TSG RAN Meeting #25 **RP-040292**
Palm Springs, US, 7 - 9 September 2004

Title **CRs (Rel-6) to TS25.101, TS25.104 & TS25.141 for WI UMTS850 & UMTS1721**
Source **TSG RAN WG4**
Agenda Item **8.9**

RAN4 Tdoc	Spec	CR	R	Cat	Rel	Curr Ver	Title	Work Item
R4-040408	25.101	346	1	F	Rel-6	6.4.0	Correction in the Band V (850MHz) additional frequency channel - UARFCN	RInImp-UMTS850
R4-040466	25.101	353		F	Rel-6	6.4.0	Frequency range correction of out-of-band blocking for Band IV	RInImp-UMTS1721
R4-040409	25.104	227	1	F	Rel-6	6.6.0	Correction in the Band V (850MHz) additional frequency channel - UARFCN	RInImp-UMTS850
R4-040410	25.141	351	1	F	Rel-6	6.5.0	Correction in the Band V (850MHz) additional frequency channel - UARFCN	RInImp-UMTS850

3GPP TSG RAN WG4 (Radio) Meeting #32 **R4-040408**

Prague, Czech Republic 16 - 20 August 2004

CR-Form-v7

CHANGE REQUEST

⌘ **25.101** **CR** **346** ⌘ **rev** **1** ⌘ Current version: **6.4.0** ⌘

*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 [X] Radio Access Network [ ] Core Network [ ]

Title:	⌘	Correction in the Band V (850MHz) additionnal frequency channel - UARFCN
Source:	⌘	RAN WG4
Work item code:	⌘	RInImp-UMTS850
Date:	⌘	30/08/2004
Category:	⌘	**F**
Release:	⌘	*Rel-6*

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)*
Rel-6	*(Release 6)*

Reason for change:	⌘	There is an error in one of the additionnal frequency channel added for the band V (850 MHz). The corresponding UARFCN is also not valid i.e the UARFCN = 1035 value does not match with the 876.6Mhz carrier.
Summary of change:	⌘	The correct frequency carrier in MHz and the corresponding UARFCN are corrected using the specified formula.
Consequences if not approved:	⌘	There is no consistency between one of the Carrier frequency and his UARFCN. Isolated impact: This is a correction in the channel numbering for Band V.

Clauses affected:	⌘	5.4.3 (table 5.1A) and 5.4.4 (table 5.2)

		Y	N			
Other specs affected:	⌘	X		Other core specifications	⌘	25.104
		X		Test specifications		25.141
			X	O&M Specifications		

Other comments:	⌘	

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.

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, for all bands which means that the centre frequency must be an integer multiple of 200 kHz. In addition a number of additional centre frequencies are specified according to table 5.1A, which means that the centre frequencies for these channels are shifted 100 kHz relative to the general raster.

5.4.3 Channel number

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

Table 5.1: UARFCN definition (general)

UPLINK (UL) UE transmit, Node B receive		**DOWNLINK (DL)** UE receive, Node B transmit	
UARFCN	**Carrier frequency [MHz]** (F_{UL}) (Note 1)	**UARFCN**	**Carrier frequency [MHz]** (F_{DL}) (Note 2)
$N_u = 5 * F_{UL}$	0.0 MHz ≤ F_{UL} ≤ 3276.6 MHz	$N_d = 5 * F_{DL}$	0.0 MHz ≤ F_{DL} ≤ 3276.6 MHz
Note 1: F_{UL} is the uplink frequency in MHz Note 2: F_{DL} is the downlink frequency in MHz			

Table 5.1A: UARFCN definition (additional channels)

Band	**UPLINK (UL)** UE transmit, Node B receive		**DOWNLINK (DL)** UE receive, Node B transmit	
	UARFCN	**Carrier frequency [MHz]** (F_{UL})	**UARFCN**	**Carrier frequency [MHz]** (F_{DL})
I	**-**	**-**	**-**	**-**
II	$N_u = 5 * (F_{UL} –$ 1850.1 MHz)	1852.5, 1857.5, 1862.5, 1867.5, 1872.5, 1877.5, 1882.5, 1887.5, 1892.5, 1897.5, 1902.5, 1907.5	$N_d = 5 * (F_{DL} –$ 1850.1 MHz)	1932.5, 1937.5, 1942.5, 1947.5, 1952.5, 1957.5, 1962.5, 1967.5, 1972.5, 1977.5, 1982.5, 1987.5
III	-	-	-	-
IV	$N_u = 5 * (F_{UL} –$ 1480.1 MHz)	1712.5, 1717.5, 1722.5, 1727.5, 1732.5, 1737.5 1742.5, 1747.5, 1752.5	$N_d = 5 * (F_{DL} –$ 1820.1 MHz)	2112.5, 2117.5, 2122.5, 2127.5, 2132.5, 2137.5, 2142.5, 2147.5, 2152.5
V	$N_u = 5 * (F_{UL} –$ 670.1 MHz)	826.5, 827.5, 831.5, 832.5, 837.5, 842.5	$N_d = 5 * (F_{DL} –$ 670.1 MHz)	871.5, 872.5, 876.~~6~~5, 877.5, 882.5, 887.5
VI	$N_u = 5 * (F_{UL} –$ 670.1 MHz)	832.5, 837.5	$N_d = 5 * (F_{DL} –$ 670.1 MHz)	877.5, 882.5

5.4.4 UARFCN

The following UARFCN range shall be supported for each paired band

Table 5.2: UTRA Absolute Radio Frequency Channel Number

Band	Uplink (UL) UE transmit, Node B receive		Downlink (DL) UE receive, Node B transmit	
	General	Additional	General	Additional
I	9612 to 9888	-	10562 to 10838	-
II	9262 to 9538	12, 37, 62, 87, 112, 137, 162, 187, 212, 237, 262, 287	9662 to 9938	412, 437, 462, 487, 512, 537, 562, 587, 612, 637, 662, 687
III	8562 to 8913	-	9037 to 9388	-
IV	8562 to 8763	1162, 1187, 1212, 1237, 1262, 1287, 1312, 1337, 1362	10562 to 10763	1462, 1487, 1512, 1537, 1562, 1587, 1612, 1637, 1662
V	4132 to 4233	782, 787, 807, 812, 837, 862	4357 to 4458	1007, 1012, ~~1035~~1032, 1037, 1062, 1087
VI	4162 to 4188	812, 837	4387 to 4413	1037, 1062

3GPP TSG RAN WG4 (Radio) Meeting #32 R4-040466

Prague, Czech Republic 16 - 20 August 2004

CR-Form-v7

CHANGE REQUEST

⌘ 25.101 CR 353 ⌘rev ⌘ Current version: 6.4.0 ⌘

*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 ☐

Title:	⌘	Frequency range correction of out-of-band blocking for Band IV
Source:	⌘	RAN WG4
Work item code:	⌘	RInImp-UMTS1721
Date:	⌘	30/08/2004
Category:	⌘	F
Release:	⌘	Rel-6

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)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Frequency range 3 in table 7.7 for Band IV is not correctly defined
Summary of change:	⌘	Frequency range 3 in table 7.7 for Band IV is changed from 1<f<**784** / 2240<f<12750 to 1<f<**2025** / 2240<f<12750
Consequences if not approved:	⌘	Frequency range 3 in table 7.7 for Band IV is not correctly defined

Clauses affected:	⌘	7.6.2			
Other specs affected:	⌘	Y / N		⌘	
		☐ / ☒	Other core specifications		
		☒ / ☐	Test specifications		34.121
		☐ / ☒	O&M Specifications		
Other comments:	⌘				

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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 reques

7.6.2 Minimum requirement (Out of-band blocking)

The BER shall not exceed 0.001 for the parameters specified in Table 7.7. Out-of-band band blocking is defined for an unwanted interfering signal falling more than 15 MHz below or above the UE receive band. For Table 7.7 up to 24 exceptions are allowed for spurious response frequencies in each assigned frequency channel when measured using a 1 MHz step size. For these exceptions the requirements of clause 7.7 Spurious response are applicable.

Table 7.7: Out of band blocking

Parameter	Unit	Frequency range 1	Frequency range 2	Frequency range 3
DPCH_Ec	dBm/3.84 MHz	<REFSENS>+3 dB	<REFSENS>+3 dB	<REFSENS>+3 dB
$\hat{I}_{or}$	dBm/3.84 MHz	<REF$\hat{I}_{or}$> + 3 dB	<REF$\hat{I}_{or}$> + 3 dB	<REF$\hat{I}_{or}$> + 3 dB
$I_{blocking}$ (CW)	dBm	-44	-30	-15
F_{uw} (Band I operation)	MHz	2050<f <2095 2185<f <2230	2025 <f <2050 2230 <f <2255	1< f <2025 2255<f<12750
F_{uw} (Band II operation)	MHz	1870<f <1915 2005<f <2050	1845 <f <1870 2050 <f <2075	1< f <1845 2075<f<12750
F_{uw} (Band III operation)	MHz	1745 <f <1790 1895<f <1940	1720 <f < 1745 1940<f < 1965	1< f <1720 1965<f<12750
F_{uw} (Band IV operation)	MHz	2050< f <2095 2170< f <2215	2025< f <2050 2215< f < 2240	1< f <~~784~~2025 2240<f<12750
F_{uw} (Band V operation)	MHz	809< f <854 909< f <954	784< f <809 954< f < 979	1< f <784 979<f<12750
F_{uw} (Band VI operation)	MHz	815 < f < 860 900 < f < 945	790 < f < 815 945 < f < 970	1 < f < 790 970 < f < 12750
UE transmitted mean power	dBm	20 (for Power class 3) 18 (for Power class 4)		
Band I operation	For 2095<f<2110 MHz and 2170<f<2185 MHz, the appropriate in-band blocking or adjacent channel selectivity in subclause 7.5.1 and subclause 7.6.1 shall be applied.			
Band II operation	For 1915<f<1930 MHz and 1990<f<2005 MHz, the appropriate in-band blocking or adjacent channel selectivity in subclause 7.5.1 and subclause 7.6.1 shall be applied			
Band III operation	For 1790<f<1805 MHz and 1880<f<1895 MHz, the appropriate in-band blocking or adjacent channel selectivity in subclause 7.5.1 and subclause 7.6.1 shall be applied.			
Band IV operation	For 2095<f<2110 MHz and 2155<f<2170 MHz, the appropriate in-band blocking or adjacent channel selectivity in subclause 7.5.1 and subclause 7.6.1 shall be applied.			
Band V operation	For 854<f<869 MHz and 894<f<909 MHz, the appropriate in-band blocking or adjacent channel selectivity in subclause 7.5.1 and subclause 7.6.1 shall be applied.			
Band VI operation	For 860<f<875 MHz and 885<f<900 MHz, the appropriate in-band blocking or adjacent channel selectivity in subclause 7.5.1 and subclause 7.6.1 shall be applied.			

3GPP TSG RAN WG4 (Radio) Meeting #32 R4-040409

Prague, Czech Republic 16 - 20 August 2004

CR-Form-v7

CHANGE REQUEST

⌘ 25.104 CR 227 ⌘rev 1 ⌘ Current version: 6.6.0 ⌘

*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 ☐

Title:	⌘	Correction in the Band V (850MHz) additionnal frequency channel - UARFCN
Source:	⌘	RAN WG4
Work item code:	⌘	RInImp-UMTS850
Date:	⌘	30/08/2004
Category:	⌘	F
Release:	⌘	Rel-6

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)*
Rel-6	*(Release 6)*

Reason for change:	⌘	There is an error in one of the additionnal frequency channel added for the band V (850 MHz).
Summary of change:	⌘	The correct frequency carrier in MHz is corrected according the 850 MHz spectrum arrangement.
Consequences if not approved:	⌘	One additionnal carrier could not be used. Isolated impact: This is a correction in the channel numbering for Band V.

Clauses affected:	⌘	5.4.3 (table 5.1A).

Other specs affected:	Y	N			
⌘	X		Other core specifications	⌘	25.101
	X		Test specifications		25.141
		X	O&M Specifications		

Other comments: ⌘

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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.

5.4 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 for all bands, which means that the centre frequency must be an integer multiple of 200 kHz. In addition a number of additional centre frequencies are specified according to table 5.1A which means that the centre frequencies for these channels are shifted 100 kHz relative to the general raster.

5.4.3 Channel number

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

Table 5.1: UARFCN definition (general)

UPLINK (UL) UE transmit, Node B receive		**DOWNLINK (DL)** UE receive, Node B transmit	
UARFCN	**Carrier frequency [MHz]** (F_{UL}) (Note 1)	**UARFCN**	**Carrier frequency [MHz]** (F_{DL}) (Note 2)
$N_u = 5 * F_{UL}$	0.0 MHz ≤ F_{UL} ≤ 3276.6 MHz	$N_d = 5 * F_{DL}$	0.0 MHz ≤ F_{DL} ≤ 3276.6 MHz
Note 1: F_{UL} is the uplink frequency in MHz Note 2: F_{DL} is the downlink frequency in MHz			

Table 5.1A: UARFCN definition (additional channels)

Band	**UPLINK (UL) UE transmit, Node B receive**		**DOWNLINK (DL) UE receive, Node B transmit**	
	UARFCN	**Carrier frequency [MHz]** (F_{UL})	**UARFCN**	**Carrier frequency [MHz]** (F_{DL})
I	-	-	-	-
II	$N_u = 5 * (F_{UL} –$ 1850.1 MHz)	1852.5, 1857.5, 1862.5, 1867.5, 1872.5, 1877.5, 1882.5, 1887.5, 1892.5, 1897.5, 1902.5, 1907.5	$N_d = 5 * (F_{DL} –$ 1850.1 MHz)	1932.5, 1937.5, 1942.5, 1947.5, 1952.5, 1957.5, 1962.5, 1967.5, 1972.5, 1977.5, 1982.5, 1987.5
III	-	-	-	-
IV	$N_u = 5 * (F_{UL} –$ 1480.1 MHz)	1712.5, 1717.5, 1722.5, 1727.5, 1732.5, 1737.5 1742.5, 1747.5, 1752.5	$N_d = 5 * (F_{DL} –$ 1820.1 MHz)	2112.5, 2117.5, 2122.5, 2127.5, 2132.5, 2137.5, 2142.5, 2147.5, 2152.5
V	$N_u = 5 * (F_{UL} –$ 670.1 MHz)	826.5, 827.5, 831.5, 832.5, 837.5, 842.5	$N_d = 5 * (F_{DL} –$ 670.1 MHz)	871.5, 872.5, 876.~~6~~5, 877.5, 882.5, 887.5
VI	$N_u = 5 * (F_{UL} –$ 670.1 MHz)	832.5 ≤ F_{UL} ≤ 837.5	$N_d = 5 * (F_{DL} –$ 670.1 MHz)	877.5 ≤ F_{DL} ≤ 882.5

3GPP TSG RAN WG4 (Radio) Meeting #32 R4-040410

Prague, Czech Republic 16 - 20 August 2004

CR-Form-v7

CHANGE REQUEST

⌘ 25.141 CR 351 ⌘rev 1 ⌘ Current version: 6.6.0 ⌘

*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 ☐

Title:	⌘	Correction is the Band V (850MHz) additionnal frequency channel - UARFCN
Source:	⌘	RAN WG4
Work item code:	⌘	RInImp-UMTS850
Date:	⌘	30/08/2004
Category:	⌘	F
Release:	⌘	*Rel-6*

Use one of the following categories:
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Use one of the following releases:

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R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	There is an error in one of the additionnal frequency channel added for the band V (850 MHz).
Summary of change:	⌘	The correct frequency carrier in MHz is corrected according the 850 MHz spectrum arrangement.
Consequences if not approved:	⌘	One additionnal carrier could not be used. Isolated impact: This is a correction in the channel numbering for Band V.

Clauses affected:	⌘	3.5.3 (table 3.2).				
Other specs affected:	⌘	**Y**	**N**	Other core specifications	⌘	25.101; 25.104
		X				
			X	Test specifications		
			X	O&M Specifications		
Other comments:	⌘					

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3.5 Channel arrangement

3.5.1 Channel spacing

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

3.5.2 Channel raster

The channel raster is 200 kHz for all bands, which means that the centre frequency must be an integer multiple of 200 kHz. In addition an number of additional centre frequencies are specified according to table 3.2, which means that the centre frequencies for these channels are shifted 100 kHz relative to the general raster.

3.5.3 Channel number

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

Table 3.1: UARFCN definition (general)

UPLINK (UL) **UE transmit, Node B receive**		**DOWNLINK (DL)** **UE receive, Node B transmit**	
UARFCN	**Carrier frequency [MHz]** (F_{UL}) (Note 1)	**UARFCN**	**Carrier frequency [MHz]** (F_{DL}) (Note 2)
$N_u = 5 * F_{UL}$	0.0 MHz ≤ F_{UL} ≤ 3276.6 MHz	$N_d = 5 * F_{DL}$	0.0 MHz ≤ F_{DL} ≤ 3276.6 MHz
Note 1: F_{UL} is the uplink frequency in MHz Note 2: F_{DL} is the downlink frequency in MHz			

Table 3.2: UARFCN definition (additional channels)

Band	**UPLINK (UL)** **UE transmit, Node B receive**		**DOWNLINK (DL)** **UE receive, Node B transmit**	
	UARFCN	**Carrier frequency [MHz]** (F_{UL})	**UARFCN**	**Carrier frequency [MHz]** (F_{DL})
I	**-**	**-**	**-**	**-**
II	$N_u = 5 * (F_{UL} –$ 1850.1 MHz)	1852.5, 1857.5, 1862.5, 1867.5, 1872.5, 1877.5, 1882.5, 1887.5, 1892.5, 1897.5, 1902.5, 1907.5	$N_d = 5 * (F_{DL} –$ 1850.1 MHz)	1932.5, 1937.5, 1942.5, 1947.5, 1952.5, 1957.5, 1962.5, 1967.5, 1972.5, 1977.5, 1982.5, 1987.5
III	-	-	-	-
IV	$N_u = 5 * (F_{UL} –$ 1480.1 MHz)	1712.5, 1717.5, 1722.5, 1727.5, 1732.5, 1737.5 1742.5, 1747.5, 1752.5	$N_d = 5 * (F_{DL} –$ 1820.1 MHz)	2112.5, 2117.5, 2122.5, 2127.5, 2132.5, 2137.5, 2142.5, 2147.5, 2152.5
V	$N_u = 5 * (F_{UL} –$ 670.1 MHz)	826.5, 827.5, 831.5, 832.5, 837.5, 842.5	$N_d = 5 * (F_{DL} –$ 670.1 MHz)	871.5, 872.5, 876.~~6~~5, 877.5, 882.5, 887.5
VI	$N_u = 5 * (F_{UL} –$ 670.1 MHz)	832.5, 837.5	$N_d = 5 * (F_{DL} –$ 670.1 MHz)	877.5, 882.5