

**TSG RAN Meeting #20**  
**Hämeenlinna, Finland, 3 - 6 June, 2003**

**RP-030372**

**Title** CRs (R99) to TS 25.423 and 25.433 on Corrections to Tx Diversity  
**Source** Nortel Networks  
**Agenda Item** 7.3.6

RAN Tdoc	Spec	curr. Vers.	new Vers.	REL	CR	Rev	Cat	Title	Work item
RP-030372	25.423	3.13.0	3.14.0	R99	839	2	F	Corrections to Tx Diversity	TEI
RP-030372	25.433	3.13.0	3.14.0	R99	863	1	F	Corrections to Tx Diversity	TEI

## CHANGE REQUEST

# 25.423 CR 839 # rev 2 # Current version: 3.13.0 #

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

<b>Title:</b>	# Corrections to Tx Diversity		
<b>Source:</b>	# Nortel Networks		
<b>Work item code:</b>	# TEI	<b>Date:</b>	# 04/06/2003
<b>Category:</b>	# <b>F</b>	<b>Release:</b>	# R99
	<i>Use one of the following categories:</i> <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		<i>Use one of the following releases:</i> <b>2</b> (GSM Phase 2) <b>R96</b> (Release 1996) <b>R97</b> (Release 1997) <b>R98</b> (Release 1998) <b>R99</b> (Release 1999) <b>Rel-4</b> (Release 4) <b>Rel-5</b> (Release 5) <b>Rel-6</b> (Release 6)

<b>Reason for change:</b>	# The current power definitons are not considering the case, when a Node B is in Tx diversity mode.
<b>Summary of change:</b>	R1: Specification text for power settings in the TX Diversity case is now based on whether Tx Diversity is applied to the concerned downlink physical channels and not on the definition of a "Tx Diversity Mode". Further clarification that the sum is linear.  R0: It is clarified that in case of TX diversity, the power settings refer to the sum for main and diversity branch.  <u>Impact Analysis:</u> Impact Assessment towards the previous version of the specification (same release): This CR has <i>impact</i> with the previous version of the specification (same release).  This CR has impact under functional point of view. Namely the function of power setting in case of TX diversity can be affected, if an implementation was based on a "per branch power" instead of the "sum of powers".  This CR has no impact under protocol point of view.
<b>Consequences if not approved:</b>	# The interpretation of power settings in case of TX diversity is ambiguous. The RNC is not in full control of the cell set up.

<b>Clauses affected:</b>	# 9.2.1.21A, 9.2.1.44
	<input type="checkbox"/> Y <input type="checkbox"/> N

<b>Other specs</b>	⌘	<input checked="" type="checkbox"/>	Other core specifications	⌘	CR 840 on TS25.423 v 4.8.0 CR 833 on TS25.423 v 5.5.0 CR 863 on TS25.433 v 3.13.0 CR 864 on TS25.433 v 4.8.0 CR 851 on TS25.433 v 5.4.0
<b>affected:</b>		<input checked="" type="checkbox"/>	Test specifications		
		<input checked="" type="checkbox"/>	O&M Specifications		
<b>Other comments:</b>	⌘				

**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.

9.2.1.21A DL Power

The *DL Power* IE indicates a power level relative to the [FDD - primary CPICH power] [TDD - PCCPCH power] configured in a cell. If Transmit Diversity is applied to a downlink physical channel, the *DL Power* IE indicates the power offset between the linear sum of the power for this downlink physical channel on all branches and the [FDD - primary CPICH power] [TDD - PCCPCH power] configured in a cell.

[FDD - If referred to a DPCH, it indicates the power of the transmitted DPDCH symbols].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
DL Power			INTEGER (-350..150)	Value = DL Power /10 Unit dB Range -35.0 .. +15.0 Step 0.1dB

/\*Partly omitted\*/

9.2.1.44 Primary CPICH Power

Primary CPICH power is the power that is used for transmitting the Primary CPICH in a cell. The reference point is the antenna connector. If Transmit Diversity is applied to the Primary CPICH, the Primary CPICH Power is the linear sum of the power that is used for transmitting the Primary CPICH on all branches.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Primary CPICH Power			INTEGER (-100..500)	Value = Primary CPICH Power/10 Unit dBm Range -10.0..+50.0 Step 0.1 dB

/\*Partly omitted\*/

## CHANGE REQUEST

# 25.433 CR 863 # rev 1 # Current version: 3.13.0 #

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

<b>Title:</b>	# Corrections to Tx Diversity		
<b>Source:</b>	# Nortel Networks		
<b>Work item code:</b>	# TEI	<b>Date:</b>	# 04/06/2003
<b>Category:</b>	# <b>F</b>	<b>Release:</b>	# R99
	<i>Use one of the following categories:</i> <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		<i>Use one of the following releases:</i> <b>2</b> (GSM Phase 2) <b>R96</b> (Release 1996) <b>R97</b> (Release 1997) <b>R98</b> (Release 1998) <b>R99</b> (Release 1999) <b>Rel-4</b> (Release 4) <b>Rel-5</b> (Release 5) <b>Rel-6</b> (Release 6)

<b>Reason for change:</b>	# The current power definitions are not considering the case, when a Node B is in Tx diversity mode.
<b>Summary of change:</b>	R1: Specification text for power settings in the TX Diversity case is now based on whether Tx Diversity is applied to the concerned downlink physical channels and not on the definition of a "Tx Diversity Mode". Further clarification that the sum is linear.  R0: It is clarified that in case of Tx Diversity, the power settings refer to the sum for main and diversity branch.  <u>Impact Analysis:</u> Impact Assessment towards the previous version of the specification (same release): This CR has <i>impact</i> with the previous version of the specification (same release).  This CR has impact under functional point of view. Namely the function of power setting in case of TX diversity can be affected, if an implementation was based on a "per branch power" instead of the "sum of powers".  This CR has no impact under protocol point of view.
<b>Consequences if not approved:</b>	# The interpretation of power settings in case of TX diversity is ambiguous. The RNC is not in full control of the cell set up.

<b>Clauses affected:</b>	# 9.2.1.21, 9.2.1.39, 9.2.1.40, 9.2.1.46A, 9.2.1.49A, 9.2.2.D, 9.2.2.33, 9.2.3.9
	<input type="checkbox"/> Y <input type="checkbox"/> N

<b>Other specs</b>	⌘	<input checked="" type="checkbox"/>	Other core specifications	⌘	CR 839 on TS25.433 v 3.13.0 CR 840 on TS25.423 v 4.8.0 CR 833 on TS25.423 v 5.5.0 CR 864 on TS25.433 v 4.8.0 CR 851 on TS25.433 v 5.4.0
<b>affected:</b>		<input checked="" type="checkbox"/>	Test specifications		
		<input checked="" type="checkbox"/>	O&M Specifications		
<b>Other comments:</b>	⌘				

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### 9.2.1.21 DL Power

The *DL Power* IE indicates a power level relative to the [FDD - primary CPICH power] [TDD - primary CCPCH power] configured in a cell. [If Transmit Diversity is applied to a downlink physical channel, the \*DL Power\* IE indicates the power offset between the linear sum of the power for this downlink physical channel on all branches and the \[FDD - primary CPICH power\] \[TDD - PCCPCH power\] configured in a cell.](#)

[FDD - If referred to a DPCH, it indicates the power of the transmitted DPDCH symbols.] [FDD - If referred to a DL-DPCCH for CPCH, it indicates the power of the transmitted pilot symbols].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
DL Power			INTEGER (-350..150)	Value = DL Power /10 Unit: dB Range: -35.0 .. +15.0 dB Step: 0.1dB

/\*Partly omitted\*/

### 9.2.1.39 Maximum DL Power Capability

This parameter indicates the maximum DL power capability for a local cell within the Node B. The reference point is the antenna connector. [If Transmit Diversity can be used in the local cell, the parameter indicates the maximum for the linear sum of the power that can be used on all branches.](#)

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Maximum DL Power Capability			INTEGER (0..500)	Unit: dBm Range: 0..50 dBm Step: 0.1 dB

/\*Partly omitted\*/

### 9.2.1.40 Maximum Transmission Power

The Maximum Transmission Power is the maximum [value for the linear sum of the power for of all downlink physical channels added together](#), that is allowed to be used simultaneously in a cell. [If Transmit Diversity is applied to one downlink physical channel, the power to be considered for this downlink physical channel is the linear sum of the power used for this downlink physical channel on all branches.](#) The reference point is the antenna connector.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Maximum Transmission Power			INTEGER (0..500)	Unit: dBm Range: 0..50 Step: 0.1 dB

/\*Partly omitted\*/

### 9.2.1.46A Minimum DL Power Capability

This parameter indicates the minimum DL power capability for a local cell within the Node B. The reference point is the antenna connector. [If Transmit Diversity can be used in the Local Cell, the parameter indicates the minimum for the linear sum of the power that can be used on all branches.](#)

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Minimum DL Power Capability			INTEGER (0..800)	Unit: dBm Range: -30 .. +50 dBm Step: 0.1 dB

/\*Partly omitted\*/

### 9.2.1.49A PICH Power

The *PICH Power* IE indicates a power level relative to the [FDD - Primary CPICH power] [TDD - Primary CCPCH power] configured in a cell. [FDD - When STTD is applied to the PICH, the *PICH Power* IE indicates the power offset between the linear sum of the power for the PICH on all branches and the [FDD - Primary CPICH power] [TDD - Primary CCPCH power] configured in a cell.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
PICH Power			INTEGER (-10..+5)	Unit: dB Range: -10 .. +5 dB Step: 1dB

/\*Partly omitted\*/

### 9.2.2.D AICH Power

The *AICH Power* IE indicates a power level (measured as the power per transmitted acquisition indicator when several AIs are transmitted in parallel) relative to the primary CPICH power configured in a cell. When STTD is applied to the AICH, the *AICH Power* IE indicates the power offset between the linear sum of the power for the AICH on all branches and the Primary CPICH power configured in a cell.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
AICH Power			INTEGER (-22..+5)	Unit: dB Range: -22 .. +5 dB Step: 1 dB

/\*Partly omitted\*/

### 9.2.2.33 Primary CPICH Power

The Primary CPICH power is the power that shall be used for transmitting the P-CPICH in a cell. The reference point is the antenna connector. If Transmit Diversity is applied to the Primary CPICH, the Primary CPICH power is the linear sum of the power that is used for transmitting the Primary CPICH on all branches.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Primary CPICH Power			INTEGER (-100..500)	Value = Primary CPICH Power/10 Unit: dBm Range: -10.0..+50.0 dBm Step: 0.1 dB

/\*Partly omitted\*/

### 9.2.3.9 PCCPCH Power

The Primary CCPCH power is the power that shall be used for transmitting the P CCPCH in a cell. The P CCPCH power is the reference power in a TDD-cell. The reference point is the antenna connector. If SCTD is applied to the Primary CCPCH, the Primary CCPCH power is the linear sum of the power that is used for transmitting the Primary CCPCH on all branches.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
PCCPCH Power			INTEGER (-15..+40,...)	Unit: dBm Range: -15 ..+40 dBm Step: 0.1 dB