Title CRs (Rel-4 and Rel-5/Rel-6 Category A) to TS 25.105 & TS 25.142 on

"Clarification of measurement filter of spurious emission"

Source TSG RAN WG4

Agenda Item 7.5.4

RAN4 Tdoc	Spec	CR	R	Cat	Rel	Curr Ver	Title	Work Item
R4-040332	25.105	152		F	Rel-4	4.7.0	Clarification of measurement filter of spurious emission considering coexistence issue	TEI4
R4-040333	25.105	153		Α	Rel-5	5.5.0	Clarification of measurement filter of spurious emission considering coexistence issue	TEI4
R4-040334	25.105	154		Α	Rel-6	6.0.0	Clarification of measurement filter of spurious emission considering coexistence issue	TEI4
R4-040329	25.142	169	1	F	Rel-4	4.8.0	Clarification of measurement filter of spurious emission considering coexistence issue	TEI4
R4-040330	25.142	170	1	Α	Rel-5	5.6.0	Clarification of measurement filter of spurious emission considering coexistence issue	TEI4
R4-040331	25.142	171	1	Α	Rel-6	6.0.0	Clarification of measurement filter of spurious emission considering coexistence issue	TEI4

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

6.6.3.4 Co-existence with UTRA-FDD

6.6.3.4.1 Operation in the same geographic area

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

6.6.3.4.1.1 Minimum Requirement

For TDD base stations which use carrier frequencies within the band 2010 – 2025 MHz the requirements applies at all frequencies within the specified frequency bands in table 6.16. For 3.84 Mcps TDD option base stations which use a carrier frequency within the band 1900-1920 MHz, the requirement applies at frequencies within the specified frequency range which are more than 12,5 MHz above the last carrier used in the frequency band 1900-1920 MHz. For 1.28 Mcps TDD option base stations which use carrier frequencies within the band 1900-1920 MHz, the requirement applies at frequencies within the specified frequency range which are more than 4 MHz above the last carrier used in the frequency band 1900-1920 MHz.

The power of any spurious emission shall not exceed:

Table 6.16: BS Spurious emissions limits for BS in geographic coverage area of UTRA-FDD

Band	Maximum Level	Measurement Bandwidth			
1920 – 1980 MHz	-43 dBm (*)	3,84 MHz			
2110 – 2170 MHz	-52 dBm	1 MHz			
measured RRC fil measurement at 1 whichever is high requirement shall center frequency	DD option base stations, the r tered mean power with the lo 1922.6 MHz or 15 MHz above er. For 1.28 Mcps TDD option be measured RRC filtered m of measurement at 1922.6 M sed, whichever is higher.	owest center frequency of the last TDD carrier used, n base stations, the the lowest			

NOTE: The requirements in Table 6.16 are based on a coupling loss of 67dB between the TDD and FDD base stations. The scenarios leading to these requirements are addressed in TR 25.942 [4].

6.6.3.4.2 Co-located base stations

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

6.6.3.4.2.1 Minimum Requirement

For TDD base stations which use carrier frequencies within the band 2010 – 2025 MHz the requirements applies at all frequencies within the specified frequency bands in table 6.17. For 3.84 Mcps TDD option base stations which use a carrier frequency within the band 1900-1920 MHz, the requirement applies at frequencies within the specified frequency range which are more than 12,5 MHz above the last carrier used in the frequency band 1900-1920 MHz. For 1.28 Mcps TDD option base stations which use carrier frequencies within the band 1900-1920 MHz, the requirement applies at frequencies within the specified frequency range which are more than 4 MHz above the last carrier used in the frequency band 1900-1920 MHz.

The power of any spurious emission shall not exceed:

Table 6.17: BS Spurious emissions limits for BS co-located with UTRA-FDD

Band	Maximum Level	Measurement Bandwidth
1920 – 1980 MHz	-80 dBm (*)	3,84 MHz
2110 – 2170 MHz	-52 dBm	1 MHz
measurement at 1 whichever is higher requirement shall center frequency of	D option base stations, the retered mean power with the log 922.6 MHz or 15 MHz abover. For 1.28 Mcps TDD option be measured RRC filtered more measurement at 1922.6 Msed, whichever is higher.	owest center frequency of e the last TDD carrier used, n base stations, the nean power with the lowest

NOTE: The requirements in Table 6.17 are based on a minimum coupling loss of 30 dB between base stations.

6.6.3.5 Co-existence with unsynchronised TDD

6.6.3.5.1 Operation in the same geographic area

This requirement shall apply in case the equipment is operated in the same geographic area with unsynchronised TDD BS.

6.6.3.5.1.1 Minimum Requirement

6.6.3.5.1.1.1 3,84 Mcps TDD option

The RRC filtered mean power of any spurious emission shall not exceed the limits specified in table 6.18.

Table 6.18: BS Spurious emissions limits for operation in same geographic area with unsynchronised TDD

Band	Maximum Level	Measurement Bandwidth				
1900 – 1920 MHz	–39 dBm	3,84 MHz				
2010 – 2025 MHz	−39 dBm	3,84 MHz				

NOTE: The requirements in Table 6.18 are based on a minimum coupling loss of 67 dB between unsynchronised TDD base stations. The scenarios leading to these requirements are addressed in TR25.942 [4].

6.6.3.5.1.1.2 1,28 Mcps TDD option

In geographic areas where only 1,28 Mcps TDD is deployed, the <u>RRC filtered mean</u> power of any spurious emission shall not exceed the limits specified in table 6.19, otherwise the limits in table 6.20 shall apply.

Table 6.19: BS Spurious emissions limits for operation in same geographic area with unsynchronised 1,28 Mcps TDD

Band	Maximum Level	Measurement Bandwidth			
1900 – 1920 MHz	–39 dBm	1,28 MHz			
2010 – 2025 MHz	−39 dBm	1,28 MHz			

Table 6.20: BS Spurious emissions limits for operation in same geographic area with unsynchronised TDD

Band	Maximum Level	Measurement Bandwidth			
1900 – 1920 MHz	–39 dBm	3,84 MHz			
2010 – 2025 MHz	–39 dBm	3,84 MHz			

NOTE: The requirements in Table 6.19 and 6.20 are based on a minimum coupling loss of 67 dB between unsynchronised TDD base stations. The scenarios leading to these requirements are addressed in TR25.942 [4].

6.6.3.5.2 Co-located base stations

This requirement shall apply in case of co-location with unsynchronised TDD BS.

6.6.3.5.2.1 Minimum Requirement

6.6.3.5.2.1.1 3,84 Mcps TDD option

The <u>RRC filtered mean</u> power of any spurious emission in case of co-location shall not exceed the limits specified in table 6.21.

Table 6.21: BS Spurious emissions limits for co-location with unsynchronised TDD

Band	Maximum Level	Measurement Bandwidth			
1900 – 1920 MHz	–76 dBm	3,84 MHz			
2010 – 2025 MHz	–76 dBm	3,84 MHz			

NOTE: The requirements in Table 6.21 are based on a minimum coupling loss of 30 dB between unsynchronised TDD base stations.

6.6.3.5.2.1.2 1,28 Mcps TDD option

In geographic areas where only 1,28 Mcps TDD is deployed, the <u>RRC filtered mean</u> power of any spurious emission in case of co-location shall not exceed the limits specified in table 6.22, otherwise the limits in table 6.23 shall apply.

Table 6.22: BS Spurious emissions limits for co-location with unsynchronised 1,28 Mcps TDD

Band	Maximum Level	Measurement Bandwidth			
1900 – 1920 MHz	–76 dBm	1,28 MHz			
2010 – 2025 MHz	−76 dBm	1,28 MHz			

Table 6.23: BS Spurious emissions limits for co-location with unsynchronised TDD

Band	Maximum Level	Measurement Bandwidth			
1900 – 1920 MHz	−76 dBm	3,84 MHz			
2010 – 2025 MHz	-76 dBm	3,84 MHz			

NOTE: The requirements in Table 6.22 and 6.23 are based on a minimum coupling loss of 30 dB between unsynchronised TDD base stations.

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6.6.3.4 Co-existence with UTRA-FDD

6.6.3.4.1 Operation in the same geographic area

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

6.6.3.4.1.1 Minimum Requirement

For TDD base stations which use carrier frequencies within the band 2010 – 2025 MHz the requirements applies at all frequencies within the specified frequency bands in table 6.16. For 3.84 Mcps TDD option base stations which use a carrier frequency within the band 1900-1920 MHz, the requirement applies at frequencies within the specified frequency range which are more than 12,5 MHz above the last carrier used in the frequency band 1900-1920 MHz. For 1.28 Mcps TDD option base stations which use carrier frequencies within the band 1900-1920 MHz, the requirement applies at frequencies within the specified frequency range which are more than 4 MHz above the last carrier used in the frequency band 1900-1920 MHz.

The power of any spurious emission shall not exceed:

Table 6.16: BS Spurious emissions limits for BS in geographic coverage area of UTRA-FDD

BS Class	Band	Maximum Level	Measurement Bandwidth
Wide Area BS	1920 – 1980 MHz	-43 dBm (*)	3,84 MHz
Wide Area BS	2110 – 2170 MHz	-52 dBm	1 MHz
Local Area BS	1920 – 1980 MHz	-40 dBm (*)	3,84 MHz
Local Area BS	2110 – 2170 MHz	-52 dBm	1 MHz

NOTE* For 3.84 Mcps TDD option base stations, the requirement shall be measured RRC filtered mean power with the lowest center frequency of measurement at 1922.6 MHz or 15 MHz above the last TDD carrier used, whichever is higher. For 1.28 Mcps TDD option base stations, the requirement shall be measured RRC filtered mean power with the lowest center frequency of measurement at 1922.6 MHz or 6.6 MHz above the last TDD carrier used, whichever is higher.

NOTE: The requirements for Wide Area BS in Table 6.16 are based on a coupling loss of 67dB between the TDD and FDD base stations. The requirements for Local Area BS in Table 6.16 are based on a coupling loss of 70 dB between TDD and FDD Wide Area base stations. The scenarios leading to these requirements are addressed in TR 25.942 [4].

6.6.3.4.2 Co-located base stations

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

6.6.3.4.2.1 Minimum Requirement

For TDD base stations which use carrier frequencies within the band 2010 – 2025 MHz the requirements applies at all frequencies within the specified frequency bands in table 6.17. For 3.84 Mcps TDD option base stations which use a carrier frequency within the band 1900-1920 MHz, the requirement applies at frequencies within the specified frequency range which are more than 12,5 MHz above the last carrier used in the frequency band 1900-1920 MHz. For 1.28 Mcps TDD option base stations which use carrier frequencies within the band 1900-1920 MHz, the requirement applies at frequencies within the specified frequency range which are more than 4 MHz above the last carrier used in the frequency band 1900-1920 MHz.

The power of any spurious emission shall not exceed:

Table 6.17: BS Spurious emissions limits for BS co-located with UTRA-FDD

BS Class	Band	Maximum Level	Measurement Bandwidth
Wide Area BS	1920 – 1980 MHz	-80 dBm (*)	3,84 MHz
Wide Area BS	2110 – 2170 MHz	-52 dBm	1 MHz
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NOTE: The requirements in Table 6.17 are based on a minimum coupling loss of 30 dB between base stations. The co-location of different base station classes is not considered. A co-location requirement for the Local Area TDD BS is intended to be part of a later release.

6.6.3.5 Co-existence with unsynchronised TDD

6.6.3.5.1 Operation in the same geographic area

This requirement shall apply in case the equipment is operated in the same geographic area with unsynchronised TDD BS.

6.6.3.5.1.1 Minimum Requirement

6.6.3.5.1.1.1 3,84 Mcps TDD option

The <u>RRC filtered mean power of any spurious emission shall not exceed the limits specified in table 6.18.</u>

Table 6.18: BS Spurious emissions limits for operation in same geographic area with unsynchronised TDD

BS Class	Band	Maximum Level	Measurement Bandwidth
Wide Area BS	1900 – 1920 MHz	−39 dBm	3,84 MHz
Wide Area BS	2010 – 2025 MHz	−39 dBm	3,84 MHz
Local Area BS	1900 – 1920 MHz	−36 dBm	3,84 MHz
Local Area BS	2010 – 2025 MHz	−36 dBm	3,84 MHz

NOTE: The requirements in Table 6.18 for the Wide Area BS are based on a minimum coupling loss of 67 dB between unsynchronised TDD base stations. The requirements in Table 6.18 for the Local Area BS are based on a coupling loss of 70 dB between unsynchronised Wide Area and Local Area TDD base stations. The scenarios leading to these requirements are addressed in TR25.942 [4].

6.6.3.5.1.1.2 1,28 Mcps TDD option

In geographic areas where only 1,28 Mcps TDD is deployed, the <u>RRC filtered mean</u> power of any spurious emission shall not exceed the limits specified in table 6.19, otherwise the limits in table 6.20 shall apply.

Table 6.19: BS Spurious emissions limits for operation in same geographic area with unsynchronised 1,28 Mcps TDD

BS Class	Band	Maximum Level	Measurement Bandwidth
Wide Area BS	1900 – 1920 MHz	–39 dBm	1,28 MHz
Wide Area BS	2010 – 2025 MHz	−39 dBm	1,28 MHz
Local Area BS	1900 – 1920 MHz	−36 dBm	1,28 MHz
Local Area BS	2010 – 2025 MHz	–36 dBm	1,28 MHz

Table 6.20: BS Spurious emissions limits for operation in same geographic area with unsynchronised TDD

BS Class	Band	Maximum Level	Measurement Bandwidth
Wide Area BS	1900 – 1920 MHz	−39 dBm	3,84 MHz
Wide Area BS	2010 – 2025 MHz	–39 dBm	3,84 MHz
Local Area BS	1900 – 1920 MHz	−36 dBm	3,84 MHz
Local Area BS	2010 – 2025 MHz	−36 dBm	3,84 MHz

NOTE: The requirements in Table 6.19 and 6.20 for the Wide Area BS are based on a minimum coupling loss of 67 dB between unsynchronised TDD base stations. The requirements in Table 6.19 and 6.20 for the Local Area BS are based on a coupling loss of 70 dB between unsynchronised Wide Area and Local Area TDD base stations. The scenarios leading to these requirements are addressed in TR25.942 [4].

6.6.3.5.2 Co-located base stations

This requirement shall apply in case of co-location with unsynchronised TDD BS.

6.6.3.5.2.1 Minimum Requirement

6.6.3.5.2.1.1 3,84 Mcps TDD option

The <u>RRC filtered mean</u> power of any spurious emission in case of co-location shall not exceed the limits specified in table 6.21.

Table 6.21: BS Spurious emissions limits for co-location with unsynchronised TDD

BS Class	Band	Maximum Level	Measurement Bandwidth
Wide Area BS	1900 – 1920 MHz	–76 dBm	3,84 MHz
Wide Area BS	2010 – 2025 MHz	–76 dBm	3,84 MHz
Local Area BS	1900 – 1920 MHz	–36 dBm	3,84 MHz
Local Area BS	2010 – 2025 MHz	–36 dBm	3,84 MHz

NOTE: The requirements in Table 6.21 for the Wide Area BS are based on a minimum coupling loss of 30 dB between unsynchronised TDD base stations. The requirements in Table 6.21 for the Local Area BS are based on a minimum coupling loss of 45 dB between unsynchronised Local Area base stations. The colocation of different base station classes is not considered.

6.6.3.5.2.1.2 1,28 Mcps TDD option

In geographic areas where only 1,28 Mcps TDD is deployed, the <u>RRC filtered mean</u> power of any spurious emission in case of co-location shall not exceed the limits specified in table 6.22, otherwise the limits in table 6.23 shall apply.

Table 6.22: BS Spurious emissions limits for co-location with unsynchronised 1,28 Mcps TDD

BS Class	Band	Maximum Level	Measurement Bandwidth
Wide Area BS	1900 – 1920 MHz	–76 dBm	1,28 MHz
Wide Area BS	2010 – 2025 MHz	−76 dBm	1,28 MHz
Local Area BS	1900 – 1920 MHz	−37 dBm	1,28 MHz
Local Area BS	2010 – 2025 MHz	−37 dBm	1,28 MHz

Table 6.23: BS Spurious emissions limits for co-location with unsynchronised TDD

BS Class	Band	Maximum Level	Measurement Bandwidth
Wide Area BS	1900 – 1920 MHz	–76 dBm	3,84 MHz
Wide Area BS	2010 – 2025 MHz	–76 dBm	3,84 MHz
Local Area BS	1900 – 1920 MHz	−36 dBm	3,84 MHz
Local Area BS	2010 – 2025 MHz	−36 dBm	3,84 MHz

NOTE: The requirements in Table 6.22 and 6.23 for the Wide Area BS are based on a minimum coupling loss of 30 dB between unsynchronised TDD base stations. The requirements in Table 6.22 and 6.23 for the Local Area BS are based on a minimum coupling loss of 45 dB between unsynchronised Local Area base stations. The co-location of different base station classes is not considered.

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6.6.3.4 Co-existence with UTRA-FDD

6.6.3.4.1 Operation in the same geographic area

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

6.6.3.4.1.1 Minimum Requirement

For TDD base stations which use carrier frequencies within the band 2010 – 2025 MHz the requirements applies at all frequencies within the specified frequency bands in table 6.16. For 3.84 Mcps TDD option base stations which use a carrier frequency within the band 1900-1920 MHz, the requirement applies at frequencies within the specified frequency range which are more than 12,5 MHz above the last carrier used in the frequency band 1900-1920 MHz. For 1.28 Mcps TDD option base stations which use carrier frequencies within the band 1900-1920 MHz, the requirement applies at frequencies within the specified frequency range which are more than 4 MHz above the last carrier used in the frequency band 1900-1920 MHz.

The _power of any spurious emission shall not exceed:

Table 6.16: BS Spurious emissions limits for BS in geographic coverage area of UTRA-FDD

BS Class	Band	Maximum Level	Measurement Bandwidth
Wide Area BS	1920 – 1980 MHz	-43 dBm (*)	3,84 MHz
Wide Area BS	2110 – 2170 MHz	-52 dBm	1 MHz
Local Area BS	1920 – 1980 MHz	-40 dBm (*)	3,84 MHz
Local Area BS	2110 – 2170 MHz	-52 dBm	1 MHz

NOTE* For 3.84 Mcps TDD option base stations, the requirement shall be measured RRC filtered mean power with the lowest center frequency of measurement at 1922.6 MHz or 15 MHz above the last TDD carrier used, whichever is higher. For 1.28 Mcps TDD option base stations, the requirement shall be measured RRC filtered mean power with the lowest center frequency of measurement at 1922.6 MHz or 6.6 MHz above the last TDD carrier used, whichever is higher.

NOTE: The requirements for Wide Area BS in Table 6.16 are based on a coupling loss of 67dB between the TDD and FDD base stations. The requirements for Local Area BS in Table 6.16 are based on a coupling loss of 70 dB between TDD and FDD Wide Area base stations. The scenarios leading to these requirements are addressed in TR 25.942 [4].

6.6.3.4.2 Co-located base stations

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

6.6.3.4.2.1 Minimum Requirement

For TDD base stations which use carrier frequencies within the band 2010 – 2025 MHz the requirements applies at all frequencies within the specified frequency bands in table 6.17. For 3.84 Mcps TDD option base stations which use a carrier frequency within the band 1900-1920 MHz, the requirement applies at frequencies within the specified frequency range which are more than 12,5 MHz above the last carrier used in the frequency band 1900-1920 MHz. For 1.28 Mcps TDD option base stations which use carrier frequencies within the band 1900-1920 MHz, the requirement applies at frequencies within the specified frequency range which are more than 4 MHz above the last carrier used in the frequency band 1900-1920 MHz.

The power of any spurious emission shall not exceed:

Table 6.17: BS Spurious emissions limits for BS co-located with UTRA-FDD

BS Class	Band	Maximum Level	Measurement Bandwidth
Wide Area BS	1920 – 1980 MHz	-80 dBm (*)	3,84 MHz
Wide Area BS	2110 – 2170 MHz	-52 dBm	1 MHz
measureme used, which requiremen lowest cent	cps TDD option base RRC filtered mean poent at 1922.6 MHz or never is higher. For 1 at shall be measured the frequency of meas ast TDD carrier used.	wer with the lowest of 15 MHz above the later. 28 Mcps TDD option RRC filtered mean popurement at 1922.6 M	center frequency of ast TDD carrier base stations, the bower with the MHz or 6.6 MHz

NOTE: The requirements in Table 6.17 are based on a minimum coupling loss of 30 dB between base stations. The co-location of different base station classes is not considered. A co-location requirement for the Local Area TDD BS is intended to be part of a later release.

6.6.3.5 Co-existence with unsynchronised TDD

6.6.3.5.1 Operation in the same geographic area

This requirement shall apply in case the equipment is operated in the same geographic area with unsynchronised TDD BS.

6.6.3.5.1.1 Minimum Requirement

6.6.3.5.1.1.1 3,84 Mcps TDD option

The <u>RRC filtered mean power of any spurious emission shall not exceed the limits specified in table 6.18.</u>

Table 6.18: BS Spurious emissions limits for operation in same geographic area with unsynchronised TDD

BS Class	Band	Maximum Level	Measurement Bandwidth
Wide Area BS	1900 – 1920 MHz	−39 dBm	3,84 MHz
Wide Area BS	2010 – 2025 MHz	−39 dBm	3,84 MHz
Local Area BS	1900 – 1920 MHz	−36 dBm	3,84 MHz
Local Area BS	2010 – 2025 MHz	−36 dBm	3,84 MHz

NOTE: The requirements in Table 6.18 for the Wide Area BS are based on a minimum coupling loss of 67 dB between unsynchronised TDD base stations. The requirements in Table 6.18 for the Local Area BS are based on a coupling loss of 70 dB between unsynchronised Wide Area and Local Area TDD base stations. The scenarios leading to these requirements are addressed in TR25.942 [4].

6.6.3.5.1.1.2 1,28 Mcps TDD option

In geographic areas where only 1,28 Mcps TDD is deployed, the <u>RRC filtered mean</u> power of any spurious emission shall not exceed the limits specified in table 6.19, otherwise the limits in table 6.20 shall apply.

Table 6.19: BS Spurious emissions limits for operation in same geographic area with unsynchronised 1,28 Mcps TDD

BS Class	Band	Maximum Level	Measurement Bandwidth
Wide Area BS	1900 – 1920 MHz	–39 dBm	1,28 MHz
Wide Area BS	2010 – 2025 MHz	−39 dBm	1,28 MHz
Local Area BS	1900 – 1920 MHz	−36 dBm	1,28 MHz
Local Area BS	2010 – 2025 MHz	–36 dBm	1,28 MHz

Table 6.20: BS Spurious emissions limits for operation in same geographic area with unsynchronised TDD

BS Class	Band	Maximum Level	Measurement Bandwidth
Wide Area BS	1900 – 1920 MHz	−39 dBm	3,84 MHz
Wide Area BS	2010 – 2025 MHz	–39 dBm	3,84 MHz
Local Area BS	1900 – 1920 MHz	−36 dBm	3,84 MHz
Local Area BS	2010 – 2025 MHz	−36 dBm	3,84 MHz

NOTE: The requirements in Table 6.19 and 6.20 for the Wide Area BS are based on a minimum coupling loss of 67 dB between unsynchronised TDD base stations. The requirements in Table 6.19 and 6.20 for the Local Area BS are based on a coupling loss of 70 dB between unsynchronised Wide Area and Local Area TDD base stations. The scenarios leading to these requirements are addressed in TR25.942 [4].

6.6.3.5.2 Co-located base stations

This requirement shall apply in case of co-location with unsynchronised TDD BS.

6.6.3.5.2.1 Minimum Requirement

6.6.3.5.2.1.1 3,84 Mcps TDD option

The <u>RRC filtered mean</u> power of any spurious emission in case of co-location shall not exceed the limits specified in table 6.21.

Table 6.21: BS Spurious emissions limits for co-location with unsynchronised TDD

BS Class	Band	Maximum Level	Measurement Bandwidth
Wide Area BS 1900 – 1920 MHz		–76 dBm	3,84 MHz
Wide Area BS 2010 – 2025 MHz		–76 dBm	3,84 MHz
Local Area BS	1900 – 1920 MHz	–36 dBm	3,84 MHz
Local Area BS	2010 – 2025 MHz	–36 dBm	3,84 MHz

NOTE: The requirements in Table 6.21 for the Wide Area BS are based on a minimum coupling loss of 30 dB between unsynchronised TDD base stations. The requirements in Table 6.21 for the Local Area BS are based on a minimum coupling loss of 45 dB between unsynchronised Local Area base stations. The colocation of different base station classes is not considered.

6.6.3.5.2.1.2 1,28 Mcps TDD option

In geographic areas where only 1,28 Mcps TDD is deployed, the <u>RRC filtered mean</u> power of any spurious emission in case of co-location shall not exceed the limits specified in table 6.22, otherwise the limits in table 6.23 shall apply.

Table 6.22: BS Spurious emissions limits for co-location with unsynchronised 1,28 Mcps TDD

BS Class	Band	Maximum Level	Measurement Bandwidth
Wide Area BS	1900 – 1920 MHz	–76 dBm	1,28 MHz
Wide Area BS	2010 – 2025 MHz	−76 dBm	1,28 MHz
Local Area BS	1900 – 1920 MHz	−37 dBm	1,28 MHz
Local Area BS	2010 – 2025 MHz	−37 dBm	1,28 MHz

Table 6.23: BS Spurious emissions limits for co-location with unsynchronised TDD

BS Class	Band	Maximum Level	Measurement Bandwidth
Wide Area BS 1900 – 1920 MHz		–76 dBm	3,84 MHz
Wide Area BS	2010 – 2025 MHz	–76 dBm	3,84 MHz
Local Area BS	1900 – 1920 MHz	−36 dBm	3,84 MHz
Local Area BS	2010 – 2025 MHz	−36 dBm	3,84 MHz

NOTE: The requirements in Table 6.22 and 6.23 for the Wide Area BS are based on a minimum coupling loss of 30 dB between unsynchronised TDD base stations. The requirements in Table 6.22 and 6.23 for the Local Area BS are based on a minimum coupling loss of 45 dB between unsynchronised Local Area base stations. The co-location of different base station classes is not considered.

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Other specs affected:	Y N X Other core specifications X Test specifications O&M Specifications
Other comments:	Equivalent CRs in other Releases: CR170r1 cat. A to 25.142 v5.6.0, CR171r1 cat. A to 25.142 v6.0.0

indicated in the CR. No impact on UE implementations.

Implementation of the CR will not impact BS implementations behaving like

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- 1) Fill out the above form. The symbols above marked \(\mathcal{H} \) 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.

6.6.3.2.4 Co-existence with UTRA FDD

6.6.3.2.4.1 Operation in the same geographic area

Band

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

For TDD base stations which use carrier frequencies within the band 2010 – 2025 MHz the requirements applies at all frequencies within the specified frequency bands in table 6.35. For 3,84 Mcps TDD option base stations which use a carrier frequency within the band 1900-1920 MHz, the requirement applies at frequencies within the specified frequency range which are more than 12,5 MHz above the last carrier used in the frequency band 1900-1920 MHz. For 1,28 Mcps TDD option base stations which use carrier frequencies within the band 1900-1920 MHz, the requirement applies at frequencies within the specified frequency range which are more than 4 MHz above the last carrier used in the frequency band 1900-1920 MHz.

The power of any spurious emission shall not exceed the maximum level given in table 6.35.

TDD carrier used, whichever is higher.

Table 6.35: BS Spurious emissions limits for BS in geographic coverage area of UTRA FDD

Measurement

Maximum

Note

	Level	Bandwidth		
1920 – 1980 MHz	-43 dBm (*)	3,84 MHz		
2110 – 2170 MHz	-52 dBm	1 MHz		
Note *: For 3,84 Mcps TD	D option base st	tations, the require	ement shall be	
measured RRC filtered mean power with the lowest center frequency of				
measurement at 1922,6 MHz or 15 MHz above the last TDD carrier used,				
whichever is higher. For 1,28 Mcps TDD option base stations, the				
requirement shall b	e measured RR	C filtered mean p	ower with the lowest	

center frequency of measurement at 1922,6 MHz or 6,6 MHz above the last

NOTE: The requirements in table 6.35 are based on a coupling loss of 67dB between the TDD and FDD base stations. The scenarios leading to these requirements are addressed in TR 25.942 [9].

The normative reference for this requirement is TS 25.105 [1] subclause 6.6.3.4.1.1.

6.6.3.2.4.2 Co-located base stations

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

For TDD base stations which use carrier frequencies within the band 2010 – 2025 MHz the requirements applies at all frequencies within the specified frequency bands in table 6.36. For 3,84 Mcps TDD option base stations which use a carrier frequency within the band 1900-1920 MHz, the requirement applies at frequencies within the specified frequency range which are more than 12,5 MHz above the last carrier used in the frequency band 1900-1920 MHz. For 1,28 Mcps TDD option base stations which use carrier frequencies within the band 1900-1920 MHz, the requirement applies at frequencies within the specified frequency range which are more than 4 MHz above the last carrier used in the frequency band 1900-1920 MHz.

The _power of any spurious emission shall not exceed the maximum level given in table 6.36.

Table 6.36: BS Spurious emissions limits for BS co-located with UTRA FDD

Band	Maximum Level	Measurement Bandwidth	Note
1920 – 1980 MHz	-80 dBm (*)	3,84 MHz	
2110 – 2170 MHz	-52 dBm	1 MHz	
RRC filtered mean at 1922,6 MHz or 1 higher. For 1,28 M measured RRC filt	power with the 15 MHz above the cps TDD option ered mean power 922,6 MHz or 6,0	lowest center freq ne last TDD carrier base stations, the er with the lowest of	ment shall be measured uency of measurement used, whichever is requirement shall be center frequency of ast TDD carrier used,

NOTE: The requirements in table 6.36 are based on a minimum coupling loss of 30 dB between base stations.

The normative reference for this requirement is TS 25.105 [1] subclause 6.6.3.4.2.1.

6.6.3.2.5 Co-existence with unsynchronised TDD

6.6.3.2.5.1 Operation in the same geographic area

This requirement may be applied for the protection of TDD BS receivers in geographic areas in which unsynchronised TDD is deployed.

6.6.3.2.5.1.1 3,84 Mcps TDD option

The <u>RRC filtered mean</u> power of any spurious emission shall not exceed the maximum level given in table 6.36A.

Table 6.36A: BS Spurious emissions limits for operation in same geographic area with unsynchronised TDD

Band	Maximum Level	Measurement Bandwidth
1900 – 1920 MHz	−39 dBm	3,84 MHz
2010 – 2025 MHz	−39 dBm	3,84 MHz

NOTE: The requirements in Table 6.36A are based on a minimum coupling loss of 67 dB between unsynchronised TDD base stations. The scenarios leading to these requirements are addressed in TR25.942 [9].

The normative reference for this requirement is TS 25.105 [1] subclause 6.6.3.5.1.1.1.

6.6.3.2.5.1.2 1,28 Mcps TDD option

In geographic areas where only 1,28 Mcps TDD is deployed, the <u>RRC filtered mean</u> power of any spurious emission shall not exceed the maximum level given in table 6.36B, otherwise the limits in table 6.36C shall apply.

Table 6.36B: BS Spurious emissions limits for operation in same geographic area with unsynchronised 1,28 Mcps TDD

Band	Maximum Level	Measurement Bandwidth
1900 – 1920 MHz	–39 dBm	1,28 MHz
2010 – 2025 MHz	–39 dBm	1,28 MHz

Table 6.36C: BS Spurious emissions limits for operation in same geographic area with unsynchronised TDD

Band	Maximum Level	Measurement Bandwidth
1900 – 1920 MHz	–39 dBm	3,84 MHz
2010 – 2025 MHz	–39 dBm	3,84 MHz

NOTE: The requirements in Table 6.36B and 6.36C are based on a minimum coupling loss of 67 dB between unsynchronised TDD base stations. The scenarios leading to these requirements are addressed in TR25.942 [9].

The normative reference for this requirement is TS 25.105 [1] subclause 6.6.3.5.1.1.2.

6.6.3.2.5.2 Co-located base stations

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

6.6.3.2.5.2.1 3,84 Mcps TDD option

The RRC filtered mean power of any spurious emission shall not exceed the maximum level given in table 6.36D.

Table 6.36D: BS Spurious emissions limits for co-location with unsynchronised TDD

Band	Maximum Level	Measurement Bandwidth
1900 – 1920 MHz	−76 dBm	3,84 MHz
2010 – 2025 MHz	−76 dBm	3,84 MHz

NOTE: The requirements in Table 6.36D are based on a minimum coupling loss of 30 dB between unsynchronised TDD base stations.

The normative reference for this requirement is TS 25.105 [1] subclause 6.6.3.5.2.1.1.

6.6.3.2.5.2.2 1,28 Mcps TDD option

In geographic areas where only 1,28 Mcps TDD is deployed, the <u>RRC filtered mean</u> power of any spurious emission in case of co-location shall not exceed the maximum level given in table 6.36E, otherwise the limits in table 6.36F shall apply.

Table 6.36E: BS Spurious emissions limits for co-location with unsynchronised 1,28 Mcps TDD

Band	Maximum Level	Measurement Bandwidth
1900 – 1920 MHz	–76 dBm	1,28 MHz
2010 – 2025 MHz	−76 dBm	1,28 MHz

Table 6.36F: BS Spurious emissions limits for co-location with unsynchronised TDD

Band	Maximum Level	Measurement Bandwidth
1900 – 1920 MHz	−76 dBm	3,84 MHz
2010 – 2025 MHz	−76 dBm	3,84 MHz

NOTE: The requirements in Table 6.36E and 6.36F are based on a minimum coupling loss of 30 dB between unsynchronised TDD base stations.

The normative reference for this requirement is TS 25.105 [1] subclause 6.6.3.5.2.1.2.

6.6.3.3 Test purpose

6.6.3.3.1 3,84 Mcps TDD option

The test purpose is to verify the ability of the BS to limit the interference caused by unwanted transmitter effects to other systems operating at frequencies which are more than 12,5 MHz away from of the UTRA band used.

6.6.3.3.2 1,28 Mcps TDD option

The test purpose is to verify the ability of the BS to limit the interference caused by unwanted transmitter effects to other systems operating at frequencies which are more than 4 MHz away from of the UTRA band used.

6.6.3.4 Method of test

6.6.3.4.1 Initial conditions

6.6.3.4.1.0 General test conditions

Test environment: normal; see subclause 5.9.1.

RF channels to be tested: B, M and T with multiple carriers if supported; see subclause 5.3.

6.6.3.4.1.1 3,84 Mcps TDD option

- (1) Connect the measuring equipment to the antenna connector of the BS under test.
- (2) Set the parameters of the BS transmitted signal according to table 6.37.

Table 6.37: Parameters of the BS transmitted signal for spurious emissions testing

Parameter	Value/description
TDD Duty Cycle	TS i; i = 0, 1, 2,, 14:
	transmit, if i is even;
	receive, if i is odd.
Time slot carrying SCH	TS0
Time slots under test	TS i, i even and non zero
BS output power setting	PRAT
Number of DPCH in each time slot under test	9
Power of each DPCH	1/9 of Base Station output power
Data content of DPCH	real life (sufficient irregular)

6.6.3.4.1.2 1,28 Mcps TDD option

- (1) Connect the measuring equipment to the antenna connector of the BS under test.
- (2) Set the parameters of the BS transmitted signal according to table 6.37A.

Table 6.37A: Parameters of the BS transmitted signal for spurious emissions testing for 1,28 Mcps TDD

Parameter	Value/description
TDD Duty Cycle	TS i; i = 0, 1, 2, 3, 4, 5, 6:
	transmit, if i is 0,4,5,6;
	receive, if i is 1,2,3.
Time slots under test	TS4, TS5 and TS6
BS output power setting	PRAT
Number of DPCH in each time slot under test	8
Power of each DPCH	1/8 of Base Station output power
Data content of DPCH	real life (sufficient irregular)

6.6.3.4.2 Procedure

Measure the power of the spurious emissions by applying measurement filters with bandwidths as specified in the relevant tables of subclause 6.6.3.2. The characteristics of the measurement filter with the bandwidth 1,28 MHz or 3,84MHz shall be RRC with roll-off α = 0,22. The characteristics of the measurement filters with bandwidths 100 kHz and 1 MHz shall be approximately Gaussian (typical spectrum analyzer filter). The characteristic of the filters shall be approximately Gaussian (typical spectrum analyzer filters). The center frequency of the filter shall be stepped in contiguous steps over the frequency bands as given in the tables. The step width shall be equal to the respective measurement bandwidth. The time duration of each step shall be sufficiently long to capture one active time slot.

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- 1) Fill out the above form. The symbols above marked \(\mathcal{H} \) 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.

6.6.3.2.4 Co-existence with UTRA FDD

6.6.3.2.4.1 Operation in the same geographic area

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

For TDD base stations which use carrier frequencies within the band 2010 – 2025 MHz the requirements applies at all frequencies within the specified frequency bands in table 6.35. For 3,84 Mcps TDD option base stations which use a carrier frequency within the band 1900-1920 MHz, the requirement applies at frequencies within the specified frequency range which are more than 12,5 MHz above the last carrier used in the frequency band 1900-1920 MHz. For 1,28 Mcps TDD option base stations which use carrier frequencies within the band 1900-1920 MHz, the requirement applies at frequencies within the specified frequency range which are more than 4 MHz above the last carrier used in the frequency band 1900-1920 MHz.

The _power of any spurious emission shall not exceed the maximum level given in table 6.35.

Table 6.35: BS Spurious emissions limits for BS in geographic coverage area of UTRA FDD

BS Class	Band	Maximum Level	Measurement Bandwidth	Note
Wide Area BS	1920 – 1980 MHz	-43 dBm (*)	3,84 MHz	
Wide Area BS	2110 – 2170 MHz	-52 dBm	1 MHz	
Local Area BS	1920 – 1980 MHz	-40 dBm (*)	3,84 MHz	
Local Area BS	2110 – 2170 MHz	-52 dBm	1 MHz	

Note *: For 3,84 Mcps TDD option base stations, the requirement shall be measured RRC filtered mean power with the lowest center frequency of measurement at 1922,6 MHz or 15 MHz above the last TDD carrier used, whichever is higher. For 1,28 Mcps TDD option base stations, the requirement shall be measured RRC filtered mean power with the lowest center frequency of measurement at 1922,6 MHz or 6,6 MHz above the last TDD carrier used, whichever is higher.

NOTE: The requirements for Wide Area BS in Table 6.35 are based on a coupling loss of 67 dB between the TDD and FDD base stations. The requirements for Local Area BS in Table 6.35 are based on a coupling loss of 70 dB between TDD and FDD Wide Area base stations. The scenarios leading to these requirements are addressed in TR 25.942 [9].

The normative reference for this requirement is TS 25.105 [1] subclause 6.6.3.4.1.1.

6.6.3.2.4.2 Co-located base stations

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

For TDD base stations which use carrier frequencies within the band 2010 – 2025 MHz the requirements applies at all frequencies within the specified frequency bands in table 6.36. For 3,84 Mcps TDD option base stations which use a carrier frequency within the band 1900-1920 MHz, the requirement applies at frequencies within the specified frequency range which are more than 12,5 MHz above the last carrier used in the frequency band 1900-1920 MHz. For 1,28 Mcps TDD option base stations which use carrier frequencies within the band 1900-1920 MHz, the requirement applies at frequencies within the specified frequency range which are more than 4 MHz above the last carrier used in the frequency band 1900-1920 MHz.

The power of any spurious emission shall not exceed the maximum level given in table 6.36.

Table 6.36: BS Spurious emissions limits for BS co-located with UTRA FDD

BS Class	Band	Maximum Level	Measurement Bandwidth	Note
Wide Area BS	1920 – 1980 MHz	-80 dBm (*)	3,84 MHz	
Wide Area BS	2110 – 2170 MHz	-52 dBm	1 MHz	
filtered m MHz or 1 Mcps TD mean por	Mcps TDD option base states an power with the lowest 5 MHz above the last TDD option base stations, the wer with the lowest center fabove the last TDD carrier	center frequency of carrier used, which requirement shall frequency of meas	of measurement thever is higher. be measured <u>R</u> surement at 1922	at 1922,6 For 1,28 RC filtered

NOTE: The requirements in table 6.36 are based on a minimum coupling loss of 30 dB between base stations. The co-location of different base station classes is not considered. A co-location requirement for the Local Area TDD BS is intended to be part of a later release.

The normative reference for this requirement is TS 25.105 [1] subclause 6.6.3.4.2.1.

6.6.3.2.5 Co-existence with unsynchronised TDD

6.6.3.2.5.1 Operation in the same geographic area

This requirement may be applied for the protection of TDD BS receivers in geographic areas in which unsynchronised TDD is deployed.

6.6.3.2.5.1.1 3,84 Mcps TDD option

The RRC filtered mean power of any spurious emission shall not exceed the maximum level given in table 6.36A.

Table 6.36A: BS Spurious emissions limits for operation in same geographic area with unsynchronised TDD

BS Class	Band	Maximum Level	Measurement Bandwidth
Wide Area BS	1900 – 1920 MHz	−39 dBm	3,84 MHz
Wide Area BS	2010 – 2025 MHz	−39 dBm	3,84 MHz
Local Area BS	1900 – 1920 MHz	−36 dBm	3,84 MHz
Local Area BS	2010 – 2025 MHz	–36 dBm	3,84 MHz

NOTE: The requirements in Table 6.36A for the Wide Area BS are based on a minimum coupling loss of 67 dB between unsynchronised TDD base stations. The requirements in Table 6.36A for the Local Area BS are based on a coupling loss of 70 dB between unsynchronised Wide Area and Local Area TDD base stations. The scenarios leading to these requirements are addressed in TR25.942 [9].

The normative reference for this requirement is TS 25.105 [1] subclause 6.6.3.5.1.1.1.

6.6.3.2.5.1.2 1,28 Mcps TDD option

In geographic areas where only 1,28 Mcps TDD is deployed, the <u>RRC filtered mean</u> power of any spurious emission shall not exceed the maximum level given in table 6.36B, otherwise the limits in table 6.36C shall apply.

Table 6.36B: BS Spurious emissions limits for operation in same geographic area with unsynchronised 1,28 Mcps TDD

BS Class	Band	Maximum Level	Measurement Bandwidth
Wide Area BS	1900 – 1920 MHz	−39 dBm	1,28 MHz
Wide Area BS	2010 – 2025 MHz	−39 dBm	1,28 MHz
Local Area BS	1900 – 1920 MHz	–36 dBm	1,28 MHz
Local Area BS	2010 – 2025 MHz	-36 dBm	1,28 MHz

Table 6.36C: BS Spurious emissions limits for operation in same geographic area with unsynchronised TDD

BS Class	Band	Maximum Level	Measurement Bandwidth
Wide Area BS	1900 – 1920 MHz	−39 dBm	3,84 MHz
Wide Area BS	2010 – 2025 MHz	–39 dBm	3,84 MHz
Local Area BS	1900 – 1920 MHz	−36 dBm	3,84 MHz
Local Area BS	2010 – 2025 MHz	−36 dBm	3,84 MHz

NOTE: The requirements in Table 6.36B and 6.36C for the Wide Area BS are based on a minimum coupling loss of 67 dB between unsynchronised TDD base stations. The requirements in Table 6.36B and 6.36C for the Local Area BS are based on a coupling loss of 70 dB between unsynchronised Wide Area and Local Area TDD base stations. The scenarios leading to these requirements are addressed in TR25.942 [9].

The normative reference for this requirement is TS 25.105 [1] subclause 6.6.3.5.1.1.2.

6.6.3.2.5.2 Co-located base stations

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

6.6.3.2.5.2.1 3,84 Mcps TDD option

The <u>RRC filtered mean power of any spurious emission shall not exceed the maximum level given in table 6.36D.</u>

Table 6.36D: BS Spurious emissions limits for co-location with unsynchronised TDD

BS Class	Band	Maximum Level	Measurement Bandwidth
Wide Area BS	1900 – 1920 MHz	–76 dBm	3,84 MHz
Wide Area BS	2010 – 2025 MHz	–76 dBm	3,84 MHz
Local Area BS	1900 – 1920 MHz	−36 dBm	3,84 MHz
Local Area BS	2010 – 2025 MHz	–36 dBm	3,84 MHz

NOTE: The requirements in Table 6.36D for the Wide Area BS are based on a minimum coupling loss of 30 dB between unsynchronised TDD base stations. The requirements in Table 6.36D for the Local Area BS are based on a minimum coupling loss of 45 dB between unsynchronised Local Area base stations. The colocation of different base station classes is not considered.

The normative reference for this requirement is TS 25.105 [1] subclause 6.6.3.5.2.1.1.

6.6.3.2.5.2.2 1,28 Mcps TDD option

In geographic areas where only 1,28 Mcps TDD is deployed, the <u>RRC filtered mean power of any spurious emission in case of co-location shall not exceed the maximum level given in table 6.36E, otherwise the limits in table 6.36F shall apply.</u>

Table 6.36E: BS Spurious emissions limits for co-location with unsynchronised 1,28 Mcps TDD

BS Class	Band	Maximum Level	Measurement Bandwidth
Wide Area BS	1900 – 1920 MHz	–76 dBm	1,28 MHz
Wide Area BS	2010 – 2025 MHz	–76 dBm	1,28 MHz
Local Area BS	1900 – 1920 MHz	–37 dBm	1,28 MHz
Local Area BS	2010 – 2025 MHz	−37 dBm	1,28 MHz

Table 6.36F: BS Spurious emissions limits for co-location with unsynchronised TDD

BS Class	Band	Maximum Level	Measurement Bandwidth
Wide Area BS	1900 – 1920 MHz	–76 dBm	3,84 MHz
Wide Area BS	2010 – 2025 MHz	–76 dBm	3,84 MHz
Local Area BS	1900 – 1920 MHz	–36 dBm	3,84 MHz
Local Area BS	2010 – 2025 MHz	–36 dBm	3,84 MHz

NOTE: The requirements in Table 6.36E and 6.36F for the Wide Area BS are based on a minimum coupling loss of 30 dB between unsynchronised TDD base stations. The requirements in Table 6.36E and 6.36F for the Local Area BS are based on a minimum coupling loss of 45 dB between unsynchronised Local Area base stations. The co-location of different base station classes is not considered.

The normative reference for this requirement is TS 25.105 [1] subclause 6.6.3.5.2.1.2.

6.6.3.3 Test purpose

6.6.3.3.1 3,84 Mcps TDD option

The test purpose is to verify the ability of the BS to limit the interference caused by unwanted transmitter effects to other systems operating at frequencies which are more than 12,5 MHz away from of the UTRA band used.

6.6.3.3.2 1,28 Mcps TDD option

The test purpose is to verify the ability of the BS to limit the interference caused by unwanted transmitter effects to other systems operating at frequencies which are more than 4 MHz away from of the UTRA band used.

6.6.3.4 Method of test

6.6.3.4.1 Initial conditions

For 3,84 Mcps BS supporting 16QAM, the spurious requirements shall be tested with the general test set up specified in section 6.6.3.4.1.1 and also with the special test set up for 16QAM capable BS specified in section 6.6.3.4.1.4.

For 1,28 Mcps BS supporting 16QAM, the spurious requirements shall be tested with the general test set up specified in section 6.6.3.4.1.2 and also with the special test set up for 16QAM capable BS specified in section 6.6.3.4.1.3.

6.6.3.4.1.0 General test conditions

Test environment: normal; see subclause 5.9.1.

RF channels to be tested: B, M and T with multiple carriers if supported; see subclause 5.3.

6.6.3.4.1.1 3,84 Mcps TDD option – General test set up

- (1) Connect the measuring equipment to the antenna connector of the BS under test.
- (2) Set the parameters of the BS transmitted signal according to table 6.37.

Table 6.37: Parameters of the BS transmitted signal for spurious emissions testing

Parameter	Value/description	
TDD Duty Cycle	TS i; i = 0, 1, 2,, 14:	
	transmit, if i is even;	
	receive, if i is odd.	
Time slot carrying SCH	TS0	
Time slots under test	TS i, i even and non zero	
BS output power setting	PRAT	
Number of DPCH in each time slot	9	
under test		
Power of each DPCH	1/9 of Base Station output power	
Data content of DPCH	real life (sufficient irregular)	

6.6.3.4.1.2 1,28 Mcps TDD option– General test set up

- (1) Connect the measuring equipment to the antenna connector of the BS under test.
- (2) Set the parameters of the BS transmitted signal according to table 6.37A.

Table 6.37A: Parameters of the BS transmitted signal for spurious emissions testing for 1,28 Mcps
TDD

Parameter	Value/description
TDD Duty Cycle	TS i; i = 0, 1, 2, 3, 4, 5, 6:
	transmit, if i is 0,4,5,6;
	receive, if i is 1,2,3.
Time slots under test	TS4, TS5 and TS6
BS output power setting	PRAT
Number of DPCH in each each time	8
slot under test	
Power of each DPCH	1/8 of Base Station output power
Data content of DPCH	real life (sufficient irregular)

6.6.3.4.1.3 1,28 Mcps TDD option – Special test set up for 16QAM capable BS

This test set up only applies for 16QAM capable BS.

- (1) Connect the measuring equipment to the antenna connector of the BS under test.
- (2) Set the parameters of the BS transmitted signal according to table 6.37B.

Table 6.37B: Parameters of the BS transmitted signal for spurious emissions testing for 1,28 Mcps TDD – 16QAM capable BS

Parameter	Value/description
TDD Duty Cycle	TS i; i = 0, 1, 2, 3, 4, 5, 6:
	transmit, if i is 0,4,5,6;
	receive, if i is 1,2,3.
Time slots under test	TS4, TS5 and TS6
BS output power setting	PRAT
HS-PDSCH modulation	16QAM
Number of HS-PDSCH in each time slot	8
under test	
Power of each HS-PDSCH	1/8 of Base Station output power
Data content of HS-PDSCH	real life (sufficient irregular)
Spreading factor	16

6.6.3.4.1.4 3,84 Mcps TDD option – Special test set up for 16QAM capable BS

This test set up only applies for 16QAM capable BS.

- (1) Connect the measuring equipment to the antenna connector of the BS under test.
- (2) Set the parameters of the BS transmitted signal according to table 6.37C.

Table 6.37C: Parameters of the BS transmitted signal for spurious emissions testing – 16QAM capable BS

Parameter	Value/description	
TDD Duty Cycle	TS i; i = 0, 1, 2,, 14:	
	transmit, if i is even;	
	receive, if i is odd.	
Time slot carrying SCH	TS0	
Time slots under test	TS i, i even and non zero	
BS output power setting	PRAT	
HS-PDSCH modulation	16QAM	
Number of HS-PDSCH in each time slot	9	
under test		
Power of each HS-PDSCH	1/9 of Base Station output power	
Data content of HS-PDSCH	real life (sufficient irregular)	
Spreading factor	16	

6.6.3.4.2 Procedure

Measure the power of the spurious emissions by applying measurement filters with bandwidths as specified in the relevant tables of subclause 6.6.3.2. The characteristics of the measurement filter with the bandwidth 1,28 MHz or 3,84MHz shall be RRC with roll-off α = 0,22. The characteristics of the measurement filters with bandwidths 100 kHz and 1 MHz shall be approximately Gaussian (typical spectrum analyzer filter). The characteristic of the filters shall be approximately Gaussian (typical spectrum analyzer filters). The center frequency of the filter shall be stepped in contiguous steps over the frequency bands as given in the tables. The step width shall be equal to the respective measurement bandwidth. The time duration of each step shall be sufficiently long to capture one active time slot.

Beijing, China 10 - 14 May 2004

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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 \(\mathcal{H} \) 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.

6.6.3.2.4 Co-existence with UTRA FDD

6.6.3.2.4.1 Operation in the same geographic area

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

For TDD base stations which use carrier frequencies within the band 2010 – 2025 MHz the requirements applies at all frequencies within the specified frequency bands in table 6.35. For 3,84 Mcps TDD option base stations which use a carrier frequency within the band 1900-1920 MHz, the requirement applies at frequencies within the specified frequency range which are more than 12,5 MHz above the last carrier used in the frequency band 1900-1920 MHz. For 1,28 Mcps TDD option base stations which use carrier frequencies within the band 1900-1920 MHz, the requirement applies at frequencies within the specified frequency range which are more than 4 MHz above the last carrier used in the frequency band 1900-1920 MHz.

The _power of any spurious emission shall not exceed the maximum level given in table 6.35.

Table 6.35: BS Spurious emissions limits for BS in geographic coverage area of UTRA FDD

BS Class	Band	Maximum Level	Measurement Bandwidth	Note
Wide Area BS	1920 – 1980 MHz	-43 dBm (*)	3,84 MHz	
Wide Area BS	2110 – 2170 MHz	-52 dBm	1 MHz	
Local Area BS	1920 – 1980 MHz	-40 dBm (*)	3,84 MHz	
Local Area BS	2110 – 2170 MHz	-52 dBm	1 MHz	

Note *: For 3,84 Mcps TDD option base stations, the requirement shall be measured RRC filtered mean power with the lowest center frequency of measurement at 1922,6 MHz or 15 MHz above the last TDD carrier used, whichever is higher. For 1,28 Mcps TDD option base stations, the requirement shall be measured RRC filtered mean power with the lowest center frequency of measurement at 1922,6 MHz or 6,6 MHz above the last TDD carrier used, whichever is higher.

NOTE: The requirements for Wide Area BS in Table 6.35 are based on a coupling loss of 67 dB between the TDD and FDD base stations. The requirements for Local Area BS in Table 6.35 are based on a coupling loss of 70 dB between TDD and FDD Wide Area base stations. The scenarios leading to these requirements are addressed in TR 25.942 [9].

The normative reference for this requirement is TS 25.105 [1] subclause 6.6.3.4.1.1.

6.6.3.2.4.2 Co-located base stations

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

For TDD base stations which use carrier frequencies within the band 2010 – 2025 MHz the requirements applies at all frequencies within the specified frequency bands in table 6.36. For 3,84 Mcps TDD option base stations which use a carrier frequency within the band 1900-1920 MHz, the requirement applies at frequencies within the specified frequency range which are more than 12,5 MHz above the last carrier used in the frequency band 1900-1920 MHz. For 1,28 Mcps TDD option base stations which use carrier frequencies within the band 1900-1920 MHz, the requirement applies at frequencies within the specified frequency range which are more than 4 MHz above the last carrier used in the frequency band 1900-1920 MHz.

The power of any spurious emission shall not exceed the maximum level given in table 6.36.

Table 6.36: BS Spurious emissions limits for BS co-located with UTRA FDD

BS Class	Band	Maximum Level	Measurement Bandwidth	Note
Wide Area BS	1920 – 1980 MHz	-80 dBm (*)	3,84 MHz	
Wide Area BS	2110 – 2170 MHz	-52 dBm	1 MHz	
filtered m MHz or 1 Mcps TD mean por	Mcps TDD option base states an power with the lowest 5 MHz above the last TDD option base stations, the wer with the lowest center fabove the last TDD carrier	center frequency of carrier used, which requirement shall frequency of meas	of measurement thever is higher. be measured <u>R</u> surement at 1922	at 1922,6 For 1,28 RC filtered

NOTE: The requirements in table 6.36 are based on a minimum coupling loss of 30 dB between base stations. The co-location of different base station classes is not considered. A co-location requirement for the Local Area TDD BS is intended to be part of a later release.

The normative reference for this requirement is TS 25.105 [1] subclause 6.6.3.4.2.1.

6.6.3.2.5 Co-existence with unsynchronised TDD

6.6.3.2.5.1 Operation in the same geographic area

This requirement may be applied for the protection of TDD BS receivers in geographic areas in which unsynchronised TDD is deployed.

6.6.3.2.5.1.1 3,84 Mcps TDD option

The RRC filtered mean power of any spurious emission shall not exceed the maximum level given in table 6.36A.

Table 6.36A: BS Spurious emissions limits for operation in same geographic area with unsynchronised TDD

BS Class	Band	Maximum Level	Measurement Bandwidth
Wide Area BS	1900 – 1920 MHz	−39 dBm	3,84 MHz
Wide Area BS	2010 – 2025 MHz	−39 dBm	3,84 MHz
Local Area BS	1900 – 1920 MHz	−36 dBm	3,84 MHz
Local Area BS	2010 – 2025 MHz	–36 dBm	3,84 MHz

NOTE: The requirements in Table 6.36A for the Wide Area BS are based on a minimum coupling loss of 67 dB between unsynchronised TDD base stations. The requirements in Table 6.36A for the Local Area BS are based on a coupling loss of 70 dB between unsynchronised Wide Area and Local Area TDD base stations. The scenarios leading to these requirements are addressed in TR25.942 [9].

The normative reference for this requirement is TS 25.105 [1] subclause 6.6.3.5.1.1.1.

6.6.3.2.5.1.2 1,28 Mcps TDD option

In geographic areas where only 1,28 Mcps TDD is deployed, the <u>RRC filtered mean</u> power of any spurious emission shall not exceed the maximum level given in table 6.36B, otherwise the limits in table 6.36C shall apply.

Table 6.36B: BS Spurious emissions limits for operation in same geographic area with unsynchronised 1,28 Mcps TDD

BS Class	Band	Maximum Level	Measurement Bandwidth
Wide Area BS	1900 – 1920 MHz	−39 dBm	1,28 MHz
Wide Area BS	2010 – 2025 MHz	−39 dBm	1,28 MHz
Local Area BS	1900 – 1920 MHz	–36 dBm	1,28 MHz
Local Area BS	2010 – 2025 MHz	-36 dBm	1,28 MHz

Table 6.36C: BS Spurious emissions limits for operation in same geographic area with unsynchronised TDD

BS Class	Band	Maximum Level	Measurement Bandwidth
Wide Area BS	1900 – 1920 MHz	−39 dBm	3,84 MHz
Wide Area BS	2010 – 2025 MHz	–39 dBm	3,84 MHz
Local Area BS	1900 – 1920 MHz	−36 dBm	3,84 MHz
Local Area BS	2010 – 2025 MHz	−36 dBm	3,84 MHz

NOTE: The requirements in Table 6.36B and 6.36C for the Wide Area BS are based on a minimum coupling loss of 67 dB between unsynchronised TDD base stations. The requirements in Table 6.36B and 6.36C for the Local Area BS are based on a coupling loss of 70 dB between unsynchronised Wide Area and Local Area TDD base stations. The scenarios leading to these requirements are addressed in TR25.942 [9].

The normative reference for this requirement is TS 25.105 [1] subclause 6.6.3.5.1.1.2.

6.6.3.2.5.2 Co-located base stations

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

6.6.3.2.5.2.1 3,84 Mcps TDD option

The <u>RRC filtered mean power of any spurious emission shall not exceed the maximum level given in table 6.36D.</u>

Table 6.36D: BS Spurious emissions limits for co-location with unsynchronised TDD

BS Class	Band	Maximum Level	Measurement Bandwidth
Wide Area BS	1900 – 1920 MHz	–76 dBm	3,84 MHz
Wide Area BS	2010 – 2025 MHz	–76 dBm	3,84 MHz
Local Area BS	1900 – 1920 MHz	−36 dBm	3,84 MHz
Local Area BS	2010 – 2025 MHz	–36 dBm	3,84 MHz

NOTE: The requirements in Table 6.36D for the Wide Area BS are based on a minimum coupling loss of 30 dB between unsynchronised TDD base stations. The requirements in Table 6.36D for the Local Area BS are based on a minimum coupling loss of 45 dB between unsynchronised Local Area base stations. The colocation of different base station classes is not considered.

The normative reference for this requirement is TS 25.105 [1] subclause 6.6.3.5.2.1.1.

6.6.3.2.5.2.2 1,28 Mcps TDD option

In geographic areas where only 1,28 Mcps TDD is deployed, the <u>RRC filtered mean power of any spurious emission in case of co-location shall not exceed the maximum level given in table 6.36E, otherwise the limits in table 6.36F shall apply.</u>

Table 6.36E: BS Spurious emissions limits for co-location with unsynchronised 1,28 Mcps TDD

BS Class	Band	Maximum Level	Measurement Bandwidth
Wide Area BS	1900 – 1920 MHz	–76 dBm	1,28 MHz
Wide Area BS	2010 – 2025 MHz	–76 dBm	1,28 MHz
Local Area BS	1900 – 1920 MHz	–37 dBm	1,28 MHz
Local Area BS	2010 – 2025 MHz	−37 dBm	1,28 MHz

Table 6.36F: BS Spurious emissions limits for co-location with unsynchronised TDD

BS Class	Band	Maximum Level	Measurement Bandwidth
Wide Area BS	1900 – 1920 MHz	–76 dBm	3,84 MHz
Wide Area BS	2010 – 2025 MHz	–76 dBm	3,84 MHz
Local Area BS	1900 – 1920 MHz	−36 dBm	3,84 MHz
Local Area BS	2010 – 2025 MHz	–36 dBm	3,84 MHz

NOTE: The requirements in Table 6.36E and 6.36F for the Wide Area BS are based on a minimum coupling loss of 30 dB between unsynchronised TDD base stations. The requirements in Table 6.36E and 6.36F for the Local Area BS are based on a minimum coupling loss of 45 dB between unsynchronised Local Area base stations. The co-location of different base station classes is not considered.

The normative reference for this requirement is TS 25.105 [1] subclause 6.6.3.5.2.1.2.

6.6.3.3 Test purpose

6.6.3.3.1 3,84 Mcps TDD option

The test purpose is to verify the ability of the BS to limit the interference caused by unwanted transmitter effects to other systems operating at frequencies which are more than 12,5 MHz away from of the UTRA band used.

6.6.3.3.2 1,28 Mcps TDD option

The test purpose is to verify the ability of the BS to limit the interference caused by unwanted transmitter effects to other systems operating at frequencies which are more than 4 MHz away from of the UTRA band used.

6.6.3.4 Method of test

6.6.3.4.1 Initial conditions

For 3,84 Mcps BS supporting 16QAM, the spurious requirements shall be tested with the general test set up specified in section 6.6.3.4.1.1 and also with the special test set up for 16QAM capable BS specified in section 6.6.3.4.1.4.

For 1,28 Mcps BS supporting 16QAM, the spurious requirements shall be tested with the general test set up specified in section 6.6.3.4.1.2 and also with the special test set up for 16QAM capable BS specified in section 6.6.3.4.1.3.

6.6.3.4.1.0 General test conditions

Test environment: normal; see subclause 5.9.1.

RF channels to be tested: B, M and T with multiple carriers if supported; see subclause 5.3.

6.6.3.4.1.1 3,84 Mcps TDD option – General test set up

- (1) Connect the measuring equipment to the antenna connector of the BS under test.
- (2) Set the parameters of the BS transmitted signal according to table 6.37.

Table 6.37: Parameters of the BS transmitted signal for spurious emissions testing

Parameter	Value/description	
TDD Duty Cycle	TS i; i = 0, 1, 2,, 14:	
	transmit, if i is even;	
	receive, if i is odd.	
Time slot carrying SCH	TS0	
Time slots under test	TS i, i even and non zero	
BS output power setting	PRAT	
Number of DPCH in each time slot	9	
under test		
Power of each DPCH	1/9 of Base Station output power	
Data content of DPCH	real life (sufficient irregular)	

6.6.3.4.1.2 1,28 Mcps TDD option– General test set up

- (1) Connect the measuring equipment to the antenna connector of the BS under test.
- (2) Set the parameters of the BS transmitted signal according to table 6.37A.

Table 6.37A: Parameters of the BS transmitted signal for spurious emissions testing for 1,28 Mcps
TDD

Parameter	Value/description	
TDD Duty Cycle	TS i; i = 0, 1, 2, 3, 4, 5, 6:	
	transmit, if i is 0,4,5,6;	
	receive, if i is 1,2,3.	
Time slots under test	TS4, TS5 and TS6	
BS output power setting	PRAT	
Number of DPCH in each each time	8	
slot under test		
Power of each DPCH	1/8 of Base Station output power	
Data content of DPCH	real life (sufficient irregular)	

6.6.3.4.1.3 1,28 Mcps TDD option – Special test set up for 16QAM capable BS

This test set up only applies for 16QAM capable BS.

- (1) Connect the measuring equipment to the antenna connector of the BS under test.
- (2) Set the parameters of the BS transmitted signal according to table 6.37B.

Table 6.37B: Parameters of the BS transmitted signal for spurious emissions testing for 1,28 Mcps TDD – 16QAM capable BS

Parameter	Value/description	
TDD Duty Cycle	TS i; i = 0, 1, 2, 3, 4, 5, 6:	
	transmit, if i is 0,4,5,6;	
	receive, if i is 1,2,3.	
Time slots under test	TS4, TS5 and TS6	
BS output power setting	PRAT	
HS-PDSCH modulation	16QAM	
Number of HS-PDSCH in each time slot	8	
under test		
Power of each HS-PDSCH	1/8 of Base Station output power	
Data content of HS-PDSCH	real life (sufficient irregular)	
Spreading factor	16	

6.6.3.4.1.4 3,84 Mcps TDD option – Special test set up for 16QAM capable BS

This test set up only applies for 16QAM capable BS.

- (1) Connect the measuring equipment to the antenna connector of the BS under test.
- (2) Set the parameters of the BS transmitted signal according to table 6.37C.

Table 6.37C: Parameters of the BS transmitted signal for spurious emissions testing – 16QAM capable BS

Parameter	Value/description
TDD Duty Cycle	TS i; i = 0, 1, 2,, 14:
	transmit, if i is even;
	receive, if i is odd.
Time slot carrying SCH	TS0
Time slots under test	TS i, i even and non zero
BS output power setting	PRAT
HS-PDSCH modulation	16QAM
Number of HS-PDSCH in each time slot	9
under test	
Power of each HS-PDSCH	1/9 of Base Station output power
Data content of HS-PDSCH	real life (sufficient irregular)
Spreading factor	16

6.6.3.4.2 Procedure

Measure the power of the spurious emissions by applying measurement filters with bandwidths as specified in the relevant tables of subclause 6.6.3.2. The characteristics of the measurement filter with the bandwidth 1,28 MHz or 3,84MHz shall be RRC with roll-off α = 0,22. The characteristics of the measurement filters with bandwidths 100 kHz and 1 MHz shall be approximately Gaussian (typical spectrum analyzer filter). The characteristic of the filters shall be approximately Gaussian (typical spectrum analyzer filters). The center frequency of the filter shall be stepped in contiguous steps over the frequency bands as given in the tables. The step width shall be equal to the respective measurement bandwidth. The time duration of each step shall be sufficiently long to capture one active time slot.