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Technical Report

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Keywords
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Foreword

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1 Scope

This document is a technical report of the DS-CDMA Introduction in the 800 MHz Band work items. The purpose of these work items is to provide UMTS specification support for UTRA/FDD in the 800 MHz (ITU region 3, Japan). In addition to the schedule and status of the work items, the report includes a description of the motivation, requirements, study results and specification recommendations.

This document is a 'living' document, periodically updated and presented at all TSG-RAN meetings until all related CRs are agreed and approved.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document.*

[1] DS-CDMA Introduction in the 800 MHz Band Work Task Descriptions, TSGRP#19(2003) 178

[2] TR25.942 "RF System Scenarios" (v2.3.0 and v2.3.1 are used)

3 Definitions, symbols and abbreviations

3.1 Definitions

3.2 Symbols

3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

- W-CDMA – Wideband Code Division Multiple Access, a type of cellular system meeting ITU-2000 requirement
- UMTS – Universal Mobile Telecommunications System, often used synonymously with WCDMA
- W-CDMA – Wideband Code Division Multiple Access system, often used synonymously with UMTS (Universal Mobile Telecommunications System).
- PDC – Personal Digital Cellular
- UE – User Equipment, also cellular terminal
- BS – Cellular system base station
- DL – Downlink, the RF path from BS to UE

- ACIR – Adjacent Channel Interference Rejection, can be translated to receiver selectivity when the emission mask of the interfering signal is accounted for.
- TX – Transmitter
- RX – Receiver

4 Introduction

UMTS in Release 99 is currently specified primarily for the 2100 MHz band (WARC IMT-2000 allocation) with 1800MHz band (in ITU region 1 and 3) and 1900MHz band (in ITU region 2). The 800 MHz band to be available in Japan (ITU region 3) is not specified. Deployment in this band, unlike in the 2100 MHz band, is complicated by the comparatively limited spectrum per operator, interference due to the presence of other technologies (such as ARIB STD-27(PDC), ARIB STD-T53(IS-95), and ARIB STD-T64 (cdma2000)) and the narrower TX-RX frequency separation. For these reasons, the W-CDMA specifications need to be updated to support deployment.

4.1 Task Description

The purpose of these work items is to investigate and prepare radio performance and other necessary specifications to enable optimal, cost-effective W-CDMA (UTRA)/FDD operation in the 800MHz bands in Japan.

The Work Item description for W-CDMA in 800MHz band was approved at TSG-RAN#19[1].

4.2 Rationale for DS-CDMA800 (UMTS~~W-CDMA~~800)

This WI enables the introduction of W-CDMA radio interface to the ~~[~~830 – 840~~]~~ and ~~[~~875 – 885~~]~~ MHz band.

5 Requirements

5.1 Deployment Scenarios

Outline of new frequency arrangement discussed in the Telecommunications Council in Japan is provided in Annex A.

5.2 Co-existence with other technologies

Interference analysis between mobile communication systems for the new frequency arrangement discussed in the Telecommunications Council in Japan is provided in Annex A.

5.3 ~~Specification Optimization~~Void

~~t.b.a.~~

5.4 Regulatory Requirements

5.4.1 Japanese regional Requirements

"Partial report concerning the technical conditions for the effective use of mobile commercial-use frequencies in the 800MHz-range" by the Telecommunications Council in Japan (See Annex A).~~t.b.a.~~

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5.5 Harmonization of UMTS800/UMTS850 specifications

Taking into account possible roaming capability between DS-CDMA800 (UMTS800) and UMTS850, harmonization of these specifications shall be considered. It is understood that the difference on RF related specifications are necessary because of different deployment scenario in terms of co-exsisting narrowband systems or their own regulatory requirements. The effort were made to use common frequency arrangement such as consistent band numbering, frequency separation which is a regulatory requirement in Japan and applying common UTRA Absolute Radio Frequency Channel Number, for both specification.

Note: Regarding performance requirements for UMTS800, which was not in the scope of the WI, was discussed and it was agreed to apply common requirements to UMTS800 as in UMTS850. The relevant CRs are in R4-031131, R4-031132 and R4-031133, which were agreed.

5.5.1 Frequency numbers

Frequency ~~numbres~~ numbers commonly and consistently used in DS-CDMA800 (UMTS800) and UMTS850, as well as UMTS1.7/2.1 are summarized in Table 5.5-1. As regard for DS-CDMA800, the band is reffered as Band VI in the relevant specifications.

Table 5.5-1 Frequency numbers for UMTS bands

Band Number	Frequency Band		Work Item	Remarks
	UL (UE tx / BS Rx)	DL (BS tx / UE rx)		
I	1920 – 1980 MHz	2110 –2170 MHz	-	WRC-1992
II	1850 – 1910 MHz	1930 – 1990 MHz	-	(UMTS1900)
III	1710 - 1785 MHz	1805 - 1880 MHz	-	(UMTS1800)
IV	1710-1755~~70~~MHz	2110-2155~~70~~MHz	UMTS1.7/2.1GHz [RInImp-UMTS1721]	for ITU-R region 2
V	824 – 849MHz	869-894MHz	UMTS850 [RInImp-UMTS850]	for ITU-R region 2
VI	~~[~~830-840MHz~~]~~	~~[~~875-885MHz~~]~~	DS-CDMA800 [RInImp-UMTS800]	for Japan

5.5.2 TX–RX frequency separation

Same TX-RX frequency separation is applied in DS-CDMA800 (UMTS800) and UMTS850 as shown in Table 5.5-2.

Table 5.5-2: TX–RX frequency separation

Operating Band	TX-RX frequency separation
I	190 MHz
II	80 MHz.
III	95 MHz.
IV	400 MHz
V	45 MHz
VI	45 MHz

5.5.3 Channel arrangement

The nominal channel spacing of DS-CDMA800 (UMTS800) is 5MHz as in UMTS850 or other band in Table 5.5-1, which can be adjusted in a particular deployment scenario.

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The channel raster is 200 kHz as in UMTS850 or for all other band, which means that the centre frequency must be an integer multiple of 200 kHz. However, a number of additional centre frequencies are specified for Band VI (DS-CDMA800) and UMTS850 according to Table 5.5-4, which means that the centre frequencies for these channels are shifted 100 kHz relative to the general raster.

The carrier frequency is designated by the UTRA Absolute Radio Frequency Channel Number (UARFCN), which general and additional definitions commonly used in DS-CDMA800 (UMTS800) or other bands are shown in Table 5.5-3 and Table 5.5-4 respectively. The range of UARFCN supported in each band is shown in Table 5.5-5.

Table 5.5-3: 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 5.5-4: 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, 877.5, 882.5, 887.5
VI	$N_u = 5 * (F_{UL} - 670.1\ MHz)$	$832.5 \le F_{UL} \le 837.5$	$N_d = 5 * (F_{DL} - 670.1\ MHz)$	$877.5 \le F_{DL} \le 882.5$

Table 5.5-5: 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, 1037, 1062, 1087
VI	4162 to 4188	812 to 837	4387 to 4413	1037 to 1062

6 Methodology used in this technical report

- ARIB to provide the following information and RAN-WG4 to check them:
  - Check existing band plan in Japan.
  - Deployment scenarios for 800MHz DS-CDMA in Japan.
  - Requirements for co-existence with other technologies in Japan
  - Necessary changes for the relevant specifications based on the information above.
- Study and check necessary changes for the relevant specifications and collect appropriate information into a TR.
- Generate CRs to update the appropriate specifications and other documents.
- Study any signalling issues related to DS-CDMA at 800 MHz.
- Study any possible interface (Iu, Iub, Iur) impacts to the networks if any.

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7 Study Areas

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The issue checked was interference analysis between mobile communication systems for the new frequency arrangement. It was discussed in the Telecommunications Council in Japan is provided in Annex A.

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8 Summary of prior contributions to set requirements for change requests

8.1 UMTSW-CDMA800 UE

Table 8.1.1 summarises changes required for TS25.101. See Annex B1 through Annex B3- for detailed changes proposed as -draft CRs.

Table 8.1.1 – Summary of Changes required for TS25.101 and their status

Clause	Description	CR Status	Description of change
3	Definitions	To be proposed if necessary	
5.2	Frequency band	Proposed at RAN4#28 as CR271 in Tdoc.R4-030835	A new table for the bands (UMTS 1.7/2.1, UMTS850 and UMTS800(DS-CDMA800)).
5.3	TX-RX Bands	Proposed at RAN4#2928 as CR268308 in Tdoc.R4-030690031094. Under review in RAN4.	New table for frequency separation (UMTS 1.7/2.1, UMTS850 and DS-CDMA800).-
5.4.2	Channel raster	Proposed at RAN4#29 as CR308 in Tdoc.R4-031094.Proposed at RAN4#28 as CR268 in Tdoc.R4-030690. Under review in RAN4.	Additional channels added to Band VI.
5.4.3	Channel number	Proposed at RAN4#29 as CR308 in Tdoc.R4-031094.Proposed at RAN4#28 as CR268 in Tdoc.R4-030690. Under review in RAN4.	Additional channel numbers added to Band VI.
5.4.4	UARFCN	Proposed at RAN4#29 as CR308 in Tdoc.R4-031094.Proposed at RAN4#28 as CR268 in Tdoc.R4-030690. Under review in RAN4.	Channel numbering for Band VI.
6.2.1	Max Power	Proposed at RAN4#2928 as CR280r1268 in Tdoc.R4-030690031128. Under review in RAN4.	Add requirement for Band VI which is same for Band I.
6.6.2.1.1	Emission Mask	Proposed at RAN4#29 as CR280r1 in Tdoc.R4-031128. Proposed at RAN4#28 as CR268 in Tdoc.R4-030690. Under review in RAN4.	Add requirement for Band VI which is same for Band I.
6.6.3.1	Tx Spurious*1	Proposed at RAN4#2928 as CR280r1268 -in Tdoc.R4-031128 0690 and CR315 in Tdoc.R4-031134. Under review in RAN4.	Add requirement for Band VI which is same for Band I.
7.3	Reference sensitivity	Proposed at RAN4#29 as CR280r1 in Tdoc.R4-031128.Proposed at RAN4#28 as CR268 in Tdoc.R4-030690.	Add requirement for Band VI which is same for Band I.

		~~Under review in RAN4.~~	
7.6.1	In band blocking~~*1~~	Proposed at RAN4#29 as CR280r1 in Tdoc.R4-031128.~~No change is proposed~~	Add requirement for Band VI. (*2)
7.6.2	Out of band blocking~~*1~~	Proposed at RAN4#29~~28~~ as CR315~~268~~ in Tdoc.R4-~~030690~~031134. ~~Under review in RAN4.~~	Add requirement for Band VI.
7.6.3	Narrow band blocking	No change is proposed.	
7.8.1	Intermodulation	No change is proposed	
7.8.2	Narrowband intermodulation	No change is proposed	
7.9	Rx spurious emission~~*1~~	Proposed at RAN4#29 as CR280r1 in Tdoc.R4-031128 and CR315 in Tdoc.R4-031134.~~Proposed at RAN4#28 as CR268 in Tdoc.R4-030690. Under review in RAN4.~~	Add requirement for Band VI~~ which is same for Band I~~.

**1: No additional requirement is needed..*

**2: New note agreed as in CR317 to 25.101 Rel-6 in R4-031149~~ is also applied.~~*

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8.2 UMTS~~W-CDMA~~800 BS

Table 8.2.1 summarises changes required for TS25.104. Corresponding changes are foreseen in TS25.141. See Annex B4 through ~~2 and~~ Annex B~~3~~ for detailed changes proposed as ~~draft~~ CRs for TS25.104 and TS25.141 respectively.

Table 8.2.1 -- Summary of Changes required for TS25.104 and their status

Clause	Description	CR Status	Description of change
5.2	Frequency band	Proposed at RAN4#28 as CR200 in Tdoc.R4-030836.	A new table for the bands (UMTS 1.7/2.1, UMTS850 and ~~UMTS800(~~DS-CDMA800~~)~~).
5.3	TX-RX Bands	Proposed at RAN4#29~~28~~ as CR210~~194~~ in Tdoc.R4-~~030691~~031095. ~~Under review in RAN4.~~	New table for frequency separation~~.~~ (UMTS 1.7/2.1, UMTS850 and DS-CDMA800).
5.4.2	Channel raster	Proposed at RAN4#29 as CR210 in Tdoc.R4-031095.~~Proposed at RAN4#28 as CR194 in Tdoc.R4-030691. Under review in RAN4.~~	Additional channels added to Band VI.
5.4.3	Channel number	Proposed at RAN4#29 as CR210 in Tdoc.R4-031095.~~Proposed at RAN4#28 as CR194 in Tdoc.R4-030691.~~	Additional channel numbers added to Band VI.

		~~Under review in RAN4.~~	
6.6.2.1	Emission mask	No change is proposed	
6.6.3.1	Tx Spurious emissions*1	No change is proposed	
6.6.3.2	Protection of BS receiver	Proposed at RAN4#2~~928~~ as CR206r1~~194~~ in Tdoc.R4-~~030691~~031129. ~~Under review in RAN4.~~	Add requirement for Band VI which is same for Band I.
6.6.3.1-6.6.3.7	Co-existence requirements	No change is proposed	
7.5	Blocking *1	Proposed at RAN4#29 as CR206r1 in Tdoc.R4-031129.~~Proposed at RAN4#28 as CR194 in Tdoc.R4-030691. Under review in RAN4.~~	Add requirement for Band VI.
7.6	Intermodulation characteristics *1	Proposed at RAN4#29 as CR206r1 in Tdoc.R4-031129.~~Proposed at RAN4#28 as CR194 in Tdoc.R4-030691. Under review in RAN4.~~	Add requirement for Band VI which is same for Band I.
7.7	Rx spurious emission *1	Proposed at RAN4#29 as CR206r1 in Tdoc.R4-031129.~~Proposed at RAN4#28 as CR194 in Tdoc.R4-030691. Under review in RAN4.~~	Add requirement for Band VI which is same for Band I.

**1: Additional requirement may be applied in some extra cases, such as co-existence with other system in a certain conditions.*

8.3 Radio Resource Management

Table 8.3.1 summarises changes required for TS25.331. See Annex B8 and Annex B9 for detailed changes proposed as CR for TS25.331.

Table 8.3.1 -- Summary of Changes required for TS25.331 and their status

Clause	Description	CR Status	Description of change
10.3.3.21a	Measurement capability	Proposed at RAN2#39 as CR2133 in Tdoc.R2-032592.	A new reference for the FDD Frequency band (FDD800).

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	extension		
10.3.3.42a	UE radio access capability extension	Proposed at RAN2#39 as CR2133 in Tdoc.R2-032592.	A new reference for the Frequency band (FDD800).
11.3	PDU definitions	Proposed at RAN2#39 as CR2133 in Tdoc.R2-032592.	A new element for the enumerator (fdd800).
8.1.1.6.5	System Information Block type 5	Proposed at RAN2#39 as CR2160 in Tdoc.R2-032725.	The IE "Frequency band indicator" is added to System Information type 5.
8.1.1.6.6	System Information Block type 6	Proposed at RAN2#39 as CR2160 in Tdoc.R2-032725.	The IE "Frequency band indicator" is added to System Information type 6.
10.2.48.8.8	System Information Block type 5	Proposed at RAN2#39 as CR2160 in Tdoc.R2-032725.	The new IE "Frequency band indicator" is added to System Information type 5.
10.2.48.8.9	System Information Block type 6	Proposed at RAN2#39 as CR2160 in Tdoc.R2-032725.	The new IE "Frequency band indicator" is added to System Information type 6.
10.3.6.x	Frequency band indicator	Proposed at RAN2#39 as CR2160 in Tdoc.R2-032725.	The new IE "Frequency band indicator" is added.
11.3	Information element definitions	Proposed at RAN2#39 as CR2160 in Tdoc.R2-032725.	The descripotion to introduce the new IE "Frequency band indicator" is added.

8.4 Requirements on UEs supporting a release-independent frequency band

Table 8.4.1 and Table 8.4.2 summarise changes required for TS25.331. See Annex B10 through Annex B13 for detailed changes proposed as CRs for TS25.307.

Table 8.4.1 -- Summary of Changes required for TS25.307 (Rel.99/4/5) and their status

Clause	Description	CR Status	Description of change
2	References	Proposed at RAN2#39 as CR7,8 and 9 in Tdoc.R2-032709 through R2-032711.	A new references for the relevant release 6 specifications..
X	UMTS 800 Independent of Release	Proposed at RAN2#39 as CR7,8 and 9 in Tdoc.R2-032709 through R2-032711.	A new section for UMTS800.

Table 8.4.2~~1~~ -- Summary of Changes required for TS25.307 (Rel.6) and their status

Clause	Description	CR Status	Description of change
X	UMTS 800 Independent of Release	Proposed at RAN2#39 as CR 10 in Tdoc. R2-032596.	The section was deleted.

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~~8.3 Change Request Plan~~

9 Project Plan

9.1 Schedule

Item#	Effort Required	Responsibility	Schedule
1	Provide description of existing band plan in Japan ~~[3]~~	ARIB*1	R4#27
2	Provide deployment scenarios for 800MHz DS-CDMA in Japan ~~(Annex in [2])~~	ARIB*1	R4#27
3	Provide requirements for co-existence with other technologies in Japan	ARIB*1	R4#27 – R4#28
4	Propose necessary changes for the relevant specifications based on the information provided in #3.	ARIB*2	R4#27 – R4#28
5.1	Study and check necessary changes for the relevant specifications and collect appropriate information into a TR	RAN4	R4#27 – R4#29
5.2	Generate CRs to update the appropriate specifications and other documents.	RAN4*3	R4#29
6	Study any signalling issues related to DS-CDMA at 800 MHz	RAN2	~~To be proposed~~R2#39
7	Study any possible interface (Iu, Iub, Iur) impacts to the networks	RAN3	No changes foreseen~~To be proposed~~

**1: ARIB reviews outcomes from the working group under the national telecommunication council of Japan and informs them to RAN4.*

**2: Individual member of ARIB may provide appropriate information or proposals based on studies at the national telecommunication council of Japan.*

**3: Regarding conformance test specification for FDD UE (TS34.121), TSG-T is expected to generate appropriate CRs for the TS based on changes in the core specification.*

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9.2 Work Task Status

Table 9.2.1 provides the current work task status. All works are completed by November, 2003.~~Estimated all over completion level of the work [proposed] is [85%] and expected completion date of the work is RAN WG4#29 (November, 2003).~~

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Table 9.2.1 Work task status

Item#	Effort Required	Responsibility	Status
1	Provide description of existing band plan in Japan [3]	ARIB*1	Completed
2	Provide deployment scenarios for 800MHz DS-CDMA in Japan	ARIB*1	Completed
3	Provide requirements for co-existence with other technologies in Japan	ARIB*1	Completed
4	Propose necessary changes for the relevant specifications based on the information provided in #3.	ARIB*2	Completed
5.1	Study and check necessary changes for the relevant specifications and collect appropriate information into a TR	RAN4	Completed~~80%~~
5.2	Generate CRs to update the appropriate specifications and other documents.	RAN4*3	Completed~~45%~~
6	Study any signalling issues related to DS-CDMA at 800 MHz	RAN2	Completed~~If to be proposed at the next RAN2~~
7	Study any possible interface (Iu, Iub, Iur) impacts to the networks	RAN3	No changes foreseen

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**1: ARIB reviews outcomes from the working group under the national telecommunication council of Japan and informs them to RAN4.*

**2: Individual member of ARIB may provide appropriate information or proposals based on studies at the national telecommunication council of Japan.*

**3: Regarding conformance test specification for FDD UE (TS34.121), TSG-T is expected to generate appropriate CRs for the TS based on changes in the core specification.*

10 Open Issues

None.

Annex A (informative): Summary of Partial Report on effective use of mobile commercial-use frequency in the 800MHz-range in Japan

MPHPT (Ministry of Public Management, Home Affairs, Posts and Telecommunications) of Japan announced on June 25 that it received partial report concerning effective use of mobile commercial-use frequency in the 800MHz-range.

(See **http://www.soumu.go.jp/joho_tsusin/eng/Releases/Telecommunications/news030625_2.html**,

Further detailed information in Japanese is available in **http://www.soumu.go.jp/s-news/2003/030625_3.html**)

The following slides provide summary of the partial report (in English), which are on band plan, studies carried out in the committee to derive those requirements to be applied for UEs and BSs for 800MHz band in Japan.

As a part of supplementary information, the current spectrum use in Japan (written in English) is available at the following URL.

http://www.tele.soumu.go.jp/e/freq/index.htm

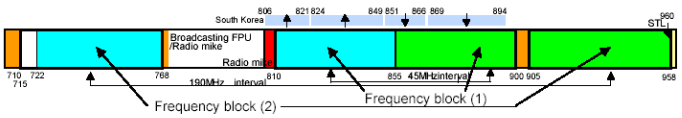
Outline of new frequency arrangement

- Apply Tx-Rx frequency separation of 45MHz, as in most cases in foreign countries.
- Minimize interference with radio communication systems in South Korea as much as possible.
- Maximize the frequency range that can be used.

Taking into account above items, the following 2 frequency blocks are considered to be suitable for new frequency bands.*

(1) 810-855 MHz / 855-900 MHz
(2) 715-768 MHz / 905-958 MHz

*However, there is a possibility of causing the limitation in use of 715-722MHz along with the review of the frequency for broadcasting until 2006. Therefore, there is a possibility of the change about the Tx - Rx frequency separation.



UE Tx frequency is assumed to be 810-855MHz for frequency block (1), but for frequency block (2), it is decided after the verification of imaging interference to the digital broadcasting system.

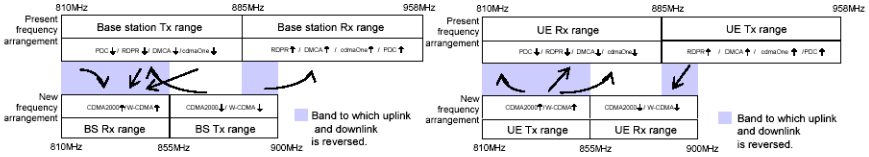
Interference analysis between mobile communication systems for the new frequency arrangement (1)

Outline

Because of 700MHz frequency range cannot be used until 2012, it is necessary to examine the accomodation of a new mobile communication system in 810-855/855-900MHz.

In this frequency block, severe interference cases (BS to BS / UE to UE)occurs, when introducing a new mobile communication system close to present system, because (a)The direction of Tx frequency is reversed,and (b)Tx - Rx frequency separation is changed.

To introduce the third generation cellular phone(IMT-2000), the guard band of the assumed interference cases is examined.



Methodology

BS → BS The Tx and Rx device of the interferer and the interfered system and the location are modeled, and the guard band width was derived to satisfy the permissible interference level below the noise level.

UE → UE Number of UEs operated in the interferer system in an area of interfered system is assumed which can be derived from the system design parameter. Position of the UEs in the area and its output power were randomely selected and under this conditions, a probability that falls below the acceptable interference level of the UE is examined.

Interference analysis between mobile communication systems for the new frequency arrangement (2)

Result of analysis

Each system of IMT-2000, thought to be the main use in the 800MHz band, can be introduced in the future by the frequency in which it meets the following requirements.

Introducing system	Existing system	Necessary guard band (MHz)
W-CDMA↑	PDC↓	9MHz
	DMCA↓ (AMCA↓)	5MHz(10MHz)
	RDPR↓	6MHz
	cdmaOne	8MHz
W-CDMA↓	DMCA↑	15MHz
	RDPR↑	6MHz
	cdmaOne↑	8MHz

Introducing system	Existing system	Necessary guard band (MHz)
CDMA2000↑	PDC↓	5MHz
	DMCA↓	6MHz
	RDPR↓	6MHz
CDMA2000↓	DMCA↑	16MHz
	RDPR↑	6MHz

RDPR : Regional Disaster Prevention Radio
Uplink(↑) : UE to BS
Downlink(↓) : BS to UE

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Annex B.1 (informative):
CR 308 to 25.101 Rel-6

3GPP TSG-RAN WG4 Meeting #29 **Tdoc R4-031094**
San Diego, CA, USA, November 17-21, 2003

CR-Form-v7

CHANGE REQUEST

25.101	CR	308	rev	-	Current version:	6.2.0

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the symbols.*

Proposed change affects: UICC apps [ ] ME [X] Radio Access Network [ ] Core Network [ ]

Title:	Introduction of new channel arrangement for Bands IV, V and VI
Source:	Ericsson
Work item code:	RInImp-UMTS800, RInImp-UMTS850, RInImp-UMTS1721
Date:	18/11/2003
Category:	B
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:	Introduction of channel arrangements for the new frequency bands IV, V and VI.
Summary of change:	Tx-Rx freqeuncy separation, channel raster and channel numbering (UARFCN) are introduced for the new bands. The new frequency bands IV, V and VI will all require some RF carrier positions that are not on the general 200 kHz raster for UTRA. This is solved in the same way as for band II, by "borrowing" channel numbers from low frequency ranges and map those to the additional frequencies needed that are not on the 200 kHz raster.
Consequences if not approved:	The channel arrangement for bands IV, V and VI would not be defined.
Clauses affected:	5.2, 5.3, 5.4

Y	N		
Other specs affected:			
X		Other core specifications	25.104
X		Test specifications	34.121, 34.108, 25.141
	X	O&M Specifications	

Other comments:

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Comment [H1]: Document numbers are allocated by the Working Group Secretary.

Comment [H2]: Enter the specification number in this box. For example, 04.08 or 31.102. Do not prefix the number with anything. i.e. do not use "TS", "GSM" or "3GPP" etc.

Comment [H3]: Enter the CR number here. This number is allocated by the 3GPP support team. It consists of at least three digits, padded with leading zeros if necessary.

Comment [H4]: Enter the revision number of the CR here. If it is the first version, use a "-".

Comment [H5]: Enter the version of the specification here. This number is the version of the specification to which the CR will be applied if it is approved. Make sure that the latest version of the specification (of the ...

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Comment [H12]: Enter the date on which the CR was last revised. For ...

Comment [H13]: Enter a single letter corresponding to the most ...

Comment [H14]: Enter a single release code from the list below.

Comment [H15]: Enter text which explains why the change is necessary.

Comment [H16]: Enter text which describes the most important ...

Comment [H17]: Enter here the consequences if this CR was to be ...

Comment [H18]: Enter the number of each clause which contains changes.

Comment [H19]: Tick "yes" box if any other specifications are affected ...

Comment [H20]: List here the specifications which are affected or ...

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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

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

Table 5.0: UTRA FDD frequency bands

Operating Band	UL Frequencies UE transmit, Node B receive	DL frequencies UE receive, Node B transmit
I	1920 – 1980 MHz	2110 –2170 MHz
II	1850 –1910 MHz	1930 –1990 MHz
III	1710-1785 MHz	1805-1880 MHz
IV	1710-~~1770~~ – 1755 MHz	2110-~~2170~~ – 2155 MHz
V	824 – 849MHz	869-894MHz
VI	830-840 MHz	875-885 MHz

Note: Band VI specifications are developed for use in Japan. The Band VI frequency ranges in the table are subject to coming regulatory decisions.

b) 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

Table 5.0A: TX-RX frequency separation

Operating Band	TX-RX frequency separation
I	190 MHz
II	80 MHz~~.~~
III	95 MHz~~.~~
IV	400 MHz
V	45 MHz
VI	45 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~~ for all bands~~, except Band II~~ which means that the centre frequency must be an integer multiple of 200 kHz. In addition a number of ~~Band II , 12~~ additional centre frequencies are specified according to ~~the~~ table 5.1A~~, in 5.4.3 and~~ which means that the centre frequencies for these channels are shifted 100 kHz relative to the ~~normal~~ 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**~~

	~~UARFCN~~	~~Carrier frequency [MHz]~~
~~Uplink~~	~~$N_u = 5 * F_{uplink}$~~	~~0.0 MHz ≤ F_{uplink} ≤ 3276.6 MHz where F_{uplink} is the uplink frequency in MHz~~
~~Downlink~~	~~$N_d = 5 * F_{downlink}$~~	~~0.0 MHz ≤ $F_{downlink}$ ≤ 3276.6 MHz where $F_{downlink}$ is the downlink frequency in MHz~~

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 (Band II additional channels)**~~

	~~UARFCN~~	~~Carrier frequency [MHz]~~
~~Uplink~~	~~$N_u = 5 * (F_{uplink} - 1850.1 \text{ MHz})$~~	~~F_{uplink} = 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~~	~~$N_u = 5 * (F_{downlink} - 1850.1 \text{ MHz})$~~	~~$F_{downlink}$ = 1932.5, 1937.5, 1942.5, 1947.5, 1952.5, 1957.5, 1962.5, 1967.5, 1972.5, 1977.5, 1982.5, 1987.5~~

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, 877.5, 882.5, 887.5
VI	$N_u = 5 * (F_{UL} - 670.1\ MHz)$	$832.5 \le F_{UL} \le 837.5$	$N_d = 5 * (F_{DL} - 670.1\ MHz)$	$877.5 \le F_{DL} \le 882.5$

5.4.4 UARFCN

The following UARFCN range shall be supported for each paired band

~~**Table 5.2: UTRA Absolute Radio Frequency Channel Number**~~

~~Operating Band~~	~~Uplink UE transmit, Node B receive~~	~~Downlink UE receive, Node B transmit~~
~~I~~	~~9612 to 9888~~	~~10562 to 10838~~
~~II~~	~~9262 to 9538 and 12, 37, 62, 87, 112, 137, 162, 187, 212, 237, 262, 287~~	~~9662 to 9938 and 412, 437, 462, 487, 512, 537, 562, 587, 612, 637, 662, 687~~
~~III~~	~~8562 to 8913~~	~~9037 to 9388~~

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, 1037, 1062, 1087
VI	4162 to 4188	812 to 837	4387 to 4413	1037 to 1062

Annex B.2 (informative):
CR 280r1 to 25.101 Rel-6

3GPP TSG-RAN Working Group 4 (Radio) Meeting #29 **Tdoc ⌘R4-031128**
San Diego, CA, USA, 17th – 21st Nov. 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.101 CR 280** ⌘ **rev 1** ⌘ Current version **6.2.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	DS-CDMA Introduction in the 800 MHz Band
Source:	⌘	Fujitsu, NTT DoCoMo, Panasonic
Work item code:	⌘	RInImp-UMTS800
Date:	⌘	20/11/2003
Category:	⌘	**B**
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:	⌘	Introducing DS-CDMA into 800MHz band in Japan.
Summary of change:	⌘	Re-strure of relevant chapters: UE maximum output power, Out of band emission, Tx Spurious emissions, Reference sensitivity level, Out of-band blocking and Receiver Spurious emissions.
Consequences if not approved:	⌘	No requirement for DS-CDMA 800MHz band operation in Japan.

Clauses affected:	⌘	6.2.1, 6.6.2, 6.6.3, 7.3.1, 7.6.2, 7.9.1			
		Y	**N**		
Other specs Affected:	⌘	**X**		Other core specifications	⌘ 25.307
		X		Test specifications	34.121, 34.108
			X	O&M Specifications	
Other comments:	⌘				

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6.2.1 UE maximum output power

The following Power Classes define the nominal maximum output power. The nominal power defined is the broadband transmit power of the UE, i.e. the power in a bandwidth of at least (1+α) times the chip rate of the radio access mode. The period of measurement shall be at least one timeslot.

Table 6.1: UE Power Classes

Operating Band	Power Class 1		Power Class 2		Power Class 3		Power Class 4	
	Power (dBm)	Tol (dB)	Power (dBm)	Tol (dB)	Power (dBm)	Tol (dB)	Power (dBm)	Tol (dB)
Band I	+33	+1/-3	+27	+1/-3	+24	+1/-3	+21	+2/-2
Band II	-	-	-	-	+24	+1/-3	+21	+2/-2
Band III	-	-	-	-	+24	+1/-3	+21	+2/-2
Band VI	-	-	-	-	+24	+1/-3	+21	+2/-2

NOTE: The tolerance allowed for the nominal maximum output power applies even for the multi-code transmission mode.

{Unchanged Sections are snipped here}

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 RRC filtered mean power of the UE carrier.

6.6.2.1.1 Minimum requirement

The power of any UE emission shall not exceed the levels specified in Table 6.10. The absolute requirement is based on a –50 dBm/3.84 MHz minimum power threshold for the UE. This limit is expressed for the narrower measurement bandwidths as –55.8 dBm/1 MHz and –71.1 dBm/30 kHz.

Table 6.10: Spectrum Emission Mask Requirement

Δf in MHz (Note 1)	Minimum requirement (Note 2) Band I, II, III, VI		Additional requirements Band II (Note 3)	Measurement bandwidth (Note 6)
	Relative requirement	Absolute requirement		
2.5 - 3.5	$\left\{-35-15\cdot\left(\frac{\Delta f}{MHz}-2.5\right)\right\}dBc$	-71.1 dBm	-15 dBm	30 kHz (Note 4)
3.5 - 7.5	$\left\{-35-1\cdot\left(\frac{\Delta f}{MHz}-3.5\right)\right\}dBc$	-55.8 dBm	-13 dBm	1 MHz (Note 5)
7.5 - 8.5	$\left\{-39-10\cdot\left(\frac{\Delta f}{MHz}-7.5\right)\right\}dBc$	-55.8 dBm	-13 dBm	1 MHz (Note 5)
8.5 - 12.5 MHz	-49 dBc	-55.8 dBm	-13 dBm	1 MHz (Note 5)

Note 1: Δf is the separation between the carrier frequency and the centre of the measurement bandwidth.
Note 2: The minimum requirement for bands I, II, & III & VI is calculated from the relative requirement or the absolute requirement, whichever is the higher power.
Note 3: For operation in Band II only, the minimum requirement is calculated from the minimum requirement calculated in Note 2 or the additional requirement for band II, whichever is the lower power.
Note 4: The first and last measurement position with a 30 kHz filter is at Δf equals to 2.515 MHz and 3.485 MHz.
Note 5: The first and last measurement position with a 1 MHz filter is at Δf equals to 4 MHz and 12 MHz.
Note 6: As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

{Unchanged Sections are snipped here}

6.6.3 Spurious emissions

Spurious emissions are emissions which are caused by unwanted transmitter effects such as harmonics emission, parasitic emission, intermodulation products and frequency conversion products, but exclude out of band emissions.

The frequency boundary and the detailed transitions of the limits between the requirement for out band emissions and spectrum emissions are based on ITU-R Recommendations SM.329-9[2].

6.6.3.1 Minimum requirement

These requirements are only applicable for frequencies, which are greater than 12.5 MHz away from the UE centre carrier frequency.

Table 6.12: General spurious emissions requirements

Frequency Bandwidth	Measurement Bandwidth	Minimum requirement
9 kHz ≤ f < 150 kHz	1 kHz	-36 dBm
150 kHz ≤ f < 30 MHz	10 kHz	-36 dBm
30 MHz ≤ f < 1000 MHz	100 kHz	-36 dBm
1 GHz ≤ f < 12.75 GHz	1 MHz	-30 dBm

Table 6.13: Additional spurious emissions requirements

Operating Band	Frequency Bandwidth	Measurement Bandwidth	Minimum requirement
I	921 MHz ≤ f < 925 MHz	100 kHz	-60 dBm *
	925 MHz ≤ f ≤ 935 MHz	100 kHz	-67 dBm *
	935 MHz < f ≤ 960 MHz	100 kHz	-79 dBm *
	1805 MHz ≤ f ≤ 1880 MHz	100 kHz	-71 dBm *
	1893.5 MHz <f<1919.6 MHz	300 kHz	-41 dBm
	2110 MHz ≤ f ≤ 2170 MHz	3.84 MHz	-60 dBm
II	1930 MHz ≤ f ≤ 1990 MHz	3.84 MHz	-60 dBm
III	921 MHz ≤ f < 925 MHz	100 kHz	-60 dBm *
	925 MHz ≤ f ≤ 935 MHz	100 kHz	-67 dBm *
	935 MHz < f ≤ 960 MHz	100 kHz	-79 dBm *
	1805 MHz ≤ f ≤ 1880 MHz	3.84 MHz	-60 dBm
	2110 MHz ≤ f ≤ 2170 MHz	3.84 MHz	-60 dBm *
VI	1893.5 MHz ≤ f ≤1919.6 MHz	300 kHz	-41 dBm
	2110 MHz ≤ f ≤ 2170 MHz	3.84 MHz	-60 dBm
Note * The measurements are made on frequencies which are integer multiples of 200 kHz. As exceptions, up to five measurements with a level up to the applicable requirements defined in Table 6.12 are permitted for each UARFCN used in the measurement			

{Unchanged Sections are snipped here}

7.3 Reference sensitivity level

The reference sensitivity level <REFSENS> is the minimum mean power received at the UEantenna port at which the Bit Error Ratio (BER) shall not exceed a specific value.

7.3.1 Minimum requirement

The BER shall not exceed 0.001 for the parameters specified in Table 7.2.

Table 7.2: Test parameters for reference sensitivity

Operating Band	Unit	DPCH_Ec <REFSENS>	<REFI$_{or}$>
I, VI	dBm/3.84 MHz	-117	-106.7
II	dBm/3.84 MHz	-115	-104.7
III	dBm/3.84 MHz	-114	-103.7
NOTE 1. For Power class 3 this shall be at the maximum output power NOTE 2. For Power class 4 this shall be at the maximum output power			

{Unchanged Sections are snipped here}

7.6.2 Minimum requirement (Out of-band blocking)

The BER shall not exceed 0.001 for the parameters specified in Table 7.7. 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 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 7.6.2 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 7.6.2 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.			

{Unchanged Sections are snipped here}

7.9 Spurious emissions

The spurious emissions power is the power of emissions generated or amplified in a receiver that appear at the UE antenna connector.

7.9.1 Minimum requirement

The power of any narrow band CW spurious emission shall not exceed the maximum level specified in Table 7.10 and Table 7.11

Table 7.10: General receiver spurious emission requirements

Frequency Band	Measurement Bandwidth	Maximum level	Note
30MHz ≤ f < 1GHz	100 kHz	-57 dBm	
1GHz ≤ f ≤12.75 GHz	1 MHz	-47 dBm	

Table 7.11: Additional receiver spurious emission requirements

Band	Frequency Band	Measurement Bandwidth	Maximum level	Note
I	921 MHz ≤ f < 925 MHz	100 kHz	-60 dBm *	
	925 MHz ≤ f ≤ 935 MHz	100 kHz	-67 dBm *	
	935 MHz < f ≤ 960 MHz	100 kHz	-79 dBm *	
	1805 MHz ≤ f ≤ 1880 MHz	100 kHz	-71 dBm *	
	1920 MHz ≤ f ≤ 1980 MHz	3.84 MHz	-60 dBm	UE transmit band in URA_PCH, Cell_PCH and idle state
	2110 MHz ≤ f ≤ 2170 MHz	3.84 MHz	-60 dBm	UE receive band
II	1850 MHz ≤ f ≤ 1910 MHz	3.84 MHz	-60 dBm	UE transmit band in URA_PCH, Cell_PCH and idle state
	1930 MHz ≤ f ≤ 1990 MHz	3.84 MHz	-60 dBm	UE receive band
III	921 MHz ≤ f < 925 MHz	100 kHz	-60 dBm*	
	925 MHz ≤ f ≤ 935 MHz	100 kHz	-67 dBm*	
	935 MHz < f ≤ 960 MHz	100 kHz	-79 dBm*	
	1710 MHz ≤ f ≤ 1785 MHz	3.84 MHz	-60 dBm	UE transmit band in URA_PCH, Cell_PCH and idle state
	1805 MHz ≤ f ≤ 1880 MHz	3.84 MHz	-60 dBm	UE receive band
	2110 MHz ≤ f ≤ 2170 MHz	3.84 MHz	-60 dBm	
VI	830 MHz ≤ f ≤ 840 MHz	3.84 MHz	-60 dBm	UE transmit band in URA_PCH, Cell_PCH and idle state
	875 MHz ≤ f ≤ 885 MHz	3.84 MHz	-60 dBm	UE receive band
Note *	The measurements are made on frequencies which are integer multiples of 200 kHz. As exceptions, up to five measurements with a level up to the applicable requirements defined in Table 7.10 are permitted for each UARFCN used in the measurement			

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Annex B.3 (informative):
CR 315 to 25.101 Rel-6

3GPP TSG-RAN Working Group 4 (Radio) Meeting #29 **Tdoc ⌘R4-031134**
San Diego, CA, USA, 17th – 21st Nov. 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.101 CR 315** ⌘**rev** **-** ⌘ Current version **6.2.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	DS-CDMA Introduction in the 800 MHz Band (Additional Spurious emissions requirements)
Source:	⌘	Fujitsu, NTT DoCoMo, Panasonic
Work item code:	⌘	RInImp-UMTS800
Date:	⌘	20/11/2003
Category:	⌘	**B**
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:	⌘	Additional suprious emissions requirements for DS-CDMA 800MHz band operation in Japan is missing.
Summary of change:	⌘	Additional spurious emissions requirements for section 7.9.1 is introduced.
Consequences if not approved:	⌘	Additional suprious emissions requirements for DS-CDMA 800MHz band operation in Japan will be missed.
Clauses affected:	⌘	6.6.3, 7.9.1

	Y	N			
Other specs Affected:	X		Other core specifications	⌘	25.307
	X		Test specifications		34.121, 34.108
		X	O&M Specifications		

Other comments: ⌘

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Comment [H44]: Page: 73 Document numbers are allocated by the Working Group Secretary.
Comment [H45]: Page: 73 Enter the specification number in this box. For example, 04.08 or 31.102. Do not prefix the number with anything. i.e. do not use "TS", "GSM" or "3GPP" etc.
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Comment [H50]: Page: 73 Mark one or more of the boxes with
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6.6.3 Spurious emissions

Spurious emissions are emissions which are caused by unwanted transmitter effects such as harmonics emission, parasitic emission, intermodulation products and frequency conversion products, but exclude out of band emissions.

The frequency boundary and the detailed transitions of the limits between the requirement for out band emissions and spectrum emissions are based on ITU-R Recommendations SM.329-9[2].

6.6.3.1 Minimum requirement

These requirements are only applicable for frequencies, which are greater than 12.5 MHz away from the UE centre carrier frequency.

Table 6.12: General spurious emissions requirements

Frequency Bandwidth	Measurement Bandwidth	Minimum requirement
9 kHz ≤ f < 150 kHz	1 kHz	-36 dBm
150 kHz ≤ f < 30 MHz	10 kHz	-36 dBm
30 MHz ≤ f < 1000 MHz	100 kHz	-36 dBm
1 GHz ≤ f < 12.75 GHz	1 MHz	-30 dBm

Table 6.13: Additional spurious emissions requirements

Operating Band	Frequency Bandwidth	Measurement Bandwidth	Minimum requirement
I	921 MHz ≤ f < 925 MHz	100 kHz	-60 dBm *
	925 MHz ≤ f ≤ 935 MHz	100 kHz	-67 dBm *
	935 MHz < f ≤ 960 MHz	100 kHz	-79 dBm *
	1805 MHz ≤ f ≤ 1880 MHz	100 kHz	-71 dBm *
	1893.5 MHz <f<1919.6 MHz	300 kHz	-41 dBm
	2110 MHz ≤ f ≤ 2170 MHz	3.84 MHz	-60 dBm
II	1930 MHz ≤ f ≤ 1990 MHz	3.84 MHz	-60 dBm
III	921 MHz ≤ f < 925 MHz	100 kHz	-60 dBm *
	925 MHz ≤ f ≤ 935 MHz	100 kHz	-67 dBm *
	935 MHz < f ≤ 960 MHz	100 kHz	-79 dBm *
	1805 MHz ≤ f ≤ 1880 MHz	3.84 MHz	-60 dBm
	2110 MHz ≤ f ≤ 2170 MHz	3.84 MHz	-60 dBm *
VI	875 MHz ≤ f ≤ 885 MHz	3.84 MHz	-60dBm
Note * The measurements are made on frequencies which are integer multiples of 200 kHz. As exceptions, up to five measurements with a level up to the applicable requirements defined in Table 6.12 are permitted for each UARFCN used in the measurement			

{Unchanged Sections are snipped here}

7.6 Blocking characteristics

The blocking characteristic is a measure of the receiver's ability to receive a wanted signal at its assigned channel frequency in the presence of an unwanted interferer on frequencies other than those of the spurious response or the adjacent channels, without this unwanted input signal causing a degradation of the performance of the receiver beyond a specified limit. The blocking performance shall apply at all frequencies except those at which a spurious response occur.

7.6.1 Minimum requirement (In-band blocking)

The BER shall not exceed 0.001 for the parameters specified in Table 7.6.

Table 7.6: In-band blocking

Parameter	Unit	Level	
DPCH_Ec	dBm/3.84 MHz	<REFSENS>+3 dB	
$\hat{I}_{or}$	dBm/3.84 MHz	<REF$\hat{I}_{or}$> + 3 dB	
$I_{blocking}$ mean power (modulated)	dBm	-56	-44
F_{uw} offset		=±10 MHz	≤-15 MHz & ≥15 MHz
F_{uw} (Band I operation)	MHz	2102.4≤ f ≤2177.6 (Note 2)	2095≤ f ≤2185
F_{uw} (Band II operation)	MHz	1922.4≤ f ≤1977.6 (Note 2)	1915≤ f ≤2005
F_{uw} (Band III operation)	MHz	1797.4≤ f ≤1887.6 (Note 2)	1790≤ f ≤1895
F_{uw} (Band VI operation)	MHz	867.4≤f ≤892.6 (Note 2 and 3)	860≤f ≤900 (Note 3)
UE transmitted mean power	dBm	20 (for Power class 3) 18 (for Power class 4)	

Note 1: $I_{blocking}$ (modulated) consists of the common channels needed for tests as specified in Table C.7 and 16 dedicated data channels as specified in Table C.6.

Note 2: For each carrier frequency the requirement are valid for two frequencies, the carrier frequency +/- 10 MHz.

Note 3: For Band VI, the unwanted interfering signal does not fall inside the UE receive band, but within the first 15 MHz below or above the UE receive band.

{Unchanged Sections are snipped here}

7.9 Spurious emissions

The spurious emissions power is the power of emissions generated or amplified in a receiver that appear at the UE antenna connector.

7.9.1 Minimum requirement

The power of any narrow band CW spurious emission shall not exceed the maximum level specified in Table 7.10 and Table 7.11

Table 7.10: General receiver spurious emission requirements

Frequency Band	Measurement Bandwidth	Maximum level	Note
30MHz ≤ f < 1GHz	100 kHz	-57 dBm	
1GHz ≤ f ≤12.75 GHz	1 MHz	-47 dBm	

Table 7.11: Additional receiver spurious emission requirements

Band	Frequency Band	Measurement Bandwidth	Maximum level	Note
I	921 MHz ≤ f < 925 MHz	100 kHz	-60 dBm *	
	925 MHz ≤ f ≤ 935 MHz	100 kHz	-67 dBm *	
	935 MHz < f ≤ 960 MHz	100 kHz	-79 dBm *	
	1805 MHz ≤ f ≤ 1880 MHz	100 kHz	-71 dBm *	
	1920 MHz ≤ f ≤ 1980 MHz	3.84 MHz	-60 dBm	UE transmit band in URA_PCH, Cell_PCH and idle state
	2110 MHz ≤ f ≤ 2170 MHz	3.84 MHz	-60 dBm	UE receive band
II	1850 MHz ≤ f ≤ 1910 MHz	3.84 MHz	-60 dBm	UE transmit band in URA_PCH, Cell_PCH and idle state
	1930 MHz ≤ f ≤ 1990 MHz	3.84 MHz	-60 dBm	UE receive band
III	921 MHz ≤ f < 925 MHz	100 kHz	-60 dBm*	
	925 MHz ≤ f ≤ 935 MHz	100 kHz	-67 dBm*	
	935 MHz < f ≤ 960 MHz	100 kHz	-79 dBm*	
	1710 MHz ≤ f ≤ 1785 MHz	3.84 MHz	-60 dBm	UE transmit band in URA_PCH, Cell_PCH and idle state
	1805 MHz ≤ f ≤ 1880 MHz	3.84 MHz	-60 dBm	UE receive band
	2110 MHz ≤ f ≤ 2170 MHz	3.84 MHz	-60 dBm	
VI	2110 MHz ≤ f ≤ 2170 MHz	3.84 MHz	-60 dBm	
Note *	The measurements are made on frequencies which are integer multiples of 200 kHz. As exceptions, up to five measurements with a level up to the applicable requirements defined in Table 7.10 are permitted for each UARFCN used in the measurement			

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Annex B.4 (informative): CR 210 to 25.104 Rel-6

3GPP TSG-RAN WG4 Meeting #29
San Diego, CA, USA, November 17-21, 2003

Tdoc ⌘R4-031095

CR-Form-v7

CHANGE REQUEST

⌘ **25.104 CR 210** ⌘ **rev -** ⌘ Current version: **6.3.0** ⌘

*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 [X] Core Network [ ]

Title:	⌘	Introduction of new channel arrangement for Bands IV, V and VI
Source:	⌘	Ericsson
Work item code:	⌘	RInImp-UMTS800, RInImp-UMTS850, RInImp-UMTS1721
Date:	⌘	18/11/2003
Category:	⌘	**B**
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:	⌘	Introduction of channel arrangements for the new frequency bands IV, V and VI.
Summary of change:	⌘	Tx-Rx freqeuncy separation, channel raster and channel numbering (UARFCN) are introduced for the new bands. The new frequency bands IV, V and VI will all require some RF carrier positions that are not on the general 200 kHz raster for UTRA. This is solved in the same way as for band II, by "borrowing" channel numbers from low frequency ranges and map those to the additional frequencies needed that are not on the 200 kHz raster.
Consequences if not approved:	⌘	The channel arrangement for bands IV, V and VI would not be defined.

Clauses affected:	⌘	5.2, 5.3, 5.4			
		Y	**N**		
Other specs affected:	⌘	**X**		Other core specifications	⌘ 25.101
		X		Test specifications	25.141, 34.121, 34.108
			X	O&M Specifications	
Other comments:	⌘				

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Comment [H68]: Enter the revision number of the CR here. If it is the first version, use a "-".
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Comment [H78]: Enter a single release code from the list below.
Comment [H79]: Enter text which explains why the change is necessary.
Comment [H80]: Enter text which describes the most important
Comment [H81]: Enter here the consequences if this CR was to be
Comment [H82]: Enter the number of each clause which contains changes.
Comment [H83]: Tick "yes" box if any other specifications are affected
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Comment [H85]: Enter any other information which may be needed b

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5 Frequency bands and channel arrangement

5.1 General

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

NOTE 1: Other chip rates may be considered in future releases.

5.2 Frequency bands

a) UTRA/FDD is designed to operate in ~~any of~~ the following paired bands:

Table 5.0: Frequency bands

Operating Band	UL Frequencies UE transmit, Node B receive	DL frequencies UE receive, Node B transmit
I	1920 – 1980 MHz	2110 –2170 MHz
II	1850 –1910 MHz	1930 –1990 MHz
III	1710-1785 MHz	1805-1880 MHz
IV	1710-~~1770~~ – 1755 MHz	2110-~~2170~~ – 2155 MHz
V	824 – 849MHz	869-894MHz
VI	830-840 MHz	875-885 MHz

b) 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

Table 5.0A: Tx-Rx frequency separation

Operating Band	TX-RX frequency separation
I	190 MHz
II	80 MHz.
III	95 MHz.
IV	400 MHz
V	45 MHz
VI	45 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~~ for all bands~~, except Band II~~ which means that the centre frequency must be an integer multiple of 200 kHz. In addition a number of ~~Band II, 12~~ additional centre frequencies are specified according to

~~the~~ table 5.1A, ~~in 5.4.3 and~~ which means that the centre frequencies for these channels are shifted 100 kHz relative to the ~~normal~~ 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: UTRA Absolute Radio Frequency Channel Number**~~

	~~UARFCN~~	~~Carrier frequency [MHz]~~
~~Uplink~~	~~$N_u = 5 * F_{uplink}$~~	~~0.0 MHz ≤ F_{uplink} ≤ 3276.6 MHz where F_{uplink} is the uplink frequency in MHz~~
~~Downlink~~	~~$N_d = 5 * F_{downlink}$~~	~~0.0 MHz ≤ $F_{downlink}$ ≤ 3276.6 MHz where $F_{downlink}$ is the downlink frequency in MHz~~

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 (Band II additional channels)**~~

	~~UARFCN~~	~~Carrier frequency [MHz]~~
~~Uplink~~	~~$N_u = 5 * (F_{uplink} - 1850.1\ MHz)$~~	~~F_{uplink} = 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~~	~~$N_u = 5 * (F_{downlink} - 1850.1\ MHz)$~~	~~$F_{downlink}$ = 1932.5, 1937.5, 1942.5, 1947.5, 1952.5, 1957.5, 1962.5, 1967.5, 1972.5, 1977.5, 1982.5, 1987.5~~

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, 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

Annex B.5 (informative):
CR 206r1 to 25.104 Rel-6

3GPP TSG-RAN Working Group 4 (Radio) Meeting #29
San Diego, CA, USA, 17th – 21st November 2003

Tdoc* ⌘*R4-031129

CR-Form-v7

CHANGE REQUEST

⌘ **25.104 CR 206** ⌘ **rev 1** ⌘ Current version **6.3.0** ⌘

*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:	⌘ DS-CDMA Introduction in the 800 MHz Band
Source:	⌘ Fujitsu, NTT DoCoMo, Panasonic
Work item code:	⌘ RInImp-UMTS800
Date:	⌘ 20/11/2003
Category:	⌘ **B**
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:	⌘ Introducing DS-CDMA into 800MHz band in Japan.
Summary of change:	⌘ Re-strure of relevant chapters: Protection of the BS receiver, Blocking characteristics, Intermodulation characteristics and Receiver Spurious emissions. All of them are editorial changes.
Consequences if not approved:	⌘ No requirement for DS-CDMA 800MHz band operation in Japan.

Clauses affected:	⌘ 6.6.3.2, 7.5, 7.6 and 7.7

	Y	N		
Other specs Affected:	X		Other core specifications	⌘ 25.307.
	X		Test specifications	25.141
		X	O&M Specifications	

Other comments: ⌘

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6.6.3.2 Protection of the BS receiver of own or different BS

This requirement shall be applied in order to prevent the receivers of the BSs being desensitised by emissions from a BS transmitter.

6.6.3.2.1 Minimum Requirement

The power of any spurious emission shall not exceed:

Table 6.10: Wide Area BS Spurious emissions limits for protection of the BS receiver

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
I	1920 - 1980MHz	-96 dBm	100 kHz	
II	1850-1910 MHz	-96 dBm	100 kHz	
III	1710-1785 MHz	-96 dBm	100 kHz	
VI	830-840 MHz	-96 dBm	100 kHz	

Table 6.10A: Medium Range BS Spurious emissions limits for protection of the BS receiver

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
I	1920 - 1980MHz	-86 dBm	100 kHz	
II	1850-1910 MHz	-86 dBm	100 kHz	
III	1710-1785 MHz	-86 dBm	100 kHz	
VI	830-840 MHz	-86 dBm	100 kHz	

Table 6.10B: Local Area BS Spurious emissions limits for protection of the BS receiver

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
I	1920 - 1980MHz	-82 dBm	100 kHz	
II	1850-1910 MHz	-82 dBm	100 kHz	
III	1710-1785 MHz	-82 dBm	100 kHz	
VI	830-840 MHz	-82 dBm	100 kHz	

{Separate Section}

7.5 Blocking characteristics

The blocking characteristics is a measure of the receiver ability to receive a wanted signal at its assigned channel frequency in the presence of an unwanted interferer on frequencies other than those of the adjacent channels. The blocking performance requirement applies as specified in the tables 7.4 to 7.5B below, using a 1 MHz step size.

7.5.1 Minimum requirement

The static reference performance as specified in clause 7.2.1 shall be met with a wanted and an interfering signal coupled to BS antenna input using the following parameters.

Table 7.4: Blocking performance requirement for Wide Area BS

Operating Band	Center Frequency of Interfering Signal	Interfering Signal mean power	Wanted Signal mean power	Minimum Offset of Interfering Signal	Type of Interfering Signal
I	1920 - 1980 MHz	-40 dBm	-115 dBm	10 MHz	WCDMA signal *
	1900 - 1920 MHz 1980 - 2000 MHz	-40 dBm	-115 dBm	10 MHz	WCDMA signal *
	1 MHz -1900 MHz 2000 MHz - 12750 MHz	-15 dBm	-115 dBm	—	CW carrier
II	1850 - 1910 MHz	-40 dBm	-115 dBm	10 MHz	WCDMA signal *
	1830 - 1850 MHz 1910 - 1930 MHz	-40 dBm	-115 dBm	10 MHz	WCDMA signal *
	1 MHz - 1830 MHz 1930 MHz - 12750 MHz	-15 dBm	-115 dBm	—	CW carrier
III	1710 – 1785 MHz	-40 dBm	-115 dBm	10 MHz	WCDMA signal *
	1690 - 1710 MHz 1785 – 1805 MHz	-40 dBm	-115 dBm	10 MHz	WCDMA signal *
	1 MHz - 1690 MHz 1805 MHz - 12750 MHz	-15 dBm	-115 dBm	—	CW carrier
VI	810 – 830 MHz 840 – 860 MHz	-40 dBm	-115 dBm	10 MHz	WCDMA signal *
	1 MHz – 810 MHz 860 MHz – 12750 MHz	-15 dBm	-115 dBm	—	CW carrier
Note*: The characteristics of the W-CDMA interference signal are specified in Annex C					

Table 7.4A: Blocking performance requirement for Medium range BS

Operating Band	Center Frequency of Interfering Signal	Interfering Signal mean power	Wanted Signal mean power	Minimum Offset of Interfering Signal	Type of Interfering Signal
I	1920 - 1980 MHz	-35 dBm	-105 dBm	10 MHz	WCDMA signal *
	1900 - 1920 MHz 1980 - 2000 MHz	-35 dBm	-105 dBm	10 MHz	WCDMA signal *
	1 MHz -1900 MHz 2000 MHz - 12750 MHz	-15 dBm	-105 dBm	—	CW carrier
II	1850 - 1910 MHz	-35 dBm	-105 dBm	10 MHz	WCDMA signal *
	1830 - 1850 MHz 1910 - 1930 MHz	-35 dBm	-105 dBm	10 MHz	WCDMA signal *
	1 MHz - 1830 MHz 1930 MHz - 12750 MHz	-15 dBm	-105 dBm	—	CW carrier
III	1710 – 1785 MHz	-35 dBm	-105 dBm	10 MHz	WCDMA signal *
	1690 - 1710 MHz 1785 – 1805 MHz	-35 dBm	-105 dBm	10 MHz	WCDMA signal *
	1 MHz - 1690 MHz 1805 MHz - 12750 MHz	-15 dBm	-105 dBm	—	CW carrier
VI	810 – 830 MHz 840 – 860 MHz	-35 dBm	-105 dBm	10 MHz	WCDMA signal *
	1 MHz – 810 MHz 860 MHz – 12750 MHz	-15 dBm	-105 dBm	—	CW carrier
Note*: The characteristics of the W-CDMA interference signal are specified in Annex C					

Table 7.4B: Blocking performance requirement for Local Area BS

Operating Band	Center Frequency of Interfering Signal	Interfering Signal mean power	Wanted Signal mean power	Minimum Offset of Interfering Signal	Type of Interfering Signal
I	1920 - 1980 MHz	-30 dBm	-101 dBm	10 MHz	WCDMA signal *
	1900 - 1920 MHz 1980 - 2000 MHz	-30 dBm	-101 dBm	10 MHz	WCDMA signal *
	1 MHz -1900 MHz 2000 MHz - 12750 MHz	-15 dBm	-101 dBm	—	CW carrier
II	1850 - 1910 MHz	-30 dBm	-101 dBm	10 MHz	WCDMA signal *
	1830 - 1850 MHz 1910 - 1930 MHz	-30 dBm	-101 dBm	10 MHz	WCDMA signal *
	1 MHz - 1830 MHz 1930 MHz - 12750 MHz	-15 dBm	-101 dBm	—	CW carrier
III	1710 – 1785 MHz	-30 dBm	-101 dBm	10 MHz	WCDMA signal *
	1690 - 1710 MHz 1785 – 1805 MHz	-30 dBm	-101 dBm	10 MHz	WCDMA signal *
	1 MHz - 1690 MHz 1805 MHz - 12750 MHz	-15 dBm	-101 dBm	—	CW carrier
VI	810 – 830 MHz 840 – 860 MHz	-30 dBm	-101 dBm	10 MHz	WCDMA signal *
	1 MHz – 810 MHz 860 MHz – 12750 MHz	-15 dBm	-101 dBm	—	CW carrier
Note*: The characteristics of the W-CDMA interference signal are specified in Annex C					

Table 7.5: Blocking performance requirement (narrowband) for Wide Area BS

Operating Band	Center Frequency of Interfering Signal	Interfering Signal mean power	Wanted Signal mean power	Minimum Offset of Interfering Signal	Type of Interfering Signal
II	1850 - 1910 MHz	- 47 dBm	-115 dBm	2.7 MHz	GMSK modulated*
III	1710 – 1785 MHz	- 47 dBm	-115 dBm	2.8 MHz	GMSK modulated*
* GMSK modulation as defined in TS 45.004 [5].					

Table 7.5A: Blocking performance requirement (narrowband) for Medium Range BS

Operating Band	Center Frequency of Interfering Signal	Interfering Signal mean power	Wanted Signal mean power	Minimum Offset of Interfering Signal	Type of Interfering Signal
II	1850 - 1910 MHz	- 42 dBm	-105 dBm	2.7 MHz	GMSK modulated*
III	1710 – 1785 MHz	- 42 dBm	-105 dBm	2.8 MHz	GMSK modulated*
* GMSK modulation as defined in TS 45.004 [5].					

Table 7.5B: Blocking performance requirement (narrowband) for Local Area BS

Operating Band	Center Frequency of Interfering Signal	Interfering Signal mean power	Wanted Signal mean power	Minimum Offset of Interfering Signal	Type of Interfering Signal
II	1850 - 1910 MHz	- 37 dBm	-101 dBm	2.7 MHz	GMSK modulated*
III	1710 – 1785 MHz	- 37 dBm	-101 dBm	2.8 MHz	GMSK modulated*
* GMSK modulation as defined in TS 45.004 [5].					

{Separate Section}

7.6 Intermodulation characteristics

Third and higher order mixing of the two interfering RF signals can produce an interfering signal in the band of the desired channel. Intermodulation response rejection is a measure of the capability of the receiver to receive a wanted signal on its assigned channel frequency in the presence of two or more interfering signals which have a specific frequency relationship to the wanted signal.

7.6.1 Minimum requirement

The static reference performance as specified in clause 7.2.1 shall be met for a Wide Area BS when the following signals are coupled to BS antenna input:

- A wanted signal at the assigned channel frequency with a mean power of -115 dBm.
- Two interfering signals with the following parameters.

Table 7.6: Intermodulation performance requirement (Wide Area BS)

Operating band	Interfering Signal mean power	Offset	Type of Interfering Signal
I, II, III, VI	- 48 dBm	10 MHz	CW signal
	- 48 dBm	20 MHz	WCDMA signal *
Note*: The characteristics of the W-CDMA interference signal are specified in Annex C			

Table 7.6A: Narrowband intermodulation performance requirement (Wide Area BS)

Operating band	Interfering Signal mean power	Offset	Type of Interfering Signal
II, III	- 47 dBm	3.5 MHz	CW signal
	- 47 dBm	5.9 MHz	GMSK modulated*
* GMSK as defined in TS45.004			

The static reference performance as specified in clause 7.2.1 shall be met for a Medium Range BS when the following signals are coupled to BS antenna input:

- A wanted signal at the assigned channel frequency with a mean power of -105 dBm.
- Two interfering signals with the following parameters.

Table 7.6B: Intermodulation performance requirement (Medium Range BS)

Operating band	Interfering Signal mean power	Offset	Type of Interfering Signal
I, II, III, VI	- 44 dBm	10 MHz	CW signal
	- 44 dBm	20 MHz	WCDMA signal *
Note*: The characteristics of the W-CDMA interference signal are specified in Annex C			

Table 7.6C: Narrowband intermodulation performance requirement (Medium Range BS)

Operating band	Interfering Signal mean power	Offset	Type of Interfering Signal
II, III	- 43 dBm	3.5 MHz	CW signal
	- 43 dBm	5.9 MHz	GMSK modulated*
* GMSK as defined in TS45.004			

The static reference performance as specified in clause 7.2.1 shall be met for a Local Area BS when the following signals are coupled to BS antenna input:

- A wanted signal at the assigned channel frequency with a mean power of –101 dBm.
- Two interfering signals with the following parameters.

Table 7.6D: Intermodulation performance requirement (Local Area BS)

Operating band	Interfering Signal mean power	Offset	Type of Interfering Signal
I, II, III, VI	-38 dBm	10 MHz	CW signal
	-38 dBm	20 MHz	WCDMA signal *
Note*: The characteristics of the W-CDMA interference signal are specified in Annex C			

Table 7.6E: Narrowband intermodulation performance requirement (Local Area BS)

Operating band	Interfering Signal mean power	Offset	Type of Interfering Signal
II, III	-37 dBm	3.5 MHz	CW signal
	-37 dBm	5.9 MHz	GMSK modulated*
* GMSK as defined in TS45.004			

7.7 Spurious emissions

The spurious emissions power is the power of emissions generated or amplified in a receiver that appear at the BS receiver antenna connector. The requirements apply to all BS with separate RX and TX antenna port. The test shall be performed when both TX and RX are on with the TX port terminated.

For all BS with common RX and TX antenna port the transmitter spurious emission as specified in section 6.6.3 is valid.

7.7.1 Minimum requirement

The power of any spurious emission shall not exceed:

Table 7.7: General spurious emission minimum requirement

Band	Maximum level	Measurement Bandwidth	Note
30MHz - 1 GHz	-57 dBm	100 kHz	
1 GHz - 12.75 GHz	-47 dBm	1 MHz	With the exception of frequencies between 12.5 MHz below the first carrier frequency and 12.5 MHz above the last carrier frequency used by the BS.

Table 7.7A: Additional spurious emission requirements

Operating Band	Band	Maximum level	Measurement Bandwidth	Note
I	1900 – 1980 MHz 2010 – 2025 MHz	-78 dBm	3.84 MHz	
II	1850 – 1910 MHz	-78 dBm	3.84 MHz	
III	1710 – 1785 MHz~~,~~	-78 dBm	3.84 MHz	
VI	830 – 840 MHz	-78 dBm	3.84 MHz	

In addition to the requirements in tables 7.7 and 7.7A, the co-existence requirements for co-located base stations specified in subclause 6.6.3.3.2, 6.6.3.4.2 , 6.6.3.7.2, 6.6.3.8.2, 6.6.3.9.2, 6.6.3.10.1 and 6.6.3.11.1 may also be applied.

Annex B.6 (informative): CR 333 to 25.141 Rel-6

3GPP TSG-RAN WG4 Meeting #29
San Diego, CA, USA, November 17-21, 2003

Tdoc R4-031096

CR-Form-v7

CHANGE REQUEST

25.141 CR 333 **rev -** Current version: **6.3.0**

*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 [X] Core Network [ ]

Title:	Introduction of new channel arrangement for Bands IV, V and VI
Source:	Ericsson
Work item code:	RInImp-UMTS800, RInImp-UMTS850, RInImp-UMTS1721
Date:	18/11/2003
Category:	B
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:	Introduction of channel arrangements for the new frequency bands IV, V and VI.
Summary of change:	Tx-Rx freqeuncy separation, channel raster and channel numbering (UARFCN) are introduced for the new bands. The new frequency bands IV, V and VI will all require some RF carrier positions that are not on the general 200 kHz raster for UTRA. This is solved in the same way as for band II, by "borrowing" channel numbers from low frequency ranges and map those to the additional frequencies needed that are not on the 200 kHz raster.
Consequences if not approved:	The channel arrangement for bands IV, V and VI would not be defined.

Clauses affected:	5.2, 5.3, 5.4

	Y	N		
Other specs affected:	X		Other core specifications	25.101, 25.104
	X		Test specifications	34.121, 34.108
		X	O&M Specifications	

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3.4 Radio Frequency bands

3.4.1 Frequency bands

a) UTRA/FDD is designed to operate in ~~any of~~ the following paired bands:

Table 3.0: Frequency bands

Operating Band	UL Frequencies UE transmit, Node B receive	DL frequencies UE receive, Node B transmit
I	1920 – 1980 MHz	2110 –2170 MHz
II	1850 –1910 MHz	1930 –1990 MHz
III	1710-1785 MHz	1805-1880 MHz
IV	1710-~~1770~~ – 1755 MHz	2110-~~2170~~ – 2155 MHz
V	824 – 849MHz	869-894MHz
VI	830-840 MHz	875-885 MHz

b) Deployment in other frequency bands is not precluded

3.4.2 TX–RX frequency separation

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

Table 3.0A: TX–RX frequency separation

Operating Band	TX-RX frequency separation
I	190 MHz
II	80 MHz.
III	95 MHz.
IV	400 MHz
V	45 MHz
VI	45 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.

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~~, which~~ for all bands, ~~except Band II~~ which means that the centre frequency must be an integer multiple of 200 kHz. In addition an number of ~~Band II , 12~~ additional centre frequencies are specified according to ~~the~~ table ~~in~~ 3.2, ~~and~~ which means that the centre frequencies for these channels are shifted 100 kHz relative to the ~~normal~~ 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: UTRA Absolute Radio Frequency Channel Number**~~

	~~UARFCN~~	~~Carrier Frequency [MHz]~~
~~Uplink~~	~~$N_u = 5 * (F_{uplink}$ MHz)~~	~~0.0 MHz $\leq F_{uplink} \leq$ 3276.6 MHz where F_{uplink} is the uplink frequency in MHz~~
~~Downlink~~	~~$N_d = 5 * (F_{downlink}$ MHz)~~	~~0.0 MHz $\leq F_{downlink} \leq$ 3276.6 MHz where $F_{downlink}$ is the downlink frequency in MHz~~

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 $\leq F_{UL} \leq$ 3276.6 MHz	$N_d = 5 * F_{DL}$	0.0 MHz $\leq F_{DL} \leq$ 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 (Band II additional channels)**~~

	~~UARFCN~~	~~Carrier Frequency [MHz]~~
~~Uplink~~	~~$N_u = 5 * (F_{uplink} - 1850.1$ MHz)~~	~~F_{uplink} = 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~~	~~$N_d = 5 * (F_{downlink} - 1850.1$ MHz)~~	~~$F_{downlink}$ = 1932.5, 1937.5, 1942.5, 1947.5, 1952.5, 1957.5, 1962.5, 1967.5, 1972.5, 1977.5, 1982.5, 1987.5~~

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, 877.5, 882.5, 887.5
VI	$N_u = 5 * (F_{UL} - 670.1$ MHz)	832.5 $\leq F_{UL} \leq$ 837.5	$N_d = 5 * (F_{DL} - 670.1$ MHz)	877.5 $\leq F_{DL} \leq$ 882.5

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Annex B.7 (informative): CR 327r1 to 25.141 Rel-6

3GPP TSG-RAN Working Group 4 (Radio) Meeting #29
San Diego, CA, USA, 17th – 21st November 2003

Tdoc* ⌘*R4-031130

CR-Form-v7

CHANGE REQUEST

⌘ **25.141 CR 327** ⌘ **rev 1** ⌘ Current version **6.3.0** ⌘

*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:	⌘ DS-CDMA Introduction in the 800 MHz Band
Source:	⌘ Fujitsu, NTT DoCoMo, Panasonic
Work item code:	⌘ RInImp-UMTS800 ***Date:*** ⌘ 20/11/2003
Category:	⌘ **B** ***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:	⌘ Introducing DS-CDMA into 800MHz band in Japan.
Summary of change:	⌘ Re-strure of relevant chapters: Protection of the BS receiver, Blocking characteristics, Intermodulation characteristics and Receiver Spurious emissions. All of them are editorial changes.
Consequences if not approved:	⌘ No requirement for DS-CDMA 800MHz band operation in Japan.
Clauses affected:	⌘ 6.5.3.4.3, 6.5.3.7.3, 7.5, 7.6 and 7.7s

	Y	N		
Other specs Affected:	X		Other core specifications	⌘ 35.104, 25.307.
		X	Test specifications	
		X	O&M Specifications	

Other comments: ⌘

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6.5.3.4.3 Protection of the BS receiver of own or different BS

This requirement shall be applied in order to prevent the receivers of the BSs being desensitised by emissions from a BS transmitter. This is measured at the transmit antenna port for any type of BS which has common or separate Tx/Rx antenna ports.

6.5.3.4.3.1 Minimum Requirement

The power of any spurious emission shall not exceed.

Table 6.26: Wide Area BS Spurious emissions limits for protection of the BS receiver

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
I	1920 - 1980MHz	-96 dBm	100 kHz	
II	1850 - 1910 MHz	-96 dBm	100 kHz	
III	1710 - 1785 MHz	-96 dBm	100 kHz	
VI	830-840 MHz	-96 dBm	100 kHz	

Table 6.26A: Medium Range BS Spurious emissions limits for protection of the BS receiver

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
I	1920 - 1980MHz	-86 dBm	100 kHz	
II	1850 - 1910 MHz	-86 dBm	100 kHz	
III	1710 - 1785 MHz	-86 dBm	100 kHz	
VI	830-840 MHz	-86 dBm	100 kHz	

Table 6.26B: Local Area BS Spurious emissions limits for protection of the BS receiver

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
I	1920 - 1980MHz	-82 dBm	100 kHz	
II	1850 - 1910 MHz	-82 dBm	100 kHz	
III	1710 - 1785 MHz	-82 dBm	100 kHz	
VI	830-840 MHz	-82 dBm	100 kHz	

{Separate Section}

6.5.3.7.3 Protection of the BS receiver of own or different BS

Table 6.37: Wide Area BS BS Spurious emissions limits for protection of the BS receiver

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
I	1920 - 1980MHz	-96 dBm	100 kHz	
II	1850 - 1910 MHz	-96 dBm	100 kHz	
III	1710 - 1785 MHz	-96 dBm	100 kHz	
VI	830-840 MHz	-96 dBm	100 kHz	

Table 6.37A: Medium Range BS Spurious emissions limits for protection of the BS receiver

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
I	1920 - 1980MHz	-86 dBm	100 kHz	
II	1850 - 1910 MHz	-86 dBm	100 kHz	
III	1710 - 1785 MHz	-86 dBm	100 kHz	
VI	830-840 MHz	-86 dBm	100 kHz	

Table 6.37B: Local Area BS Spurious emissions limits for protection of the BS receiver

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
I	1920 - 1980MHz	-82 dBm	100 kHz	
II	1850 - 1910 MHz	-82 dBm	100 kHz	
III	1710 - 1785 MHz	-82 dBm	100 kHz	
VI	830-840 MHz	-82 dBm	100 kHz	

{Separate Section}

7.5 Blocking characteristics

7.5.1 Definition and applicability

The blocking characteristics is a measure of the receiver ability to receive a wanted signal at is assigned channel frequency in the presence of an unwanted interferer on frequencies other than those of the adjacent channels. The blocking performance requirement applies as specified in tables 7.4(a) to 7.4(g).

The requirements in Tables 7.4(a1), 7.4(a2) and 7.4(a3) shall apply to the indicated base station class, depending on which frequency band is used. The requirements in Tables 7.4 (b) to 7.4 (g) may be applied when the FDD BS is co-located with GSM900, GSM850, PCS1900 and/or BS operation in DCS1800 band (UTRA FDD or GSM).

7.5.2 Minimum Requirements

The BER shall not exceed 0.001 for the parameters specified in table 7.4.

Table 7.4(a1): Blocking characteristics for Wide Area BS

Operating Band	Center Frequency of Interfering Signal	Interfering Signal Level	Wanted Signal mean power	Minimum Offset of Interfering Signal	Type of Interfering Signal
I	1920 - 1980 MHz	-40 dBm	-115 dBm	10 MHz	WCDMA signal *
	1900 - 1920 MHz 1980 - 2000 MHz	-40 dBm	-115 dBm	10 MHz	WCDMA signal *
	1 MHz -1900 MHz 2000 MHz - 12750 MHz	-15 dBm	-115 dBm	—	CW carrier
II	1850 - 1910 MHz	-40 dBm	-115 dBm	10 MHz	WCDMA signal *
	1830 - 1850 MHz 1910 - 1930 MHz	-40 dBm	-115 dBm	10 MHz	WCDMA signal *
	1 MHz - 1830 MHz 1930 MHz - 12750 MHz	-15 dBm	-115 dBm	—	CW carrier
III	1710 – 1785 MHz	-40 dBm	-115 dBm	10 MHz	WCDMA signal *
	1690 - 1710 MHz 1785 – 1805 MHz	-40 dBm	-115 dBm	10 MHz	WCDMA signal *
	1 MHz - 1690 MHz 1805 MHz - 12750 MHz	-15 dBm	-115 dBm	—	CW carrier
VI	810 – 830 MHz 840 – 860 MHz	-40 dBm	-115 dBm	10 MHz	WCDMA signal *
	1 MHz – 810 MHz 860 MHz – 12750 MHz	-15 dBm	-115 dBm	—	CW carrier
Note *: The characteristics of the W-CDMA interference signal are specified in Annex I.					

Table 7.4(a2): Blocking characteristics for Medium Range BS

Operating Band	Center Frequency of Interfering Signal	Interfering Signal Level	Wanted Signal mean power	Minimum Offset of Interfering Signal	Type of Interfering Signal
I	1920 - 1980 MHz	-35 dBm	-105 dBm	10 MHz	WCDMA signal *
	1900 - 1920 MHz 1980 - 2000 MHz	-35 dBm	-105 dBm	10 MHz	WCDMA signal *
	1 MHz -1900 MHz 2000 MHz - 12750 MHz	-15 dBm	-105 dBm	—	CW carrier
II	1850 - 1910 MHz	-35 dBm	-105 dBm	10 MHz	WCDMA signal *
	1830 - 1850 MHz 1910 - 1930 MHz	-35 dBm	-105 dBm	10 MHz	WCDMA signal *
	1 MHz - 1830 MHz 1930 MHz - 12750 MHz	-15 dBm	-105 dBm	—	CW carrier
III	1710 – 1785 MHz	-35 dBm	-105 dBm	10 MHz	WCDMA signal *
	1690 - 1710 MHz 1785 – 1805 MHz	-35 dBm	-105 dBm	10 MHz	WCDMA signal *
	1 MHz - 1690 MHz 1805 MHz - 12750 MHz	-15 dBm	-105 dBm	—	CW carrier
VI	810 – 830 MHz 840 – 860 MHz	-35 dBm	-105 dBm	10 MHz	WCDMA signal *
	1 MHz – 810 MHz 860 MHz – 12750 MHz	-15 dBm	-105 dBm	—	CW carrier
Note *: The characteristics of the W-CDMA interference signal are specified in Annex I.					

Table 7.4(a3): Blocking characteristics for Local Area BS

Operating Band	Center Frequency of Interfering Signal	Interfering Signal Level	Wanted Signal mean power	Minimum Offset of Interfering Signal	Type of Interfering Signal
I	1920 - 1980 MHz	-30 dBm	-101 dBm	10 MHz	WCDMA signal *
	1900 - 1920 MHz 1980 - 2000 MHz	-30 dBm	-101 dBm	10 MHz	WCDMA signal *
	1 MHz -1900 MHz 2000 MHz - 12750 MHz	-15 dBm	-101 dBm	—	CW carrier
II	1850 - 1910 MHz	-30 dBm	-101 dBm	10 MHz	WCDMA signal *
	1830 - 1850 MHz 1910 - 1930 MHz	-30 dBm	-101 dBm	10 MHz	WCDMA signal *
	1 MHz - 1830 MHz 1930 MHz - 12750 MHz	-15 dBm	-101 dBm	—	CW carrier
III	1710 – 1785 MHz	-30 dBm	-101 dBm	10 MHz	WCDMA signal *
	1690 - 1710 MHz 1785 – 1805 MHz	-30 dBm	-101 dBm	10 MHz	WCDMA signal *
	1 MHz - 1690 MHz 1805 MHz - 12750 MHz	-15 dBm	-101 dBm	—	CW carrier
VI	810 – 830 MHz 840 – 860 MHz	-30 dBm	-101 dBm	10 MHz	WCDMA signal *
	1 MHz – 810 MHz 860 MHz – 12750 MHz	-15 dBm	-101 dBm	—	CW carrier
Note *: The characteristics of the W-CDMA interference signal are specified in Annex I.					

Table 7.4(b): Blocking performance requirement when co-located with GSM900

Center Frequency of Interfering Signal	Interfering Signal mean power	Wanted Signal mean power	Minimum Offset of Interfering Signal	Type of Interfering Signal
921 -960 MHz	+16 dBm	-115 dBm	—	CW carrier

Table 7.4(c): Blocking performance requirement for operation when co-located with BTS operating in DCS1800 band (GSM or UTRA)

Center Frequency of Interfering Signal	Interfering Signal mean power	Wanted Signal mean power	Minimum Offset of Interfering Signal	Type of Interfering Signal
1805 – 1880 MHz	+16 dBm	-115 dBm	—	CW carrier

Table 7.4(d): Blocking performance requirement for operation when co-located with UTRA BS operating in Frequency band I

Center Frequency of Interfering Signal	Interfering Signal mean power	Wanted Signal mean power	Minimum Offset of Interfering Signal	Type of Interfering Signal
2110 – 2170 MHz	+16 dBm	-115 dBm	—	CW carrier

Table 7.4(e): Blocking performance requirement for operation when co-located with PCS1900 BTS

Center Frequency of Interfering Signal	Interfering Signal mean power	Wanted Signal mean power	Minimum Offset of Interfering Signal	Type of Interfering Signal
1930 – 1990 MHz	+16 dBm	-115 dBm	—	CW carrier

Table 7.4(f1): Blocking performance requirement (narrowband) for Wide Area BS

Operating Band	Center Frequency of Interfering Signal	Interfering Signal mean power	Wanted Signal mean power	Minimum Offset of Interfering Signal	Type of Interfering Signal
II	1850 - 1910 MHz	- 47 dBm	-115 dBm	2.7 MHz	GMSK modulated*
III	1710 – 1785 MHz	- 47 dBm	-115 dBm	2.8 MHz	GMSK modulated*
* GMSK modulation as defined in TS 45.004 [12].					

Table 7.4(f2): Blocking performance requirement (narrowband) for Medium range BS

Operating Band	Center Frequency of Interfering Signal	Interfering Signal mean power	Wanted Signal mean power	Minimum Offset of Interfering Signal	Type of Interfering Signal
II	1850 - 1910 MHz	- 42 dBm	-105 dBm	2.7 MHz	GMSK modulated*
III	1710 – 1785 MHz	- 42 dBm	-105 dBm	2.8 MHz	GMSK modulated*
* GMSK modulation as defined in TS 45.004 [12].					

Table 7.4(f3): Blocking performance requirement (narrowband) for Local Area BS

Operating Band	Center Frequency of Interfering Signal	Interfering Signal mean power	Wanted Signal mean power	Minimum Offset of Interfering Signal	Type of Interfering Signal
II	1850 - 1910 MHz	- 37 dBm	-101 dBm	2.7 MHz	GMSK modulated*
III	1710 – 1785 MHz	- 37 dBm	-101 dBm	2.8 MHz	GMSK modulated*
* GMSK modulation as defined in TS 45.004 [12].					

Table 7.4(g): Blocking performance requirement for operation when co-located with GSM850 BTS

Center Frequency of Interfering Signal	Interfering Signal mean power	Wanted Signal Level	Minimum Offset of Interfering Signal	Type of Interfering Signal
869 – 894 MHz	+16 dBm	-115 dBm	—	CW carrier

The normative reference for these requirements is in TS 25.104[1] subclause 7.5

7.5.3 Test purpose

The test stresses the ability of the BS receiver to withstand high-level interference from unwanted signals at frequency offsets of 10 MHz or more, without undue degradation of its sensitivity.

7.5.4 Method of test

7.5.4.1 Initial conditions

Test environment: normal; see subclause 4.4.1.

RF channels to be tested: M see subclause 4.8. The BS shall be configured to operate as close to the centre of the operating band as possible.

1) Connect WCDMA signal generator at the assigned channel frequency of the wanted signal and a signal generator to the antenna connector of one Rx port.

2) Terminate any other Rx port not under test.

3) Transmit a signal from the WCDMA signal generator to the BS. The characteristics of the signal shall be set according to the UL reference measurement channel (12,2 kbit/s) specified in annex A subclause A.2.1. The

level of the WCDMA signal measured at the BS antenna connector shall be set to the level specified in subclause 7.5.5.

7.5.4.2 Procedure

1) Adjust the signal generators to the type of interfering signals and the frequency offsets as specified in Tables 7.4A(a) to 7.4A(g). Note that the GMSK modulated interfering signal shall have an ACLR of at least 72 dB in order to eliminate the impact of interference signal adjacent channel leakage power on the blocking characteristics measurement. For the tests defined in Table 7.4A(a), the interfering signal shall be at a frequency offset Fuw from the assigned channel frequency of the wanted signal which is given by:

$$Fuw = \pm (n \times 1\ MHz),$$

where n shall be increased in integer steps from n = 10 up to such a value that the center frequency of the interfering signal covers the range from 1 MHz to 12,75 GHz.

2) Measure the BER of the wanted signal at the BS receiver.

3) Interchange the connections of the BS Rx ports and repeat the measurements according to steps (1) to (2).

7.5.5 Test Requirements

The BER shall not exceed 0.001 for the parameters specified in table 7.4A.

Table 7.4A(a1): Blocking characteristics for Wide Area BS

Operating Band	Center Frequency of Interfering Signal	Interfering Signal mean power	Wanted Signal mean power	Minimum Offset of Interfering Signal	Type of Interfering Signal
I	1920 - 1980 MHz	-40 dBm	-115 dBm	10 MHz	WCDMA signal *
	1900 - 1920 MHz 1980 - 2000 MHz	-40 dBm	-115 dBm	10 MHz	WCDMA signal *
	1 MHz -1900 MHz 2000 MHz - 12750 MHz	-15 dBm	-115 dBm	—	CW carrier
II	1850 - 1910 MHz	-40 dBm	-115 dBm	10 MHz	WCDMA signal *
	1830 - 1850 MHz 1910 - 1930 MHz	-40 dBm	-115 dBm	10 MHz	WCDMA signal *
	1 MHz - 1830 MHz 1930 MHz - 12750 MHz	-15 dBm	-115 dBm	—	CW carrier
III	1710 – 1785 MHz	-40 dBm	-115 dBm	10 MHz	WCDMA signal *
	1690 - 1710 MHz 1785 – 1805 MHz	-40 dBm	-115 dBm	10 MHz	WCDMA signal *
	1 MHz - 1690 MHz 1805 MHz - 12750 MHz	-15 dBm	-115 dBm	—	CW carrier
VI	810 – 830 MHz 840 – 860 MHz	-40 dBm	-115 dBm	10 MHz	WCDMA signal *
	1 MHz – 810 MHz 860 MHz – 12750 MHz	-15 dBm	-115 dBm	—	CW carrier
Note *: The characteristics of the W-CDMA interference signal are specified in Annex I.					

Table 7.4A(a2): Blocking characteristics for Medium Range BS

Operating Band	Center Frequency of Interfering Signal	Interfering Signal Level	Wanted Signal mean power	Minimum Offset of Interfering Signal	Type of Interfering Signal
I	1920 - 1980 MHz	-35 dBm	-105 dBm	10 MHz	WCDMA signal *
	1900 - 1920 MHz 1980 - 2000 MHz	-35 dBm	-105 dBm	10 MHz	WCDMA signal *

	1 MHz -1900 MHz 2000 MHz - 12750 MHz	-15 dBm	-105 dBm	—	CW carrier
II	1850 - 1910 MHz	-35 dBm	-105 dBm	10 MHz	WCDMA signal *
	1830 - 1850 MHz 1910 - 1930 MHz	-35 dBm	-105 dBm	10 MHz	WCDMA signal *
	1 MHz - 1830 MHz 1930 MHz - 12750 MHz	-15 dBm	-105 dBm	—	CW carrier
III	1710 – 1785 MHz	-35 dBm	-105 dBm	10 MHz	WCDMA signal *
	1690 - 1710 MHz 1785 – 1805 MHz	-35 dBm	-105 dBm	10 MHz	WCDMA signal *
	1 MHz - 1690 MHz 1805 MHz - 12750 MHz	-15 dBm	-105 dBm	—	CW carrier
VI	810 – 830 MHz 840 – 860 MHz	-35 dBm	-105 dBm	10 MHz	WCDMA signal *
	1 MHz – 810 MHz 860 MHz – 12750 MHz	-15 dBm	-105 dBm	—	CW carrier
Note *: The characteristics of the W-CDMA interference signal are specified in Annex I.					

Table 7.4A(a3): Blocking characteristics for Local Area BS

Operating Band	Center Frequency of Interfering Signal	Interfering Signal Level	Wanted Signal mean power	Minimum Offset of Interfering Signal	Type of Interfering Signal
I	1920 – 1980 MHz	-30 dBm	-101 dBm	10 MHz	WCDMA signal *
	1900 – 1920 MHz 1980 – 2000 MHz	-30 dBm	-101 dBm	10 MHz	WCDMA signal *
	1 MHz -1900 MHz 2000 MHz – 12750 MHz	-15 dBm	-101 dBm	—	CW carrier
II	1850 – 1910 MHz	-30 dBm	-101 dBm	10 MHz	WCDMA signal *
	1830 – 1850 MHz 1910 – 1930 MHz	-30 dBm	-101 dBm	10 MHz	WCDMA signal *
	1 MHz – 1830 MHz 1930 MHz – 12750 MHz	-15 dBm	-101 dBm	—	CW carrier
III	1710 – 1785 MHz	-30 dBm	-101 dBm	10 MHz	WCDMA signal *
	1690 – 1710 MHz 1785 – 1805 MHz	-30 dBm	-101 dBm	10 MHz	WCDMA signal *
	1 MHz – 1690 MHz 1805 MHz – 12750 MHz	-15 dBm	-101 dBm	—	CW carrier
VI	810 – 830 MHz 840 – 860 MHz	-30 dBm	-101 dBm	10 MHz	WCDMA signal *
	1 MHz – 810 MHz 860 MHz – 12750 MHz	-15 dBm	-101 dBm	—	CW carrier
Note *: The characteristics of the W-CDMA interference signal are specified in Annex I.					

Table 7.4A(b): Blocking performance requirement when co-located with GSM900

Center Frequency of Interfering Signal	Interfering Signal mean power	Wanted Signal mean power	Minimum Offset of Interfering Signal	Type of Interfering Signal
921 -960 MHz	+16 dBm	-115 dBm	—	CW carrier

Table 7.4A(c): Blocking performance requirement when co-located with Base Station operating in DCS1800 band (GSM or UTRA FDD)

Center Frequency of Interfering Signal	Interfering Signal mean power	Wanted Signal mean power	Minimum Offset of Interfering Signal	Type of Interfering Signal
1805 – 1880 MHz	+16 dBm	-115 dBm	—	CW carrier

Table 7.4A(d): Blocking performance requirement for operation when co-located with UTRA BS operating in Frequency band I

Center Frequency of Interfering Signal	Interfering Signal mean power	Wanted Signal mean power	Minimum Offset of Interfering Signal	Type of Interfering Signal
2110 – 2170 MHz	+16 dBm	-115 dBm	—	CW carrier

Table 7.4A(e): Blocking performance requirement for operation when co-located with PCS1900 BTS

Center Frequency of Interfering Signal	Interfering Signal mean power	Wanted Signal mean power	Minimum Offset of Interfering Signal	Type of Interfering Signal
1930 – 1990 MHz	+16 dBm	-115 dBm	—	CW carrier

Table 7.4A(f1): Blocking performance requirement (narrowband) for Wide Area BS

Operating Band	Center Frequency of Interfering Signal	Interfering Signal mean power	Wanted Signal mean power	Minimum Offset of Interfering Signal	Type of Interfering Signal
II	1850 - 1910 MHz	- 47 dBm	-115 dBm	2.7 MHz	GMSK modulated*
III	1710 – 1785 MHz	- 47 dBm	-115 dBm	2.8 MHz	GMSK modulated*
* GMSK modulation as defined in TS 45.004 [12].					

Table 7.4A(f2): Blocking performance requirement (narrowband) for Medium range BS

Operating Band	Center Frequency of Interfering Signal	Interfering Signal mean power	Wanted Signal mean power	Minimum Offset of Interfering Signal	Type of Interfering Signal
II	1850 - 1910 MHz	- 42 dBm	-105 dBm	2.7 MHz	GMSK modulated*
III	1710 – 1785 MHz	- 42 dBm	-105 dBm	2.8 MHz	GMSK modulated*
* GMSK modulation as defined in TS 45.004 [12].					

Table 7.4A(f3): Blocking performance requirement (narrowband) for Local Area BS

Operating Band	Center Frequency of Interfering Signal	Interfering Signal mean power	Wanted Signal mean power	Minimum Offset of Interfering Signal	Type of Interfering Signal
II	1850 - 1910 MHz	- 37 dBm	-101 dBm	2.7 MHz	GMSK modulated*
III	1710 – 1785 MHz	- 37 dBm	-101 dBm	2.8 MHz	GMSK modulated*
* GMSK modulation as defined in TS 45.004 [12].					

Table 7.4A(g): Blocking performance requirement for operation when co-located with GSM850 BTS

Center Frequency of Interfering Signal	Interfering Signal mean power	Wanted Signal mean power	Minimum Offset of Interfering Signal	Type of Interfering Signal
869 – 894 MHz	+16 dBm	-115 dBm	—	CW carrier

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in subclause 4.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in Annex F.

NOTE: Annex C describes the procedure for BER tests taking into account the statistical consequence of frequent repetition of BER measurements within the blocking test . The consequence is: a DUT exactly on the limit may fail due to the statistical nature 2.55 times(mean value) in 12750 BER measurements using the predefined wrong decision probability of 0.02%. If the fail cases are ≤12, it is allowed to repeat the fail cases 1 time before the final verdict.

7.6 Intermodulation characteristics

7.6.1 Definition and applicability

Third and higher order mixing of the two interfering RF signals can produce an interfering signal in the band of the desired channel. Intermodulation response rejection is a measure of the capability of the receiver to receiver a wanted signal on its assigned channel frequency in the presence of two or more interfering signals which have a specific frequency relationship to the wanted signal.

7.6.2 Minimum Requirement

The intermodulation performance shall be met when the following signals are applied to the receiver.

Table 7.5(a): Interferer signals for intermodulation performance requirement

Operating Band	Type of Signal	Offset	Signal mean power		
			Wide Area BS	Medium Range BS	Local Area BS
I, II, III, VI	Wanted signal	-	-115 dBm	-105 dBm	-101 dBm
	CW signal	10 MHz	-48 dBm	-44 dBm	-38 dBm
	WCDMA signal *	20 MHz	-48 dBm	-44 dBm	-38 dBm
Note *: The characteristics of the W-CDMA interference signal are specified in Annex I.					

Table 7.5(b): Narrowband intermodulation performance requirement

Operating band	Type of Signal	Offset	Signal mean power		
			Wide Area BS	Medium Range BS	Local Area BS
II, III	Wanted signal	-	-115 dBm	-105 dBm	-101 dBm
	CW signal	3.5 MHz	- 47 dBm	- 43 dBm	-37 dBm
	GMSK modulated*	5.9 MHz	- 47 dBm	- 43 dBm	-37 dBm
* GMSK as defined in TS 45.004 [12].					

The BER for wanted signal shall not exceed 0,001 for the parameters specified in table 7.5.

The normative reference for this requirement is in TS 25.104 [1] subclause 7.6

7.6.3 Test purpose

The test purpose is to verify the ability of the BS receiver to inhibit the generation of intermodulation products in its non-linear elements caused by the presence of two high-level interfering signals at frequencies with a specific relationship to the frequency of the wanted signal.

7.6.4 Method of test

7.6.4.1 Initial conditions

Test environment: normal; see subclause 4.4.1.

RF channels to be tested: B, M and T; see subclause 4.8

1) Set-up the equipment as shown in annex B.

7.6.4.2 Procedures

1) Generate the wanted signal (reference signal) and adjust ATT1 to set the signal level to the BS under test to the level specified in table 7.5A.

2) Adjust the signal generators to the type of interfering signals and the frequency offsets as specified in Tables 7.5A(a) and 7.5A(b). Note that the GMSK modulated interfering signal shall have an ACLR of at least 72 dB in order to eliminate the impact of interference signal adjacent channel leakage power on the intermodulation characteristics measurement.

3) Adjust the ATT2 and ATT3 to obtain the specified level of interference signal at the BS input.

4) Measure the BER

5) Repeat the whole test for the port which was terminated.

7.6.5 Test requirements

The intermodulation performance shall be met when the following signals are applied to the receiver.

Table 7.5A(a): Interferer signals for intermodulation performance requirement

Operating Band	Type of Signal	Offset	Signal mean		
			Wide Area BS	Medium Range BS	Local Area BS
I, II, III, VI	Wanted signal	-	-115 dBm	-105 dBm	-101 dBm
	CW signal	10 MHz	-48 dBm	-44 dBm	-38 dBm
	WCDMA signal *	20 MHz	-48 dBm	-44 dBm	-38 dBm
Note*: The characteristics of the W-CDMA interference signal are specified in Annex I.					

Table 7.5A(b): Narrowband intermodulation performance requirement

Operating band	Type of Signal	Offset	Signal mean power		
			Wide Area BS	Medium Range BS	Local Area BS
II, III	Wanted signal	-	-115 dBm	-105 dBm	-101 dBm
	CW signal	3.5 MHz	- 47 dBm	- 43 dBm	-37 dBm
	GMSK modulated*	5.9 MHz	- 47 dBm	- 43 dBm	-37 dBm
* GMSK as defined in TS 45.004 [12].					

The BER for wanted signal shall not exceed 0,001 for the parameters specified in table 7.5A.

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in subclause 4.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in Annex F.

7.7 Spurious Emissions

7.7.1 Definition and applicability

The spurious emission power is the power of the emissions generated or amplified in a receiver that appears at the BS antenna connector. The requirements apply to all BS with separate RX and TX antenna port. The test shall be performed when both TX and RX are on with the TX port terminated.

For all BS with common RX and TX antenna port the transmitter spurious emission as specified in subclause 6.5.3 is valid.

7.7.2 Minimum Requirements

The power of any spurious emission shall not exceed:

Table 7.6(a): General spurious emission minimum requirement

Band	Maximum level	Measurement Bandwidth	Note
30 MHz - 1 GHz	-57 dBm	100 kHz	
1 GHz - 12.75 GHz	-47 dBm	1 MHz	With the exception of frequencies between 12.5 MHz below the first carrier frequency and 12.5 MHz above the last carrier frequency used by the BS.

Table 7.6(b): Additional spurious emission requirements

Operating Band	Band	Maximum level	Measurement Bandwidth	Note
I	1900 – 1980 MHz 2010 – 2025 MHz	-78 dBm	3.84 MHz	
II	1850 – 1910 MHz	-78 dBm	3.84 MHz	
III	1710 – 1785 MHz	-78 dBm	3.84 MHz	
VI	830 – 840 MHz	-78 dBm	3.84 MHz	

In addition to the requirements in tables 7.6, the co-existence requirements for co-located base stations in subclauses 6.5.3.4.4.2, 6.5.3.4.5.2, 6.5.3.4.8.2, 6.5.3.4.9.2, 6.5.3.4.10.2, 6.5.3.4.11 and 6.5.3.4.12 may also be applied.The normative reference for this requirement is in TS 25.104[1] subclause 7.7

7.7.3 Test purpose

The test purpose is to verify the ability of the BS to limit the interference caused by receiver spurious emissions to other systems.

7.7.4 Method of test

7.7.4.1 Initial conditions

Test environment: normal; see subclause 4.4.1.

RF channels to be tested: M with multi-carrier if supported, see subclause 4.8

1) Connect a measurement receiver to the BS antenna connector as shown in annex B.
2) Enable the BS receiver.
3) Start BS transmission with channel configuration as specified in the table 6.1 and 6.2 (Test model 1) at Pmax.

7.7.4.2 Procedure

1) Terminate the BS Tx antenna connector as shown in annex B.
2) Set measurement equipment parameters as specified in table 7.7.
3) Measure the spurious emissions over each frequency range described in subclause 7.7.2.
4) Repeat the test using diversity antenna connector if available.

Table 7.7

Measurement Band width	3.84 MHz (Root raised cosine,0.22) / 100 kHz/ 1MHz (note)
Sweep frequency range	30 MHz to 12.75GHz
Detection	True RMS
NOTE: As defined in subclause 7.7.2.	

7.7.5 Test requirements

The all measured spurious emissions, derived in step (3) and (4), shall be within requirement limits as specified in Tables 7.7A.

Table 7.7A(a): Spurious emission minimum requirement

Band	Maximum level	Measurement Bandwidth	Note
30 MHz - 1 GHz	-57 dBm	100 kHz	
1 GHz - 12.75 GHz	-47 dBm	1 MHz	With the exception of frequencies between 12.5 MHz below the first carrier frequency and 12.5 MHz above the last carrier frequency used by the BS.

Table 7.7A(b): Additional spurious emission requirements

Operating Band	Band	Maximum level	Measurement Bandwidth	Note
I	1900 – 1980 MHz 2010 – 2025 MHz	-78 dBm	3.84 MHz	
II	1850 – 1910 MHz	-78 dBm	3.84 MHz	
III	1710 – 1785 MHz	-78 dBm	3.84 MHz	
VI	830 – 840 MHz	-78 dBm	3.84 MHz	

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in subclause 4.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in Annex F.

In addition to the requirements in tables 7.7A, the co-existence requirements for co-located base stations in subclauses 6.5.3.7.4.2, 6.5.3.7.5.2, 6.5.3.7.8.2, 6.5.3.7.9.2, 6.5.3.7.10.2, 6.5.3.7.11 and 6.5.3.7.12 may also be applied.

Annex B.8 (informative): CR 2133 to 25.331 Rel-6

3GPP TSG-RAN WG2 Meeting #39
San Diego, USA, November 17-21

Tdoc* ⌘*R2-032592

CR-Form-v7

CHANGE REQUEST

⌘ **25.331 CR 2133** ⌘**rev** **-** ⌘ Current version: **5.6.0** ⌘

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

Title:	⌘	Introduction of UMTS800
Source:	⌘	NTT DoCoMo
Work item code:	⌘	RInImp-UMTS800
Date:	⌘	11/20/03
Category:	⌘	**B**
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:	⌘	- Approved WI
Summary of change:	⌘	- UMTS800 is added to as a one of the frequency bands to UE capability
Consequences if not approved:	⌘	- UMTS800 cannot be supported
Clauses affected:	⌘	10.3.3.21a, 10.3.3.42a, 11.3

	Y	N			
Other specs affected:	X		Other core specifications	⌘	25.307
		X	Test specifications		
		X	O&M Specifications		

Other comments: ⌘ As version6.x.x of 25.331 has not been created, this CR is made based on v.5.6.0.

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:

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Comment [H149]: Document numbers are allocated by the Working Group Secretary.
Comment [H150]: Enter the specification number in this box. For example, 04.08 or 31.102. Do not prefix the number with anything. i.e. do not use "TS", "GSM" or "3GPP" etc.
Comment [H151]: Enter the CR number here. This number is allocat…
Comment [H152]: Enter the revision number of the CR here. If i…
Comment [H153]: Enter the version of the specification here. This numb…
Comment [H154]: For help on how to fill out a field, place the mouse …
Comment [H155]: Mark one or more of the boxes with an X.
Comment [H156]: SIM / USIM / ISIM applications.
Comment [H157]: Enter a concise description of the subject matter of t…
Comment [H158]: Enter the source of the CR. This is either (a) one or …
Comment [H159]: Enter the acronym for the work item which is …
Comment [H160]: Enter the date on which the CR was last revised. For…
Comment [H161]: Enter a single letter corresponding to the most …
Comment [H162]: Enter a single release code from the list below.
Comment [H163]: Enter text which explains why the change is necessary.
Comment [H164]: Enter text which describes the most important …
Comment [H165]: Enter here the consequences if this CR was to be …
Comment [H166]: Enter the number of each clause which contains changes.
Comment [H167]: Tick "yes" box if any other specifications are affected…
Comment [H168]: List here the specifications which are affected or …
Comment [H169]: Enter any other information which may be needed b…

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.

Comment [H170]: This is an example of pop-up text.

10.3.3.21a Measurement capability extension

This IE may be used to replace the measurement capability information provided within IE "Measurement capability".

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
FDD measurements	MP	1 to <maxFreqBandsFDD>			
>FDD Frequency band	MD		Enumerated(FDD2100, FDD1900,	The default value is the same as indicated in the IE "Frequency band" included in the IE " UE radio access capability extension". FourFive spare values are needed	
			FDD1800)		REL-5
			FDD800)		REL-6
>Need for DL compressed mode	MP		Boolean	TRUE means that the UE requires DL compressed mode in order to perform measurements on the FDD frequency band indicated by the IE "FDD Frequency band"	
>Need for UL compressed mode	MP		Boolean	TRUE means that the UE requires UL compressed mode in order to perform measurements on the FDD frequency band indicated by the IE "FDD Frequency band"	
TDD measurements	CV-*tdd_sup*	1 to <maxFreqBandsTDD>			
>TDD Frequency band	MP		Enumerated(a, b, c)		
>Need for DL compressed mode	MP		Boolean	TRUE means that the UE requires DL compressed mode in order to perform measurements on TDD frequency band indicated by the IE "TDD Frequency band"	
>Need for UL compressed mode	MP		Boolean	TRUE means that the UE requires UL compressed mode in order to perform measurements on TDD frequency band indicated by the IE "TDD Frequency band"	
GSM measurements	CV-*gsm_sup*	1 to <maxFreqBandsGSM>			

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
>GSM Frequency band	MP		Enumerated(GSM450, GSM480, GSM850, GSM900P, GSM900E, GSM1800, GSM1900)	as defined in [45]. Nine spare values are needed.	
>Need for DL compressed mode	MP		Boolean	TRUE means that the UE requires DL compressed mode in order to perform measurements on GSM frequency band indicated by the IE "GSM Frequency band"	
>Need for UL compressed mode	MP		Boolean	TRUE means that the UE requires UL compressed mode in order to perform measurements on GSM frequency band indicated by the IE "GSM Frequency band"	
Multi-carrier measurement	CV-*mc_sup*				
>Need for DL compressed mode	MP		Boolean	TRUE means that the UE requires DL compressed mode in order to perform measurements on multi-carrier	
>Need for UL compressed mode	MP		Boolean	TRUE means that the UE requires UL compressed mode in order to perform measurements on multi-carrier	

Condition	Explanation
tdd_sup	The IE is mandatory present if the IE "Multi-mode capability" has the value "TDD" or "FDD/TDD". Otherwise this field is not needed in the message.
gsm_sup	The IE is mandatory present if the IE "Support of GSM" has the value TRUE. Otherwise this field is not needed in the message.
mc_sup	The IE is mandatory present if the IE "Support of multi-carrier" has the value TRUE. Otherwise this field is not needed in the message.

10.3.3.42a UE radio access capability extension

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Frequency band specific capability list	MP	1 to <maxFreqbandsFDD>			
>Frequency band	MP		Enumerated(FDD2100, FDD1900,	FourFive spare values are needed	
			FDD1800)		REL-5
			FDD800)		REL-6
>RF capability FDD extension	MD		RF capability FDD extension 10.3.3.33a	the default values are the same values as in the immediately preceding IE "RF capability FDD extension"; the first occurrence is MP	
>Measurement capability extension	MP		Measurement capability extension 10.3.3.21a		

11.3 Information element definitions

```
RadioFrequencyBandFDD ::=           ENUMERATED {
                                        fdd2100,
                                        fdd1900,
                                        fdd1800,
                                        fdd800~~spare5~~, spare4, spare3, spare2, spare1 }
```

Annex B.9 (informative): CR 2160 to 25.331 Rel-6

3GPP TSG-RAN WG2 Meeting #39
San Diego, USA, November 17-21

Tdoc ⌘R2-032725

CR-Form-v7

CHANGE REQUEST

⌘ **25.331 CR 2160** ⌘**rev** **-** ⌘ Current version: **5.6.0** ⌘

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

Title:	⌘	Introduction of new bands
Source:	⌘	NTT DoCoMo
Work item code:	⌘	RinImp-UMTS800
Date:	⌘	11/20/03
Category:	⌘	**B**
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:	⌘	As pointed out in R2-032668, it is not possible from the UE to determine it is in one frequency band or another, when it tries to camp on certain frequency belongs to multiple frequency bands that have same duplex distance, such as Band V and Band VI. Therefore, it is possible, for example, the UE that only satisfy RF requirement for Band V can initiate a call from that a cell in Band VI whose frequency can belong to Band V or VI. This is unacceptable when these bands have different RF requirements.
Summary of change:	⌘	The IE "Frequency band indicator" is added to System Information type 5, and system information type 6, as well as procedure description. When the IE is included into SIB type 5 and type 6, the UE shall compare the value with its capabilities, and if it is not the band it supports, the UE shall condider the cell to be barred. Note: This feature is introduced for any frequency bands, not limited to UMTS800.
Consequences if not approved:	⌘	The UE that is not compliant with the RF requirement in certain frequency band can initiate a call from that frequency.

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Comment [H171]: Document numbers are allocated by the Working Group Secretary.

Comment [H172]: Enter the specification number in this box. For example, 04.08 or 31.102. Do not prefix the number with anything. i.e. do not use "TS", "GSM" or "3GPP" etc.

Comment [H173]: Enter the CR number here. This number is allocated by the 3GPP support team. It consists of at least three digits, padded with leading zeros if necessary.

Comment [H174]: Enter the revision number of the CR here. If it is the first version, use a "-".

Comment [H175]: Enter the version of the specification here. This number is the version of the specification to which the CR will be applied if it is approved. Make sure that the latest version of the specification (of the relevant release) is used when creating the CR. If unsure what the latest version is, go to http://www.3gpp.org/specs/specs.htm.

Comment [H176]: For help on how to fill out a field, place the mouse pointer over the special symbol closest to the field in question.

Comment [H177]: Mark one or more of the boxes with an X.

Comment [H178]: SIM / USIM / ISIM applications.

Comment [H179]: Enter a concise description of the subject matter of the CR. It should be no longer than one line. Do not use redundant …

Comment [H180]: Enter the source of the CR. This is either (a) one or …

Comment [H181]: Enter the acronym for the work item which is …

Comment [H182]: Enter the date on which the CR was last revised. For …

Comment [H183]: Enter a single letter corresponding to the most …

Comment [H184]: Enter a single release code from the list below.

Comment [H185]: Enter text which explains why the change is necessary.

Comment [H186]: Enter text which describes the most important …

Comment [H187]: Enter here the consequences if this CR was to be …

Clauses affected:	⌘ 8.1.1.6.5, 8.1.1.6.6, 10.2.48.8.8, 10.2.48.8.9, 10.3.6.x, 11.3			
	Y	**N**		
Other specs affected:	⌘ **X**		Other core specifications	⌘ 25.307
		X	Test specifications	
		X	O&M Specifications	
Other comments:	⌘ As version6.x.x of 25.331 has not been created, this CR is made based on v.5.6.0.			

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.

Comment [H188]: Enter the number of each clause which contains changes.

Comment [H189]: Tick "yes" box if any other specifications are affected by this change. Else tick "no". You MUST fill in one or the other.

Comment [H190]: List here the specifications which are affected or the CRs which are linked.

Comment [H191]: Enter any other information which may be needed by the group being requested to approve the CR. This could include special conditions for it's approval which are not listed anywhere else above.

Comment [H192]: This is an example of pop-up text.

8.1.1.6.5 System Information Block type 5

The UE should store all relevant IEs included in this system information block. The UE shall:

1> if the IE "Frequency band indicator" is included:

2> if the frequency band indicated in the IE is not part of the frequency bands supported in the UE radio access capability:

3> consider the cell to be barred according to [4]; and

3> consider the barred cell as using the value "not allowed" in the IE "Intra-frequency clel re-selection indicator," and the maximum value in the IE "T_{barred}"

1> if in connected mode, and System Information Block type 6 is indicated as used in the cell:

2> read and act on information sent in System Information Block type 6.

1> replace the TFS of the RACH with the one stored in the UE if any;

1> let the physical channel(s) of type PRACH given by the IE(s) "PRACH info" be the default in uplink for the PRACH if UE is in CELL_FACH state;

1> start to receive the physical channel of type AICH using the parameters given by the IE "AICH info" (FDD only) when given allocated PRACH is used;

1> use the first instance of the list of transport formats as in the IE "RACH TFS" for the used RACH received in the IE "PRACH system information list" when using the CCCH;

1> replace the TFS of the FACH/PCH with the one stored in the UE if any;

1> select a Secondary CCPCH as specified in [4] and in subclause 8.5.19, and start to receive the physical channel of type PICH associated with the PCH carried by the selected Secondary CCPCH using the parameters given by the IE "PICH info" if UE is in Idle mode or in CELL_PCH or URA_PCH state;

1> start to monitor its paging occasions on the selected PICH if UE is in Idle mode or in CELL_PCH or URA_PCH state;

1> start to receive the selected physical channel of type Secondary CCPCH using the parameters given by the IE(s) "Secondary CCPCH info" if UE is in CELL_FACH state;

1> in 3.84 Mcps TDD:

2> use the IE "TDD open loop power control" as defined in subclause 8.5.7 when allocated PRACH is used.

1> in TDD:

2> if the IE "PDSCH system information" and/or the IE "PUSCH system information" is included:

3> store each of the configurations given there with the associated identity given in the IE "PDSCH Identity" and/or "PUSCH Identity" respectively. For every configuration, for which the IE "SFN Time info" is included, the information shall be stored for the duration given there.

8.1.1.6.6 System Information Block type 6

If in connected mode, the UE should store all relevant IEs included in this system information block. The UE shall:

1> if the IE "Frequency band indicator" is included:

2> if the frequency band indicated in the IE is not part of the frequency bands supported in the UE radio access capability:

3> consider the cell to be barred according to [4]; and

3> consider the barred cell as using the value "not allowed" in the IE "Intra-frequency clel re-selection indicator," and the maximum value in the IE "T_{baned}"

1> replace the TFS of the RACH with the one stored in the UE if any;

1> let the physical channel(s) of type PRACH given by the IE(s) "PRACH info" be the default in uplink if UE is in CELL_FACH state. If the IE "PRACH info" is not included, the UE shall read the corresponding IE(s) in System Information Block type 5 and use that information to configure the PRACH;

1> start to receive the physical channel of type AICH using the parameters given by the IE "AICH info" when associated PRACH is used. If the IE "AICH info" is not included, the UE shall read the corresponding IE in System Information Block type 5 and use that information (FDD only);

1> replace the TFS of the FACH/PCH with the one stored in the UE if any;

1> select a Secondary CCPCH as specified in [4] and in subclause 8.5.19, and start to receive the physical channel of type PICH associated with the PCH carried by the selected Secondary CCPCH using the parameters given by the IE "PICH info" if the UE is in CELL_PCH or URA_PCH state. If the IE "PICH info" is not included, the UE shall read the corresponding IE in System Information Block type 5 and use that information;

1> start to monitor its paging occasions on the selected PICH if the UE is in CELL_PCH or URA_PCH state;

1> start to receive the selected physical channel of type Secondary CCPCH using the parameters given by the IE(s) "Secondary CCPCH info" if the UE is in CELL_FACH state. If the IE "Secondary CCPCH info" is not included, the UE shall read the corresponding IE(s) in System Information Block type 5 and use that information;

1> in 3.84 Mcps TDD: use the IE "TDD open loop power control" as defined in subclause 8.5.7;

1> in TDD: if the IE "PDSCH system information" and/or the IE "PUSCH system information" is included, store each of the configurations given there with the associated identity given in the IE "PDSCH Identity" and/or "PUSCH Identity" respectively. For every configuration, for which the IE "SFN Time info" is included, the information shall be stored for the duration given there.

If in idle mode, the UE shall not use the values of the IEs in this system information block.

10.2.48.8.8 System Information Block type 5

The system information block type 5 contains parameters for the configuration of the common physical channels in the cell.

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
SIB6 Indicator	MP		Boolean	TRUE indicates that SIB6 is broadcast in the cell.	
PhyCH information elements					
PICH Power offset	MP		PICH Power offset 10.3.6.50		
CHOICE *mode*	MP				
>FDD					
>>AICH Power offset	MP		AICH Power offset 10.3.6.3	This AICH Power offset also indicates the power offset for AP-AICH and for CD/CA-ICH.	
>TDD					
>>PUSCH system information	OP		PUSCH system information 10.3.6.66		
>>PDSCH system information	OP		PDSCH system information		

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
			10.3.6.46		
>>TDD open loop power control	MP		TDD open loop power control 10.3.6.79		
Primary CCPCH info	OP		Primary CCPCH info 10.3.6.57	Note 1	
PRACH system information list	MP		PRACH system information list 10.3.6.55		
Secondary CCPCH system information	MP		Secondary CCPCH system information 10.3.6.72		
CBS DRX Level 1 information	CV-*CTCH*		CBS DRX Level 1 information 10.3.8.3		
Frequency band indicator	OP		Frequency band indicator 10.3.6.x		REL-6

NOTE 1: DL scrambling code of the Primary CCPCH is the same as the one for Primary CPICH (FDD only).

Condition	Explanation
CTCH	The IE is mandatory present if the IE "CTCH indicator" is equal to TRUE for at least one FACH, otherwise the IE is not needed in the message

10.2.48.8.9 System Information Block type 6

The system information block type 6 contains parameters for the configuration of the common and shared physical channels to be used in connected mode.

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
PhyCH information elements					
PICH Power offset	MP		PICH Power offset 10.3.6.50		
CHOICE *mode*	MP				
>FDD					
>>AICH Power offset	MP		AICH Power offset 10.3.6.3	This AICH Power offset also indicates the power offset for AP-AICH and for CD/CA-ICH.	
>TDD					
>>PUSCH system information	OP		PUSCH system information 10.3.6.66		
>>PDSCH system information	OP		PDSCH system information 10.3.6.46		
>>TDD open loop power control	MP		TDD open loop power		

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
			control 10.3.6.79		
Primary CCPCH info	OP		Primary CCPCH info 10.3.6.57	Note 1	
PRACH system information list	OP		PRACH system information list 10.3.6.55		
Secondary CCPCH system information	OP		Secondary CCPCH system information 10.3.6.72		
CBS DRX Level 1 information	CV-*CTCH*		CBS DRX Level 1 information 10.3.8.3		
Frequency band indicator	OP		Frequency band indicator 10.3.6.x		REL-6

NOTE 1: DL scrambling code of the Primary CCPCH is the same as the one for Primary CPICH (FDD only).

Condition	Explanation
CTCH	The IE is mandatory present if the IE "CTCH indicator" is equal to TRUE for at least one FACH, otherwise the IE is not needed

10.3.6.x Frequency band indicator

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Frequency band indicator	MP		Enumerated(FDD2100, FDD1900, FDD1800, FDD800)	Four spare values are needed	REL-6

11.3 Information element definitions

```
SysInfoType5 ::=                    SEQUENCE {
        sib6indicator                   BOOLEAN,
    -- Physical channel IEs
        pich-PowerOffset                PICH-PowerOffset,
        modeSpecificInfo                CHOICE {
            fdd                             SEQUENCE {
                aich-PowerOffset                AICH-PowerOffset
            },
            tdd                             SEQUENCE {
    -- If PDSCH/PUSCH is configured for 1.28Mcps TDD, the following IEs should be absent
    --   and the info included in the tdd128SpecificInfo instead.
    -- If PDSCH/PUSCH is configured for 3.84Mcps TDD in R5, HCR-r5-SpecificInfo should also be
    -- included.
                pusch-SysInfoList-SFN           PUSCH-SysInfoList-SFN       OPTIONAL,
                pdsch-SysInfoList-SFN           PDSCH-SysInfoList-SFN       OPTIONAL,
                openLoopPowerControl-TDD        OpenLoopPowerControl-TDD
            }
        },
        primaryCCPCH-Info               PrimaryCCPCH-Info                   OPTIONAL,
        prach-SystemInformationList     PRACH-SystemInformationList,
        sCCPCH-SystemInformationList    SCCPCH-SystemInformationList,
```

```
        -- cbs-DRX-Level1Information is conditional on any of the CTCH indicator IEs in
        -- sCCPCH-SystemInformationList
        cbs-DRX-Level1Information       CBS-DRX-Level1Information           OPTIONAL,
    -- Extension mechanism for non- release99 information
        v4xyNonCriticalExtensions       SEQUENCE {
            sysInfoType5-v4xyext            SysInfoType5-v4xyext-IEs        OPTIONAL,
        -- Extension mechanism for non- rel-4 information
            v5xyNonCriticalExtensions   SEQUENCE {
                sysInfoType5-v5xyext            SysInfoType5-v5xyext-IEs        OPTIONAL,
                v6xyNonCriticalExtensions       SEQUENCE {
                    sysInfoType5-v6xyext            SysInfoType5-v6xyext-IEs        OPTIONAL,
                    nonCriticalExtensions           SEQUENCE {}                     OPTIONAL
                }                               OPTIONAL
            }                               OPTIONAL
        }                               OPTIONAL
}

SysInfoType5-v6xyext-IEs::= SEQUENCE {
        frequencyBandIndicator          RadioFrequencyBandFDD
}


SysInfoType6 ::=                    SEQUENCE {
    -- Physical channel IEs
        pich-PowerOffset                PICH-PowerOffset,
        modeSpecificInfo                CHOICE {
            fdd                             SEQUENCE {
                aich-PowerOffset                AICH-PowerOffset,
                -- dummy is not used in this version of specification, it should
                -- not be sent and if received it should be ignored.
                dummy                           CSICH-PowerOffset           OPTIONAL
            },
            tdd                             SEQUENCE {
                -- If PDSCH/PUSCH is configured for 1.28Mcps TDD, pusch-SysInfoList-SFN,
                -- pdsch-SysInfoList-SFN and openLoopPowerControl-TDD should be absent
                -- and the info included in the tdd128SpecificInfo instead.
                 -- If PDSCH/PUSCH is configured for 3.84Mcps TDD in R5, HCR-r5-SpecificInfo should
                -- also be included.
                pusch-SysInfoList-SFN           PUSCH-SysInfoList-SFN       OPTIONAL,
                pdsch-SysInfoList-SFN           PDSCH-SysInfoList-SFN       OPTIONAL,
                openLoopPowerControl-TDD        OpenLoopPowerControl-TDD
            }
        },
        primaryCCPCH-Info               PrimaryCCPCH-Info                   OPTIONAL,
        prach-SystemInformationList     PRACH-SystemInformationList         OPTIONAL,
        sCCPCH-SystemInformationList    SCCPCH-SystemInformationList        OPTIONAL,
        cbs-DRX-Level1Information       CBS-DRX-Level1Information           OPTIONAL,
        -- Conditional on any of the CTCH indicator IEs in
        -- sCCPCH-SystemInformationList
    -- Extension mechanism for non- release99 information
        v4xyNonCriticalExtensions       SEQUENCE {
            sysInfoType6-v4xyext            SysInfoType6-v4xyext-IEs        OPTIONAL,
        -- Extension mechanism for non- rel-4 information
            v5xyNonCriticalExtensions   SEQUENCE {
                sysInfoType6-v5xyext            SysInfoType6-v5xyext-IEs        OPTIONAL,
                v6xyNonCriticalExtensions       SEQUENCE {
                    sysInfoType6-v6xyext            SysInfoType6-v6xyext-IEs        OPTIONAL,
                    nonCriticalExtensions           SEQUENCE {}                     OPTIONAL
                }                               OPTIONAL
            }                               OPTIONAL
        }                               OPTIONAL
}

SysInfoType5-v6xyext-IEs::= SEQUENCE {
        frequencyBandIndicator          RadioFrequencyBandFDD
}
```

Annex B.10 (informative): CR 007 to 25.307 Rel-99

3GPP TSG-RAN WG2 Meeting #39
San Diego, USA, November 17-21

Tdoc* ⌘*R2-032709

CR-Form-v7

CHANGE REQUEST

⌘ **25.307 CR 007** ⌘**rev 1** ⌘ Current version: **3.1.0** ⌘

*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 [X] Core Network [ ]

Title:	⌘	Introduction of UMTS800
Source:	⌘	NTT DoCoMo
Work item code:	⌘	RinImp-UMTS800
Date:	⌘	11/20/03
Category:	⌘	**B**
Release:	⌘	R99

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:	⌘	- Approved WI
Summary of change:	⌘	- Description regarding the requirement to R99 UE that supports UMTS800 is added. - Rev1 – Description regarding frequency band indicator is added to Signalling Requirement. The necessity is described in R2-032630(R4-031086) LS on Frequency band indicator.
Consequences if not approved:	⌘	- UMTS800 cannot be supported
Clauses affected:	⌘	Section 2, x

	Y	N			
Other specs affected: ⌘	X		Other core specifications	⌘	25.331
		X	Test specifications		
		X	O&M Specifications		

Other comments: ⌘

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Comment [H193]: Document numbers are allocated by the Working Group Secretary.
Comment [H194]: Enter the specification number in this box. For example, 04.08 or 31.102. Do not prefix the number with anything. i.e. do not use "TS", "GSM" or "3GPP" etc.
Comment [H195]: Enter the CR number here. This number is allocated by the 3GPP support team. It consists of at least three digits, padded with leading zeros if necessary.
Comment [H196]: Enter the revision number of the CR here. If it is the first version, use a "-".
Comment [H197]: Enter the version of the specification here. This number is the version of the specification to
Comment [H198]: For help on how to fill out a field, place the mouse
Comment [H199]: Mark one or more of the boxes with an X.
Comment [H200]: SIM / USIM / ISIM applications.
Comment [H201]: Enter a concise description of the subject matter of t
Comment [H202]: Enter the source of the CR. This is either (a) one or
Comment [H203]: Enter the acronym for the work item which is
Comment [H204]: Enter the date on which the CR was last revised. For
Comment [H205]: Enter a single letter corresponding to the most
Comment [H206]: Enter a single release code from the list below.
Comment [H207]: Enter text which explains why the change is necessary.
Comment [H208]: Enter text which describes the most important
Comment [H209]: Enter here the consequences if this CR was to be
Comment [H210]: Enter the number of each clause which contains changes.
Comment [H211]: Tick "yes" box if any other specifications are affected
Comment [H212]: List here the specifications which are affected or
Comment [H213]: Enter any other information which may be needed b

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.

Comment [H214]: This is an example of pop-up text.

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.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 25.101 (Release 5, version 5): "UE Radio Transmission and Reception (FDD)".

[3] 3GPP TS 25.331 (Release 5, version 5): "Radio Resource Control Protocol".

[4] 3GPP TS 25.331 (Release '99, version 3): "Radio Resource Control Protocol".

[5] 3GPP TS 25.101 (Release '99, version 3): "UE Radio Transmission and Reception (FDD)".

[6] 3GPP TS 25.133 (Release '99, version 3): "Requirements for Support of Radio Resource Management (FDD)".

[7] 3GPP TS 25.133 (Release 5, version 5): "Requirements for Support of Radio Resource Management (FDD)".

[8] 3GPP TS25.331 (Release 6, version 6): "Radio Resource Control Protocol".

[9] 3GPP TS 25.101 (Release 6, version 6): "UE Radio Transmission and Reception (FDD)".

[10] 3GPP TS 25.133 (Release 6, version 6): "Requirements for Support of Radio Resource Management (FDD)".

X UMTS 800 Independent of Release

UMTS 800 is specified in Release 6 but is defined as a release-independent frequency band. This approach aligns the UMTS 800 band with other frequency bands when considering features that have to be supported in different releases.

x.1 UMTS 800 UE

UEs that conform to Release '99 and support the 800 MHz frequency band shall support the following requirements in Release 6

x.1.1 RF Requirements

The UE shall comply with the RF requirements for the 800 MHz band specified in [9]. These requirements are:

Section 5: Frequency bands and channel arrangement;

Section 6: Transmitter characteristics;

Section 7: Receiver characteristics.

Other requirements for radio reception and transmission requirements are defined in [5].

The UE shall comply with the Radio Resource Management requirements for the 800 MHz band specified in [10]. These requirements are:

Section 9.1: Measurement Performances for UE.

Other requirements for radio resource management are defined in [6].

x.1.2 Signalling Requirements

The UE shall support the following RRC extensions specified in [8]:

- The parameter value "UMTS800" for the IE "FDD frequency band" contained within the IEs "UE radio access capability extension" and "Measurement capability extension". The UE shall use this parameter value in order to signal its radio access capabilities relating to the 800 MHz band.

- The IE "Frequency band indicator" contained within the IEs "System Information Block type 5" and "System Information Block type 6". The UE shall use this IE to determine whether it is compliant with the RF requirement in the indicated frequency band, in case the UE is in the frequency that belongs to multiple frequency bands.

1) NOTE: The UE must be able to at least decode any unrelated RRC extensions that can be included in between the release it supports, and the IE "Frequency band indicator"

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Annex B.11 (informative): CR 008 to 25.307 Rel-4

3GPP TSG-RAN WG2 Meeting #39
San Diego, USA, November 17-21

Tdoc ⌘R2-032710

CR-Form-v7

CHANGE REQUEST

⌘ **25.307 CR 008** ⌘ **rev 1** ⌘ Current version: **4.1.0** ⌘

*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 [X] Core Network [ ]

Title:	⌘	Introduction of UMTS800
Source:	⌘	NTT DoCoMo
Work item code:	⌘	RinImp-UMTS800 ***Date:*** ⌘ 11/20/03
Category:	⌘	**B** ***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)
Rel-6 (Release 6)

Reason for change:	⌘	- Approved WI
Summary of change:	⌘	- Description regarding the requirement to R99 UE that supports UMTS800 is added. - Rev1 – Description regarding frequency band indicator is added to Signalling Requirement. The necessity is described in R2-032630(R4-031086) LS on Frequency band indicator. Also, the existing text for Section 2 was taken from Rel-99 version of the specification, so this is replaced with text taken from the correct version of the specification (Rel-4)
Consequences if not approved:	⌘	- UMTS800 cannot be supported

Clauses affected:	⌘	Section 2, x		
Other specs	⌘	Y [X] N [ ]	Other core specifications	⌘ 25.331

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Comment [H215]: Document numbers are allocated by the Working Group Secretary.
Comment [H216]: Enter the specification number in this box. For example, 04.08 or 31.102. Do not prefix the number with anything. i.e. do not use "TS", "GSM" or "3GPP" etc.
Comment [H217]: Enter the CR number here. This number is allocated by the 3GPP support team. It consists of at least three digits, padded with leading zeros if necessary.
Comment [H218]: Enter the revision number of the CR here. If it is the first version, use a "-".
Comment [H219]: Enter the version of the specification here. This number is the version of the specification to which the CR will be applied if it is approved. Make sure that the latest version of the specification (of the ...
Comment [H220]: For help on how to fill out a field, place the mouse ...
Comment [H221]: Mark one or more of the boxes with an X.
Comment [H222]: SIM / USIM / ISIM applications.
Comment [H223]: Enter a concise description of the subject matter of t...
Comment [H224]: Enter the source of the CR. This is either (a) one or ...
Comment [H225]: Enter the acronym for the work item which is ...
Comment [H226]: Enter the date on which the CR was last revised. For ...
Comment [H227]: Enter a single letter corresponding to the most ...
Comment [H228]: Enter a single release code from the list below.
Comment [H229]: Enter text which explains why the change is necessary.
Comment [H230]: Enter text which describes the most important ...
Comment [H231]: Enter here the consequences if this CR was to be ...
Comment [H232]: Enter the number of each clause which contains changes.
Comment [H233]: Tick "yes" box if any other specifications are affected ...
Comment [H234]: List here the specifications which are affected or ...

affected:		
	X	Test specifications
	X	O&M Specifications
Other comments:	⌘	

Comment [H235]: Enter any other information which may be needed by the group being requested to approve the CR. This could include special conditions for it's approval which are not listed anywhere else above.

Comment [H236]: This is an example of pop-up text.

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.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 25.101 (Release 5, version 5): "UE Radio Transmission and Reception (FDD)".

[3] 3GPP TS 25.331 (Release 5, version 5): "Radio Resource Control Protocol".

[4] 3GPP TS 25.331 (Release 4, version 4): "Radio Resource Control Protocol".

[5] 3GPP TS 25.101 (Release 4, version 4): "UE Radio Transmission and Reception (FDD)".

[6] 3GPP TS 25.133 (Release 4, version 4): "Requirements for Support of Radio Resource Management (FDD)".

[7] 3GPP TS 25.133 (Release 5, version 5): "Requirements for Support of Radio Resource Management (FDD)".

[8] 3GPP TS25.331 (Release 6, version 6): "Radio Resource Control Protocol".

[9] 3GPP TS 25.101 (Release 6, version 6): "UE Radio Transmission and Reception (FDD)".

[10] 3GPP TS 25.133 (Release 6, version 6): "Requirements for Support of Radio Resource Management (FDD)".

X UMTS 800 Independent of Release

UMTS 800 is specified in Release 6 but is defined as a release-independent frequency band. This approach aligns the UMTS 800 band with other frequency bands when considering features that have to be supported in different releases.

x.1 UMTS 800 UE

UEs that conform to Release '99 and support the 800 MHz frequency band shall support the following requirements in Release 6

x.1.1 RF Requirements

The UE shall comply with the RF requirements for the 800 MHz band specified in [9]. These requirements are:

Section 5: Frequency bands and channel arrangement;

Section 6: Transmitter characteristics;

Section 7: Receiver characteristics.

Other requirements for radio reception and transmission requirements are defined in [5].

The UE shall comply with the Radio Resource Management requirements for the 800 MHz band specified in [10]. These requirements are:

Section 9.1: Measurement Performances for UE.

Other requirements for radio resource management are defined in [6].

x.1.2 Signalling Requirements

The UE shall support the following RRC extensions specified in [8]:

- The parameter value "UMTS800" for the IE "FDD frequency band" contained within the IEs "UE radio access capability extension" and "Measurement capability extension". The UE shall use this parameter value in order to signal its radio access capabilities relating to the 800 MHz band.

- The IE "Frequency band indicator" contained within the IEs "System Information Block type 5" and "System Information Block type 6". The UE shall use this IE to determine whether it is compliant with the RF requirement in the indicated frequency band, in case the UE is in the frequency that belongs to multiple frequency bands.

NOTE: The UE must be able to at least decode any unrelated RRC extensions that can be included in between the release it supports, and the IE "Frequency band indicator"

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Annex B.12 (informative): CR 009 to 25.307 Rel-5

3GPP TSG-RAN WG2 Meeting #39
San Diego, USA, November 17-21

Tdoc* ⌘*R2-032711

CR-Form-v7

CHANGE REQUEST

⌘ **25.307 CR 009** ⌘**rev 1** ⌘ 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: UICC apps⌘ [ ] ME [X] Radio Access Network [X] Core Network [ ]

Title:	⌘ Introduction of UMTS800
Source:	⌘ NTT DoCoMo
Work item code:	⌘ RinImp-UMTS800
Date:	⌘ 11/20/03
Category:	⌘ **B**
Release:	⌘ Rel-5

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:	⌘ - Approved WI
Summary of change:	⌘ - Description regarding the requirement to R99 UE that supports UMTS800 is added. - Rev1 – Description regarding frequency band indicator is added to Signalling Requirement. The necessity is described in R2-032630(R4-031086) LS on Frequency band indicator. Also, the existing text for Section 2 was taken from Rel-99 version of the specification, so this is replaced with text taken from the correct version of the specification (Rel-5)
Consequences if not approved:	⌘ - UMTS800 cannot be supported

Clauses affected:	⌘ Section 2, x

	Y	N		
Other specs affected:	⌘ X		Other core specifications	⌘ 25.331
		X	Test specifications	
		X	O&M Specifications	

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Comment [H237]: Document numbers are allocated by the Working Group Secretary.
Comment [H238]: Enter the specification number in this box. For example, 04.08 or 31.102. Do not prefix the number with anything. i.e. do not use "TS", "GSM" or "3GPP" etc.
Comment [H239]: Enter the CR number here. This number is allocated by the 3GPP support team. It consists of at least three digits, padded with leading zeros if necessary.
Comment [H240]: Enter the revision number of the CR here. If it is the first version, use a "-".
Comment [H241]: Enter the version of the specification here. This number is the version of the specification to which the CR will be applied if it is approved. Make sure that the latest version of the specification (of the ...
Comment [H242]: For help on how to fill out a field, place the mouse ...
Comment [H243]: Mark one or more of the boxes with an X.
Comment [H244]: SIM / USIM / ISIM applications.
Comment [H245]: Enter a concise description of the subject matter of t...
Comment [H246]: Enter the source of the CR. This is either (a) one or ...
Comment [H247]: Enter the acronym for the work item which is ...
Comment [H248]: Enter the date on which the CR was last revised. For ...
Comment [H249]: Enter a single letter corresponding to the most ...
Comment [H250]: Enter a single release code from the list below.
Comment [H251]: Enter text which explains why the change is necessary.
Comment [H252]: Enter text which describes the most important ...
Comment [H253]: Enter here the consequences if this CR was to be ...
Comment [H254]: Enter the number of each clause which contains changes.
Comment [H255]: Tick "yes" box if any other specifications are affected ...
Comment [H256]: List here the specifications which are affected or ...

Other comments: ⌘

Comment [H257]: Enter any other information which may be needed by the group being requested to approve the CR. This could include special conditions for it's approval which are not listed anywhere else above.

Comment [H258]: This is an example of pop-up text.

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.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

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[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 25.101 (Release 5, version 5): "UE Radio Transmission and Reception (FDD)".

[3] 3GPP TS 25.133 (Release 5, version 5): "Requirements for Support of Radio Resource Management (FDD)".

[~~3~~4] 3GPP TS25.331 (Release 6, version 6): "Radio Resource Control Protocol".

[~~4~~5] 3GPP TS 25.101 (Release 6, version 6): "UE Radio Transmission and Reception (FDD)".

[~~5~~6] 3GPP TS 25.133 (Release 6, version 6): "Requirements for Support of Radio Resource Management (FDD)".

X UMTS 800 Independent of Release

UMTS 800 is specified in Release 6 but is defined as a release-independent frequency band. This approach aligns the UMTS 800 band with other frequency bands when considering features that have to be supported in different releases.

x.1 UMTS 800 UE

UEs that conform to Release '99 and support the 800 MHz frequency band shall support the following requirements in Release 6

x.1.1 RF Requirements

The UE shall comply with the RF requirements for the 800 MHz band specified in [~~4~~5]. These requirements are:

Section 5: Frequency bands and channel arrangement;

Section 6: Transmitter characteristics;

Section 7: Receiver characteristics.

Other requirements for radio reception and transmission requirements are defined in [~~5~~2].

The UE shall comply with the Radio Resource Management requirements for the 800 MHz band specified in [~~5~~6]. These requirements are:

Section 9.1: Measurement Performances for UE.

Other requirements for radio resource management are defined in [~~6~~3].

x.1.2 Signalling Requirements

The UE shall support the following RRC extensions specified in [84]:

- —The parameter value "UMTS800" for the IE "FDD frequency band" contained within the IEs "UE radio access capability extension" and "Measurement capability extension". The UE shall use this parameter value in order to signal its radio access capabilities relating to the 800 MHz band.

- The IE "Frequency band indicator" contained within the IEs "System Information Block type 5" and "System Information Block type 6". The UE shall use this IE to determine whether it is compliant with the RF requirement in the indicated frequency band, in case the UE is in the frequency that belongs to multiple frequency bands.

NOTE: The UE must be able to at least decode any unrelated RRC extensions that can be included in between the release it supports, and the IE "Frequency band indicator"

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Annex B.13 (informative): CR 0010 to 25.307 Rel-6

3GPP TSG-RAN WG2 Meeting #39
San Diego, USA, November 17-21

Tdoc* ⌘*R2-032596

CR-Form-v7

CHANGE REQUEST

⌘ **25.307 CR 010** ⌘**rev** **-** ⌘ 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: UICC apps⌘ [ ] ME [X] Radio Access Network [X] Core Network [ ]

Title:	⌘	Introduction of UMTS800
Source:	⌘	NTT DoCoMo
Work item code:	⌘	RinImp-UMTS800
Date:	⌘	11/20/03
Category:	⌘	**B**
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:	⌘	- Approved WI
Summary of change:	⌘	- The section X is added. The section "X. UMTS 800 Independent of Release" that describes the requirement to R99 UE that supports UMTS800 is added by the CRs 007, 008(shadow) and 009(shadow) to the R99, Rel-4 and Rel-5 specifications respectively. Since UMTS 800 is specified in Release 6, the description of the section X becomes unnecessary in the Rel-6 specification. Therefore the section is replaced with Void.
Consequences if not approved:	⌘	- UMTS800 cannot be supported

Clauses affected:	⌘	Section X
Other specs affected:	⌘	Y [X] N [ ] Other core specifications ⌘ 25.331 Y [ ] N [X] Test specifications

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Comment [H259]: Document numbers are allocated by the Working Group Secretary.
Comment [H260]: Enter the specification number in this box. For example, 04.08 or 31.102. Do not prefix the number with anything. i.e. do not use "TS", "GSM" or "3GPP" etc.
Comment [H261]: Enter the CR number here. This number is allocated by the 3GPP support team. It consists of at least three digits, padded with leading zeros if necessary.
Comment [H262]: Enter the revision number of the CR here. If it is the first version, use a "-".
Comment [H263]: Enter the version of the specification here. This number is the version of the specification to which the CR will be applied if it is approved. Make sure that the latest version of the specification (of the relevant release) is used when creating the CR. If unsure what the latest ...
Comment [H264]: For help on how to fill out a field, place the mouse ...
Comment [H265]: Mark one or more of the boxes with an X.
Comment [H266]: SIM / USIM / ISIM applications.
Comment [H267]: Enter a concise description of the subject matter of t...
Comment [H268]: Enter the source of the CR. This is either (a) one or ...
Comment [H269]: Enter the acronym for the work item which is ...
Comment [H270]: Enter the date on which the CR was last revised. For ...
Comment [H271]: Enter a single letter corresponding to the most ...
Comment [H272]: Enter a single release code from the list below.
Comment [H273]: Enter text which explains why the change is necessary.
Comment [H274]: Enter text which describes the most important ...
Comment [H275]: Enter here the consequences if this CR was to be ...
Comment [H276]: Enter the number of each clause which contains changes.
Comment [H277]: Tick "yes" box if any other specifications are affected ...
Comment [H278]: List here the specifications which are affected or ...

	X	O&M Specifications

Other comments: ⌘ As version6.x.x of 25.307 has not been created, this CR is made based on v.5.0.0.

Comment [H279]: Enter any other information which may be needed by the group being requested to approve the CR. This could include special conditions for it's approval which are not listed anywhere else above.

Comment [H280]: This is an example of pop-up text.

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.

X Void

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Annex C (informative): History

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