

TSG RAN Meeting #17
Biarritz, France, 3 - 6 September, 2002

RP-020473

Title CRs (R'99 and Rel-4/Rel-5 Category A) to TS 25.102
Source TSG RAN WG4
Agenda Item 7.4.3

| RAN4 Tdoc | Spec | CR | R | Cat | Rel | Curr Ver | Title | Work Item |
|-----------|--------|-----|---|-----|-------|----------|--|-----------|
| R4-021124 | 25.102 | 118 | | F | R99 | 3.11.0 | Correction to 3.84 Mcps TDD option downlink power control requirements | TEI |
| R4-021125 | 25.102 | 119 | | A | Rel-4 | 4.5.0 | Correction to 3.84 Mcps TDD option downlink power control requirements | TEI |
| R4-021126 | 25.102 | 120 | | A | Rel-5 | 5.1.0 | Correction to 3.84 Mcps TDD option downlink power control requirements | TEI |

Helsinki, Finland 12 - 16 August 2002

CR-Form-v7

CHANGE REQUEST

⌘ 25.102 CR 118 ⌘ rev ⌘ Current version: 3.11.0 ⌘

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

| | |
|------------------------|--|
| Title: | ⌘ Correction to 3.84 Mcps TDD option downlink power control requirements |
| Source: | ⌘ RAN WG4 |
| Work item code: | ⌘ TEI Date: ⌘ 21/08/2002 |
| Category: | ⌘ F Release: ⌘ R99 |
| | Use <u>one</u> 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 <u>one</u> 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) |
| | Rel-6 (Release 6) |

| | |
|--------------------------------------|--|
| Reason for change: | ⌘ To define averaging time to be over one timeslot and to correct performance requirement so it is consistent with the defined averaging time. The averaging time is aligned with the FDD requirement. |
| Summary of change: | ⌘ Define averaging time and correct the performance requirement to be consistent with single timeslot integration. |
| Consequences if not approved: | ⌘ Integration time will not be specified and is currently not consistent with FDD, which will cause confusion and complicate testing. <u>Isolated impact analysis:</u> This CR is a correction to the manner in which a performance value is measured. It does not change system performance or device performance. This change will not affect any existing implementations, which meet the current performance requirements, since the performance requirements have not been changed. |

| | | | | | | | | | | | | | |
|------------------------------|--|---------------------------|---|--|--|---|---------------------------|---|--|---------------------|--|---|--------------------|
| Clauses affected: | ⌘ 8.5.1 | | | | | | | | | | | | |
| Other specs affected: | <table border="1"> <tr> <td>Y</td> <td>N</td> <td></td> </tr> <tr> <td></td> <td>X</td> <td>Other core specifications</td> </tr> <tr> <td>X</td> <td></td> <td>Test specifications</td> </tr> <tr> <td></td> <td>X</td> <td>O&M Specifications</td> </tr> </table> ⌘ 34.122 | Y | N | | | X | Other core specifications | X | | Test specifications | | X | O&M Specifications |
| Y | N | | | | | | | | | | | | |
| | X | Other core specifications | | | | | | | | | | | |
| X | | Test specifications | | | | | | | | | | | |
| | X | O&M Specifications | | | | | | | | | | | |
| Other comments: | ⌘ Technical support the performance value is given in Tdoc R4-021123. Please see Revised Draft Report of the 23 rd 3GPP TSG RAN WG4 meeting (R4-021051) | | | | | | | | | | | | |

and Tdocs R4-020982, and R4-020983 – for additional information on this subject.
Equivalent CRs in other Releases: CR119 cat. A to 25.102 v4.5.0, CR120 cat. A to 25.102 v5.1.0

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.

8.5 Power control in downlink

Power control in the downlink is the ability of the UE receiver to converge to the required link quality set by the network while using minimum downlink power.

8.5.1 Minimum requirements

For the parameters specified in Table 8.12 the average downlink \hat{I}_{or}/I_{oc} averaged over one timeslot shall be below the specified value in Table 8.13 more than 90% of the time. BLER shall be as shown in Table 8.13. Downlink power control is ON during the test.

Table 8.12: Test parameters for downlink power control

| Parameter | Unit | Test 1 |
|--|--------------|--------|
| $\frac{DPCH - E_c}{I_{or}}$ | dB | 0 |
| I_{oc} | dBm/3.84 MHz | -60 |
| Information Data Rate | kbps | 12.2 |
| Target quality value on DTCH | BLER | 0.01 |
| Propagation condition | | Case 1 |
| DL Power Control step size, Δ_{TPC} | dB | 1 |
| Maximum_DL_power * | dB | 0 |
| Minimum_DL_power * | dB | -27 |
| *Note: Refer to TS 25.224 for description and definition | | |

Table 8.13: Requirements for downlink power control

| Parameter | Unit | Test 1 |
|--------------------------|------|--------------------|
| \hat{I}_{or}/I_{oc} | dB | 8.0 8.5 |
| Measured quality on DTCH | BLER | 0.01±30% |

Helsinki, Finland 12 - 16 August 2002

CR-Form-v7

CHANGE REQUEST

⌘ 25.102 CR 119 ⌘ rev ⌘ Current version: 4.5.0 ⌘

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

| | | | | | | | | | | | | | | | | | |
|--|--|-----------------------|------------------------|--|---------------------------|---------------------------------|---------------------------|---|---------------------------|-----------------------------------|---------------------------|--|--------------------------|--|--------------------------|--|--------------------------|
| Title: | ⌘ Correction to 3.84 Mcps TDD option downlink power control requirements | | | | | | | | | | | | | | | | |
| Source: | ⌘ RAN WG4 | | | | | | | | | | | | | | | | |
| Work item code: | ⌘ TEI Date: ⌘ 21/08/2002 | | | | | | | | | | | | | | | | |
| Category: | ⌘ A Release: ⌘ Rel-4 | | | | | | | | | | | | | | | | |
| Use <u>one</u> of the following categories: | | | | | | | | | | | | | | | | | |
| <table border="0"> <tr> <td>F (correction)</td> <td>2 (GSM Phase 2)</td> </tr> <tr> <td>A (corresponds to a correction in an earlier release)</td> <td>R96 (Release 1996)</td> </tr> <tr> <td>B (addition of feature),</td> <td>R97 (Release 1997)</td> </tr> <tr> <td>C (functional modification of feature)</td> <td>R98 (Release 1998)</td> </tr> <tr> <td>D (editorial modification)</td> <td>R99 (Release 1999)</td> </tr> <tr> <td>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</td> <td>Rel-4 (Release 4)</td> </tr> <tr> <td></td> <td>Rel-5 (Release 5)</td> </tr> <tr> <td></td> <td>Rel-6 (Release 6)</td> </tr> </table> | | F (correction) | 2 (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 be found in 3GPP TR 21.900 . | Rel-4 (Release 4) | | Rel-5 (Release 5) | | Rel-6 (Release 6) |
| F (correction) | 2 (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 be found in 3GPP TR 21.900 . | Rel-4 (Release 4) | | | | | | | | | | | | | | | | |
| | Rel-5 (Release 5) | | | | | | | | | | | | | | | | |
| | Rel-6 (Release 6) | | | | | | | | | | | | | | | | |

| | |
|--------------------------------------|--|
| Reason for change: | ⌘ To define averaging time to be over one timeslot and to correct performance requirement so it is consistent with the defined averaging time. The averaging time is aligned with the FDD requirement. |
| Summary of change: | ⌘ Define averaging time and correct the performance requirement to be consistent with single timeslot integration. |
| Consequences if not approved: | ⌘ Integration time will not be specified and is currently not consistent with FDD, which will cause confusion and complicate testing. <u>Isolated impact analysis:</u> This CR is a correction to the manner in which a performance value is measured. It does not change system performance or device performance. This change will not affect any existing implementations, which meet the current performance requirements, since the performance requirements have not been changed. |

| | | | | | | | | | | | | | |
|------------------------------|---|---------------------------|----------|--|--|----------|---------------------------|----------|--|---------------------|--|----------|--------------------|
| Clauses affected: | ⌘ 8.5.1 | | | | | | | | | | | | |
| Other specs affected: | <table border="1"> <tr> <td>Y</td> <td>N</td> <td></td> </tr> <tr> <td></td> <td>X</td> <td>Other core specifications</td> </tr> <tr> <td>X</td> <td></td> <td>Test specifications</td> </tr> <tr> <td></td> <td>X</td> <td>O&M Specifications</td> </tr> </table> | Y | N | | | X | Other core specifications | X | | Test specifications | | X | O&M Specifications |
| Y | N | | | | | | | | | | | | |
| | X | Other core specifications | | | | | | | | | | | |
| X | | Test specifications | | | | | | | | | | | |
| | X | O&M Specifications | | | | | | | | | | | |
| Other comments: | ⌘ Technical support the performance value is given in Tdoc R4-021123. Please see Revised Draft Report of the 23 rd 3GPP TSG RAN WG4 meeting (R4-021051) 34.122 | | | | | | | | | | | | |

and Tdocs R4-020982, and R4-020983 – for additional information on this subject.
Equivalent CRs in other Releases: CR118 cat. F to 25.102 v3.11.0, CR120 cat. A to 25.102 v5.1.0

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.

8.5 Power control in downlink

Power control in the downlink is the ability of the UE receiver to converge to the required link quality set by the network while using minimum downlink power.

8.5.1 Power control in downlink, constant BLER target

8.5.1.1 Minimum requirements 3.84 Mcps TDD option

For the parameters specified in Table 8.12 the average downlink \hat{I}_{or}/I_{oc} averaged over one timeslot shall be below the specified value in Table 8.13 more than 90% of the time. BLER shall be as shown in Table 8.13. Downlink power control is ON during the test.

Table 8.12: Test parameters for downlink power control – constant BLER Target (3.84 Mcps TDD option)

| Parameter | Unit | Test 1 |
|--|--------------|--------|
| $\frac{DPCH - E_c}{I_{or}}$ | dB | 0 |
| I_{oc} | dBm/3.84 MHz | -60 |
| Information Data Rate | kbps | 12.2 |
| Target quality value on DTCH | BLER | 0.01 |
| Propagation condition | | Case 1 |
| DL Power Control step size, Δ_{TPC} | dB | 1 |
| Maximum_DL_power * | dB | 0 |
| Minimum_DL_power * | dB | -27 |
| *Note: Refer to TS 25.224 for description and definition | | |

Table 8.13: Requirements for downlink power control – constant BLER Target (3.84 Mcps TDD option)

| Parameter | Unit | Test 1 |
|--------------------------|------|-------------------|
| \hat{I}_{or}/I_{oc} | dB | 8.58-0 |
| Measured quality on DTCH | BLER | 0.01±30% |

Helsinki, Finland 12 - 16 August 2002

CR-Form-v7

CHANGE REQUEST⌘ **25.102 CR 120** ⌘ rev ⌘ Current version: **5.1.0** ⌘For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.Proposed change affects: UICC apps ME Radio Access Network Core Network

| | | | |
|------------------------|--|-----------------|---|
| Title: | ⌘ Correction to 3.84 Mcps TDD option downlink power control requirements | | |
| Source: | ⌘ RAN WG4 | | |
| Work item code: | ⌘ TEI | Date: | ⌘ 21/08/2002 |
| Category: | ⌘ A | Release: | ⌘ Rel-5 |
| | Use <u>one</u> of the following categories: | | Use <u>one</u> of the following releases: |
| | F (correction) | | 2 (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 be found in 3GPP TR 21.900 . | | Rel-4 (Release 4) |
| | | | Rel-5 (Release 5) |
| | | | Rel-6 (Release 6) |

| | |
|--------------------------------------|--|
| Reason for change: | ⌘ To define averaging time to be over one timeslot and to correct performance requirement so it is consistent with the defined averaging time. The averaging time is aligned with the FDD requirement. |
| Summary of change: | ⌘ Define averaging time and correct the performance requirement to be consistent with single timeslot integration. |
| Consequences if not approved: | ⌘ Integration time will not be specified and is currently not consistent with FDD, which will cause confusion and complicate testing. <u>Isolated impact analysis:</u> This CR is a correction to the manner in which a performance value is measured. It does not change system performance or device performance. This change will not affect any existing implementations, which meet the current performance requirements, since the performance requirements have not been changed. |

| | | | | | | | | | | | | | |
|-------------------------------------|--|---------------------------|----------|--|--------------------------|-------------------------------------|---------------------------|-------------------------------------|--------------------------|---------------------|--------------------------|-------------------------------------|--------------------|
| Clauses affected: | ⌘ 8.5.1 | | | | | | | | | | | | |
| Other specs affected: | <table border="1"> <tr> <td>Y</td> <td>N</td> <td></td> </tr> <tr> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>Other core specifications</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td>Test specifications</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>O&M Specifications</td> </tr> </table> | Y | N | | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Other core specifications | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Test specifications | <input type="checkbox"/> | <input checked="" type="checkbox"/> | O&M Specifications |
| Y | N | | | | | | | | | | | | |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Other core specifications | | | | | | | | | | | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Test specifications | | | | | | | | | | | |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | O&M Specifications | | | | | | | | | | | |
| Other comments: | ⌘ Technical support the performance value is given in Tdoc R4-021123. Please see Revised Draft Report of the 23 rd 3GPP TSG RAN WG4 meeting (R4-021051) | | | | | | | | | | | | |

and Tdocs R4-020982, and R4-020983 – for additional information on this subject.
Equivalent CRs in other Releases: CR118 cat. F to 25.102 v3.11.0, CR119 cat. A to 25.102 v4.5.0

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.

8.5 Power control in downlink

Power control in the downlink is the ability of the UE receiver to converge to the required link quality set by the network while using minimum downlink power.

8.5.1 Power control in downlink, constant BLER target

8.5.1.1 Minimum requirements 3.84 Mcps TDD option

For the parameters specified in Table 8.12 the average downlink \hat{I}_{or}/I_{oc} averaged over one timeslot shall be below the specified value in Table 8.13 more than 90% of the time. BLER shall be as shown in Table 8.13. Downlink power control is ON during the test.

Table 8.12: Test parameters for downlink power control – constant BLER Target (3.84 Mcps TDD option)

| Parameter | Unit | Test 1 |
|--|--------------|--------|
| $\frac{DPCH - E_c}{I_{or}}$ | dB | 0 |
| I_{oc} | dBm/3.84 MHz | -60 |
| Information Data Rate | kbps | 12.2 |
| Target quality value on DTCH | BLER | 0.01 |
| Propagation condition | | Case 1 |
| DL Power Control step size, Δ_{TPC} | dB | 1 |
| Maximum_DL_power * | dB | 0 |
| Minimum_DL_power * | dB | -27 |
| *Note: Refer to TS 25.224 for description and definition | | |

Table 8.13: Requirements for downlink power control – constant BLER Target (3.84 Mcps TDD option)

| Parameter | Unit | Test 1 |
|--------------------------|------|-------------------|
| \hat{I}_{or}/I_{oc} | dB | 8.58-0 |
| Measured quality on DTCH | BLER | 0.01±30% |