRP of the artificial mouth.

   The measurement is made using an artificial speech source at the MRP of the artificial mouth. The 1/2 inch pressure microphone is calibrated using a known sound source. The frequency analyser is calibrated to measure in 1/3rd Octave bands. The artificial mouth output shall be in accordance with the ITU-T P.50 male artificial voice. Whilst maintaining the ITU-T P.50 "male" spectrum, adjust the total signal level to -4,7 dBPa. The resulting sound spectrum is P_o dBPa, measured in 1/3rd Octave bands. The 1/3rd Octave frequency analyser should be re-calibrated, using a known voltage source, to facilitate the analysis of the voltage V_j.Where V_j is the voltage in each 1/3rd octave band at the audio output of the SS due to the speech spectrum input. Set up a speech path between the MS and the SS. Determine the function of frequency, using the frequency analyser, and in 1/3rd Octave bands, the electrical output, V_j, (expressed as dB rel. 1V), at the audio output of the SS for the applied acoustic pressure, P_{j0}, (expressed as dB rel. 1Pa/V), at the MRP.

   The speech sending sensitivity is expressed as:

   Sm_{js} (dB) = V_j (dBV) - P_{jo} (dBPa) dBrel. 1V/Pa..

g) The difference of the room noise sensitivity and the speech sending sensitivity DELSM (Δ_{jSM}) in each 1/3rd Octave band for the MS is determined as:

Sm_{jrn} - Sm_{js} (dB) (for j = 1 to 2, $Sm_{js} = Sm_{3s}$).h) The Ambient noise rejection ANR is calculated as the single figure value according to the following formula, the ANR shall be ≥ 0dB.

$$ANR = -\frac{4}{5}\sum_{i=1}^{13}\Delta_{jSM}\cdot 10^{-0.0175W_{jsi}}$$

j = The index of third octave bands centered at frequencies from 200 Hz to 3 150 Hz inclusive.

Wjsi = The sending weighting factors from ITU-T Recommendation P.79 [16], table 1 for the jth 1/3rd Octave band centre frequency.

Hands-free UE (all categories):

No test method for hands-free operations.~~For further study~~

3GPP TSG-SA WG4 Meeting #22
Tampere, Finland, 22nd – 26th July 2002

Tdoc ⌘ S4-020427

CR-Form-v7

CHANGE REQUEST

⌘ **26.132** **CR** **15** ⌘ **rev** **1** ⌘ Current version: **4.2.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ [ ] ME [X] Radio Access Network [ ] Core Network [ ]

Title:	⌘	Correction on ANR test for hands-free UEs (Rel-4)
Source:	⌘	TSG-SA WG4
Work item code:	⌘	TEI
Date:	⌘	12/Sept/2002
Category:	⌘	**A**
Release:	⌘	Rel-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Since there aren't any requirement for ANR in hands-free operations, the test method must not be specified.
Summary of change:	⌘	Replace "For Further Study" by "No test method for hands-free operations".
Consequences if not approved:	⌘	The standards remains as if a requirement and test method will be defined in subsequent versions of Rel-4. Design of terminal acoustic requires stability of requirements for Rel-4.

Clauses affected:	⌘	7.9

		Y	N			
Other specs affected:	⌘		X	Other core specifications	⌘	
		X		Test specifications		26.131
			X	O&M Specifications		

Other comments:	⌘	

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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

7.9 Ambient Noise Rejection

Handset and Headset UE:

Note: This section applies to terminals providing narrow- and wide-band telephony. However, the procedure for measuring ambient noise rejection is defined only over narrow-band frequency range. Thus the test method for ambient noise rejection is the same for either narrow- or wide-band telephony.

a) A 1/2 inch pressure microphone is calibrated using a known sound source and mounted at the MRP, without the LRGP or HATS present. A frequency analyser is calibrated to enable the sound pressure levels at the microphone to be determined in 1/3rd Octave bands.

b) Flood the room in which the measurement is to be made with a band limited (100 Hz to 8 kHz) pink noise to within ±3 dB. The level at MRP shall be adjusted to 70 dB(A) (-24 dBPa(A)). The tolerance on this level is +/-1 dB. The resulting sound spectrum is P_{rn} dBPa, measured in 1/3rd Octave bands.

   To ensure that the sound field is diffuse enough, the following apply:

   The diffuse sound field is calibrated in the absence of any local obstacles. The averaged field shall be uniform to within +/- 3 dB within a radius of 0,15 m of the MRP, when measured in one-third octave bands from 100 Hz to 3,15 kHz.

NOTE 1: The pressure intensity index, as defined in ISO 9614, may prove to be a suitable method for assessing the diffuse field.

NOTE 2: Where more than one loudspeaker is used to produce the desired sound field, the loudspeakers must be fed with non-coherent electrical signals to eliminate standing waves and other interference effects.

c) Position the HATS or LRGP test head in the correct relative position to the MRP and mount the MS under test, according to clause 5.1.1. Recalibrate the 1/3rd Octave frequency analyser using a known voltage source to facilitate the analysis of the voltage V_{rn}, where V_{rn} is the voltage at the audio output of the SS due to the noise spectrum input.

d) Set up a speech path between the MS and the System Simulator (SS).

e) Determine, as a function of frequency, using the frequency analyser, in 1/3rd Octave bands (index j), the electrical output V_{jrn}, (expressed as dB rel . 1V) at the audio output of the SS for the applied acoustic pressure P_{jrn} (expressed as dB rel 1Pa) at the MRP. Since, the MS sending sensitivity is not defined above 3,4 kHz the measurement shall be cut off at 3,4 kHz. For the bands below 315 Hz, the noise level shall be referenced to the speech level at 315 Hz to yield the DELSM.

   The room noise sensitivity is expressed as:- $Sm_{jrn} = V_{jrn}$ (dBV) - P_{jrn} (dBPa).

   The MS ambient noise send sensitivity has now been determined.

f) The MS speech send sensitivity is now required. The required sensitivity is defined as the electrical output from the MS, measured at the audio output of the SS, as a function of the free field sound pressure at the MRP of the artificial mouth.

   The measurement is made using an artificial speech source at the MRP of the artificial mouth. The 1/2 inch pressure microphone is calibrated using a known sound source. The frequency analyser is calibrated to measure in 1/3rd Octave bands. The artificial mouth output shall be in accordance with the ITU-T P.50 male artificial voice. Whilst maintaining the ITU-T P.50 "male" spectrum, adjust the total signal level to -4,7 dBPa. The resulting sound spectrum is P_o dBPa, measured in 1/3rd Octave bands. The 1/3rd Octave frequency analyser should be re-calibrated, using a known voltage source, to facilitate the analysis of the voltage V_j.Where V_j is the voltage in each 1/3rd octave band at the audio output of the SS due to the speech spectrum input. Set up a speech path between the MS and the SS. Determine the function of frequency, using the frequency analyser, and in 1/3rd Octave bands, the electrical output, V_j, (expressed as dB rel. 1V), at the audio output of the SS for the applied acoustic pressure, P_{j0}, (expressed as dB rel. 1Pa/V), at the MRP.

   The speech sending sensitivity is expressed as:

   Sm_{js} (dB) = V_j (dBV) - P_{jo} (dBPa) dBrel. 1V/Pa..

g) The difference of the room noise sensitivity and the speech sending sensitivity DELSM (Δ_{jSM}) in each 1/3rd Octave band for the MS is determined as:

Sm_{jrn} - Sm_{js} (dB) (for j = 1 to 2, $Sm_{js} = Sm_{3s}$).h) The Ambient noise rejection ANR is calculated as the single figure value according to the following formula, the ANR shall be ≥ 0dB.

$$ANR = -\frac{4}{5}\sum_{i=1}^{13}\Delta_{jSM}\cdot 10^{-0.0175W_{jsi}}$$

j = The index of third octave bands centered at frequencies from 200 Hz to 3 150 Hz inclusive.

Wjsi = The sending weighting factors from ITU-T Recommendation P.79 [16], table 1 for the jth 1/3rd Octave band centre frequency.

Hands-free UE (all categories):

No test method for hands-free operations.~~For further study~~

3GPP TSG-SA WG4 Meeting #22
Tampere, Finland, 22nd – 26th July 2002

Tdoc ⌘ S4-020428

CR-Form-v7

CHANGE REQUEST

⌘ **26.132** **CR** **16** ⌘ **rev** **-** ⌘ Current version: **5.2.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ [ ] ME [X] Radio Access Network [ ] Core Network [ ]

Title:	⌘	Correction on ANR test for hands-free UEs (Rel-5)
Source:	⌘	TSG-SA WG4
Work item code:	⌘	TEI
Date:	⌘	12/Sept/2002
Category:	⌘	**A**
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Since there aren't any requirement for ANR in hands-free operations, the test method must not be specified.
Summary of change:	⌘	Replace "For Further Study" by "No test method for hands-free operations".
Consequences if not approved:	⌘	The standards remains as if a requirement and test method will be defined in subsequent versions of Rel-5. Design of terminal acoustic requires stability of requirements for Rel-5.

Clauses affected:	⌘	7.9			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
		X		Test specifications	26.131
			X	O&M Specifications	
Other comments:	⌘				

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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

7.9 Ambient Noise Rejection

Handset and Headset UE:

Note: This section applies to terminals providing narrow- and wide-band telephony. However, the procedure for measuring ambient noise rejection is defined only over narrow-band frequency range. Thus the test method for ambient noise rejection is the same for either narrow- or wide-band telephony.

a) A 1/2 inch pressure microphone is calibrated using a known sound source and mounted at the MRP, without the LRGP or HATS present. A frequency analyser is calibrated to enable the sound pressure levels at the microphone to be determined in 1/3rd Octave bands.

b) Flood the room in which the measurement is to be made with a band limited (100 Hz to 8 kHz) pink noise to within ±3 dB. The level at MRP shall be adjusted to 70 dB(A) (-24 dBPa(A)). The tolerance on this level is +/-1 dB. The resulting sound spectrum is P_{rn} dBPa, measured in 1/3rd Octave bands.

   To ensure that the sound field is diffuse enough, the following apply:

   The diffuse sound field is calibrated in the absence of any local obstacles. The averaged field shall be uniform to within +/- 3 dB within a radius of 0,15 m of the MRP, when measured in one-third octave bands from 100 Hz to 3,15 kHz.

NOTE 1: The pressure intensity index, as defined in ISO 9614, may prove to be a suitable method for assessing the diffuse field.

NOTE 2: Where more than one loudspeaker is used to produce the desired sound field, the loudspeakers must be fed with non-coherent electrical signals to eliminate standing waves and other interference effects.

c) Position the HATS or LRGP test head in the correct relative position to the MRP and mount the MS under test, according to clause 5.1.1. Recalibrate the 1/3rd Octave frequency analyser using a known voltage source to facilitate the analysis of the voltage V_{rn}, where V_{rn} is the voltage at the audio output of the SS due to the noise spectrum input.

d) Set up a speech path between the MS and the System Simulator (SS).

e) Determine, as a function of frequency, using the frequency analyser, in 1/3rd Octave bands (index j), the electrical output V_{jrn}, (expressed as dB rel . 1V) at the audio output of the SS for the applied acoustic pressure P_{jrn} (expressed as dB rel 1Pa) at the MRP. Since, the MS sending sensitivity is not defined above 3,4 kHz the measurement shall be cut off at 3,4 kHz. For the bands below 315 Hz, the noise level shall be referenced to the speech level at 315 Hz to yield the DELSM.

   The room noise sensitivity is expressed as:- $Sm_{jrn} = V_{jrn}$ (dBV) - P_{jrn} (dBPa).

   The MS ambient noise send sensitivity has now been determined.

f) The MS speech send sensitivity is now required. The required sensitivity is defined as the electrical output from the MS, measured at the audio output of the SS, as a function of the free field sound pressure at the MRP of the artificial mouth.

   The test signal to be used for the measurements shall be the artificial voice according to ITU-Recommendation P.50 or a speech like test signal as described in ITU-T Recommendation P.501. The type of test signal used shall be stated in the test report. The 1/2 inch pressure microphone is calibrated using a known sound source. The frequency analyser is calibrated to measure in 1/3rd Octave bands. The spectrum of acoustic signal produced by the artificial mouth is calibrated under free field conditions at the MRP. The test signal level shall be –4,7 dBPa, measured at the MRP. The resulting sound spectrum is P_o dBPa, measured in 1/3rd Octave bands. The 1/3rd Octave frequency analyser should be re-calibrated, using a known voltage source, to facilitate the analysis of the voltage V_j.Where V_j is the voltage in each 1/3rd octave band at the audio output of the SS due to the test signal input. Set up a speech path between the MS and the SS. Determine the function of frequency, using the frequency analyser, and in 1/3rd Octave bands, the electrical output, V_j, (expressed as dB rel. 1V), at the audio output of the SS for the applied acoustic pressure, P_{j0}, (expressed as dB rel. 1Pa/V), at the MRP.

   The speech sending sensitivity is expressed as:

   Sm_{js} (dB) = V_j (dBV) - P_{jo} (dBPa) dBrel. 1V/Pa.

g) The difference of the room noise sensitivity and the speech sending sensitivity DELSM (Δ_{jSM}) in each 1/3rd Octave band for the MS is determined as:

Sm_{jrn} - Sm_{js} (dB) (for j = 1 to 2, $Sm_{js} = Sm_{3s}$).

h) The Ambient noise rejection ANR is calculated as the single figure value according to the following formula, the ANR shall be ≥ 0dB.

$$ANR = -\frac{4}{5}\sum_{i=1}^{13} \Delta_{jSM} \cdot 10^{-0.0175 W_{jsi}}$$

j = The index of third octave bands centered at frequencies from 200 Hz to 3 150 Hz inclusive.

Wjsi = The sending weighting factors from ITU-T Recommendation P.79 [16], table 1 for the jth 1/3rd Octave band centre frequency.

Hands-free UE (all categories):

No test method for hands-free operations.~~For further study~~