

**Source:** TSG-SA WG4

**Title:** CR 26.104 031-032 "Correction of floating point AMR DTX functionality" (Release 5 and Release 6)

**Document for:** Approval

**Agenda Item:** 7.4.3

The following CRs, agreed at the TSG-SA WG4 meeting #30, are presented to TSG SA #23 for approval.

Spec	CR	Rev	Phase	Subject	Cat	Vers	WG	Meeting	S4 doc
26.104	031		Rel-5	Correction of floating point AMR DTX functionality	F	5.3.0	S4	TSG-SA WG4#30	S4-030753
26.104	032		Rel-6	Correction of floating point AMR DTX functionality	A	6.0.0	S4	TSG-SA WG4#30	S4-040158

## CHANGE REQUEST

# 26.104 CR 031 # rev - # Current version: 5.3.0 #

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

<b>Title:</b>	# Correction of floating point AMR DTX functionality		
<b>Source:</b>	# TSG SA WG4		
<b>Work item code:</b>	# AMR	<b>Date:</b>	# 16/03/2004
<b>Category:</b>	# <b>F</b>	<b>Release:</b>	# Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	<b>F</b> (correction)	2	(GSM Phase 2)
	<b>A</b> (corresponds to a correction in an earlier release)	R96	(Release 1996)
	<b>B</b> (addition of feature),	R97	(Release 1997)
	<b>C</b> (functional modification of feature)	R98	(Release 1998)
	<b>D</b> (editorial modification)	R99	(Release 1999)
	Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .	Rel-4	(Release 4)
		Rel-5	(Release 5)
		Rel-6	(Release 6)

<b>Reason for change:</b>	# AMR codec can produce annoying output during DTX-operation.
<b>Summary of change:</b>	# The current AMR DTX logic overrides the DTX hangover period when the average energy of the silence or background noise before the short active tone is close to zero. The proposed correction removes this overriding. With certain short tones, the current DTX logic may produce SID frames right after the VAD algorithm has detected silence without DTX hangover period. In this case, the SID parameters (avaraged LPC and signal gain) are calculated during the tone (active signal, speech). Therefore, the comfort noise representation does not represent the true background noise or silence. The problem occurs with short tones when the signal energy is close to zero between the tones. In addition, the tone length needs to be shorter than the DTX_ELAPSED_FRAMES_THRESH, i.e. 30 frames.
<b>Consequences if not approved:</b>	# AMR codec output can produce annoying output with certaing signals when DTX is used.

<b>Clauses affected:</b>	# File <i>sp_enc.c</i> is affected				
<b>Other specs affected:</b>	#				
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> Other core specifications	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Y	N				
<input type="checkbox"/>	<input checked="" type="checkbox"/>				
<b>Other comments:</b>	#				

## Changes to the C-code:

### 1. How the code is changed in the file *sp\_enc.c*

Lines 8835 – 8840 before the change:

```
/* VOX mode computation of SID parameters */
if ( ( compute_sid_flag != 0 ) || ( *log_en_index == 0 ) ) {
/*
 * compute new SID frame if safe i.e don't
 * compute immediately after a talk spurt
 */
```

Lines 8835 – 8840 after the change:

```
/* VOX mode computation of SID parameters */
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## CHANGE REQUEST

# 26.104 CR 032 # rev - # Current version: 6.0.0 #

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

<b>Title:</b>	# Correction of floating point AMR DTX functionality		
<b>Source:</b>	# TSG SA WG4		
<b>Work item code:</b>	# AMR	<b>Date:</b>	# 16/03/2004
<b>Category:</b>	# <b>A</b>	<b>Release:</b>	# Rel-6
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
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