

TSG RAN Meeting #19
Birmingham, United Kingdom, 11 - 14 March, 2003

RP-030049

Title CRs (Rel-6) for WI "FDD BS Classification"
Source TSG RAN WG4
Agenda Item 9.8

RAN4 Tdoc	Spec	CR	R	Cat	Rel	Curr Ver	Title	Work Item
R4-020088	25.104	175		B	Rel-6	6.0.0	Co-siting requirements for different FDD BS classes	RInImp-BSClass-FDD
R4-020358	25.104	177	4	B	Rel-6	6.0.0	Maximum output power for different BS class	RInImp-BSClass-FDD
R4-020297	25.104	184		F	Rel-6	6.0.0	The definition of UTRA-FDD BS classes	RInImp-BSClass-FDD
R4-020089	25.141	276		B	Rel-6	6.0.0	Co-siting requirements for different FDD BS classes	RInImp-BSClass-FDD
R4-020350	25.141	278	3	B	Rel-6	6.0.0	Maximum output power for different BS class	RInImp-BSClass-FDD
R4-020299	25.141	290		F	Rel-6	6.0.0	The definition of UTRA-FDD BS classes	RInImp-BSClass-FDD

Madrid, Spain 17 - 22 February, 2003

CR-Form-v7

CHANGE REQUEST⌘ **25.104 CR 175** ⌘ rev ⌘ Current version: **6.0.0** ⌘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 Radio Access Network Core Network

Title:	⌘ Co-siting requirements for different FDD BS classes		
Source:	⌘ RAN WG4		
Work item code:	⌘ RInImp-BSCClass-FDD	Date:	⌘ 05/03/2003
Category:	⌘ B	Release:	⌘ Rel-6
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	⌘ Based on the investigations for the work item RInImp-BSCClass-FDD new co-siting requirements for different BS classes have been derived. This requirements need to be introduced in TS 25.104.
Summary of change:	⌘ The new co-siting requirements for the different FDD BS classes will be introduced in the relevant clauses.
Consequences if not approved:	⌘ Co-existence requirements for the new FDD BS classes are missing.

Clauses affected:	⌘ 6.6.3.3, 6.6.3.4, 6.6.3.7, 6.6.3.10, 6.6.3.11										
Other specs affected:	<table border="1"> <tr> <td>Y</td> <td>N</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications	⌘ TS 25.141
Y	N										
<input type="checkbox"/>	<input checked="" type="checkbox"/>										
<input checked="" type="checkbox"/>	<input type="checkbox"/>										
<input type="checkbox"/>	<input checked="" type="checkbox"/>										
		Test specifications									
		O&M Specifications									
Other comments:	⌘										

How to create CRs using this form:Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>.

Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be

downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

6.6.3.3 Co-existence with GSM 900

6.6.3.3.1 Operation in the same geographic area

This requirement may be applied for the protection of GSM 900 MS and GSM 900 BTS receivers in geographic areas in which both GSM 900 and UTRA are deployed.

6.6.3.3.1.1 Minimum Requirement

The power of any spurious emission shall not exceed:

Table 6.11: BS Spurious emissions limits for BS in geographic coverage area of GSM 900 MS and GSM 900 BTS receivers

Band	Maximum Level	Measurement Bandwidth	Note
876 – 915 MHz	-61 dBm	100 kHz	
921 - 960 MHz	-57 dBm	100 kHz	

6.6.3.3.2 Co-located base stations

This requirement may be applied for the protection of GSM 900 BTS receivers when GSM 900 BTS and UTRA BS are co-located.

6.6.3.3.2.1 Minimum Requirement

The power of any spurious emission shall not exceed:

Table 6.12: BS Spurious emissions limits for protection of the GSM 900 BTS receiver

<u>BS class</u>	Band	Maximum Level	Measurement Bandwidth	Note
<u>Wide Area BS</u>	876-915 MHz	-98 dBm	100 kHz	
<u>Medium Range BS</u>	<u>876-915 MHz</u>	<u>-91 dBm</u>	<u>100 kHz</u>	
<u>Local Area BS</u>	<u>876-915 MHz</u>	<u>-70 dBm</u>	<u>100 kHz</u>	

These values assume a 30 dB coupling loss between transmitter and receiver. If BSs of different classes are co-sited, the coupling loss must be increased by the difference between the corresponding values from the table above.

6.6.3.4 Co-existence with DCS 1800

6.6.3.4.1 Operation in the same geographic area

This requirement may be applied for the protection of DCS 1800 MS and DCS 1800 BTS receivers in geographic areas in which both DCS 1800 and UTRA are deployed.

6.6.3.4.1.1 Minimum Requirement

The power of any spurious emission shall not exceed:

Table 6.13: BS Spurious emissions limits for BS in geographic coverage area of DCS 1800 MS and DCS 1800 BTS receivers

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
I	1805 - 1880 MHz	-47 dBm	100 kHz	
I	1710 – 1785 MHz	-61 dBm	100 kHz	
III	1710 – 1785 MHz	-61 dBm	100 kHz	

6.6.3.4.2 Co-located base stations

This requirement may be applied for the protection of DCS 1800 BTS receivers when DCS 1800 BTS and UTRA BS are co-located.

6.6.3.4.2.1 Minimum Requirement

The power of any spurious emission shall not exceed:

Table 6.14: BS Spurious emissions limits for BS co-located with DCS 1800 BTS

<u>BS class</u>	Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
<u>Wide Area BS</u>	I	1710 - 1785 MHz	-98 dBm	100 kHz	
<u>Medium Range BS</u>	I	<u>1710 - 1785 MHz</u>	<u>-96 dBm</u>	<u>100 kHz</u>	
<u>Local Area BS</u>	I	<u>1710 - 1785 MHz</u>	<u>-80 dBm</u>	<u>100 kHz</u>	
<u>Wide Area BS</u>	III	1710 – 1785 MHz	-98 dBm	100 kHz	
<u>Medium Range BS</u>	III	<u>1710 – 1785 MHz</u>	<u>-96 dBm</u>	<u>100 kHz</u>	
<u>Local Area BS</u>	III	<u>1710 – 1785 MHz</u>	<u>-80 dBm</u>	<u>100 kHz</u>	

[These values assume a 30 dB coupling loss between transmitter and receiver. If BSs of different classes are co-sited, the coupling loss must be increased by the difference between the corresponding values from the table above.](#)

6.6.3.5 Co-existence with PHS

This requirement may be applied for the protection of PHS in geographic areas in which both PHS and UTRA are deployed.

6.6.3.5.1 Minimum Requirement

The power of any spurious emission shall not exceed:

Table 6.15: BS Spurious emissions limits for BS in geographic coverage area of PHS

Band	Maximum Level	Measurement Bandwidth	Note
1893.5 - 1919.6 MHz	-41 dBm	300 kHz	

6.6.3.6 Co-existence with services in adjacent frequency bands

This requirement may be applied for the protection in bands adjacent to bands I, II or III, as defined in clause 5.2 in geographic areas in which both an adjacent band service and UTRA are deployed.

6.6.3.6.1 Minimum requirement

The power of any spurious emission shall not exceed:

Table 6.16: BS spurious emissions limits for protection of adjacent band services

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
I	2100-2105 MHz	$-30 + 3.4 \cdot (f - 2100 \text{ MHz}) \text{ dBm}$	1 MHz	
	2175-2180 MHz	$-30 + 3.4 \cdot (2180 \text{ MHz} - f) \text{ dBm}$	1 MHz	
II	1920-1925 MHz	$-30 + 3.4 \cdot (f - 1920 \text{ MHz}) \text{ dBm}$	1 MHz	
	1995-2000 MHz	$-30 + 3.4 \cdot (2000 \text{ MHz} - f) \text{ dBm}$	1 MHz	
III	1795-1800 MHz	$-30 + 3.4 \cdot (f - 1795 \text{ MHz}) \text{ dBm}$	1MHz	
	1885-1890 MHz	$-30 + 3.4 \cdot (1890 \text{ MHz} - f) \text{ dBm}$	1MHz	

6.6.3.7 Co-existence with UTRA-TDD

6.6.3.7.1 Operation in the same geographic area

This requirement may be applied to geographic areas in which both UTRA-TDD and UTRA-FDD are deployed.

6.6.3.7.1.1 Minimum Requirement

The power of any spurious emission shall not exceed:

Table 6.17: BS Spurious emissions limits for BS in geographic coverage area of UTRA-TDD

Band	Maximum Level	Measurement Bandwidth	Note
1900 - 1920 MHz	-52 dBm	1 MHz	
2010 - 2025 MHz	-52 dBm	1 MHz	

6.6.3.7.2 Co-located base stations

This requirement may be applied for the protection of UTRA-TDD BS receivers when UTRA-TDD BS and UTRA FDD BS are co-located.

6.6.3.7.2.1 Minimum Requirement

The power of any spurious emission shall not exceed:

Table 6.18: BS Spurious emissions limits for BS co-located with UTRA-TDD

BS class	Band	Maximum Level	Measurement Bandwidth	Note
Wide Area BS	1900 - 1920 MHz	-86 dBm	1 MHz	
Local Area BS	1900 - 1920 MHz	-55 dBm	1 MHz	
Wide Area BS	2010 - 2025 MHz	-86 dBm	1 MHz	
Local Area BS	2010 - 2025 MHz	-55 dBm	1 MHz	

[These values assume a 30 dB coupling loss between transmitter and receiver. If BSs of different classes are co-sited, the coupling loss must be increased by the difference between the corresponding values from the table above.](#)

6.6.3.8 Co-existence with UTRA in frequency band I

6.6.3.8.1 Operation in the same geographic area

This requirement may be applied for the protection of UTRA UE operating in frequency band I in geographic areas in which both UTRA in frequency band I and III are deployed.

6.6.3.8.1.1 Minimum Requirement

The power of any spurious emission shall not exceed:

Table 6.19: BS Spurious emissions limits for BS in geographic coverage area of UTRA UE receiver operating in frequency band I

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
III	2110 – 2170 MHz	-52 dBm	1 MHz	

6.6.3.8.2 Co-located base stations

This requirement may be applied for the protection of UTRA BS receivers operating in frequency band I when UTRA BS operating in frequency band I and III are co-located.

6.6.3.8.2.1 Minimum Requirement

The power of any spurious emission shall not exceed:

Table 6.20: BS Spurious emissions limits for BS co-located with UTRA BS operating in frequency band I

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
III	1920 - 1980 MHz	-96 dBm	100 kHz	

6.6.3.9 Co-existence with UTRA in frequency band III

6.6.3.9.1 Operation in the same geographic area

This requirement may be applied for the protection of UTRA UE operating in frequency band III in geographic areas in which both UTRA in frequency band III and I are deployed.

6.6.3.9.1.1 Minimum Requirement

The power of any spurious emission shall not exceed:

Table 6.21: BS Spurious emissions limits for BS in geographic coverage area of UTRA UE receiver operating in frequency band III

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
I	1805 – 1880 MHz	-62 dBm	100 kHz	

6.6.3.9.2 Co-located base stations

This requirement may be applied for the protection of UTRA BS receivers operating in frequency band III when UTRA BS operating in frequency band III and I are co-located.

6.6.3.9.2.1 Minimum Requirement

The power of any spurious emission shall not exceed:

Table 6.22: BS Spurious emissions limits for BS co-located with UTRA BS operating in frequency band III

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
I	1710 – 1785 MHz	-96 dBm	100 kHz	

6.6.3.10 Co-existence with PCS1900

6.6.3.10.1 Operation in the same geographic area

This requirement may be applied for the protection of PCS 1900 BS receiver in geographic areas in which both PCS 1900 and UTRA BS operating in the frequency band II are deployed.

6.6.3.10.1.1 Minimum Requirement

The power of any spurious emission shall not exceed:

Table 6.22A: BS Spurious emissions limits for BS in geographic coverage area of PCS 1900 BS

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
II	1850 - 1910 MHz	-61 dBm	100 kHz	

6.6.3.10.2 Co-located base stations

This requirement may be applied for the protection of PCS1900 BS receivers when UTRA BS operating in frequency band II and PCS1900 BS are co-located.

6.6.3.10.2.1 Minimum Requirement

The power of any spurious emission shall not exceed:

Table 6.23: BS Spurious emissions limits for BS co-located with PCS1900 BS

<u>BS class</u>	Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
<u>Wide Area BS</u>	II	1850 – 1910 MHz	-98 dBm	100 kHz	
<u>Medium Range BS</u>	II	<u>1850 – 1910 MHz</u>	<u>-96 dBm</u>	<u>100 kHz</u>	
<u>Local Area BS</u>	II	<u>1850 – 1910 MHz</u>	<u>-80 dBm</u>	<u>100 kHz</u>	

These values assume a 30 dB coupling loss between transmitter and receiver. If BSs of different classes are co-sited, the coupling loss must be increased by the difference between the corresponding values from the table above.

6.6.3.11 Co-existence with GSM850

6.6.3.11.1 Operation in the same geographic area

This requirement may be applied for the protection of GSM 850 MS and GSM 850 BS receiver in geographic areas in which both GSM 850 and UTRA BS operating in the frequency band II are deployed.

6.6.3.11.1 Minimum Requirement

The power of any spurious emission shall not exceed:

Table 6.23A: BS Spurious emissions limits for BS in geographic coverage area of GSM 850

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
II	824 - 849 MHz	-61 dBm	100 kHz	
II	869 – 894 MHz	-57 dBm	100 kHz	

6.6.3.11.2 Co-located base stations

This requirement may be applied for the protection of GSM850 BS receivers when UTRA BS operating in frequency band II and GSM850 BS are co-located.

6.6.3.11.2.1 Minimum Requirement

The power of any spurious emission shall not exceed:

Table 6.24: BS Spurious emissions limits for BS co-located with GSM850 BS

BS class	Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
Wide Area BS	II	824 - 849 MHz	-98 dBm	100 kHz	
Medium Range BS	II	824 - 849 MHz	-91 dBm	100 kHz	
Local Area BS	II	824 - 849 MHz	-70 dBm	100 kHz	

[These values assume a 30 dB coupling loss between transmitter and receiver. If BSs of different classes are co-sited, the coupling loss must be increased by the difference between the corresponding values from the table above.](#)

Madrid, Spain 17 - 22 February, 2003

CR-Form-v7

CHANGE REQUEST⌘ **25.104 CR 177** ⌘ rev **4** ⌘ Current version: **6.0.0** ⌘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 Radio Access Network Core Network

Title:	⌘ Maximum output power for different BS classes		
Source:	⌘ RAN WG4		
Work item code:	⌘ RInImp-BSCClass-FDD	Date:	⌘ 05/03/2003
Category:	⌘ B	Release:	⌘ Rel-6
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	⌘ Based on the investigations for the work item RInImp-BSCClass-FDD maximum Tx output power requirements for different BS classes have been derived. This requirements need to be introduced in TS 25.104.
Summary of change:	⌘ The new requirements for the different FDD BS classes will be introduced in the relevant clauses.
Consequences if not approved:	⌘ The requirements for Base Station maximum output power for the new FDD BS classes are missing.

Clauses affected:	⌘ 6.2 and 6.3										
Other specs affected:	<table border="1"> <tr> <td>Y</td> <td>N</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications Test specifications O&M Specifications	⌘ TS 25.141
Y	N										
<input type="checkbox"/>	<input checked="" type="checkbox"/>										
<input checked="" type="checkbox"/>	<input type="checkbox"/>										
<input type="checkbox"/>	<input checked="" type="checkbox"/>										
Other comments:	⌘										

How to create CRs using this form:Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>.

Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be

downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

6.2.1 Base station maximum output power

Maximum output power, P_{max} , of the base station is the mean power level per carrier measured at the antenna connector in specified reference condition.

6.2.1.1 Minimum requirement

The rated output power, PRAT, of the BS shall be as specified in Table 6.0A.

Table 6.0A: Base Station rated output power

BS class	PRAT
Wide Area BS	-*
Medium Range BS	< +38dBm
Local Area BS	< + 24dBm

Note *: There is no upper limit required for the rated output power of the Wide Area Base Station like for the base station for General Purpose application in Release 99, 4, and 5.

In normal conditions, the Base station maximum output power shall remain within +2 dB and -2dB 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.

6.3 Frequency error

The same source shall be used for RF frequency and data clock generation.

6.3.1 Minimum requirement

The modulated carrier frequency of the BS shall be accurate to within the accuracy range given in Table 6.0.

Table 6.0B: Frequency error minimum requirement

BS class	Accuracy
Wide Area BS	± 0.05 ppm
Medium Range BS	± 0.1 ppm
Local Area BS	± 0.1 ppm

Madrid, Spain 17 - 22 February, 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.104** **CR** **184** ⌘ rev ⌘ Current version: **6.0.0** ⌘

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 Radio Access Network Core Network

Title:	⌘ The definition of UTRA-FDD BS classes		
Source:	⌘ RAN WG4		
Work item code:	⌘ RInImp-BSCClass-FDD	Date:	⌘ 05/03/2003
Category:	⌘ F	Release:	⌘ Rel-6
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	2 (GSM Phase 2)	
	A (corresponds to a correction in an earlier release)	R96 (Release 1996)	
	B (addition of feature),	R97 (Release 1997)	
	C (functional modification of feature)	R98 (Release 1998)	
	D (editorial modification)	R99 (Release 1999)	
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	⌘ The names of BS classes: Wide Area, Medium Range, Local Area, were not defined in TR21.905. The purpose of the change is to establish the links between the BS class names and the cell types defined in TR21.905
Summary of change:	⌘ The clarification change allow to establish the link between the BS class names and the terminologies of cell types defined in TR21.905
Consequences if not approved:	⌘ The BS class names are not defined in TR21.905, there is no link between the BS class names and the cell types defined in TR21.905.
	Isolated Impact Analysis: The proposed clarification change has no impact on NodeB performance.

Clauses affected:	⌘ 4.2										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications	⌘ TS25.141
Y	N										
<input type="checkbox"/>	<input checked="" type="checkbox"/>										
<input checked="" type="checkbox"/>	<input type="checkbox"/>										
<input type="checkbox"/>	<input checked="" type="checkbox"/>										
		Test specifications									
		O&M Specifications									
Other comments:	⌘										

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

4.2 Base station classes

The requirements in this specification apply to Wide Area Base Stations, Medium Range Base Stations and Local Area Base Stations unless otherwise stated.

Wide Area Base Stations are characterised by requirements derived from [Macro Cell](#) scenarios with a BS to UE minimum coupling loss equals to 70 dB. The Wide Area Base Station class has the same requirements as the base station for General Purpose application in Release 99, 4 and 5.

Medium Range Base Stations are characterised by requirements derived from [Micro Cell](#) scenarios with a BS to UE minimum coupling loss equals to 53 dB.

Local Area Base Stations are characterised by requirements derived from [Pico Cell](#) scenarios with a BS to UE minimum coupling loss equals to 45 dB.

Madrid, Spain 17 - 22 February, 2003

CR-Form-v7

CHANGE REQUEST⌘ **25.141 CR 276** ⌘ rev ⌘ Current version: **6.0.0** ⌘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 Radio Access Network Core Network

Title:	⌘ Co-siting requirements for different FDD BS classes		
Source:	⌘ RAN WG4		
Work item code:	⌘ RInImp-BSCClass-FDD	Date:	⌘ 05/03/2003
Category:	⌘ B	Release:	⌘ Rel-6
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	⌘ Based on the investigations for the work item RInImp-BSCClass-FDD new co-siting requirements for different BS classes have been derived. This requirements need to be introduced in TS 25.104.
Summary of change:	⌘ The new co-siting requirements for the different FDD BS classes will be introduced in the relevant clauses.
Consequences if not approved:	⌘ Co-existence requirements for the new FDD BS classes are missing.

Clauses affected:	⌘ 6.5.3.4, 6.6.3.7										
Other specs affected:	<table border="1"> <tr> <td>Y</td> <td>N</td> </tr> <tr> <td>X</td> <td></td> </tr> <tr> <td></td> <td>X</td> </tr> <tr> <td></td> <td>X</td> </tr> </table>	Y	N	X			X		X	Other core specifications	⌘ TS 25.104
Y	N										
X											
	X										
	X										
		Test specifications									
		O&M Specifications									
Other comments:	⌘										

How to create CRs using this form:Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>.

Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be

downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

6.5.3.4.4 Co-existence with GSM 900

6.5.3.4.4.1 Operation in the same geographic area

This requirement may be applied for the protection of GSM 900 MS and GSM 900 BTS receivers in geographic areas in which both GSM 900 and UTRA are deployed.

This requirement assumes the scenario described in [2]. For different scenarios, the manufacturer may declare a different requirement.

6.5.3.4.4.1.1 Minimum Requirement

The power of any spurious emission shall not exceed.

Table 6.27: BS Spurious emissions limits for BS in geographic coverage area of GSM 900

Band	Maximum Level	Measurement Bandwidth	Note
876 MHz to 915 MHz	-61 dBm	100 kHz	
921 MHz to 960 MHz	-57 dBm	100 kHz	

6.5.3.4.4.2 Co-located base stations

This requirement may be applied for the protection of GSM 900 BTS receivers when GSM 900 BTS and UTRA BS are co-located.

6.5.3.4.4.2.1 Minimum Requirement

The power of any spurious emission shall not exceed.

Table 6.28: BS Spurious emissions limits for protection of the BTS receiver

BS class	Band	Maximum Level	Measurement Bandwidth	Note
Wide Area BS	876-915 MHz	-98 dBm	100 kHz	
Medium Range BS	876-915 MHz	-91 dBm	100 kHz	
Local Area BS	876-915 MHz	-70 dBm	100 kHz	

6.5.3.4.5 Co-existence with DCS 1800

6.5.3.4.5.1 Operation in the same geographic area

This requirement may be applied for the protection of DCS 1800 MS and DCS 1800 BTS receivers in geographic areas in which both DCS 1800 and UTRA are deployed.

This requirement assumes the scenario described in [2]. For different scenarios, the manufacturer may declare a different requirement.

6.5.3.4.5.1.1 Minimum Requirement

The power of any spurious emission shall not exceed:

Table 6.29: BS Spurious emissions limits for BS in geographic coverage area of DCS 1800

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
I	1 805 MHz to 1 880 MHz	-47 dBm	100 kHz	
I	1 710 MHz to 1 785 MHz	-61 dBm	100 kHz	
III	1 710 MHz to 1 785 MHz	-61 dBm	100 kHz	

6.5.3.4.5.2 Co-located basestations

This requirement may be applied for the protection of DCS 1800 BTS receivers when DCS 1800 BTS and UTRA BS are co-located.

6.5.3.4.5.2.1 Minimum Requirement

The power of any spurious emission shall not exceed.

Table 6.30: BS Spurious emissions limits for BS co-located with DCS 1800 BTS

<u>BS class</u>	Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
<u>Wide Area BS</u>	I	1710 - 1785 MHz	-98 dBm	100 kHz	
<u>Medium Range BS</u>	I	<u>1710 - 1785 MHz</u>	<u>-96 dBm</u>	<u>100 kHz</u>	
<u>Local Area BS</u>	I	<u>1710 - 1785 MHz</u>	<u>-80 dBm</u>	<u>100 kHz</u>	
<u>Wide Area BS</u>	III	1710 – 1785 MHz	-98 dBm	100 kHz	
<u>Medium Range BS</u>	III	<u>1710 – 1785 MHz</u>	<u>-96 dBm</u>	<u>100 kHz</u>	
<u>Local Area BS</u>	III	<u>1710 – 1785 MHz</u>	<u>-80 dBm</u>	<u>100 kHz</u>	

6.5.3.4.6 Co-existence with PHS

This requirement may be applied for the protection of PHS in geographic areas in which both PHS and UTRA are deployed.

6.5.3.4.6.1 Minimum Requirement

The power of any spurious emission shall not exceed.

Table 6.31: BS Spurious emissions limits for BS in geographic coverage area of PHS

Band	Maximum Level	Measurement Bandwidth	Note
1 893,5 MHz to 1 919,60 MHz	-41 dBm	300 kHz	

6.5.3.4.7 Co-existence with services in adjacent frequency bands

This requirement may be applied for the protection in bands adjacent to bands I, II or III, as defined in clause 3.4.1 in geographic areas in which both an adjacent band service and UTRA are deployed.

6.5.3.4.7.1 Minimum requirement

The power of any spurious emission shall not exceed.

Table 6.32: BS spurious emissions limits for protection of adjacent band services

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
I	2100-2105 MHz	$-30 + 3.4 \cdot (f - 2100 \text{ MHz}) \text{ dBm}$	1 MHz	
	2175-2180 MHz	$-30 + 3.4 \cdot (2180 \text{ MHz} - f) \text{ dBm}$	1 MHz	
II	1920-1925 MHz	$-30 + 3.4 \cdot (f - 1920 \text{ MHz}) \text{ dBm}$	1 MHz	
	1995-2000 MHz	$-30 + 3.4 \cdot (2000 \text{ MHz} - f) \text{ dBm}$	1 MHz	
III	1795-1800 MHz	$-30 + 3.4 \cdot (f - 1795 \text{ MHz}) \text{ dBm}$	1MHz	
	1885-1890 MHz	$-30 + 3.4 \cdot (1890 \text{ MHz} - f) \text{ dBm}$	1MHz	

6.5.3.4.8 Co-existence with UTRA-TDD

6.5.3.4.8.1 Operation in the same geographic area

This requirement may be applied to geographic areas in which both UTRA-TDD and UTRA-FDD are deployed.

6.5.3.4.8.1.1 Minimum Requirement

The power of any spurious emission shall not exceed.

Table 6.33: BS Spurious emissions limits for BS in geographic coverage area of UTRA-TDD

Band	Maximum Level	Measurement Bandwidth	Note
1 900 MHz to 1 920 MHz	-52 dBm	1 MHz	
2 010 MHz to 2 025 MHz	-52 dBm	1 MHz	

6.5.3.4.8.2 Co-located base stations

This requirement may be applied for the protection of UTRA-TDD BS receivers when UTRA-TDD BS and UTRA FDD BS are co-located.

6.5.3.4.8.2.1 Minimum Requirement

The power of any spurious emission shall not exceed.

Table 6.34: BS Spurious emissions limits for BS co-located with UTRA-TDD

<u>BS class</u>	Band	Maximum Level	Measurement Bandwidth	Note
<u>Wide Area BS</u>	1900 - 1920 MHz	-86 dBm	1 MHz	
<u>Local Area BS</u>	<u>1900 - 1920 MHz</u>	<u>-55 dBm</u>	<u>1 MHz</u>	
<u>Wide Area BS</u>	2010 - 2025 MHz	-86 dBm	1 MHz	
<u>Local Area BS</u>	<u>2010 - 2025 MHz</u>	<u>-55 dBm</u>	<u>1 MHz</u>	

6.5.3.4.9 Co-existence with UTRA in frequency band I

6.5.3.4.9.1 Operation in the same geographic area

This requirement may be applied for the protection of UTRA UE operating in frequency band I in geographic areas in which both UTRA in frequency band I and III are deployed.

6.5.3.4.9.1.1 Minimum Requirement

The power of any spurious emission shall not exceed:

Table 6.34A: BS Spurious emissions limits for BS in geographic coverage area of UTRA UE receiver operating in frequency band I

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
III	2110 – 2170 MHz	-52 dBm	1 MHz	

6.5.3.4.9.2 Co-located base stations

This requirement may be applied for the protection of UTRA BS receivers operating in frequency band I when UTRA BS operating in frequency band I and III are co-located.

6.5.3.4.9.2.1 Minimum Requirement

The power of any spurious emission shall not exceed:

Table 6.34B: BS Spurious emissions limits for BS co-located with UTRA BS operating in frequency band I

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
III	1920 - 1980 MHz	-96 dBm	100 kHz	

6.5.3.4.10 Co-existence with UTRA in frequency band III

6.5.3.4.10.1 Operation in the same geographic area

This requirement may be applied for the protection of UTRA UE operating in frequency band III in geographic areas in which both UTRA in frequency band III and I are deployed.

6.5.3.4.10.1.1 Minimum Requirement

The power of any spurious emission shall not exceed:

Table 6.34C: BS Spurious emissions limits for BS in geographic coverage area of UTRA UE receiver operating in frequency band III

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
I	1805 – 1880 MHz	-62 dBm	100 kHz	

6.5.3.4.10.2 Co-located base stations

This requirement may be applied for the protection of UTRA BS receivers operating in frequency band III when UTRA BS operating in frequency band III and I are co-located.

6.5.3.4.10.2.1 Minimum Requirement

The power of any spurious emission shall not exceed:

Table 6.34D: BS Spurious emissions limits for BS co-located with UTRA BS operating in frequency band III

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
I	1710 – 1785 MHz	-96 dBm	100 kHz	

6.5.3.4.11 Co-existence with PCS1900

6.5.3.4.11.1 Operation in the same geographic area

This requirement may be applied for the protection of PCS 1900 BS receiver in geographic areas in which both PCS 1900 and UTRA BS operating in the frequency band II are deployed.

6.5.3.4.11.1.1 Minimum Requirement

The power of any spurious emission shall not exceed:

Table 6.34Da: BS Spurious emissions limits for BS in geographic coverage area of PCS 1900 BS

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
II	1850 - 1910 MHz	-61 dBm	100 kHz	

6.5.3.4.11.2 Co-located base stations

This requirement may be applied for the protection of PCS1900 BS receivers when UTRA BS operating in frequency band II and PCS1900 BS are co-located.

6.5.3.4.11.2.1 Minimum Requirement

The power of any spurious emission shall not exceed:

Table 6.34E: BS Spurious emissions limits for BS co-located with PCS1900 BS

BS class	Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
Wide Area BS	II	1850 – 1910 MHz	-98 dBm	100 kHz	
Medium Range BS	II	1850 – 1910 MHz	-96 dBm	100 kHz	
Local Area BS	II	1850 – 1910 MHz	-80 dBm	100 kHz	

6.5.3.4.12 Co-existence with GSM850

6.5.3.4.12.1 Operation in the same geographic area

This requirement may be applied for the protection of GSM 850 MS and GSM 850 BS receiver in geographic areas in which both GSM 850 and UTRA BS operating in the frequency band II are deployed.

6.5.3.4.12.1.1 Minimum Requirement

The power of any spurious emission shall not exceed:

Table 6.34Ea: BS Spurious emissions limits for BS in geographic coverage area of GSM 850

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
II	824 - 849 MHz	-61 dBm	100 kHz	
II	869 – 894 MHz	-57 dBm	100 kHz	

6.5.3.4.12.2 Co-located base stations

This requirement may be applied for the protection of GSM850 BS receivers when UTRA BS operating in frequency band II and GSM850 BS are co-located.

6.5.3.4.12.2.1 Minimum Requirement

The power of any spurious emission shall not exceed:

Table 6.34F: BS Spurious emissions limits for BS co-located with GSM850 BS

<u>BS class</u>	<u>Operating Band</u>	<u>Band</u>	<u>Maximum Level</u>	<u>Measurement Bandwidth</u>	<u>Note</u>
Wide Area BS	II	824 - 849 MHz	-98 dBm	100 kHz	
Medium Range BS	II	824 - 849 MHz	-91 dBm	100 kHz	
Local Area BS	II	824 - 849 MHz	-70 dBm	100 kHz	

6.5.3.7.4 Co-existence with GSM 900

6.5.3.7.4.1 Operation in the same geographic area

Table 6.38: BS Spurious emissions limits for BS in geographic coverage area of GSM 900

<u>Band</u>	<u>Maximum Level</u>	<u>Measurement Bandwidth</u>	<u>Note</u>
876 MHz to 915 MHz	-61 dBm	100 kHz	
921 MHz to 960 MHz	-57 dBm	100 kHz	

6.5.3.7.4.2 Co-located base stations

Table 6.39: BS Spurious emissions limits for protection of the BTS receiver

<u>BS class</u>	<u>Band</u>	<u>Maximum Level</u>	<u>Measurement Bandwidth</u>	<u>Note</u>
Wide Area BS	876-915 MHz	-98 dBm	100 kHz	
Medium Range BS	876-915 MHz	-91 dBm	100 kHz	
Local Area BS	876-915 MHz	-70 dBm	100 kHz	

6.5.3.7.5 Co-existence with DCS 1800

6.5.3.7.5.1 Operation in the same geographic area

Table 6.40: BS Spurious emissions limits for BS in geographic coverage area of DCS 1800

<u>Operating Band</u>	<u>Band</u>	<u>Maximum Level</u>	<u>Measurement Bandwidth</u>	<u>Note</u>
I	1 805 MHz to 1 880 MHz	-47 dBm	100 kHz	
I	1 710 MHz to 1 785 MHz	-61 dBm	100 kHz	
III	1 710 MHz to 1 785 MHz	-61 dBm	100 kHz	

6.5.3.7.5.2 Co-located base stations

Table 6.41: BS Spurious emissions limits for BS co-located with DCS 1800 BTS

<u>BS class</u>	<u>Operating Band</u>	<u>Band</u>	<u>Maximum Level</u>	<u>Measurement Bandwidth</u>	<u>Note</u>
Wide Area BS	I	1710 - 1785 MHz	-98 dBm	100 kHz	
Medium Range BS	I	1710 - 1785 MHz	-96 dBm	100 kHz	
Local Area BS	I	1710 - 1785 MHz	-80 dBm	100 kHz	
Wide Area BS	III	1710 - 1785 MHz	-98 dBm	100 kHz	
Medium Range BS	III	1710 - 1785 MHz	-96 dBm	100 kHz	
Local Area BS	III	1710 - 1785 MHz	-80 dBm	100 kHz	

6.5.3.7.6 Co-existence with PHS

Table 6.42: BS Spurious emissions limits for BS in geographic coverage area of PHS

<u>Band</u>	<u>Maximum Level</u>	<u>Measurement Bandwidth</u>	<u>Note</u>
1 893,5 MHz to 1 919,60 MHz	-41 dBm	300 kHz	

6.5.3.7.7 Co-existence with services in adjacent frequency bands

Table 6.43: BS spurious emissions limits for protection of adjacent band services

<u>Operating Band</u>	<u>Band</u>	<u>Maximum Level</u>	<u>Measurement Bandwidth</u>	<u>Note</u>
I	2100-2105 MHz	$-30 + 3.4 \cdot (f - 2100 \text{ MHz}) \text{ dBm}$	1 MHz	
	2175-2180 MHz	$-30 + 3.4 \cdot (2180 \text{ MHz} - f) \text{ dBm}$	1 MHz	
II	1920-1925 MHz	$-30 + 3.4 \cdot (f - 1920 \text{ MHz}) \text{ dBm}$	1 MHz	
	1995-2000 MHz	$-30 + 3.4 \cdot (2000 \text{ MHz} - f) \text{ dBm}$	1 MHz	
III	1795-1800 MHz	$-30 + 3.4 \cdot (f - 1795 \text{ MHz}) \text{ dBm}$	1MHz	
	1885-1890 MHz	$-30 + 3.4 \cdot (1890 \text{ MHz} - f) \text{ dBm}$	1MHz	

6.5.3.7.8 Co-existence with UTRA-TDD

6.5.3.7.8.1 Operation in the same geographic area

Table 6.44: BS Spurious emissions limits for BS in geographic coverage area of UTRA-TDD

<u>Band</u>	<u>Maximum Level</u>	<u>Measurement Bandwidth</u>	<u>Note</u>
1 900 MHz to 1 920 MHz	-52 dBm	1 MHz	
2 010 MHz to 2 025 MHz	-52 dBm	1 MHz	

6.5.3.7.8.2 Co-located base stations

Table 6.45: BS Spurious emissions limits for BS co-located with UTRA-TDD

<u>BS class</u>	<u>Band</u>	<u>Maximum Level</u>	<u>Measurement Bandwidth</u>	<u>Note</u>
Wide Area BS	1900 - 1920 MHz	-86 dBm	1 MHz	
Local Area BS	1900 - 1920 MHz	-55 dBm	1 MHz	
Wide Area BS	2010 - 2025 MHz	-86 dBm	1 MHz	
Local Area BS	2010 - 2025 MHz	-55 dBm	1 MHz	

6.5.3.7.9 Co-existence with UTRA in frequency band I

6.5.3.7.9.1 Operation in the same geographic area

Table 6.46: BS Spurious emissions limits for BS in geographic coverage area of UTRA UE receiver operating in frequency band I

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
III	2110 – 2170 MHz	-52 dBm	1 MHz	

6.5.3.7.9.2 Co-located base stations

Table 6.47: BS Spurious emissions limits for BS co-located with UTRA BS operating in frequency band I

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
III	1920 - 1980 MHz	-96 dBm	100 kHz	

6.5.3.7.10 Co-existence with UTRA in frequency band III

6.5.3.7.10.1 Operation in the same geographic area

Table 6.48: BS Spurious emissions limits for BS in geographic coverage area of UTRA UE receiver operating in frequency band III

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
I	1805 – 1880 MHz	-62 dBm	100 kHz	

6.5.3.7.10.2 Co-located base stations

Table 6.49: BS Spurious emissions limits for BS co-located with UTRA BS operating in frequency band III

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
I	1710 – 1785 MHz	-96 dBm	100 kHz	

6.5.3.7.11 Co-existence with PCS1900

6.5.3.7.11.1 Operation in the same geographic area

Table 6.49A: BS Spurious emissions limits for BS in geographic coverage area of PCS 1900 BS

Operating Band	Band	Maximum Level	Measurement Bandwidth	Note
II	1850 - 1910 MHz	-61 dBm	100 kHz	

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.

6.5.3.7.11.2 Co-located base stations

Table 6.50: BS Spurious emissions limits for BS co-located with PCS1900 BS

<u>BS class</u>	<u>Operating Band</u>	<u>Band</u>	<u>Maximum Level</u>	<u>Measurement Bandwidth</u>	<u>Note</u>
Wide Area BS	II	1850 – 1910 MHz	-98 dBm	100 kHz	
Medium Range BS	II	1850 – 1910 MHz	-96 dBm	100 kHz	
Local Area BS	II	1850 – 1910 MHz	-80 dBm	100 kHz	

6.5.3.7.12 Co-existence with GSM850

6.5.3.7.12.1 Operation in the same geographic area

Table 6.50A: BS Spurious emissions limits for BS in geographic coverage area of GSM 850

<u>Operating Band</u>	<u>Band</u>	<u>Maximum Level</u>	<u>Measurement Bandwidth</u>	<u>Note</u>
II	824 - 849 MHz	-61 dBm	100 kHz	
II	869 – 894 MHz	-57 dBm	100 kHz	

6.5.3.7.12.2 Co-located base stations

Table 6.51: BS Spurious emissions limits for BS co-located with GSM850 BS

<u>BS class</u>	<u>Operating Band</u>	<u>Band</u>	<u>Maximum Level</u>	<u>Measurement Bandwidth</u>	<u>Note</u>
Wide Area BS	II	824 - 849 MHz	-98 dBm	100 kHz	
Medium Range BS	II	824 - 849 MHz	-91 dBm	100 kHz	
Local Area BS	II	824 - 849 MHz	-70 dBm	100 kHz	

Madrid, Spain 17 - 22 February, 2003

CR-Form-v7

CHANGE REQUEST⌘ **25.141 CR 278** ⌘ rev **3** ⌘ Current version: **6.0.0** ⌘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 Radio Access Network Core Network

Title:	⌘ Maximum output power for different BS classes		
Source:	⌘ RAN WG4		
Work item code:	⌘ RInImp-BSCClass-FDD	Date:	⌘ 05/03/2003
Category:	⌘ B	Release:	⌘ Rel-6
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	⌘ Based on the investigations for the work item RInImp-BSCClass-FDD maximum Tx output power requirements for different BS classes have been derived. This requirements need to be introduced in TS 25.141.
Summary of change:	⌘ The new requirements for the different FDD BS classes will be introduced in the relevant clauses.
Consequences if not approved:	⌘ The requirements for Base Station maximum output power for the new FDD BS classes are missing.

Clauses affected:	⌘ 6.2 and 6.3										
Other specs affected:	<table border="1"> <tr> <td>Y</td> <td>N</td> </tr> <tr> <td>X</td> <td></td> </tr> <tr> <td></td> <td>X</td> </tr> <tr> <td></td> <td>X</td> </tr> </table>	Y	N	X			X		X	Other core specifications	⌘ TS 25.104
Y	N										
X											
	X										
	X										
		Test specifications									
		O&M Specifications									
Other comments:	⌘										

How to create CRs using this form:Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>.

Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be

downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

6.2.1 Base station maximum output power

6.2.1.1 Definition and applicability

Maximum output power, P_{max} , of the base station is the mean power level per carrier measured at the antenna connector in specified reference condition.

In certain regions, the minimum requirement for normal conditions may apply also for some conditions outside the ranges defined for the Normal test environment in subclause 4.4.1.

6.2.1.1 Minimum requirement

The rated output power, PRAT, of the BS shall be as specified in Table 6.8A.

Table 6.8A: Base Station rated output power

<u>BS class</u>	<u>PRAT</u>
<u>Wide Area BS</u>	<u>-*</u>
<u>Medium Range BS</u>	<u>< +38dBm</u>
<u>Local Area BS</u>	<u>< + 24dBm</u>

Note *: There is no upper limit required for the rated output power of the Wide Area Base Station like for the base station for General Purpose application in Release 99, 4, and 5.

In normal conditions, the Base station maximum output power shall remain within +2.0 dB and –2.0 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.

The normative reference for this requirement is in TS 25.104 [1] subclause 6.2.1.

6.2.1.3 Test purpose

The test purpose is to verify the accuracy of the maximum output power across the frequency range and under normal and extreme conditions for all transmitters in the BS.

6.2.1.4 Method of test

6.2.1.4.1 Initial conditions

Test environment: normal; see subclause 4.4.1.

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

In addition, on one UARFCN only, the test shall be performed under extreme power supply as defined in subclause 4.4.2

NOTE: Tests under extreme power supply also test extreme temperature.

- 1) Connect the power measuring equipment to the base station RF output port.

6.2.1.4.2 Procedure

- 1) Set the base station to transmit a signal modulated with a combination of PCCPCH, SCCPCH and Dedicated Physical Channels specified as test model1 in subclause 6.1.1.1.
- 2) Measure the mean power at the RF output port.

6.2.1.5 Test Requirements

In normal conditions, the measurement result in step 2 of 6.2.1.4.2 shall remain within +2.7 dB and –2.7 dB of the manufacturer's rated output power.

In extreme conditions, measurement result in step 2 of 6.2.1.4.2 shall remain within +3.2 dB and –3.2 dB of the manufacturer's rated output power.

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.

6.2.2 CPICH power accuracy

6.2.2.1 Definition and applicability

CPICH power accuracy is defined as the maximum deviation between the Primary CPICH code domain power indicated on the BCH and the Primary CPICH code domain power measured at the TX antenna interface. The requirement is applicable for all BS types.

6.2.2.2 Minimum Requirement

The measured Primary CPICH code domain power shall be within ± 2.1 dB of the Primary CPICH code domain power indicated on the BCH. The normative reference for this requirement is in TS 25.104 [1] subclause 6.4.4

6.2.2.3 Test purpose

The purpose of the test is to verify, that the BS under test delivers Primary CPICH code domain power within margins, thereby allowing reliable cell planning and operation.

6.2.2.4 Method of test

6.2.2.4.1 Initial conditions

Test environment: normal; see subclause 4.4.1.

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

- 1) Connect BS to code domain analyser as shown in annex B.
- 2) Disable inner loop power control.
- 3) Set-up BS transmission at maximum total power as specified by the supplier. Channel set-up shall be according to Test Model 2 subclause 6.1.1.2.

6.2.2.4.2 Procedure

- Measure the code domain power of the PCPICH in one timeslot according to annex E.

6.2.2.5 Test Requirement

The measured CPICH power shall be within ± 2.9 dB of the ordered absolute value.

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.

6.3 Frequency error

6.3.1 Definition and applicability

Frequency error is the measure of the difference between the actual BS transmit frequency and the assigned frequency. The same source shall be used for RF frequency and data clock generation.

It is not possible to verify by testing that the data clock is derived from the same frequency source as used for RF generation. This may be confirmed by a manufacturers declaration

6.3.2 Minimum Requirement

The Frequency Error shall be within the accuracy range given in Table 6.8A observed over a period of one timeslot.

Table 6.8A8B: Frequency error minimum requirement

BS class	Accuracy
Wide Area BS	± 0.05 ppm
Medium Range BS	± 0.1 ppm
Local Area BS	± 0.1 ppm

The normative reference for this requirement is in TS 25.104 [1] subclause 6.3

6.3.3 Test purpose

To verify that the Frequency Error is within the limit specified in 6.3.2

6.3.4 Method of test

Requirement is tested together with Error Vector Magnitude test, as described in subclause 6.7.1.4.

6.3.5 Test requirement

The Frequency Error shall be between the minimum and maximum value specified in Table 6.8B.

Table 6.8B8C: Frequency error test requirement

BS class	Minimum frequency error	Maximum frequency error
Wide Area BS	-0.05 ppm - 12 Hz	+0.05 ppm + 12 Hz
Medium Range BS	-0.1 ppm - 12 Hz	+0.1 ppm + 12 Hz
Local Area BS	-0.1 ppm - 12 Hz	+0.1 ppm + 12 Hz

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.

Madrid, Spain 17 - 22 February, 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.141** **CR** **290** ⌘ rev ⌘ Current version: **6.0.0** ⌘

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 Radio Access Network Core Network

Title:	⌘ The definition of UTRA-FDD BS classes		
Source:	⌘ RAN WG4		
Work item code:	⌘ RInImp-BSCClass-FDD	Date:	⌘ 05/03/2003
Category:	⌘ F	Release:	⌘ Rel-6
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	2 (GSM Phase 2)	
	A (corresponds to a correction in an earlier release)	R96 (Release 1996)	
	B (addition of feature),	R97 (Release 1997)	
	C (functional modification of feature)	R98 (Release 1998)	
	D (editorial modification)	R99 (Release 1999)	
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	⌘ The names of BS classes: Wide Area, Medium Range, Local Area, were not defined in TR21.905. The purpose of the change is to establish the links between the BS class names and the cell types defined in TR21.905
Summary of change:	⌘ The clarification change allow to establish the link between the BS class names and the terminologies of cell types defined in TR21.905
Consequences if not approved:	⌘ The BS class names are not defined in TR21.905, there is no link between the BS class names and the cell types defined in TR21.905.
	Isolated Impact Analysis: The proposed clarification change has no impact on NodeB performance.

Clauses affected:	⌘ 4.3A										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr> <td>Y</td> <td>N</td> </tr> <tr> <td>X</td> <td></td> </tr> <tr> <td></td> <td>X</td> </tr> <tr> <td></td> <td>X</td> </tr> </table>	Y	N	X			X		X	Other core specifications	⌘ TS25.104
Y	N										
X											
	X										
	X										
		Test specifications									
		O&M Specifications									
Other comments:	⌘										

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

4.3A Base station classes

The requirements in the present document apply to Wide Area Base Stations, Medium Range Base Stations and Local Area Base Stations unless otherwise stated.

Wide Area Base Stations are characterised by requirements derived from [Macro Cell](#) scenarios with a BS to UE minimum coupling loss equals to 70 dB. The Wide Area Base Station class has the same requirements as the base station for General Purpose application in Release 99, 4 and 5.

Medium Range Base Stations are characterised by requirements derived from [Micro Cell](#) scenarios with a BS to UE minimum coupling loss equals to 53 dB.

Local Area Base Stations are characterised by requirements derived from [Pico Cell](#) scenarios with a BS to UE minimum coupling loss equals to 45 dB.

The manufacturer shall declare the intended class of the BS under test.