Technical Specification Group Services and System Aspects ***TSGS#15(02)0077***
Meeting #15, Cheju Island, Korea, 11-14 March 2002

Source: **TSG-SA WG4**

Title: CRs to TS 26.101 on Correction of AMR codec output bit-stream (R99, Release 4)

Document for: **Approval**

Agenda Item: **7.4.3**

The following CRs, agreed at the TSG-SA WG4 meeting #20, are presented to TSG SA #15 for approval.

Spec	CR	Rev	Phase	Subject	Cat	Vers	WG	Meeting	S4 doc
26.101	007	1	R99	Correction of AMR codec output bitstream	F	3.2.0	S4	TSG-SA WG4#20	S4-020190
26.101	008		REL-4	Correction of AMR codec output bitstream	A	4.1.0	S4	TSG-SA WG4#20	S4-020095

3GPP TSG-SA4
Lulea, Sweden, February 18-22, 2002

Tdoc S4-(02)0095

CR-Form-v3

CHANGE REQUEST

⌘ **26.101** **CR** **008** ⌘ rev **-** ⌘ 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: ⌘ (U)SIM ☐ ME/UE **X** Radio Access Network ☐ Core Network **X**

Title:	⌘	Correction of AMR codec output bitstream
Source:	⌘	TSG SA WG4
Work item code:	⌘	AMR
Date:	⌘	11-Mar-2002
Category:	⌘	**A**
Release:	⌘	REL-4

Use one of the following categories:
F *(essential 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)*

Reason for change:	⌘	The TS26.101 is inconsistent regarding the clearing of the payload for the SID_FIRST frame type
Summary of change:	⌘	It is clearly pointed out that the s(i) bits for the SID_FIRST frame type are cleared before being mapped to any of the formats defined in this specification.
Consequences if not approved:	⌘	Different interpretation of the specification can create interoperability issues.

Clauses affected:	⌘	Section. 4.2.3.
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ 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/3G_Specs/CRs.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.

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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.

4.2.3 AMR Core Frame with comfort noise bits

The AMR Core Frame content for the additional frame types with Frame Type Indices 8-15 in table 1a are described in this subclause. These mainly consist of the frames related to Source Controlled Rate Operation specified in [2].

The data content (comfort noise bits) of the additional frame types is carried in AMR Core Frame. The comfort noise bits are all mapped to Class A of AMR Core Frame and Classes B and C are not used. This is a notation convention only and the class division has no meaning for comfort noise bits.

The number of bits in each class (Class A, Class B, and Class C) for the AMR comfort noise bits (Frame Type Index 8) is shown in table 3. The contents of SID_UPDATE and SID_FIRST are divided into three parts (SID Type Indicator (STI), Mode Indication (mi(i)), and Comfort Noise Parameters (s(i)) as defined in [2]. In case of SID_FIRST the Comfort Noise Parameters bits (s(i)) shall be set to "0".

The comfort noise parameter bits produced by the AMR speech encoder are denoted as s(i) = {*s*(1),*s*(2),...,*s*(*35*)}. The notation *s*(*i*) follows that of [3]. These bits are numbered in the order they are produced by the AMR encoder without any reordering. These bits are followed by the SID Type Indicator **STI** and the Mode Indication mi(i) ={*mi*(0), *mi*(1), *mi*(2)} ={L*SB* .. *MLB*}. Thus, the AMR SID or comfort noise bits {*d*(0),*d*(1),…,*d*(38)}are formed as defined by the pseudo code below.

- for *j* = 0 to 34;
- *d*(*j*) := *s*(*j*+1);
- *d*(35) := **STI**;
- for *j* = 36 to 38;
- *d*(*j*) := ~~*s*~~*mi*(*j*-36). Note: This mapping is different to the usual mapping: LSB first.

Note: The alternative would be: *d*(*j*) := *mi*(38-j): MSB first.

Table 3. Bit classification for Frame Type 8 (AMR SID)

Frame Type Index	FQI	AMR TX_TYPE or RX_TYPE	Total number of bits	Class A			Class B	Class C
				SID Type Indicator (STI)	Mode Indication mi(i)	Comfort Noise Parameter s(i)		
8	1	SID_UPDATE	39	1 (= "1")	3	35	0	0
8	1	SID_FIRST	39	1 (= "0")	3	35 (= "0")	0	0
8	0	SID_BAD	39	1	3	35	0	0

The number of bits in each class (Class A, Class B, and Class C) for the comfort noise bits of Frame Types 9-11 is shown in table 4.

Table 4: Bit classification for Frame Types 9-11

TABLE FOR FURTHER STUDY

3GPP TSG-SA4
Lulea, Sweden, February 18-22, 2002

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CR-Form-v3

CHANGE REQUEST

⌘ **26.101** **CR** **007** ⌘ rev **1** ⌘ Current version: **3.2.0** ⌘

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