RP-000207

TSG-RAN Meeting #8 Düsseldorf, Germany, 21 – 23 June 2000

Title: Agreed CRs to TS 25.105

Source: TSG-RAN WG4

Agenda item: 5.4.3

Doc-1st-	Spec	CR	Re	Phas	Subject	Cat	Version	Version
RP-000207	25.105	032		R99	Reference Measurement Channels	F	3.2.0	3.3.0
RP-000207	25.105	033		R99	Regional requirements in TS 25.105	F	3.2.0	3.3.0
RP-000207	25.105	034		R99	Clarification of receiver dynamic range.	F	3.2.0	3.3.0
RP-000207	25.105	035		R99	Input power level for performance requirements	F	3.2.0	3.3.0
RP-000207	25.105	036		R99	Modification to the handling of UE TDD Measurement Uncertainty	F	3.2.0	3.3.0
RP-000207	25.105	037		R99	Clarification of the specification on Peak Code Domain Error	F	3.2.0	3.3.0
RP-000207	25.105	038		R99	Correction for emission mask measurement (TDD)	F	3.2.0	3.3.0

		CHANGE	REQU	EST Ple pag	ease see embedded help fi ge for instructions on how	le at the bottom of th to fill in this form corr	iis rectly.
		25.105	CR (032	Current Versio	on: <mark>3.2.0</mark>	
GSM (AA.BB) or 3	G (AA.BBB) specific	ation number \uparrow		↑ CR num	ber as allocated by MCC s	upport team	
For submission	n to: RAN 8 meeting # here ↑	for a for info	pproval	X	strate non-strate	gic (for SM gic use or	NG nly)
Proposed chan (at least one should be	orm: CR cover sneet, w Ige affects: marked with an X)	(U)SIM	ME	UTR	AN / Radio X	Core Network	(
Source:	RAN WG4				Date:	22/05/2000	
Subject:	Reference	Measurement Cha	annels				
Work item:							
Category: (only one category (shall be marked (with an X)	F Correction A Correspond B Addition of C Functional D Editorial m	ds to a correction feature modification of fea odification	in an earlie ature	er release	X <u>Release:</u>	Phase 2 Release 96 Release 97 Release 98 Release 99 Release 00	X
<u>Reason for</u> change:	The current specificatio	measurement ch	annels are	e not in line	with the WG1 and	WG2	
Clauses affecte	ed: Appen	dix A					
<u>Other specs</u> affected:	Other 3G cor Other GSM c MS test spec BSS test spe O&M specific	e specifications ore specifications ifications cifications cations	$\begin{array}{c} \rightarrow \\ \rightarrow \\ \rightarrow \\ \hline \mathbf{X} \\ \rightarrow \\ \rightarrow \end{array}$	List of CRs List of CRs List of CRs List of CRs List of CRs			
<u>Other</u> comments:							

Annex A (normative): Measurement Channels

A.1 General

A.2 Reference measurement channel

A.2.1 UL reference measurement channel (12.2 kbps)

Parameter	
Information data rate	12.2 kbps
RU's allocated	2 RU
Midamble	512 chips
Interleaving	20 ms
Power control	2 Bit/user
TFCI	16 Bit/user
Inband signalling DCCH	2 kbps
Puncturing level at Code rate 1/3 : DCH / DCCH	5% / 0%



3G TS 25.105 version 3.2.0 Release 99



A.2.2 UL reference measurement channel (64 kbps)

Parameter	
Information data rate	64 kbps
RU's allocated	1 SF4 + 1 SF16 = 5RU
Midamble	512 chips
Interleaving	20 ms
Power control	2 Bit/user
TFCI	16 Bit/user
Inband signalling DCCH	2 kbps
Puncturing level at Code rate : 1/3 DCH / 1/2 DCCH	41.2% / 10%





A.2.3 UL reference measurement channel (144 kbps)

Parameter	
Information data rate	144 kbps
RU's allocated	1 SF2 + 1 SF16 = 9RU
Midamble	256 chips
Interleaving	20 ms
Power control	2 Bit/user
TFCI	16 Bit/user
Inband signalling DCCH	2 kbps
Puncturing level at Code rate : 1/3 DCH / 1/2 DCCH	44.4% / 16.6%





A.2.4 UL reference measurement channel (384 kbps)

Parameter	
Information data rate	384 kbps
RU's allocated	8*3TS = 24RU
Midamble	256 chips
Interleaving	20 ms
Power control	2 Bit/user
TFCI	16 Bit/user
Inband signalling DCCH	2 kbps
Puncturing level at Code rate : 1/3 DCH / 1/2 DCCH	43.4% / 15.3%



3G TS 25.105 version 3.2.0 Release 99



	C	HANGE	REQI	JEST	Please see e page for inst	mbedded help t ructions on how	file at the bottom of t to fill in this form co	his rrect
		25.105	CR	033	Cu	irrent Versi	on: <u>3.2.0</u>	
GSM (AA.BB) or 30	G (AA.BBB) specificatio	on number↑		↑ CF	R number as allo	cated by MCC	support team	
For submission	to: RAN #8 meeting # here ↑	for a for info	approval ormation	X typesion of this f	iorm is available fr	strate non-strate	egic (for S egic use o	SMG only)
Proposed chan	ge affects: marked with an X)	(U)SIM] ME	L C	JTRAN / Ra	adio X	Core Networ	k [
Source:	RAN WG4					Date:	11/04/00	
Subject:	Regional requ	irements in TS	25.105					
Work item:								
Category: F A A (only one category E shall be marked C with an X) E	 Correction Corresponds Addition of fe Functional mod Editorial mod 	to a correction ature odification of fe ification	in an ea ature	rlier relea:	se	<u>Release:</u>	Phase 2 Release 96 Release 97 Release 98 Release 99 Release 00	
<u>Reason for</u> <u>change:</u>	Several requination regional regularity regional regionally. The A regional	rements in TS 2 atory requireme e proposed tex quirement is als	25.105 w ents or o t for the o added	ill be appl n co-exist 'General" for Claus	ied regiona ence with s section cla e 6.2.	lly, since th systems that rifies this.	ney depend on at are deployed	b
Clauses affecte	<u>d:</u> 4.3, 6.2. ²	1.1						
<u>Other specs</u> affected:	Other 3G core Other GSM cor MS test specific BSS test specific O&M specificat	specifications e specifications cations fications ions	5		CRs: CRs: CRs: CRs: CRs: CRs:			
<u>Other</u> comments:								

4 General

4.1 Measurement uncertainty

The requirements given in this specification are absolute. Compliance with the requirements is determined by comparing the measured value with the specified limit, without making allowance for measurement uncertainty.

4.2 Base station classes

The requirements in this specification apply to base station intended for general-purpose applications in co-ordinated network operation.

In the future further classes of base stations may be defined; the requirements for these may be different than for generalpurpose applications.

4.3 Regional requirements

Some requirements in TS 25.105 may only apply in certain regions. Table 4.1 lists all requirements that may be applied differently in different regions.

Clause number	Requirement	Comments
<u>5.2</u>	Frequency bands	Some bands may be applied regionally.
<u>6.2.1</u>	Base station maximum output power	In certain regions, the minimum requirement for normal conditions may apply also for some conditions outside the range of conditions defined as normal.
<u>6.6.2.1</u>	Spectrum emission mask	The mask specified may be mandatory in certain regions. In other regions this mask may not be applied.
<u>6.6.3.1.1</u>	Spurious emissions (Category A)	These requirements shall be met in cases where Category A limits for spurious emissions, as defined in ITU-R Recommendation SM.329-7 [1], are applied.
<u>6.6.3.1.2</u>	Spurious emissions (Category B)	These requirements shall be met in cases where Category B limits for spurious emissions, as defined in ITU-R Recommendation SM.329-7 [1], are applied.
<u>6.6.3.2.1</u>	<u>Co-existence with GSM900 –</u> <u>Operation in the same geographic</u> <u>area</u>	This requirement may be applied for the protection of GSM 900 MS in geographic areas in which both GSM 900 and UTRA are deployed.
6.6.3.2.2	<u>Co-existence with GSM900 –</u> <u>Co-located base stations</u>	This requirement may be applied for the protection of GSM 900 BTS receivers when GSM 900 BTS and UTRA BS are co-located.
<u>6.6.3.3.1</u>	<u>Co-existence with DCS1800 –</u> <u>Operation in the same geographic</u> <u>area</u>	This requirement may be applied for the protection of DCS 1800 MS in geographic areas in which both DCS 1800 and UTRA are deployed.

Table 4.1: List of regional requirements.

<u>6.6.3.3.2</u>	<u>Co-existence with DCS1800 –</u> <u>Co-located base stations</u>	This requirement may be applied for the protection of DCS 1800 BTS receivers when DCS 1800 BTS and UTRA BS are co-located.
<u>6.6.3.4.1</u>	<u>Co-existence with UTRA FDD –</u> <u>Operation in the same geographic</u> <u>area</u>	This requirement may be applied to geographic areas in which both UTRA-TDD and UTRA-FDD are deployed.
<u>6.6.3.4.2</u>	<u>Co-existence with UTRA FDD –</u> <u>Co-located base stations</u>	This requirement may be applied for the protection of UTRA-FDD BS receivers when UTRA-TDD BS and UTRA FDD BS are co-located.
7.5	Blocking characteristic	The requirement is applied according to what frequency bands in Clause 5.2 that are supported by the BS.

6 Transmitter characteristics

6.1 General

Unless detailed the transmitter characteristic are specified at the antenna connector.

6.2 Base station output power

Output power, Pout, of the base station is the mean power of one carrier delivered to a load with resistance equal to the nominal load impedance of the transmitter during one slot.

Rated output power, PRAT, of the base station is the mean power level per carrier over an active timeslot that the manufacturer has delared to be available at the antenna connector.

6.2.1 Base station maximum output power

Maximum output power, Pmax, of the base station is the mean power level per carrier over an active timeslot measured at the antenna connector for a specified reference condition.

6.2.1.1 Minimum Requirement

In normal conditions, the base station maximum output power shall remain within +2 dB and -2 dB of the manufacturer's rated output power.

In extreme conditions, the Base station maximum output power shall remain within +2.5 dB and -2.5 dB of the manufacturer's rated output power.

In certain regions, the minimum requirement for normal conditions may apply also for some conditions outside the range of conditions defined as normal.

			REQI	JEST	Please see page for ins	embedded help fi tructions on how i	ile at the bottom of th to fill in this form cor	his rectly.
		25.105	CR	034	C	urrent Versio	on: 3.2.0	
GSM (AA.BB) or 3G ((AA.BBB) specifica	tion number \uparrow		<i>↑ CI</i>	R number as all	located by MCC s	support team	
For submission to	0: RAN 8 eting # here ↑	for ap for infor	oproval mation	X		strateg non-strateg	gic (for S gic use o	MG nly)
Proposed change (at least one should be ma	n: CR cover sheet, ver e affects: arked with an X)	(U)SIM	ME	Version of this	JTRAN / R	adio X	rg/Information/CR-Form	n-v2.doc
Source:	RAN WG4					Date:	22/05/2000	
Subject:	Clarification	<mark>of receiver dynar</mark>	<mark>nic rang</mark>	e.				
Work item:								
Category:FA(only one categoryshall be markedCwith an X)D	Correction Correspond Addition of f Functional r Editorial mo	s to a correction i eature nodification of fea dification	in an ea ature	rlier relea	se	<u>Release:</u>	Phase 2 Release 96 Release 97 Release 98 Release 99 Release 00	x
<u>Reason for</u> <u>change:</u>	The current specifies bo	receiver dynamic th the level of the	range r receive	equireme d signal a	nt is unclea Ind the inte	ar. The prop erference lev	osed correctio el.	on
Clauses affected	7.3							
Other specs affected: M E	Other 3G core Other GSM co AS test speci 3SS test spec D&M specifica	e specifications ore specifications fications ifications ations			CRs: CRs: CRs: CRs: CRs: CRs:			
<u>Other</u> comments:								

7.3 Dynamic range

The receiver dynamic range is the input power range at each BS antenna connector over which the BER does not exceed a specific rate.

The static BER reference performance as specified in clause 7.2.1 should be met over a receiver input range of 30 dB above the specified reference sensitivity level for 12.2 kbps channel.

26

<u>Receiver dynamic range is the receiver ability to handle a rise of interference in the reception frequency channel. The receiver shall fulfil a specified BER requirement for a specified sensitivity degradation of the wanted signal in the presence of an interfering AWGN signal in the same reception frequency channel.</u>

7.3.1 Minimum requirement

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

Table xx: Dynamic Range

<u>Parameter</u>	Level	Unit
Data rate	<u>12.2</u>	<u>kbps</u>
Wanted signal	<refsens> + 30 dB</refsens>	<u>dBm</u>
Interfering AWGN signal	<u>-73</u>	<u>dBm/3.84 MHz</u>

		CHANGE I	REQI	JEST	Please s page for	see embedded help r instructions on how	file at the bottom of th to fill in this form cor	his rectly.
		25.105	CR	035		Current Vers	ion: 3.2.0	
GSM (AA.BB) or 3G ((AA.BBB) specifica	tion number \uparrow		↑ CF	R number as	s allocated by MCC	support team	
For submission to	o: RAN 8 eting # here ↑	for ap	oproval mation	X		strate non-strate	egic (for S egic use o	MG inly)
Proposed change (at least one should be ma	:: CR cover sneet, ver e affects: arked with an X)	(U)SIM	ME		JTRAN /	/ Radio X	Core Networl	h-v2.doc
Source:	RAN WG4					Date:	22/05/2000	
Subject:	Input power	level for performa	ance rec	quirement	S			
Work item:								
Category:FA(only one categoryshall be markedCwith an X)D	Correction Correspond Addition of f Functional r Editorial mo	s to a correction i eature nodification of fea dification	in an ea ature	rlier relea:	se	Release:	Phase 2 Release 96 Release 97 Release 98 Release 99 Release 00	x
<u>Reason for</u> change:	The currentl value is ado	y defined input po pted accordingly.	ower lev	el is outsi	de the re	eceiver dynam	nic range. The	
Clauses affected	<u>8.2; 8.3</u>							
Other specs affected: M E	Other 3G core Other GSM co AS test speci 3SS test spec D&M specifica	e specifications ore specifications fications difications ations			CRs: CRs: CRs: CRs: CRs: CRs:			
<u>Other</u> comments:								

8.2 Demodulation in static propagation conditions

8.2.1 Demodulation of DCH

The performance requirement of DCH in static propagation conditions is determined by the maximum Block Error Rate (BLER) allowed when the receiver input signal is at a specified \hat{I}_{or}/I_{oc} limit. The BLER is calculated for each of the measurement channels supported by the base station.

8.2.1.1 Minimum requirement

For the parameters specified in Table 8.2 the BLER should not exceed the piece-wise linear BLER curve specified in Table 8.3.

Parameters	Unit	Test 1	Test 2	Test 3	Test 4
Number of DPCH _o		6	4	0	0
$\frac{DPCH_{o} _ E_{c}}{I_{or}}$	dB	-9	-9.5	0	0
I _{oc}	dBm/3.84 MHz		<u>-89</u>	-60	
Information Data Rate	kbps	12.2	64	144	384

Table 8.2: Parameters in static propagation conditions

able 8.3: Performance	requirements	in	AWGN	channel.
-----------------------	--------------	----	------	----------

Test Number	$\frac{\hat{I}_{or}}{I_{oc}} [dB]$	BLER Required E _b /N ₀
1	-1.9	10-2
2	-0.3	10-1
	0.0	10 ⁻²
3	0.0	10-1
	0.2	10 ⁻²
4	-0.5	10-1
	-0.3	10-2

8.3 Demodulation of DCH in multipath fading conditions

8.3.1 Multipath fading Case 1

The performance requirement of DCH in multipath fading Case 1 is determined by the maximum Block Error Rate (BLER) allowed when the receiver input signal is at a specified \hat{I}_{or}/I_{oc} limit. The BLER is calculated for each of the measurement channels supported by the base station.

8.3.1.1 Minimum requirement

For the parameters specified in Table 8.4 the BLER should not exceed the piece-wise linear BLER curve specified in Table 8.5.

Parameters	Unit	Test 1	Test 2	Test 3	Test 4
Number of DPCH _o		6	4	0	0
$\frac{DPCH_{o}_E_{c}}{I_{or}}$	dB	-9	-9.5	0	0
I _{oc}	dBm/3.84 MHz		<u>-89</u>	-60	
Information Data Rate	kbps	12.2	64	144	384

Table 8.4: Parameters in multipath Case 1 channel

Table 8.5:	Performance	requirements i	n multipath	Case 1	channel.
------------	-------------	----------------	-------------	--------	----------

Test Number	$\frac{\hat{I}_{or}}{I_{oc}} [dB]$	BLER
1	6.3	10-2
2	5.5	10-1
	9.4	10-2
3	5.6	10-1
	9.4	10-2
4	5.5	10-1
	8.7	10-2

8.3.2 Multipath fading Case 2

The performance requirement of DCH in multipath fading Case 2 is determined by the maximum Block Error Rate (BLER) allowed when the receiver input signal is at a specified \hat{I}_{or}/I_{oc} limit. The BLER is calculated for each of the measurement channels supported by the base station.

8.3.2.1 Minimum requirement

For the parameters specified in Table 8.6 the BLER should not exceed the piece-wise linear BLER curve specified in Table 8.7.

Parameters	Unit	Test 1	Test 2	Test 3	Test 4
Number of DPCH _o		2	0	0	0
$\frac{DPCH_o_E_c}{I_{or}}$	dB	-6	0	0	0
I _{oc}	dBm/3.84 MHz		<u>-89</u>	-60	

 Table 8.6: Parameters in multipath Case 2 channel

kbps	12.2	64	144	384
	kbps	kbps 12.2	kbps 12.2 64	kbps 12.2 64 144

Test Number	$\frac{\hat{I}_{or}}{I_{oc}} [dB]$	BLER
1	0.1	10-2
2	0.4	10-1
	2.8	10-2
3	3.6	10-1
	6.0	10-2
4	3.0	10-1
	5.4	10-2

8.3.3 Multipath fading Case 3

The performance requirement of DCH in multipath fading Case 3 is determined by the maximum Block Error Rate (BLER) allowed when the receiver input signal is at a specified \hat{I}_{or}/I_{oc} limit. The BLER is calculated for each of the measurement channels supported by the base station.

8.3.3.1 Minimum requirement

For the parameters specified in Table 8.8 the BLER should not exceed the piece-wise linear BLER curve specified in Table 8.9.

Parameters	Unit	Test 1	Test 2	Test 3	Test 4
Number of DPCH _o		2	0	0	0
$\frac{DPCH_o_E_c}{I_{or}}$	dB	-6	0	0	0
I _{oc}	dBm/3.84 MHz		<u>-89</u>	-60	
Information Data Rate	Kbps	12.2	64	144	384

Table 8.8: Parameters in multipath Case 3 channel

Table 8.9: Performance require	ements in multi	ipath Case 3 channel.
--------------------------------	-----------------	-----------------------

Test Number	$\frac{\hat{I}_{or}}{I_{oc}} [dB]$	BLER	
1	-0.6	10 ⁻²	
2	0.7	10^{-1}	
	2.4	10-2	
	3.8	10 ⁻³	
3	3.9	10^{-1}	

	5.9	10 ⁻²	
	7.3	10 ⁻³	
4	2.8	10-1	
	4.2	10 ⁻²	
	4.8	10 ⁻³	

		CHANGE	REQUE	EST Please page 1	e see embedded help f or instructions on how	ile at the bottom of th to fill in this form corr	is rectly.
		25.105	CR 0	36	Current Versi	on: <u>3.2.0</u>	
GSM (AA.BB) or	r 3G (AA.BBB) specifica	tion number ↑		↑ CR number	as allocated by MCC s	support team	
For submissic	on to: <mark>RAN #8</mark> al meeting # here ↑	for a for info	pproval X rmation		strate non-strate	gic (for SI gic use or	ИG nly)
Proposed cha	Form: CR cover sheet, ver ange affects: be marked with an X)	sion 2 for 3GPP and SMG	The latest versi	UTRAN	ilable from: ftp://ftp.3gpp.o	rg/Information/CR-Form	-v2.doo
Source:	RAN WG4				Date:	05/05/00	
Subject:	Modification	to the handling o	of BS TDD N	<u>Measuremen</u>	t Uncertainty		
Work item:							
Category: (only one category shall be marked with an X)	 F Correction A Correspond B Addition of f C Functional r D Editorial mod 	s to a correction eature nodification of fea dification	in an earlier ature	r release	X <u>Release:</u>	Phase 2 Release 96 Release 97 Release 98 Release 99 Release 00	X
<u>Reason for</u> change:	The directio meaning.	ns of handling for	measurem	ent uncertair	nty shall be char	nged to clarify i	ts
Clauses affect	ted: 4.1						
Other specs affected:	Other 3G core Other GSM co MS test speci BSS test spec O&M specifica	e specifications ore specifications fications sifications ations	$\begin{array}{c} \rightarrow \\ \rightarrow \\ \rightarrow \\ \hline \\$	List of CRs: List of CRs: List of CRs: List of CRs: List of CRs: List of CRs:			
Other							

4 General

4.1 Measurement uncertainty

The requirements given in this specification are absolute. Compliance with the requirements is determined by comparing the measured value with the specified limit, without making allowance for measurement uncertainty.

The requirements given in this specification make no allowance for measurement uncertainty. Where the measurement uncertainty can be determined, the test limit shall be relaxed from the value given in this specification. See section 5.8.5 of 25.142. Where the measurement uncertainty cannot reasonably be determined, the "Shared Risk" principle is applied, i.e. the test limit is not relaxed.

The Shared Risk principle is defined in ETR 028.

	CHANGE REG		ase see embedded help le for instructions on how	file at the bottom of this to fill in this form correctly.
	25.105 CF	R 037	Current Versi	on: 3.2.0
GSM (AA.BB) or 3G (AA.BBB) specifica	ation number î	1 CR numb	per as allocated by MCC	support team
For submission to:	for approv for informatio	al	strate non-strate	egic (for SMG use only)
Proposed change affects: (at least one should be marked with an X)	(U)SIM M		AN / Radio	Core Network
Source: RAN WG4			Date:	23.05.2000
Subject: Clarificatior	of the specification or	Peak Code Dom	nain Error (PCDE))
Work item: TS 25.105				
Category:FCorrection A(only one category shall be marked with an X)FCorrespond BAddition of CFunctional DEditorial metric	ds to a correction in an feature modification of feature odification	earlier release	X <u>Release:</u>	Phase 2 Release 96 Release 97 Release 98 Release 99 X Release 00
Reason for The PCDE change: to clearly sp	is strongly dependent of becify at which SF the I	on the spreading PCDE is evaluate	factor (SF); there d.	fore, it is needed
Clauses affected:				
Other specs affected:Other 3G cor Other GSM conspecificateaffected:Other GSM conspecificateMS test specificateMS test specificateBSS test specificateO&M specificate	e specifications ore ions ifications cifications cations	$\begin{array}{l} \rightarrow \mbox{ List of CRs}; \\ \rightarrow \mbox{ List of CRs}; \end{array}$		
Other comments:				

6.8.3 Peak Code Domain Error

The code domain error is computed by projecting the error vector power onto the code domain at <u>a specific</u>the <u>maximum</u> spreading factor. The error power for each code is defined as the ratio to the mean power of the reference waveform expressed in dB. And the Peak Code Domain Error is defined as the maximum value for Code Domain Error. The measurement interval is one timeslot.

6.8.3.1 Minimum Requirement

The peak code domain error shall not exceed -28 dB at spreading factor 16

	CHANGE F	REQUEST	Please see embedded help fi bage for instructions on how t	le at the bottom of this to fill in this form correctly.
	25.105	CR 038	Current Versio	on: 3.2.0
GSM (AA.BB) or 3G (AA.BBB)	specification number ↑	ר CR חנ 1 CR	umber as allocated by MCC s	upport team
For submission to: R A List expected approval meeting #	AN#8 for ap ^{here} for infor ↑	pproval X mation	strate non-strate	gic (for SMG gic use only)
Form: CR cove	r sheet, version 2 for 3GPP and SMG	The latest version of this form	is available from: ftp://ftp.3gpp.or	rg/Information/CR-Form-v2.doc
Proposed change affect (at least one should be marked with	ts: (U)SIM	ME UT	RAN / Radio 🛛 🗙	Core Network
Source: RAN	WG4		Date:	26.05.2000
Subject: Corre	ction for emission mask	<mark>c measurement (TD</mark>	D)	
Work item:				
Category:FCorre A(only one categoryBAddit Shall be markedC(with an X)DEditor	ection esponds to a correction i ion of feature tional modification of fea rial modification	in an earlier release ature	X Release:	Phase 2Release 96Release 97Release 98Release 99XRelease 00
Reason for Correction	ection for emission mask	a measurement		
Clauses affected:	6.5.2.1 Emission mask n	neasurement		
Other specsOther 3Affected:Other 0MS tesBSS teO&M s	BG core specifications SSM core specifications t specifications st specifications pecifications	$\begin{array}{c c} \rightarrow & \text{List of CF} \\ \rightarrow & \text{List of CF} \end{array}$	रिड: रिड: रिड: रिड: रिड:	
Other comments:				

.

6.6.2.1 Spectrum emission mask

The mask defined in Table 6.3 to 6.6 below may be mandatory in certain regions. In other regions this mask may not be applied.

For regions where this clause applies, the requirement shall be met by a base station transmitting on a single RF carrier configured in accordance with the manufacturer's specification. Emissions shall not exceed the maximum level specified in tables 6.3 to 6.6 for the appropriate BS maximum output power, in the frequency range from $\Delta f = 2.5$ MHz to f_{-} offset_{max} from the carrier frequency, where:

- f_offset_{max} is either 12.5 MHz or the offset to the UMTS Tx band edge as defined in section 5.2, whichever is the greater.



$\begin{tabular}{ c c } \hline Frequency offset of \\ measurement filter -3dB \\ point, \Delta f \end{tabular}$	Frequency offset of measurement filter centre frequency, f_offset	Maximum level	Measurement bandwidth
$2.5 \le \Delta f < 2.7 \text{ MHz}$	$2.515MHz \le f_offset < 2.715MHz$	-14 dBm	30 kHz
$2.7 \le \Delta f < 3.5 \text{ MHz}$	$2.715MHz \le f_{offset} < 3.515MHz$	- 14 - 15 (f_offset - 2.715) dBm	30 kHz
	3.515 MHz \leq f_offset < 4.0 MHz	-26 dBm	30 kHz
$3.5 \le \Delta f MHz$	$4.0 \text{MHz} \leq f_\text{offset} < f_\text{offset}_{\text{max}}$	-13 dBm	1 MHz

Table 6.4: Spectrum emission mask values, BS maximum output power $39 \le P < 43$ dBm

Frequency offset of measurement filter $-3dB$ point, Δf	Frequency offset of measurement filter centre frequency, f_offset	Maximum level	Measurement bandwidth
---	---	---------------	--------------------------

$2.5 \le \Delta f < 2.7 \text{ MHz}$	2.515 MHz \leq f_offset < 2.715 MHz	-14 dBm	30 kHz
$2.7 \le \Delta f < 3.5 \text{ MHz}$	2.715 MHz \leq f_offset < 3.515 MHz	-14 - 15·(f_offset - 2.715) dBm	30 kHz
(see note)	3.515 MHz \leq f_offset < 4.0 MHz	-26 dBm	30 kHz
$3.5 \le \Delta f < 7.5 \text{ MHz}$	$4.0MHz \leq f_offset < 8.0MHz$	-13 dBm	1 MHz
$7.5 \le \Delta f MHz$	$8.0MHz \le f_offset < f_offset_{max}$	P - 56 dBm	1 MHz

Table 6.5: Spectrum emission mask values, BS maximum output power $31 \le P < 39$ dBm

Frequency offset of measurement filter −3dB point,∆f	Frequency offset of measurement filter centre frequency, f_offset	Maximum level	Measurement bandwidth
$2.5 \le \Delta f < 2.7 \text{ MHz}$	$2.515MHz \leq f_offset < 2.715MHz$	P - 53 dBm	30 kHz
$2.7 \le \Delta f < 3.5 \text{ MHz}$	2.715 MHz \leq f_offset < 3.515 MHz	P - 53 - 15·(f_offset - 2.715) dBm	30 kHz
(see note)	3.515 MHz \leq f_offset < 4.0 MHz	-26 dBm	30 kHz
$3.5 \le \Delta f < 7.5 \text{ MHz}$	$4.0 MHz \leq f_offset < 8.0 MHz$	P - 52 dBm	1 MHz
$7.5 \le \Delta f MHz$	$8.0 \text{MHz} \leq f_\text{offset} < f_\text{offset}_{\text{max}}$	P - 56 dBm	1 MHz

Table 6.6: Spectrum emission mask values, BS maximum output power P < 31 dBm

Frequency offset of measurement filter –3dB point, Δf	Frequency offset of measurement filter centre frequency, f_offset	Maximum level	Measurement bandwidth
$2.5 \le \Delta f < 2.7 \text{ MHz}$	$2.515MHz \leq f_offset < 2.715MHz$	-22 dBm	30 kHz
$2.7 \le \Delta f < 3.5 \text{ MHz}$	2.715 MHz \leq f_offset < 3.515 MHz	-22 - 15·(f_offset - 2.715) dBm	30 kHz
(see note)	3.515 MHz \leq f_offset < 4.0 MHz	-26 dBm	30 kHz
$3.5 \le \Delta f < 7.5 \text{ MHz}$	$4.0 MHz \le f_offset < 8.0 MHz$	-21 dBm	1 MHz
$7.5 \le \Delta f MHz$	$8.0 \text{MHz} \leq f_{\text{offset}} < f_{\text{offset}}$	-25 dBm	1 MHz

NOTE: This frequency range ensures that the range of values of f_offset is continuous.

6.6.2.2 Adjacent Channel Leakage power Ratio (ACLR)

_

Adjacent Channel Leakage power Ratio (ACLR) is the ratio of the transmitted power to the power measured in an adjacent channel. Both the transmitted and the adjacent channel power are measured through a matched filter (Root Raised Cosine and roll-off 0.22) with a noise power bandwidth equal to the chip rate. The requirements shall apply for all configurations of BS (single carrier or multi-carrier), and for all operating modes foreseen by the manufacturer's specification.