Source: **TSG-SA WG4**

Title: CRs TS 26.131 & TS 26.132 on Change of sending distortion requirement & test case (Release 6)

Document for: **Approval**

Agenda Item: **7.4.3**

The following CRs, agreed at the TSG-SA WG4 meeting #32, are presented to TSG SA #25 for approval.

Spec	CR	Rev	Phase	Subject	Cat	Vers	WG	Meeting	S4 doc
26.131	022		Rel-6	Change of sending distortion requirement	C	5.2.0	S4	TSG-SA WG4#32	S4-040556
26.132	028		Rel-6	Change of sending distortion test case	C	5.4.0	S4	TSG-SA WG4#32	S4-040557

CR-Form-v7.1

CHANGE REQUEST

| ⌘ | **TS 26.131** CR **022** | ⌘**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: ⌘	Change of sending distortion requirement	
Source: ⌘	TSG SA WG4	
Work item code:⌘	TEI 6 ***Date:*** ⌘	14/09/2004

Category: ⌘	**C**	***Release:*** ⌘	Rel-6
	Use one of the following categories:	*Use one of the following releases:*	
	F (correction)	Ph2	*(GSM Phase 2)*
	A (corresponds to a correction in an earlier release)	R96	*(Release 1996)*
	B (addition of feature),	R97	*(Release 1997)*
	C (functional modification of feature)	R98	*(Release 1998)*
	D (editorial modification)	R99	*(Release 1999)*
	Detailed explanations of the above categories can	Rel-4	*(Release 4)*
	be found in 3GPP TR 21.900.	Rel-5	*(Release 5)*
		Rel-6	*(Release 6)*
		Rel-7	*(Release 7)*

Reason for change: ⌘	Sending distortion test case cannot be passed with active noise supressor	
Summary of change:⌘	Change Table 7 in section 5.8.1: Limits for signal-to-total distortion ratio, delete limits at -35 and -30 dB, add interpolated limit at -25 dB	
Consequences if not approved: ⌘	Sending distortion test case cannot be passed with active noise supressor	

Clauses affected: ⌘	5.8.1	

	Y	**N**		
Other specs affected: ⌘	**X**		Other core specifications ⌘	TS 26.132, TS 51.010
			Test specifications	
			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.

5.8 Distortion

5.8.1 Sending Distortion

The sending part shall meet the following distortion requirements:

NOTE: Digital signal processing other than the transcoder itself is included in this requirement (e.g. echo cancelling).

Distortion shall be measured between MRP and the SS audio output (output of the reference speech decoder of the SS). The ratio of signal-to-total distortion power measured with the proper noise weighting (see table 3 of ITU-T Recommendation G.223) shall be above the limits given in table 7 unless the sound pressure at MRP exceeds +10 dBPa.

Table 7: Limits for signal-to-total distortion ratio

Sending level dB relative to ARL	Sending Ratio (dB)
-35	17,5
-30	22,5
-25	26.6
-20	30,7
-10	33,3
0	33,7
+7	31,7
+10	25,5

Limits for intermediate levels are found by drawing straight lines between the breaking points in the table on a linear (dB signal level) - linear (dB ratio) scale.

Compliance of the sending distortion shall be checked by the test described in TS 26.132.

CR-Form-v7.1

CHANGE REQUEST

⌘ **TS 26.132 CR 28** ⌘**rev** **-** ⌘ Current version: **5.4.0** ⌘

*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: ⌘	Change of sending distortion test case
Source: ⌘	TSG SA WG4
Work item code:⌘	TEI 6 **Date:** ⌘ 14/09/2004
Category: ⌘ **C**	**Release:** ⌘ Rel-6

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:
Ph2   *(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)*
Rel-7   *(Release 7)*

Reason for change: ⌘	Sending distortion test case cannot be passed with active noise supressor
Summary of change:⌘	Limit level range from +10 dB relative to ARL to -25 dB relative to ARL, Apply test signals in sequence from high levels down to low levels
Consequences if not approved: ⌘	Sending distortion test case cannot be passed with active noise supressor

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Clauses affected: ⌘	7.8.1

	Y	N		
Other specs affected: ⌘	X		Other core specifications ⌘	TS 26.131, TS 51.010
			Test specifications	
			O&M Specifications	

Other comments: ⌘	

7.8 Distortion

7.8.1 Sending Distortion

The handset, headset, or hands-free UE is setup as described in clause 5.

A sine-wave signal with a frequency in the range 1 004 Hz to 1 025 Hz is applied at the MRP.

The level of this signal is adjusted until the output of the terminal is -10 dBm0. The level of the signal at the MRP is then the ARL.

The test signal shall be applied at the following levels: -35, -30, -25, -20, -15, -10, -5, 0, 5, 10 10, 5, 0, -5, -10, -15, -20, -25 dB relative to ARL. The test signals have to be applied in this sequence, i.e. from high levels down to low levels.

The ratio of the signal to total distortion power of the signal output of the SS shall be measured with the psophometric noise weighting (see ITU-T Recommendations G.712 and 0.132).

NOTE: It should be ensured that the test signal is treated by speech processing algorithms as a speech-like signal, and not a noise-like signal. Test signals with a time-stationary envelope may be treated by certain algorithms, e.g. noise suppression algorithms defined in 3GPP TS 06.77 R99[17], as a noise-like signal.