RP-040043

Title CRs (Rel-6) to TS25.101, TS25.104, TS25.141 for reduction of channel

numbers for UMTS800 (bandVI)

Source TSG RAN WG4

Agenda Item 8.10

RAN4 Tdoc	Spec	CR	R	Cat	Rel	Curr Ver	Title	Work Item
R4-040086	25.101	331		F	Rel-6	6.3.0	Reduction of channel number for UMTS800(band VI)	RInImp- UMTS800
R4-040087	25.104	221		F	Rel-6	6.4.0	Reduction of channel number for UMTS800(band VI)	RInImp- UMTS800
R4-040088	25.141	342		F	Rel-6	6.4.0	Reduction of channel number for UMTS800(band VI)	RInImp- UMTS800

R4-040086

3GPP TSG RAN WG4 (Radio) Meeting #30

Munich, Germany 9 - 13 February 2004

					01144	١٥٢	DE 6		• ОТ	•				CR-Form-v7
					CHAN	IGE	KEC	UE	51					
¥		25	.101	CR	331		≋rev		Ħ	Current	versio	n: 6	.3.0	¥
For H	ELP on u	ısina	this for	rm see	e hottom	of this	nage of	look	at th	e non-un	text o	ver the	e ¥£ svr	nhols
7 OI <u>11</u>	<u>LLT</u> On a	isirig i	.1113 101	111, 300	Dollom	or uns	page of	100K	at tir	с рор ир	ioni o	vor tric	2 00 3yr	110013.
_					00	_		7 5			1			
Propose	d change a	affec	ts:	UICC a	apps#		ME	Ra	dio A	ccess Ne	twork		ore Ne	etwork
Title:	\mathfrak{H}	Re	duction	n of ch	annel nu	mber f	or UMT	S800(band	d VI)				
Source:	\mathfrak{H}	RA	N WG	4										
Work ite	m code: ∺	Rlr	ılmp-U	IMTS8	00					Date	e: Ж	23/02/	/2004	
Category	/: ¥	F								Release		Rel-6		
				the follo	owing cate n)	egories	:			Use <u>or</u> 2			ving rele hase 2)	eases:
				orrespo	nds to a co	orrectio	n in an e	arlier		R96 R97	6 (F	Release	e 1996) e 1997)	
			B (ac	ddition d	of feature)		fo o to mal			R98) (F	Release	e 1998)	
			D (ed	ditorial ı	l modifica nodificatio	n)	•			R99 Rel-	-4 (F	Release		
					ons of the TR 21.900		categorie	s can		Rel- Rel-		Release Release		
				•		_					•			
Reason	for change	e: #			nel arrar re delete			djust	ed in	Japan, u	nnece	ssary	channe	el
Summar	y of chang	ge: ૠ								s are dele				
			frequencies (832.5MHz and 837.5MHz for Uplink, 877.5MHz and 882.5MHz for Downlink).								/IHz for			
			Cha	nnel 'n	ımber de	finition	is char	iged a	as fol	llows.				
					quency] ≤ F _{ur} ≤ 83	37.5 is	change	d into	832	.5 and 83	7.5			
			DL;	877.5	$\leq F_{DL} \leq 88$.5 and 88				
				RFCN] 812 to	837 is ch	anged	l into 81	2 and	837					
			DL;	1037 to	1062 is	chang	ged into	1037	and	1062				
Consequ		\mathfrak{H}						nich le	ead l	onger cha	annel s	earch	period	, would
not appr	oved:		beer	n left in	the spec	cificatio	on.							
Clauses	affected:	\mathfrak{H}	5.4.3	3, 5.4.4										
			ΥN]										
Other sp affected:		\mathfrak{H}	X X		er core sp specifica		ations	H	34 1	121, 34.10	าล			
arreoted.			X		1 Specific				U -1 . I	. 2 1, 04.10				
Other co	mments:	¥												

5 Frequency bands and channel arrangement

{Unchanged Sections are snipped here}

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)

UE t	UPLINK (UL) ransmit, 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							
	92									

Table 5.1A: UARFCN definition (additional channels)

		PLINK (UL)	DOWNLINK (DL) UE receive, Node B transmit				
Band	UE transmit, Node B receive UARFCN Carrier frequency [MHz]		,				
	UARFUN		UARFON	Carrier frequency [MHz]			
		(F _{UL)})		(F _{DL)})			
I	-	-	-	-			
	$N_u = 5 * (F_{UL} -$	1852.5, 1857.5, 1862.5,	$N_d = 5 * (F_{DL} -$	1932.5, 1937.5, 1942.5,			
1 11	1850.1 MHz)	1867.5. 1872.5. 1877.5.	1850.1 MHz)	1947.5, 1952.5, 1957.5,			
	, , , , , , , , , , , , , , , , , , , ,	1882.5, 1887.5, 1892.5,	, , , , , , , , , , , , , , , , , , , ,	1962.5, 1967.5, 1972.5,			
		1897.5, 1902.5, 1907.5		1977.5, 1982.5, 1987.5			
III	_	-	_	-			
111	-	-	-	-			
IV	$N_u = 5 * (F_{UL} -$	1712.5, 1717.5, 1722.5,	$N_d = 5 * (F_{DL} -$	2112.5, 2117.5, 2122.5,			
	1480.1 MHz)	1727.5, 1732.5, 1737.5	1820.1 MHz)	2127.5, 2132.5, 2137.5,			
	,	1742.5, 1747.5, 1752.5	,	2142.5, 2147.5, 2152.5			
V	$N_u = 5 * (F_{UL} -$	826.5, 827.5, 831.5,	$N_d = 5 * (F_{DL} -$	871.5, 872.5, 876.6,			
	670.1 MHz)	832.5, 837.5, 842.5	670.1 MHz)	877.5, 882.5, 887.5			
VI	$N_u = 5 * (F_{UL} -$	832.5 ≤ F_{UL} ≤ 837.5	$N_d = 5 * (F_{DL} -$	$877.5 \le F_{DL} \le 882.5$			
	670.1 MHz)	<u>832.5, 837.5</u>	670.1 MHz)	<u>877.5, 882.5</u>			

5.4.4 UARFCN

The following UARFCN range shall be supported for each paired band

Table 5.2: UTRA Absolute Radio Frequency Channel Number

	Up	olink (UL)	Downlink (DL)					
Band	UE transmi	t, Node B receive	UE receive, No	ode 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, 1037, 1062, 1087				
VI	4162 to 4188	812 to 837 812, 837	4387 to 4413	1037 to 1062 1037, 1062				

R4-040087

3GPP TSG RAN WG4 (Radio) Meeting #30

Munich, Germany 9 - 13 February 2004

			(CHAN	GE F	REQ	UE	ST	•			CR-Form-v7
00												0.0
X	25.	104	CR	221	H	rev		H	Current vers	sion:	6.4.0	X
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 X Core Network												
Title: Ж	Red	duction	of ch	annel num	nber for	UMTS	8800	banc	i VI)			
Source: #	RAI	N WG	4									
Work item code: ₩	Rln	Imp-U	MTS8	00					<i>Date:</i> ∺	23/	/02/2004	
Category:	Category: # F Use one of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900. Release: # Rel-6 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)						eases:					
Reason for change	e: Ж			nel arranç e deleted			djust	ed in	Japan, unne	cessa	ary channe	el
Summary of chang	Additional 100kHz shifted carrier frequencies are deleted except 4 carrier frequencies (832.5MHz and 837.5MHz for Uplink, 877.5MHz and 882.5MHz for Downlink). Channel number definition is changed as follows. [Carrier frequency] UL; 832.5 ≤ F _{UL} ≤ 837.5 is changed into 832.5 and 837.5 DL; 877.5 ≤ F _{DL} ≤ 882.5 is changed into 877.5 and 882.5											
Consequences if not approved:	ж			ry channe the speci			ich le	ead lo	onger channe	el sea	rch period	l, would
Clauses affected:	¥	5.4.3	}									
Other specs affected:	¥	Y N X X	Test	r core spe specificat I Specifica	ions	ons	¥	25.1	41			
Other comments:	\varkappa											

5 Frequency bands and channel arrangement

{Unchanged Sections are snipped here}

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)

UE t	UPLINK (UL) ransmit, 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)			
$N_u = 5 * F_{UL}$ $0.0 \text{ MHz} \le F_{UL} \le 3276.6 \text{ MHz}$		$N_d = 5 * F_{DL}$	0.0 MHz ≤ F _{DL} ≤ 3276.6 MHz			
U-	s the uplink frequency in MHz s the downlink frequency in MHz					

Table 5.1A: UARFCN definition (additional channels)

		PLINK (UL) nit, Node B receive	DOWNLINK (DL) UE receive, Node B transmit				
Band	UARFCN	Carrier frequency [MHz]	UARFCN	Carrier frequency [MHz]			
		(F _{UL)})		(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, 877.5, 882.5, 887.5			
VI	N _u = 5 * (F _{UL} – 670.1 MHz)	832.5 ≤ F _{UL} ≤ 837.5 832.5, 837.5	N _d = 5 * (F _{DL} – 670.1 MHz)	877.5 ≤ F _{DL} ≤ 882.5 877.5, 882.5			

R4-040088

3GPP TSG RAN WG4 (Radio) Meeting #30

Munich, Germany 9 - 13 February 2004

			(CHAN	GE F	REQU	JE	ST	ı				CR-Form-v	7
æ	25	.141	CR	342	æ	rev		Ж	Curren	t vers	ion:	6.4.0	æ	
For <u>HELP</u> on u	ısing	this foi	rm, see	bottom o	f this pa	age or lo	ook i	at the	е рор-иј	p text	over	the % s	ymbols.	
Proposed change	Proposed change affects: UICC apps器 ME Radio Access Network X Core Network													
Title: #8	Re	ductio	n of cha	annel num	nber for	UMTS	300(band	l VI)					
Source: #	RA	N WG	4											
Work item code: ₩	Rlr	ılmp-U	MTS8	00					Da	te: ೫	23/	02/2004		
Category: अ	Deta	F (co A (co release B (ac C (fu D (ec iled ex	rrection orrespor e) ddition o nctional ditorial n planatio	owing category Index to a conference If feature), Indexinodification Indexinodific	rrection in the contraction of fealth)	ture)			2 R9 R9 R9 R6 R6	o <u>ne</u> of 1 96 97 98 99 91-4 91-5	the fo (GSM (Rele (Rele (Rele (Rele (Rele	I-6 Illowing rease 1996 Pase 1996 Pase 1998 Pase 1998 Pase 4) Pase 5) Pase 6)	?) ?) ?)	
											·			
Reason for change	e: #			nel arranç e deleted			juste	ed in	Japan,	unned	cessa	ry chan	nel	
Summary of chang	уе: Ж	frequence freque	uencies nlink). nnel nu rier fred 832.5 ≤	00kHz sh (832.5M) mber defi quency] $F_{UL} \le 83$ $F_{DL} \le 882$	Hz and inition is 7.5 is ch	837.5M chango nanged	IHz f ed a into	for U is foll 832.	plink, 87 lows. 5 and 8	77.5M 37.5				
Consequences if not approved:	Ж			ry channe the speci			ch le	ead Id	onger ch	nanne	l sea	rch perio	od, would	
Clauses affected:	#	543	3, 5.4.4											
Other specs affected:	*	YN	Othe Test	r core spe specificat Specifica	ions	ons	X	25.1	04					
Other comments:	\mathfrak{H}													

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)

UE tr	UPLINK (UL) ransmit, 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)			
$N_u = 5 * F_{UL}$ $0.0 \text{ MHz} \le F_{UL} \le 3276.6 \text{ MHz}$		$N_d = 5 * F_{DL}$	0.0 MHz ≤ F _{DL} ≤ 3276.6 MHz			
0_	s the uplink frequency in MHz s the downlink frequency in MHz					

Table 3.2: UARFCN definition (additional channels)

		PLINK (UL) nit, Node B receive	DOWNLINK (DL) UE receive, Node B transmit				
Band	UARFCN	Carrier frequency [MHz]	UARFCN	Carrier frequency [MHz]			
		(F _{UL)})		(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, 877.5, 882.5, 887.5			
VI	N _u = 5 * (F _{UL} – 670.1 MHz)	832.5 ≤ F _{UL} ≤ 837.5 832.5, 837.5	N _d = 5 * (F _{DL} – 670.1 MHz)	877.5 ≤ F _{DL} ≤ 882.5 877.5, 882.5			