TSG-RAN Meeting #14
Kyoto, Japan, 11 - 14 December 2001

RP-010758

Title: **Agreed CRs (Release '99 and Rel-4 category A) to TS 25.306**

Source: **TSG-RAN WG2**

Agenda item: **8.2.3**

Doc-1st-	Status-	Spec	CR	Rev	Phase	Subject	Cat	Version	Versio
R2-012624	agreed	25.306	025		R99	Correction on UL parameter "Maximum number of DPDCH bits per 10 ms"	F	3.3.0	3.4.0
R2-012644	agreed	25.306	026		Rel-4	Correction on UL parameter "Maximum number of DPDCH bits per 10 ms"	A	4.2.0	4.3.0

3GPP TSG-RAN WG2 Meeting #25
Makuhari, Japan, Nov 26-30, 2001

R2-012624

CR-Form-v3

CHANGE REQUEST

⌘ **25.306 CR 025** ⌘ rev **-** ⌘ Current version: **3.3.0** ⌘

*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 **X** Radio Access Network **X** Core Network ☐

Title:	⌘	Correction on UL parameter "Maximum number of DPDCH bits per 10 ms"
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	2001-11-26
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
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.

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)*

Reason for change: ⌘

1) Intended UE capability is not fully and formally captured in the definition of the UL parameter "Maximum number of DPDCH bits per 10 ms".

2) Value "960" in the value range for the parameter "FDD Physical channel parameters in uplink - Maximum number of DPDCH bits transmitted per 10 ms" in Table 5.1 was probably corrupted by a typo error as it should effectively be listed as "9600".

Summary of change: ⌘

1) Clarifies that when the UE indicates a "Maximum number of DPDCH bits per 10 ms" value equal to or higher than 9600 (N x SF=4 UL DPDCH) it represents the absolute maximum capability of the UE considering both non compressed and compressed mode operation (including both SF/2 and higher layer scheduling compressed mode)

2) Value "960" in the value range for the parameter "FDD Physical channel parameters in uplink - Maximum number of DPDCH bits transmitted per 10 ms" in Table 5.1 is changed to "9600".

Consequences if not approved: ⌘

1) Definition of the parameter "Maximum number of DPDCH bits per 10 ms" not in line with intended behaviour resulting possible interoperability problems.

Isolated Impact Change Analysis.

This change clarifies the "Maximum number of DPDCH bits transmitted per 10 ms" UE capabilities.

It would not affect implementations behaving like indicated in the CR, it would

	affect implementations supporting the corrected functionality otherwise.

Clauses affected:	⌘	4.5.4, 5.1		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	25.306 v4.2.0, CR 026
Other comments:	⌘	This CR was endorsed by RAN WG1		

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.

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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.

4.5.4 FDD physical channel parameters in uplink

Maximum number of DPDCH bits per 10 ms

Defines the maximum number of the DPDCH bits the UE is capable to transmit per 10 ms.

If the reported capability is lower than 9600, t~~T~~he number of DPDCH channel bits indicates the capability of the UE when operating in non-compressed mode; if the reported capability is equal to or greater than 9600 it indicates the maximum capability of the UE considering both compressed and non compressed mode operation.~~ The UE shall also support compressed mode by spreading factor reduction when operating at this value.~~

NOTE: This capability combines the 'Max number of DPDCH' and 'Minimum SF' capabilities into one capability. Note that no flexibility is lost due to this, as multiple DPDCH is only used for SF=4, i.e. when the number of DPDCH bits exceed a certain value.

NOTE: Compressed mode by spreading factor reduction is not applicable when operating at spreading factor 4.

Support of PCPCH

Defines whether the UE supports PCPCH or not.

NOTE: When CPCH is supported, then simultaneous DPCCH & SCCPCH reception is needed.

5 Possible UE radio access capability parameter settings

5.1 Value ranges

Table 5.1: UE radio access capability parameter value ranges

		UE radio access capability parameter	Value range
PDCP parameters		Support for RFC 2507	Yes/No
		Support for loss-less SRNS relocation	Yes/No
		Maximum header compression context space	512, 1024, 2048, 4096, 8192 bytes
RLC parameters		Total RLC AM buffer size	2,10,50,100,150,500,1000 kBytes
		Maximum number of AM entities	3,4,5,6,8,16,30
PHY parameters	Transport channel parameters in downlink	Maximum sum of number of bits of all transport blocks being received at an arbitrary time instant	640, 1280, 2560, 3840, 5120, 6400, 7680, 8960, 10240, 20480, 40960, 81920, 163840
		Maximum sum of number of bits of all convolutionally coded transport blocks being received at an arbitrary time instant	640, 1280, 2560, 3840, 5120, 6400, 7680, 8960, 10240, 20480, 40960, 81920, 163840
		Maximum sum of number of bits of all turbo coded transport blocks being received at an arbitrary time instant	640, 1280, 2560, 3840, 5120, 6400, 7680, 8960, 10240, 20480, 40960, 81920, 163840
		Maximum number of simultaneous transport channels	4, 8, 16, 32
		Maximum number of simultaneous CCTrCH	1, 2, 3, 4, 5, 6, 7, 8
		Maximum total number of transport blocks received within TTIs that end within the same 10 ms interval	4, 8, 16, 32, 48, 64, 96, 128, 256, 512
		Maximum number of TFC in the TFCS	16, 32, 48, 64, 96, 128, 256, 512, 1024
		Maximum number of TF	32, 64, 128, 256, 512, 1024
		Support for turbo decoding	Yes/No
	Transport channel parameters in uplink	Maximum sum of number of bits of all transport blocks being transmitted at an arbitrary time instant	640, 1280, 2560, 3840, 5120, 6400, 7680, 8960, 10240, 20480, 40960, 81920, 163840
		Maximum sum of number of bits of all convolutionally coded transport blocks being transmitted at an arbitrary time instant	640, 1280, 2560, 3840, 5120, 6400, 7680, 8960, 10240, 20480, 40960, 81920, 163840
		Maximum sum of number of bits of all turbo coded transport blocks being transmitted at an arbitrary time instant	640, 1280, 2560, 3840, 5120, 6400, 7680, 8960, 10240, 20480, 40960, 81920, 163840
		Maximum number of simultaneous transport channels	2, 4, 8, 16, 32
		Maximum number of simultaneous CCTrCH of DCH type (TDD only)	1, 2, 3, 4, 5, 6, 7, 8
		Maximum total number of transport blocks transmitted within TTIs that start at the same time	2, 4, 8, 16, 32, 48, 64, 96, 128, 256, 512
		Maximum number of TFC in the TFCS	4, 8, 16, 32, 48, 64, 96, 128, 256, 512, 1024
		Maximum number of TF	32, 64, 128, 256, 512, 1024
		Support for turbo encoding	Yes/No
	FDD Physical channel parameters in downlink	Maximum number of DPCH/PDSCH codes to be simultaneously received	1, 2, 3, 4, 5, 6, 7, 8
		Maximum number of physical channel bits received in any 10 ms interval (DPCH, PDSCH, S-CCPCH)	600, 1200, 2400, 3600, 4800, 7200, 9600, 14400, 19200, 28800, 38400, 48000, 57600, 67200, 76800

		UE radio access capability parameter	Value range
		Support for SF 512	Yes/No
		Support of PDSCH	Yes/No
		Simultaneous reception of SCCPCH and DPCH	Yes/No
		Simultaneous reception of SCCPCH, DPCH and PDSCH	Yes/No
		Maximum number of simultaneous S-CCPCH radio links	1 NOTE: Only the value 1 is part of this release of the specification
		Support of dedicated pilots for channel estimation	Yes/No
	FDD Physical channel parameters in uplink	Maximum number of DPDCH bits transmitted per 10 ms	600, 1200, 2400, 4800, 9600, 19200, 28800, 38400, 48000, 57600
		Support of PCPCH	Yes/No
	TDD physical channel parameters in downlink	Maximum number of timeslots per frame	1..14
		Maximum number of physical channels per frame	1,2,3..224
		Minimum SF	16, 1
		Support of PDSCH	Yes/No
		Maximum number of physical channels per timeslot	1..16
	TDD physical channel parameters in uplink	Maximum Number of timeslots per frame	1..14
		Maximum number of physical channels per timeslot	1, 2
		Minimum SF	16,8,4,2,1
		Support of PUSCH	Yes/No
RF parameters	FDD RF parameters	UE power class	3, 4 NOTE: Only power classes 3 and 4 are part of this release of the specification
		Tx/Rx frequency separation	190 MHz 174.8-205.2 MHz 134.8-245.2 MHz
RF parameters	TDD RF parameters	UE power class	2,3 NOTE: Only power classes 2 and 3 are part of this release of the specification
		Radio frequency bands	a), b), c), a+b), a+c), a+b+c)
		Chip rate capability	3.84,1.28
Multi-mode related parameters		Support of UTRA FDD/TDD	FDD, TDD, FDD+TDD
Multi-RAT related parameters		Support of GSM	Yes/No (per GSM frequency band)
		Support of multi-carrier	Yes/No
UE positioning related parameters		Standalone location method(s) supported	Yes/No
		Network assisted GPS support	Network based / UE based / Both/ None
		GPS reference time capable	Yes/No
		Support for IPDL	Yes/No
		Support for OTDOA UE based method	Yes/No
		Support for Rx-Tx time difference type 2 measurement	Yes/No
Measurement related capabilities		Need for downlink compressed mode	Yes/No (per frequency band, UTRA mode and RAT)
		Need for uplink compressed mode	Yes/No (per frequency band, UTRA mode and RAT)
General capabilities		ICS version	R99

3GPP TSG-RAN WG2 Meeting #25
Makuhari, Japan, Nov 26-30, 2001

R2-012644

CR-Form-v3

CHANGE REQUEST

⌘ **25.306 CR 026** ⌘ rev **-** ⌘ Current version: **4.2.0** ⌘

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

Title:	⌘	Clarification on UL parameter "Maximum number of DPDCH bits per 10 ms"
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	2001-11-26
Category:	⌘	**A**
Release:	⌘	REL-4

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1) Clarifies that when the UE indicates a "Maximum number of DPDCH bits per 10 ms" value equal to or higher than 9600 (N x SF=4 UL DPDCH) it represents the absolute maximum capability of the UE considering both non compressed and compressed mode operation (including both SF/2 and higher layer scheduling compressed mode)

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Isolated Impact Change Analysis.

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It would not affect implementations behaving like indicated in the CR, it would

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Clauses affected:	⌘	4.5.4, 5.1		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	25.306 v3.3.0, CR 025
Other comments:	⌘	This CR was endorsed by RAN WG1		

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NOTE: This capability combines the 'Max number of DPDCH' and 'Minimum SF' capabilities into one capability. Note that no flexibility is lost due to this, as multiple DPDCH is only used for SF=4, i.e. when the number of DPDCH bits exceed a certain value.

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		Support for RFC 3095	Yes/No
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		Maximum number of simultaneous transport channels	4, 8, 16, 32
		Maximum number of simultaneous CCTrCH	1, 2, 3, 4, 5, 6, 7, 8
		Maximum total number of transport blocks received within TTIs that end within the same 10 ms interval	4, 8, 16, 32, 48, 64, 96, 128, 256, 512
		Maximum number of TFC in the TFCS	16, 32, 48, 64, 96, 128, 256, 512, 1024
		Maximum number of TF	32, 64, 128, 256, 512, 1024
		Support for turbo decoding	Yes/No
	Transport channel parameters in uplink	Maximum sum of number of bits of all transport blocks being transmitted at an arbitrary time instant	640, 1280, 2560, 3840, 5120, 6400, 7680, 8960, 10240, 20480, 40960, 81920, 163840
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		Maximum number of TFC in the TFCS	4, 8, 16, 32, 48, 64, 96, 128, 256, 512, 1024
		Maximum number of TF	32, 64, 128, 256, 512, 1024
		Support for turbo encoding	Yes/No
	FDD Physical channel parameters in downlink	Maximum number of DPCH/PDSCH codes to be simultaneously received	1, 2, 3, 4, 5, 6, 7, 8
		Maximum number of physical channel bits received in any 10 ms interval (DPCH, PDSCH, S-CCPCH)	600, 1200, 2400, 3600, 4800, 7200, 9600, 14400, 19200, 28800, 38400, 48000, 57600, 67200, 76800

		UE radio access capability parameter	Value range
PDCP parameters		Support for RFC 2507	Yes/No
		Support for SF 512	Yes/No
		Support of PDSCH	Yes/No
		Simultaneous reception of SCCPCH and DPCH	Yes/No
		Simultaneous reception of SCCPCH, DPCH and PDSCH	Yes/No
		Maximum number of simultaneous S-CCPCH radio links	1 NOTE: Only the value 1 is part of this release of the specification
		Support of dedicated pilots for channel estimation	Yes/No
	FDD Physical channel parameters in uplink	Maximum number of DPDCH bits transmitted per 10 ms	600, 1200, 2400, 4800, 9600, 19200, 28800, 38400, 48000, 57600
		Support of PCPCH	Yes/No
	TDD 3.84 Mcps physical channel parameters in downlink	Maximum number of timeslots per frame	1..14
		Maximum number of physical channels per frame	1,2,3..224
		Minimum SF	16, 1
		Support of PDSCH	Yes/No
		Maximum number of physical channels per timeslot	1..16
	TDD 3.84 Mcps physical channel parameters in uplink	Maximum Number of timeslots per frame	1..14
		Maximum number of physical channels per timeslot	1, 2
		Minimum SF	16,8,4,2,1
		Support of PUSCH	Yes/No
	TDD 1.28 Mcps physical channel parameters in downlink	Maximum number of timeslots per subframe	1..6
		Maximum number of physical channels per subframe	1,2,3,…,96
		Minimum SF	16, 1
		Support of PDSCH	Yes/No
		Maximum number of physical channels per timeslot	1..16
		Support 8PSK	Yes/No
	TDD 1.28 Mcps physical channel parameters in uplink	Maximum number of timeslots per subframe	1..6
		Maximum number of physical channels per timeslot	1,2
		Minimum SF	16,8,4,2,1
		Support of 8PSK	Yes/No
		Support of PUSCH	Yes/No
RF parameters	FDD RF parameters	UE power class	3, 4 NOTE: Only power classes 3 and 4 are part of this release of the specification
		Tx/Rx frequency separation	190 MHz 174.8-205.2 MHz 134.8-245.2 MHz
RF parameters	TDD 3.84 Mcps RF parameters	UE power class	2,3 NOTE: Only power classes 2 and 3 are part of this release of the specification
		Radio frequency bands	a), b), c), a+b), a+c), b+c), a+b+c)
	TDD 1.28 Mcps RF parameters	UE power class	2,3
		Radio frequency bands	a), b), c), a+b), a+c), b+c), a+b+c)
Multi-mode related parameters		Support of UTRA FDD	Yes/No
		Support of UTRA TDD 3.84 Mcps	Yes/No
		Support of UTRA TDD 1.28 Mcps	Yes/No

	UE radio access capability parameter	Value range
	Support for RFC 2507	Yes/No
Multi-RAT related parameters	Support of GSM	Yes/No (per GSM frequency band)
	Support of multi-carrier	Yes/No
UE positioning related parameters	Standalone location method(s) supported	Yes/No
	Network assisted GPS support	Network based / UE based / Both/ None
	GPS reference time capable	Yes/No
	Support for IPDL	Yes/No
	Support for OTDOA UE based method	Yes/No
	Support for Rx-Tx time difference type 2 measurement	Yes/No
Measurement related capabilities	Need for downlink compressed mode	Yes/No (per frequency band, UTRA mode and RAT)
	Need for uplink compressed mode	Yes/No (per frequency band, UTRA mode and RAT)
General capabilities	ICS version	R99