

Technical Specification Group Radio Access Network
 Marco Island, USA 4 - 7 June 2002

RP#16(02) 0420

| TSG_Doc_Num | Specification | CR_Num | Revision_Num | 3G_Release | CR_Subject | CR_Category | Cur_Ver_Num | New_Ver_Num | Tdoc_Num | WorkItem |
|-------------|---------------|--------|--------------|------------|---|-------------|-------------|-------------|-----------|------------|
| RP-020420 | 25.433 | 651 | | Rel-4 | Clarification on the Neighboring TDD Cell Measurement | F | 4.4.0 | 4.5.0 | R3-021245 | TEI |
| RP-020420 | 25.433 | 652 | | Rel-5 | Clarification on the Neighboring TDD Cell Measurement | A | 5.0.0 | 5.1.0 | R3-021246 | TEI |
| RP-020420 | 25.433 | 653 | | Rel-4 | Introduction of SIB | F | 4.4.0 | 4.5.0 | R3-021247 | TEI |
| RP-020420 | 25.433 | 654 | | Rel-5 | Introduction of SIB | A | 5.0.0 | 5.1.0 | R3-021248 | TEI |
| RP-020420 | 25.433 | 674 | 1 | Rel-4 | Definition of quality figures for SFN-SFN and Tutan-gps | F | 4.4.0 | 4.5.0 | R3-021590 | LCS1-UEPos |
| RP-020420 | 25.433 | 675 | | Rel-5 | Definition of quality figures for SFN-SFN and Tutan-gps | A | 5.0.0 | 5.1.0 | R3-021350 | LCS1-UEPos |

CHANGE REQUEST

⌘ **25.433 CR 651** ⌘ rev ⌘ Current version: **4.4.0** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

| | | | |
|------------------------|--|-----------------|---|
| Title: | ⌘ Clarification on the Neighbouring TDD Cell Measurement Information | | |
| Source: | ⌘ R-WG3 | | |
| Work item code: | ⌘ TEI | Date: | ⌘ May 2002 |
| Category: | ⌘ F | Release: | ⌘ REL-4 |
| | <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 "Neighbouring TDD Cell Measurement Information" IE contains two optional IEs which are not explained in the procedure text. |
| Summary of change: | ⌘ Procedure text is added in the "Neighbouring TDD Cell Measurement Information" IE. Impact Analysis: Impact assessment towards the previous version of the specification (same release): This CR has no impact. |
| Consequences if not approved: | ⌘ If this CR is not approved, procedure text is missing in the "Neighbouring TDD Cell Measurement Information" IE. |

| | | |
|------------------------------|--|--|
| Clauses affected: | ⌘ 9.2.1.47D | |
| Other specs affected: | ⌘ <input checked="" type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications | ⌘ 25.423 v4.4.0 CR 617 25.423 v5.0.0 CR 618 25.433 v5.0.0 CR 652 |
| 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.

9.2.1.47D Neighbouring TDD Cell Measurement Information

This IE provides information on the 3.84Mcps TDD neighbouring cells used for the purpose of measurements. Since the measurement can be performed on every time slot and midamble shift, the *Time slot IE* and *Midamble shift and burst type IE* shall be included if available.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|-------------------------------|----------|-------|-----------------------|------------------------|
| UC-Id | M | | 9.2.1.65B | |
| UARFCN | M | | 9.2.1.65 | Corresponds to Nt [15] |
| Cell Parameter ID | M | | 9.2.3.4 | |
| Time slot | O | | 9.2.3.23 | |
| Midamble shift and burst type | O | | 9.2.3.7 | |

CHANGE REQUEST

⌘ **25.433 CR 652** ⌘ rev ⌘ Current version: **5.0.0** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

| | | | |
|------------------------|--|-----------------|---|
| Title: | ⌘ Clarification on the Neighbouring TDD Cell Measurement Information | | |
| Source: | ⌘ R-WG3 | | |
| Work item code: | ⌘ TEI | Date: | ⌘ May 2002 |
| Category: | ⌘ A | 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 "Neighbouring TDD Cell Measurement Information" IE contains two optional IEs which are not explained in the procedure text. |
| Summary of change: | ⌘ Procedure text is added in the "Neighbouring TDD Cell Measurement Information" IE. Impact Analysis: Impact assessment towards the previous version of the specification (same release): This CR has no impact. |
| Consequences if not approved: | ⌘ If this CR is not approved, procedure text is missing in the "Neighbouring TDD Cell Measurement Information" IE. |

| | | |
|------------------------------|--|--|
| Clauses affected: | ⌘ 9.2.1.47D | |
| Other specs affected: | ⌘ <input checked="" type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications | ⌘ 25.423 v4.4.0 CR 617 25.423 v5.0.0 CR 618 25.433 v4.4.0 CR 651 |
| 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.

9.2.1.47D Neighbouring TDD Cell Measurement Information

This IE provides information on the 3.84Mcps TDD neighbouring cells used for the purpose of measurements. Since the measurement can be performed on every time slot and midamble shift, the *Time slot IE* and *Midamble shift and burst type IE* shall be included if available.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|-------------------------------|----------|-------|-----------------------|------------------------|
| UC-Id | M | | 9.2.1.65B | |
| UARFCN | M | | 9.2.1.65 | Corresponds to Nt [15] |
| Cell Parameter ID | M | | 9.2.3.4 | |
| Time slot | O | | 9.2.3.23 | |
| Midamble shift and burst type | O | | 9.2.3.7 | |

CHANGE REQUEST

⌘ **25.433 CR 653** ⌘ rev **-** ⌘ Current version: **4.4.0** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

| | | | |
|---|----------------------------|--|------------|
| Title: | ⌘ Introduction of SIB 15.5 | | |
| Source: | ⌘ R-WG3 | | |
| Work item code: | ⌘ LCS1-UEPos-lublur | Date: | ⌘ May 2002 |
| Category: | ⌘ F | Release: | ⌘ REL-4 |
| <p>Use <u>one</u> of the following categories:</p> <p>F (essential correction) A (corresponds to a correction in an earlier release) B (Addition of feature), C (Functional modification of feature) D (Editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p> | | <p>Use <u>one</u> of the following releases:</p> <p>2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)</p> | |

| | |
|--------------------------------------|---|
| Reason for change: | ⌘ The System Information Block 15.5 has been introduced in R99 in RRC. As this System Information Block is used only for UE-based OTDOA, it should be introduced in Rel-4 in NBAP to allow the full support of UE Positioning within UTRAN. |
| Summary of change: | ⌘ The SIB 15.5 is added to the Enumeration in the <i>IB Type</i> IE. Impact Analysis: Impact assessment towards the previous version of the specification (same release): this CR has isolated impact on the previous version of the specification (same release). This CR has an impact under the protocol and functional point of view. The impact can be considered isolated because the change affects only one system function, namely the System Information Broadcast. This correction is made in a backward compatible way compared to the previous Release of the specification. |
| Consequences if not approved: | ⌘ If this CR is not approved, then the inconsistency between TS 25.331 and TS 25.433 will remain and it will not be possible to use the SIB 15.5. |

| | | | |
|------------------------------|--|---------------------|----------|
| Clauses affected: | ⌘ 9.2.1.35; 9.3.4 | | |
| Other specs affected: | <input checked="" type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications | ⌘ TS 25.433 v 5.0.0 | ⌘ CR 654 |
| 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.

9.2.1.35 IB Type

The IB Type identifies a specific system information block.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---------------|----------|-------|---|-----------------------|
| IB Type | | | Enumerated (MIB, SB1, SB2, SIB1, SIB2 SIB3, SIB4, SIB5, SIB6, SIB7, SIB8, SIB9, SIB10, SIB11, SIB12, SIB13, SIB13.1 SIB13.2, SIB13.3, SIB13.4, SIB14, SIB15, SIB15.1, SIB15.2, SIB15.3, SIB16, ..., SIB17, SIB15.4, SIB18, SIB15.5) | |

9.3.4 Information Elements Definitions

```

--*****
--
-- Information Element Definitions
--
--*****

```

```

NBAP-IEs {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) nbap (2) version1 (1) nbap-IEs (2) }

```

```

DEFINITIONS AUTOMATIC TAGS ::=
BEGIN

```

UNCHANGED TEXT IS REMOVED

```

IB-SG-REP ::= ENUMERATED {rep4, rep8, rep16, rep32, rep64, rep128, rep256, rep512, rep1024, rep2048, rep4096}

```

```

IB-Type ::= ENUMERATED {
  mIB,
  sB1,
  sB2,
  sIB1,
  sIB2,
  sIB3,
  sIB4,
  sIB5,
  sIB6,
  sIB7,
  sIB8,
  sIB9,
  sIB10,
  sIB11,
  sIB12,
  sIB13,
  sIB13dot1,
  sIB13dot2,
  sIB13dot3,
  sIB13dot4,
  sIB14,
  sIB15,
  sIB15dot1,
  sIB15dot2,
  sIB15dot3,
  sIB16,
  ...,
  sIB17,
  sIB15dot4,
  sIB18,
  sIB15dot5
}

```

```
}  
IndicationType ::= ENUMERATED {  
    noFailure,  
    serviceImpacting,  
    ...  
}
```

CHANGE REQUEST

⌘ **25.433 CR 654** ⌘ rev **-** ⌘ Current version: **5.0.0** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

| | | | |
|---|----------------------------|--|------------|
| Title: | ⌘ Introduction of SIB 15.5 | | |
| Source: | ⌘ R-WG3 | | |
| Work item code: | ⌘ LCS1-UEPos-lublur | Date: | ⌘ May 2002 |
| Category: | ⌘ A | Release: | ⌘ REL-5 |
| <p>Use <u>one</u> of the following categories:</p> <p>F (essential correction) A (corresponds to a correction in an earlier release) B (Addition of feature), C (Functional modification of feature) D (Editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p> | | <p>Use <u>one</u> of the following releases:</p> <p>2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)</p> | |

| | |
|--------------------------------------|---|
| Reason for change: | ⌘ The System Information Block 15.5 has been introduced in R99 in RRC. As this System Information Block is used only for UE-based OTDOA, it should be introduced in Rel-4 in NBAP to allow the full support of UE Positioning within UTRAN. |
| Summary of change: | ⌘ The SIB 15.5 is added to the Enumeration in the <i>IB Type</i> IE. Impact Analysis: Impact assessment towards the previous version of the specification (same release): this CR has isolated impact on the previous version of the specification (same release). This CR has an impact under the protocol and functional point of view. The impact can be considered isolated because the change affects only one system function, namely the System Information Broadcast. This correction is made in a backward compatible way compared to the previous Release of the specification. |
| Consequences if not approved: | ⌘ If this CR is not approved, then the inconsistency between TS 25.331 and TS 25.433 will remain and it will not be possible to use the SIB 15.5. |

| | | | |
|------------------------------|--|---------------------|----------|
| Clauses affected: | ⌘ 9.2.1.35; 9.3.4 | | |
| Other specs affected: | <input checked="" type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications | ⌘ TS 25.433 v 4.4.0 | ⌘ CR 653 |
| 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.

9.2.1.35 IB Type

The IB Type identifies a specific system information block.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---------------|----------|-------|---|-----------------------|
| IB Type | | | Enumerated (MIB, SB1, SB2, SIB1, SIB2 SIB3, SIB4, SIB5, SIB6, SIB7, SIB8, SIB9, SIB10, SIB11, SIB12, SIB13, SIB13.1 SIB13.2, SIB13.3, SIB13.4, SIB14, SIB15, SIB15.1, SIB15.2, SIB15.3, SIB16, ..., SIB17, SIB15.4, SIB18, SIB15.5) | |

9.3.4 Information Elements Definitions

```

--*****
--
-- Information Element Definitions
--
--*****

```

```

NBAP-IEs {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) nbap (2) version1 (1) nbap-IEs (2) }

```

```

DEFINITIONS AUTOMATIC TAGS ::=
BEGIN

```

UNCHANGED TEXT IS REMOVED

```

IB-SG-REP ::= ENUMERATED {rep4, rep8, rep16, rep32, rep64, rep128, rep256, rep512, rep1024, rep2048, rep4096}

```

```

IB-Type ::= ENUMERATED {
  mIB,
  sB1,
  sB2,
  sIB1,
  sIB2,
  sIB3,
  sIB4,
  sIB5,
  sIB6,
  sIB7,
  sIB8,
  sIB9,
  sIB10,
  sIB11,
  sIB12,
  sIB13,
  sIB13dot1,
  sIB13dot2,
  sIB13dot3,
  sIB13dot4,
  sIB14,
  sIB15,
  sIB15dot1,
  sIB15dot2,
  sIB15dot3,
  sIB16,
  ...,
  sIB17,
  sIB15dot4,
  sIB18,
  sIB15dot5
}

```

```
}  
IndicationType ::= ENUMERATED {  
    noFailure,  
    serviceImpacting,  
    ...  
}
```

CHANGE REQUEST

⌘ **25.433** **CR 674** ⌘ rev **1** ⌘ Current version: **4.4.0** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

| | | | |
|------------------------|---|---|--|
| Title: | ⌘ | Definition of quality figures for SFN-SFN and Tutan-gps measurement value information | |
| Source: | ⌘ | R-WG3 | |
| Work item code: | ⌘ | LCS1-UEPos-lublur | Date: ⌘ May 2002 |
| Category: | ⌘ | F | Release: ⌘ REL-4 |
| | | <p>Use <u>one</u> of the following categories:</p> <p>F (essential correction) A (corresponds to a correction in an earlier release) B (Addition of feature), C (Functional modification of feature) D (Editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p> | <p>Use <u>one</u> of the following releases:</p> <p>2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)</p> |

| | | |
|--------------------------------------|---|---|
| Reason for change: | ⌘ | Standard deviation is mentioned in the specification, but the formula to calculate it, is missing. This CR is meant to clarify any ambiguities |
| Summary of change: | ⌘ | <p>Revision 1: -Standard deviation formula had changes that were not tracked into document. Now all the changes are tracked.</p> <p>-----</p> <p>Added formulas in <i>SFN-SFN Quality IE</i> and to the <i>Tutan-gps Quality IE</i> semantics descriptions for calculating standard deviation.</p> <p><u>Impact Analysis:</u> Impact assessment towards the previous version of the specification (same release): This CR has no impact with the previous version of the specification (same release) because standard deviation formula is known and this CR clarifies and gives reader an idea what kind of formula standard deviation is.</p> |
| Consequences if not approved: | ⌘ | Ambiguities of quality figures still exists and this may result for poorer accuracy of UE positioning |

| | | | | | | |
|---|--|--|---|--|--|--|
| Clauses affected: | ⌘ | 9.2.1.53E, 9.2.1.64A | | | | |
| Other specs affected: | ⌘ | <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"><input checked="" type="checkbox"/> Other core specifications</td> <td style="width: 50%; border: none;">⌘ TS25.423v4.4.0 CR647, TS25.433v5.0.0 CR675, TS25.423v5.0.0 CR648</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Test specifications</td> <td style="border: none;"></td> </tr> </table> | <input checked="" type="checkbox"/> Other core specifications | ⌘ TS25.423v4.4.0 CR647, TS25.433v5.0.0 CR675, TS25.423v5.0.0 CR648 | <input type="checkbox"/> Test specifications | |
| <input checked="" type="checkbox"/> Other core specifications | ⌘ TS25.423v4.4.0 CR647, TS25.433v5.0.0 CR675, TS25.423v5.0.0 CR648 | | | | | |
| <input type="checkbox"/> 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.
- 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.

9.2.1.53E SFN-SFN Measurement Value Information

The SFN-SFN Measurement Value Information IE indicates the measurement result related to SFN-SFN Observed Time Difference measurements.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|--|----------|------------------------|-----------------------|---|
| Successful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information | | 1..<maxnoMeasN Cell> | | |
| >UC-Id | M | | 9.2.1.65B | |
| >SFN-SFN Value | M | | 9.2.1.53F | |
| >SFN-SFN Quality | O | | INTEGER(0..255) | Indicates the standard deviation (<u>std</u>) of the SFN-SFN otd (observed time difference) measurements in 1/16 chip. <u>SFN-SFN Quality = $\sqrt{E[(x-\mu)^2]}$ = std of reported SFN-SFN Value, where x is the reported SFN-SFN Value and $\mu = E[x]$ is the expectation value of x.</u> |
| >SFN-SFN Drift Rate | M | | INTEGER(-100..+100) | Indicates the SFN-SFN drift rate in 1/256 chip per second. A positive value indicates that the Reference cell clock is running at a greater frequency than the measured neighbouring cell. |
| >SFN-SFN Drift Rate Quality | M | | INTEGER(0..100) | Indicates the standard deviation (<u>std</u>) of the SFN-SFN drift rate measurements in 1/256 chip per second. <u>SFN-SFN Drift Rate Quality = $\sqrt{E[(x-\mu)^2]}$ = std of reported SFN-SFN Drift Rate, where x is the reported SFN-SFN Drift Rate and $\mu = E[x]$ is the expectation value of x.</u> |
| >SFN-SFN Measurement Time Stamp | M | | 9.2.1.53D | |
| Unsuccessful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information | | 0..<maxnoMeasN Cell-1> | | |
| >UC-Id | M | | 9.2.1.65B | |

| Range bound | Explanation |
|-----------------------|---|
| <i>maxnoMeasNCell</i> | Maximum number of neighbouring cells that can be measured on. |

9.2.1.64A $T_{\text{UTRAN-GPS}}$ Measurement Value Information

The $T_{\text{UTRAN-GPS}}$ *Measurement Value Information* IE indicates the measurement results related to the UTRAN GPS Timing of Cell Frame for LCS measurements.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|----------|-------|-------------------------|---|
| $T_{\text{UTRAN-GPS}}$ | | 1 | | Indicates the UTRAN GPS Timing of Cell Frame for LCS. According to mapping in [22]. Significant values range from 0 to 37158911999999. |
| >MS | M | | INTEGER (0..16383) | Most Significant Part |
| >LS | M | | INTEGER (0..4294967295) | Least Significant Part |
| $T_{\text{UTRAN-GPS}}$ Quality | M | | INTEGER(0..255) | Indicates the standard deviation (<u>std</u>) of the $T_{\text{UTRAN-GPS}}$ measurements in 1/16 chip. $T_{\text{UTRAN-GPS}}$ Quality = $\sqrt{E[(x-\mu)^2]}$ = <u>std of reported $T_{\text{UTRAN-GPS}}$ Value.</u> where x is the reported $T_{\text{UTRAN-GPS}}$ Value and $\mu = E[x]$ is the <u>expectation value of x.</u> |
| $T_{\text{UTRAN-GPS}}$ Drift Rate | M | | INTEGER(-50..+50) | Indicates the $T_{\text{UTRAN-GPS}}$ drift rate in 1/256 chip per second. A positive value indicates that the UTRAN clock is running at a lower frequency than GPS clock. |
| $T_{\text{UTRAN-GPS}}$ Drift Rate Quality | M | | INTEGER(0..50) | Indicates the standard deviation (<u>std</u>) of the $T_{\text{UTRAN-GPS}}$ drift rate measurements in 1/256 chip per second. $T_{\text{UTRAN-GPS}}$ Drift Rate Quality = $\sqrt{E[(x-\mu)^2]}$ = <u>std of reported $T_{\text{UTRAN-GPS}}$ Drift Rate.</u> where x is the reported $T_{\text{UTRAN-GPS}}$ Drift Rate and $\mu = E[x]$ is the <u>expectation value of x.</u> |

CHANGE REQUEST

⌘ **25.433** **CR 675** ⌘ rev **-** ⌘ Current version: **5.0.0** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

| | | | |
|------------------------|---|---|--|
| Title: | ⌘ | Definition of quality figures for SFN-SFN and Tutan-gps measurement value information | |
| Source: | ⌘ | R-WG3 | |
| Work item code: | ⌘ | LCS1-UEPos-lublur | Date: ⌘ May 2002 |
| Category: | ⌘ | A | Release: ⌘ REL-5 |
| | | <p>Use <u>one</u> of the following categories:</p> <p>F (essential correction)</p> <p>A (corresponds to a correction in an earlier release)</p> <p>B (Addition of feature),</p> <p>C (Functional modification of feature)</p> <p>D (Editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p> | <p>Use <u>one</u> of the following releases:</p> <p>2 (GSM Phase 2)</p> <p>R96 (Release 1996)</p> <p>R97 (Release 1997)</p> <p>R98 (Release 1998)</p> <p>R99 (Release 1999)</p> <p>REL-4 (Release 4)</p> <p>REL-5 (Release 5)</p> |

| | | |
|--------------------------------------|---|--|
| Reason for change: | ⌘ | Standard deviation is mentioned in the specification, but the formula to calculate it, is missing. This CR is meant to clarify any ambiguities |
| Summary of change: | ⌘ | <p>Added formulas in <i>SFN-SFN Quality IE</i> and to the <i>Tutan-gps Quality IE</i> semantics descriptions for calculating standard deviation.</p> <p><u>Impact Analysis:</u> Impact assessment towards the previous version of the specification (same release): This CR has no impact with the previous version of the specification (same release) because standard deviation formula is known and this CR clarifies and gives reader an idea what kind of formula standard deviation is.</p> |
| Consequences if not approved: | ⌘ | Ambiguities of quality figures still exists and this may result for poorer accuracy of UE positioning |

| | | | | | | | | |
|---|--|--|---|--|--|--|---|--|
| Clauses affected: | ⌘ | 9.2.1.53E, 9.2.1.64A | | | | | | |
| Other specs affected: | ⌘ | <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"><input checked="" type="checkbox"/> Other core specifications</td> <td style="width: 50%; border: none;">⌘ TS25.433v4.4.0 CR674, TS25.423v4.4.0 CR647, TS25.423v5.0.0 CR648</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Test specifications</td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> O&M Specifications</td> <td style="border: none;"></td> </tr> </table> | <input checked="" type="checkbox"/> Other core specifications | ⌘ TS25.433v4.4.0 CR674, TS25.423v4.4.0 CR647, TS25.423v5.0.0 CR648 | <input type="checkbox"/> Test specifications | | <input type="checkbox"/> O&M Specifications | |
| <input checked="" type="checkbox"/> Other core specifications | ⌘ TS25.433v4.4.0 CR674, TS25.423v4.4.0 CR647, TS25.423v5.0.0 CR648 | | | | | | | |
| <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.

9.2.1.53E SFN-SFN Measurement Value Information

The SFN-SFN Measurement Value Information IE indicates the measurement result related to SFN-SFN Observed Time Difference measurements.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|--|----------|------------------------|-----------------------|---|
| Successful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information | | 1..<maxnoMeasN Cell> | | |
| >UC-Id | M | | 9.2.1.65B | |
| >SFN-SFN Value | M | | 9.2.1.53F | |
| >SFN-SFN Quality | O | | INTEGER(0..256) | Indicates the standard deviation (<u>std</u>) of the SFN-SFN otd (observed time difference) measurements in 1/16 chip. <u>SFN-SFN Quality = $\sqrt{E[(x-\mu)^2]}$ = std of reported SFN-SFN Value, where x is the reported SFN-SFN Value and $\mu = E[x]$ is the expectation value of x.</u> |
| >SFN-SFN Drift Rate | M | | INTEGER(-100..+100) | Indicates the SFN-SFN drift rate in 1/256 chip per second. A positive value indicates that the Reference cell clock is running at a greater frequency than the measured neighbouring cell. |
| >SFN-SFN Drift Rate Quality | M | | INTEGER(0..100) | Indicates the standard deviation (<u>std</u>) of the SFN-SFN drift rate measurements in 1/256 chip per second. <u>SFN-SFN Drift Rate Quality = $\sqrt{E[(x-\mu)^2]}$ = std of reported SFN-SFN Drift Rate, where x is the reported SFN-SFN Drift Rate and $\mu = E[x]$ is the expectation value of x.</u> |
| >SFN-SFN Measurement Time Stamp | M | | 9.2.1.53D | |
| Unsuccessful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information | | 0..<maxnoMeasN Cell-1> | | |
| >UC-Id | M | | 9.2.1.65B | |

| Range bound | Explanation |
|-----------------------|---|
| <i>maxnoMeasNCell</i> | Maximum number of neighbouring cells that can be measured on. |

9.2.1.64A $T_{\text{UTRAN-GPS}}$ Measurement Value Information

The $T_{\text{UTRAN-GPS}}$ *Measurement Value Information* IE indicates the measurement results related to the UTRAN GPS Timing of Cell Frame for LCS measurements.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|----------|-------|-------------------------|--|
| $T_{\text{UTRAN-GPS}}$ | | 1 | | Indicates the UTRAN GPS Timing of Cell Frame for LCS. According to mapping in [22]. Significant values range from 0 to 37158911999999. |
| >MS | M | | INTEGER (0..16383) | Most Significant Part |
| >LS | M | | INTEGER (0..4294967295) | Least Significant Part |
| $T_{\text{UTRAN-GPS}}$ Quality | M | | INTEGER(0..255) | Indicates the standard deviation (<u>std</u>) of the $T_{\text{UTRAN-GPS}}$ measurements in 1/16 chip. $T_{\text{UTRAN-GPS}} \text{ Quality} = \sqrt{E[(x-\mu)^2]} = \text{std of reported } T_{\text{UTRAN-GPS}} \text{ Value, where } x \text{ is the reported } T_{\text{UTRAN-GPS}} \text{ Value and } \mu = E[x] \text{ is the expectation value of } x.$ |
| $T_{\text{UTRAN-GPS}}$ Drift Rate | M | | INTEGER(-50..+50) | Indicates the $T_{\text{UTRAN-GPS}}$ drift rate in 1/256 chip per second. A positive value indicates that the UTRAN clock is running at a lower frequency than GPS clock. |
| $T_{\text{UTRAN-GPS}}$ Drift Rate Quality | M | | INTEGER(0..50) | Indicates the standard deviation (<u>std</u>) of the $T_{\text{UTRAN-GPS}}$ drift rate measurements in 1/256 chip per second. $T_{\text{UTRAN-GPS}} \text{ Drift Rate Quality} = \sqrt{E[(x-\mu)^2]} = \text{std of reported } T_{\text{UTRAN-GPS}} \text{ Drift Rate, where } x \text{ is the reported } T_{\text{UTRAN-GPS}} \text{ Drift Rate and } \mu = E[x] \text{ is the expectation value of } x.$ |