TSG RAN Meeting #17 **RP-020477**
Biarritz, France, 3 - 6 September, 2002

Title **CRs (Rel-4 and Rel-5 Category A) to TS 25.102**
Source **TSG RAN WG4**
Agenda Item **7.4.4**

RAN4 Tdoc	Spec	CR	R	Cat	Rel	Curr Ver	Title	Work Item
R4-021222	25.102	121		F	Rel-4	4.5.0	Correction to blocking exceptions for 1.28 Mcps TDD option	LCRTDD-RF
R4-021223	25.102	122		A	Rel-5	5.1.0	Correction to blocking exceptions for 1.28 Mcps TDD option	LCRTDD-RF
R4-021225	25.102	123		F	Rel-4	4.5.0	Correction of Out-of-Synchronisation test for 1,28 Mpcs TDD option	LCRTDD-RF
R4-021226	25.102	124		A	Rel-5	5.1.0	Correction of Out-of-Synchronisation test for 1,28 Mpcs TDD option	LCRTDD-RF

3GPP TSR RAN WG4 Meeting #24 **R4-021222**

Helsinki, Finland 12 - 16 August 2002

CR-Form-v7

CHANGE REQUEST

⌘ **25.102** **CR** **121** ⌘ **rev** ⌘ Current version: **4.5.0** ⌘

*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:	⌘	Correction to blocking exceptions for 1.28 Mcps TDD option
Source:	⌘	RAN WG4
Work item code:	⌘	LCRTDD-RF
Date:	⌘	21/08/2002
Category:	⌘	**F**
Release:	⌘	Rel-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Current wording does not allow for exceptions of the out of band blocking requirement due to spurious responses. This was not the intention when the 1,28 Mcps TDD option was introduced to TS25.102. 1,28 Mcps TDD UE shall not have more stringent requirements than FDD or 3,84 Mcps TDD option UE.
Summary of change:	⌘	Up to 24 exceptions of the out of band blocking requirement are allowed
Consequences if not approved:	⌘	UE will have to fullfil an unecessary tight requirement. **Isolated impact analysis:** The CR has an impact on UE implementation since an unecessary requirement has to be fulfilled even if it was not the intention when the 1,28 Mcps TDD option was introduced.

Clauses affected:	⌘	7.6.1.2

Other specs affected: ⌘	Y	N		⌘
		X	Other core specifications	TS34.122
	X		Test specifications	
		X	O&M Specifications	

Other comments:	⌘	Equivalent CRs in other Releases: CR122 cat. A to 25.102 v5.1.0

How to create CRs using this form:

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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.

7.6 Blocking characteristics

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

7.6.1 Minimum Requirement

7.6.1.1 3.84 Mcps TDD Option

The BER shall not exceed 0.001 for the parameters specified in table 7.6 and table 7.7. For table 7.7 up to 24 exceptions are allowed for spurious response frequencies in each assigned frequency channel when measured using a 1MHz step size.

Table 7.6: In-band blocking (3.84 Mcps TDD Option)

Parameter	Level		Unit
$\frac{\Sigma DPCH\_Ec}{I_{or}}$	0		dB
$\hat{I}_{or}$	-102		dBm/3.84 MHz
I_{ouw} mean power (modulated)	-56 (for F_{uw} offset ±10 MHz)	-44 (for F_{uw} offset ±15 MHz)	dBm

Table 7.7: Out of band blocking (3.84 Mcps TDD Option)

Parameter	Band 1	Band 2	Band 3	Unit
$\frac{\Sigma DPCH\_Ec}{I_{or}}$	0	0	0	dB
$\hat{I}_{or}$	–102	–102	–102	dBm/3.84 MHz
I_{ouw} (CW)	-44	-30	-15	dBm
F_{uw} For operation in frequency bands as definded in subclause 5.2(a)	1840 <f <1885 1935 <f <1995 2040 <f <2085	1815 <f <1840 2085 <f <2110	1< f <1815 2110< f <12750	MHz
F_{uw} For operation in frequency bands as definded in subclause 5.2(b)	1790 < f < 1835 2005 < f < 2050	1765 < f < 1790 2050 < f < 2075	1 < f < 1765 2075 < f < 12750	MHz
F_{uw} For operation in frequency bands as definded in subclause 5.2(c)	1850 < f < 1895 1945 < f < 1990	1825 < f < 1850 1990 < f < 2015	1 < f < 1825 2015 < f < 12750	MHz
1. For operation referenced in 5.2(a), from 1885 <f< 1900 MHz, 1920 <f< 1935 MHz, 1995 <f< 2010 MHz and 2025<f< 2040 MHz , the appropriate in-band blocking in table 7.6 or adjacent channel selectivity in section 7.5.1 shall be applied.				
2. For operation referenced in 5.2(b), from 1835 < f < 1850 MHz and 1990< f < 2005 MHz, the appropriate in-band blocking in table 7.6 or adjacent channel selectivity in section 7.5.1 shall be applied.				
3. For operation referenced in 5.2(c), from 1895 < f < 1910 MHz and 1930< f < 1945 MHz, the appropriate in-band blocking in table 7.6 or adjacent channel selectivity in section 7.5.1 shall be applied.				

7.6.1.2 1.28 Mcps TDD Option

The BER shall not exceed 0.001 for the parameters specified in table 7.6A and table 7.7A. For table 7.7A up to 24 exceptions are allowed for spurious response frequencies in each assigned frequency channel when measured using a 1MHz step size.

Table 7.6A: In-band blocking (1.28 Mcps TDD Option)

Parameter	Level		Unit
$\frac{\Sigma DPCH\_Ec}{I_{or}}$	0		dB
$\hat{I}_{or}$	-105		dBm/1.28 MHz
I_{ouw} mean power (modulated)	-61 (for F_{uw} offset ±3.2 MHz)	-49 (for F_{uw} offset ±4.8 MHz)	dBm

Table 7.7A: Out of band blocking (1.28 Mcps TDD Option)

Parameter	Band 1	Band 2	Band 3	Unit
$\frac{\Sigma DPCH\_Ec}{I_{or}}$	0	0	0	dB
$\hat{I}_{or}$	-105	-105	-105	dBm/1.28 MHz
I_{ouw} (CW)	-44	-30	-15	dBm
F_{uw} For operation in frequency bands as defined in subclause 5.2(a)	1840 <f <1895.2 1924.8 <f <2005.2 2029.8 <f <2085	1815 <f <1840 2085 <f <2110	1< f <1815 2110< f <12750	MHz
F_{uw} For operation in frequency bands as defined in subclause 5.2(b)	1790 < f < 1845.2 1994.8 < f < 2050	1765 < f < 1790 2050 < f < 2075	1 < f < 1765 2075 < f < 12750	MHz
F_{uw} For operation in frequency bands as defined in subclause 5.2(c)	1850 < f < 1905.2 1934.8 < f < 1990	1825 < f < 1850 1990 < f < 2015	1 < f < 1825 2015 < f < 12750	MHz
1. For operation referenced in 5.2(a), from 1895.2 <f< 1900 MHz, 1920 <f< 1924.8 MHz, 2005.2 <f< 2010 MHz and 2025<f< 2029.8 MHz , the appropriate in-band blocking in table 7.6A or adjacent channel selectivity in section 7.5.1.2shall be applied.				
2. For operation referenced in 5.2(b), from 1845.2 < f < 1850 MHz and 1990< f < 1994.8 MHz, the appropriate in-band blocking in table 7.6A or adjacent channel selectivity in section 7.5.1.2 shall be applied.				
3. For operation referenced in 5.2(c), from 1905.2 < f < 1910 MHz and 1930< f < 1934.8 MHz, the appropriate in-band blocking in table 7.6A or adjacent channel selectivity in section 7.5.1.2 shall be applied.				

3GPP TSR RAN WG4 Meeting #24 **R4-021223**

Helsinki, Finland 12 - 16 August 2002

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CHANGE REQUEST

⌘ **25.102** **CR** **122** ⌘ **rev** ⌘ Current version: **5.1.0** ⌘

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

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

Title:	⌘	Correction to blocking exceptions for 1.28 Mcps TDD option
Source:	⌘	RAN WG4
Work item code:	⌘	LCRTDD-RF
Date:	⌘	21/08/2002
Category:	⌘	**A**
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Current wording does not allow for exceptions of the out of band blocking requirement due to spurious responses. This was not the intention when the 1,28 Mcps TDD option was introduced to TS25.102. 1,28 Mcps TDD UE shall not have more stringent requirements than FDD or 3,84 Mcps TDD option UE.
Summary of change:	⌘	Up to 24 exceptions of the out of band blocking requirement are allowed
Consequences if not approved:	⌘	UE will have to fullfil an unecessary tight requirement. **Isolated impact analysis:** The CR has an impact on UE implementation since an unecessary requirement has to be fulfill even if it was not the intention when the 1,28 Mcps TDD option was introduced.

Clauses affected:	⌘	7.6.1.2

Other specs affected: ⌘	Y	N		⌘
		X	Other core specifications	TS34.122
	X		Test specifications	
		X	O&M Specifications	

Other comments:	⌘	Equivalent CRs in other Releases: CR121 cat. F to 25.102 v4.5.0

How to create CRs using this form:

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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.

7.6 Blocking characteristics

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

7.6.1 Minimum Requirement

7.6.1.1 3.84 Mcps TDD Option

The BER shall not exceed 0.001 for the parameters specified in table 7.6 and table 7.7. For table 7.7 up to 24 exceptions are allowed for spurious response frequencies in each assigned frequency channel when measured using a 1MHz step size.

Table 7.6: In-band blocking (3.84 Mcps TDD Option)

Parameter	Level		Unit
$\frac{\Sigma DPCH\_Ec}{I_{or}}$	0		dB
$\hat{I}_{or}$	-102		dBm/3.84 MHz
I_{ouw} mean power (modulated)	-56 (for F_{uw} offset ±10 MHz)	-44 (for F_{uw} offset ±15 MHz)	dBm

Table 7.7: Out of band blocking (3.84 Mcps TDD Option)

Parameter	Band 1	Band 2	Band 3	Unit
$\frac{\Sigma DPCH\_Ec}{I_{or}}$	0	0	0	dB
$\hat{I}_{or}$	–102	–102	–102	dBm/3.84 MHz
I_{ouw} (CW)	-44	-30	-15	dBm
F_{uw} For operation in frequency bands as definded in subclause 5.2(a)	1840 <f <1885 1935 <f <1995 2040 <f <2085	1815 <f <1840 2085 <f <2110	1< f <1815 2110< f <12750	MHz
F_{uw} For operation in frequency bands as definded in subclause 5.2(b)	1790 < f < 1835 2005 < f < 2050	1765 < f < 1790 2050 < f < 2075	1 < f < 1765 2075 < f < 12750	MHz
F_{uw} For operation in frequency bands as definded in subclause 5.2(c)	1850 < f < 1895 1945 < f < 1990	1825 < f < 1850 1990 < f < 2015	1 < f < 1825 2015 < f < 12750	MHz
1. For operation referenced in 5.2(a), from 1885 <f< 1900 MHz, 1920 <f< 1935 MHz, 1995 <f< 2010 MHz and 2025<f< 2040 MHz , the appropriate in-band blocking in table 7.6 or adjacent channel selectivity in section 7.5.1 shall be applied.				
2. For operation referenced in 5.2(b), from 1835 < f < 1850 MHz and 1990< f < 2005 MHz, the appropriate in-band blocking in table 7.6 or adjacent channel selectivity in section 7.5.1 shall be applied.				
3. For operation referenced in 5.2(c), from 1895 < f < 1910 MHz and 1930< f < 1945 MHz, the appropriate in-band blocking in table 7.6 or adjacent channel selectivity in section 7.5.1 shall be applied.				

7.6.1.2 1.28 Mcps TDD Option

The BER shall not exceed 0.001 for the parameters specified in table 7.6A and table 7.7A. For table 7.7A up to 24 exceptions are allowed for spurious response frequencies in each assigned frequency channel when measured using a 1MHz step size.

Table 7.6A: In-band blocking (1.28 Mcps TDD Option)

Parameter	Level		Unit
$\frac{\Sigma DPCH\_Ec}{I_{or}}$	0		dB
$\hat{I}_{or}$	-105		dBm/1.28 MHz
I_{ouw} mean power (modulated)	-61 (for F_{uw} offset ±3.2 MHz)	-49 (for F_{uw} offset ±4.8 MHz)	dBm

Table 7.7A: Out of band blocking (1.28 Mcps TDD Option)

Parameter	Band 1	Band 2	Band 3	Unit
$\frac{\Sigma DPCH\_Ec}{I_{or}}$	0	0	0	dB
$\hat{I}_{or}$	-105	-105	-105	dBm/1.28 MHz
I_{ouw} (CW)	-44	-30	-15	dBm
F_{uw} For operation in frequency bands as defined in subclause 5.2(a)	1840 <f <1895.2 1924.8 <f <2005.2 2029.8 <f <2085	1815 <f <1840 2085 <f <2110	1< f <1815 2110< f <12750	MHz
F_{uw} For operation in frequency bands as defined in subclause 5.2(b)	1790 < f < 1845.2 1994.8 < f < 2050	1765 < f < 1790 2050 < f < 2075	1 < f < 1765 2075 < f < 12750	MHz
F_{uw} For operation in frequency bands as defined in subclause 5.2(c)	1850 < f < 1905.2 1934.8 < f < 1990	1825 < f < 1850 1990 < f < 2015	1 < f < 1825 2015 < f < 12750	MHz
1. For operation referenced in 5.2(a), from 1895.2 <f< 1900 MHz, 1920 <f< 1924.8 MHz, 2005.2 <f< 2010 MHz and 2025<f< 2029.8 MHz , the appropriate in-band blocking in table 7.6A or adjacent channel selectivity in section 7.5.1.2shall be applied.				
2. For operation referenced in 5.2(b), from 1845.2 < f < 1850 MHz and 1990< f < 1994.8 MHz, the appropriate in-band blocking in table 7.6A or adjacent channel selectivity in section 7.5.1.2 shall be applied.				
3. For operation referenced in 5.2(c), from 1905.2 < f < 1910 MHz and 1930< f < 1934.8 MHz, the appropriate in-band blocking in table 7.6A or adjacent channel selectivity in section 7.5.1.2 shall be applied.				

3GPP TSR RAN WG4 Meeting #24 **R4-021225**

Helsinki, Finland 12 - 16 August 2002

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CHANGE REQUEST

⌘ **25.102** **CR** **123** ⌘ **rev** ⌘ Current version: **4.5.0** ⌘

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

Title:	⌘	Correction of Out-of-Synchronisation test for 1,28 Mpcs TDD option
Source:	⌘	RAN WG4
Work item code:	⌘	LCRTDD-RF
Date:	⌘	21/08/2002
Category:	⌘	**F**
Release:	⌘	Rel-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	The test conditions are set in an improper way, thus the test cannot be passed by any UE.
Summary of change:	⌘	Test conditions are re-adjusted to make the test practicable.
Consequences if not approved:	⌘	UE behaving correct according Layer 1 specification will fail the test

Clauses affected:	⌘	6.4.3.2.2.2, 6.4.3.2.2.2			
Other specs affected:	⌘	Y / N	Other core specifications	⌘	
		N: X			
		Y: X	Test specifications		34.122
		N: X	O&M Specifications		
Other comments:	⌘	Equivalent CRs in other Releases: CR124 cat. A to 25.102 v5.1.0			

How to create CRs using this form:
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1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

6.4.3.1.2.2 Test case

This subclause specifies a test case, which provides additional information for how the minimum requirement should be interpreted for the purpose of conformance testing in case of continuous transmission for 1.28 Mcps TDD option.

The conditions for the continuous test case are as follows:

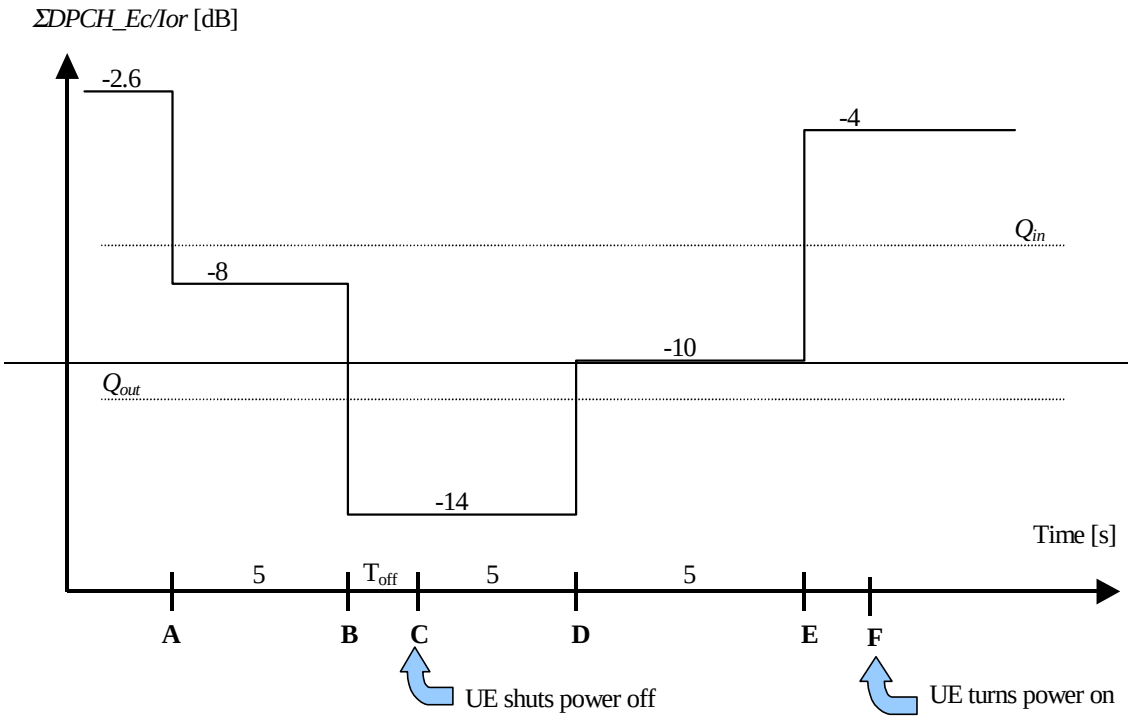
The handover triggering level shall be set very high to ensure that the beacon channel power never exceeds the value of 10dB above it. Therefore the averaging time for signal quality will always be 160 milliseconds.

The quality levels at the thresholds Q_{out} and Q_{in} correspond to different signal levels depending on the downlink conditions DCH parameters. For the conditions in Table 6.4, a signal with the quality at the level Q_{out} can be generated by a ΣDPCH_Ec/Ior ratio of ~~-13~~ 15 dB, and a signal with Q_{in} by a ΣDPCH_Ec/Ior ratio of ~~-9~~ 4,5 dB. In this test, the DL reference measurement channel (12.2) kbps specified in subclause A.2.2, where the CRC bits are replaced by data bits, and with static propagation conditions is used.

Table 6.4AA: DCH parameters for the of Out-of-synch handling test case - 1.28 Mcps TDD option – continuous transmission

Parameter	Unit	Value
$\hat{I}_{or}/I_{oc}$	dB	-1
I_{oc}	dBm/1.28 MHz	-60
$\frac{\Sigma DPCH\_E_c}{I_{or}}$	dB	See figure 6.1AA
Information Data Rate	kbps	12.2
TFCI	-	On

Figure 6.1AA shows an example scenario where the ΣDPCH_Ec/Ior ratio varies from a level where the DPCH is demodulated under normal conditions, down to a level below Q_{out} where the UE shall shut its power off and then back up to a level above Q_{in} where the UE shall turn the power back on.



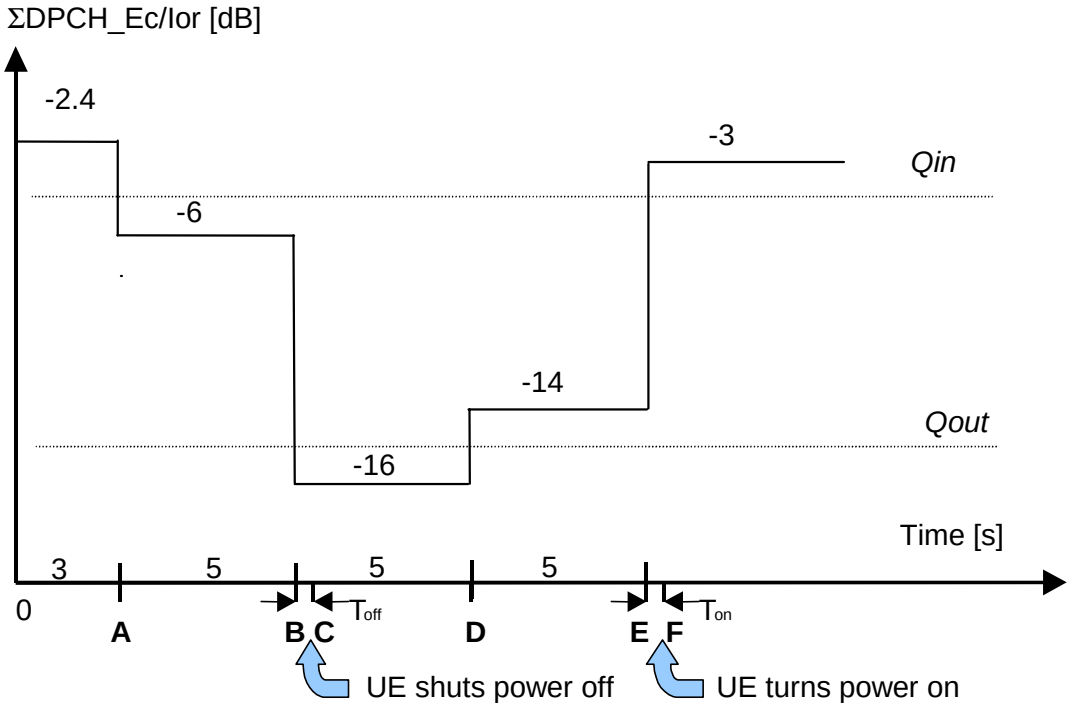


Figure 6.1AA: Test case for out-of-synch handling in the UE - 1.28 Mcps TDD option – continuous transmission

In this test case, the requirements for the UE are that:

1) The UE shall not shut its transmitter off before point B.
2) The UE shall shut its transmitter off before point C, which is T_{off} = 200 ms after point B
3) The UE shall not turn its transmitter on between points C and E.
4) The UE shall turn its transmitter on before point F, which is T_{on} = 200 ms after Point E.

--- next changed section ---

6.4.3.2.2.2 Test case

This subclause specifies a test case, which provides additional information for how the minimum requirement should be interpreted for the purpose of conformance testing in case of discontinuous transmission.

The conditions for the discontinuous test case are as follows :

The handover triggering level shall be set very high to ensure that the beacon channel power never exceeds the value of 10dB above it. Therefore the averaging time for signal quality will always be 160 milliseconds.

The UTRAN transmits Special Bursts as specified in TS 25.224. The Special Burst Scheduling Parameter, SBSP = 4, which means that UTRAN sends a Special Burst at every fourth frame with no data. Therefore, the UTRAN sends a Special Burst in the first frame without data transmission, followed by 3 frames with no transmission; followed by a Special Burst, etc. Additionally, the Special Burst will be sent in both subframes of the relevant frame designated for the Special Burst.

The DCH parameters are shown in Table 6.4B.

The quality levels at the thresholds Q_{sbout} and Q_{sbin} correspond to different signal levels depending on the downlink conditions DCH parameters. For the conditions in Table 6.4B, a signal with the quality at the level Q_{sbout} can be generated by a DPCH_Ec/Ior ratio during received special bursts of ~~-16~~ 18 dB, and a signal with Q_{sbin} by a DPCH_Ec/Ior ratio during received special bursts of ~~-12~~-7,5 dB.

Table 6.4B: DCH parameters for the of Out-of-synch handling test case - 1.28 Mcps TDD option – discontinuous transmission

Parameter	Unit	Value
$\hat{I}_{or}/I_{oc}$	dB	-1
I_{oc}	dBm/1.28 MHz	-60
$\frac{\Sigma DPCH\_E_c}{I_{or}}$	dB	See figure 6.1B
Bits/burst (including TFCI bits)	bits	88 in each subframe
TFCI	-	On

Figure 6.1B shows an example scenario where the DPCH_Ec/Ior ratio during received special bursts varies from a level where the DPCH in DTX mode is demodulated under normal conditions, down to a level below Q_{sbout} where the UE shall shut its power off and then back up to a level above Q_{sbin} where the UE shall turn the power back on.

While the normal data is transmitted using two channelization codes, the Special Burst is transmitted with only one channelization code. Therefore the total energy per chip during Special Bursts is 3 dB lower than for continuous data transmission. The Special Bursts are represented by "SBs" in the figure.

During the period of 3 frames with no data, the UE will receive a very low power, which is not shown in the figure. In the fourth frame the Special Burst will be sent in both subframes designated to carry the Special Burst during DTX. The power shown in the figure is the power of the Special Burst.

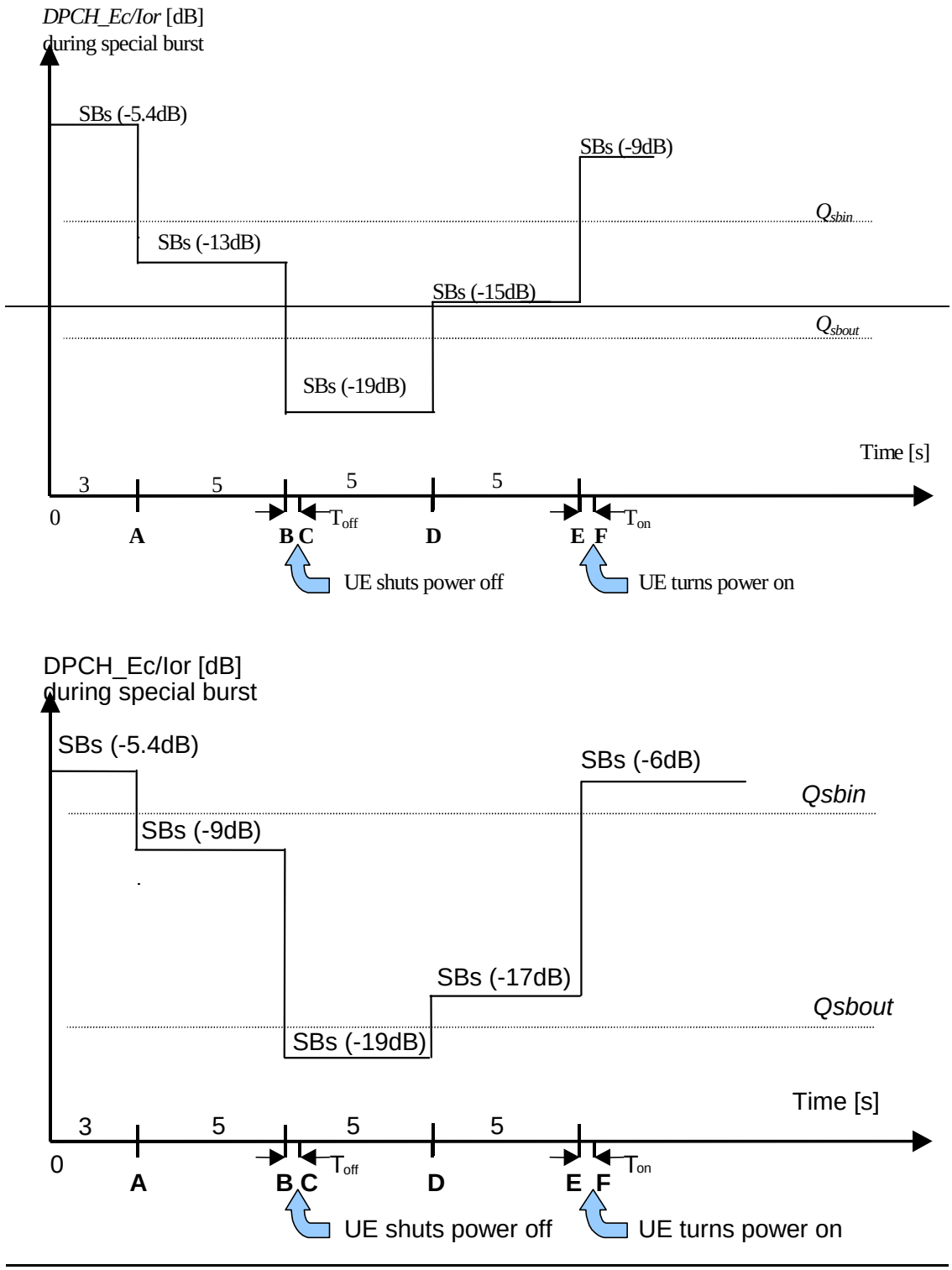


Figure 6.1B: Test case for out-of-synch handling in the UE –1.28 Mcps TDD option - discontinuous transmission

In this test case, the requirements for the UE are that:

1) The UE shall not shut its transmitter off before point B.
2) The UE shall shut its transmitter off before point C, which is T_{off} = 200 ms after point B.
3) The UE shall not turn its transmitter on between points C and E.
4) The UE shall turn its transmitter on before point F, which is T_{on} = 200 ms after Point E.

3GPP TSR RAN WG4 Meeting #24 **R4-021226**

Helsinki, Finland 12 - 16 August 2002

CR-Form-v7

CHANGE REQUEST

⌘ **25.102** **CR** **124** ⌘ **rev** ⌘ Current version: **5.1.0** ⌘

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

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

Title:	⌘	Correction of Out-of-Synchronisation test for 1,28 Mpcs TDD option
Source:	⌘	RAN WG4
Work item code:	⌘	LCRTDD-RF
Date:	⌘	21/08/2002
Category:	⌘	**A**
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	The test conditions are set in an improper way, thus the test cannot be passed by any UE.
Summary of change:	⌘	Test conditions are re-adjusted to make the test practicable.
Consequences if not approved:	⌘	UE behaving correct according Layer 1 specification will fail the test

Clauses affected:	⌘	6.4.3.2.2.2, 6.4.3.2.2.2			
Other specs affected:	⌘	Y / N	Other core specifications	⌘	
		N / X			
		Y / X	Test specifications		34.122
		N / X	O&M Specifications		
Other comments:	⌘	Equivalent CRs in other Releases: CR123 cat. F to 25.102 v4.5.0			

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

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.

6.4.3.1.2.2 Test case

This subclause specifies a test case, which provides additional information for how the minimum requirement should be interpreted for the purpose of conformance testing in case of continuous transmission for 1.28 Mcps TDD option.

The conditions for the continuous test case are as follows:

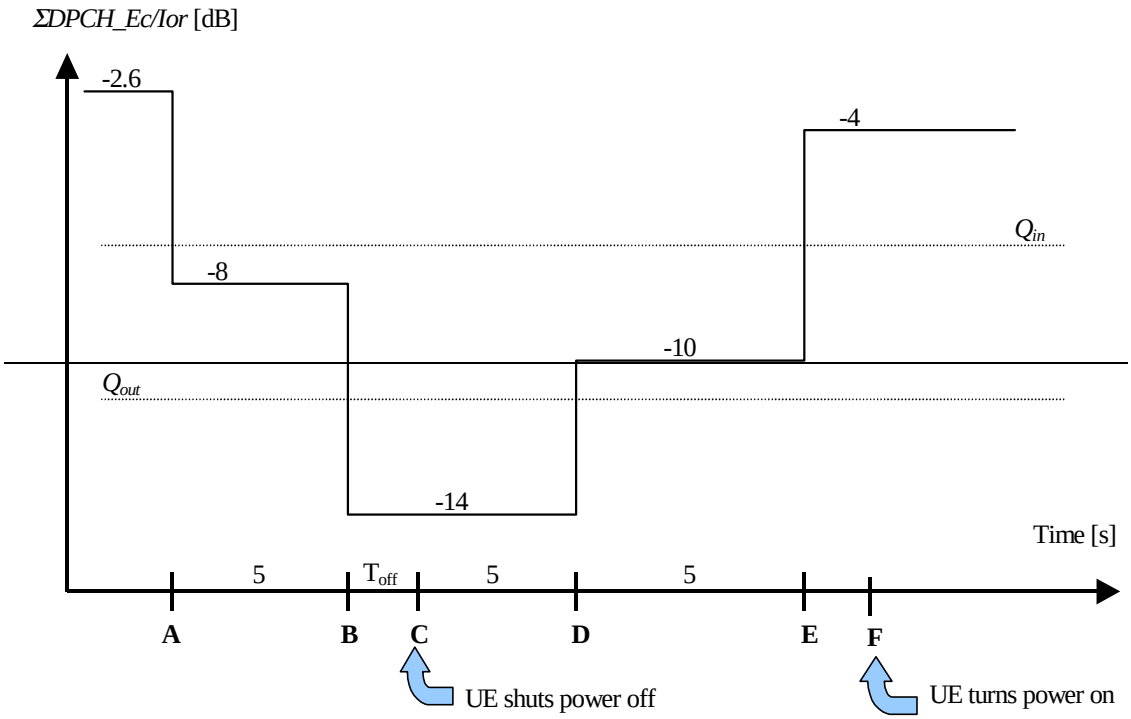
The handover triggering level shall be set very high to ensure that the beacon channel power never exceeds the value of 10dB above it. Therefore the averaging time for signal quality will always be 160 milliseconds.

The quality levels at the thresholds Q_{out} and Q_{in} correspond to different signal levels depending on the downlink conditions DCH parameters. For the conditions in Table 6.4, a signal with the quality at the level Q_{out} can be generated by a ΣDPCH_Ec/Ior ratio of ~~-13~~ 15 dB, and a signal with Q_{in} by a ΣDPCH_Ec/Ior ratio of ~~-9~~ 4,5 dB. In this test, the DL reference measurement channel (12.2) kbps specified in subclause A.2.2, where the CRC bits are replaced by data bits, and with static propagation conditions is used.

Table 6.4AA: DCH parameters for the of Out-of-synch handling test case - 1.28 Mcps TDD option – continuous transmission

Parameter	Unit	Value
$\hat{I}_{or}/I_{oc}$	dB	-1
I_{oc}	dBm/1.28 MHz	-60
$\frac{\Sigma DPCH\_E_c}{I_{or}}$	dB	See figure 6.1AA
Information Data Rate	kbps	12.2
TFCI	-	On

Figure 6.1AA shows an example scenario where the ΣDPCH_Ec/Ior ratio varies from a level where the DPCH is demodulated under normal conditions, down to a level below Q_{out} where the UE shall shut its power off and then back up to a level above Q_{in} where the UE shall turn the power back on.



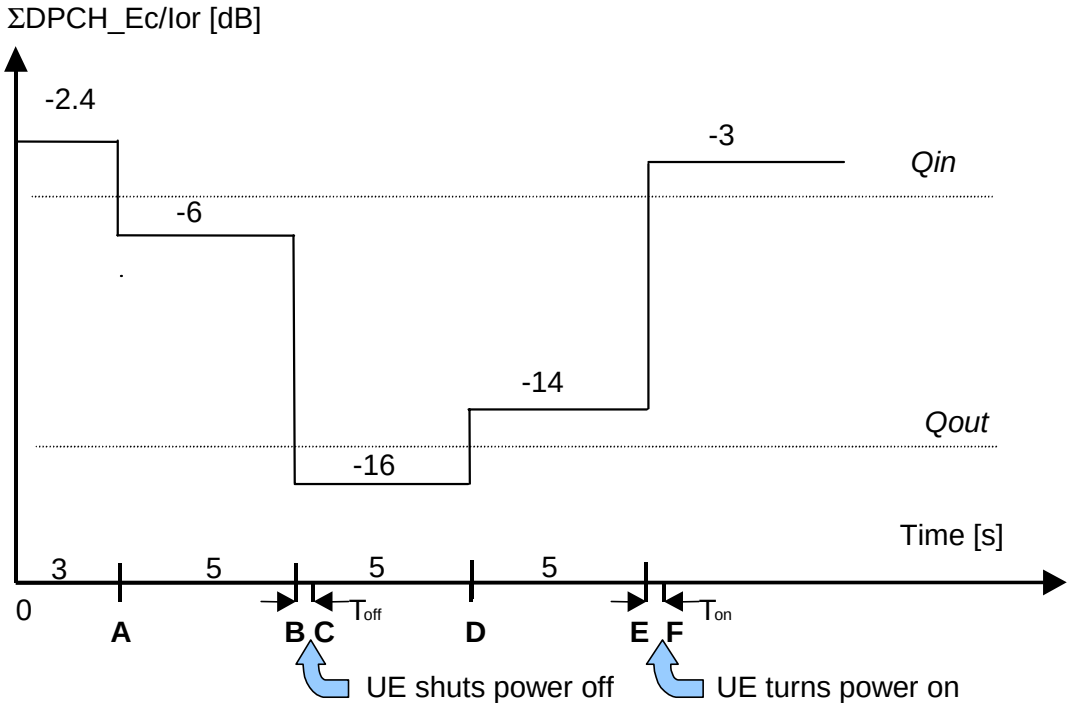


Figure 6.1AA: Test case for out-of-synch handling in the UE - 1.28 Mcps TDD option – continuous transmission

In this test case, the requirements for the UE are that:

1) The UE shall not shut its transmitter off before point B.
2) The UE shall shut its transmitter off before point C, which is T_{off} = 200 ms after point B
3) The UE shall not turn its transmitter on between points C and E.
4) The UE shall turn its transmitter on before point F, which is T_{on} = 200 ms after Point E.

--- next changed section ---

6.4.3.2.2.2 Test case

This subclause specifies a test case, which provides additional information for how the minimum requirement should be interpreted for the purpose of conformance testing in case of discontinuous transmission.

The conditions for the discontinuous test case are as follows :

The handover triggering level shall be set very high to ensure that the beacon channel power never exceeds the value of 10dB above it. Therefore the averaging time for signal quality will always be 160 milliseconds.

The UTRAN transmits Special Bursts as specified in TS 25.224. The Special Burst Scheduling Parameter, SBSP = 4, which means that UTRAN sends a Special Burst at every fourth frame with no data. Therefore, the UTRAN sends a Special Burst in the first frame without data transmission, followed by 3 frames with no transmission; followed by a Special Burst, etc. Additionally, the Special Burst will be sent in both subframes of the relevant frame designated for the Special Burst.

The DCH parameters are shown in Table 6.4B.

The quality levels at the thresholds Q_{sbout} and Q_{sbin} correspond to different signal levels depending on the downlink conditions DCH parameters. For the conditions in Table 6.4B, a signal with the quality at the level Q_{sbout} can be generated by a DPCH_Ec/Ior ratio during received special bursts of ~~-16~~ 18 dB, and a signal with Q_{sbin} by a DPCH_Ec/Ior ratio during received special bursts of ~~-12~~-7,5 dB.

Table 6.4B: DCH parameters for the of Out-of-synch handling test case - 1.28 Mcps TDD option – discontinuous transmission

Parameter	Unit	Value
$\hat{I}_{or}/I_{oc}$	dB	-1
I_{oc}	dBm/1.28 MHz	-60
$\frac{\Sigma DPCH\_E_c}{I_{or}}$	dB	See figure 6.1B
Bits/burst (including TFCI bits)	bits	88 in each subframe
TFCI	-	On

Figure 6.1B shows an example scenario where the DPCH_Ec/Ior ratio during received special bursts varies from a level where the DPCH in DTX mode is demodulated under normal conditions, down to a level below Q_{sbout} where the UE shall shut its power off and then back up to a level above Q_{sbin} where the UE shall turn the power back on.

While the normal data is transmitted using two channelization codes, the Special Burst is transmitted with only one channelization code. Therefore the total energy per chip during Special Bursts is 3 dB lower than for continuous data transmission. The Special Bursts are represented by "SBs" in the figure.

During the period of 3 frames with no data, the UE will receive a very low power, which is not shown in the figure. In the fourth frame the Special Burst will be sent in both subframes designated to carry the Special Burst during DTX. The power shown in the figure is the power of the Special Burst.

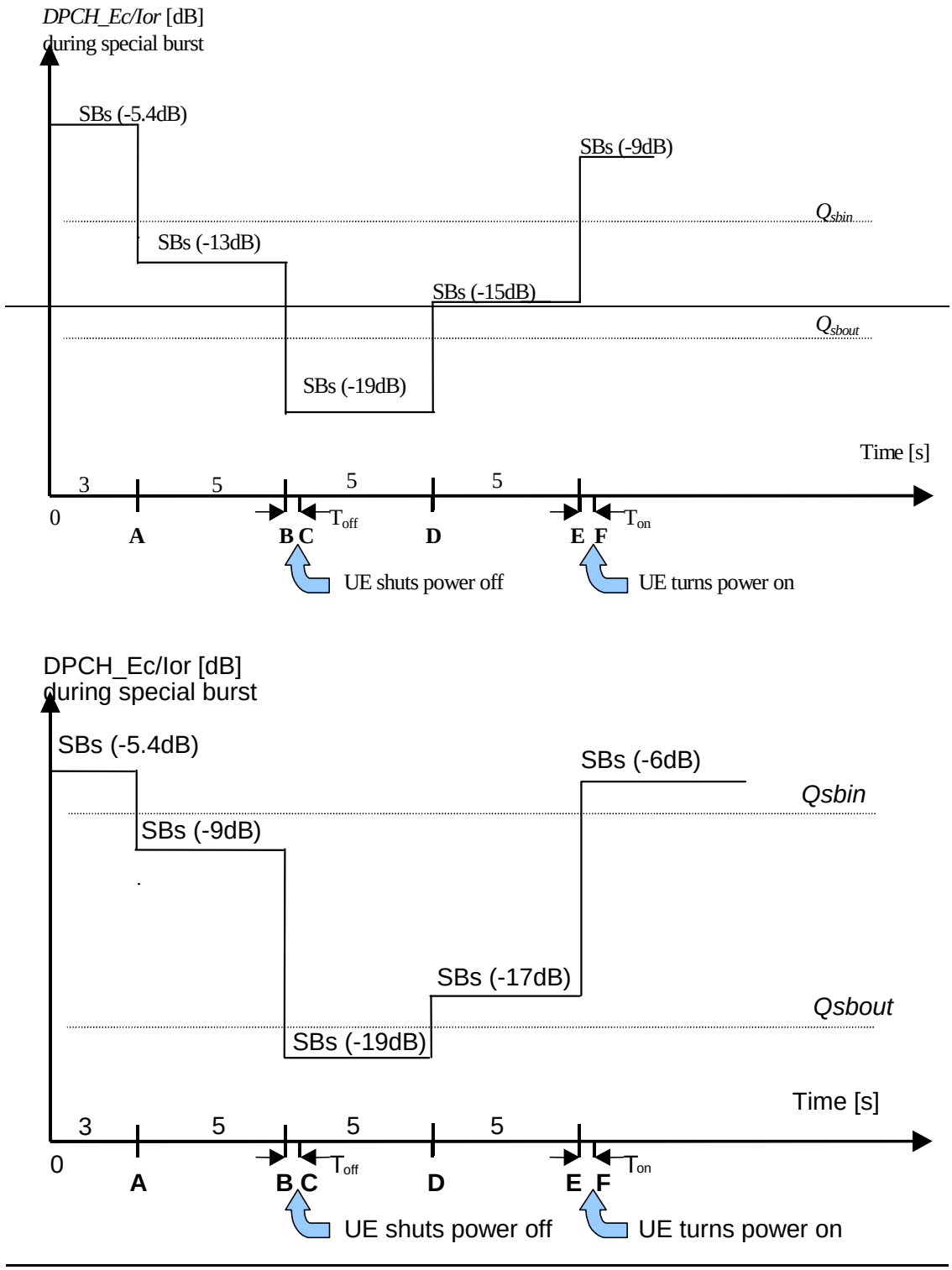


Figure 6.1B: Test case for out-of-synch handling in the UE –1.28 Mcps TDD option - discontinuous transmission

In this test case, the requirements for the UE are that:

1) The UE shall not shut its transmitter off before point B.
2) The UE shall shut its transmitter off before point C, which is T_{off} = 200 ms after point B.
3) The UE shall not turn its transmitter on between points C and E.
4) The UE shall turn its transmitter on before point F, which is T_{on} = 200 ms after Point E.