

Source: TSG-SA WG4

Title: CRs to TS 26.173 Corrections to AMR-WB C-code and file format description (Release 5)

Document for: Approval

Agenda Item: 7.4.3

The following CRs, agreed at the TSG-SA WG4 meeting #18, are presented to TSG SA #13 for approval.

| Spec | CR | Rev | Phase | Subject | Cat | Vers | WG | Meeting | S4 doc |
|--------|-----|-----|-------|--|-----|-------|----|---------------|-----------|
| 26.173 | 007 | | REL-5 | Error in the C-code of the encoder homing function | F | 5.1.1 | S4 | TSG-SA WG4#18 | S4-010503 |
| 26.173 | 008 | | REL-5 | Inconsistency in the file format description | F | 5.1.1 | S4 | TSG-SA WG4#18 | S4-010504 |

CR-Form-v3

CHANGE REQUEST

⌘ **26.173 CR 007** ⌘ rev **-** ⌘ Current version: **5.1.1** ⌘

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 Radio Access Network Core Network

| | | | |
|------------------------|--|-----------------|---|
| Title: | ⌘ "Error in the C-code of the encoder homing function" | | |
| Source: | ⌘ TSG SA WG4 | | |
| Work item code: | ⌘ AMR-WB | Date: | ⌘ 24-Sep-2001 |
| Category: | ⌘ F | Release: | ⌘ REL-5 |
| | <i>Use one of the following categories:</i> 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. | | <i>Use one of the following releases:</i> 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 checking of homing frame is inaccurate |
| Summary of change: | ⌘ The loop counter in the checking of homing frame is changed from 256 to 320. |
| Consequences if not approved: | ⌘ The probability of falsely detecting homing frames increases. |

| | | | |
|------------------------------|---|---|--|
| Clauses affected: | ⌘ File: homing.c | | |
| Other specs affected: | <input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> 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.
- 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://www.3gpp.org/specs/>. For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 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.

1. Background

In the “*encoder_homing_frame_test*” function, the loop counter for checking the homing frame is set to L_FRAME, which has the value of 256 defined in cst.h. However, the length of the homing frame is 320 samples. So the loop counter should be changed from L_FRAME to L_FRAME16k.

2. How the code is changed in the file *homing.c*

2.1 Before the change

```
Word16 encoder_homing_frame_test(Word16 input_frame[])
{
    Word16 i, j = 0;

    /* check 320 input samples for matching EHF_MASK: defined in
    e_homing.h */
    for (i = 0; i < L_FRAME; i++)
    {
        j = (Word16) (input_frame[i] ^ EHF_MASK);

        if (j)
            break;
    }

    return (Word16) (!j);
}
```

2.2 After the change

```
Word16 encoder_homing_frame_test(Word16 input_frame[])
{
    Word16 i, j = 0;

    /* check 320 input samples for matching EHF_MASK: defined in
    e_homing.h */
    for (i = 0; i < L_FRAME16k; i++)
    {
        j = (Word16) (input_frame[i] ^ EHF_MASK);

        if (j)
            break;
    }

    return (Word16) (!j);
}
```

CR-Form-v3

CHANGE REQUEST

⌘ **26.173 CR 008** ⌘ rev **-** ⌘ Current version: **5.1.1** ⌘

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 Radio Access Network Core Network

| | | | |
|------------------------|--|-----------------|---|
| Title: | ⌘ Inconsistency in the file format description | | |
| Source: | ⌘ TSG SA WG4 | | |
| Work item code: | ⌘ AMR-WB | Date: | ⌘ 24-Sep-2001 |
| Category: | ⌘ F | Release: | ⌘ REL-5 |
| | <i>Use one of the following categories:</i> 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. | | <i>Use one of the following releases:</i> 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 format of speech encoder parameter bits in chapter 6.3 is incorrect. | | |
| Summary of change: | ⌘ Format description is corrected to be aligned with the C-code. | | |
| Consequences if not approved: | ⌘ There is inconsistency between the text of 26.173 and the C-code. | | |

| | | | |
|------------------------------|---|--|--|
| Clauses affected: | ⌘ Section 6.3. | | |
| Other specs affected: | ⌘ <input type="checkbox"/> Other core specifications ⌘ <input type="checkbox"/> Test specifications ⌘ <input type="checkbox"/> 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.

1. Background

The format of speech encoder parameter bits in chapter 6.3 is incorrect. It states that bits 0 and 1 are transmitted by using 16-bit words 0x0000 and 0x0001. The correct format of these bits in the C-code is 0x0081 and 0x007f respectively.

2. How 3GPP TS 26.173 V5.1.1 is changed

2.1 Before the change (section 6.3)

| | | | | | | | |
|------------|----------|-------|-----------------------------|----------|----|-----|----|
| FRAME_TYPE | transmit | frame | type, | which | is | one | of |
| | | | RX_SPEECH_GOOD | (0x0000) | | | |
| | | | RX_SPEECH_PROBABLY_DEGRADED | (0x0001) | | | |
| | | | RX_SPEECH_LOST | (0x0002) | | | |
| | | | RX_SPEECH_BAD | (0x0003) | | | |
| | | | RX_SID_FIRST | (0x0004) | | | |
| | | | RX_SID_UPDATE | (0x0005) | | | |
| | | | RX_SID_BAD | (0x0006) | | | |
| | | | RX_NO_DATA | (0x0007) | | | |

B0...B2nn speech encoder parameter bits (i.e. the bitstream itself). Each B_x either has the value 0x0000 or 0x0001.

| | | | | | | | |
|-----------|----------|--------|--------------|----------|----|-----|----|
| MODE_INFO | encoding | mode | information, | which | is | one | of |
| | 6.60 | kbit/s | mode | (0x0000) | | | |
| | 8.85 | kbit/s | mode | (0x0001) | | | |
| | 12.65 | kbit/s | mode | (0x0002) | | | |
| | 14.25 | kbit/s | mode | (0x0003) | | | |
| | 15.85 | kbit/s | mode | (0x0004) | | | |
| | 18.25 | kbit/s | mode | (0x0005) | | | |
| | 19.85 | kbit/s | mode | (0x0006) | | | |
| | 23.05 | kbit/s | mode | (0x0007) | | | |
| | 23.85 | kbit/s | mode | (0x0008) | | | |

2.2 After the change

| | | | | | | | |
|------------|----------|-------|-----------------------------|----------|----|-----|----|
| FRAME_TYPE | transmit | frame | type, | which | is | one | of |
| | | | RX_SPEECH_GOOD | (0x0000) | | | |
| | | | RX_SPEECH_PROBABLY_DEGRADED | (0x0001) | | | |
| | | | RX_SPEECH_LOST | (0x0002) | | | |
| | | | RX_SPEECH_BAD | (0x0003) | | | |
| | | | RX_SID_FIRST | (0x0004) | | | |
| | | | RX_SID_UPDATE | (0x0005) | | | |
| | | | RX_SID_BAD | (0x0006) | | | |
| | | | RX_NO_DATA | (0x0007) | | | |

B0...B2nn speech encoder parameter bits (i.e. the bitstream itself). Each B_x either has the value 0x0081 (for bit 0) or 0x007F (for bit 1).

| | | | | | | | |
|-----------|----------|--------|--------------|----------|----|-----|----|
| MODE_INFO | encoding | mode | information, | which | is | one | of |
| | 6.60 | kbit/s | mode | (0x0000) | | | |
| | 8.85 | kbit/s | mode | (0x0001) | | | |
| | 12.65 | kbit/s | mode | (0x0002) | | | |
| | 14.25 | kbit/s | mode | (0x0003) | | | |
| | 15.85 | kbit/s | mode | (0x0004) | | | |
| | 18.25 | kbit/s | mode | (0x0005) | | | |
| | 19.85 | kbit/s | mode | (0x0006) | | | |
| | 23.05 | kbit/s | mode | (0x0007) | | | |
| | 23.85 | kbit/s | mode | (0x0008) | | | |