TSG RAN Meeting #18   **RP-020778**
New Orleans, US, 3 - 6 December, 2002

Title	**CRs (R'99 and Rel-4/Rel-5 Category A) to TS 25.101**
Source	**TSG RAN WG4**
Agenda Item	**7.4.3**

RAN4 Tdoc	Spec	CR	R	Cat	Rel	Curr Ver	Title	Work Item
R4-021474	25.101	194		F	R99	3.11.0	Correction for TPC combining test case 1	TEI
R4-021475	25.101	196		A	Rel-4	4.5.0	Correction for TPC combining test case 1	TEI
R4-021476	25.101	195		A	Rel-5	5.4.0	Correction for TPC combining test case 1	TEI

CR-Form-v7

CHANGE REQUEST

⌘   **25.101** CR **194**   ⌘**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 **X** Radio Access Network ☐   Core Network ☐

Title: ⌘	Correction for TPC combining test case 1	
Source: ⌘	RAN WG4	
Work item code: ⌘	TEI	***Date:*** ⌘ 26/11/2002
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: ⌘	In TPC combining test case 1, no additional noise source (Ioc) is present. Therefore it was assumed that the received TPC command sequence would be error free. However two cells present in test interfere each other and introduce an error probability.
Summary of change: ⌘	A probability for correct uplink power changes over the 4 consecutive slots is presented. It is added that the sequence of uplink power changes shall be as given in Table 8.27 more than 99% of the time. Isolated Impact Analysis: This change would not change UE implementation. It only corrects the test to account for neglected sources of interference.
Consequences if not approved: ⌘	It is possible that correctly funtioning UE will not pass the test due to non-zero error probability.

Clauses affected: ⌘	8.7.2

	Y	N		
Other specs affected: ⌘		X	Other core specifications ⌘	
	X		Test specifications	34.121
		X	O&M Specifications	

Other comments: ⌘	Equivalent CRs in other Releases: CR196 cat. A to 25.101 v4.5.0, CR195 cat. A to 25.101 v5.4.0

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.

8.7.2 Combining of TPC commands from radio links of different radio link sets

8.7.2.1 Minimum requirement

Test parameters are specified in Table 8.27. The delay profiles of the signals received from the different cells are the same but time-shifted by 10 chips.

For Test 1, the sequence of uplink power changes between adjacent slots shall be as shown in Table 8.28 over the 4 consecutive slots more than 99% of the time. Note that this case is without an additional noise source I_{oc}.

For Test 2, the Cell1 and Cell2 TPC patterns are repeated a number of times. If the transmitted power of a given slot is increased compared to the previous slot, then a variable "Transmitted power UP" is increased by one, otherwise a variable "Transmitted power DOWN" is increased by one. The requirements for "Transmitted power UP" and "Transmitted power DOWN" are shown in Table 8.28A.

Table 8.27: Parameters for TPC command combining

Parameter	Unit	Test 1	Test 2
Phase reference	-	P-CPICH	
DPCH_Ec/Ior	dB	-12	
$\hat{I}_{or1}$ and $\hat{I}_{or2}$	dBm/3.84 MHz	-60	
I_{oc}	dBm/3.84 MHz	-	-60
Power-Control-Algorithm	-	Algorithm 1	
Cell 1 TPC commands over 4 slots	-	{0,0,1,1}	
Cell 2 TPC commands over 4 slots	-	{0,1,0,1}	
Information data Rate	kbps	12.2	
Propagation condition	-	Static without AWGN source I_{oc}	Multi-path fading case 3

Table 8.28: Test requirements for Test 1

Test Number	Required power changes over the 4 consecutive slots
1	Down, Down, Down, Up

Table 8.28A: Requirements for Test 2

Test Number	Ratio (Transmitted power UP) / (Total number of slots)	Ratio (Transmitted power DOWN) / (Total number of slots)
2	≥0.25	≥0.5

CR-Form-v7

CHANGE REQUEST

⌘	**25.101** CR **195**	⌘ **rev**	⌘	Current version:	**5.4.0**	⌘

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

Proposed change affects: UICC apps⌘ ☐   ME **X** Radio Access Network ☐   Core Network ☐

Title: ⌘	Correction for TPC combining test case 1	
Source: ⌘	RAN WG4	
Work item code: ⌘	TEI	***Date:*** ⌘ 26/11/2002
Category: ⌘	**A**	***Release:*** ⌘ Rel-5

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: ⌘	In TPC combining test case 1, no additional noise source (Ioc) is present. Therefore it was assumed that the received TPC command sequence would be error free. However two cells present in test interfere each other and introduce an error probability.
Summary of change: ⌘	A probability for correct uplink power changes over the 4 consecutive slots is presented. It is added that the sequence of uplink power changes shall be as given in Table 8.27 more than 99% of the time. <u>Isolated Impact Analysis:</u> This change would not change UE implementation. It only corrects the test to account for neglected sources of interference.
Consequences if not approved: ⌘	It is possible that correctly funtioning UE will not pass the test due to non-zero error probability.

Clauses affected: ⌘	8.7.2

	Y	N		
Other specs affected: ⌘		X	Other core specifications ⌘	
	X		Test specifications	34.121
		X	O&M Specifications	

Other comments: ⌘	Equivalent CRs in other Releases: CR194 cat. F to 25.101 v3.11.0, CR196 cat. A to 25.101 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.

8.7.2 Combining of TPC commands from radio links of different radio link sets

8.7.2.1 Minimum requirement

Test parameters are specified in Table 8.27. The delay profiles of the signals received from the different cells are the same but time-shifted by 10 chips.

For Test 1, the sequence of uplink power changes between adjacent slots shall be as shown in Table 8.28 over the 4 consecutive slots more than 99% of the time. Note that this case is without an additional noise source I_{oc}.

For Test 2, the Cell1 and Cell2 TPC patterns are repeated a number of times. If the transmitted power of a given slot is increased compared to the previous slot, then a variable "Transmitted power UP" is increased by one, otherwise a variable "Transmitted power DOWN" is increased by one. The requirements for "Transmitted power UP" and "Transmitted power DOWN" are shown in Table 8.28A.

Table 8.27: Parameters for TPC command combining

Parameter	Unit	Test 1	Test 2
Phase reference	-	P-CPICH	
DPCH_Ec/Ior	dB	-12	
$\hat{I}_{or1}$ and $\hat{I}_{or2}$	dBm/3.84 MHz	-60	
I_{oc}	dBm/3.84 MHz	-	-60
Power-Control-Algorithm	-	Algorithm 1	
Cell 1 TPC commands over 4 slots	-	{0,0,1,1}	
Cell 2 TPC commands over 4 slots	-	{0,1,0,1}	
Information data Rate	kbps	12.2	
Propagation condition	-	Static without AWGN source I_{oc}	Multi-path fading case 3

Table 8.28: Test requirements for Test 1

Test Number	Required power changes over the 4 consecutive slots
1	Down, Down, Down, Up

Table 8.28A: Requirements for Test 2

Test Number	Ratio (Transmitted power UP) / (Total number of slots)	Ratio (Transmitted power DOWN) / (Total number of slots)
2	≥0.25	≥0.5

CR-Form-v7

CHANGE REQUEST

⌘   **25.101** CR **196**   ⌘ **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 **X** Radio Access Network ☐   Core Network ☐

Title: ⌘	Correction for TPC combining test case 1	
Source: ⌘	RAN WG4	
Work item code: ⌘	TEI	***Date:*** ⌘ 26/11/2002

Category: ⌘ **A**	***Release:*** ⌘ Rel-4

Use one 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 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)*
Rel-6   *(Release 6)*

Reason for change: ⌘	In TPC combining test case 1, no additional noise source (Ioc) is present. Therefore it was assumed that the received TPC command sequence would be error free. However two cells present in test interfere each other and introduce an error probability.
Summary of change: ⌘	A probability for correct uplink power changes over the 4 consecutive slots is presented. It is added that the sequence of uplink power changes shall be as given in Table 8.27 more than 99% of the time. Isolated Impact Analysis: This change would not change UE implementation. It only corrects the test to account for neglected sources of interference.
Consequences if not approved: ⌘	It is possible that correctly funtioning UE will not pass the test due to non-zero error probability.

Clauses affected: ⌘	8.7.2

	Y	**N**	
Other specs affected: ⌘		X	Other core specifications ⌘
	X		Test specifications 34.121
		X	O&M Specifications

Other comments: ⌘	Equivalent CRs in other Releases: CR194 cat. F to 25.101 v3.11.0, CR195 cat. A to 25.101 v5.4.0

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.

8.7.2 Combining of TPC commands from radio links of different radio link sets

8.7.2.1 Minimum requirement

Test parameters are specified in Table 8.27. The delay profiles of the signals received from the different cells are the same but time-shifted by 10 chips.

For Test 1, the sequence of uplink power changes between adjacent slots shall be as shown in Table 8.28 over the 4 consecutive slots more than 99% of the time. Note that this case is without an additional noise source I_{oc}.

For Test 2, the Cell1 and Cell2 TPC patterns are repeated a number of times. If the transmitted power of a given slot is increased compared to the previous slot, then a variable "Transmitted power UP" is increased by one, otherwise a variable "Transmitted power DOWN" is increased by one. The requirements for "Transmitted power UP" and "Transmitted power DOWN" are shown in Table 8.28A.

Table 8.27: Parameters for TPC command combining

Parameter	Unit	Test 1	Test 2
Phase reference	-	P-CPICH	
DPCH_Ec/Ior	dB	-12	
$\hat{I}_{or1}$ and $\hat{I}_{or2}$	dBm/3.84 MHz	-60	
I_{oc}	dBm/3.84 MHz	-	-60
Power-Control-Algorithm	-	Algorithm 1	
Cell 1 TPC commands over 4 slots	-	{0,0,1,1}	
Cell 2 TPC commands over 4 slots	-	{0,1,0,1}	
Information data Rate	kbps	12.2	
Propagation condition	-	Static without AWGN source I_{oc}	Multi-path fading case 3

Table 8.28: Test requirements for Test 1

Test Number	Required power changes over the 4 consecutive slots
1	Down, Down, Down, Up

Table 8.28A: Requirements for Test 2

Test Number	Ratio (Transmitted power UP) / (Total number of slots)	Ratio (Transmitted power DOWN) / (Total number of slots)
2	≥0.25	≥0.5