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

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			Correction on UL parameter "Maximum number of DPDCH bits per 10 ms"	A	4.2.0	4.3.0

	CHANGE REQUEST										
ж	25	. <mark>306</mark>	CR 025	ж	rev	- ⁹	ff (Current ver	sion:	3.3.0	ж
For <u>HELP</u> on u	For HELP on using this form, see bottom of this page or look at the pop-up text over the # symbols.										
Proposed change	Proposed change affects: # (U)SIM ME/UE X Radio Access Network X Core Network										
Title: ೫	Co	rrectic	on on UL param	eter "Maxii	mum	numbe	er of	DPDCH bi	<mark>ts per</mark>	10 ms"	
Source: ೫	TS	<mark>G-RA</mark> I	N WG2								
Work item code: ೫	TE	l						Date: ៖	8 <mark>20</mark>	01-11-26	
Category: Ж	F							Release: 🖁	<mark>R9</mark>	9	
Reason for change	Deta be fo	F (es: A (co. B (Aa C (Fu D (Ea iled ex bund in	the following can sential correction rresponds to a co dition of feature) inctional modification titorial modification softmations of the GRAPP TR 21.90 Intended UE ca) prrection in a ation of featu on) above cate 0.	<i>ıre)</i> gories	can		2 R96 R97 R98 R99 REL-4 REL-5	(GSI (Rela (Rela (Rela (Rela (Rela	ollowing rele M Phase 2) ease 1996) ease 1997) ease 1998) ease 1999) ease 4) ease 5)	
neuson for enunge	<i>,</i> ,	2)	Value "960" in parameters in ms" in Table 5. effectively be li	ter "Maxim the value ra uplink - Ma 1 was prob	ange f ximun ximun	for the	of D par ber (PDCH bits ameter "FD of DPDCH	per 1 D Ph bits tr	0 ms". ysical char ansmitted	nnel
Summary of chang	уе: Ж	2)	Clarifies that w 10 ms" value e represents the compressed ar higher layer sc Value "960" in parameters in u ms" in Table 5.	qual to or h absolute m nd compres heduling co the value ra uplink - Ma	nigher naxim ssed r ompre ange f ximur	than um cap node c essed r for the n num	9600 pabi ppera mod) (N x SF=4 lity of the L ation (inclu e) ameter "FE	UL D E cor ding b D Ph	DPDCH) it nsidering b both SF/2 a ysical cha	ooth non and
Consequences if not approved:	Ħ		Definition of the in line with inte								
		Isola	ated Impact	Change	Ana	lysis	•				
			change clarifies JE capabilities.		mum	numbe	er of	DPDCH bi	ts trar	nsmitted p	er 10
		It would not affect implementations behaving like indicated in the CR, it would						would			

	affect implementations supporting the corrected functionality otherwise.					
Clauses affected:	# 4.5.4, 5.1					
Other specs	Content of the core specifications # 25.306 v4.2.0, CR 026					
affected:	Test specifications					
	O&M Specifications					
Other comments:	# This CR was endorsed by RAN WG1					
Other comments.						

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: <u>http://www.3gpp.org/3G_Specs/CRs.htm</u>. 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 <u>ftp://www.3gpp.org/specs/</u> 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.

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.

<u>If the reported capability is lower than 9600, t</u>The 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	512, 1024, 2048, 4096, 8192 bytes
		context space	
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	Maximum sum of number of bits of all transport blocks being received at an	640, 1280, 2560, 3840, 5120, 6400, 7680, 8960, 10240, 20480, 40960,
	parameters in	arbitrary time instant	81920, 163840
	downlink	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, 51
		Maximum number of TFC in the	16, 32, 48, 64, 96, 128, 256, 512,
		TFCS	1024
		Maximum number of TF	32, 64, 128, 256, 512, 1024
		Support for turbo decoding	Yes/No
	Transport channel parameters in	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
	uplink	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	Maximum number of DPCH/PDSCH	1, 2, 3, 4, 5, 6, 7, 8
	channel	codes to be simultaneously received	· · · · · · · · · · ·
	parameters in downlink	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	Vee/Ne
			Yes/No Yes/No
		Support of PDSCH	
		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	Maximum number of DPDCH bits transmitted per 10 ms	600, 1200, 2400, 4800, 96 <u>0</u> 0, 19200, 28800, 38400, 48000, 57600
	parameters in uplink	Support of PCPCH	Yes/No
	TDD physical channel	Maximum number of timeslots per frame	114
	parameters in downlink	Maximum number of physical channels per frame	1,2,3224
		Minimum SF	16, 1
		Support of PDSCH	Yes/No
		Maximum number of physical channels per timeslot	116
	TDD physical channel	Maximum Number of timeslots per frame	114
	parameters in uplink	Maximum number of physical	1, 2
	иршик	channels per timeslot Minimum SF	16.9.4.9.1
		Support of PUSCH	16,8,4,2,1 Yes/No
	FDD RF		
RF parameters	parameters	UE power class	3, 4 NOTE: Only power classes 3 and 4 are part of this release or 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 o 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	barameters	Support of UTRA FDD/TDD	FDD, TDD, FDD+TDD
Multi-RAT related		Support of GSM	Yes/No (per GSM frequency band)
	paramotoro	Support of multi-carrier	Yes/No
UE positioning rela	ated 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 rela	ted 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 capabilitie	es	ICS version	R99
		•	•

	CHANGE REQUEST									
ж	25	<mark>.306</mark>	CR 026	ж	rev	ж	Current vers	ion:	4.2.0	ж
For <u>HELP</u> on u	sing	this for	rm, see botton	n of this pag	e or lool	k at the	e pop-up text	over	the ¥ syr	nbols.
Proposed change a	affec	<i>ts:</i> Ж	(U)SIM	ME/UE	X Ra	dio Ac	cess Networl	k <mark>X</mark>	Core Ne	etwork
Title: #	Cla	urificati	on on UL para	ameter "Max	ւ <mark>imum ու</mark>	umber	of DPDCH b	<mark>its pe</mark>	r 10 ms"	
Source: ೫	TS	<mark>G-RA</mark>	NWG2							
Work item code: ℜ	TE	I					Date: ೫	200	01-11-26	
Category: #	Α						Release: ೫	RE	L-4	
Reason for change	Deta be fo	F (ess A (cor B (Add C (Fui D (Edu iiled exp bund in 1) I t 2) V	the following ca cential correction responds to a c dition of feature nctional modification and the addition of the 3GPP TR 21.90 ntended UE c the UL parameters Value "960" in	n) correction in a), ation of featu ion) e above cate 00. capability is n cater "Maximu the value ra	re) gories car not fully a um numb	and fo per of the pa	R97 R98 R99 REL-4 REL-5 rmally captur DPDCH bits	(GSA (Rele (Rele (Rele (Rele (Rele (Rele (Rele	4 Phase 2) pase 1996) pase 1997) pase 1998) pase 4) pase 5) the definit 0 ms".	tion of
Summary of chang	je: %	1) (carameters in ms" in Table 5 effectively be I Clarifies that w	vhen the UE	ably corr 00".	rupted es a "N	by a typo en laximum num	nor as	it should	
 10 ms" value equal to or higher than 9600 (N x SF=4 I represents the absolute maximum capability of the UE compressed and compressed mode operation (includi higher layer scheduling compressed mode) 2) Value "960" in the value range for the parameter "FDD parameters in uplink - Maximum number of DPDCH bit ms" in Table 5.1 is changed to "9600". 					E con ling b D Phy	sidering b oth SF/2 a vsical char	and			
Consequences if not approved:	ж		Definition of th n line with inte							
		Isola	ated Impact	t Change	Analys	sis.				
			change clarifie IE capabilities		num nur	nber o	of DPDCH bits	s tran	smitted pe	er 10
		It would not affect implementations behaving like indicated in the CR, it would						vould		

	affect implementations supporting the corrected functionality otherwise.						
Clauses affected:	¥ 4.5.4, 5.1						
Other specs	# Other core specifications # 25.306 v3.3.0, CR 025						
affected:	Test specifications						
	O&M Specifications						
Other comments:	# This CR was endorsed by RAN WG1						
ourer comments.							

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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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[...]

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	Value range
DDOD		parameter	
PDCP parameters		Support for RFC 2507	Yes/No
		Support for RFC 3095	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	Maximum sum of number of bits of all	640, 1280, 2560, 3840, 5120, 6400,
	channel	transport blocks being received at an	7680, 8960, 10240, 20480, 40960,
	parameters in	arbitrary time instant	81920, 163840
	downlink	Maximum sum of number of bits of all	640, 1280, 2560, 3840, 5120, 6400,
		convolutionally coded transport blocks	7680, 8960, 10240, 20480, 40960,
		being received at an arbitrary time	81920, 163840
		instant	
		Maximum sum of number of bits of all	640, 1280, 2560, 3840, 5120, 6400,
		turbo coded transport blocks being	7680, 8960, 10240, 20480, 40960,
		received at an arbitrary time instant	81920, 163840
		Maximum number of simultaneous	4, 8, 16, 32
		transport channels	
		Maximum number of simultaneous CCTrCH	1, 2, 3, 4, 5, 6, 7, 8
		Maximum total number of transport	4, 8, 16, 32, 48, 64, 96, 128, 256, 512
		blocks received within TTIs that end	
		within the same 10 ms interval	
		Maximum number of TFC in the	16, 32, 48, 64, 96, 128, 256, 512,
		TFCS	1024
		Maximum number of TF	32, 64, 128, 256, 512, 1024
		Support for turbo decoding	Yes/No
	Transport	Maximum sum of number of bits of all	640, 1280, 2560, 3840, 5120, 6400,
	channel	transport blocks being transmitted at	7680, 8960, 10240, 20480, 40960,
	parameters in	an arbitrary time instant	81920, 163840
	uplink	Maximum sum of number of bits of all	640, 1280, 2560, 3840, 5120, 6400,
		convolutionally coded transport blocks	7680, 8960, 10240, 20480, 40960,
		being transmitted at an arbitrary time	81920, 163840
		instant	
		Maximum sum of number of bits of all	640, 1280, 2560, 3840, 5120, 6400,
		turbo coded transport blocks being	7680, 8960, 10240, 20480, 40960,
		transmitted at an arbitrary time instant Maximum number of simultaneous	81920, 163840
		transport channels	2, 4, 8, 16, 32
		Maximum number of simultaneous	1, 2, 3, 4, 5, 6, 7, 8
		CCTrCH of DCH type (TDD only)	1, 2, 0, 4, 0, 0, 7, 0
		Maximum total number of transport	2, 4, 8, 16, 32, 48, 64, 96, 128, 256,
		blocks transmitted within TTIs that	512
		start at the same time	
		Maximum number of TFC in the	4, 8, 16, 32, 48, 64, 96, 128, 256,
		TFCS Maximum number of TF	512, 1024 32, 64, 128, 256, 512, 1024
	EDD Dhysiaal	Support for turbo encoding Maximum number of DPCH/PDSCH	Yes/No
	FDD Physical channel	codes to be simultaneously received	1, 2, 3, 4, 5, 6, 7, 8
	parameters in	Maximum number of physical channel	600, 1200, 2400, 3600, 4800, 7200,
	downlink	bits received in any 10 ms interval	9600, 14400, 19200, 28800, 38400,
		(DPCH, PDSCH, S-CCPCH)	48000, 57600, 67200, 76800

		UE radio access capability parameter	Value range
PDCP parameters		Support for RFC 2507	Yes/No
i Doi parameters		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	Maximum number of DPDCH bits transmitted per 10 ms	600, 1200, 2400, 4800, 96 <u>0</u> 0, 19200 28800, 38400, 48000, 57600
	parameters in uplink	Support of PCPCH	Yes/No
	TDD 3.84 Mcps physical channel	Maximum number of timeslots per frame	114
	parameters in downlink	Maximum number of physical channels per frame	1,2,3224
		Minimum SF	16, 1
		Support of PDSCH	Yes/No
		Maximum number of physical channels per timeslot	116
	TDD 3.84 Mcps physical channel	Maximum Number of timeslots per frame	114
	parameters in	Maximum number of physical	1, 2
	uplink	channels per timeslot	40.0.4.0.4
		Minimum SF	16,8,4,2,1
		Support of PUSCH	Yes/No
	TDD 1.28 Mcps physical channel	Maximum number of timeslots per subframe	16
	parameters in downlink	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	116
		Support 8PSK	Yes/No
	TDD 4 00 M		
	TDD 1.28 Mcps physical channel	Maximum number of timeslots per subframe	16
	parameters in uplink	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 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 the specification
		Radio frequency bands	a), b), c), a+b), a+c), b+c), a+b+c)
	TDD 1.28 Mcps	UE power class	2,3
	RF parameters	Radio frequency bands	a), b), c), a+b), a+c), b+c), a+b+c)
Multi-mode related		Support of UTRA FDD	Yes/No
maili-mode related	parameters	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