

**TSG-RAN Meeting #19**  
**Birmingham, UK, 11 - 14 March 2003**

***RP-030113***

**Title:** CRs (Rel-5) on TS 25.306

**Source:** TSG-RAN WG2

**Agenda item:** 8.2.5

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Version-New	Doc-2nd-Level	Workitem
25.306	061	-	Rel-5	Network Assisted Cell Change from UTRAN to GERAN	B	5.3.0	5.4.0	R2-030561	TEI5
25.306	062	-	Rel-5	Modification to the number of soft channel bits required for HS-DSCH (TDD)	F	5.3.0	5.4.0	R2-030569	HSDPA-L23

## CHANGE REQUEST

# 25.306 CR 061 # rev - # Current version: 5.3.0 #

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**Proposed change affects:** UICC apps#  ME  Radio Access Network  Core Network

<b>Title:</b>	# Network Assisted Cell Change from UTRAN to GERAN		
<b>Source:</b>	# TSG-RAN WG2		
<b>Work item code:</b>	# TEI5	<b>Date:</b>	# 17/02/2003
<b>Category:</b>	# <b>B</b>	<b>Release:</b>	# Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	<b>F</b> (correction)		2 (GSM Phase 2)
	<b>A</b> (corresponds to a correction in an earlier release)		R96 (Release 1996)
	<b>B</b> (addition of feature),		R97 (Release 1997)
	<b>C</b> (functional modification of feature)		R98 (Release 1998)
	<b>D</b> (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

<b>Reason for change:</b>	# As NACC is an optional feature in the UE, it is necessary for the UTRAN to know whether or not the UE supports the NACC feature. This will prevent the UTRAN from including GERAN SI or PSI to the UE in the CELL CHANGE ORDER FROM UTRAN message when it is not necessary.
<b>Summary of change:</b>	# This provides provides a feature in line with NACC in GERAN that is used in order to speed up the transition from CELL_DCH in UTRAN to GERAN.
<b>Consequences if not approved:</b>	# If this CR is not approved, and the UTRAN supports NACC, GERAN SI/PSI will be sent in every CELL CHANGE ORDER FROM UTRAN message to the UE. This will cause unnecessary signalling load on the downlink if the UE doesn't support the feature.

<b>Clauses affected:</b>	# 4.7; 5.1; 5.2.1										
<b>Other specs affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">X</td> </tr> <tr> <td></td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	X			X		X	Other core specifications	# 25.331v5.3.0 CR 1877rev1.
Y	N										
X											
	X										
	X										
		Test specifications									
		O&M Specifications									
<b>Other comments:</b>	#										

**How to create CRs using this form:**

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- 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.

## 4.7 Multi-RAT related parameters

### Support of GSM

Defines whether GSM is supported or not. There is a separate parameter for each GSM frequency band.

### Support of multi-carrier

Defines whether multi-carrier is supported or not.

### [Support of UTRAN to GERAN NACC](#)

[Defines whether UTRAN to GERAN NACC is supported or not.](#)

## 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 RFC 3095		Yes/No
	Support for RFC 3095 context relocation		Yes/No
	Support for loss-less SRNS relocation		Yes/No
	Maximum header compression context space		512, 1024, 2048, 4096, 8192 bytes
	Maximum number of ROHC context sessions		2, 4, 8, 12, 16, 24, 32, 48, 64, 128, 256, 512, 1024, 16384
	Support for Reverse Decompression		Not supported, 1..65535
RLC and MAC-hs parameters		Total RLC AM and MAC-hs buffer size	2, 10, 50, 100, 150, 200, 300, 400, 500, 750, 1000 kBytes
		Maximum number of AM entities	3, 4, 5, 6, 8, 16, 30
		Maximum RLC AM window size	2047, 4095
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	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

		<b>UE radio access capability parameter</b>	<b>Value range</b>		
		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	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		
		Support for SF 512	Yes/No		
		Support of PDSCH	Yes/No		
		Support of HS-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		
		Support of dedicated pilots for channel estimation of HS-DSCH	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				
Support of HS-PDSCH	Yes/No				
TDD 3.84 Mcps physical channel parameters in uplink		Maximum number of physical channels per timeslot	1..16		
		Maximum Number of timeslots per frame	1..14		
		Maximum number of physical channels per timeslot	1, 2		
		Minimum SF	16, 8, 4, 2, 1		
TDD 1.28 Mcps physical channel parameters in downlink		Support of PUSCH	Yes/No		
		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		
		Support of HS-PDSCH	Yes/No		
TDD 1.28 Mcps physical channel		Maximum number of physical channels per timeslot	1..16		
		Support 8PSK	Yes/No		
		Maximum number of timeslots per subframe	1..6		

		UE radio access capability parameter	Value range
	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 of the specification
		Tx/Rx frequency separation	190 MHz 174.8 MHz to 205.2 MHz 134.8 MHz to 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
Multi-RAT related parameters		Support of GSM	Yes/No (per GSM frequency band)
		Support of multi-carrier	Yes/No
		<a href="#">Support of UTRAN to GERAN Network Assisted Cell Change</a>	<a href="#">Yes/No</a>
Security parameters		Support of ciphering algorithm UEA0	Yes
		Support of ciphering algorithm UEA1	Yes
		Support of integrity protection algorithm UIA1	Yes
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		Support for UE Positioning measurement validity in CELL_PCH and URA_PCH RRC states	Yes/No
		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		Access Stratum release indicator	R99, REL-4, REL-5
DL capabilities with simultaneous HS-DSCH		DL capability with simultaneous HS-DSCH configuration	32 kbps, 64 kbps, 128 kbps, 384 kbps

## 5.2.1 Combinations of common UE Radio Access Parameters for UL and DL

NOTE: Measurement-related capabilities are not included in the combinations. These capabilities are independent from the supported RABs.

**Table 5.2.1.1: UE radio access capability parameter combinations, parameters common for UL and DL**

Reference combination of UE Radio Access capability parameters common for UL and DL	32 kbps class	64 kbps class	128 kbps class	384 kbps class	768 kbps class	2048 kbps class
<b>PDCP parameters</b>						
Support for RFC 2507	No	No/Yes NOTE 1	No/Yes NOTE 1	No/Yes NOTE 1	No/Yes NOTE 1	No/Yes NOTE 1
Support for RFC 3095	No/Yes NOTE 1	No/Yes NOTE 1	No/Yes NOTE 1	No/Yes NOTE 1	No/Yes NOTE 1	No/Yes NOTE 1
Support for RFC 3095 context relocation	No/Yes NOTE 1					
Support for loss-less SRNS relocation	No/Yes NOTE 1					
Maximum header compression context space	Not applicable for conformance testing					
Maximum number of ROHC context sessions	Not applicable for conformance testing					
Support for Reverse decompression	No/Yes NOTE 1					
<b>RLC parameters</b>						
Total RLC AM buffer size (kbytes)	10	10	50	50	100	500
Maximum number of AM entities	4	4	5	6	8	8
Maximum RLC AM window size	2047/4095 NOTE 1	2047/4095 NOTE 1	2047/4095 NOTE 1	2047/4095 NOTE 1	2047/4095 NOTE 1	2047/4095 NOTE 1
<b>Multi-mode related parameters</b>						
Support of UTRA FDD	Yes/No NOTE 1					
Support of UTRA TDD 3.84 Mcps	Yes/No NOTE 1					
Support of UTRA TDD 1.28 Mcps	Yes/No NOTE 1					
<b>Multi-RAT related parameters</b>						
Support of GSM	Yes/No NOTE 1					
Support of multi-carrier	Yes/No NOTE 1					
<a href="#">Support of UTRAN to GERAN Network Assisted Cell Change</a>	<a href="#">Yes/No</a>					
<b>Security parameters</b>						
Support of ciphering algorithm UEA0	Yes					
Support of ciphering algorithm UEA1	Yes					
Support of integrity protection algorithm UIA1	Yes					
<b>UE positioning related parameters</b>						
Standalone location method(s) supported	Yes/No NOTE 1					
Network assisted GPS support	Network based / UE based / Both/ None NOTE 1					
GPS reference time capable	Yes/No NOTE 1					
Support for IPDL	Yes/No NOTE 1					
Support for OTDOA UE based method	Yes/No NOTE 1					
Support for Rx-Tx time difference type 2 measurement	Yes/No NOTE 1					
Support for UE Positioning measurement validity in CELL_PCH and URA_PCH RRC states	Yes/No NOTE 1					
<b>RF parameters for FDD</b>						
UE power class	3 / 4 NOTE 1					
Tx/Rx frequency separation	190 MHz					
<b>RF parameters for TDD 3.84 Mcps</b>						

<b>Reference combination of UE Radio Access capability parameters common for UL and DL</b>	<b>32 kbps class</b>	<b>64 kbps class</b>	<b>128 kbps class</b>	<b>384 kbps class</b>	<b>768 kbps class</b>	<b>2048 kbps class</b>
Radio frequency bands	A / b / c / a+b / a+c / b+c / a+b+c NOTE 1					
UE power class	2 / 3 NOTE 1					
<b>RF parameters for TDD 1.28 Mcps</b>						
Radio frequency bands	A / b / c / a+b / a+c / b+c / a+b+c NOTE 1					
UE power class	2 / 3 NOTE 1					

NOTE 1: Options represent different combinations that should be supported with Conformance Tests.



## CHANGE REQUEST

# **25.306 CR 062** # rev **-** # Current version: **5.3.0** #

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**Proposed change affects:** UICC apps#  ME  Radio Access Network  Core Network

<b>Title:</b>	# Modification to the number of soft channel bits required for HS-DSCH (TDD)		
<b>Source:</b>	# TSG-RAN WG2		
<b>Work item code:</b>	# HSDPA-L23	<b>Date:</b>	# 20/02/2003
<b>Category:</b>	# <b>F</b>	<b>Release:</b>	# REL-5
	<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>	# RAN WG1 has agreed tightened timing requirements and it is now apparent that 3.84Mcps TDD HSDPA can operate successfully with 3 parallel HARQ processes rather than the 4 processes that have been previously assumed.
<b>Summary of change:</b>	# The number of soft channel bits has been reduced in the table for 3.84 Mcps TDD HS-DSCH physical channel categories in order to align with the requirement that only 3 parallel HARQ processes are required.
<b>Consequences if not approved:</b>	# Unecessarily large memory requirements will be assumed for HS-DSCH in 3.84 Mcps TDD.  <b>Isolated impact analysis:</b> This CR has limited impact for 3.84 Mcps TDD only (R5). It affects the requirement categories for UE soft channel bit memory.

<b>Clauses affected:</b>	# 5.1								
<b>Other specs Affected:</b>	<table style="display: inline-table; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px; text-align: center;">Y</td> <td style="border: 1px solid black; padding: 2px; text-align: center;">N</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px; text-align: center;"># <input type="checkbox"/></td> <td style="border: 1px solid black; padding: 2px; text-align: center;"># <input checked="" type="checkbox"/></td> </tr> <tr> <td style="border: 1px solid black; padding: 2px; text-align: center;"># <input type="checkbox"/></td> <td style="border: 1px solid black; padding: 2px; text-align: center;"># <input checked="" type="checkbox"/></td> </tr> <tr> <td style="border: 1px solid black; padding: 2px; text-align: center;"># <input type="checkbox"/></td> <td style="border: 1px solid black; padding: 2px; text-align: center;"># <input checked="" type="checkbox"/></td> </tr> </table> Other core specifications # Test specifications # O&M Specifications #	Y	N	# <input type="checkbox"/>	# <input checked="" type="checkbox"/>	# <input type="checkbox"/>	# <input checked="" type="checkbox"/>	# <input type="checkbox"/>	# <input checked="" type="checkbox"/>
Y	N								
# <input type="checkbox"/>	# <input checked="" type="checkbox"/>								
# <input type="checkbox"/>	# <input checked="" type="checkbox"/>								
# <input type="checkbox"/>	# <input checked="" type="checkbox"/>								
<b>Other comments:</b>	#								

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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.

## 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 RFC 3095	Yes/No
		Support for RFC 3095 context relocation	Yes/No
		Support for loss-less SRNS relocation	Yes/No
		Maximum header compression context space	512, 1024, 2048, 4096, 8192 bytes
		Maximum number of ROHC context sessions	2, 4, 8, 12, 16, 24, 32, 48, 64, 128, 256, 512, 1024, 16384
		Support for Reverse Decompression	Not supported, 1..65535
RLC and MAC-hs parameters		Total RLC AM and MAC-hs buffer size	2, 10, 50, 100, 150, 200, 300, 400, 500, 750, 1000 kBytes
		Maximum number of AM entities	3, 4, 5, 6, 8, 16, 30
		Maximum RLC AM window size	2047, 4095
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	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

		UE radio access capability parameter	Value range
		Maximum number of TFC	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
		Support for SF 512	Yes/No
		Support of PDSCH	Yes/No
		Support of HS-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
		Support of dedicated pilots for channel estimation of HS-DSCH	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
		Support of HS-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	
	Support of HS-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

		UE radio access capability parameter	Value range
		Tx/Rx frequency separation	190 MHz 174.8 MHz to 205.2 MHz 134.8 MHz to 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
Multi-RAT related parameters		Support of GSM	Yes/No (per GSM frequency band)
		Support of multi-carrier	Yes/No
Security parameters		Support of ciphering algorithm UEA0	Yes
		Support of ciphering algorithm UEA1	Yes
		Support of integrity protection algorithm UIA1	Yes
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		Support for UE Positioning measurement validity in CELL_PCH and URA_PCH RRC states	Yes/No
		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		Access Stratum release indicator	R99, REL-4, REL-5
DL capabilities with simultaneous HS-DSCH		DL capability with simultaneous HS-DSCH configuration	32 kbps, 64 kbps, 128 kbps, 384 kbps

Table 5.1a: FDD HS-DSCH physical layer categories

HS-DSCH category	Maximum number of HS-DSCH codes received	Minimum inter-TTI interval	Maximum number of bits of an HS-DSCH transport block received within an HS-DSCH TTI	Total number of soft channel bits
Category 1	5	3	7300	19200
Category 2	5	3	7300	28800
Category 3	5	2	7300	28800
Category 4	5	2	7300	38400
Category 5	5	1	7300	57600
Category 6	5	1	7300	67200
Category 7	10	1	14600	115200
Category 8	10	1	14600	134400
Category 9	15	1	20432	172800
Category 10	15	1	28776	172800
Category 11	5	2	3650	14400
Category 12	5	1	3650	28800

UEs of Categories 11 and 12 support QPSK only.

Table 5.1b: RLC and MAC-hs parameters for FDD HS-DSCH physical layer categories

HS-DSCH category	Maximum number of AM RLC entities	Minimum total RLC AM and MAC-hs buffer size
Category 1	6	50
Category 2	6	50
Category 3	6	50
Category 4	6	50
Category 5	6	50
Category 6	6	50
Category 7	8	100
Category 8	8	100
Category 9	8	150
Category 10	8	150
Category 11	6	50
Category 12	6	50

Table 5.1c: 1.28 Mcps TDD HS-DSCH physical layer categories

HS-DSCH category	Maximum number of HS-DSCH codes per timeslot	Maximum number of HS-DSCH timeslots per TTI	Maximum number of HS-DSCH transport channel bits that can be received within an HS-DSCH TTI	Total number of soft channel bits	Support of SF=1 for HS-PDSCH
Category 1	12	5	7016	28160	Yes
Category 2	12	5	7016	56320	Yes
Category 3	12	5	7016	84480	Yes
Category 4	16	5	7016	28160	Yes
Category 5	16	5	7016	56320	Yes
Category 6	16	5	7016	84480	Yes
Category 7	12	5	10204	40912	Yes
Category 8	12	5	10204	81824	Yes
Category 9	12	5	10204	122736	Yes
Category 10	16	5	10204	40912	Yes
Category 11	16	5	10204	81824	Yes
Category 12	16	5	10204	122736	Yes
Category 13	16	5	14056	56320	Yes
Category 14	16	5	14056	112640	Yes
Category 15	16	5	14056	168960	Yes

Table 5.1d: RLC and MAC-hs parameters for 1.28 Mcps TDD HS-DSCH physical layer categories

HS-DSCH category	Maximum number of AM RLC entities	Minimum total RLC AM and MAC-hs buffer size
Category 1	6	50
Category 2	6	50
Category 3	6	50
Category 4	6	50
Category 5	6	50
Category 6	6	50
Category 7	6	50
Category 8	6	50
Category 9	6	50
Category 10	6	50
Category 11	6	50
Category 12	6	50
Category 13	6	100
Category 14	6	100
Category 15	6	100

Table 5.1e: 3.84 Mcps TDD HS-DSCH physical layer categories

HS-DSCH category	Maximum number of HS-DSCH codes per timeslot	Maximum number of HS-DSCH timeslots per TTI	Maximum number of HS-DSCH transport channel bits that can be received within an HS-DSCH TTI	Total number of soft channel bits	Support of SF=1 for HS-PDSCH
Category 1	16	2	12000	<del>5299270656</del>	Yes
Category 2	16	12	12000	<del>5299270656</del>	Yes
Category 3	16	4	24000	<del>105984141312</del>	Yes
Category 4	16	12	24000	<del>105984141312</del>	Yes
Category 5	16	6	36000	<del>158976244968</del>	Yes
Category 6	16	12	36000	<del>158976244968</del>	Yes
Category 7	16	12	53000	<del>211968282624</del>	Yes
Category 8	16	12	73000	<del>264960353280</del>	Yes
Category 9	16	12	102000	<del>317952423936</del>	Yes

Table 5.1f: RLC and MAC-hs parameters for 3.84 Mcps TDD HS-DSCH physical layer categories

HS-DSCH category	Maximum number of AM RLC entities	Minimum total RLC AM and MAC-hs buffer size
Category 1	6	50
Category 2	6	50
Category 3	6	50
Category 4	6	50
Category 5	6	100
Category 6	6	100
Category 7	6	150
Category 8	8	150
Category 9	8	200