TSG RAN Meeting #14   **RP-010777**

Kyoto, Japan, 11 - 14 December 2001

      Title: **CRs (R'99 and Rel-4/Rel-5 Category A) to TS 25.101**

      Source: **TSG RAN WG4**

      Agenda Item: **8.4.3**

RAN4 Tdoc	Spec	CR	Title	Cat	Phase	Curr Ver	New Ver
R4-011484	25.101	133	Clarification on 25.101 sec 8.8.2 averaging method.	F	Rel99	3.8.0	3.9.0
R4-011485	25.101	134	Clarification on 25.101 sec8.8.2 averaging method.	A	Rel-4	4.2.0	4.3.0
R4-011486	25.101	135	Clarification on 25.101 sec 8.8.2 averaging method.	A	Rel-5	5.0.0	5.1.0
R4-011498	25.101	136	Correction of power control in downlink, initial convergence	F	Rel99	3.8.0	3.9.0
R4-011610	25.101	137	Correction of power control in downlink, initial convergence	A	Rel-4	4.2.0	4.3.0
R4-011611	25.101	138	Correction of power control in downlink, initial convergence	A	Rel-5	5.0.0	5.1.0
R4-011599	25.101	139	UMTS 1900 corrections to TS 25.101v380	F	Rel99	3.8.0	3.9.0
R4-011600	25.101	140	UMTS 1900 corrections to TS 25.101 rel4	A	Rel-4	4.2.0	4.3.0

CR-Form-v4

CHANGE REQUEST

⌘   **25.101** CR **133**   ⌘ ev **-** ⌘   Current version: **3.8.0** ⌘

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 ☐   Core Network ☐

Title: ⌘	Clarification on averaging method for power control initial convergence test	
Source: ⌘	RAN WG4	
Work item code: ⌘		***Date:*** ⌘ 2001-11-12
Category: ⌘ **F**		***Release:*** ⌘ Rel99

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)

Reason for change: ⌘	It is unclear how the downlink DPCH_Ec/Ior power measured values must be averaged for power control initial convergence test
Summary of change: ⌘	This CR clarifies that : - A sliding rectangular window filter is assumed with a window size of 50 ms. - First 10 ms shall not be used for averaging and thus shall be discarded. - The window size of the filter is linearly increased between 0 and 50 ms during the next 50 ms (following the first 10 ms) so that filter does not have to be initialised. Isolated Impact Analysis: Clarification of a test requirement. Would not affect implementations.
Consequences if not approved: ⌘	The specification is subject to several interpretations. The averaging filter may vary depending on interpretations and test results may depend on test equipment

Clauses affected: ⌘	8.8.2.1

Other specs ⌘	☐	Other core specifications ⌘	
Affected:	☐	Test specifications	
	☐	O&M Specifications	

Other comments: ⌘	

How to create CRs using this form:

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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.

8.8.2 Power control in the downlink, initial convergence

This requirement verifies that DL power control works properly during the first seconds after DPCH connection is established

8.8.2.1 Minimum requirements

For the parameters specified in Table 8.31 the downlink DPCH_Ec/Ior power measured values, which are averaged over 50 ms, shall be within the range specified in Table 8.32 more than 90% of the time. T1 equals to 500 ms and it starts 10 ms after the DPDCH connection is initiated. T2 equals to 500 ms and it starts when T1 has expired. Power control is ON during the test.
The first 10 ms shall not be used for averaging, ie the first sample to be input to the averaging filter is at the beginning of T1. The averaging shall be performed with a sliding rectangular window averaging filter. The window size of the averaging filter is linearly increased from 0 up to 50 ms during the first 50 ms of T1, and then kept equal to 50ms.

Table 8.31: Test parameters for downlink power control

Parameter	Unit	Test 1	Test 2	Test 3	Test 4
Target quality value on DTCH	BLER	0.01	0.01	0.1	0.1
Initial DPCH_Ec/Ior	dB	-5.9	-25.9	-2.1	-22.1
Information Data Rate	kbps	12.2	12.2	64	64
$\hat{I}_{or}/I_{oc}$	dB	-1			
I_{oc}	dBm/3.84 MHz	-60			
Propagation condition		Static			
Maximum_DL_Power	dB	7			
Minimum_DL_Power	dB	-18			
DL Power Control step size, Δ_{TPC}	dB	1			
Limited Power Increase	-	"Not used"			

Table 8.32: Requirements in downlink power control

Parameter	Unit	Test 1 and Test 2	Test 3 and Test 4
$\dfrac{DPCH\_E_c}{I_{or}}$ during T1	dB	-18.9 ≤ DPCH_Ec/Ior ≤ -11.9	-15.1 ≤ DPCH_Ec/Ior ≤ -8.1
$\dfrac{DPCH\_E_c}{I_{or}}$ during T2	dB	-18.9 ≤ DPCH_Ec/Ior ≤ -14.9	-15.1 ≤ DPCH_Ec/Ior ≤ -11.1

CR-Form-v4

CHANGE REQUEST

⌘   **25.101** CR **134**   ⌘ ev **-** ⌘ Current version: **4.2.0** ⌘

*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 ☐   Core Network ☐

Title: ⌘	Clarification on averaging method for power control initial convergence test	
Source: ⌘	RAN WG4	
Work item code: ⌘		***Date:*** ⌘ 2001-11-12
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)
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Use one of the following releases:
2   (GSM Phase 2)
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R98   (Release 1998)
R99   (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change: ⌘	It is unclear how the downlink DPCH_Ec/Ior power measured values must be averaged for power control initial convergence test
Summary of change: ⌘	This CR clarifies that : - A sliding rectangular window filter is assumed with a window size of 50 ms. - First 10 ms shall not be used for averaging and thus shall be discarded. - The window size of the filter is linearly increased between 0 and 50 ms during the next 50 ms (following the first 10 ms) so that filter does not have to be initialised. Isolated Impact Analysis: Clarification of a test requirement. Would not affect implementations.
Consequences if not approved: ⌘	The specification is subject to several interpretations. The averaging filter may vary depending on interpretations and test results may depend on test equipment

Clauses affected: ⌘	8.8.2.1		
Other specs ⌘ ***Affected:***	☐	Other core specifications ⌘	
	☐	Test specifications	
	☐	O&M Specifications	
Other comments: ⌘			

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8.8.2 Power control in the downlink, initial convergence

This requirement verifies that DL power control works properly during the first seconds after DPCH connection is established

8.8.2.1 Minimum requirements

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The first 10 ms shall not be used for averaging, ie the first sample to be input to the averaging filter is at the beginning of T1. The averaging shall be performed with a sliding rectangular window averaging filter. The window size of the averaging filter is linearly increased from 0 up to 50 ms during the first 50 ms of T1, and then kept equal to 50ms.

Table 8.31: Test parameters for downlink power control

Parameter	Unit	Test 1	Test 2	Test 3	Test 4
Target quality value on DTCH	BLER	0.01	0.01	0.1	0.1
Initial DPCH_Ec/Ior	dB	-5.9	-25.9	-2.1	-22.1
Information Data Rate	kbps	12.2	12.2	64	64
$\hat{I}_{or}/I_{oc}$	dB	-1			
I_{oc}	dBm/3.84 MHz	-60			
Propagation condition		Static			
Maximum_DL_Power	dB	7			
Minimum_DL_Power	dB	-18			
DL Power Control step size, Δ_{TPC}	dB	1			
Limited Power Increase	-	"Not used"			

Table 8.32: Requirements in downlink power control

Parameter	Unit	Test 1 and Test 2	Test 3 and Test 4
$\dfrac{DPCH\_E_c}{I_{or}}$ during T1	dB	-18.9 ≤ DPCH_Ec/Ior ≤ -11.9	-15.1 ≤ DPCH_Ec/Ior ≤ -8.1
$\dfrac{DPCH\_E_c}{I_{or}}$ during T2	dB	-18.9 ≤ DPCH_Ec/Ior ≤ -14.9	-15.1 ≤ DPCH_Ec/Ior ≤ -11.1

3GPP TSG RAN WG4 Meeting #20

East Brunswick, NJ, USA 12th - 16th November 2001

R4-011486

CR-Form-v4

CHANGE REQUEST

⌘	**25.101** CR **135**	⌘	ev	**-**	⌘	Current version:	**5.0.0**	⌘

*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 ☐ Core Network ☐

Title: ⌘	Clarification on averaging method for power control initial convergence test	
Source: ⌘	RAN WG4	
Work item code: ⌘		***Date:*** ⌘ 2001-11-12
Category: ⌘ **A**	*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.	***Release:*** ⌘ Rel-5 *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: ⌘	It is unclear how the downlink DPCH_Ec/Ior power measured values must be averaged for power control initial convergence test
Summary of change: ⌘	This CR clarifies that : - A sliding rectangular window filter is assumed with a window size of 50 ms. - First 10 ms shall not be used for averaging and thus shall be discarded. - The window size of the filter is linearly increased between 0 and 50 ms during the next 50 ms (following the first 10 ms) so that filter does not have to be initialised. Isolated Impact Analysis: Clarification of a test requirement. Would not affect implementations.
Consequences if not approved: ⌘	The specification is subject to several interpretations. The averaging filter may vary depending on interpretations and test results may depend on test equipment

Clauses affected: ⌘	8.8.2.1
Other specs Affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	

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3GPP TSG RAN WG4 Meeting #20

East Brunswick, NJ, USA 12th - 16th November 2001

R4-011498

CR-Form-v4

CHANGE REQUEST

| ⌘ | **25.101** CR **136** | ⌘ | ev | **-** | ⌘ | Current version: | **3.8.0** | ⌘ |

*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 ☐ Core Network ☐

Title: ⌘	Correction of power control in the downlink, initial convergence	
Source: ⌘	RAN WG4	
Work item code: ⌘		***Date:*** ⌘ 08.11.2001
Category: ⌘ **F**		***Release:*** ⌘ Rel99

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)*

Reason for change: ⌘	The test parameters are inconsistent.
Summary of change: ⌘	The test parameters are aligned. Isolated impact analysis: Does not affect UE implementation
Consequences if not approved: ⌘	Measurement with different parameters can cause ambiguous test results.

Clauses affected: ⌘	8.8.2
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	

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$\hat{I}_{or}/I_{oc}$	dB	-1			
I_{oc}	dBm/3.84 MHz	-60			
Propagation condition		Static			
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CR-Form-v4

CHANGE REQUEST

⌘   **25.101 CR 137**   ⌘   ev   **-**   ⌘   Current version: **4.2.0**   ⌘

*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 ☐   Core Network ☐

Title: ⌘	Correction of power control in the downlink, initial convergence	
Source: ⌘	RAN WG4	
Work item code: ⌘		***Date:*** ⌘ 08.11.2001

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)*

Reason for change: ⌘	The test parameters are inconsistent.
Summary of change: ⌘	The test parameters are aligned. Isolated impact analysis: Does not affect UE implementation
Consequences if not approved: ⌘	Measurement with different parameters can cause ambiguous test results.

Clauses affected: ⌘	8.8.2
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	Corresponding R99 tdoc: R4-011498

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Target quality value on DTCH	BLER	0.01	0.01	0.1	0.1
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Information Data Rate	kbps	12.2	12.2	64	64
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Propagation condition		Static			
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Table 8.32: Requirements in downlink power control

Parameter	Unit	Test 1 and Test 2	Test 3 and Test 4
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CR-Form-v4

CHANGE REQUEST

⌘   **25.101** CR **138**   ⌘   ev   **-**   ⌘   Current version: **5.0.0**   ⌘

*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 ☐   Core Network ☐

Title:	⌘	Correction of power control in the downlink, initial convergence
Source:	⌘	RAN WG4
Work item code:	⌘	*Date:* ⌘ 08.11.2001

Category:	⌘ **A**	*Release:* ⌘ Rel-5

Use one of the following categories:
F *(correction)*
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REL-5   *(Release 5)*

Reason for change:	⌘	The test parameters are inconsistent.
Summary of change:	⌘	The test parameters are aligned. Isolated impact analysis: Does not affect UE implementation
Consequences if not approved:	⌘	Measurement with different parameters can cause ambiguous test results.

Clauses affected:	⌘	8.8.2
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	Corresponding R99 tdoc: R4-011498

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This requirement verifies that DL power control works properly during the first seconds after DPCH connection is established

8.8.2.1 Minimum requirements

For the parameters specified in Table 8.31 the downlink DPCH_Ec/Ior power measured values, which are averaged over 50 ms, shall be within the range specified in Table 8.32 more than 90% of the time. T1 equals to 500 ms and it starts 10 ms after the DPDCH connection is initiated. T2 equals to 500 ms and it starts when T1 has expired. Power control is ON during the test.

Table 8.31: Test parameters for downlink power control

Parameter	Unit	Test 1	Test 2	Test 3	Test 4
Target quality value on DTCH	BLER	0.01	0.01	0.1	0.1
Initial DPCH_Ec/Ior	dB	-5.9	-25.9	~~-2.1~~3	-22.1
Information Data Rate	kbps	12.2	12.2	64	64
$\hat{I}_{or}/I_{oc}$	dB	-1			
I_{oc}	dBm/3.84 MHz	-60			
Propagation condition		Static			
Maximum_DL_Power	dB	7			
Minimum_DL_Power	dB	-18			
DL Power Control step size, Δ_{TPC}	dB	1			
Limited Power Increase	-	"Not used"			

Table 8.32: Requirements in downlink power control

Parameter	Unit	Test 1 and Test 2	Test 3 and Test 4
$\dfrac{DPCH\_E_c}{I_{or}}$ during T1	dB	$-18.9 \leq$ DPCH_Ec/Ior ≤ -11.9	$-15.1 \leq$ DPCH_Ec/Ior ≤ -8.1
$\dfrac{DPCH\_E_c}{I_{or}}$ during T2	dB	$-18.9 \leq$ DPCH_Ec/Ior ≤ -14.9	$-15.1 \leq$ DPCH_Ec/Ior ≤ -11.1

CR-Form-v4

CHANGE REQUEST

⌘   **25.101** CR **139**   ⌘ ev **-** ⌘ Current version: **3.8.0** ⌘

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 ☐   Core Network ☐

Title: ⌘	Correction FCC emission mask and frequency raster for Band b) (UMTS1900 band).	
Source: ⌘	RAN WG4	
Work item code: ⌘		*Date:* ⌘ 2001-11-09

Category: ⌘ **F**	*Release:* ⌘ Rel99

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)

Reason for change: ⌘	During the UMTS1900/1800 WI for release 5 it has been identified issues that needs to be corrected also in earlier releases to avoid discontinuities between different releases (Wirh rel 5 and between rel-99 and 4). These topics has been identified: FCC emission mask clarification and channel raster corrections for band b.
Summary of change: ⌘	1. Channel raster 12 new carriers has been added to support FCC band allocation and single 5 MHz deployment. Mapping table of UARFCH table updated accordingly. 2. FCC mask correction Mask includes also an absolute emission limit –13 dBm adjusted with different measurement BW. Isolated impact analysis: The change is aligning the requirements with anticipated later release requirements. Without the change some absolute requirements are not functional between releases.
Consequences if not approved: ⌘	Miss alignment between releases

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Clauses affected: ⌘	5.4.3, 5.4.4, 6.6.2.1

Other specs affected: ⌘	☐ Other core specifications ⌘ **X** Test specifications ☐ O&M Specifications

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.

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.

5　Frequency bands and channel arrangement

5.1　General

The information presented in this subclause is based on a chip rate of 3.84 Mcps.

NOTE:　Other chip rates may be considered in future releases.

5.2　Frequency bands

UTRA/FDD is designed to operate in either of the following paired bands:

(a)　1920 – 1980 MHz:　　　Up-link (UE transmit, Node B receive)
　　　2110 – 2170 MHz:　　　Down-link (Node B transmit, UE receive)

(b)*　1850 – 1910 MHz:　　　Up-link (UE transmit, Node B receive)
　　　　1930 – 1990 MHz:　　　Down-link (Node B transmit, UE receive)

* Used in Region 2.

Additional allocations in ITU region 2 are FFS.

Deployment in other frequency bands is not precluded.

5.3　TX–RX frequency separation

(a)　UTRA/FDD is designed to operate with the following TX-RX frequency separation

Frequency Band	TX-RX frequency separation
For operation in frequency band as defined in subclause 5.2 (a)	190 MHz
For operation in frequency band as defined in subclause 5.2 (b)	80 MHz.

(b) UTRA/FDD can support both fixed and variable transmit to receive frequency separation.

(c) The use of other transmit to receive frequency separations in existing or other frequency bands shall not be precluded.

5.4　Channel arrangement

5.4.1　Channel spacing

The nominal channel spacing is 5 MHz, but this can be adjusted to optimise performance in a particular deployment scenario.

5.4.2　Channel raster

The channel raster is 200 kHz, which means that the centre frequency must be an integer multiple of 200 kHz.

5.4.3　Channel number

The carrier frequency is designated by the UTRA Absolute Radio Frequency Channel Number (UARFCN). The values are defined as follows:

Table 5.1: UARFCN definition

Uplink	$N_u = 5 * F_{uplink}$	0.0 MHz $\leq F_{uplink} \leq 3276.6$ MHz where F_{uplink} is the uplink frequency in MHz
Downlink	$N_d = 5 * F_{downlink}$	0.0 MHz $\leq F_{downlink} \leq 3276.6$ MHz where $F_{downlink}$ is the downlink frequency in MHz

Table 5.1b: UARFCN definition (Band b, region 2, Additional Channels)

Uplink	$N_u = 5 * ((F_{uplink} - 100khz) - 1850)$	1852.5, 1857.5, 1862.5, 1867.5, 1872.5, 1877.5, 1882.5, 1887.5, 1892.5, 1897.5, 1902.5, 1907.5
Downlink	$N_d = 5 * ((F_{downlink} - 100khz) - 1850)$	1932.5, 1937.5, 1942.5, 1947.5, 1952.5, 1957.5, 1962.5, 1967.5, 1972.5, 1977.5, 1982.5, 1987.5

5.4.4   UARFCN

The following UARFCN range shall be supported for each paired band

Table 5.2: UTRA Absolute Radio Frequency Channel Number

Frequency Band	Uplink UE transmit, Node B receive	Downlink UE receive, Node B transmit
For operation in frequency band as defined in subclause 5.2 (a)	9612 to 9888	10562 to 10838
For operation in frequency band as defined in subclause 5.2 (b)	9262 to 9538, And for additional channels in table 5.1b: 12, 37,62, 87, 112, 137, 162, 187, 212, 237, 262, 287	9662 to 9938 And for additional channels in table 5.1b: 412, 437, 462, 487, 512, 537, 562, 587, 612, 637, 662, 687

*******************End of #1 revision**************************

***************** Start of #2 revision**************************

6.6   Output RF spectrum emissions

6.6.1   Occupied bandwidth

Occupied bandwidth is a measure of the bandwidth containing 99 % of the total integrated power of the transmitted spectrum, centered on the assigned channel frequency. The occupied channel bandwidth shall be less than 5 MHz based on a chip rate of 3.84 Mcps.

6.6.2   Out of band emission

Out of band emissions are unwanted emissions immediately outside the nominal channel resulting from the modulation process and non-linearity in the transmitter but excluding spurious emissions. This out of band emission limit is specified in terms of a spectrum emission mask and Adjacent Channel Leakage power Ratio.

6.6.2.1 Spectrum emission mask

The spectrum emission mask of the UE applies to frequencies, which are between 2.5 MHz and 12.5 MHz away from the UE centre carrier frequency. The out of channel emission is specified relative to the UE output power measured in a 3.84 MHz bandwidth.

6.6.2.1.1 Minimum requirement

The power of any UE emission shall not exceed the levels specified in Table 6.10

Table 6.10: Spectrum Emission Mask Requirement

Δf* in MHz	Minimum requirement	Additional Minimum requirement for operation in Band b	Measurement bandwidth
2.5 - 3.5	$\left\{-35-15\cdot\left(\dfrac{\Delta f}{MHz}-2.5\right)\right\}dBc$	-15 dBm	30 kHz **
3.5 - 7.5	$\left\{-35-1\cdot\left(\dfrac{\Delta f}{MHz}-3.5\right)\right\}dBc$	-13 dBm	1 MHz ***
7.5 - 8.5	$\left\{-39-10\cdot\left(\dfrac{\Delta f}{MHz}-7.5\right)\right\}dBc$	-13 dBm	1 MHz ***
8.5 - 12.5 MHz	-49 dBc	-13 dBm	1 MHz ***
* Δf is the separation between the carrier frequency and the centre of the measuring filter.			
** The first and last measurement position with a 30 kHz filter is at Δf equals to 2.515 MHz and 3.485 MHz.			
*** The first and last measurement position with a 1 MHz filter is at Δf equals to 4 MHz and 12 MHz. As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. To improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth can be different from the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth.			
The lower limit shall be –50 dBm/3.84 MHz or which ever is higher.			

**********************End of #2 revision**

CR-Form-v4

CHANGE REQUEST

⌘　　**25.101** CR **140**　　⌘ ev **-** ⌘　Current version: **4.2.0** ⌘

*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 ☐ Core Network ☐

Title: ⌘	Correction to FCC emission mask and frequency raster for Band b) (UMTS1900 band).	

Source: ⌘	RAN WG4

Work item code: ⌘		***Date:*** ⌘	2001-11-09

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)*

Reason for change: ⌘	During the UMTS1900/1800 WI for release 5 it has been identified issues that needs to be corrected also in earlier releases to avoid discontinuities between different releases (Wirh rel 5 and between rel-99 and 4). These topics has been identified: FCC emission mask clarification and channel raster corrections for band b.
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Consequences if not approved: ⌘	Miss alignment between releases

Clauses affected: ⌘	5.4.3, 5.4.4, 6.6.2.1		
Other specs affected: ⌘	☐ Other core specifications **X** Test specifications ☐ O&M Specifications	⌘	

Other comments:	⌘	

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5 Frequency bands and channel arrangement

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 NOTE: Other chip rates may be considered in future releases.

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  2110 – 2170 MHz: Down-link (Node B transmit, UE receive)

 (b)* 1850 – 1910 MHz: Up-link (UE transmit, Node B receive)
  1930 – 1990 MHz: Down-link (Node B transmit, UE receive)

* Used in Region 2.

Additional allocations in ITU region 2 are FFS.

Deployment in other frequency bands is not precluded.

5.3 TX–RX frequency separation

 (a) UTRA/FDD is designed to operate with the following TX-RX frequency separation

Frequency Band	TX-RX frequency separation
For operation in frequency band as defined in subclause 5.2 (a)	190 MHz
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*******************End of #1 revision*************************

****************** Start of #2 revision*************************

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The lower limit shall be –50 dBm/3.84 MHz or which ever is higher.			

***********************End of #2 revision***